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INTERVENTO

FONDO COMPLEMENTARE AL PIANO NAZIONALE DI RIPRESA E RESILIENZA
PROGRAMMA "SICURO, VERDE E SOCIALE: RIQUALIFICAZIONE DELL'EDILIZIA RESIDENZIALE PUBBLICA"

PROGETTO DI MANUTENZIONE STRAORDINARIA PER IL RESTAURO E RISANAMENTO CONSERVATIVO DI DUE CASAMENTI A CORTE SITI IN COMUNE DI BOLOGNA LOCALITA' CIRENAICA. VIA BENTIVOGLI CIV. 31÷59 PER COMPLESSIVI 56 ALLOGGI DI ERP CON RELATIVE PERTINENZE E PARTI COMUNI

LOTTO **3053/PN_1**

PROGETTO ESECUTIVO

TAV.	OGGETTO	DATA
TAB_16	TABULATI DI CALCOLO CIVICO 55 STATO DI PROGETTO	Settembre 2022
SCALA		N. DISEGNO

VERSIONE	DESCRIZIONE	DATA	REDATTO	VERIFICATO		APPROVATO
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TABULATI DI CALCOLO
CIVICO 55
STATO DI PROGETTO

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1 Risultati numerici

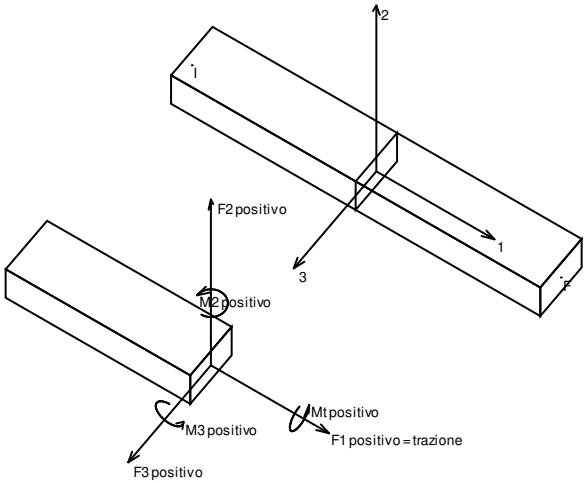
1.1 Sollecitazioni

1.1.1 Sollecitazioni aste

1.1.1.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- F1 (N): sforzo normale nell'asta;
- F2: sforzo di taglio agente nella direzione dell'asse locale 2;
- F3: sforzo di taglio agente nella direzione dell'asse locale 3;
- M1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M2: momento attorno all'asse locale 2;
- M3: momento attorno all'asse locale 3.



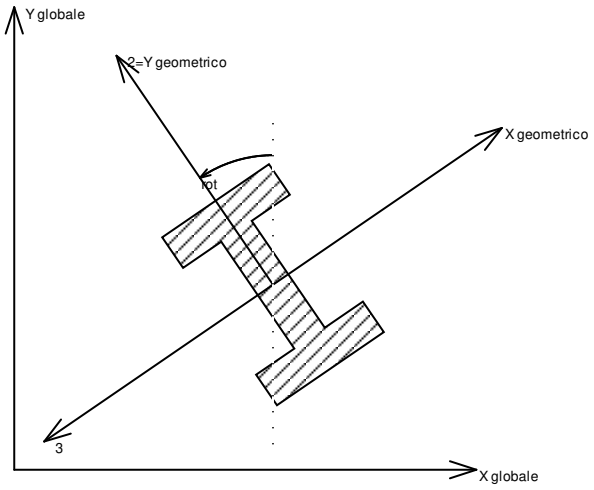
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

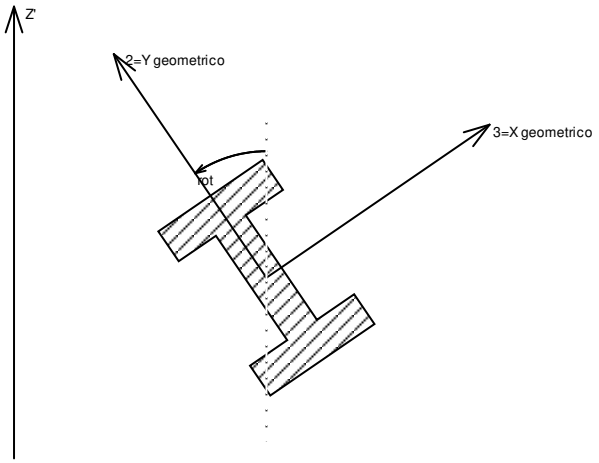
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).

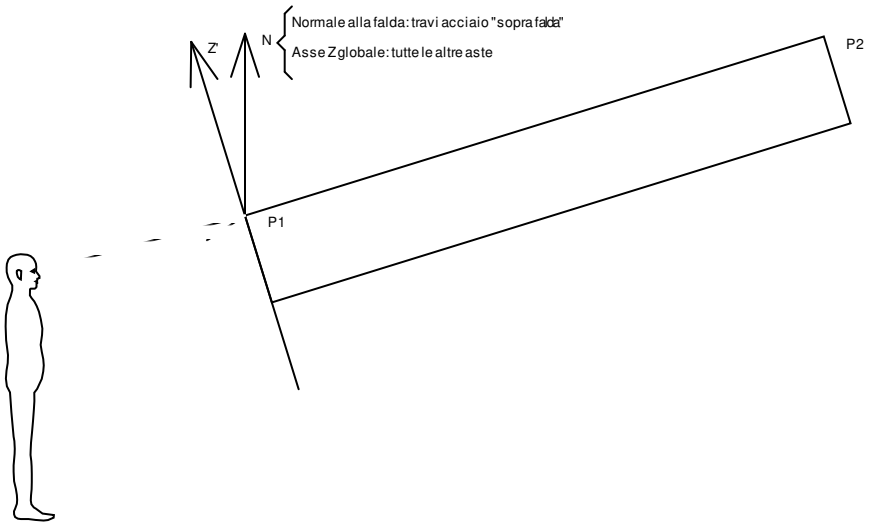
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

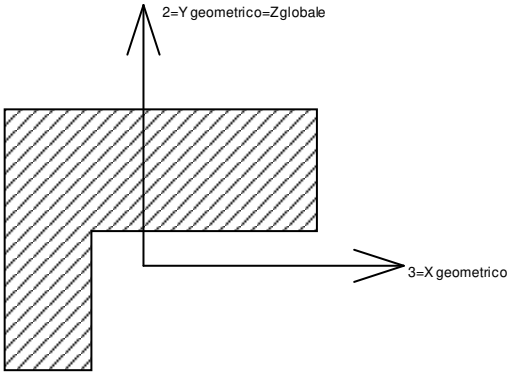
L'asse Z' è illustrato nella figura seguente dove:

- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per P1, P2 contenente N e il piano della sezione iniziale dell'asta.

Sistema locale aste derivanti da travi in c.a.



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.1.1.2 Sollecitazioni estreme aste

Asta: elemento asta a cui si riferiscono le sollecitazioni.
Ind.: indice dell'asta.
Cont.: contesto a cui si riferisce la sollecitazione
N.br.: nome breve della condizione o combinazione di carico.
Pos.: numero della sezione all'interno dell'asta (tra 1 e 31, dove 1 corrisponde alla sezione al nodo iniziale, 16 è la sezione in mezzeria, 31 corrisponde alla sezione al nodo finale).
Posizione: posizione a cui si riferisce la sollecitazione dell'asta.
X: componente X della posizione a cui si riferisce la sollecitazione dell'asta. [m]
Y: componente Y della posizione a cui si riferisce la sollecitazione dell'asta. [m]
Z: componente Z della posizione a cui si riferisce la sollecitazione dell'asta. [m]
Soll.traslazionale: componente traslazionale della sollecitazione dell'asta.
F1: componente F1 della sollecitazione dell'asta. [daN]
F2: componente F2 della sollecitazione dell'asta. [daN]
F3: componente F3 della sollecitazione dell'asta. [daN]
Soll.rotazionale: componente rotazionale della sollecitazione dell'asta.
*M1: componente M1 della sollecitazione dell'asta. [daN*m]*
*M2: componente M2 della sollecitazione dell'asta. [daN*m]*
*M3: componente M3 della sollecitazione dell'asta. [daN*m]*

Sollecitazioni con sforzo normale (N) minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
344	SLV FO 13	1	-6.52	-2.88	-1.95	-37713	-769	-5978	-0.9	-1240.78	-5357.66
479	SLV FO 12	1	-10.18	6.23	-1.95	-37693	-17089	-6868	1028.74	-2351.9	7098.86
323	SLV FO 11	31	-6.02	0.74	-1.95	-35349	-5877	-3056	8.28	1579.26	-599.63
184	SLV FO 5	1	-18.83	-2.93	-1.95	-34359	-21462	8012	-937.99	5986.56	11078.71
307	SLV FO 6	31	-18.1	-2.93	-1.95	-33217	13515	-26477	458.47	3516.96	10222.26

Sollecitazioni con sforzo normale (N) massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
333	SLV FO 15	1	-6.02	-2.88	-1.95	20582	7427	-6851	-3.24	-1309.64	-2028.7
184	SLV Y	1	-18.83	-2.93	-1.95	17143	9229	-6090	395.45	-4767.89	-5363.71
206	SLV X	31	-18.2	-3.28	-1.95	16279	898	-3979	-6.03	-1937.98	523.2
458	SLV FO 5	31	-24.35	-0.07	-1.95	15808	8179	1685	561.04	128.8	-1676.79
459	SLV FO 5	31	-24.35	-0.47	-1.95	15321	5597	1783	601.11	543.06	-3927.23

Sollecitazioni con momento M2 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
310	SLV FO 6	31	-17.06	-2.93	-1.95	-24152	-1488	-24776	75.76	-19961.97	3221.44
281	SLV FO 12	1	-5.41	6.58	-1.95	-5301	-12722	28961	-33.53	-14199.9	-8631.07
311	SLV FO 6	1	-17.06	-2.93	-1.95	-6553	6255	5676	-197.95	-13837.89	3123.19
309	SLV FO 6	31	-17.4	-2.93	-1.95	-23486	3293	-25324	211.4	-11048.39	3888.86
763	SLV FO 13	1	-6.52	-2.93	-1.95	-29425	11949	26386	-287.01	-10418.33	9701.22

Sollecitazioni con momento M2 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
283	SLV FO 11	31	-5.41	5.53	-1.95	-3988	-29755	28882	815.86	15597.06	13681.41
766	SLV FO 9	31	-7.72	-2.93	-1.95	-22939	-113	20786	41.94	14529.72	2253.05
307	SLV FO 2	1	-18.45	-2.93	-1.95	-29321	13184	-26565	162.85	13624.34	10871.14
776	SLV FO 13	1	-13.11	-0.26	-1.95	-9338	-1492	-5335	-4.91	12858.22	-440.61
555	SLV FO 11	31	-5.09	0.89	-1.95	-8198	3667	21365	-9.72	10614.73	-6468.49

Sollecitazioni con momento M3 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
321	SLV FO 5	21	-14.11	-1.32	-1.95	7438	88	-2136	-8.11	-1970.79	-14214.12
492	SLV FO 11	31	-0.47	4.86	-1.95	302	991	2588	-1033.89	-2325.51	-13874.96
533	SLV FO 8	1	-14.81	1.39	-1.95	-12640	-21779	-12564	-26.04	4915.37	-13692.96
600	SLU 84	31	-13.76	0.89	-1.95	4633	11783	-1902	-95.6	-594.58	-13350.93
493	SLV FO 11	20	-0.47	4.6	-1.95	1163	7	2539	-409.73	-2212.43	-13316.91

Sollecitazioni con momento M3 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
501	SLU 84	31	-0.47	1.14	-1.95	-3994	-30256	412	484.94	2836.38	22815.83
512	SLU 83	1	-0.47	1.14	-1.95	-3332	29914	-803	-460.98	3487.95	22631.42
184	SLV FO 5	31	-18.45	-2.93	-1.95	-34244	-28805	8714	-570.09	9208.39	20742.93
345	SLV FO 10	1	-6.02	-2.93	-1.95	-28681	26629	-7066	1216.08	6115.74	19047.41
427	SLV FO 8	31	-15.06	6.23	-1.95	-28057	-27662	-4953	530.03	-1841.48	18426.23

1.1.2 Sollecitazioni gusci

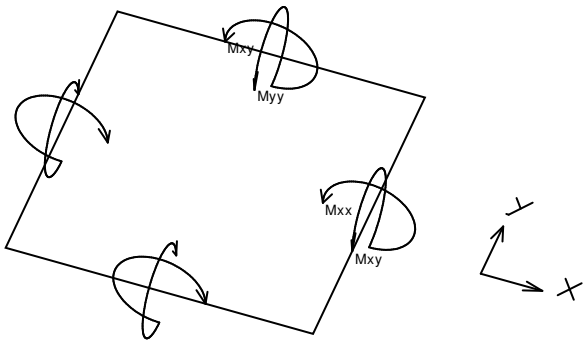
1.1.2.1 Convenzioni di segno gusci

Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

- convenzione per gusci non verticali, originati ad esempio da piastre e platee;
- convenzione per gusci verticali, originati ad esempio da pareti e muri.

Convenzione di segno per gusci non verticali

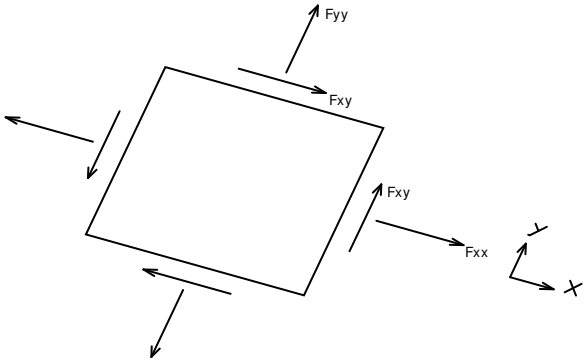
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione in pianta parallela ed equiversa all'asse globale X. Nel caso di piastre orizzontali (caso più comune) gli assi x, y e z locali all'elemento sono paralleli ed equiversi agli assi X, Y e Z globali. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Mxx, Myy, Mxy.



Si definiscono:

- Mxx: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Myy: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mxy: momento torcente [Forza*Lunghezza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Fxx, Fyy, Fxy.



Si definiscono:

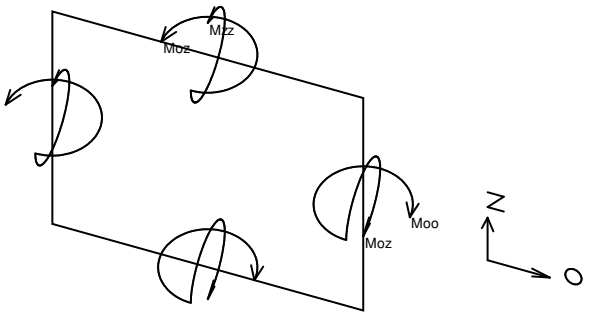
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fxy: sforzo di taglio [Forza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- Vx: taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse x;
- Vy: taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse y.

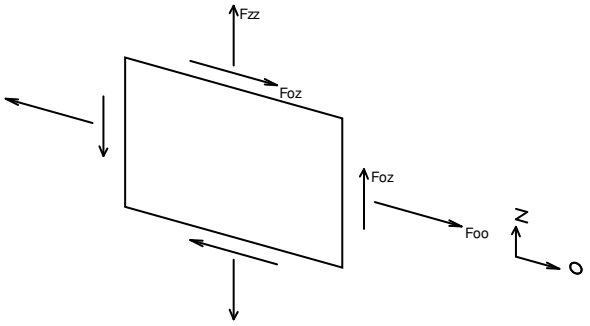
Convenzione di segno per gusci verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse O (ascisse) e z (ordinate) contenuti nel piano dell'elemento e terzo asse ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse O è orizzontale e l'asse z parallelo ed equiverso con l'asse Z globale. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Moo, Mzz, Moz.



- Moo: momento flettente distribuito [Forza*Lunghezza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mzz: momento flettente distribuito [Forza*Lunghezza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Moz: momento 'torcente' distribuito [Forza*Lunghezza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione Foo, Fzz, Foz sono rispettivamente:



- Fzz: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foo: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foz: sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- Vo: taglio fuori piano applicato al bordo di normale parallela all'asse O;
- Vz: taglio fuori piano applicato al bordo di normale parallela all'asse z.

1.1.2.2 Sollecitazioni estreme gusci

Shell: elemento guscio a cui si riferiscono le sollecitazioni.
Ind: indice del guscio.
Cont.: contesto a cui si riferiscono le sollecitazioni.
N.br.: nome breve della condizione o combinazione di carico.
Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.
Ind: indice del nodo.
Sollecitazione: valori della sollecitazione.
*M11: componente M11 della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
*M12: componente M12 della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
*M22: componente M22 della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
F11: componente F11 della sollecitazione del guscio nel nodo indicato. [daN/m]
F12: componente F12 della sollecitazione del guscio nel nodo indicato. [daN/m]
F22: componente F22 della sollecitazione del guscio nel nodo indicato. [daN/m]
V13: componente V13 della sollecitazione del guscio nel nodo indicato. [daN/m]
V23: componente V23 della sollecitazione del guscio nel nodo indicato. [daN/m]

Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10736	SLV FO 9	149	-97718	10072	78854	12596	2609	-7801	257833	-178963
9917	SLV FO 6	199	-24920	-5280	7783	15782	-1340	-21778	-110745	-2890
9908	SLV FO 10	243	-23919	-5547	5093	-2760	9031	-13782	-96897	-1406
9890	SLV FO 10	316	-22978	-4500	-12198	-17052	-1218	888	-126672	-89878
9899	SLV FO 10	266	-18248	-5037	8075	-13130	4782	-1962	-102205	21221

Sollecitazioni con momento M11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10736	SLV Y	149	45647	-3941	-35509	-11430	2710	29672	-120346	79868
10700	SLV FO 9	314	36332	59	3252	4051	3880	-17078	60413	-48700
9890	SLV FO 10	266	24898	-4401	12060	-18423	904	-2948	-133504	28889
10735	SLV FO 9	148	22867	1490	-2148	-266	-2648	-11286	-121027	6794
10692	SLV FO 6	303	19450	382	11733	-197748	-62601	-104431	33753	69466

Sollecitazioni con momento M22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10736	SLV Y	149	45647	-3941	-35509	-11430	2710	29672	-120346	79868
9892	SLV FO 10	347	-2287	-4222	-18859	519	2672	-9875	-5561	-72332
9893	SLV FO 10	348	-2125	-2518	-18247	2104	3566	-9449	-1589	-51083
10696	SLV FO 9	308	-1535	-3674	-16977	6592	-899	-11561	-7082	-23378
10699	SLU 84	311	2908	-3226	-16926	2382	-1962	-6549	-13838	-62674

Sollecitazioni con momento M22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10736	SLV FO 9	149	-97718	10072	78854	12596	2609	-7801	257833	-178963
9890	SLV FO 10	318	8855	-6018	27100	-7051	-91	-678	46473	-78958
10692	SLU 83	303	18573	2707	18886	-113642	-37680	-54163	29763	113005
10727	SLV FO 9	195	-13054	14347	15211	550	-6703	-8552	38808	78142
9898	SLU 83	322	13443	-2053	14989	-78125	22452	-40590	19814	-89990

Sollecitazioni con sforzo F11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10692	SLV FO 6	269	10194	-1826	1901	-225407	-69686	-15902	32331	6166
9898	SLV FO 13	264	5524	208	-79	-151175	38989	-4994	14132	3749
1293	SLV FO 12	4256	-30	82	-150	-116660	23869	-6856	2740	1839
10894	SLV FO 5	3870	-21	21	5	-107110	-105239	-119674	-95	-220
1133	SLV FO 8	576	-14	7	0	-100641	44019	8029	-101	51

Sollecitazioni con sforzo F11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
7799	SLV FO 11	139	-1395	-326	-369	126243	23271	33407	-4977	481
10692	SLV Y	269	-2172	1798	-1958	94981	33771	8517	-13828	-11705
3866	SLV FO 5	3883	-318	-47	-80	85528	51575	-23319	1969	-556
9408	SLV FO 7	676	2677	101	231	84884	20627	-46515	-10538	-3040
10383	SLV FO 16	16073	0	0	39	73207	-18	3624	0	-97

Sollecitazioni con sforzo F22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
17835	SLU 83	665	-18	48	-73	7102	67874	-171777	463	271
1003	SLV FO 11	4452	-320	-247	-1278	-790	46911	-168130	795	6511
1007	SLV FO 11	3566	1261	-102	1175	2219	-23103	-167306	-4371	6934
4784	SLV FO 7	996	-27	-7	-80	-10607	-75862	-166627	-473	167
7799	SLV FO 11	573	-229	-68	-296	-57951	-36956	-164930	1362	2902

Sollecitazioni con sforzo F22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10392	SLV FO 1	12518	-7	0	-7	31330	-41	144384	-60	41
10329	SLV FO 3	11575	-18	0	-15	18860	35	112439	-106	-30
9307	SLV FO 12	4424	-5	-69	-21	10370	-47712	93381	420	-2
7799	SLV FO 6	573	-235	485	0	-3102	13299	90859	174	-4195
10894	SLV FO 5	3966	0	23	-21	61733	109329	89723	-241	-188

1.1.2.3 Sollecitazioni estreme gusci non verticali

***Shell**: elemento guscio a cui si riferiscono le sollecitazioni.*
***Ind**: indice del guscio.*
***Cont.**: contesto a cui si riferiscono le sollecitazioni.*
***N.br.**: nome breve della condizione o combinazione di carico.*
***Nodo**: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.*

Ind: indice del nodo.
Sollecitazione: valori della sollecitazione.
*Mxx: componente Mxx della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
*Mxy: componente Mxy della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
*Myy: componente Myy della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
Fxx: componente Fxx della sollecitazione del guscio nel nodo indicato. [daN/m]
Fxy: componente Fxy della sollecitazione del guscio nel nodo indicato. [daN/m]
Fyy: componente Fyy della sollecitazione del guscio nel nodo indicato. [daN/m]
Vx: componente Vo della sollecitazione del guscio nel nodo indicato. [daN/m]
Vy: componente Vz della sollecitazione del guscio nel nodo indicato. [daN/m]

Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10736	SLV Y	149	-35617	2590	45755	29750	-2026	-11508	77856	121657
9892	SLV FO 10	347	-17923	5698	-3223	-10283	-1653	927	-71489	12333
10696	SLV FO 9	308	-17613	1808	-899	-11525	-1203	6557	-24038	4340
9893	SLV FO 10	348	-17599	4045	-2773	-10034	-2368	2690	-50680	6597
10699	SLU 83	311	-17413	778	3386	-6984	806	2744	-64082	6216

Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10736	SLV FO 9	149	79140	-7132	-98004	-7709	-2947	12504	-174653	-260772
9890	SLV FO 10	318	27760	4871	8194	-690	-294	-7038	-81627	-41606
10692	SLU 83	303	19190	-2672	18270	-58591	40787	-109214	114502	-23349
10727	SLV FO 9	195	15704	-13843	-13547	-8784	6540	781	78809	-37433
9898	SLU 83	322	15185	1968	13247	-42869	-24175	-75846	-90850	-15397

Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10736	SLV FO 9	149	79140	-7132	-98004	-7709	-2947	12504	-174653	-260772
9917	SLV FO 6	199	7958	4705	-25095	-21720	1996	15724	-953	110778
9908	SLV FO 10	243	5294	4988	-24120	-14123	-8813	-2419	446	96906
9890	SLV FO 10	316	-11694	3816	-23483	970	125	-17134	-82041	131883
9899	SLV FO 10	266	8353	4239	-18526	-2258	-5108	-12834	24273	101524

Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10736	SLV Y	149	-35617	2590	45755	29750	-2026	-11508	77856	121657
10700	SLV FO 9	314	3429	-2415	36155	-16417	-5346	3390	-44259	-63738
9890	SLV FO 10	266	12639	5145	24319	-3115	-1833	-18257	36922	131509
10735	SLV FO 9	148	-1953	-2655	22672	-11510	2121	-43	1112	121213
10692	SLV FO 5	303	11387	-723	19393	-109221	65443	-183031	68605	-30119

Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10692	SLV FO 6	303	11800	-814	19383	-111769	67452	-190410	71257	-29785
10693	SLV FO 6	305	4711	97	13222	-94540	18822	-22266	35579	-22352
9898	SLV FO 9	322	8926	402	14027	-84136	-40891	-135658	-55264	-20905
9897	SLV FO 9	320	5057	-24	10194	-73024	-17973	-16804	-44333	-14821
1639	SLV FO 10	4093	21	-5	-29	-69396	-20038	42854	-42	7

Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10736	SLV FO 11	149	781	-1434	2658	57742	-7403	-12815	-3369	6874
10692	SLV Y	303	1644	-1017	-6490	55127	-29400	82764	10143	13229
10693	SLV Y	305	2863	-644	-3708	45461	-11383	3885	10471	8135
9898	SLV Y	322	1691	934	-4813	42165	17166	58174	-9171	10113
10735	SLV FO 11	147	322	-394	-55	38423	-7782	3748	790	-2934

Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10894	SLV FO 9	3870	34	-10	-4	-5344	-11480	-218541	183	210
10692	SLV FO 6	269	1722	1348	10374	-24407	81027	-216903	7977	-31932
10825	SLV FO 10	3691	16	0	-9	-17745	16940	-173010	-122	104
9412	SLV FO 7	607	-4339	2390	-8716	-45569	35182	-151130	29265	-28257
9898	SLV FO 13	264	-86	66	5530	-9144	-45931	-147025	3054	-14298

Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10894	SLV FO 5	3966	34	9	-13	-32740	19581	184196	-29	304
10825	SLV FO 10	3965	59	-20	2	-16110	-21766	133140	214	21
10692	SLV Y	269	-1756	-1775	-2373	12591	-38420	90907	-12465	13147
9898	SLV Y	322	1691	934	-4813	42165	17166	58174	-9171	10113
9412	SLV FO 10	137	-270	-418	1645	1700	-21927	48577	3990	-4423

1.1.2.4 Sollecitazioni estreme gusci verticali

Shell: *elemento guscio a cui si riferiscono le sollecitazioni.*
Ind: *indice del guscio.*
Cont.: *contesto a cui si riferiscono le sollecitazioni.*
N.br.: *nome breve della condizione o combinazione di carico.*
Nodo: *nodo su cui si basa il guscio a cui si riferisce la sollecitazione.*
Ind: *indice del nodo.*
Sollecitazione: *valori della sollecitazione.*
Moo: *componente Moo della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
Moz: *componente Moz della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
Mzz: *componente Mzz della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
Foo: *componente Foo della sollecitazione del guscio nel nodo indicato. [daN/m]*
Foz: *componente Foz della sollecitazione del guscio nel nodo indicato. [daN/m]*
Fzz: *componente Fzz della sollecitazione del guscio nel nodo indicato. [daN/m]*
Vo: *componente Vo della sollecitazione del guscio nel nodo indicato. [daN/m]*
Vz: *componente Vz della sollecitazione del guscio nel nodo indicato. [daN/m]*

Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9416	SLV FO 7	633	-5478	-1277	6928	5348	17068	-7987	-33799	-16329
358	SLV FO 6	3889	-3702	-2574	-1057	-51046	-37001	-28124	414042	-41121
7815	SLV FO 4	499	-1698	287	-2383	-22082	1920	-26092	-9650	6518
9415	SLV FO 11	136	-1292	28	1815	-28860	986	-43854	9504	-2451
7819	SLV FO 11	503	-1218	283	-38	3216	8188	1780	-5972	185

Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9416	SLV FO 11	634	3374	-2196	-2189	386	-1700	26963	-31428	19806
358	SLV Y	3889	1713	1200	502	32472	17679	15964	-197069	21085
7815	SLV FO 11	500	1472	-241	-1193	33763	4762	-13197	-7913	2666
7799	SLV FO 11	681	1405	380	-765	-159318	18082	73277	-2902	4977
9415	SLV FO 7	135	1357	105	1925	-32407	-11109	-23815	9510	-3764

Sollecitazioni con momento Mzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
358	SLV FO 10	3888	-1380	-2832	-5476	-29601	-16200	-53302	429091	-734880
7815	SLV FO 6	499	-1126	644	-4687	-48114	-723	-36211	-6960	11549
9408	SLV FO 11	676	-294	-116	-3223	-46462	17714	76012	3311	11866
9411	SLV FO 7	115	-1067	338	-2826	-1023	11082	-12463	5661	-19889
9404	SLV Y	499	-297	306	-2698	-14743	-13414	-7288	-1586	6550

Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9404	SLV FO 6	499	955	-828	9423	41591	40567	9820	4754	-25214
9416	SLV FO 7	633	-5478	-1277	6928	5348	17068	-7987	-33799	-16329
9420	SLV FO 7	633	348	1335	6686	51432	-80350	256	-2470	-14514
9411	SLV FO 11	137	413	112	4643	8082	4466	-4476	-253	-20222
9424	SLV FO 11	632	188	1013	3384	8372	-53582	-7574	88	-4385

Sollecitazioni con sforzo Foo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
7799	SLV FO 11	573	296	68	229	-164930	-36956	-57951	-2902	-1362
1293	SLV FO 12	4256	-30	82	-150	-116660	23869	-6856	2740	1839
1133	SLV FO 8	576	-14	7	0	-100641	44019	8029	-101	51
1287	SLV FO 12	3293	27	-8	-3	-93150	38189	-26164	24	38
17855	SLV FO 15	3488	12	-11	-15	-91907	31346	-5043	-122	-149

Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
7799	SLV FO 6	573	0	-485	235	90859	13299	-3102	4195	-174
3866	SLV FO 5	3883	318	-47	80	85528	-51575	-23319	1969	556
10383	SLV FO 16	16073	0	0	39	73207	-18	3624	0	-97
17174	SLV FO 8	6440	-5	8	-6	70869	20021	6383	-50	-83
10184	SLV FO 14	8067	0	0	35	67670	-9	-12140	0	-114

Sollecitazioni con sforzo Fzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
17835	SLU 83	665	18	48	73	7102	-67874	-171777	463	-271
1003	SLV FO 11	4452	-320	-247	-1278	-790	46911	-168130	795	6511
1007	SLV FO 11	3566	1261	-102	1175	2219	-23103	-167306	-4371	6934
4784	SLV FO 7	996	-27	-7	-80	-10607	-75862	-166627	-473	167
841	SLV FO 7	1367	6	1	131	25516	-7840	-164161	-165	-448

Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
10392	SLV FO 1	12518	-7	0	-7	31330	-41	144384	-60	41
7799	SLV FO 11	139	369	326	1395	33407	23271	126243	-481	4977
10329	SLV FO 3	11575	-18	0	-15	18860	35	112439	-106	-30
9307	SLV FO 12	4424	-5	-69	-21	10370	-47712	93381	420	-2
9408	SLV FO 7	676	-235	-146	-2672	-45727	22986	84096	3230	10481

1.1.3 Sollecitazioni gusci armati

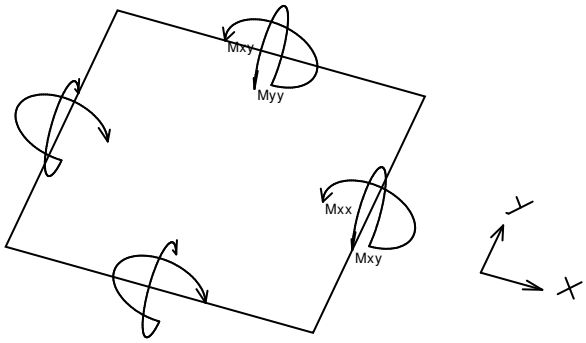
1.1.3.1 Convenzioni di segno gusci

Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

- convenzione per gusci non verticali, originati ad esempio da piastre e platee;
- convenzione per gusci verticali, originati ad esempio da pareti e muri.

Convenzione di segno per gusci non verticali

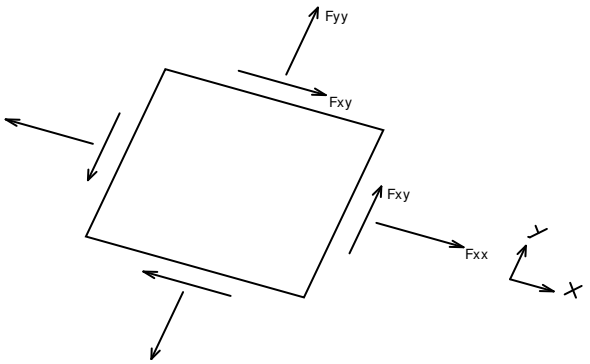
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione in pianta parallela ed equiversa all'asse globale X. Nel caso di piastre orizzontali (caso più comune) gli assi x, y e z locali all'elemento sono paralleli ed equiversi agli assi X, Y e Z globali. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Mxx, Myy, Mxy.



Si definiscono:

- Mxx: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Myy: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mxy: momento torcente [Forza*Lunghezza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Fxx, Fyy, Fxy.



Si definiscono:

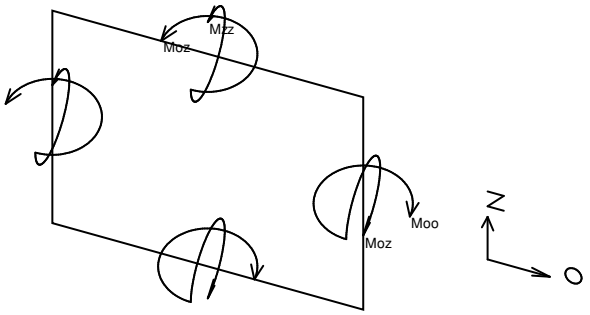
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fxy: sforzo di taglio [Forza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- Vx: taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse x;
- Vy: taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse y.

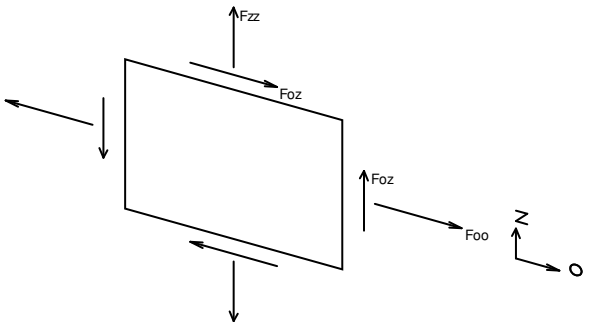
Convenzione di segno per gusci verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse O (ascisse) e z (ordinate) contenuti nel piano dell'elemento e terzo asse ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse O è orizzontale e l'asse z parallelo ed equiverso con l'asse Z globale. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Moo, Mzz, Moz.



- Moo: momento flettente distribuito [Forza*Lunghezza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mzz: momento flettente distribuito [Forza*Lunghezza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Moz: momento 'torcente' distribuito [Forza*Lunghezza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione Foo, Fzz, Foz sono rispettivamente:



- Fzz: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foo: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foz: sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- Vo: taglio fuori piano applicato al bordo di normale parallela all'asse O;
- Vz: taglio fuori piano applicato al bordo di normale parallela all'asse z.

1.1.4 Sollecitazioni gusci muratura

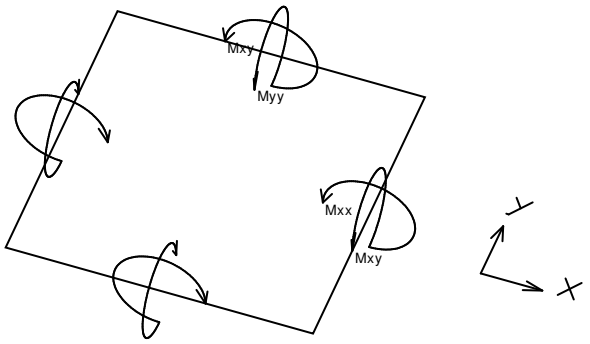
1.1.4.1 Convenzioni di segno gusci muratura

Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio muratura si riferisce:

- convenzione per gusci non verticali, originati ad esempio da piastre e platee;
- convenzione per gusci verticali, originati ad esempio da pareti e muri.

Convenzione di segno per gusci non verticali

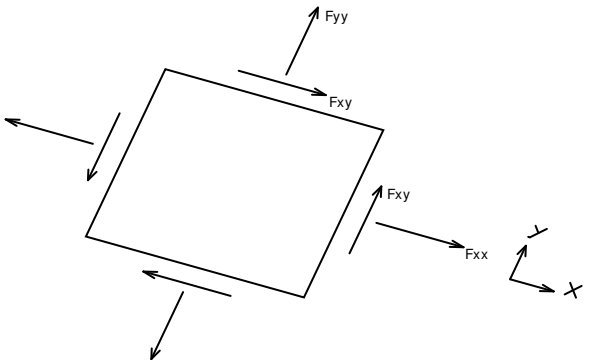
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione in pianta parallela ed equiversa all'asse globale X. Nel caso di piastre orizzontali (caso più comune) gli assi x, y e z locali all'elemento sono paralleli ed equiversi agli assi X, Y e Z globali. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Mxx, Myy, Mxy.



Si definiscono:

- Mxx: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Myy: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mxy: momento torcente [Forza*Lunghezza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Fxx, Fyy, Fxy.

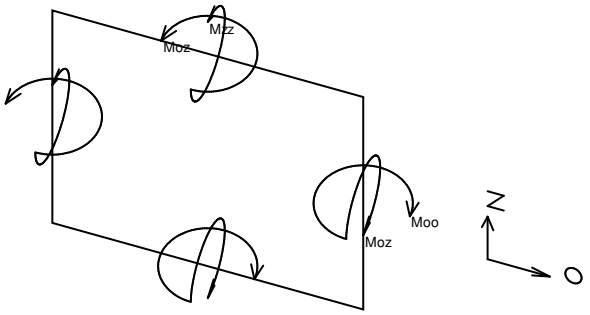


Si definiscono:

- Fxx: sforzo tensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo tensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fxy: sforzo tagliante [Forza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

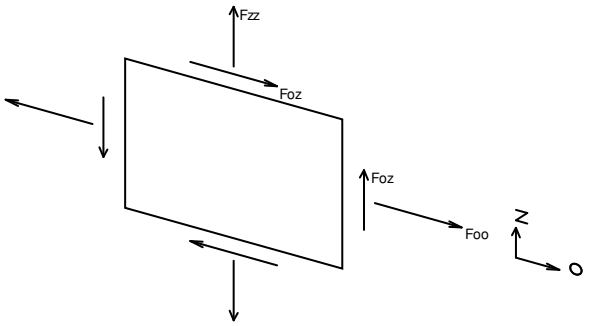
Convenzione di segno per gusci verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse O (ascisse) e z (ordinate) contenuti nel piano dell'elemento e terzo asse ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse O è orizzontale e l'asse z parallelo ed equiverso con l'asse Z globale. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Moo, Mzz, Moz.



- Moo: momento flettente distribuito [Forza*Lunghezza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mzz: momento flettente distribuito [Forza*Lunghezza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Moz: momento 'torcente' distribuito [Forza*Lunghezza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione Foo, Fzz, Foz sono rispettivamente:



- Fzz: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette

in trazione l'elemento);

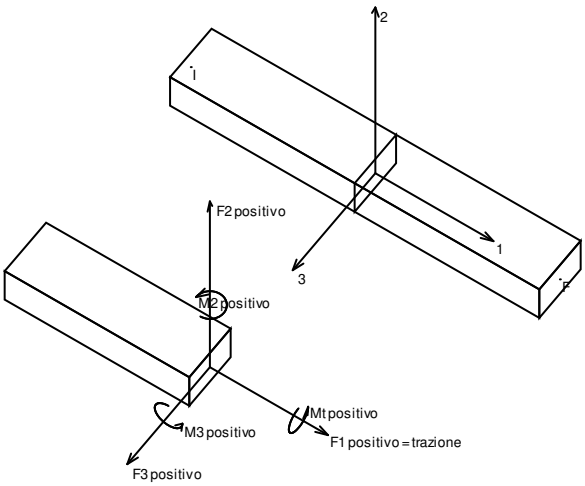
- Foo: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foz: sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia in figura).

1.1.5 Sollecitazioni aste in muratura

1.1.5.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- F1 (N): sforzo normale nell'asta;
- F2: sforzo di taglio agente nella direzione dell'asse locale 2;
- F3: sforzo di taglio agente nella direzione dell'asse locale 3;
- M1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M2: momento attorno all'asse locale 2;
- M3: momento attorno all'asse locale 3.



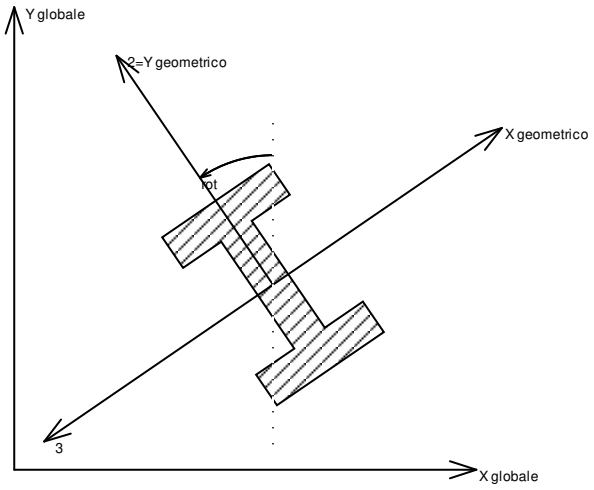
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

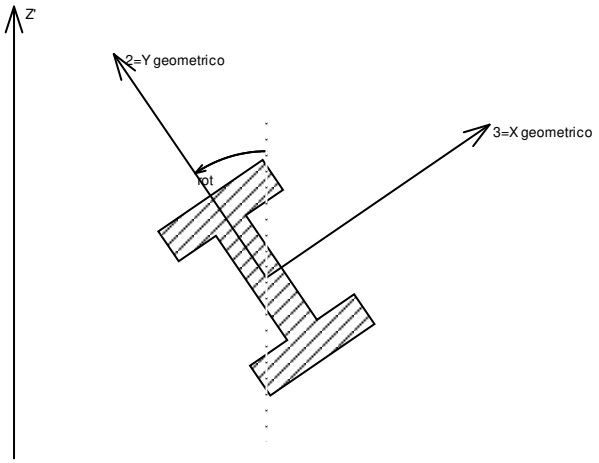
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).

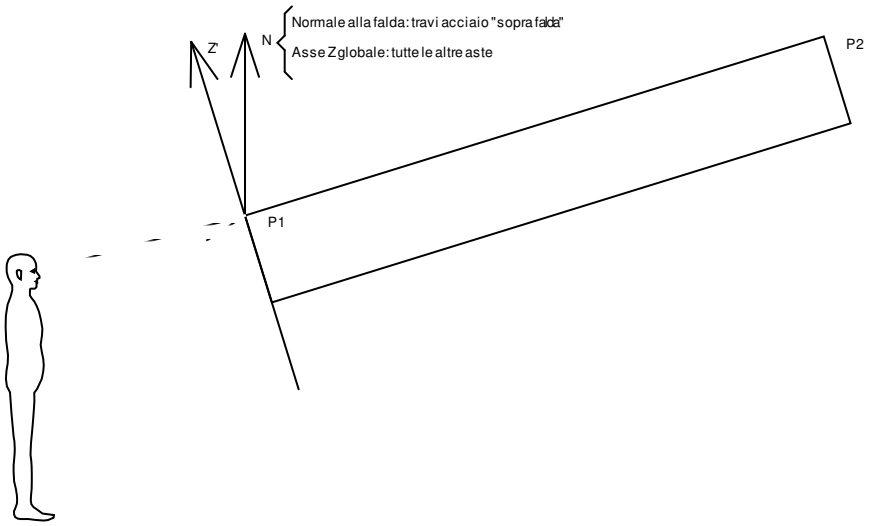
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

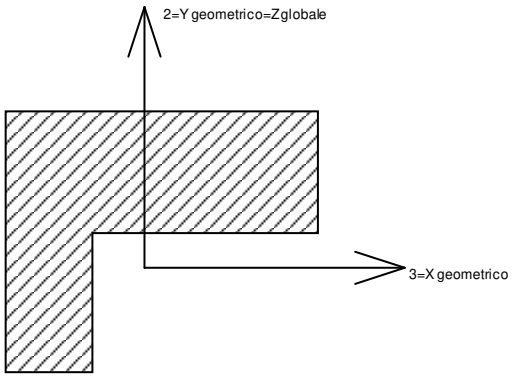
L'asse Z' è illustrato nella figura seguente dove:

- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per P1, P2 contenente N e il piano della sezione iniziale dell'asta.

Sistema locale aste derivanti da travi in c.a.



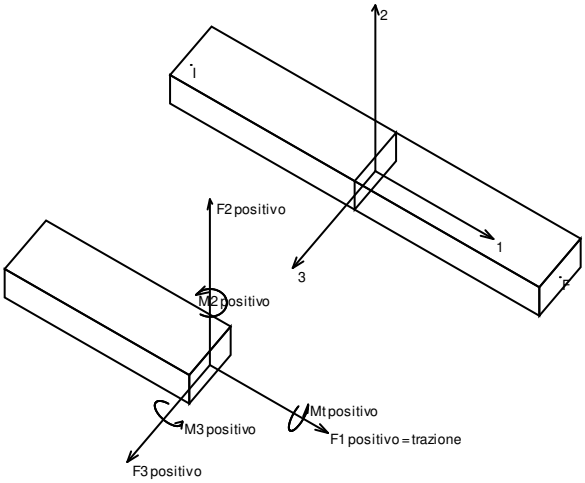
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.1.6 Sollecitazioni aste in muratura FRCM

1.1.6.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- F1 (N): sforzo normale nell'asta;
- F2: sforzo di taglio agente nella direzione dell'asse locale 2;
- F3: sforzo di taglio agente nella direzione dell'asse locale 3;
- M1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M2: momento attorno all'asse locale 2;
- M3: momento attorno all'asse locale 3.



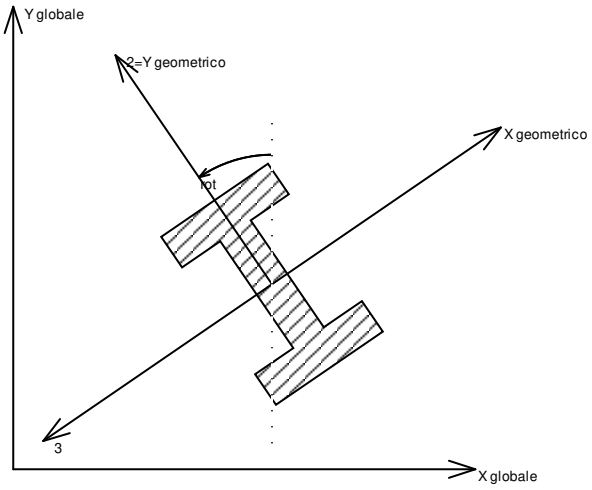
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

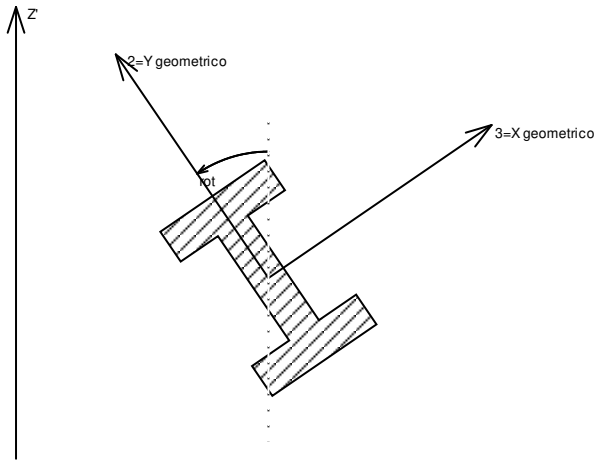
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).

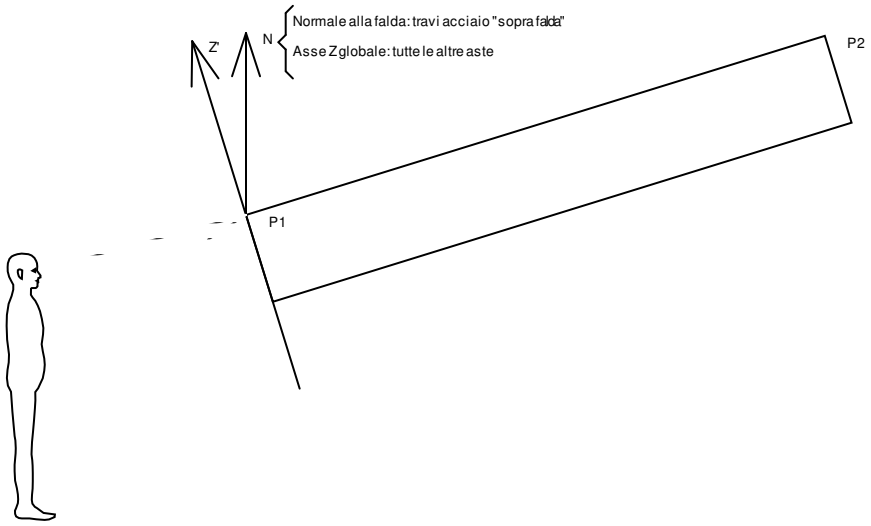
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

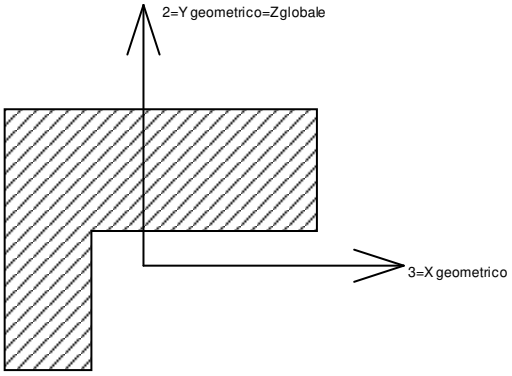
L'asse Z' è illustrato nella figura seguente dove:

- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per P1, P2 contenente N e il piano della sezione iniziale dell'asta.

Sistema locale aste derivanti da travi in c.a.



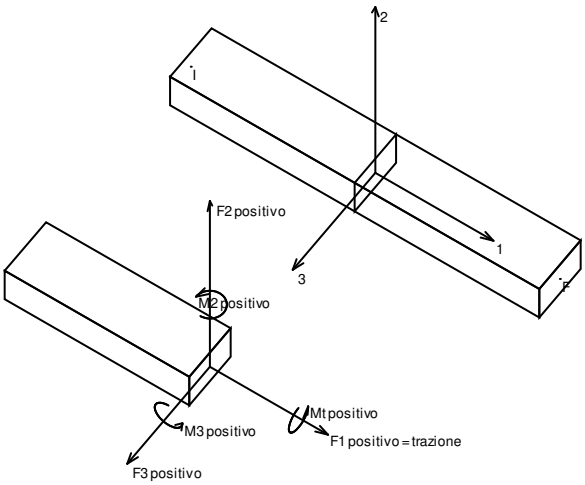
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.1.7 Sollecitazioni aste in muratura armata

1.1.7.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- F1 (N): sforzo normale nell'asta;
- F2: sforzo di taglio agente nella direzione dell'asse locale 2;
- F3: sforzo di taglio agente nella direzione dell'asse locale 3;
- M1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M2: momento attorno all'asse locale 2;
- M3: momento attorno all'asse locale 3.



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

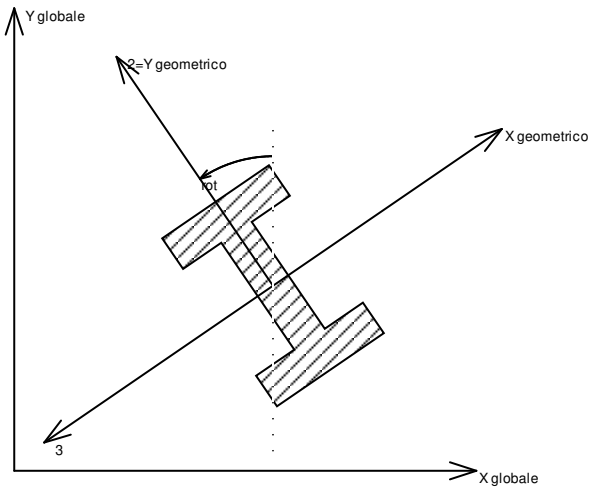
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli

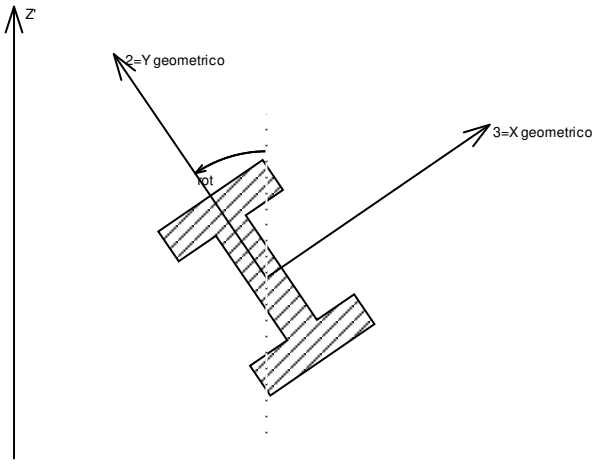
assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).

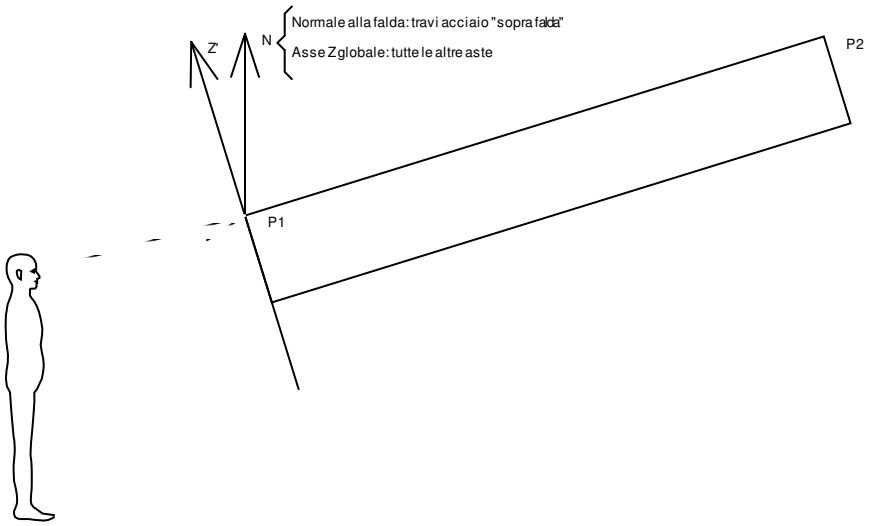
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

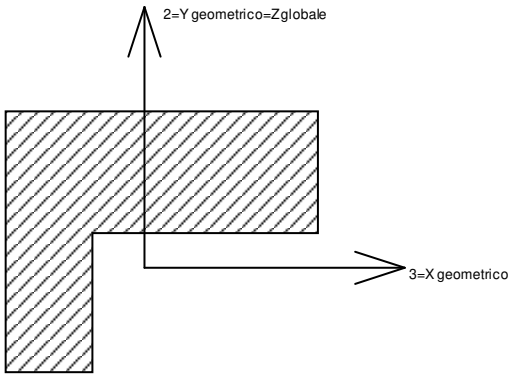
L'asse Z' è illustrato nella figura seguente dove:

- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per P1, P2 contenente N e il piano della sezione iniziale dell'asta.

Sistema locale aste derivanti da travi in c.a.



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.2 Reazioni nodali

1.2.1 Reazioni nodali estreme

Nodo: Nodo sollecitato dalla reazione vincolare.
Ind.: indice del nodo.
Cont.: Contesto a cui si riferisce la reazione vincolare.
N.br.: nome breve della condizione o combinazione di carico.
Reazione a traslazione: reazione vincolare traslazionale del nodo.
x: componente X della reazione vincolare del nodo. [daN]
y: componente Y della reazione vincolare del nodo. [daN]
z: componente Z della reazione vincolare del nodo. [daN]
Reazione a rotazione: reazione vincolare rotazionale del nodo.
*x: componente X della reazione a rotazione del nodo. [daN*m]*
*y: componente Y della reazione a rotazione del nodo. [daN*m]*
*z: componente Z della reazione a rotazione del nodo. [daN*m]*

Reazioni Fx minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
841	SLV FO 14	-3103	1244	14835	294.07	710.12	127.02
1082	SLV FO 16	-3053	-783	18216	-5909.52	-1316.4	-1127.67
663	SLV FO 16	-2868	-1137	20250	1808.99	-292.02	220.98
457	SLV FO 13	-2700	914	13091	-177.87	-42.53	27.52
997	SLV FO 16	-2685	-960	15359	-4008.49	-29.35	-705.06

Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
841	SLV FO 3	3284	-838	19969	967.38	873.76	-164.48
694	SLV FO 1	2853	1031	15902	2210.86	2876.15	-599.94
1082	SLV FO 1	2841	1118	11059	-3712.65	-777.13	1078.13
663	SLV FO 1	2600	1399	18686	1795.8	-55.34	-238.23
666	SLV FO 2	2322	1021	15381	-2570.08	353.9	391.74

Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
841	SLV FO 12	-839	-3912	21412	1343.12	992.92	202.07
663	SLV FO 12	-1020	-3621	20479	1959.77	-288.34	-8.08
666	SLV FO 12	-977	-3572	18384	-3041.39	279.43	-140.06
694	SLV FO 11	-508	-3383	20783	3342.72	3904.44	709.98
457	SLV FO 8	795	-2848	5787	550.07	-2.06	28.28

Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
841	SLV FO 5	1020	4318	13391	-81.67	590.96	-239.53
663	SLV FO 5	752	3883	18457	1645.01	-59.03	-9.17
694	SLV FO 6	1132	3547	17207	2205.31	2977.57	-808.12
666	SLV FO 5	654	3486	14964	-2595.27	388.04	33.83
1082	SLV FO 5	1000	2966	-504	-107.35	-16.54	566.9

Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
312	SLV Y	349	-2203	-8895	-2837.33	705.78	-286.53
298	SLV Y	308	-1455	-7527	-1549.43	-35.18	-62.89
316	SLV Y	-144	-1578	-6378	-567.03	-1193.32	300.13
177	SLV Y	24	-982	-6369	-1208.58	-1405.7	216.62
327	SLV Y	-155	-998	-5246	-874.27	-5.02	28.62

Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1082	SLV FO 8	378	-2591	30457	-9733.39	-2104.93	-55.17
997	SLV FO 8	-97	-2405	29104	-7493.32	-4.96	-18.06
663	SLU 83	-182	186	29061	2691.5	-258.29	-13.61
694	SLU 83	444	122	28204	4121.64	5108.85	-70.73
841	SLU 83	135	290	25927	933.77	1178.96	-26.56

1.2.2 Reazioni nodali in combinazioni di carico

Nodo: *Nodo sollecitato dalla reazione vincolare.*
Ind.: *indice del nodo.*
Cont.: *Contesto a cui si riferisce la reazione vincolare.*
N.br.: *nome breve della condizione o combinazione di carico.*
Reazione a traslazione: *reazione vincolare traslazionale del nodo.*
x: *componente X della reazione vincolare del nodo. [daN]*
y: *componente Y della reazione vincolare del nodo. [daN]*
z: *componente Z della reazione vincolare del nodo. [daN]*
Reazione a rotazione: *reazione vincolare rotazionale del nodo.*
x: *componente X della reazione a rotazione del nodo. [daN*m]*
y: *componente Y della reazione a rotazione del nodo. [daN*m]*
z: *componente Z della reazione a rotazione del nodo. [daN*m]*

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLU 1	10	-11	322	0	0	0
11	SLU 2	10	-11	325	0	0	0
11	SLU 3	10	-11	328	0	0	0
11	SLU 4	10	-11	330	0	0	0
11	SLU 5	11	-11	329	0	0	0
11	SLU 6	10	-11	332	0	0	0
11	SLU 7	11	-11	334	0	0	0
11	SLU 8	10	-11	330	0	0	0
11	SLU 9	10	-11	331	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLU 10	12	-12	368	0	0	0
11	SLU 11	11	-13	371	0	0	0
11	SLU 12	11	-12	373	0	0	0
11	SLU 13	12	-12	372	0	0	0
11	SLU 14	11	-13	375	0	0	0
11	SLU 15	12	-12	377	0	0	0
11	SLU 16	11	-13	373	0	0	0
11	SLU 17	11	-12	374	0	0	0
11	SLU 18	12	-13	383	0	0	0
11	SLU 19	12	-13	385	0	0	0
11	SLU 20	12	-13	387	0	0	0
11	SLU 21	12	-13	389	0	0	0
11	SLU 22	12	-12	368	0	0	0
11	SLU 23	12	-11	371	0	0	0
11	SLU 24	12	-12	374	0	0	0
11	SLU 25	12	-11	376	0	0	0
11	SLU 26	12	-11	375	0	0	0
11	SLU 27	12	-12	378	0	0	0
11	SLU 28	12	-11	380	0	0	0
11	SLU 29	12	-12	376	0	0	0
11	SLU 30	12	-11	377	0	0	0
11	SLU 31	13	-13	414	0	0	0
11	SLU 32	13	-13	417	0	0	0
11	SLU 33	13	-13	419	0	0	0
11	SLU 34	13	-12	417	0	0	0
11	SLU 35	13	-13	421	0	0	0
11	SLU 36	13	-13	422	0	0	0
11	SLU 37	13	-13	418	0	0	0
11	SLU 38	13	-13	420	0	0	0
11	SLU 39	13	-14	429	0	0	0
11	SLU 40	13	-13	431	0	0	0
11	SLU 41	13	-14	433	0	0	0
11	SLU 42	13	-13	435	0	0	0
11	SLU 43	12	-15	403	0	0	0
11	SLU 44	13	-14	406	0	0	0
11	SLU 45	13	-15	409	0	0	0
11	SLU 46	13	-14	411	0	0	0
11	SLU 47	13	-14	410	0	0	0
11	SLU 48	13	-15	413	0	0	0
11	SLU 49	13	-14	415	0	0	0
11	SLU 50	13	-15	411	0	0	0
11	SLU 51	13	-14	412	0	0	0
11	SLU 52	14	-16	449	0	0	0
11	SLU 53	14	-16	452	0	0	0
11	SLU 54	14	-16	454	0	0	0
11	SLU 55	14	-15	452	0	0	0
11	SLU 56	14	-16	456	0	0	0
11	SLU 57	14	-16	457	0	0	0
11	SLU 58	14	-16	453	0	0	0
11	SLU 59	14	-16	455	0	0	0
11	SLU 60	14	-17	464	0	0	0
11	SLU 61	14	-16	466	0	0	0
11	SLU 62	14	-17	468	0	0	0
11	SLU 63	14	-16	470	0	0	0
11	SLU 64	14	-15	449	0	0	0
11	SLU 65	15	-15	452	0	0	0
11	SLU 66	14	-15	455	0	0	0
11	SLU 67	15	-15	457	0	0	0
11	SLU 68	15	-14	455	0	0	0
11	SLU 69	14	-15	459	0	0	0
11	SLU 70	15	-15	460	0	0	0
11	SLU 71	14	-15	456	0	0	0
11	SLU 72	15	-15	458	0	0	0
11	SLU 73	16	-16	494	0	0	0
11	SLU 74	15	-16	498	0	0	0
11	SLU 75	16	-16	499	0	0	0
11	SLU 76	16	-16	498	0	0	0
11	SLU 77	15	-16	502	0	0	0
11	SLU 78	16	-16	503	0	0	0
11	SLU 79	15	-16	499	0	0	0
11	SLU 80	16	-16	501	0	0	0
11	SLU 81	16	-17	510	0	0	0
11	SLU 82	16	-17	512	0	0	0
11	SLU 83	16	-17	514	0	0	0
11	SLU 84	16	-17	516	0	0	0
11	SLE RA 1	10	-12	335	0	0	0
11	SLE RA 2	11	-11	337	0	0	0
11	SLE RA 3	11	-11	339	0	0	0
11	SLE RA 4	11	-11	340	0	0	0
11	SLE RA 5	11	-11	340	0	0	0
11	SLE RA 6	11	-11	342	0	0	0
11	SLE RA 7	11	-11	343	0	0	0
11	SLE RA 8	11	-11	340	0	0	0
11	SLE RA 9	11	-11	341	0	0	0
11	SLE RA 10	11	-12	366	0	0	0
11	SLE RA 11	11	-12	368	0	0	0
11	SLE RA 12	11	-12	369	0	0	0
11	SLE RA 13	12	-12	368	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLE RA 14	11	-12	370	0	0	0
11	SLE RA 15	12	-12	371	0	0	0
11	SLE RA 16	11	-12	369	0	0	0
11	SLE RA 17	11	-12	370	0	0	0
11	SLE RA 18	11	-13	376	0	0	0
11	SLE RA 19	12	-13	377	0	0	0
11	SLE RA 20	12	-13	379	0	0	0
11	SLE RA 21	12	-13	380	0	0	0
11	SLE FR 1	10	-12	335	0	0	0
11	SLE FR 2	11	-11	336	0	0	0
11	SLE FR 3	10	-12	336	0	0	0
11	SLE FR 4	11	-12	348	0	0	0
11	SLE FR 5	11	-12	348	0	0	0
11	SLE FR 6	11	-12	356	0	0	0
11	SLE QP 1	10	-12	335	0	0	0
11	SLE QP 2	11	-12	347	0	0	0
11	SLD 1	30	-10	378	0	0	0
11	SLD 2	32	-10	380	0	0	0
11	SLD 3	24	-15	334	0	0	0
11	SLD 4	26	-15	336	0	0	0
11	SLD 5	25	-4	423	0	0	0
11	SLD 6	27	-5	424	0	0	0
11	SLD 7	5	-20	276	0	0	0
11	SLD 8	7	-20	277	0	0	0
11	SLD 9	15	-4	417	0	0	0
11	SLD 10	17	-4	419	0	0	0
11	SLD 11	-5	-19	271	0	0	0
11	SLD 12	-4	-19	272	0	0	0
11	SLD 13	-5	-9	359	0	0	0
11	SLD 14	-2	-9	361	0	0	0
11	SLD 15	-11	-14	315	0	0	0
11	SLD 16	-8	-14	317	0	0	0
11	SLV 1	41	-9	398	0	0	0
11	SLV 2	45	-9	401	0	0	0
11	SLV 3	30	-16	323	0	0	0
11	SLV 4	34	-17	326	0	0	0
11	SLV 5	35	1	476	0	0	0
11	SLV 6	37	1	478	0	0	0
11	SLV 7	0	-25	226	0	0	0
11	SLV 8	3	-25	228	0	0	0
11	SLV 9	19	1	467	0	0	0
11	SLV 10	21	1	469	0	0	0
11	SLV 11	-16	-25	217	0	0	0
11	SLV 12	-13	-25	219	0	0	0
11	SLV 13	-13	-7	369	0	0	0
11	SLV 14	-9	-7	372	0	0	0
11	SLV 15	-23	-15	293	0	0	0
11	SLV 16	-19	-15	296	0	0	0
11	SLV FO 1	44	-8	403	0	0	0
11	SLV FO 2	48	-9	407	0	0	0
11	SLV FO 3	32	-17	321	0	0	0
11	SLV FO 4	37	-17	324	0	0	0
11	SLV FO 5	37	2	489	0	0	0
11	SLV FO 6	40	2	491	0	0	0
11	SLV FO 7	-1	-26	213	0	0	0
11	SLV FO 8	2	-27	216	0	0	0
11	SLV FO 9	19	3	479	0	0	0
11	SLV FO 10	22	3	481	0	0	0
11	SLV FO 11	-19	-26	204	0	0	0
11	SLV FO 12	-16	-26	206	0	0	0
11	SLV FO 13	-15	-7	371	0	0	0
11	SLV FO 14	-11	-7	374	0	0	0
11	SLV FO 15	-27	-15	288	0	0	0
11	SLV FO 16	-22	-15	291	0	0	0
12	SLU 1	16	-18	533	0	0	0
12	SLU 2	17	-17	538	0	0	0
12	SLU 3	16	-18	543	0	0	0
12	SLU 4	17	-17	546	0	0	0
12	SLU 5	17	-17	544	0	0	0
12	SLU 6	17	-18	550	0	0	0
12	SLU 7	17	-17	553	0	0	0
12	SLU 8	16	-18	546	0	0	0
12	SLU 9	17	-17	549	0	0	0
12	SLU 10	19	-19	609	0	0	0
12	SLU 11	18	-20	614	0	0	0
12	SLU 12	19	-19	617	0	0	0
12	SLU 13	19	-19	615	0	0	0
12	SLU 14	18	-20	621	0	0	0
12	SLU 15	19	-19	624	0	0	0
12	SLU 16	18	-20	617	0	0	0
12	SLU 17	19	-19	620	0	0	0
12	SLU 18	19	-21	634	0	0	0
12	SLU 19	19	-20	637	0	0	0
12	SLU 20	19	-21	641	0	0	0
12	SLU 21	19	-20	644	0	0	0
12	SLU 22	19	-19	609	0	0	0
12	SLU 23	20	-18	614	0	0	0
12	SLU 24	19	-18	619	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLU 25	20	-18	622	0	0	0
12	SLU 26	20	-17	620	0	0	0
12	SLU 27	19	-18	626	0	0	0
12	SLU 28	20	-18	629	0	0	0
12	SLU 29	19	-18	622	0	0	0
12	SLU 30	20	-18	625	0	0	0
12	SLU 31	21	-20	685	0	0	0
12	SLU 32	21	-20	690	0	0	0
12	SLU 33	21	-20	693	0	0	0
12	SLU 34	21	-20	691	0	0	0
12	SLU 35	21	-20	697	0	0	0
12	SLU 36	21	-20	700	0	0	0
12	SLU 37	21	-20	693	0	0	0
12	SLU 38	21	-20	696	0	0	0
12	SLU 39	21	-21	711	0	0	0
12	SLU 40	22	-21	714	0	0	0
12	SLU 41	21	-21	717	0	0	0
12	SLU 42	22	-21	720	0	0	0
12	SLU 43	20	-23	667	0	0	0
12	SLU 44	21	-22	672	0	0	0
12	SLU 45	20	-23	677	0	0	0
12	SLU 46	21	-23	680	0	0	0
12	SLU 47	21	-22	678	0	0	0
12	SLU 48	21	-23	684	0	0	0
12	SLU 49	21	-22	686	0	0	0
12	SLU 50	20	-23	680	0	0	0
12	SLU 51	21	-22	683	0	0	0
12	SLU 52	23	-24	743	0	0	0
12	SLU 53	22	-25	748	0	0	0
12	SLU 54	23	-25	751	0	0	0
12	SLU 55	23	-24	749	0	0	0
12	SLU 56	22	-25	754	0	0	0
12	SLU 57	23	-25	757	0	0	0
12	SLU 58	22	-25	751	0	0	0
12	SLU 59	23	-25	754	0	0	0
12	SLU 60	23	-26	768	0	0	0
12	SLU 61	23	-26	771	0	0	0
12	SLU 62	23	-26	775	0	0	0
12	SLU 63	23	-26	778	0	0	0
12	SLU 64	23	-24	743	0	0	0
12	SLU 65	24	-23	748	0	0	0
12	SLU 66	23	-24	753	0	0	0
12	SLU 67	24	-23	756	0	0	0
12	SLU 68	24	-23	754	0	0	0
12	SLU 69	23	-23	760	0	0	0
12	SLU 70	24	-23	763	0	0	0
12	SLU 71	23	-23	756	0	0	0
12	SLU 72	24	-23	759	0	0	0
12	SLU 73	25	-25	819	0	0	0
12	SLU 74	25	-26	824	0	0	0
12	SLU 75	25	-25	827	0	0	0
12	SLU 76	25	-25	825	0	0	0
12	SLU 77	25	-26	831	0	0	0
12	SLU 78	25	-25	834	0	0	0
12	SLU 79	25	-26	827	0	0	0
12	SLU 80	25	-25	830	0	0	0
12	SLU 81	25	-27	844	0	0	0
12	SLU 82	26	-26	847	0	0	0
12	SLU 83	25	-27	851	0	0	0
12	SLU 84	26	-26	854	0	0	0
12	SLE RA 1	17	-18	555	0	0	0
12	SLE RA 2	17	-18	558	0	0	0
12	SLE RA 3	17	-18	562	0	0	0
12	SLE RA 4	17	-18	564	0	0	0
12	SLE RA 5	18	-17	562	0	0	0
12	SLE RA 6	17	-18	566	0	0	0
12	SLE RA 7	18	-18	568	0	0	0
12	SLE RA 8	17	-18	563	0	0	0
12	SLE RA 9	17	-18	565	0	0	0
12	SLE RA 10	19	-19	605	0	0	0
12	SLE RA 11	18	-19	609	0	0	0
12	SLE RA 12	19	-19	611	0	0	0
12	SLE RA 13	19	-19	610	0	0	0
12	SLE RA 14	18	-19	613	0	0	0
12	SLE RA 15	19	-19	615	0	0	0
12	SLE RA 16	18	-19	611	0	0	0
12	SLE RA 17	19	-19	613	0	0	0
12	SLE RA 18	19	-20	622	0	0	0
12	SLE RA 19	19	-20	624	0	0	0
12	SLE RA 20	19	-20	627	0	0	0
12	SLE RA 21	19	-20	629	0	0	0
12	SLE FR 1	17	-18	555	0	0	0
12	SLE FR 2	17	-18	556	0	0	0
12	SLE FR 3	17	-18	557	0	0	0
12	SLE FR 4	18	-19	576	0	0	0
12	SLE FR 5	17	-19	577	0	0	0
12	SLE FR 6	18	-19	589	0	0	0
12	SLE QP 1	17	-18	555	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLE QP 2	17	-19	575	0	0	0
12	SLD 1	48	-16	616	0	0	0
12	SLD 2	52	-15	619	0	0	0
12	SLD 3	38	-24	542	0	0	0
12	SLD 4	42	-23	544	0	0	0
12	SLD 5	41	-6	700	0	0	0
12	SLD 6	43	-5	702	0	0	0
12	SLD 7	8	-33	451	0	0	0
12	SLD 8	11	-32	453	0	0	0
12	SLD 9	24	-5	697	0	0	0
12	SLD 10	27	-5	699	0	0	0
12	SLD 11	-9	-32	448	0	0	0
12	SLD 12	-6	-32	450	0	0	0
12	SLD 13	-7	-14	606	0	0	0
12	SLD 14	-3	-14	609	0	0	0
12	SLD 15	-17	-22	531	0	0	0
12	SLD 16	-13	-22	534	0	0	0
12	SLV 1	66	-13	645	0	0	0
12	SLV 2	72	-13	649	0	0	0
12	SLV 3	49	-27	517	0	0	0
12	SLV 4	56	-27	522	0	0	0
12	SLV 5	56	4	789	0	0	0
12	SLV 6	61	4	792	0	0	0
12	SLV 7	0	-42	363	0	0	0
12	SLV 8	5	-42	366	0	0	0
12	SLV 9	30	5	784	0	0	0
12	SLV 10	35	5	787	0	0	0
12	SLV 11	-26	-42	358	0	0	0
12	SLV 12	-21	-41	361	0	0	0
12	SLV 13	-21	-11	628	0	0	0
12	SLV 14	-14	-10	633	0	0	0
12	SLV 15	-38	-25	501	0	0	0
12	SLV 16	-31	-24	505	0	0	0
12	SLV FO 1	71	-13	652	0	0	0
12	SLV FO 2	78	-12	657	0	0	0
12	SLV FO 3	52	-28	512	0	0	0
12	SLV FO 4	59	-27	516	0	0	0
12	SLV FO 5	60	6	810	0	0	0
12	SLV FO 6	65	7	814	0	0	0
12	SLV FO 7	-1	-45	342	0	0	0
12	SLV FO 8	3	-44	346	0	0	0
12	SLV FO 9	32	7	805	0	0	0
12	SLV FO 10	36	7	808	0	0	0
12	SLV FO 11	-30	-44	337	0	0	0
12	SLV FO 12	-25	-44	340	0	0	0
12	SLV FO 13	-25	-10	634	0	0	0
12	SLV FO 14	-17	-9	639	0	0	0
12	SLV FO 15	-43	-25	493	0	0	0
12	SLV FO 16	-36	-25	498	0	0	0
13	SLU 1	12	-14	414	0	0	0
13	SLU 2	13	-13	417	0	0	0
13	SLU 3	13	-13	422	0	0	0
13	SLU 4	13	-13	424	0	0	0
13	SLU 5	13	-13	422	0	0	0
13	SLU 6	13	-13	427	0	0	0
13	SLU 7	13	-13	429	0	0	0
13	SLU 8	13	-13	424	0	0	0
13	SLU 9	13	-13	426	0	0	0
13	SLU 10	14	-14	472	0	0	0
13	SLU 11	14	-15	477	0	0	0
13	SLU 12	14	-15	479	0	0	0
13	SLU 13	14	-14	477	0	0	0
13	SLU 14	14	-15	482	0	0	0
13	SLU 15	14	-15	484	0	0	0
13	SLU 16	14	-15	479	0	0	0
13	SLU 17	14	-15	481	0	0	0
13	SLU 18	14	-16	492	0	0	0
13	SLU 19	15	-15	495	0	0	0
13	SLU 20	14	-16	497	0	0	0
13	SLU 21	15	-15	500	0	0	0
13	SLU 22	14	-14	473	0	0	0
13	SLU 23	15	-13	477	0	0	0
13	SLU 24	15	-14	481	0	0	0
13	SLU 25	15	-13	483	0	0	0
13	SLU 26	15	-13	482	0	0	0
13	SLU 27	15	-14	486	0	0	0
13	SLU 28	15	-13	488	0	0	0
13	SLU 29	15	-14	483	0	0	0
13	SLU 30	15	-13	485	0	0	0
13	SLU 31	16	-15	532	0	0	0
13	SLU 32	16	-15	536	0	0	0
13	SLU 33	16	-15	538	0	0	0
13	SLU 34	16	-15	537	0	0	0
13	SLU 35	16	-15	541	0	0	0
13	SLU 36	16	-15	543	0	0	0
13	SLU 37	16	-15	538	0	0	0
13	SLU 38	16	-15	540	0	0	0
13	SLU 39	16	-16	552	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLU 40	17	-16	554	0	0	0
13	SLU 41	16	-16	556	0	0	0
13	SLU 42	17	-16	559	0	0	0
13	SLU 43	15	-18	517	0	0	0
13	SLU 44	16	-17	521	0	0	0
13	SLU 45	16	-17	525	0	0	0
13	SLU 46	16	-17	528	0	0	0
13	SLU 47	16	-17	526	0	0	0
13	SLU 48	16	-17	530	0	0	0
13	SLU 49	16	-17	533	0	0	0
13	SLU 50	16	-17	527	0	0	0
13	SLU 51	16	-17	530	0	0	0
13	SLU 52	17	-18	576	0	0	0
13	SLU 53	17	-19	580	0	0	0
13	SLU 54	17	-19	583	0	0	0
13	SLU 55	17	-18	581	0	0	0
13	SLU 56	17	-19	585	0	0	0
13	SLU 57	17	-18	588	0	0	0
13	SLU 58	17	-19	582	0	0	0
13	SLU 59	17	-18	585	0	0	0
13	SLU 60	17	-20	596	0	0	0
13	SLU 61	18	-19	598	0	0	0
13	SLU 62	17	-20	601	0	0	0
13	SLU 63	18	-19	603	0	0	0
13	SLU 64	17	-18	577	0	0	0
13	SLU 65	18	-17	580	0	0	0
13	SLU 66	18	-18	585	0	0	0
13	SLU 67	18	-17	587	0	0	0
13	SLU 68	18	-17	585	0	0	0
13	SLU 69	18	-18	590	0	0	0
13	SLU 70	18	-17	592	0	0	0
13	SLU 71	18	-18	587	0	0	0
13	SLU 72	18	-17	589	0	0	0
13	SLU 73	19	-19	636	0	0	0
13	SLU 74	19	-19	640	0	0	0
13	SLU 75	19	-19	642	0	0	0
13	SLU 76	19	-19	640	0	0	0
13	SLU 77	19	-19	645	0	0	0
13	SLU 78	19	-19	647	0	0	0
13	SLU 79	19	-19	642	0	0	0
13	SLU 80	19	-19	644	0	0	0
13	SLU 81	19	-20	655	0	0	0
13	SLU 82	20	-20	658	0	0	0
13	SLU 83	19	-20	660	0	0	0
13	SLU 84	20	-20	663	0	0	0
13	SLE RA 1	13	-14	431	0	0	0
13	SLE RA 2	13	-13	433	0	0	0
13	SLE RA 3	13	-14	436	0	0	0
13	SLE RA 4	13	-13	437	0	0	0
13	SLE RA 5	13	-13	436	0	0	0
13	SLE RA 6	13	-14	439	0	0	0
13	SLE RA 7	13	-13	441	0	0	0
13	SLE RA 8	13	-14	437	0	0	0
13	SLE RA 9	13	-13	439	0	0	0
13	SLE RA 10	14	-14	470	0	0	0
13	SLE RA 11	14	-15	473	0	0	0
13	SLE RA 12	14	-14	474	0	0	0
13	SLE RA 13	14	-14	473	0	0	0
13	SLE RA 14	14	-15	476	0	0	0
13	SLE RA 15	14	-14	477	0	0	0
13	SLE RA 16	14	-15	474	0	0	0
13	SLE RA 17	14	-14	475	0	0	0
13	SLE RA 18	14	-15	483	0	0	0
13	SLE RA 19	14	-15	485	0	0	0
13	SLE RA 20	14	-15	486	0	0	0
13	SLE RA 21	15	-15	488	0	0	0
13	SLE FR 1	13	-14	431	0	0	0
13	SLE FR 2	13	-14	431	0	0	0
13	SLE FR 3	13	-14	432	0	0	0
13	SLE FR 4	13	-14	447	0	0	0
13	SLE FR 5	13	-14	448	0	0	0
13	SLE FR 6	14	-14	457	0	0	0
13	SLE QP 1	13	-14	431	0	0	0
13	SLE QP 2	13	-14	446	0	0	0
13	SLD 1	37	-12	471	0	0	0
13	SLD 2	40	-11	473	0	0	0
13	SLD 3	29	-18	412	0	0	0
13	SLD 4	32	-18	414	0	0	0
13	SLD 5	31	-4	543	0	0	0
13	SLD 6	33	-3	544	0	0	0
13	SLD 7	6	-25	346	0	0	0
13	SLD 8	8	-25	348	0	0	0
13	SLD 9	19	-3	545	0	0	0
13	SLD 10	21	-3	546	0	0	0
13	SLD 11	-7	-25	348	0	0	0
13	SLD 12	-5	-25	350	0	0	0
13	SLD 13	-6	-11	478	0	0	0
13	SLD 14	-3	-10	480	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLD 15	-13	-17	419	0	0	0
13	SLD 16	-10	-17	421	0	0	0
13	SLV 1	51	-10	489	0	0	0
13	SLV 2	56	-9	493	0	0	0
13	SLV 3	38	-21	389	0	0	0
13	SLV 4	43	-20	392	0	0	0
13	SLV 5	43	4	611	0	0	0
13	SLV 6	46	5	613	0	0	0
13	SLV 7	0	-34	276	0	0	0
13	SLV 8	4	-33	278	0	0	0
13	SLV 9	23	5	614	0	0	0
13	SLV 10	27	5	617	0	0	0
13	SLV 11	-20	-33	279	0	0	0
13	SLV 12	-16	-32	281	0	0	0
13	SLV 13	-16	-8	500	0	0	0
13	SLV 14	-11	-7	504	0	0	0
13	SLV 15	-29	-19	400	0	0	0
13	SLV 16	-24	-18	403	0	0	0
13	SLV FO 1	54	-10	494	0	0	0
13	SLV FO 2	60	-8	497	0	0	0
13	SLV FO 3	40	-22	383	0	0	0
13	SLV FO 4	46	-21	387	0	0	0
13	SLV FO 5	46	6	628	0	0	0
13	SLV FO 6	50	7	630	0	0	0
13	SLV FO 7	-1	-36	259	0	0	0
13	SLV FO 8	3	-35	261	0	0	0
13	SLV FO 9	24	6	631	0	0	0
13	SLV FO 10	28	7	634	0	0	0
13	SLV FO 11	-23	-35	263	0	0	0
13	SLV FO 12	-19	-34	265	0	0	0
13	SLV FO 13	-19	-7	506	0	0	0
13	SLV FO 14	-13	-6	510	0	0	0
13	SLV FO 15	-33	-20	395	0	0	0
13	SLV FO 16	-28	-19	399	0	0	0
14	SLU 1	12	-13	418	0	0	0
14	SLU 2	13	-13	422	0	0	0
14	SLU 3	13	-13	426	0	0	0
14	SLU 4	13	-13	428	0	0	0
14	SLU 5	13	-13	427	0	0	0
14	SLU 6	13	-13	431	0	0	0
14	SLU 7	13	-13	433	0	0	0
14	SLU 8	13	-13	428	0	0	0
14	SLU 9	13	-13	430	0	0	0
14	SLU 10	14	-14	478	0	0	0
14	SLU 11	14	-15	482	0	0	0
14	SLU 12	14	-14	484	0	0	0
14	SLU 13	14	-14	483	0	0	0
14	SLU 14	14	-15	487	0	0	0
14	SLU 15	14	-14	489	0	0	0
14	SLU 16	14	-15	484	0	0	0
14	SLU 17	14	-14	486	0	0	0
14	SLU 18	14	-16	497	0	0	0
14	SLU 19	15	-15	500	0	0	0
14	SLU 20	14	-15	502	0	0	0
14	SLU 21	15	-15	505	0	0	0
14	SLU 22	14	-14	478	0	0	0
14	SLU 23	15	-13	482	0	0	0
14	SLU 24	15	-14	486	0	0	0
14	SLU 25	15	-13	488	0	0	0
14	SLU 26	15	-13	487	0	0	0
14	SLU 27	15	-13	491	0	0	0
14	SLU 28	15	-13	493	0	0	0
14	SLU 29	15	-13	488	0	0	0
14	SLU 30	15	-13	490	0	0	0
14	SLU 31	16	-15	538	0	0	0
14	SLU 32	16	-15	542	0	0	0
14	SLU 33	16	-15	544	0	0	0
14	SLU 34	16	-14	543	0	0	0
14	SLU 35	16	-15	547	0	0	0
14	SLU 36	16	-15	549	0	0	0
14	SLU 37	16	-15	544	0	0	0
14	SLU 38	16	-15	546	0	0	0
14	SLU 39	16	-16	557	0	0	0
14	SLU 40	17	-15	560	0	0	0
14	SLU 41	16	-16	562	0	0	0
14	SLU 42	17	-15	565	0	0	0
14	SLU 43	15	-17	523	0	0	0
14	SLU 44	16	-16	527	0	0	0
14	SLU 45	16	-17	531	0	0	0
14	SLU 46	16	-17	533	0	0	0
14	SLU 47	16	-16	532	0	0	0
14	SLU 48	16	-17	536	0	0	0
14	SLU 49	16	-17	538	0	0	0
14	SLU 50	16	-17	533	0	0	0
14	SLU 51	16	-17	535	0	0	0
14	SLU 52	17	-18	582	0	0	0
14	SLU 53	17	-19	586	0	0	0
14	SLU 54	17	-18	589	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLU 55	17	-18	587	0	0	0
14	SLU 56	17	-19	591	0	0	0
14	SLU 57	17	-18	594	0	0	0
14	SLU 58	17	-19	588	0	0	0
14	SLU 59	17	-18	591	0	0	0
14	SLU 60	17	-19	602	0	0	0
14	SLU 61	18	-19	605	0	0	0
14	SLU 62	17	-19	607	0	0	0
14	SLU 63	18	-19	610	0	0	0
14	SLU 64	17	-18	583	0	0	0
14	SLU 65	18	-17	587	0	0	0
14	SLU 66	18	-17	591	0	0	0
14	SLU 67	18	-17	593	0	0	0
14	SLU 68	18	-17	592	0	0	0
14	SLU 69	18	-17	596	0	0	0
14	SLU 70	18	-17	598	0	0	0
14	SLU 71	18	-17	593	0	0	0
14	SLU 72	18	-17	595	0	0	0
14	SLU 73	19	-18	642	0	0	0
14	SLU 74	19	-19	646	0	0	0
14	SLU 75	19	-19	649	0	0	0
14	SLU 76	19	-18	647	0	0	0
14	SLU 77	19	-19	651	0	0	0
14	SLU 78	19	-18	654	0	0	0
14	SLU 79	19	-19	648	0	0	0
14	SLU 80	19	-18	651	0	0	0
14	SLU 81	19	-20	662	0	0	0
14	SLU 82	20	-19	665	0	0	0
14	SLU 83	19	-20	667	0	0	0
14	SLU 84	20	-19	670	0	0	0
14	SLE RA 1	13	-13	435	0	0	0
14	SLE RA 2	13	-13	438	0	0	0
14	SLE RA 3	13	-13	440	0	0	0
14	SLE RA 4	13	-13	442	0	0	0
14	SLE RA 5	13	-13	441	0	0	0
14	SLE RA 6	13	-13	444	0	0	0
14	SLE RA 7	13	-13	445	0	0	0
14	SLE RA 8	13	-13	442	0	0	0
14	SLE RA 9	13	-13	443	0	0	0
14	SLE RA 10	14	-14	475	0	0	0
14	SLE RA 11	14	-14	478	0	0	0
14	SLE RA 12	14	-14	479	0	0	0
14	SLE RA 13	14	-14	478	0	0	0
14	SLE RA 14	14	-14	481	0	0	0
14	SLE RA 15	14	-14	482	0	0	0
14	SLE RA 16	14	-14	479	0	0	0
14	SLE RA 17	14	-14	480	0	0	0
14	SLE RA 18	14	-15	488	0	0	0
14	SLE RA 19	14	-15	490	0	0	0
14	SLE RA 20	14	-15	491	0	0	0
14	SLE RA 21	15	-15	493	0	0	0
14	SLE FR 1	13	-13	435	0	0	0
14	SLE FR 2	13	-13	436	0	0	0
14	SLE FR 3	13	-13	436	0	0	0
14	SLE FR 4	13	-14	452	0	0	0
14	SLE FR 5	13	-14	452	0	0	0
14	SLE FR 6	14	-14	462	0	0	0
14	SLE QP 1	13	-13	435	0	0	0
14	SLE QP 2	13	-14	451	0	0	0
14	SLD 1	37	-10	472	0	0	0
14	SLD 2	40	-9	474	0	0	0
14	SLD 3	29	-17	412	0	0	0
14	SLD 4	32	-16	414	0	0	0
14	SLD 5	31	-2	549	0	0	0
14	SLD 6	33	-2	550	0	0	0
14	SLD 7	6	-26	347	0	0	0
14	SLD 8	8	-25	349	0	0	0
14	SLD 9	19	-3	553	0	0	0
14	SLD 10	21	-2	555	0	0	0
14	SLD 11	-7	-26	352	0	0	0
14	SLD 12	-5	-25	353	0	0	0
14	SLD 13	-6	-12	488	0	0	0
14	SLD 14	-3	-11	490	0	0	0
14	SLD 15	-13	-19	428	0	0	0
14	SLD 16	-10	-17	430	0	0	0
14	SLV 1	51	-8	488	0	0	0
14	SLV 2	56	-6	491	0	0	0
14	SLV 3	38	-20	385	0	0	0
14	SLV 4	43	-18	388	0	0	0
14	SLV 5	43	6	618	0	0	0
14	SLV 6	46	7	620	0	0	0
14	SLV 7	0	-34	274	0	0	0
14	SLV 8	4	-33	277	0	0	0
14	SLV 9	23	5	626	0	0	0
14	SLV 10	26	6	628	0	0	0
14	SLV 11	-20	-35	282	0	0	0
14	SLV 12	-16	-33	284	0	0	0
14	SLV 13	-16	-10	514	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLV 14	-11	-8	517	0	0	0
14	SLV 15	-29	-22	411	0	0	0
14	SLV 16	-24	-20	414	0	0	0
14	SLV FO 1	54	-7	492	0	0	0
14	SLV FO 2	60	-5	496	0	0	0
14	SLV FO 3	40	-20	379	0	0	0
14	SLV FO 4	46	-18	382	0	0	0
14	SLV FO 5	46	8	635	0	0	0
14	SLV FO 6	50	9	637	0	0	0
14	SLV FO 7	-1	-36	257	0	0	0
14	SLV FO 8	3	-35	259	0	0	0
14	SLV FO 9	24	7	643	0	0	0
14	SLV FO 10	28	8	645	0	0	0
14	SLV FO 11	-23	-37	265	0	0	0
14	SLV FO 12	-19	-35	267	0	0	0
14	SLV FO 13	-19	-9	520	0	0	0
14	SLV FO 14	-13	-8	523	0	0	0
14	SLV FO 15	-33	-23	407	0	0	0
14	SLV FO 16	-28	-21	410	0	0	0
15	SLU 1	12	-13	422	0	0	0
15	SLU 2	13	-12	426	0	0	0
15	SLU 3	13	-13	430	0	0	0
15	SLU 4	13	-13	433	0	0	0
15	SLU 5	13	-12	431	0	0	0
15	SLU 6	13	-13	435	0	0	0
15	SLU 7	13	-12	438	0	0	0
15	SLU 8	13	-13	432	0	0	0
15	SLU 9	13	-12	435	0	0	0
15	SLU 10	14	-14	482	0	0	0
15	SLU 11	14	-15	486	0	0	0
15	SLU 12	14	-14	489	0	0	0
15	SLU 13	14	-14	487	0	0	0
15	SLU 14	14	-14	491	0	0	0
15	SLU 15	14	-14	494	0	0	0
15	SLU 16	14	-14	488	0	0	0
15	SLU 17	14	-14	491	0	0	0
15	SLU 18	14	-15	502	0	0	0
15	SLU 19	15	-15	505	0	0	0
15	SLU 20	14	-15	507	0	0	0
15	SLU 21	15	-15	510	0	0	0
15	SLU 22	14	-13	483	0	0	0
15	SLU 23	15	-13	487	0	0	0
15	SLU 24	15	-13	491	0	0	0
15	SLU 25	15	-13	493	0	0	0
15	SLU 26	15	-13	492	0	0	0
15	SLU 27	15	-13	496	0	0	0
15	SLU 28	15	-13	498	0	0	0
15	SLU 29	15	-13	493	0	0	0
15	SLU 30	15	-13	495	0	0	0
15	SLU 31	16	-14	543	0	0	0
15	SLU 32	16	-15	547	0	0	0
15	SLU 33	16	-14	549	0	0	0
15	SLU 34	16	-14	548	0	0	0
15	SLU 35	16	-15	552	0	0	0
15	SLU 36	16	-14	555	0	0	0
15	SLU 37	16	-15	549	0	0	0
15	SLU 38	16	-14	552	0	0	0
15	SLU 39	16	-16	563	0	0	0
15	SLU 40	17	-15	565	0	0	0
15	SLU 41	16	-15	568	0	0	0
15	SLU 42	17	-15	570	0	0	0
15	SLU 43	15	-17	528	0	0	0
15	SLU 44	16	-16	532	0	0	0
15	SLU 45	16	-17	536	0	0	0
15	SLU 46	16	-16	538	0	0	0
15	SLU 47	16	-16	537	0	0	0
15	SLU 48	16	-17	541	0	0	0
15	SLU 49	16	-16	544	0	0	0
15	SLU 50	16	-17	538	0	0	0
15	SLU 51	16	-16	540	0	0	0
15	SLU 52	17	-18	588	0	0	0
15	SLU 53	17	-18	592	0	0	0
15	SLU 54	17	-18	595	0	0	0
15	SLU 55	17	-18	593	0	0	0
15	SLU 56	17	-18	597	0	0	0
15	SLU 57	17	-18	600	0	0	0
15	SLU 58	17	-18	594	0	0	0
15	SLU 59	17	-18	597	0	0	0
15	SLU 60	17	-19	608	0	0	0
15	SLU 61	18	-19	611	0	0	0
15	SLU 62	17	-19	613	0	0	0
15	SLU 63	18	-19	616	0	0	0
15	SLU 64	17	-17	589	0	0	0
15	SLU 65	18	-16	593	0	0	0
15	SLU 66	18	-17	597	0	0	0
15	SLU 67	18	-17	599	0	0	0
15	SLU 68	18	-16	598	0	0	0
15	SLU 69	18	-17	602	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLU 70	18	-17	604	0	0	0
15	SLU 71	18	-17	599	0	0	0
15	SLU 72	18	-17	601	0	0	0
15	SLU 73	19	-18	649	0	0	0
15	SLU 74	19	-19	653	0	0	0
15	SLU 75	19	-18	655	0	0	0
15	SLU 76	19	-18	654	0	0	0
15	SLU 77	19	-19	658	0	0	0
15	SLU 78	19	-18	660	0	0	0
15	SLU 79	19	-19	655	0	0	0
15	SLU 80	19	-18	657	0	0	0
15	SLU 81	19	-19	669	0	0	0
15	SLU 82	20	-19	671	0	0	0
15	SLU 83	19	-19	674	0	0	0
15	SLU 84	20	-19	676	0	0	0
15	SLE RA 1	13	-13	439	0	0	0
15	SLE RA 2	13	-13	442	0	0	0
15	SLE RA 3	13	-13	445	0	0	0
15	SLE RA 4	13	-13	446	0	0	0
15	SLE RA 5	13	-13	446	0	0	0
15	SLE RA 6	13	-13	448	0	0	0
15	SLE RA 7	13	-13	450	0	0	0
15	SLE RA 8	13	-13	446	0	0	0
15	SLE RA 9	13	-13	448	0	0	0
15	SLE RA 10	14	-14	480	0	0	0
15	SLE RA 11	14	-14	482	0	0	0
15	SLE RA 12	14	-14	484	0	0	0
15	SLE RA 13	14	-14	483	0	0	0
15	SLE RA 14	14	-14	486	0	0	0
15	SLE RA 15	14	-14	487	0	0	0
15	SLE RA 16	14	-14	484	0	0	0
15	SLE RA 17	14	-14	485	0	0	0
15	SLE RA 18	14	-15	493	0	0	0
15	SLE RA 19	14	-14	495	0	0	0
15	SLE RA 20	14	-15	496	0	0	0
15	SLE RA 21	14	-14	498	0	0	0
15	SLE FR 1	13	-13	439	0	0	0
15	SLE FR 2	13	-13	440	0	0	0
15	SLE FR 3	13	-13	441	0	0	0
15	SLE FR 4	13	-14	456	0	0	0
15	SLE FR 5	13	-14	457	0	0	0
15	SLE FR 6	14	-14	466	0	0	0
15	SLE QP 1	13	-13	439	0	0	0
15	SLE QP 2	13	-14	455	0	0	0
15	SLD 1	37	-10	472	0	0	0
15	SLD 2	40	-8	474	0	0	0
15	SLD 3	29	-17	410	0	0	0
15	SLD 4	32	-16	412	0	0	0
15	SLD 5	31	-2	554	0	0	0
15	SLD 6	33	-1	555	0	0	0
15	SLD 7	6	-26	348	0	0	0
15	SLD 8	8	-25	349	0	0	0
15	SLD 9	19	-2	562	0	0	0
15	SLD 10	21	-1	563	0	0	0
15	SLD 11	-7	-26	356	0	0	0
15	SLD 12	-5	-26	357	0	0	0
15	SLD 13	-6	-11	499	0	0	0
15	SLD 14	-3	-10	501	0	0	0
15	SLD 15	-13	-19	437	0	0	0
15	SLD 16	-10	-17	439	0	0	0
15	SLV 1	51	-7	486	0	0	0
15	SLV 2	56	-5	489	0	0	0
15	SLV 3	38	-20	380	0	0	0
15	SLV 4	43	-17	383	0	0	0
15	SLV 5	43	7	624	0	0	0
15	SLV 6	46	8	626	0	0	0
15	SLV 7	0	-35	272	0	0	0
15	SLV 8	4	-33	274	0	0	0
15	SLV 9	23	6	637	0	0	0
15	SLV 10	26	8	639	0	0	0
15	SLV 11	-20	-36	285	0	0	0
15	SLV 12	-16	-34	287	0	0	0
15	SLV 13	-16	-10	527	0	0	0
15	SLV 14	-11	-8	531	0	0	0
15	SLV 15	-29	-22	422	0	0	0
15	SLV 16	-24	-20	425	0	0	0
15	SLV FO 1	54	-6	489	0	0	0
15	SLV FO 2	60	-4	492	0	0	0
15	SLV FO 3	40	-20	373	0	0	0
15	SLV FO 4	46	-18	376	0	0	0
15	SLV FO 5	46	9	641	0	0	0
15	SLV FO 6	50	11	643	0	0	0
15	SLV FO 7	-1	-37	254	0	0	0
15	SLV FO 8	3	-35	256	0	0	0
15	SLV FO 9	24	8	655	0	0	0
15	SLV FO 10	28	10	657	0	0	0
15	SLV FO 11	-23	-38	268	0	0	0
15	SLV FO 12	-19	-36	270	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLV FO 13	-19	-9	535	0	0	0
15	SLV FO 14	-13	-7	538	0	0	0
15	SLV FO 15	-33	-23	419	0	0	0
15	SLV FO 16	-28	-21	422	0	0	0
16	SLU 1	12	-13	426	0	0	0
16	SLU 2	13	-12	430	0	0	0
16	SLU 3	13	-13	434	0	0	0
16	SLU 4	13	-12	437	0	0	0
16	SLU 5	13	-12	435	0	0	0
16	SLU 6	13	-13	439	0	0	0
16	SLU 7	13	-12	442	0	0	0
16	SLU 8	13	-13	436	0	0	0
16	SLU 9	13	-12	439	0	0	0
16	SLU 10	14	-14	487	0	0	0
16	SLU 11	14	-14	491	0	0	0
16	SLU 12	14	-14	493	0	0	0
16	SLU 13	14	-13	492	0	0	0
16	SLU 14	14	-14	496	0	0	0
16	SLU 15	14	-14	498	0	0	0
16	SLU 16	14	-14	493	0	0	0
16	SLU 17	14	-14	495	0	0	0
16	SLU 18	14	-15	507	0	0	0
16	SLU 19	15	-15	509	0	0	0
16	SLU 20	14	-15	512	0	0	0
16	SLU 21	15	-14	514	0	0	0
16	SLU 22	14	-13	487	0	0	0
16	SLU 23	15	-12	491	0	0	0
16	SLU 24	15	-13	495	0	0	0
16	SLU 25	15	-13	498	0	0	0
16	SLU 26	15	-12	496	0	0	0
16	SLU 27	15	-13	501	0	0	0
16	SLU 28	15	-12	503	0	0	0
16	SLU 29	15	-13	497	0	0	0
16	SLU 30	15	-12	500	0	0	0
16	SLU 31	16	-14	548	0	0	0
16	SLU 32	16	-15	552	0	0	0
16	SLU 33	16	-14	555	0	0	0
16	SLU 34	16	-14	553	0	0	0
16	SLU 35	16	-14	557	0	0	0
16	SLU 36	16	-14	560	0	0	0
16	SLU 37	16	-14	554	0	0	0
16	SLU 38	16	-14	557	0	0	0
16	SLU 39	16	-15	568	0	0	0
16	SLU 40	17	-15	571	0	0	0
16	SLU 41	16	-15	573	0	0	0
16	SLU 42	17	-15	576	0	0	0
16	SLU 43	15	-17	533	0	0	0
16	SLU 44	16	-16	537	0	0	0
16	SLU 45	16	-16	541	0	0	0
16	SLU 46	16	-16	543	0	0	0
16	SLU 47	16	-16	542	0	0	0
16	SLU 48	16	-16	546	0	0	0
16	SLU 49	16	-16	548	0	0	0
16	SLU 50	16	-16	543	0	0	0
16	SLU 51	16	-16	545	0	0	0
16	SLU 52	17	-17	593	0	0	0
16	SLU 53	17	-18	597	0	0	0
16	SLU 54	17	-18	600	0	0	0
16	SLU 55	17	-17	598	0	0	0
16	SLU 56	17	-18	603	0	0	0
16	SLU 57	17	-17	605	0	0	0
16	SLU 58	17	-18	599	0	0	0
16	SLU 59	17	-17	602	0	0	0
16	SLU 60	17	-19	613	0	0	0
16	SLU 61	18	-18	616	0	0	0
16	SLU 62	17	-19	619	0	0	0
16	SLU 63	18	-18	621	0	0	0
16	SLU 64	17	-17	594	0	0	0
16	SLU 65	18	-16	598	0	0	0
16	SLU 66	18	-17	602	0	0	0
16	SLU 67	18	-16	605	0	0	0
16	SLU 68	18	-16	603	0	0	0
16	SLU 69	18	-17	607	0	0	0
16	SLU 70	18	-16	610	0	0	0
16	SLU 71	18	-17	604	0	0	0
16	SLU 72	18	-16	607	0	0	0
16	SLU 73	19	-18	655	0	0	0
16	SLU 74	19	-18	659	0	0	0
16	SLU 75	19	-18	661	0	0	0
16	SLU 76	19	-18	660	0	0	0
16	SLU 77	19	-18	664	0	0	0
16	SLU 78	19	-18	666	0	0	0
16	SLU 79	19	-18	661	0	0	0
16	SLU 80	19	-18	663	0	0	0
16	SLU 81	19	-19	675	0	0	0
16	SLU 82	20	-19	677	0	0	0
16	SLU 83	19	-19	680	0	0	0
16	SLU 84	20	-18	682	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLE RA 1	13	-13	443	0	0	0
16	SLE RA 2	13	-12	446	0	0	0
16	SLE RA 3	13	-13	449	0	0	0
16	SLE RA 4	13	-13	451	0	0	0
16	SLE RA 5	13	-12	450	0	0	0
16	SLE RA 6	13	-13	452	0	0	0
16	SLE RA 7	13	-12	454	0	0	0
16	SLE RA 8	13	-13	450	0	0	0
16	SLE RA 9	13	-12	452	0	0	0
16	SLE RA 10	14	-13	484	0	0	0
16	SLE RA 11	14	-14	487	0	0	0
16	SLE RA 12	14	-14	488	0	0	0
16	SLE RA 13	14	-13	487	0	0	0
16	SLE RA 14	14	-14	490	0	0	0
16	SLE RA 15	14	-13	492	0	0	0
16	SLE RA 16	14	-14	488	0	0	0
16	SLE RA 17	14	-13	490	0	0	0
16	SLE RA 18	14	-14	497	0	0	0
16	SLE RA 19	14	-14	499	0	0	0
16	SLE RA 20	14	-14	501	0	0	0
16	SLE RA 21	14	-14	502	0	0	0
16	SLE FR 1	13	-13	443	0	0	0
16	SLE FR 2	13	-13	444	0	0	0
16	SLE FR 3	13	-13	445	0	0	0
16	SLE FR 4	13	-13	460	0	0	0
16	SLE FR 5	13	-13	461	0	0	0
16	SLE FR 6	14	-14	470	0	0	0
16	SLE QP 1	13	-13	443	0	0	0
16	SLE QP 2	13	-13	460	0	0	0
16	SLD 1	37	-9	472	0	0	0
16	SLD 2	40	-8	473	0	0	0
16	SLD 3	29	-17	408	0	0	0
16	SLD 4	32	-15	410	0	0	0
16	SLD 5	31	-1	559	0	0	0
16	SLD 6	33	0	560	0	0	0
16	SLD 7	6	-26	348	0	0	0
16	SLD 8	8	-25	349	0	0	0
16	SLD 9	19	-1	570	0	0	0
16	SLD 10	21	0	571	0	0	0
16	SLD 11	-7	-27	359	0	0	0
16	SLD 12	-5	-26	360	0	0	0
16	SLD 13	-6	-11	509	0	0	0
16	SLD 14	-3	-10	511	0	0	0
16	SLD 15	-13	-19	446	0	0	0
16	SLD 16	-10	-17	448	0	0	0
16	SLV 1	51	-7	483	0	0	0
16	SLV 2	56	-4	486	0	0	0
16	SLV 3	38	-20	375	0	0	0
16	SLV 4	43	-17	378	0	0	0
16	SLV 5	43	8	630	0	0	0
16	SLV 6	46	10	631	0	0	0
16	SLV 7	0	-36	270	0	0	0
16	SLV 8	4	-34	272	0	0	0
16	SLV 9	23	7	647	0	0	0
16	SLV 10	26	9	649	0	0	0
16	SLV 11	-20	-37	288	0	0	0
16	SLV 12	-16	-35	290	0	0	0
16	SLV 13	-16	-10	541	0	0	0
16	SLV 14	-11	-7	544	0	0	0
16	SLV 15	-29	-23	433	0	0	0
16	SLV 16	-24	-20	436	0	0	0
16	SLV FO 1	54	-6	485	0	0	0
16	SLV FO 2	60	-3	489	0	0	0
16	SLV FO 3	40	-20	367	0	0	0
16	SLV FO 4	46	-17	370	0	0	0
16	SLV FO 5	46	10	647	0	0	0
16	SLV FO 6	50	12	649	0	0	0
16	SLV FO 7	-1	-38	251	0	0	0
16	SLV FO 8	3	-36	253	0	0	0
16	SLV FO 9	24	9	666	0	0	0
16	SLV FO 10	28	11	668	0	0	0
16	SLV FO 11	-23	-39	270	0	0	0
16	SLV FO 12	-19	-37	273	0	0	0
16	SLV FO 13	-19	-9	549	0	0	0
16	SLV FO 14	-13	-6	552	0	0	0
16	SLV FO 15	-33	-24	431	0	0	0
16	SLV FO 16	-28	-21	434	0	0	0
17	SLU 1	16	-16	559	0	0	0
17	SLU 2	17	-15	565	0	0	0
17	SLU 3	16	-16	570	0	0	0
17	SLU 4	17	-16	573	0	0	0
17	SLU 5	17	-15	571	0	0	0
17	SLU 6	17	-16	577	0	0	0
17	SLU 7	17	-16	580	0	0	0
17	SLU 8	16	-16	573	0	0	0
17	SLU 9	17	-16	576	0	0	0
17	SLU 10	19	-17	639	0	0	0
17	SLU 11	18	-18	644	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLU 12	19	-18	648	0	0	0
17	SLU 13	19	-17	646	0	0	0
17	SLU 14	18	-18	651	0	0	0
17	SLU 15	19	-17	654	0	0	0
17	SLU 16	18	-18	647	0	0	0
17	SLU 17	18	-17	650	0	0	0
17	SLU 18	19	-19	665	0	0	0
17	SLU 19	19	-19	669	0	0	0
17	SLU 20	19	-19	672	0	0	0
17	SLU 21	19	-18	675	0	0	0
17	SLU 22	19	-17	640	0	0	0
17	SLU 23	19	-16	645	0	0	0
17	SLU 24	19	-17	651	0	0	0
17	SLU 25	19	-16	654	0	0	0
17	SLU 26	20	-16	652	0	0	0
17	SLU 27	19	-16	658	0	0	0
17	SLU 28	20	-16	661	0	0	0
17	SLU 29	19	-17	653	0	0	0
17	SLU 30	19	-16	657	0	0	0
17	SLU 31	21	-18	720	0	0	0
17	SLU 32	21	-19	725	0	0	0
17	SLU 33	21	-18	728	0	0	0
17	SLU 34	21	-18	726	0	0	0
17	SLU 35	21	-18	732	0	0	0
17	SLU 36	21	-18	735	0	0	0
17	SLU 37	21	-18	728	0	0	0
17	SLU 38	21	-18	731	0	0	0
17	SLU 39	21	-20	746	0	0	0
17	SLU 40	22	-19	749	0	0	0
17	SLU 41	21	-19	753	0	0	0
17	SLU 42	22	-19	756	0	0	0
17	SLU 43	20	-21	699	0	0	0
17	SLU 44	21	-20	705	0	0	0
17	SLU 45	20	-21	710	0	0	0
17	SLU 46	21	-20	713	0	0	0
17	SLU 47	21	-20	712	0	0	0
17	SLU 48	20	-21	717	0	0	0
17	SLU 49	21	-20	720	0	0	0
17	SLU 50	20	-21	713	0	0	0
17	SLU 51	21	-20	716	0	0	0
17	SLU 52	22	-22	779	0	0	0
17	SLU 53	22	-23	784	0	0	0
17	SLU 54	22	-22	788	0	0	0
17	SLU 55	23	-22	786	0	0	0
17	SLU 56	22	-23	791	0	0	0
17	SLU 57	23	-22	794	0	0	0
17	SLU 58	22	-23	787	0	0	0
17	SLU 59	22	-22	790	0	0	0
17	SLU 60	22	-24	805	0	0	0
17	SLU 61	23	-23	809	0	0	0
17	SLU 62	23	-24	812	0	0	0
17	SLU 63	23	-23	815	0	0	0
17	SLU 64	23	-22	780	0	0	0
17	SLU 65	23	-20	786	0	0	0
17	SLU 66	23	-21	791	0	0	0
17	SLU 67	23	-21	794	0	0	0
17	SLU 68	24	-20	792	0	0	0
17	SLU 69	23	-21	798	0	0	0
17	SLU 70	24	-21	801	0	0	0
17	SLU 71	23	-21	794	0	0	0
17	SLU 72	23	-21	797	0	0	0
17	SLU 73	25	-22	860	0	0	0
17	SLU 74	25	-23	865	0	0	0
17	SLU 75	25	-23	868	0	0	0
17	SLU 76	25	-22	867	0	0	0
17	SLU 77	25	-23	872	0	0	0
17	SLU 78	25	-23	875	0	0	0
17	SLU 79	25	-23	868	0	0	0
17	SLU 80	25	-23	871	0	0	0
17	SLU 81	25	-24	886	0	0	0
17	SLU 82	26	-24	889	0	0	0
17	SLU 83	25	-24	893	0	0	0
17	SLU 84	26	-24	896	0	0	0
17	SLE RA 1	17	-17	582	0	0	0
17	SLE RA 2	17	-16	586	0	0	0
17	SLE RA 3	17	-16	590	0	0	0
17	SLE RA 4	17	-16	592	0	0	0
17	SLE RA 5	17	-16	590	0	0	0
17	SLE RA 6	17	-16	594	0	0	0
17	SLE RA 7	17	-16	596	0	0	0
17	SLE RA 8	17	-16	591	0	0	0
17	SLE RA 9	17	-16	593	0	0	0
17	SLE RA 10	18	-17	636	0	0	0
17	SLE RA 11	18	-18	639	0	0	0
17	SLE RA 12	18	-17	641	0	0	0
17	SLE RA 13	19	-17	640	0	0	0
17	SLE RA 14	18	-18	644	0	0	0
17	SLE RA 15	19	-17	646	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLE RA 16	18	-18	641	0	0	0
17	SLE RA 17	18	-17	643	0	0	0
17	SLE RA 18	18	-18	653	0	0	0
17	SLE RA 19	19	-18	655	0	0	0
17	SLE RA 20	19	-18	658	0	0	0
17	SLE RA 21	19	-18	660	0	0	0
17	SLE FR 1	17	-17	582	0	0	0
17	SLE FR 2	17	-16	583	0	0	0
17	SLE FR 3	17	-16	584	0	0	0
17	SLE FR 4	17	-17	604	0	0	0
17	SLE FR 5	17	-17	605	0	0	0
17	SLE FR 6	18	-17	618	0	0	0
17	SLE QP 1	17	-17	582	0	0	0
17	SLE QP 2	17	-17	604	0	0	0
17	SLD 1	48	-12	613	0	0	0
17	SLD 2	52	-9	616	0	0	0
17	SLD 3	38	-22	529	0	0	0
17	SLD 4	42	-19	532	0	0	0
17	SLD 5	41	0	733	0	0	0
17	SLD 6	43	2	735	0	0	0
17	SLD 7	8	-35	454	0	0	0
17	SLD 8	11	-33	455	0	0	0
17	SLD 9	24	-1	752	0	0	0
17	SLD 10	27	1	754	0	0	0
17	SLD 11	-9	-36	472	0	0	0
17	SLD 12	-6	-34	474	0	0	0
17	SLD 13	-7	-15	675	0	0	0
17	SLD 14	-3	-12	678	0	0	0
17	SLD 15	-17	-25	591	0	0	0
17	SLD 16	-13	-23	594	0	0	0
17	SLV 1	66	-8	625	0	0	0
17	SLV 2	72	-3	629	0	0	0
17	SLV 3	49	-26	482	0	0	0
17	SLV 4	56	-21	485	0	0	0
17	SLV 5	56	12	827	0	0	0
17	SLV 6	60	15	829	0	0	0
17	SLV 7	0	-48	349	0	0	0
17	SLV 8	5	-45	351	0	0	0
17	SLV 9	30	11	856	0	0	0
17	SLV 10	34	14	858	0	0	0
17	SLV 11	-26	-49	378	0	0	0
17	SLV 12	-21	-46	380	0	0	0
17	SLV 13	-21	-13	722	0	0	0
17	SLV 14	-14	-8	725	0	0	0
17	SLV 15	-38	-31	579	0	0	0
17	SLV 16	-31	-26	582	0	0	0
17	SLV FO 1	71	-7	627	0	0	0
17	SLV FO 2	78	-2	631	0	0	0
17	SLV FO 3	52	-27	469	0	0	0
17	SLV FO 4	59	-22	473	0	0	0
17	SLV FO 5	60	15	849	0	0	0
17	SLV FO 6	65	18	852	0	0	0
17	SLV FO 7	-1	-51	323	0	0	0
17	SLV FO 8	3	-48	326	0	0	0
17	SLV FO 9	31	13	881	0	0	0
17	SLV FO 10	36	17	884	0	0	0
17	SLV FO 11	-30	-52	355	0	0	0
17	SLV FO 12	-25	-49	358	0	0	0
17	SLV FO 13	-25	-12	734	0	0	0
17	SLV FO 14	-18	-8	738	0	0	0
17	SLV FO 15	-43	-32	576	0	0	0
17	SLV FO 16	-36	-27	580	0	0	0
17	CRTFP Uy+	0	0	0	0	0	0
17	CRTFP Uy-	0	0	0	0	0	0
18	SLU 1	10	-10	348	0	0	0
18	SLU 2	10	-9	351	0	0	0
18	SLU 3	10	-10	355	0	0	0
18	SLU 4	10	-9	357	0	0	0
18	SLU 5	10	-9	355	0	0	0
18	SLU 6	10	-10	359	0	0	0
18	SLU 7	10	-9	361	0	0	0
18	SLU 8	10	-10	356	0	0	0
18	SLU 9	10	-9	358	0	0	0
18	SLU 10	11	-10	397	0	0	0
18	SLU 11	11	-11	401	0	0	0
18	SLU 12	11	-11	403	0	0	0
18	SLU 13	11	-10	402	0	0	0
18	SLU 14	11	-11	405	0	0	0
18	SLU 15	11	-10	407	0	0	0
18	SLU 16	11	-11	402	0	0	0
18	SLU 17	11	-10	404	0	0	0
18	SLU 18	11	-12	414	0	0	0
18	SLU 19	12	-11	416	0	0	0
18	SLU 20	11	-11	418	0	0	0
18	SLU 21	12	-11	420	0	0	0
18	SLU 22	12	-10	398	0	0	0
18	SLU 23	12	-9	402	0	0	0
18	SLU 24	12	-10	405	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLU 25	12	-9	407	0	0	0
18	SLU 26	12	-9	406	0	0	0
18	SLU 27	12	-10	409	0	0	0
18	SLU 28	12	-9	411	0	0	0
18	SLU 29	12	-10	406	0	0	0
18	SLU 30	12	-9	409	0	0	0
18	SLU 31	13	-10	448	0	0	0
18	SLU 32	13	-11	451	0	0	0
18	SLU 33	13	-11	453	0	0	0
18	SLU 34	13	-10	452	0	0	0
18	SLU 35	13	-11	455	0	0	0
18	SLU 36	13	-11	457	0	0	0
18	SLU 37	13	-11	453	0	0	0
18	SLU 38	13	-11	455	0	0	0
18	SLU 39	13	-12	464	0	0	0
18	SLU 40	13	-11	466	0	0	0
18	SLU 41	13	-12	468	0	0	0
18	SLU 42	13	-11	470	0	0	0
18	SLU 43	12	-13	435	0	0	0
18	SLU 44	13	-12	438	0	0	0
18	SLU 45	13	-13	442	0	0	0
18	SLU 46	13	-12	444	0	0	0
18	SLU 47	13	-12	443	0	0	0
18	SLU 48	13	-13	446	0	0	0
18	SLU 49	13	-12	448	0	0	0
18	SLU 50	13	-13	443	0	0	0
18	SLU 51	13	-12	445	0	0	0
18	SLU 52	14	-13	484	0	0	0
18	SLU 53	14	-14	488	0	0	0
18	SLU 54	14	-13	490	0	0	0
18	SLU 55	14	-13	489	0	0	0
18	SLU 56	14	-14	492	0	0	0
18	SLU 57	14	-13	494	0	0	0
18	SLU 58	14	-14	489	0	0	0
18	SLU 59	14	-13	491	0	0	0
18	SLU 60	14	-14	501	0	0	0
18	SLU 61	14	-14	503	0	0	0
18	SLU 62	14	-14	505	0	0	0
18	SLU 63	14	-14	507	0	0	0
18	SLU 64	14	-13	485	0	0	0
18	SLU 65	14	-12	489	0	0	0
18	SLU 66	14	-13	492	0	0	0
18	SLU 67	14	-12	494	0	0	0
18	SLU 68	14	-12	493	0	0	0
18	SLU 69	14	-13	496	0	0	0
18	SLU 70	14	-12	498	0	0	0
18	SLU 71	14	-13	494	0	0	0
18	SLU 72	14	-12	496	0	0	0
18	SLU 73	15	-13	535	0	0	0
18	SLU 74	15	-14	538	0	0	0
18	SLU 75	15	-14	540	0	0	0
18	SLU 76	16	-13	539	0	0	0
18	SLU 77	15	-14	542	0	0	0
18	SLU 78	15	-14	544	0	0	0
18	SLU 79	15	-14	540	0	0	0
18	SLU 80	15	-14	542	0	0	0
18	SLU 81	15	-15	551	0	0	0
18	SLU 82	16	-14	553	0	0	0
18	SLU 83	16	-15	555	0	0	0
18	SLU 84	16	-14	557	0	0	0
18	SLE RA 1	10	-10	362	0	0	0
18	SLE RA 2	11	-9	364	0	0	0
18	SLE RA 3	10	-10	367	0	0	0
18	SLE RA 4	11	-10	368	0	0	0
18	SLE RA 5	11	-9	367	0	0	0
18	SLE RA 6	11	-10	369	0	0	0
18	SLE RA 7	11	-9	371	0	0	0
18	SLE RA 8	10	-10	368	0	0	0
18	SLE RA 9	11	-9	369	0	0	0
18	SLE RA 10	11	-10	395	0	0	0
18	SLE RA 11	11	-11	397	0	0	0
18	SLE RA 12	11	-10	399	0	0	0
18	SLE RA 13	11	-10	398	0	0	0
18	SLE RA 14	11	-11	400	0	0	0
18	SLE RA 15	11	-10	402	0	0	0
18	SLE RA 16	11	-11	398	0	0	0
18	SLE RA 17	11	-10	400	0	0	0
18	SLE RA 18	11	-11	406	0	0	0
18	SLE RA 19	12	-11	407	0	0	0
18	SLE RA 20	11	-11	409	0	0	0
18	SLE RA 21	12	-11	410	0	0	0
18	SLE FR 1	10	-10	362	0	0	0
18	SLE FR 2	10	-10	363	0	0	0
18	SLE FR 3	10	-10	363	0	0	0
18	SLE FR 4	11	-10	376	0	0	0
18	SLE FR 5	11	-10	376	0	0	0
18	SLE FR 6	11	-10	384	0	0	0
18	SLE QP 1	10	-10	362	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLE QP 2	11	-10	375	0	0	0
18	SLD 1	30	-7	376	0	0	0
18	SLD 2	32	-4	377	0	0	0
18	SLD 3	23	-14	322	0	0	0
18	SLD 4	26	-11	324	0	0	0
18	SLD 5	25	1	456	0	0	0
18	SLD 6	27	2	457	0	0	0
18	SLD 7	5	-22	278	0	0	0
18	SLD 8	7	-21	279	0	0	0
18	SLD 9	15	0	471	0	0	0
18	SLD 10	16	2	472	0	0	0
18	SLD 11	-5	-23	294	0	0	0
18	SLD 12	-4	-22	295	0	0	0
18	SLD 13	-5	-9	427	0	0	0
18	SLD 14	-2	-7	428	0	0	0
18	SLD 15	-11	-16	374	0	0	0
18	SLD 16	-8	-14	375	0	0	0
18	SLV 1	41	-4	380	0	0	0
18	SLV 2	45	-1	382	0	0	0
18	SLV 3	30	-16	289	0	0	0
18	SLV 4	34	-13	291	0	0	0
18	SLV 5	35	9	514	0	0	0
18	SLV 6	37	11	516	0	0	0
18	SLV 7	0	-31	211	0	0	0
18	SLV 8	3	-28	212	0	0	0
18	SLV 9	19	8	538	0	0	0
18	SLV 10	21	10	540	0	0	0
18	SLV 11	-16	-32	235	0	0	0
18	SLV 12	-13	-29	237	0	0	0
18	SLV 13	-13	-8	460	0	0	0
18	SLV 14	-9	-4	462	0	0	0
18	SLV 15	-23	-20	369	0	0	0
18	SLV 16	-19	-16	371	0	0	0
18	SLV FO 1	44	-3	380	0	0	0
18	SLV FO 2	48	0	382	0	0	0
18	SLV FO 3	32	-16	280	0	0	0
18	SLV FO 4	37	-13	282	0	0	0
18	SLV FO 5	37	11	528	0	0	0
18	SLV FO 6	40	14	530	0	0	0
18	SLV FO 7	-1	-33	195	0	0	0
18	SLV FO 8	2	-30	196	0	0	0
18	SLV FO 9	19	10	555	0	0	0
18	SLV FO 10	22	12	556	0	0	0
18	SLV FO 11	-19	-34	221	0	0	0
18	SLV FO 12	-16	-31	223	0	0	0
18	SLV FO 13	-15	-8	468	0	0	0
18	SLV FO 14	-11	-4	471	0	0	0
18	SLV FO 15	-27	-21	368	0	0	0
18	SLV FO 16	-22	-17	371	0	0	0
19	SLU 1	20	-24	658	0	0	0
19	SLU 2	21	-23	662	0	0	0
19	SLU 3	20	-23	671	0	0	0
19	SLU 4	21	-23	673	0	0	0
19	SLU 5	21	-22	671	0	0	0
19	SLU 6	21	-23	679	0	0	0
19	SLU 7	21	-23	682	0	0	0
19	SLU 8	20	-23	674	0	0	0
19	SLU 9	21	-23	677	0	0	0
19	SLU 10	23	-25	750	0	0	0
19	SLU 11	22	-26	759	0	0	0
19	SLU 12	23	-25	761	0	0	0
19	SLU 13	23	-25	758	0	0	0
19	SLU 14	23	-26	767	0	0	0
19	SLU 15	23	-25	769	0	0	0
19	SLU 16	22	-26	762	0	0	0
19	SLU 17	23	-25	765	0	0	0
19	SLU 18	23	-27	783	0	0	0
19	SLU 19	24	-27	786	0	0	0
19	SLU 20	23	-27	791	0	0	0
19	SLU 21	24	-27	794	0	0	0
19	SLU 22	23	-24	753	0	0	0
19	SLU 23	24	-23	757	0	0	0
19	SLU 24	24	-24	766	0	0	0
19	SLU 25	24	-23	768	0	0	0
19	SLU 26	24	-23	765	0	0	0
19	SLU 27	24	-24	774	0	0	0
19	SLU 28	24	-23	777	0	0	0
19	SLU 29	24	-24	769	0	0	0
19	SLU 30	24	-23	772	0	0	0
19	SLU 31	26	-26	845	0	0	0
19	SLU 32	26	-27	853	0	0	0
19	SLU 33	26	-26	856	0	0	0
19	SLU 34	26	-26	853	0	0	0
19	SLU 35	26	-26	862	0	0	0
19	SLU 36	26	-26	864	0	0	0
19	SLU 37	26	-27	857	0	0	0
19	SLU 38	26	-26	859	0	0	0
19	SLU 39	26	-28	878	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLU 40	27	-27	881	0	0	0
19	SLU 41	26	-28	886	0	0	0
19	SLU 42	27	-27	889	0	0	0
19	SLU 43	25	-30	823	0	0	0
19	SLU 44	26	-29	827	0	0	0
19	SLU 45	25	-30	836	0	0	0
19	SLU 46	26	-30	838	0	0	0
19	SLU 47	26	-29	835	0	0	0
19	SLU 48	25	-30	844	0	0	0
19	SLU 49	26	-29	846	0	0	0
19	SLU 50	25	-30	839	0	0	0
19	SLU 51	26	-29	842	0	0	0
19	SLU 52	28	-32	915	0	0	0
19	SLU 53	27	-33	923	0	0	0
19	SLU 54	28	-32	926	0	0	0
19	SLU 55	28	-32	923	0	0	0
19	SLU 56	28	-33	932	0	0	0
19	SLU 57	28	-32	934	0	0	0
19	SLU 58	27	-33	927	0	0	0
19	SLU 59	28	-32	929	0	0	0
19	SLU 60	28	-34	948	0	0	0
19	SLU 61	28	-34	951	0	0	0
19	SLU 62	28	-34	956	0	0	0
19	SLU 63	29	-33	959	0	0	0
19	SLU 64	28	-31	918	0	0	0
19	SLU 65	29	-30	922	0	0	0
19	SLU 66	29	-31	931	0	0	0
19	SLU 67	29	-30	933	0	0	0
19	SLU 68	29	-30	930	0	0	0
19	SLU 69	29	-31	939	0	0	0
19	SLU 70	29	-30	941	0	0	0
19	SLU 71	29	-31	934	0	0	0
19	SLU 72	29	-30	937	0	0	0
19	SLU 73	31	-33	1010	0	0	0
19	SLU 74	31	-34	1018	0	0	0
19	SLU 75	31	-33	1021	0	0	0
19	SLU 76	31	-33	1018	0	0	0
19	SLU 77	31	-33	1026	0	0	0
19	SLU 78	31	-33	1029	0	0	0
19	SLU 79	31	-33	1022	0	0	0
19	SLU 80	31	-33	1024	0	0	0
19	SLU 81	31	-35	1043	0	0	0
19	SLU 82	32	-34	1046	0	0	0
19	SLU 83	31	-35	1051	0	0	0
19	SLU 84	32	-34	1054	0	0	0
19	SLE RA 1	21	-24	685	0	0	0
19	SLE RA 2	22	-23	688	0	0	0
19	SLE RA 3	21	-24	694	0	0	0
19	SLE RA 4	22	-23	695	0	0	0
19	SLE RA 5	22	-23	693	0	0	0
19	SLE RA 6	21	-23	699	0	0	0
19	SLE RA 7	22	-23	701	0	0	0
19	SLE RA 8	21	-23	696	0	0	0
19	SLE RA 9	22	-23	698	0	0	0
19	SLE RA 10	23	-25	746	0	0	0
19	SLE RA 11	23	-25	752	0	0	0
19	SLE RA 12	23	-25	754	0	0	0
19	SLE RA 13	23	-25	752	0	0	0
19	SLE RA 14	23	-25	758	0	0	0
19	SLE RA 15	23	-25	759	0	0	0
19	SLE RA 16	23	-25	754	0	0	0
19	SLE RA 17	23	-25	756	0	0	0
19	SLE RA 18	23	-26	769	0	0	0
19	SLE RA 19	23	-26	770	0	0	0
19	SLE RA 20	23	-26	774	0	0	0
19	SLE RA 21	23	-26	776	0	0	0
19	SLE FR 1	21	-24	685	0	0	0
19	SLE FR 2	21	-24	686	0	0	0
19	SLE FR 3	21	-24	687	0	0	0
19	SLE FR 4	22	-24	711	0	0	0
19	SLE FR 5	22	-24	712	0	0	0
19	SLE FR 6	22	-25	727	0	0	0
19	SLE QP 1	21	-24	685	0	0	0
19	SLE QP 2	22	-25	710	0	0	0
19	SLD 1	60	-21	763	0	0	0
19	SLD 2	64	-21	767	0	0	0
19	SLD 3	48	-30	692	0	0	0
19	SLD 4	53	-30	695	0	0	0
19	SLD 5	50	-9	834	0	0	0
19	SLD 6	53	-9	836	0	0	0
19	SLD 7	11	-40	596	0	0	0
19	SLD 8	14	-41	598	0	0	0
19	SLD 9	29	-8	822	0	0	0
19	SLD 10	32	-9	824	0	0	0
19	SLD 11	-10	-40	584	0	0	0
19	SLD 12	-7	-40	587	0	0	0
19	SLD 13	-10	-19	725	0	0	0
19	SLD 14	-5	-19	728	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLD 15	-21	-28	654	0	0	0
19	SLD 16	-17	-28	657	0	0	0
19	SLV 1	82	-18	799	0	0	0
19	SLV 2	89	-19	804	0	0	0
19	SLV 3	63	-34	677	0	0	0
19	SLV 4	70	-35	682	0	0	0
19	SLV 5	68	2	920	0	0	0
19	SLV 6	73	1	924	0	0	0
19	SLV 7	3	-52	515	0	0	0
19	SLV 8	7	-52	518	0	0	0
19	SLV 9	36	3	902	0	0	0
19	SLV 10	40	3	906	0	0	0
19	SLV 11	-30	-51	497	0	0	0
19	SLV 12	-25	-51	500	0	0	0
19	SLV 13	-26	-14	738	0	0	0
19	SLV 14	-19	-15	743	0	0	0
19	SLV 15	-46	-30	617	0	0	0
19	SLV 16	-39	-31	622	0	0	0
19	SLV FO 1	88	-17	807	0	0	0
19	SLV FO 2	96	-18	813	0	0	0
19	SLV FO 3	67	-35	674	0	0	0
19	SLV FO 4	74	-36	679	0	0	0
19	SLV FO 5	73	5	941	0	0	0
19	SLV FO 6	78	4	945	0	0	0
19	SLV FO 7	1	-54	495	0	0	0
19	SLV FO 8	6	-55	499	0	0	0
19	SLV FO 9	37	6	921	0	0	0
19	SLV FO 10	42	5	925	0	0	0
19	SLV FO 11	-35	-53	475	0	0	0
19	SLV FO 12	-30	-54	479	0	0	0
19	SLV FO 13	-31	-13	741	0	0	0
19	SLV FO 14	-24	-14	747	0	0	0
19	SLV FO 15	-53	-31	607	0	0	0
19	SLV FO 16	-45	-32	613	0	0	0
20	SLU 1	33	-37	1094	0	0	0
20	SLU 2	34	-36	1102	0	0	0
20	SLU 3	33	-37	1115	0	0	0
20	SLU 4	34	-36	1120	0	0	0
20	SLU 5	34	-35	1115	0	0	0
20	SLU 6	34	-37	1129	0	0	0
20	SLU 7	34	-36	1134	0	0	0
20	SLU 8	33	-37	1121	0	0	0
20	SLU 9	34	-36	1126	0	0	0
20	SLU 10	38	-40	1247	0	0	0
20	SLU 11	37	-41	1261	0	0	0
20	SLU 12	38	-40	1266	0	0	0
20	SLU 13	38	-40	1261	0	0	0
20	SLU 14	37	-41	1275	0	0	0
20	SLU 15	38	-40	1279	0	0	0
20	SLU 16	37	-41	1267	0	0	0
20	SLU 17	37	-40	1271	0	0	0
20	SLU 18	38	-43	1302	0	0	0
20	SLU 19	38	-42	1307	0	0	0
20	SLU 20	38	-43	1316	0	0	0
20	SLU 21	39	-42	1320	0	0	0
20	SLU 22	38	-38	1252	0	0	0
20	SLU 23	39	-37	1260	0	0	0
20	SLU 24	39	-38	1274	0	0	0
20	SLU 25	39	-37	1278	0	0	0
20	SLU 26	40	-36	1274	0	0	0
20	SLU 27	39	-38	1287	0	0	0
20	SLU 28	40	-37	1292	0	0	0
20	SLU 29	39	-38	1279	0	0	0
20	SLU 30	39	-37	1284	0	0	0
20	SLU 31	43	-41	1406	0	0	0
20	SLU 32	42	-42	1419	0	0	0
20	SLU 33	43	-41	1424	0	0	0
20	SLU 34	43	-40	1419	0	0	0
20	SLU 35	42	-42	1433	0	0	0
20	SLU 36	43	-41	1438	0	0	0
20	SLU 37	42	-42	1425	0	0	0
20	SLU 38	43	-41	1430	0	0	0
20	SLU 39	43	-44	1460	0	0	0
20	SLU 40	44	-43	1465	0	0	0
20	SLU 41	43	-44	1474	0	0	0
20	SLU 42	44	-43	1479	0	0	0
20	SLU 43	41	-48	1368	0	0	0
20	SLU 44	42	-46	1375	0	0	0
20	SLU 45	41	-48	1389	0	0	0
20	SLU 46	42	-47	1394	0	0	0
20	SLU 47	42	-46	1389	0	0	0
20	SLU 48	41	-48	1403	0	0	0
20	SLU 49	42	-46	1407	0	0	0
20	SLU 50	41	-48	1395	0	0	0
20	SLU 51	42	-46	1399	0	0	0
20	SLU 52	46	-51	1521	0	0	0
20	SLU 53	45	-52	1535	0	0	0
20	SLU 54	46	-51	1540	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLU 55	46	-50	1535	0	0	0
20	SLU 56	45	-52	1549	0	0	0
20	SLU 57	46	-51	1553	0	0	0
20	SLU 58	45	-52	1541	0	0	0
20	SLU 59	45	-51	1545	0	0	0
20	SLU 60	46	-54	1576	0	0	0
20	SLU 61	46	-53	1581	0	0	0
20	SLU 62	46	-54	1590	0	0	0
20	SLU 63	47	-53	1594	0	0	0
20	SLU 64	46	-49	1526	0	0	0
20	SLU 65	47	-47	1534	0	0	0
20	SLU 66	47	-49	1548	0	0	0
20	SLU 67	47	-48	1552	0	0	0
20	SLU 68	48	-47	1547	0	0	0
20	SLU 69	47	-48	1561	0	0	0
20	SLU 70	48	-47	1566	0	0	0
20	SLU 71	47	-49	1553	0	0	0
20	SLU 72	47	-47	1558	0	0	0
20	SLU 73	51	-52	1680	0	0	0
20	SLU 74	50	-53	1693	0	0	0
20	SLU 75	51	-52	1698	0	0	0
20	SLU 76	51	-51	1693	0	0	0
20	SLU 77	50	-53	1707	0	0	0
20	SLU 78	51	-52	1712	0	0	0
20	SLU 79	50	-53	1699	0	0	0
20	SLU 80	51	-52	1704	0	0	0
20	SLU 81	51	-55	1734	0	0	0
20	SLU 82	52	-54	1739	0	0	0
20	SLU 83	51	-55	1748	0	0	0
20	SLU 84	52	-54	1753	0	0	0
20	SLE RA 1	34	-38	1139	0	0	0
20	SLE RA 2	35	-36	1144	0	0	0
20	SLE RA 3	35	-37	1153	0	0	0
20	SLE RA 4	35	-37	1157	0	0	0
20	SLE RA 5	35	-36	1153	0	0	0
20	SLE RA 6	35	-37	1162	0	0	0
20	SLE RA 7	35	-36	1166	0	0	0
20	SLE RA 8	35	-37	1157	0	0	0
20	SLE RA 9	35	-36	1160	0	0	0
20	SLE RA 10	37	-39	1241	0	0	0
20	SLE RA 11	37	-40	1251	0	0	0
20	SLE RA 12	37	-40	1254	0	0	0
20	SLE RA 13	38	-39	1250	0	0	0
20	SLE RA 14	37	-40	1260	0	0	0
20	SLE RA 15	38	-39	1263	0	0	0
20	SLE RA 16	37	-40	1254	0	0	0
20	SLE RA 17	37	-39	1257	0	0	0
20	SLE RA 18	37	-42	1278	0	0	0
20	SLE RA 19	38	-41	1281	0	0	0
20	SLE RA 20	38	-41	1287	0	0	0
20	SLE RA 21	38	-41	1290	0	0	0
20	SLE FR 1	34	-38	1139	0	0	0
20	SLE FR 2	34	-37	1140	0	0	0
20	SLE FR 3	34	-38	1143	0	0	0
20	SLE FR 4	35	-39	1182	0	0	0
20	SLE FR 5	35	-39	1184	0	0	0
20	SLE FR 6	36	-40	1209	0	0	0
20	SLE QP 1	34	-38	1139	0	0	0
20	SLE QP 2	35	-39	1181	0	0	0
20	SLD 1	98	-32	1250	0	0	0
20	SLD 2	105	-31	1255	0	0	0
20	SLD 3	79	-49	1127	0	0	0
20	SLD 4	86	-48	1132	0	0	0
20	SLD 5	81	-12	1387	0	0	0
20	SLD 6	86	-11	1391	0	0	0
20	SLD 7	18	-67	977	0	0	0
20	SLD 8	23	-67	980	0	0	0
20	SLD 9	47	-11	1381	0	0	0
20	SLD 10	52	-10	1384	0	0	0
20	SLD 11	-15	-67	971	0	0	0
20	SLD 12	-11	-66	974	0	0	0
20	SLD 13	-15	-29	1229	0	0	0
20	SLD 14	-8	-29	1234	0	0	0
20	SLD 15	-34	-46	1106	0	0	0
20	SLD 16	-27	-45	1111	0	0	0
20	SLV 1	134	-28	1298	0	0	0
20	SLV 2	145	-26	1306	0	0	0
20	SLV 3	102	-56	1088	0	0	0
20	SLV 4	113	-55	1096	0	0	0
20	SLV 5	112	8	1533	0	0	0
20	SLV 6	119	9	1538	0	0	0
20	SLV 7	4	-88	833	0	0	0
20	SLV 8	12	-87	838	0	0	0
20	SLV 9	58	9	1523	0	0	0
20	SLV 10	66	10	1529	0	0	0
20	SLV 11	-49	-86	823	0	0	0
20	SLV 12	-41	-86	828	0	0	0
20	SLV 13	-43	-23	1265	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLV 14	-32	-21	1273	0	0	0
20	SLV 15	-75	-51	1055	0	0	0
20	SLV 16	-64	-50	1063	0	0	0
20	SLV FO 1	144	-26	1310	0	0	0
20	SLV FO 2	157	-25	1319	0	0	0
20	SLV FO 3	109	-58	1079	0	0	0
20	SLV FO 4	121	-57	1088	0	0	0
20	SLV FO 5	119	13	1568	0	0	0
20	SLV FO 6	128	14	1574	0	0	0
20	SLV FO 7	1	-93	798	0	0	0
20	SLV FO 8	10	-92	804	0	0	0
20	SLV FO 9	61	14	1558	0	0	0
20	SLV FO 10	69	15	1563	0	0	0
20	SLV FO 11	-57	-91	787	0	0	0
20	SLV FO 12	-49	-90	793	0	0	0
20	SLV FO 13	-51	-21	1274	0	0	0
20	SLV FO 14	-38	-20	1283	0	0	0
20	SLV FO 15	-86	-53	1043	0	0	0
20	SLV FO 16	-74	-51	1052	0	0	0
20	CRTFP Uy+	0	0	0	0	0	0
20	CRTFP Uy-	0	0	0	0	0	0
21	SLU 1	25	-28	847	0	0	0
21	SLU 2	26	-27	853	0	0	0
21	SLU 3	25	-28	864	0	0	0
21	SLU 4	26	-27	867	0	0	0
21	SLU 5	26	-26	864	0	0	0
21	SLU 6	26	-28	874	0	0	0
21	SLU 7	26	-27	878	0	0	0
21	SLU 8	25	-28	868	0	0	0
21	SLU 9	26	-27	872	0	0	0
21	SLU 10	29	-30	966	0	0	0
21	SLU 11	28	-31	976	0	0	0
21	SLU 12	29	-30	980	0	0	0
21	SLU 13	29	-30	976	0	0	0
21	SLU 14	28	-31	987	0	0	0
21	SLU 15	29	-30	991	0	0	0
21	SLU 16	28	-31	981	0	0	0
21	SLU 17	29	-30	984	0	0	0
21	SLU 18	29	-33	1008	0	0	0
21	SLU 19	29	-32	1012	0	0	0
21	SLU 20	29	-32	1019	0	0	0
21	SLU 21	30	-32	1022	0	0	0
21	SLU 22	29	-29	970	0	0	0
21	SLU 23	30	-27	976	0	0	0
21	SLU 24	30	-29	986	0	0	0
21	SLU 25	30	-28	990	0	0	0
21	SLU 26	30	-27	986	0	0	0
21	SLU 27	30	-28	997	0	0	0
21	SLU 28	30	-27	1001	0	0	0
21	SLU 29	30	-28	991	0	0	0
21	SLU 30	30	-27	994	0	0	0
21	SLU 31	33	-31	1089	0	0	0
21	SLU 32	32	-32	1099	0	0	0
21	SLU 33	33	-31	1103	0	0	0
21	SLU 34	33	-30	1099	0	0	0
21	SLU 35	32	-32	1110	0	0	0
21	SLU 36	33	-31	1113	0	0	0
21	SLU 37	32	-32	1104	0	0	0
21	SLU 38	33	-31	1107	0	0	0
21	SLU 39	33	-33	1131	0	0	0
21	SLU 40	34	-33	1135	0	0	0
21	SLU 41	33	-33	1141	0	0	0
21	SLU 42	34	-32	1145	0	0	0
21	SLU 43	31	-36	1059	0	0	0
21	SLU 44	32	-35	1065	0	0	0
21	SLU 45	32	-36	1076	0	0	0
21	SLU 46	32	-35	1079	0	0	0
21	SLU 47	32	-35	1076	0	0	0
21	SLU 48	32	-36	1086	0	0	0
21	SLU 49	32	-35	1090	0	0	0
21	SLU 50	32	-36	1080	0	0	0
21	SLU 51	32	-35	1084	0	0	0
21	SLU 52	35	-38	1178	0	0	0
21	SLU 53	34	-39	1188	0	0	0
21	SLU 54	35	-38	1192	0	0	0
21	SLU 55	35	-38	1188	0	0	0
21	SLU 56	34	-39	1199	0	0	0
21	SLU 57	35	-38	1203	0	0	0
21	SLU 58	34	-39	1193	0	0	0
21	SLU 59	35	-38	1196	0	0	0
21	SLU 60	35	-41	1220	0	0	0
21	SLU 61	36	-40	1224	0	0	0
21	SLU 62	35	-41	1231	0	0	0
21	SLU 63	36	-40	1234	0	0	0
21	SLU 64	35	-37	1182	0	0	0
21	SLU 65	36	-36	1188	0	0	0
21	SLU 66	36	-37	1198	0	0	0
21	SLU 67	36	-36	1202	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLU 68	37	-35	1198	0	0	0
21	SLU 69	36	-36	1209	0	0	0
21	SLU 70	37	-36	1213	0	0	0
21	SLU 71	36	-36	1203	0	0	0
21	SLU 72	36	-36	1206	0	0	0
21	SLU 73	39	-39	1301	0	0	0
21	SLU 74	38	-40	1311	0	0	0
21	SLU 75	39	-39	1315	0	0	0
21	SLU 76	39	-39	1311	0	0	0
21	SLU 77	39	-40	1322	0	0	0
21	SLU 78	39	-39	1325	0	0	0
21	SLU 79	38	-40	1316	0	0	0
21	SLU 80	39	-39	1319	0	0	0
21	SLU 81	39	-42	1343	0	0	0
21	SLU 82	40	-41	1347	0	0	0
21	SLU 83	39	-41	1353	0	0	0
21	SLU 84	40	-41	1357	0	0	0
21	SLE RA 1	26	-28	882	0	0	0
21	SLE RA 2	27	-27	886	0	0	0
21	SLE RA 3	27	-28	893	0	0	0
21	SLE RA 4	27	-28	896	0	0	0
21	SLE RA 5	27	-27	893	0	0	0
21	SLE RA 6	27	-28	900	0	0	0
21	SLE RA 7	27	-27	903	0	0	0
21	SLE RA 8	26	-28	896	0	0	0
21	SLE RA 9	27	-27	898	0	0	0
21	SLE RA 10	29	-29	961	0	0	0
21	SLE RA 11	28	-30	968	0	0	0
21	SLE RA 12	29	-30	971	0	0	0
21	SLE RA 13	29	-29	968	0	0	0
21	SLE RA 14	28	-30	975	0	0	0
21	SLE RA 15	29	-30	978	0	0	0
21	SLE RA 16	28	-30	971	0	0	0
21	SLE RA 17	29	-30	974	0	0	0
21	SLE RA 18	29	-31	989	0	0	0
21	SLE RA 19	29	-31	992	0	0	0
21	SLE RA 20	29	-31	996	0	0	0
21	SLE RA 21	29	-31	999	0	0	0
21	SLE FR 1	26	-28	882	0	0	0
21	SLE FR 2	26	-28	883	0	0	0
21	SLE FR 3	26	-28	885	0	0	0
21	SLE FR 4	27	-29	915	0	0	0
21	SLE FR 5	27	-29	917	0	0	0
21	SLE FR 6	27	-30	936	0	0	0
21	SLE QP 1	26	-28	882	0	0	0
21	SLE QP 2	27	-29	914	0	0	0
21	SLD 1	75	-24	954	0	0	0
21	SLD 2	80	-23	958	0	0	0
21	SLD 3	60	-38	857	0	0	0
21	SLD 4	66	-36	860	0	0	0
21	SLD 5	62	-7	1073	0	0	0
21	SLD 6	66	-6	1076	0	0	0
21	SLD 7	14	-53	749	0	0	0
21	SLD 8	18	-52	751	0	0	0
21	SLD 9	36	-7	1078	0	0	0
21	SLD 10	40	-6	1080	0	0	0
21	SLD 11	-12	-52	753	0	0	0
21	SLD 12	-8	-51	755	0	0	0
21	SLD 13	-12	-22	968	0	0	0
21	SLD 14	-6	-21	972	0	0	0
21	SLD 15	-26	-36	871	0	0	0
21	SLD 16	-21	-34	874	0	0	0
21	SLV 1	103	-21	983	0	0	0
21	SLV 2	112	-18	989	0	0	0
21	SLV 3	78	-44	817	0	0	0
21	SLV 4	87	-42	823	0	0	0
21	SLV 5	86	8	1186	0	0	0
21	SLV 6	91	10	1190	0	0	0
21	SLV 7	3	-69	632	0	0	0
21	SLV 8	9	-68	636	0	0	0
21	SLV 9	45	9	1193	0	0	0
21	SLV 10	51	11	1197	0	0	0
21	SLV 11	-37	-68	638	0	0	0
21	SLV 12	-32	-67	642	0	0	0
21	SLV 13	-33	-17	1006	0	0	0
21	SLV 14	-24	-14	1011	0	0	0
21	SLV 15	-58	-40	839	0	0	0
21	SLV 16	-49	-38	845	0	0	0
21	SLV FO 1	110	-20	990	0	0	0
21	SLV FO 2	120	-17	997	0	0	0
21	SLV FO 3	83	-45	807	0	0	0
21	SLV FO 4	93	-43	814	0	0	0
21	SLV FO 5	91	12	1213	0	0	0
21	SLV FO 6	98	14	1218	0	0	0
21	SLV FO 7	1	-73	604	0	0	0
21	SLV FO 8	7	-72	608	0	0	0
21	SLV FO 9	47	13	1221	0	0	0
21	SLV FO 10	53	15	1225	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLV FO 11	-44	-72	611	0	0	0
21	SLV FO 12	-37	-70	615	0	0	0
21	SLV FO 13	-39	-15	1015	0	0	0
21	SLV FO 14	-29	-13	1021	0	0	0
21	SLV FO 15	-66	-41	832	0	0	0
21	SLV FO 16	-56	-39	838	0	0	0
21	CRTFP Uy+	0	0	0	0	0	0
21	CRTFP Uy-	0	0	0	0	0	0
22	SLU 1	25	-28	857	0	0	0
22	SLU 2	26	-26	863	0	0	0
22	SLU 3	25	-27	874	0	0	0
22	SLU 4	26	-26	878	0	0	0
22	SLU 5	26	-26	874	0	0	0
22	SLU 6	26	-27	884	0	0	0
22	SLU 7	26	-26	888	0	0	0
22	SLU 8	25	-27	878	0	0	0
22	SLU 9	26	-26	882	0	0	0
22	SLU 10	29	-29	977	0	0	0
22	SLU 11	28	-31	988	0	0	0
22	SLU 12	29	-30	992	0	0	0
22	SLU 13	29	-29	988	0	0	0
22	SLU 14	28	-30	998	0	0	0
22	SLU 15	29	-29	1002	0	0	0
22	SLU 16	28	-30	992	0	0	0
22	SLU 17	29	-29	996	0	0	0
22	SLU 18	29	-32	1020	0	0	0
22	SLU 19	29	-31	1024	0	0	0
22	SLU 20	29	-32	1030	0	0	0
22	SLU 21	30	-31	1034	0	0	0
22	SLU 22	29	-28	981	0	0	0
22	SLU 23	30	-27	988	0	0	0
22	SLU 24	30	-28	998	0	0	0
22	SLU 25	30	-27	1002	0	0	0
22	SLU 26	30	-27	998	0	0	0
22	SLU 27	30	-28	1009	0	0	0
22	SLU 28	30	-27	1013	0	0	0
22	SLU 29	30	-28	1003	0	0	0
22	SLU 30	30	-27	1006	0	0	0
22	SLU 31	33	-30	1102	0	0	0
22	SLU 32	32	-31	1112	0	0	0
22	SLU 33	33	-30	1116	0	0	0
22	SLU 34	33	-30	1112	0	0	0
22	SLU 35	32	-31	1123	0	0	0
22	SLU 36	33	-30	1127	0	0	0
22	SLU 37	32	-31	1117	0	0	0
22	SLU 38	33	-30	1121	0	0	0
22	SLU 39	33	-33	1144	0	0	0
22	SLU 40	34	-32	1148	0	0	0
22	SLU 41	33	-33	1155	0	0	0
22	SLU 42	34	-32	1159	0	0	0
22	SLU 43	31	-36	1071	0	0	0
22	SLU 44	32	-34	1078	0	0	0
22	SLU 45	32	-35	1088	0	0	0
22	SLU 46	32	-34	1092	0	0	0
22	SLU 47	32	-34	1088	0	0	0
22	SLU 48	32	-35	1099	0	0	0
22	SLU 49	32	-34	1102	0	0	0
22	SLU 50	32	-35	1092	0	0	0
22	SLU 51	32	-34	1096	0	0	0
22	SLU 52	35	-37	1192	0	0	0
22	SLU 53	34	-39	1202	0	0	0
22	SLU 54	35	-38	1206	0	0	0
22	SLU 55	35	-37	1202	0	0	0
22	SLU 56	34	-38	1213	0	0	0
22	SLU 57	35	-38	1217	0	0	0
22	SLU 58	34	-38	1206	0	0	0
22	SLU 59	35	-38	1210	0	0	0
22	SLU 60	35	-40	1234	0	0	0
22	SLU 61	36	-39	1238	0	0	0
22	SLU 62	35	-40	1245	0	0	0
22	SLU 63	36	-39	1249	0	0	0
22	SLU 64	35	-36	1196	0	0	0
22	SLU 65	36	-35	1202	0	0	0
22	SLU 66	36	-36	1213	0	0	0
22	SLU 67	36	-35	1216	0	0	0
22	SLU 68	37	-35	1213	0	0	0
22	SLU 69	36	-36	1223	0	0	0
22	SLU 70	37	-35	1227	0	0	0
22	SLU 71	36	-36	1217	0	0	0
22	SLU 72	36	-35	1221	0	0	0
22	SLU 73	39	-38	1316	0	0	0
22	SLU 74	38	-39	1327	0	0	0
22	SLU 75	39	-38	1330	0	0	0
22	SLU 76	39	-38	1327	0	0	0
22	SLU 77	38	-39	1337	0	0	0
22	SLU 78	39	-38	1341	0	0	0
22	SLU 79	38	-39	1331	0	0	0
22	SLU 80	39	-38	1335	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLU 81	39	-41	1359	0	0	0
22	SLU 82	40	-40	1362	0	0	0
22	SLU 83	39	-41	1369	0	0	0
22	SLU 84	40	-40	1373	0	0	0
22	SLE RA 1	26	-28	892	0	0	0
22	SLE RA 2	27	-27	897	0	0	0
22	SLE RA 3	27	-28	904	0	0	0
22	SLE RA 4	27	-27	906	0	0	0
22	SLE RA 5	27	-27	904	0	0	0
22	SLE RA 6	27	-27	911	0	0	0
22	SLE RA 7	27	-27	913	0	0	0
22	SLE RA 8	26	-27	907	0	0	0
22	SLE RA 9	27	-27	909	0	0	0
22	SLE RA 10	29	-29	973	0	0	0
22	SLE RA 11	28	-30	980	0	0	0
22	SLE RA 12	29	-29	982	0	0	0
22	SLE RA 13	29	-29	980	0	0	0
22	SLE RA 14	28	-30	987	0	0	0
22	SLE RA 15	29	-29	989	0	0	0
22	SLE RA 16	28	-30	983	0	0	0
22	SLE RA 17	29	-29	985	0	0	0
22	SLE RA 18	29	-31	1001	0	0	0
22	SLE RA 19	29	-30	1004	0	0	0
22	SLE RA 20	29	-31	1008	0	0	0
22	SLE RA 21	29	-30	1011	0	0	0
22	SLE FR 1	26	-28	892	0	0	0
22	SLE FR 2	26	-28	893	0	0	0
22	SLE FR 3	26	-28	895	0	0	0
22	SLE FR 4	27	-29	926	0	0	0
22	SLE FR 5	27	-29	928	0	0	0
22	SLE FR 6	27	-29	947	0	0	0
22	SLE QP 1	26	-28	892	0	0	0
22	SLE QP 2	27	-29	925	0	0	0
22	SLD 1	75	-21	957	0	0	0
22	SLD 2	80	-19	960	0	0	0
22	SLD 3	60	-36	856	0	0	0
22	SLD 4	66	-33	860	0	0	0
22	SLD 5	62	-5	1087	0	0	0
22	SLD 6	66	-4	1089	0	0	0
22	SLD 7	14	-53	751	0	0	0
22	SLD 8	18	-52	753	0	0	0
22	SLD 9	36	-6	1097	0	0	0
22	SLD 10	40	-4	1099	0	0	0
22	SLD 11	-12	-54	761	0	0	0
22	SLD 12	-8	-52	763	0	0	0
22	SLD 13	-12	-24	990	0	0	0
22	SLD 14	-6	-22	994	0	0	0
22	SLD 15	-26	-38	889	0	0	0
22	SLD 16	-21	-36	893	0	0	0
22	SLV 1	103	-16	982	0	0	0
22	SLV 2	112	-12	988	0	0	0
22	SLV 3	78	-40	810	0	0	0
22	SLV 4	87	-37	816	0	0	0
22	SLV 5	86	12	1202	0	0	0
22	SLV 6	91	14	1205	0	0	0
22	SLV 7	3	-70	629	0	0	0
22	SLV 8	9	-68	633	0	0	0
22	SLV 9	45	10	1217	0	0	0
22	SLV 10	51	13	1221	0	0	0
22	SLV 11	-37	-72	644	0	0	0
22	SLV 12	-32	-69	648	0	0	0
22	SLV 13	-33	-20	1034	0	0	0
22	SLV 14	-24	-17	1040	0	0	0
22	SLV 15	-58	-45	862	0	0	0
22	SLV 16	-49	-42	868	0	0	0
22	SLV FO 1	111	-15	988	0	0	0
22	SLV FO 2	120	-11	994	0	0	0
22	SLV FO 3	83	-42	799	0	0	0
22	SLV FO 4	93	-38	805	0	0	0
22	SLV FO 5	91	16	1229	0	0	0
22	SLV FO 6	98	18	1233	0	0	0
22	SLV FO 7	1	-74	599	0	0	0
22	SLV FO 8	7	-72	603	0	0	0
22	SLV FO 9	47	14	1247	0	0	0
22	SLV FO 10	53	17	1251	0	0	0
22	SLV FO 11	-44	-76	616	0	0	0
22	SLV FO 12	-38	-73	621	0	0	0
22	SLV FO 13	-39	-20	1045	0	0	0
22	SLV FO 14	-30	-16	1051	0	0	0
22	SLV FO 15	-66	-47	856	0	0	0
22	SLV FO 16	-57	-43	862	0	0	0
22	CRTFP Uy+	0	0	0	0	0	0
22	CRTFP Uy-	0	0	0	0	0	0
23	SLU 1	25	-27	865	0	0	0
23	SLU 2	26	-26	872	0	0	0
23	SLU 3	25	-27	882	0	0	0
23	SLU 4	26	-26	886	0	0	0
23	SLU 5	26	-25	882	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLU 6	26	-27	893	0	0	0
23	SLU 7	26	-26	897	0	0	0
23	SLU 8	25	-27	886	0	0	0
23	SLU 9	26	-26	890	0	0	0
23	SLU 10	29	-29	987	0	0	0
23	SLU 11	28	-30	997	0	0	0
23	SLU 12	29	-29	1001	0	0	0
23	SLU 13	29	-28	997	0	0	0
23	SLU 14	28	-30	1008	0	0	0
23	SLU 15	29	-29	1012	0	0	0
23	SLU 16	28	-30	1002	0	0	0
23	SLU 17	29	-29	1006	0	0	0
23	SLU 18	29	-32	1029	0	0	0
23	SLU 19	29	-31	1033	0	0	0
23	SLU 20	29	-31	1040	0	0	0
23	SLU 21	30	-30	1044	0	0	0
23	SLU 22	29	-28	991	0	0	0
23	SLU 23	30	-26	998	0	0	0
23	SLU 24	30	-27	1008	0	0	0
23	SLU 25	30	-27	1012	0	0	0
23	SLU 26	30	-26	1008	0	0	0
23	SLU 27	30	-27	1019	0	0	0
23	SLU 28	30	-26	1023	0	0	0
23	SLU 29	30	-27	1012	0	0	0
23	SLU 30	30	-26	1016	0	0	0
23	SLU 31	33	-29	1113	0	0	0
23	SLU 32	32	-31	1123	0	0	0
23	SLU 33	33	-30	1127	0	0	0
23	SLU 34	33	-29	1123	0	0	0
23	SLU 35	32	-30	1134	0	0	0
23	SLU 36	33	-30	1138	0	0	0
23	SLU 37	32	-30	1127	0	0	0
23	SLU 38	33	-30	1131	0	0	0
23	SLU 39	33	-32	1155	0	0	0
23	SLU 40	33	-31	1159	0	0	0
23	SLU 41	33	-32	1166	0	0	0
23	SLU 42	34	-31	1170	0	0	0
23	SLU 43	31	-35	1081	0	0	0
23	SLU 44	32	-33	1088	0	0	0
23	SLU 45	32	-35	1098	0	0	0
23	SLU 46	32	-34	1102	0	0	0
23	SLU 47	32	-33	1099	0	0	0
23	SLU 48	32	-35	1109	0	0	0
23	SLU 49	32	-34	1113	0	0	0
23	SLU 50	32	-35	1103	0	0	0
23	SLU 51	32	-34	1107	0	0	0
23	SLU 52	35	-37	1203	0	0	0
23	SLU 53	34	-38	1213	0	0	0
23	SLU 54	35	-37	1217	0	0	0
23	SLU 55	35	-36	1214	0	0	0
23	SLU 56	34	-38	1224	0	0	0
23	SLU 57	35	-37	1228	0	0	0
23	SLU 58	34	-38	1218	0	0	0
23	SLU 59	35	-37	1222	0	0	0
23	SLU 60	35	-40	1246	0	0	0
23	SLU 61	36	-39	1250	0	0	0
23	SLU 62	35	-39	1256	0	0	0
23	SLU 63	36	-38	1260	0	0	0
23	SLU 64	35	-36	1207	0	0	0
23	SLU 65	36	-34	1214	0	0	0
23	SLU 66	36	-35	1224	0	0	0
23	SLU 67	36	-34	1228	0	0	0
23	SLU 68	36	-34	1225	0	0	0
23	SLU 69	36	-35	1235	0	0	0
23	SLU 70	36	-34	1239	0	0	0
23	SLU 71	36	-35	1229	0	0	0
23	SLU 72	36	-34	1233	0	0	0
23	SLU 73	39	-37	1329	0	0	0
23	SLU 74	38	-39	1339	0	0	0
23	SLU 75	39	-38	1343	0	0	0
23	SLU 76	39	-37	1340	0	0	0
23	SLU 77	38	-38	1350	0	0	0
23	SLU 78	39	-37	1354	0	0	0
23	SLU 79	38	-38	1344	0	0	0
23	SLU 80	39	-37	1348	0	0	0
23	SLU 81	39	-40	1372	0	0	0
23	SLU 82	40	-39	1376	0	0	0
23	SLU 83	39	-40	1382	0	0	0
23	SLU 84	40	-39	1386	0	0	0
23	SLE RA 1	26	-27	901	0	0	0
23	SLE RA 2	27	-26	905	0	0	0
23	SLE RA 3	26	-27	912	0	0	0
23	SLE RA 4	27	-26	915	0	0	0
23	SLE RA 5	27	-26	912	0	0	0
23	SLE RA 6	27	-27	919	0	0	0
23	SLE RA 7	27	-26	922	0	0	0
23	SLE RA 8	26	-27	915	0	0	0
23	SLE RA 9	27	-26	918	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLE RA 10	29	-28	982	0	0	0
23	SLE RA 11	28	-29	989	0	0	0
23	SLE RA 12	29	-29	992	0	0	0
23	SLE RA 13	29	-28	989	0	0	0
23	SLE RA 14	28	-29	996	0	0	0
23	SLE RA 15	29	-28	999	0	0	0
23	SLE RA 16	28	-29	992	0	0	0
23	SLE RA 17	29	-28	995	0	0	0
23	SLE RA 18	29	-30	1011	0	0	0
23	SLE RA 19	29	-30	1013	0	0	0
23	SLE RA 20	29	-30	1018	0	0	0
23	SLE RA 21	29	-30	1020	0	0	0
23	SLE FR 1	26	-27	901	0	0	0
23	SLE FR 2	26	-27	902	0	0	0
23	SLE FR 3	26	-27	904	0	0	0
23	SLE FR 4	27	-28	935	0	0	0
23	SLE FR 5	27	-28	937	0	0	0
23	SLE FR 6	27	-29	956	0	0	0
23	SLE QP 1	26	-27	901	0	0	0
23	SLE QP 2	27	-28	934	0	0	0
23	SLD 1	75	-20	957	0	0	0
23	SLD 2	80	-17	960	0	0	0
23	SLD 3	60	-35	853	0	0	0
23	SLD 4	66	-33	856	0	0	0
23	SLD 5	62	-3	1097	0	0	0
23	SLD 6	66	-2	1100	0	0	0
23	SLD 7	14	-54	752	0	0	0
23	SLD 8	18	-52	754	0	0	0
23	SLD 9	36	-4	1114	0	0	0
23	SLD 10	40	-3	1116	0	0	0
23	SLD 11	-12	-55	768	0	0	0
23	SLD 12	-8	-53	770	0	0	0
23	SLD 13	-12	-24	1011	0	0	0
23	SLD 14	-7	-21	1015	0	0	0
23	SLD 15	-26	-39	908	0	0	0
23	SLD 16	-21	-36	911	0	0	0
23	SLV 1	103	-15	977	0	0	0
23	SLV 2	112	-10	982	0	0	0
23	SLV 3	78	-41	800	0	0	0
23	SLV 4	87	-36	805	0	0	0
23	SLV 5	86	14	1214	0	0	0
23	SLV 6	91	17	1218	0	0	0
23	SLV 7	3	-72	624	0	0	0
23	SLV 8	9	-69	628	0	0	0
23	SLV 9	45	13	1240	0	0	0
23	SLV 10	51	16	1243	0	0	0
23	SLV 11	-37	-74	650	0	0	0
23	SLV 12	-32	-71	653	0	0	0
23	SLV 13	-33	-20	1062	0	0	0
23	SLV 14	-24	-16	1068	0	0	0
23	SLV 15	-58	-46	885	0	0	0
23	SLV 16	-49	-42	891	0	0	0
23	SLV FO 1	111	-13	981	0	0	0
23	SLV FO 2	120	-8	987	0	0	0
23	SLV FO 3	83	-42	787	0	0	0
23	SLV FO 4	93	-37	792	0	0	0
23	SLV FO 5	91	18	1242	0	0	0
23	SLV FO 6	98	22	1246	0	0	0
23	SLV FO 7	1	-76	593	0	0	0
23	SLV FO 8	7	-73	597	0	0	0
23	SLV FO 9	46	17	1270	0	0	0
23	SLV FO 10	53	20	1274	0	0	0
23	SLV FO 11	-44	-78	621	0	0	0
23	SLV FO 12	-37	-75	625	0	0	0
23	SLV FO 13	-39	-20	1075	0	0	0
23	SLV FO 14	-30	-15	1081	0	0	0
23	SLV FO 15	-66	-48	880	0	0	0
23	SLV FO 16	-57	-43	886	0	0	0
23	CRTFP Uy+	0	0	0	0	0	0
23	CRTFP Uy-	0	0	0	0	0	0
24	SLU 1	25	-26	871	0	0	0
24	SLU 2	26	-25	877	0	0	0
24	SLU 3	25	-26	888	0	0	0
24	SLU 4	26	-25	892	0	0	0
24	SLU 5	26	-25	888	0	0	0
24	SLU 6	26	-26	899	0	0	0
24	SLU 7	26	-25	903	0	0	0
24	SLU 8	25	-26	892	0	0	0
24	SLU 9	26	-25	896	0	0	0
24	SLU 10	29	-28	993	0	0	0
24	SLU 11	28	-29	1004	0	0	0
24	SLU 12	29	-28	1008	0	0	0
24	SLU 13	29	-28	1004	0	0	0
24	SLU 14	28	-29	1014	0	0	0
24	SLU 15	29	-28	1019	0	0	0
24	SLU 16	28	-29	1008	0	0	0
24	SLU 17	29	-28	1012	0	0	0
24	SLU 18	29	-31	1036	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLU 19	29	-30	1040	0	0	0
24	SLU 20	29	-31	1047	0	0	0
24	SLU 21	29	-30	1051	0	0	0
24	SLU 22	29	-27	998	0	0	0
24	SLU 23	30	-25	1004	0	0	0
24	SLU 24	29	-27	1015	0	0	0
24	SLU 25	30	-26	1019	0	0	0
24	SLU 26	30	-25	1015	0	0	0
24	SLU 27	30	-27	1026	0	0	0
24	SLU 28	30	-26	1030	0	0	0
24	SLU 29	29	-27	1019	0	0	0
24	SLU 30	30	-26	1023	0	0	0
24	SLU 31	33	-29	1120	0	0	0
24	SLU 32	32	-30	1131	0	0	0
24	SLU 33	33	-29	1135	0	0	0
24	SLU 34	33	-28	1131	0	0	0
24	SLU 35	32	-30	1142	0	0	0
24	SLU 36	33	-29	1146	0	0	0
24	SLU 37	32	-30	1135	0	0	0
24	SLU 38	33	-29	1139	0	0	0
24	SLU 39	33	-32	1163	0	0	0
24	SLU 40	33	-31	1167	0	0	0
24	SLU 41	33	-31	1174	0	0	0
24	SLU 42	34	-30	1178	0	0	0
24	SLU 43	31	-34	1088	0	0	0
24	SLU 44	32	-33	1095	0	0	0
24	SLU 45	31	-34	1105	0	0	0
24	SLU 46	32	-33	1110	0	0	0
24	SLU 47	32	-32	1106	0	0	0
24	SLU 48	32	-34	1116	0	0	0
24	SLU 49	32	-33	1120	0	0	0
24	SLU 50	31	-34	1110	0	0	0
24	SLU 51	32	-33	1114	0	0	0
24	SLU 52	35	-36	1211	0	0	0
24	SLU 53	34	-37	1221	0	0	0
24	SLU 54	35	-36	1225	0	0	0
24	SLU 55	35	-36	1222	0	0	0
24	SLU 56	34	-37	1232	0	0	0
24	SLU 57	35	-36	1236	0	0	0
24	SLU 58	34	-37	1226	0	0	0
24	SLU 59	35	-36	1230	0	0	0
24	SLU 60	35	-39	1254	0	0	0
24	SLU 61	35	-38	1258	0	0	0
24	SLU 62	35	-39	1265	0	0	0
24	SLU 63	36	-38	1269	0	0	0
24	SLU 64	35	-35	1215	0	0	0
24	SLU 65	36	-33	1222	0	0	0
24	SLU 66	35	-35	1232	0	0	0
24	SLU 67	36	-34	1237	0	0	0
24	SLU 68	36	-33	1233	0	0	0
24	SLU 69	36	-34	1243	0	0	0
24	SLU 70	36	-33	1247	0	0	0
24	SLU 71	35	-34	1237	0	0	0
24	SLU 72	36	-33	1241	0	0	0
24	SLU 73	39	-36	1338	0	0	0
24	SLU 74	38	-38	1348	0	0	0
24	SLU 75	39	-37	1352	0	0	0
24	SLU 76	39	-36	1349	0	0	0
24	SLU 77	38	-38	1359	0	0	0
24	SLU 78	39	-37	1363	0	0	0
24	SLU 79	38	-38	1353	0	0	0
24	SLU 80	39	-37	1357	0	0	0
24	SLU 81	39	-39	1381	0	0	0
24	SLU 82	39	-38	1385	0	0	0
24	SLU 83	39	-39	1392	0	0	0
24	SLU 84	40	-38	1396	0	0	0
24	SLE RA 1	26	-27	907	0	0	0
24	SLE RA 2	27	-26	911	0	0	0
24	SLE RA 3	26	-26	918	0	0	0
24	SLE RA 4	27	-26	921	0	0	0
24	SLE RA 5	27	-25	919	0	0	0
24	SLE RA 6	26	-26	926	0	0	0
24	SLE RA 7	27	-26	928	0	0	0
24	SLE RA 8	26	-26	921	0	0	0
24	SLE RA 9	27	-26	924	0	0	0
24	SLE RA 10	29	-28	989	0	0	0
24	SLE RA 11	28	-29	996	0	0	0
24	SLE RA 12	28	-28	998	0	0	0
24	SLE RA 13	29	-28	996	0	0	0
24	SLE RA 14	28	-28	1003	0	0	0
24	SLE RA 15	29	-28	1006	0	0	0
24	SLE RA 16	28	-28	999	0	0	0
24	SLE RA 17	28	-28	1001	0	0	0
24	SLE RA 18	29	-30	1017	0	0	0
24	SLE RA 19	29	-29	1020	0	0	0
24	SLE RA 20	29	-30	1024	0	0	0
24	SLE RA 21	29	-29	1027	0	0	0
24	SLE FR 1	26	-27	907	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLE FR 2	26	-26	908	0	0	0
24	SLE FR 3	26	-27	910	0	0	0
24	SLE FR 4	27	-27	941	0	0	0
24	SLE FR 5	27	-27	943	0	0	0
24	SLE FR 6	27	-28	962	0	0	0
24	SLE QP 1	26	-27	907	0	0	0
24	SLE QP 2	27	-28	940	0	0	0
24	SLD 1	75	-19	953	0	0	0
24	SLD 2	80	-16	957	0	0	0
24	SLD 3	60	-35	847	0	0	0
24	SLD 4	66	-32	850	0	0	0
24	SLD 5	62	-2	1105	0	0	0
24	SLD 6	66	1	1107	0	0	0
24	SLD 7	14	-54	750	0	0	0
24	SLD 8	18	-52	752	0	0	0
24	SLD 9	36	-3	1128	0	0	0
24	SLD 10	40	-1	1130	0	0	0
24	SLD 11	-12	-56	773	0	0	0
24	SLD 12	-8	-53	775	0	0	0
24	SLD 13	-12	-24	1030	0	0	0
24	SLD 14	-7	-20	1033	0	0	0
24	SLD 15	-26	-39	923	0	0	0
24	SLD 16	-21	-36	927	0	0	0
24	SLV 1	103	-13	969	0	0	0
24	SLV 2	111	-8	974	0	0	0
24	SLV 3	78	-41	787	0	0	0
24	SLV 4	87	-35	792	0	0	0
24	SLV 5	85	17	1223	0	0	0
24	SLV 6	91	21	1226	0	0	0
24	SLV 7	3	-74	618	0	0	0
24	SLV 8	9	-70	621	0	0	0
24	SLV 9	44	15	1259	0	0	0
24	SLV 10	50	18	1262	0	0	0
24	SLV 11	-37	-76	654	0	0	0
24	SLV 12	-32	-72	657	0	0	0
24	SLV 13	-33	-20	1088	0	0	0
24	SLV 14	-24	-15	1093	0	0	0
24	SLV 15	-58	-47	906	0	0	0
24	SLV 16	-49	-42	911	0	0	0
24	SLV FO 1	110	-12	972	0	0	0
24	SLV FO 2	120	-6	977	0	0	0
24	SLV FO 3	83	-42	772	0	0	0
24	SLV FO 4	93	-36	778	0	0	0
24	SLV FO 5	91	21	1251	0	0	0
24	SLV FO 6	97	25	1255	0	0	0
24	SLV FO 7	1	-78	586	0	0	0
24	SLV FO 8	7	-74	590	0	0	0
24	SLV FO 9	46	19	1290	0	0	0
24	SLV FO 10	53	23	1294	0	0	0
24	SLV FO 11	-44	-80	625	0	0	0
24	SLV FO 12	-37	-76	629	0	0	0
24	SLV FO 13	-39	-19	1102	0	0	0
24	SLV FO 14	-30	-13	1108	0	0	0
24	SLV FO 15	-66	-49	903	0	0	0
24	SLV FO 16	-57	-43	908	0	0	0
24	CRTFP Uy+	0	0	0	0	0	0
24	CRTFP Uy-	0	0	0	0	0	0
25	SLU 1	32	-34	1144	0	0	0
25	SLU 2	34	-32	1153	0	0	0
25	SLU 3	33	-34	1166	0	0	0
25	SLU 4	34	-32	1172	0	0	0
25	SLU 5	34	-31	1167	0	0	0
25	SLU 6	33	-33	1180	0	0	0
25	SLU 7	34	-32	1186	0	0	0
25	SLU 8	33	-33	1172	0	0	0
25	SLU 9	34	-32	1178	0	0	0
25	SLU 10	37	-36	1305	0	0	0
25	SLU 11	36	-38	1318	0	0	0
25	SLU 12	37	-36	1324	0	0	0
25	SLU 13	37	-35	1319	0	0	0
25	SLU 14	37	-37	1333	0	0	0
25	SLU 15	37	-36	1338	0	0	0
25	SLU 16	36	-37	1324	0	0	0
25	SLU 17	37	-36	1330	0	0	0
25	SLU 18	37	-40	1361	0	0	0
25	SLU 19	38	-38	1366	0	0	0
25	SLU 20	37	-39	1375	0	0	0
25	SLU 21	38	-38	1381	0	0	0
25	SLU 22	38	-35	1311	0	0	0
25	SLU 23	39	-32	1320	0	0	0
25	SLU 24	38	-34	1333	0	0	0
25	SLU 25	39	-33	1339	0	0	0
25	SLU 26	39	-32	1334	0	0	0
25	SLU 27	38	-34	1348	0	0	0
25	SLU 28	39	-33	1353	0	0	0
25	SLU 29	38	-34	1339	0	0	0
25	SLU 30	39	-33	1345	0	0	0
25	SLU 31	42	-36	1472	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLU 32	42	-38	1486	0	0	0
25	SLU 33	42	-37	1491	0	0	0
25	SLU 34	43	-36	1486	0	0	0
25	SLU 35	42	-38	1500	0	0	0
25	SLU 36	43	-37	1505	0	0	0
25	SLU 37	42	-38	1491	0	0	0
25	SLU 38	42	-37	1497	0	0	0
25	SLU 39	42	-40	1528	0	0	0
25	SLU 40	43	-39	1534	0	0	0
25	SLU 41	43	-40	1542	0	0	0
25	SLU 42	44	-39	1548	0	0	0
25	SLU 43	40	-44	1429	0	0	0
25	SLU 44	42	-42	1439	0	0	0
25	SLU 45	41	-43	1452	0	0	0
25	SLU 46	42	-42	1458	0	0	0
25	SLU 47	42	-41	1453	0	0	0
25	SLU 48	41	-43	1466	0	0	0
25	SLU 49	42	-42	1472	0	0	0
25	SLU 50	41	-43	1458	0	0	0
25	SLU 51	42	-42	1463	0	0	0
25	SLU 52	45	-46	1591	0	0	0
25	SLU 53	44	-48	1604	0	0	0
25	SLU 54	45	-46	1610	0	0	0
25	SLU 55	45	-45	1605	0	0	0
25	SLU 56	44	-47	1618	0	0	0
25	SLU 57	45	-46	1624	0	0	0
25	SLU 58	44	-47	1610	0	0	0
25	SLU 59	45	-46	1615	0	0	0
25	SLU 60	45	-50	1647	0	0	0
25	SLU 61	46	-48	1652	0	0	0
25	SLU 62	45	-49	1661	0	0	0
25	SLU 63	46	-48	1666	0	0	0
25	SLU 64	46	-44	1597	0	0	0
25	SLU 65	47	-42	1606	0	0	0
25	SLU 66	46	-44	1619	0	0	0
25	SLU 67	47	-43	1625	0	0	0
25	SLU 68	47	-42	1620	0	0	0
25	SLU 69	46	-44	1633	0	0	0
25	SLU 70	47	-43	1639	0	0	0
25	SLU 71	46	-44	1625	0	0	0
25	SLU 72	47	-43	1631	0	0	0
25	SLU 73	50	-46	1758	0	0	0
25	SLU 74	49	-48	1771	0	0	0
25	SLU 75	50	-47	1777	0	0	0
25	SLU 76	51	-46	1772	0	0	0
25	SLU 77	50	-48	1785	0	0	0
25	SLU 78	51	-47	1791	0	0	0
25	SLU 79	49	-48	1777	0	0	0
25	SLU 80	50	-47	1783	0	0	0
25	SLU 81	50	-50	1814	0	0	0
25	SLU 82	51	-49	1819	0	0	0
25	SLU 83	51	-50	1828	0	0	0
25	SLU 84	51	-49	1834	0	0	0
25	SLE RA 1	34	-34	1191	0	0	0
25	SLE RA 2	35	-33	1198	0	0	0
25	SLE RA 3	34	-34	1206	0	0	0
25	SLE RA 4	35	-33	1210	0	0	0
25	SLE RA 5	35	-32	1207	0	0	0
25	SLE RA 6	34	-34	1216	0	0	0
25	SLE RA 7	35	-33	1220	0	0	0
25	SLE RA 8	34	-34	1210	0	0	0
25	SLE RA 9	35	-33	1214	0	0	0
25	SLE RA 10	37	-35	1299	0	0	0
25	SLE RA 11	37	-37	1308	0	0	0
25	SLE RA 12	37	-36	1312	0	0	0
25	SLE RA 13	37	-35	1308	0	0	0
25	SLE RA 14	37	-36	1317	0	0	0
25	SLE RA 15	37	-36	1321	0	0	0
25	SLE RA 16	36	-36	1312	0	0	0
25	SLE RA 17	37	-36	1315	0	0	0
25	SLE RA 18	37	-38	1336	0	0	0
25	SLE RA 19	38	-37	1340	0	0	0
25	SLE RA 20	37	-38	1346	0	0	0
25	SLE RA 21	38	-37	1349	0	0	0
25	SLE FR 1	34	-34	1191	0	0	0
25	SLE FR 2	34	-34	1193	0	0	0
25	SLE FR 3	34	-34	1195	0	0	0
25	SLE FR 4	35	-35	1236	0	0	0
25	SLE FR 5	35	-35	1239	0	0	0
25	SLE FR 6	35	-36	1264	0	0	0
25	SLE QP 1	34	-34	1191	0	0	0
25	SLE QP 2	35	-35	1235	0	0	0
25	SLD 1	97	-24	1240	0	0	0
25	SLD 2	104	-18	1244	0	0	0
25	SLD 3	78	-46	1098	0	0	0
25	SLD 4	85	-40	1102	0	0	0
25	SLD 5	81	0	1451	0	0	0
25	SLD 6	85	4	1454	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLD 7	18	-72	978	0	0	0
25	SLD 8	23	-69	980	0	0	0
25	SLD 9	47	-2	1490	0	0	0
25	SLD 10	51	2	1492	0	0	0
25	SLD 11	-16	-74	1016	0	0	0
25	SLD 12	-11	-70	1018	0	0	0
25	SLD 13	-16	-30	1368	0	0	0
25	SLD 14	-9	-25	1372	0	0	0
25	SLD 15	-34	-52	1225	0	0	0
25	SLD 16	-27	-46	1229	0	0	0
25	SLV 1	134	-16	1254	0	0	0
25	SLV 2	145	-7	1260	0	0	0
25	SLV 3	102	-53	1011	0	0	0
25	SLV 4	113	-44	1018	0	0	0
25	SLV 5	111	25	1607	0	0	0
25	SLV 6	118	31	1611	0	0	0
25	SLV 7	4	-98	799	0	0	0
25	SLV 8	12	-92	803	0	0	0
25	SLV 9	58	22	1667	0	0	0
25	SLV 10	65	28	1671	0	0	0
25	SLV 11	-49	-101	858	0	0	0
25	SLV 12	-41	-95	863	0	0	0
25	SLV 13	-43	-26	1452	0	0	0
25	SLV 14	-32	-17	1459	0	0	0
25	SLV 15	-75	-63	1210	0	0	0
25	SLV 16	-64	-54	1216	0	0	0
25	SLV FO 1	143	-14	1256	0	0	0
25	SLV FO 2	156	-4	1263	0	0	0
25	SLV FO 3	108	-55	989	0	0	0
25	SLV FO 4	121	-45	996	0	0	0
25	SLV FO 5	118	31	1644	0	0	0
25	SLV FO 6	127	38	1649	0	0	0
25	SLV FO 7	1	-105	755	0	0	0
25	SLV FO 8	10	-98	760	0	0	0
25	SLV FO 9	60	28	1710	0	0	0
25	SLV FO 10	68	34	1715	0	0	0
25	SLV FO 11	-57	-108	821	0	0	0
25	SLV FO 12	-49	-101	825	0	0	0
25	SLV FO 13	-51	-25	1474	0	0	0
25	SLV FO 14	-39	-16	1481	0	0	0
25	SLV FO 15	-86	-66	1207	0	0	0
25	SLV FO 16	-74	-56	1214	0	0	0
25	CRTFP Uy+	0	0	0	0	0	0
25	CRTFP Uy-	0	0	0	0	0	0
26	SLU 1	20	-20	712	0	0	0
26	SLU 2	21	-19	718	0	0	0
26	SLU 3	20	-20	726	0	0	0
26	SLU 4	21	-19	730	0	0	0
26	SLU 5	21	-19	727	0	0	0
26	SLU 6	21	-20	735	0	0	0
26	SLU 7	21	-19	738	0	0	0
26	SLU 8	20	-20	730	0	0	0
26	SLU 9	21	-19	733	0	0	0
26	SLU 10	23	-21	812	0	0	0
26	SLU 11	22	-23	821	0	0	0
26	SLU 12	23	-22	824	0	0	0
26	SLU 13	23	-21	821	0	0	0
26	SLU 14	23	-22	829	0	0	0
26	SLU 15	23	-22	833	0	0	0
26	SLU 16	22	-22	824	0	0	0
26	SLU 17	23	-22	828	0	0	0
26	SLU 18	23	-24	847	0	0	0
26	SLU 19	24	-23	851	0	0	0
26	SLU 20	23	-24	856	0	0	0
26	SLU 21	24	-23	859	0	0	0
26	SLU 22	23	-21	816	0	0	0
26	SLU 23	24	-19	822	0	0	0
26	SLU 24	24	-21	830	0	0	0
26	SLU 25	24	-20	834	0	0	0
26	SLU 26	24	-19	831	0	0	0
26	SLU 27	24	-20	839	0	0	0
26	SLU 28	24	-20	843	0	0	0
26	SLU 29	24	-20	834	0	0	0
26	SLU 30	24	-20	837	0	0	0
26	SLU 31	26	-22	917	0	0	0
26	SLU 32	26	-23	925	0	0	0
26	SLU 33	26	-22	928	0	0	0
26	SLU 34	26	-22	926	0	0	0
26	SLU 35	26	-23	934	0	0	0
26	SLU 36	26	-22	937	0	0	0
26	SLU 37	26	-23	929	0	0	0
26	SLU 38	26	-22	932	0	0	0
26	SLU 39	26	-24	951	0	0	0
26	SLU 40	27	-23	955	0	0	0
26	SLU 41	26	-24	960	0	0	0
26	SLU 42	27	-23	964	0	0	0
26	SLU 43	25	-26	890	0	0	0
26	SLU 44	26	-25	896	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
26	SLU 45	25	-26	904	0	0	0
26	SLU 46	26	-25	907	0	0	0
26	SLU 47	26	-25	905	0	0	0
26	SLU 48	25	-26	913	0	0	0
26	SLU 49	26	-25	916	0	0	0
26	SLU 50	25	-26	907	0	0	0
26	SLU 51	26	-25	911	0	0	0
26	SLU 52	28	-27	990	0	0	0
26	SLU 53	27	-29	998	0	0	0
26	SLU 54	28	-28	1002	0	0	0
26	SLU 55	28	-27	999	0	0	0
26	SLU 56	27	-28	1007	0	0	0
26	SLU 57	28	-28	1011	0	0	0
26	SLU 58	27	-28	1002	0	0	0
26	SLU 59	28	-28	1006	0	0	0
26	SLU 60	28	-30	1025	0	0	0
26	SLU 61	28	-29	1028	0	0	0
26	SLU 62	28	-30	1034	0	0	0
26	SLU 63	29	-29	1037	0	0	0
26	SLU 64	28	-27	994	0	0	0
26	SLU 65	29	-25	1000	0	0	0
26	SLU 66	29	-26	1008	0	0	0
26	SLU 67	29	-26	1012	0	0	0
26	SLU 68	29	-25	1009	0	0	0
26	SLU 69	29	-26	1017	0	0	0
26	SLU 70	29	-25	1021	0	0	0
26	SLU 71	28	-26	1012	0	0	0
26	SLU 72	29	-25	1015	0	0	0
26	SLU 73	31	-28	1095	0	0	0
26	SLU 74	31	-29	1103	0	0	0
26	SLU 75	31	-28	1106	0	0	0
26	SLU 76	31	-28	1103	0	0	0
26	SLU 77	31	-29	1112	0	0	0
26	SLU 78	31	-28	1115	0	0	0
26	SLU 79	31	-29	1106	0	0	0
26	SLU 80	31	-28	1110	0	0	0
26	SLU 81	31	-30	1129	0	0	0
26	SLU 82	32	-29	1133	0	0	0
26	SLU 83	31	-30	1138	0	0	0
26	SLU 84	32	-29	1142	0	0	0
26	SLE RA 1	21	-20	742	0	0	0
26	SLE RA 2	22	-19	746	0	0	0
26	SLE RA 3	21	-20	751	0	0	0
26	SLE RA 4	22	-20	754	0	0	0
26	SLE RA 5	22	-19	752	0	0	0
26	SLE RA 6	21	-20	757	0	0	0
26	SLE RA 7	22	-20	759	0	0	0
26	SLE RA 8	21	-20	754	0	0	0
26	SLE RA 9	22	-20	756	0	0	0
26	SLE RA 10	23	-21	809	0	0	0
26	SLE RA 11	23	-22	814	0	0	0
26	SLE RA 12	23	-21	817	0	0	0
26	SLE RA 13	23	-21	815	0	0	0
26	SLE RA 14	23	-22	820	0	0	0
26	SLE RA 15	23	-21	822	0	0	0
26	SLE RA 16	23	-22	817	0	0	0
26	SLE RA 17	23	-21	819	0	0	0
26	SLE RA 18	23	-23	832	0	0	0
26	SLE RA 19	23	-22	834	0	0	0
26	SLE RA 20	23	-23	838	0	0	0
26	SLE RA 21	23	-22	840	0	0	0
26	SLE FR 1	21	-20	742	0	0	0
26	SLE FR 2	21	-20	743	0	0	0
26	SLE FR 3	21	-20	744	0	0	0
26	SLE FR 4	22	-21	770	0	0	0
26	SLE FR 5	22	-21	771	0	0	0
26	SLE FR 6	22	-22	787	0	0	0
26	SLE QP 1	21	-20	742	0	0	0
26	SLE QP 2	22	-21	769	0	0	0
26	SLD 1	60	-14	760	0	0	0
26	SLD 2	64	-9	763	0	0	0
26	SLD 3	48	-28	669	0	0	0
26	SLD 4	53	-24	672	0	0	0
26	SLD 5	50	2	904	0	0	0
26	SLD 6	53	5	905	0	0	0
26	SLD 7	11	-46	601	0	0	0
26	SLD 8	14	-43	602	0	0	0
26	SLD 9	29	1	935	0	0	0
26	SLD 10	32	4	937	0	0	0
26	SLD 11	-10	-47	632	0	0	0
26	SLD 12	-7	-44	634	0	0	0
26	SLD 13	-10	-19	866	0	0	0
26	SLD 14	-5	-14	868	0	0	0
26	SLD 15	-21	-33	775	0	0	0
26	SLD 16	-17	-29	777	0	0	0
26	SLV 1	82	-8	762	0	0	0
26	SLV 2	89	-1	766	0	0	0
26	SLV 3	63	-33	607	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
26	SLV 4	70	-26	611	0	0	0
26	SLV 5	68	19	1001	0	0	0
26	SLV 6	73	24	1004	0	0	0
26	SLV 7	3	-63	484	0	0	0
26	SLV 8	7	-59	487	0	0	0
26	SLV 9	36	16	1051	0	0	0
26	SLV 10	40	21	1053	0	0	0
26	SLV 11	-30	-66	534	0	0	0
26	SLV 12	-25	-61	536	0	0	0
26	SLV 13	-27	-16	927	0	0	0
26	SLV 14	-20	-9	931	0	0	0
26	SLV 15	-46	-41	772	0	0	0
26	SLV 16	-39	-34	776	0	0	0
26	SLV FO 1	89	-7	761	0	0	0
26	SLV FO 2	96	1	765	0	0	0
26	SLV FO 3	67	-34	591	0	0	0
26	SLV FO 4	75	-26	595	0	0	0
26	SLV FO 5	73	23	1025	0	0	0
26	SLV FO 6	78	28	1027	0	0	0
26	SLV FO 7	1	-68	456	0	0	0
26	SLV FO 8	6	-62	458	0	0	0
26	SLV FO 9	37	20	1079	0	0	0
26	SLV FO 10	42	25	1082	0	0	0
26	SLV FO 11	-35	-70	510	0	0	0
26	SLV FO 12	-30	-65	513	0	0	0
26	SLV FO 13	-31	-16	943	0	0	0
26	SLV FO 14	-24	-8	947	0	0	0
26	SLV FO 15	-53	-43	772	0	0	0
26	SLV FO 16	-45	-35	776	0	0	0
26	CRTFP Uy+	0	0	0	0	0	0
26	CRTFP Uy-	0	0	0	0	0	0
27	SLU 1	33	-38	1115	0	0	0
27	SLU 2	34	-37	1120	0	0	0
27	SLU 3	33	-38	1137	0	0	0
27	SLU 4	34	-37	1141	0	0	0
27	SLU 5	34	-36	1134	0	0	0
27	SLU 6	33	-38	1151	0	0	0
27	SLU 7	34	-37	1155	0	0	0
27	SLU 8	33	-38	1143	0	0	0
27	SLU 9	34	-37	1147	0	0	0
27	SLU 10	37	-41	1269	0	0	0
27	SLU 11	37	-43	1286	0	0	0
27	SLU 12	37	-41	1289	0	0	0
27	SLU 13	38	-41	1283	0	0	0
27	SLU 14	37	-42	1300	0	0	0
27	SLU 15	38	-41	1304	0	0	0
27	SLU 16	37	-42	1292	0	0	0
27	SLU 17	37	-41	1295	0	0	0
27	SLU 18	38	-45	1327	0	0	0
27	SLU 19	38	-44	1330	0	0	0
27	SLU 20	38	-44	1341	0	0	0
27	SLU 21	39	-43	1345	0	0	0
27	SLU 22	38	-39	1278	0	0	0
27	SLU 23	39	-38	1284	0	0	0
27	SLU 24	39	-39	1301	0	0	0
27	SLU 25	39	-38	1304	0	0	0
27	SLU 26	40	-37	1298	0	0	0
27	SLU 27	39	-39	1315	0	0	0
27	SLU 28	40	-38	1318	0	0	0
27	SLU 29	39	-39	1307	0	0	0
27	SLU 30	39	-38	1310	0	0	0
27	SLU 31	43	-42	1433	0	0	0
27	SLU 32	42	-44	1450	0	0	0
27	SLU 33	43	-42	1453	0	0	0
27	SLU 34	43	-42	1447	0	0	0
27	SLU 35	42	-43	1464	0	0	0
27	SLU 36	43	-42	1467	0	0	0
27	SLU 37	42	-43	1456	0	0	0
27	SLU 38	43	-42	1459	0	0	0
27	SLU 39	43	-46	1491	0	0	0
27	SLU 40	44	-45	1494	0	0	0
27	SLU 41	43	-46	1505	0	0	0
27	SLU 42	44	-44	1508	0	0	0
27	SLU 43	41	-50	1393	0	0	0
27	SLU 44	42	-48	1398	0	0	0
27	SLU 45	41	-49	1415	0	0	0
27	SLU 46	42	-48	1419	0	0	0
27	SLU 47	42	-47	1413	0	0	0
27	SLU 48	41	-49	1430	0	0	0
27	SLU 49	42	-48	1433	0	0	0
27	SLU 50	41	-49	1422	0	0	0
27	SLU 51	42	-48	1425	0	0	0
27	SLU 52	45	-52	1547	0	0	0
27	SLU 53	45	-54	1564	0	0	0
27	SLU 54	45	-53	1568	0	0	0
27	SLU 55	46	-52	1562	0	0	0
27	SLU 56	45	-53	1579	0	0	0
27	SLU 57	46	-52	1582	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLU 58	45	-53	1570	0	0	0
27	SLU 59	45	-52	1574	0	0	0
27	SLU 60	45	-56	1605	0	0	0
27	SLU 61	46	-55	1609	0	0	0
27	SLU 62	46	-56	1620	0	0	0
27	SLU 63	47	-55	1623	0	0	0
27	SLU 64	46	-51	1557	0	0	0
27	SLU 65	47	-49	1562	0	0	0
27	SLU 66	47	-50	1579	0	0	0
27	SLU 67	47	-49	1582	0	0	0
27	SLU 68	48	-48	1576	0	0	0
27	SLU 69	47	-50	1593	0	0	0
27	SLU 70	48	-49	1597	0	0	0
27	SLU 71	47	-50	1585	0	0	0
27	SLU 72	47	-49	1589	0	0	0
27	SLU 73	51	-53	1711	0	0	0
27	SLU 74	50	-55	1728	0	0	0
27	SLU 75	51	-54	1731	0	0	0
27	SLU 76	51	-53	1725	0	0	0
27	SLU 77	50	-54	1742	0	0	0
27	SLU 78	51	-53	1746	0	0	0
27	SLU 79	50	-54	1734	0	0	0
27	SLU 80	51	-53	1737	0	0	0
27	SLU 81	51	-57	1769	0	0	0
27	SLU 82	52	-56	1772	0	0	0
27	SLU 83	51	-57	1783	0	0	0
27	SLU 84	52	-56	1787	0	0	0
27	SLE RA 1	34	-39	1161	0	0	0
27	SLE RA 2	35	-38	1165	0	0	0
27	SLE RA 3	35	-39	1176	0	0	0
27	SLE RA 4	35	-38	1179	0	0	0
27	SLE RA 5	35	-37	1175	0	0	0
27	SLE RA 6	35	-38	1186	0	0	0
27	SLE RA 7	35	-38	1188	0	0	0
27	SLE RA 8	35	-38	1180	0	0	0
27	SLE RA 9	35	-38	1183	0	0	0
27	SLE RA 10	37	-40	1264	0	0	0
27	SLE RA 11	37	-41	1276	0	0	0
27	SLE RA 12	37	-41	1278	0	0	0
27	SLE RA 13	38	-40	1274	0	0	0
27	SLE RA 14	37	-41	1285	0	0	0
27	SLE RA 15	38	-41	1287	0	0	0
27	SLE RA 16	37	-41	1280	0	0	0
27	SLE RA 17	37	-41	1282	0	0	0
27	SLE RA 18	37	-43	1303	0	0	0
27	SLE RA 19	38	-42	1305	0	0	0
27	SLE RA 20	38	-43	1313	0	0	0
27	SLE RA 21	38	-42	1315	0	0	0
27	SLE FR 1	34	-39	1161	0	0	0
27	SLE FR 2	34	-39	1162	0	0	0
27	SLE FR 3	34	-39	1165	0	0	0
27	SLE FR 4	35	-40	1205	0	0	0
27	SLE FR 5	35	-40	1208	0	0	0
27	SLE FR 6	36	-41	1232	0	0	0
27	SLE QP 1	34	-39	1161	0	0	0
27	SLE QP 2	35	-40	1204	0	0	0
27	SLD 1	98	-33	1258	0	0	0
27	SLD 2	104	-32	1262	0	0	0
27	SLD 3	81	-51	1166	0	0	0
27	SLD 4	87	-50	1170	0	0	0
27	SLD 5	80	-12	1359	0	0	0
27	SLD 6	84	-11	1361	0	0	0
27	SLD 7	21	-70	1052	0	0	0
27	SLD 8	25	-69	1055	0	0	0
27	SLD 9	45	-11	1353	0	0	0
27	SLD 10	49	-10	1355	0	0	0
27	SLD 11	-13	-69	1047	0	0	0
27	SLD 12	-10	-68	1049	0	0	0
27	SLD 13	-16	-30	1238	0	0	0
27	SLD 14	-11	-30	1242	0	0	0
27	SLD 15	-34	-48	1146	0	0	0
27	SLD 16	-28	-47	1150	0	0	0
27	SLV 1	136	-28	1295	0	0	0
27	SLV 2	145	-27	1301	0	0	0
27	SLV 3	105	-58	1138	0	0	0
27	SLV 4	115	-57	1145	0	0	0
27	SLV 5	109	8	1468	0	0	0
27	SLV 6	116	9	1472	0	0	0
27	SLV 7	9	-91	945	0	0	0
27	SLV 8	15	-90	950	0	0	0
27	SLV 9	55	10	1458	0	0	0
27	SLV 10	62	11	1463	0	0	0
27	SLV 11	-45	-89	936	0	0	0
27	SLV 12	-39	-88	940	0	0	0
27	SLV 13	-45	-23	1263	0	0	0
27	SLV 14	-35	-22	1270	0	0	0
27	SLV 15	-75	-53	1107	0	0	0
27	SLV 16	-65	-52	1113	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLV FO 1	146	-27	1304	0	0	0
27	SLV FO 2	156	-26	1311	0	0	0
27	SLV FO 3	112	-60	1132	0	0	0
27	SLV FO 4	123	-58	1139	0	0	0
27	SLV FO 5	117	13	1494	0	0	0
27	SLV FO 6	124	14	1499	0	0	0
27	SLV FO 7	6	-96	919	0	0	0
27	SLV FO 8	13	-95	924	0	0	0
27	SLV FO 9	57	15	1484	0	0	0
27	SLV FO 10	64	16	1488	0	0	0
27	SLV FO 11	-53	-94	909	0	0	0
27	SLV FO 12	-46	-93	914	0	0	0
27	SLV FO 13	-52	-22	1269	0	0	0
27	SLV FO 14	-42	-20	1276	0	0	0
27	SLV FO 15	-86	-54	1097	0	0	0
27	SLV FO 16	-75	-53	1104	0	0	0
27	CRTFP Uy+	0	0	0	0	0	0
27	CRTFP Uy-	0	0	0	0	0	0
28	SLU 1	32	-35	1164	0	0	0
28	SLU 2	34	-33	1171	0	0	0
28	SLU 3	33	-35	1187	0	0	0
28	SLU 4	34	-33	1192	0	0	0
28	SLU 5	34	-32	1186	0	0	0
28	SLU 6	33	-34	1202	0	0	0
28	SLU 7	34	-33	1207	0	0	0
28	SLU 8	33	-34	1194	0	0	0
28	SLU 9	34	-33	1198	0	0	0
28	SLU 10	37	-37	1326	0	0	0
28	SLU 11	36	-39	1342	0	0	0
28	SLU 12	37	-38	1347	0	0	0
28	SLU 13	37	-37	1341	0	0	0
28	SLU 14	37	-39	1357	0	0	0
28	SLU 15	38	-37	1362	0	0	0
28	SLU 16	36	-39	1349	0	0	0
28	SLU 17	37	-37	1353	0	0	0
28	SLU 18	37	-41	1385	0	0	0
28	SLU 19	38	-40	1389	0	0	0
28	SLU 20	38	-41	1400	0	0	0
28	SLU 21	38	-39	1404	0	0	0
28	SLU 22	38	-36	1336	0	0	0
28	SLU 23	39	-33	1343	0	0	0
28	SLU 24	38	-35	1360	0	0	0
28	SLU 25	39	-34	1364	0	0	0
28	SLU 26	39	-33	1358	0	0	0
28	SLU 27	39	-35	1375	0	0	0
28	SLU 28	40	-34	1379	0	0	0
28	SLU 29	38	-35	1366	0	0	0
28	SLU 30	39	-34	1370	0	0	0
28	SLU 31	43	-38	1498	0	0	0
28	SLU 32	42	-40	1515	0	0	0
28	SLU 33	43	-38	1519	0	0	0
28	SLU 34	43	-37	1513	0	0	0
28	SLU 35	42	-39	1530	0	0	0
28	SLU 36	43	-38	1534	0	0	0
28	SLU 37	42	-39	1521	0	0	0
28	SLU 38	43	-38	1525	0	0	0
28	SLU 39	43	-42	1558	0	0	0
28	SLU 40	44	-40	1562	0	0	0
28	SLU 41	43	-41	1572	0	0	0
28	SLU 42	44	-40	1577	0	0	0
28	SLU 43	40	-45	1454	0	0	0
28	SLU 44	42	-43	1461	0	0	0
28	SLU 45	41	-45	1478	0	0	0
28	SLU 46	42	-44	1482	0	0	0
28	SLU 47	42	-43	1476	0	0	0
28	SLU 48	41	-45	1492	0	0	0
28	SLU 49	42	-43	1497	0	0	0
28	SLU 50	41	-45	1484	0	0	0
28	SLU 51	42	-43	1488	0	0	0
28	SLU 52	45	-47	1616	0	0	0
28	SLU 53	44	-49	1632	0	0	0
28	SLU 54	45	-48	1637	0	0	0
28	SLU 55	45	-47	1631	0	0	0
28	SLU 56	45	-49	1647	0	0	0
28	SLU 57	45	-47	1652	0	0	0
28	SLU 58	44	-49	1639	0	0	0
28	SLU 59	45	-48	1643	0	0	0
28	SLU 60	45	-51	1675	0	0	0
28	SLU 61	46	-50	1679	0	0	0
28	SLU 62	46	-51	1690	0	0	0
28	SLU 63	46	-50	1694	0	0	0
28	SLU 64	46	-46	1626	0	0	0
28	SLU 65	47	-44	1633	0	0	0
28	SLU 66	46	-46	1650	0	0	0
28	SLU 67	47	-44	1654	0	0	0
28	SLU 68	47	-43	1648	0	0	0
28	SLU 69	47	-45	1665	0	0	0
28	SLU 70	47	-44	1669	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	SLU 71	46	-45	1656	0	0	0
28	SLU 72	47	-44	1660	0	0	0
28	SLU 73	50	-48	1788	0	0	0
28	SLU 74	50	-50	1805	0	0	0
28	SLU 75	51	-48	1809	0	0	0
28	SLU 76	51	-48	1803	0	0	0
28	SLU 77	50	-50	1820	0	0	0
28	SLU 78	51	-48	1824	0	0	0
28	SLU 79	50	-50	1811	0	0	0
28	SLU 80	51	-48	1815	0	0	0
28	SLU 81	51	-52	1848	0	0	0
28	SLU 82	51	-51	1852	0	0	0
28	SLU 83	51	-52	1862	0	0	0
28	SLU 84	52	-50	1867	0	0	0
28	SLE RA 1	34	-35	1213	0	0	0
28	SLE RA 2	35	-34	1218	0	0	0
28	SLE RA 3	34	-35	1229	0	0	0
28	SLE RA 4	35	-34	1232	0	0	0
28	SLE RA 5	35	-33	1228	0	0	0
28	SLE RA 6	35	-35	1239	0	0	0
28	SLE RA 7	35	-34	1242	0	0	0
28	SLE RA 8	34	-35	1233	0	0	0
28	SLE RA 9	35	-34	1236	0	0	0
28	SLE RA 10	37	-36	1321	0	0	0
28	SLE RA 11	37	-38	1332	0	0	0
28	SLE RA 12	37	-37	1335	0	0	0
28	SLE RA 13	37	-36	1331	0	0	0
28	SLE RA 14	37	-38	1342	0	0	0
28	SLE RA 15	37	-37	1345	0	0	0
28	SLE RA 16	37	-38	1336	0	0	0
28	SLE RA 17	37	-37	1339	0	0	0
28	SLE RA 18	37	-39	1361	0	0	0
28	SLE RA 19	38	-38	1363	0	0	0
28	SLE RA 20	37	-39	1371	0	0	0
28	SLE RA 21	38	-38	1373	0	0	0
28	SLE FR 1	34	-35	1213	0	0	0
28	SLE FR 2	34	-35	1214	0	0	0
28	SLE FR 3	34	-35	1217	0	0	0
28	SLE FR 4	35	-36	1258	0	0	0
28	SLE FR 5	35	-36	1261	0	0	0
28	SLE FR 6	36	-37	1287	0	0	0
28	SLE QP 1	34	-35	1213	0	0	0
28	SLE QP 2	35	-36	1257	0	0	0
28	SLD 1	98	-25	1247	0	0	0
28	SLD 2	104	-19	1250	0	0	0
28	SLD 3	81	-47	1135	0	0	0
28	SLD 4	86	-41	1138	0	0	0
28	SLD 5	80	0	1423	0	0	0
28	SLD 6	83	4	1426	0	0	0
28	SLD 7	21	-74	1050	0	0	0
28	SLD 8	25	-71	1052	0	0	0
28	SLD 9	45	-2	1462	0	0	0
28	SLD 10	49	2	1464	0	0	0
28	SLD 11	-13	-76	1089	0	0	0
28	SLD 12	-10	-73	1091	0	0	0
28	SLD 13	-17	-31	1376	0	0	0
28	SLD 14	-11	-26	1380	0	0	0
28	SLD 15	-34	-54	1264	0	0	0
28	SLD 16	-28	-48	1268	0	0	0
28	SLV 1	135	-17	1249	0	0	0
28	SLV 2	145	-7	1255	0	0	0
28	SLV 3	105	-55	1058	0	0	0
28	SLV 4	114	-45	1064	0	0	0
28	SLV 5	109	26	1544	0	0	0
28	SLV 6	115	32	1547	0	0	0
28	SLV 7	9	-101	907	0	0	0
28	SLV 8	15	-95	910	0	0	0
28	SLV 9	55	22	1604	0	0	0
28	SLV 10	61	29	1608	0	0	0
28	SLV 11	-45	-105	967	0	0	0
28	SLV 12	-39	-98	971	0	0	0
28	SLV 13	-45	-27	1451	0	0	0
28	SLV 14	-35	-18	1457	0	0	0
28	SLV 15	-75	-65	1260	0	0	0
28	SLV 16	-65	-56	1266	0	0	0
28	SLV FO 1	145	-15	1248	0	0	0
28	SLV FO 2	155	-4	1254	0	0	0
28	SLV FO 3	112	-56	1038	0	0	0
28	SLV FO 4	122	-46	1044	0	0	0
28	SLV FO 5	116	32	1572	0	0	0
28	SLV FO 6	123	39	1576	0	0	0
28	SLV FO 7	6	-108	872	0	0	0
28	SLV FO 8	13	-101	876	0	0	0
28	SLV FO 9	57	28	1639	0	0	0
28	SLV FO 10	64	35	1643	0	0	0
28	SLV FO 11	-53	-111	938	0	0	0
28	SLV FO 12	-46	-105	942	0	0	0
28	SLV FO 13	-53	-26	1471	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	SLV FO 14	-42	-16	1476	0	0	0
28	SLV FO 15	-86	-68	1260	0	0	0
28	SLV FO 16	-75	-58	1266	0	0	0
28	CRTFP Uy+	0	0	0	0	0	0
28	CRTFP Uy-	0	0	0	0	0	0
29	SLU 1	20	-24	673	0	0	0
29	SLU 2	21	-23	676	0	0	0
29	SLU 3	20	-24	687	0	0	0
29	SLU 4	21	-23	689	0	0	0
29	SLU 5	21	-23	685	0	0	0
29	SLU 6	21	-24	696	0	0	0
29	SLU 7	21	-23	697	0	0	0
29	SLU 8	20	-24	691	0	0	0
29	SLU 9	21	-23	692	0	0	0
29	SLU 10	23	-26	766	0	0	0
29	SLU 11	23	-27	777	0	0	0
29	SLU 12	23	-26	779	0	0	0
29	SLU 13	23	-26	775	0	0	0
29	SLU 14	23	-27	785	0	0	0
29	SLU 15	23	-26	787	0	0	0
29	SLU 16	23	-27	781	0	0	0
29	SLU 17	23	-26	782	0	0	0
29	SLU 18	23	-28	802	0	0	0
29	SLU 19	24	-28	804	0	0	0
29	SLU 20	23	-28	810	0	0	0
29	SLU 21	24	-27	812	0	0	0
29	SLU 22	23	-25	772	0	0	0
29	SLU 23	24	-24	775	0	0	0
29	SLU 24	24	-25	785	0	0	0
29	SLU 25	24	-24	787	0	0	0
29	SLU 26	24	-24	784	0	0	0
29	SLU 27	24	-25	794	0	0	0
29	SLU 28	24	-24	796	0	0	0
29	SLU 29	24	-25	789	0	0	0
29	SLU 30	24	-24	791	0	0	0
29	SLU 31	26	-27	865	0	0	0
29	SLU 32	26	-28	875	0	0	0
29	SLU 33	26	-27	877	0	0	0
29	SLU 34	27	-27	873	0	0	0
29	SLU 35	26	-27	884	0	0	0
29	SLU 36	27	-27	886	0	0	0
29	SLU 37	26	-27	879	0	0	0
29	SLU 38	26	-27	881	0	0	0
29	SLU 39	26	-29	900	0	0	0
29	SLU 40	27	-28	902	0	0	0
29	SLU 41	27	-29	909	0	0	0
29	SLU 42	27	-28	911	0	0	0
29	SLU 43	25	-31	842	0	0	0
29	SLU 44	26	-30	845	0	0	0
29	SLU 45	25	-31	855	0	0	0
29	SLU 46	26	-31	857	0	0	0
29	SLU 47	26	-30	853	0	0	0
29	SLU 48	25	-31	864	0	0	0
29	SLU 49	26	-30	866	0	0	0
29	SLU 50	25	-31	859	0	0	0
29	SLU 51	26	-30	861	0	0	0
29	SLU 52	28	-33	935	0	0	0
29	SLU 53	27	-34	945	0	0	0
29	SLU 54	28	-33	947	0	0	0
29	SLU 55	28	-33	943	0	0	0
29	SLU 56	28	-34	954	0	0	0
29	SLU 57	28	-33	956	0	0	0
29	SLU 58	27	-34	949	0	0	0
29	SLU 59	28	-33	951	0	0	0
29	SLU 60	28	-35	970	0	0	0
29	SLU 61	28	-35	972	0	0	0
29	SLU 62	28	-35	979	0	0	0
29	SLU 63	29	-35	980	0	0	0
29	SLU 64	28	-32	940	0	0	0
29	SLU 65	29	-31	943	0	0	0
29	SLU 66	29	-32	954	0	0	0
29	SLU 67	29	-31	956	0	0	0
29	SLU 68	29	-31	952	0	0	0
29	SLU 69	29	-32	962	0	0	0
29	SLU 70	29	-31	964	0	0	0
29	SLU 71	29	-32	957	0	0	0
29	SLU 72	29	-31	959	0	0	0
29	SLU 73	31	-34	1033	0	0	0
29	SLU 74	31	-35	1044	0	0	0
29	SLU 75	31	-34	1045	0	0	0
29	SLU 76	31	-34	1042	0	0	0
29	SLU 77	31	-34	1052	0	0	0
29	SLU 78	31	-34	1054	0	0	0
29	SLU 79	31	-34	1047	0	0	0
29	SLU 80	31	-34	1049	0	0	0
29	SLU 81	31	-36	1069	0	0	0
29	SLU 82	32	-35	1070	0	0	0
29	SLU 83	31	-36	1077	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
29	SLU 84	32	-35	1079	0	0	0
29	SLE RA 1	21	-25	701	0	0	0
29	SLE RA 2	22	-24	704	0	0	0
29	SLE RA 3	21	-24	711	0	0	0
29	SLE RA 4	22	-24	712	0	0	0
29	SLE RA 5	22	-24	709	0	0	0
29	SLE RA 6	21	-24	716	0	0	0
29	SLE RA 7	22	-24	718	0	0	0
29	SLE RA 8	21	-24	713	0	0	0
29	SLE RA 9	22	-24	714	0	0	0
29	SLE RA 10	23	-26	763	0	0	0
29	SLE RA 11	23	-26	770	0	0	0
29	SLE RA 12	23	-26	772	0	0	0
29	SLE RA 13	23	-26	769	0	0	0
29	SLE RA 14	23	-26	776	0	0	0
29	SLE RA 15	23	-26	777	0	0	0
29	SLE RA 16	23	-26	773	0	0	0
29	SLE RA 17	23	-26	774	0	0	0
29	SLE RA 18	23	-27	787	0	0	0
29	SLE RA 19	23	-27	788	0	0	0
29	SLE RA 20	23	-27	793	0	0	0
29	SLE RA 21	23	-27	794	0	0	0
29	SLE FR 1	21	-25	701	0	0	0
29	SLE FR 2	21	-24	702	0	0	0
29	SLE FR 3	21	-24	704	0	0	0
29	SLE FR 4	22	-25	728	0	0	0
29	SLE FR 5	22	-25	729	0	0	0
29	SLE FR 6	22	-26	744	0	0	0
29	SLE QP 1	21	-25	701	0	0	0
29	SLE QP 2	22	-25	727	0	0	0
29	SLD 1	61	-21	771	0	0	0
29	SLD 2	64	-22	774	0	0	0
29	SLD 3	50	-31	719	0	0	0
29	SLD 4	53	-31	722	0	0	0
29	SLD 5	49	-9	819	0	0	0
29	SLD 6	52	-10	821	0	0	0
29	SLD 7	13	-42	645	0	0	0
29	SLD 8	15	-42	647	0	0	0
29	SLD 9	28	-9	807	0	0	0
29	SLD 10	30	-9	809	0	0	0
29	SLD 11	-8	-41	634	0	0	0
29	SLD 12	-6	-41	635	0	0	0
29	SLD 13	-10	-19	732	0	0	0
29	SLD 14	-6	-20	735	0	0	0
29	SLD 15	-21	-29	680	0	0	0
29	SLD 16	-17	-29	683	0	0	0
29	SLV 1	83	-18	800	0	0	0
29	SLV 2	89	-19	804	0	0	0
29	SLV 3	65	-35	711	0	0	0
29	SLV 4	71	-36	715	0	0	0
29	SLV 5	67	2	883	0	0	0
29	SLV 6	71	2	886	0	0	0
29	SLV 7	5	-53	587	0	0	0
29	SLV 8	9	-54	590	0	0	0
29	SLV 9	34	3	865	0	0	0
29	SLV 10	38	3	868	0	0	0
29	SLV 11	-28	-52	568	0	0	0
29	SLV 12	-24	-53	571	0	0	0
29	SLV 13	-27	-15	739	0	0	0
29	SLV 14	-22	-16	743	0	0	0
29	SLV 15	-46	-31	650	0	0	0
29	SLV 16	-40	-32	654	0	0	0
29	SLV FO 1	90	-18	807	0	0	0
29	SLV FO 2	96	-19	812	0	0	0
29	SLV FO 3	69	-36	710	0	0	0
29	SLV FO 4	76	-37	714	0	0	0
29	SLV FO 5	72	5	899	0	0	0
29	SLV FO 6	76	4	902	0	0	0
29	SLV FO 7	4	-56	573	0	0	0
29	SLV FO 8	8	-57	576	0	0	0
29	SLV FO 9	35	6	879	0	0	0
29	SLV FO 10	39	5	882	0	0	0
29	SLV FO 11	-33	-55	553	0	0	0
29	SLV FO 12	-29	-55	556	0	0	0
29	SLV FO 13	-32	-14	740	0	0	0
29	SLV FO 14	-26	-15	745	0	0	0
29	SLV FO 15	-53	-32	642	0	0	0
29	SLV FO 16	-46	-33	647	0	0	0
30	SLU 1	25	-29	864	0	0	0
30	SLU 2	26	-27	869	0	0	0
30	SLU 3	25	-29	882	0	0	0
30	SLU 4	26	-28	884	0	0	0
30	SLU 5	26	-27	880	0	0	0
30	SLU 6	26	-28	893	0	0	0
30	SLU 7	26	-28	895	0	0	0
30	SLU 8	25	-28	886	0	0	0
30	SLU 9	26	-28	889	0	0	0
30	SLU 10	29	-31	984	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLU 11	28	-32	997	0	0	0
30	SLU 12	29	-31	1000	0	0	0
30	SLU 13	29	-31	995	0	0	0
30	SLU 14	28	-32	1008	0	0	0
30	SLU 15	29	-31	1011	0	0	0
30	SLU 16	28	-32	1002	0	0	0
30	SLU 17	29	-31	1004	0	0	0
30	SLU 18	29	-34	1029	0	0	0
30	SLU 19	29	-33	1031	0	0	0
30	SLU 20	29	-34	1040	0	0	0
30	SLU 21	30	-33	1043	0	0	0
30	SLU 22	29	-30	991	0	0	0
30	SLU 23	30	-28	996	0	0	0
30	SLU 24	30	-29	1009	0	0	0
30	SLU 25	30	-29	1011	0	0	0
30	SLU 26	30	-28	1007	0	0	0
30	SLU 27	30	-29	1020	0	0	0
30	SLU 28	30	-28	1022	0	0	0
30	SLU 29	30	-29	1013	0	0	0
30	SLU 30	30	-28	1016	0	0	0
30	SLU 31	33	-32	1111	0	0	0
30	SLU 32	32	-33	1124	0	0	0
30	SLU 33	33	-32	1127	0	0	0
30	SLU 34	33	-31	1122	0	0	0
30	SLU 35	33	-33	1135	0	0	0
30	SLU 36	33	-32	1138	0	0	0
30	SLU 37	32	-33	1129	0	0	0
30	SLU 38	33	-32	1131	0	0	0
30	SLU 39	33	-35	1156	0	0	0
30	SLU 40	34	-34	1159	0	0	0
30	SLU 41	33	-34	1167	0	0	0
30	SLU 42	34	-33	1170	0	0	0
30	SLU 43	31	-37	1080	0	0	0
30	SLU 44	32	-36	1084	0	0	0
30	SLU 45	32	-37	1097	0	0	0
30	SLU 46	32	-36	1100	0	0	0
30	SLU 47	32	-36	1095	0	0	0
30	SLU 48	32	-37	1108	0	0	0
30	SLU 49	32	-36	1111	0	0	0
30	SLU 50	32	-37	1102	0	0	0
30	SLU 51	32	-36	1105	0	0	0
30	SLU 52	35	-39	1199	0	0	0
30	SLU 53	34	-41	1212	0	0	0
30	SLU 54	35	-40	1215	0	0	0
30	SLU 55	35	-39	1211	0	0	0
30	SLU 56	34	-40	1224	0	0	0
30	SLU 57	35	-39	1226	0	0	0
30	SLU 58	34	-40	1217	0	0	0
30	SLU 59	35	-39	1220	0	0	0
30	SLU 60	35	-42	1244	0	0	0
30	SLU 61	36	-41	1247	0	0	0
30	SLU 62	35	-42	1255	0	0	0
30	SLU 63	36	-41	1258	0	0	0
30	SLU 64	35	-38	1207	0	0	0
30	SLU 65	36	-37	1211	0	0	0
30	SLU 66	36	-38	1224	0	0	0
30	SLU 67	36	-37	1227	0	0	0
30	SLU 68	37	-36	1222	0	0	0
30	SLU 69	36	-38	1235	0	0	0
30	SLU 70	37	-37	1238	0	0	0
30	SLU 71	36	-38	1229	0	0	0
30	SLU 72	36	-37	1232	0	0	0
30	SLU 73	39	-40	1327	0	0	0
30	SLU 74	38	-41	1340	0	0	0
30	SLU 75	39	-40	1342	0	0	0
30	SLU 76	39	-40	1338	0	0	0
30	SLU 77	39	-41	1351	0	0	0
30	SLU 78	39	-40	1353	0	0	0
30	SLU 79	38	-41	1344	0	0	0
30	SLU 80	39	-40	1347	0	0	0
30	SLU 81	39	-43	1371	0	0	0
30	SLU 82	40	-42	1374	0	0	0
30	SLU 83	39	-43	1383	0	0	0
30	SLU 84	40	-42	1385	0	0	0
30	SLE RA 1	26	-29	900	0	0	0
30	SLE RA 2	27	-28	903	0	0	0
30	SLE RA 3	27	-29	912	0	0	0
30	SLE RA 4	27	-28	914	0	0	0
30	SLE RA 5	27	-28	911	0	0	0
30	SLE RA 6	27	-29	919	0	0	0
30	SLE RA 7	27	-28	921	0	0	0
30	SLE RA 8	27	-29	915	0	0	0
30	SLE RA 9	27	-28	917	0	0	0
30	SLE RA 10	29	-30	980	0	0	0
30	SLE RA 11	28	-31	989	0	0	0
30	SLE RA 12	29	-31	991	0	0	0
30	SLE RA 13	29	-30	988	0	0	0
30	SLE RA 14	28	-31	996	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLE RA 15	29	-31	998	0	0	0
30	SLE RA 16	28	-31	992	0	0	0
30	SLE RA 17	29	-31	994	0	0	0
30	SLE RA 18	29	-32	1010	0	0	0
30	SLE RA 19	29	-32	1012	0	0	0
30	SLE RA 20	29	-32	1018	0	0	0
30	SLE RA 21	29	-32	1019	0	0	0
30	SLE FR 1	26	-29	900	0	0	0
30	SLE FR 2	26	-29	901	0	0	0
30	SLE FR 3	26	-29	903	0	0	0
30	SLE FR 4	27	-30	934	0	0	0
30	SLE FR 5	27	-30	936	0	0	0
30	SLE FR 6	27	-31	955	0	0	0
30	SLE QP 1	26	-29	900	0	0	0
30	SLE QP 2	27	-30	933	0	0	0
30	SLD 1	76	-25	961	0	0	0
30	SLD 2	80	-24	964	0	0	0
30	SLD 3	62	-39	888	0	0	0
30	SLD 4	67	-38	891	0	0	0
30	SLD 5	61	-8	1053	0	0	0
30	SLD 6	64	-7	1055	0	0	0
30	SLD 7	16	-54	808	0	0	0
30	SLD 8	19	-53	810	0	0	0
30	SLD 9	35	-7	1057	0	0	0
30	SLD 10	38	-6	1059	0	0	0
30	SLD 11	-10	-54	812	0	0	0
30	SLD 12	-7	-53	814	0	0	0
30	SLD 13	-13	-23	976	0	0	0
30	SLD 14	-8	-21	979	0	0	0
30	SLD 15	-26	-37	902	0	0	0
30	SLD 16	-22	-35	905	0	0	0
30	SLV 1	104	-21	982	0	0	0
30	SLV 2	111	-19	987	0	0	0
30	SLV 3	81	-45	857	0	0	0
30	SLV 4	88	-43	862	0	0	0
30	SLV 5	84	9	1137	0	0	0
30	SLV 6	89	10	1140	0	0	0
30	SLV 7	7	-72	719	0	0	0
30	SLV 8	12	-70	723	0	0	0
30	SLV 9	42	10	1144	0	0	0
30	SLV 10	47	11	1147	0	0	0
30	SLV 11	-35	-70	726	0	0	0
30	SLV 12	-30	-69	729	0	0	0
30	SLV 13	-34	-17	1005	0	0	0
30	SLV 14	-27	-15	1010	0	0	0
30	SLV 15	-57	-41	880	0	0	0
30	SLV 16	-50	-39	884	0	0	0
30	SLV FO 1	112	-20	987	0	0	0
30	SLV FO 2	120	-18	992	0	0	0
30	SLV FO 3	86	-47	849	0	0	0
30	SLV FO 4	94	-44	854	0	0	0
30	SLV FO 5	90	12	1158	0	0	0
30	SLV FO 6	95	14	1161	0	0	0
30	SLV FO 7	5	-76	698	0	0	0
30	SLV FO 8	10	-74	701	0	0	0
30	SLV FO 9	44	14	1165	0	0	0
30	SLV FO 10	49	15	1169	0	0	0
30	SLV FO 11	-41	-74	705	0	0	0
30	SLV FO 12	-36	-73	709	0	0	0
30	SLV FO 13	-40	-16	1012	0	0	0
30	SLV FO 14	-32	-13	1017	0	0	0
30	SLV FO 15	-66	-42	874	0	0	0
30	SLV FO 16	-58	-40	879	0	0	0
31	SLU 1	25	-29	874	0	0	0
31	SLU 2	26	-27	878	0	0	0
31	SLU 3	26	-28	891	0	0	0
31	SLU 4	26	-27	894	0	0	0
31	SLU 5	26	-27	889	0	0	0
31	SLU 6	26	-28	902	0	0	0
31	SLU 7	26	-27	905	0	0	0
31	SLU 8	26	-28	896	0	0	0
31	SLU 9	26	-27	899	0	0	0
31	SLU 10	29	-30	995	0	0	0
31	SLU 11	28	-32	1008	0	0	0
31	SLU 12	29	-31	1011	0	0	0
31	SLU 13	29	-30	1006	0	0	0
31	SLU 14	28	-31	1019	0	0	0
31	SLU 15	29	-30	1022	0	0	0
31	SLU 16	28	-31	1012	0	0	0
31	SLU 17	29	-30	1015	0	0	0
31	SLU 18	29	-33	1040	0	0	0
31	SLU 19	29	-32	1043	0	0	0
31	SLU 20	29	-33	1051	0	0	0
31	SLU 21	30	-32	1054	0	0	0
31	SLU 22	29	-29	1002	0	0	0
31	SLU 23	30	-28	1007	0	0	0
31	SLU 24	30	-29	1020	0	0	0
31	SLU 25	30	-28	1023	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLU 26	31	-27	1018	0	0	0
31	SLU 27	30	-29	1031	0	0	0
31	SLU 28	31	-28	1034	0	0	0
31	SLU 29	30	-29	1025	0	0	0
31	SLU 30	30	-28	1028	0	0	0
31	SLU 31	33	-31	1123	0	0	0
31	SLU 32	32	-32	1136	0	0	0
31	SLU 33	33	-31	1139	0	0	0
31	SLU 34	33	-31	1135	0	0	0
31	SLU 35	33	-32	1148	0	0	0
31	SLU 36	33	-31	1150	0	0	0
31	SLU 37	32	-32	1141	0	0	0
31	SLU 38	33	-31	1144	0	0	0
31	SLU 39	33	-34	1169	0	0	0
31	SLU 40	34	-33	1171	0	0	0
31	SLU 41	33	-34	1180	0	0	0
31	SLU 42	34	-33	1183	0	0	0
31	SLU 43	31	-37	1091	0	0	0
31	SLU 44	32	-35	1096	0	0	0
31	SLU 45	32	-37	1109	0	0	0
31	SLU 46	32	-36	1112	0	0	0
31	SLU 47	32	-35	1107	0	0	0
31	SLU 48	32	-36	1120	0	0	0
31	SLU 49	32	-35	1123	0	0	0
31	SLU 50	32	-36	1114	0	0	0
31	SLU 51	32	-35	1117	0	0	0
31	SLU 52	35	-39	1213	0	0	0
31	SLU 53	34	-40	1226	0	0	0
31	SLU 54	35	-39	1228	0	0	0
31	SLU 55	35	-38	1224	0	0	0
31	SLU 56	35	-40	1237	0	0	0
31	SLU 57	35	-39	1240	0	0	0
31	SLU 58	34	-40	1230	0	0	0
31	SLU 59	35	-39	1233	0	0	0
31	SLU 60	35	-42	1258	0	0	0
31	SLU 61	36	-41	1261	0	0	0
31	SLU 62	35	-41	1269	0	0	0
31	SLU 63	36	-40	1272	0	0	0
31	SLU 64	35	-38	1220	0	0	0
31	SLU 65	36	-36	1225	0	0	0
31	SLU 66	36	-37	1238	0	0	0
31	SLU 67	36	-36	1241	0	0	0
31	SLU 68	37	-36	1236	0	0	0
31	SLU 69	36	-37	1249	0	0	0
31	SLU 70	37	-36	1252	0	0	0
31	SLU 71	36	-37	1243	0	0	0
31	SLU 72	36	-36	1245	0	0	0
31	SLU 73	39	-39	1341	0	0	0
31	SLU 74	38	-41	1354	0	0	0
31	SLU 75	39	-40	1357	0	0	0
31	SLU 76	39	-39	1353	0	0	0
31	SLU 77	39	-40	1366	0	0	0
31	SLU 78	39	-39	1368	0	0	0
31	SLU 79	38	-40	1359	0	0	0
31	SLU 80	39	-39	1362	0	0	0
31	SLU 81	39	-42	1387	0	0	0
31	SLU 82	40	-41	1389	0	0	0
31	SLU 83	39	-42	1398	0	0	0
31	SLU 84	40	-41	1401	0	0	0
31	SLE RA 1	26	-29	910	0	0	0
31	SLE RA 2	27	-28	913	0	0	0
31	SLE RA 3	27	-29	922	0	0	0
31	SLE RA 4	27	-28	924	0	0	0
31	SLE RA 5	27	-28	921	0	0	0
31	SLE RA 6	27	-28	930	0	0	0
31	SLE RA 7	27	-28	931	0	0	0
31	SLE RA 8	27	-28	925	0	0	0
31	SLE RA 9	27	-28	927	0	0	0
31	SLE RA 10	29	-30	991	0	0	0
31	SLE RA 11	28	-31	1000	0	0	0
31	SLE RA 12	29	-30	1002	0	0	0
31	SLE RA 13	29	-30	999	0	0	0
31	SLE RA 14	28	-31	1007	0	0	0
31	SLE RA 15	29	-30	1009	0	0	0
31	SLE RA 16	28	-31	1003	0	0	0
31	SLE RA 17	29	-30	1005	0	0	0
31	SLE RA 18	29	-32	1021	0	0	0
31	SLE RA 19	29	-31	1023	0	0	0
31	SLE RA 20	29	-32	1029	0	0	0
31	SLE RA 21	29	-31	1031	0	0	0
31	SLE FR 1	26	-29	910	0	0	0
31	SLE FR 2	26	-28	911	0	0	0
31	SLE FR 3	26	-29	913	0	0	0
31	SLE FR 4	27	-29	944	0	0	0
31	SLE FR 5	27	-30	947	0	0	0
31	SLE FR 6	28	-30	966	0	0	0
31	SLE QP 1	26	-29	910	0	0	0
31	SLE QP 2	27	-30	944	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLD 1	76	-22	963	0	0	0
31	SLD 2	80	-20	966	0	0	0
31	SLD 3	62	-37	887	0	0	0
31	SLD 4	67	-35	890	0	0	0
31	SLD 5	61	-5	1066	0	0	0
31	SLD 6	64	-4	1067	0	0	0
31	SLD 7	16	-55	809	0	0	0
31	SLD 8	19	-53	811	0	0	0
31	SLD 9	35	-6	1076	0	0	0
31	SLD 10	38	-5	1078	0	0	0
31	SLD 11	-10	-56	820	0	0	0
31	SLD 12	-7	-54	822	0	0	0
31	SLD 13	-13	-25	998	0	0	0
31	SLD 14	-8	-23	1001	0	0	0
31	SLD 15	-26	-40	921	0	0	0
31	SLD 16	-22	-37	924	0	0	0
31	SLV 1	104	-16	980	0	0	0
31	SLV 2	112	-13	985	0	0	0
31	SLV 3	81	-42	849	0	0	0
31	SLV 4	88	-38	854	0	0	0
31	SLV 5	84	12	1152	0	0	0
31	SLV 6	89	15	1156	0	0	0
31	SLV 7	7	-72	716	0	0	0
31	SLV 8	12	-70	719	0	0	0
31	SLV 9	42	11	1169	0	0	0
31	SLV 10	47	13	1172	0	0	0
31	SLV 11	-35	-74	732	0	0	0
31	SLV 12	-30	-72	735	0	0	0
31	SLV 13	-34	-21	1034	0	0	0
31	SLV 14	-27	-18	1038	0	0	0
31	SLV 15	-57	-47	902	0	0	0
31	SLV 16	-50	-43	907	0	0	0
31	SLV FO 1	112	-15	984	0	0	0
31	SLV FO 2	120	-11	989	0	0	0
31	SLV FO 3	87	-43	840	0	0	0
31	SLV FO 4	95	-39	845	0	0	0
31	SLV FO 5	90	16	1173	0	0	0
31	SLV FO 6	95	19	1177	0	0	0
31	SLV FO 7	5	-77	693	0	0	0
31	SLV FO 8	10	-74	696	0	0	0
31	SLV FO 9	44	15	1191	0	0	0
31	SLV FO 10	49	17	1194	0	0	0
31	SLV FO 11	-41	-78	710	0	0	0
31	SLV FO 12	-36	-76	714	0	0	0
31	SLV FO 13	-40	-20	1043	0	0	0
31	SLV FO 14	-33	-16	1048	0	0	0
31	SLV FO 15	-66	-48	898	0	0	0
31	SLV FO 16	-58	-44	903	0	0	0
31	CRTFP Uy+	0	0	0	0	0	0
31	CRTFP Uy-	0	0	0	0	0	0
32	SLU 1	25	-28	881	0	0	0
32	SLU 2	26	-26	886	0	0	0
32	SLU 3	26	-28	899	0	0	0
32	SLU 4	26	-27	902	0	0	0
32	SLU 5	26	-26	898	0	0	0
32	SLU 6	26	-28	911	0	0	0
32	SLU 7	26	-27	914	0	0	0
32	SLU 8	25	-28	904	0	0	0
32	SLU 9	26	-27	907	0	0	0
32	SLU 10	29	-30	1004	0	0	0
32	SLU 11	28	-31	1017	0	0	0
32	SLU 12	29	-30	1020	0	0	0
32	SLU 13	29	-29	1015	0	0	0
32	SLU 14	28	-31	1028	0	0	0
32	SLU 15	29	-30	1031	0	0	0
32	SLU 16	28	-31	1022	0	0	0
32	SLU 17	29	-30	1025	0	0	0
32	SLU 18	29	-33	1049	0	0	0
32	SLU 19	29	-32	1052	0	0	0
32	SLU 20	29	-32	1061	0	0	0
32	SLU 21	30	-32	1064	0	0	0
32	SLU 22	29	-29	1012	0	0	0
32	SLU 23	30	-27	1017	0	0	0
32	SLU 24	30	-28	1029	0	0	0
32	SLU 25	30	-27	1032	0	0	0
32	SLU 26	30	-27	1028	0	0	0
32	SLU 27	30	-28	1041	0	0	0
32	SLU 28	31	-27	1044	0	0	0
32	SLU 29	30	-28	1034	0	0	0
32	SLU 30	30	-27	1037	0	0	0
32	SLU 31	33	-30	1134	0	0	0
32	SLU 32	32	-32	1147	0	0	0
32	SLU 33	33	-31	1150	0	0	0
32	SLU 34	33	-30	1145	0	0	0
32	SLU 35	33	-31	1158	0	0	0
32	SLU 36	33	-31	1161	0	0	0
32	SLU 37	32	-32	1152	0	0	0
32	SLU 38	33	-31	1155	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLU 39	33	-33	1179	0	0	0
32	SLU 40	34	-32	1182	0	0	0
32	SLU 41	33	-33	1191	0	0	0
32	SLU 42	34	-32	1194	0	0	0
32	SLU 43	31	-36	1101	0	0	0
32	SLU 44	32	-35	1106	0	0	0
32	SLU 45	32	-36	1119	0	0	0
32	SLU 46	32	-35	1122	0	0	0
32	SLU 47	32	-34	1118	0	0	0
32	SLU 48	32	-36	1130	0	0	0
32	SLU 49	32	-35	1133	0	0	0
32	SLU 50	32	-36	1124	0	0	0
32	SLU 51	32	-35	1127	0	0	0
32	SLU 52	35	-38	1224	0	0	0
32	SLU 53	34	-39	1237	0	0	0
32	SLU 54	35	-38	1240	0	0	0
32	SLU 55	35	-38	1235	0	0	0
32	SLU 56	34	-39	1248	0	0	0
32	SLU 57	35	-38	1251	0	0	0
32	SLU 58	34	-39	1241	0	0	0
32	SLU 59	35	-38	1244	0	0	0
32	SLU 60	35	-41	1269	0	0	0
32	SLU 61	36	-40	1272	0	0	0
32	SLU 62	35	-41	1280	0	0	0
32	SLU 63	36	-40	1283	0	0	0
32	SLU 64	35	-37	1231	0	0	0
32	SLU 65	36	-35	1236	0	0	0
32	SLU 66	36	-37	1249	0	0	0
32	SLU 67	36	-36	1252	0	0	0
32	SLU 68	37	-35	1248	0	0	0
32	SLU 69	36	-36	1261	0	0	0
32	SLU 70	37	-35	1264	0	0	0
32	SLU 71	36	-36	1254	0	0	0
32	SLU 72	36	-35	1257	0	0	0
32	SLU 73	39	-38	1354	0	0	0
32	SLU 74	38	-40	1367	0	0	0
32	SLU 75	39	-39	1370	0	0	0
32	SLU 76	39	-38	1365	0	0	0
32	SLU 77	39	-40	1378	0	0	0
32	SLU 78	39	-39	1381	0	0	0
32	SLU 79	38	-40	1371	0	0	0
32	SLU 80	39	-39	1374	0	0	0
32	SLU 81	39	-42	1399	0	0	0
32	SLU 82	40	-41	1402	0	0	0
32	SLU 83	39	-41	1411	0	0	0
32	SLU 84	40	-40	1413	0	0	0
32	SLE RA 1	26	-28	919	0	0	0
32	SLE RA 2	27	-27	922	0	0	0
32	SLE RA 3	27	-28	931	0	0	0
32	SLE RA 4	27	-27	933	0	0	0
32	SLE RA 5	27	-27	929	0	0	0
32	SLE RA 6	27	-28	938	0	0	0
32	SLE RA 7	27	-27	940	0	0	0
32	SLE RA 8	27	-28	934	0	0	0
32	SLE RA 9	27	-27	936	0	0	0
32	SLE RA 10	29	-29	1000	0	0	0
32	SLE RA 11	28	-30	1009	0	0	0
32	SLE RA 12	29	-30	1011	0	0	0
32	SLE RA 13	29	-29	1008	0	0	0
32	SLE RA 14	28	-30	1016	0	0	0
32	SLE RA 15	29	-29	1018	0	0	0
32	SLE RA 16	28	-30	1012	0	0	0
32	SLE RA 17	29	-29	1014	0	0	0
32	SLE RA 18	29	-31	1031	0	0	0
32	SLE RA 19	29	-31	1032	0	0	0
32	SLE RA 20	29	-31	1038	0	0	0
32	SLE RA 21	29	-31	1040	0	0	0
32	SLE FR 1	26	-28	919	0	0	0
32	SLE FR 2	26	-28	919	0	0	0
32	SLE FR 3	26	-28	922	0	0	0
32	SLE FR 4	27	-29	953	0	0	0
32	SLE FR 5	27	-29	955	0	0	0
32	SLE FR 6	28	-30	975	0	0	0
32	SLE QP 1	26	-28	919	0	0	0
32	SLE QP 2	27	-29	952	0	0	0
32	SLD 1	76	-21	963	0	0	0
32	SLD 2	80	-18	966	0	0	0
32	SLD 3	62	-37	883	0	0	0
32	SLD 4	67	-34	886	0	0	0
32	SLD 5	61	-3	1076	0	0	0
32	SLD 6	64	-2	1078	0	0	0
32	SLD 7	16	-56	810	0	0	0
32	SLD 8	19	-54	811	0	0	0
32	SLD 9	35	-5	1093	0	0	0
32	SLD 10	38	-3	1095	0	0	0
32	SLD 11	-10	-57	826	0	0	0
32	SLD 12	-7	-55	828	0	0	0
32	SLD 13	-13	-25	1019	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLD 14	-8	-22	1022	0	0	0
32	SLD 15	-26	-40	939	0	0	0
32	SLD 16	-22	-37	942	0	0	0
32	SLV 1	104	-15	975	0	0	0
32	SLV 2	112	-10	979	0	0	0
32	SLV 3	81	-42	838	0	0	0
32	SLV 4	88	-37	843	0	0	0
32	SLV 5	84	15	1165	0	0	0
32	SLV 6	89	18	1168	0	0	0
32	SLV 7	7	-74	710	0	0	0
32	SLV 8	12	-71	713	0	0	0
32	SLV 9	42	13	1191	0	0	0
32	SLV 10	47	16	1194	0	0	0
32	SLV 11	-35	-76	736	0	0	0
32	SLV 12	-30	-73	739	0	0	0
32	SLV 13	-34	-21	1062	0	0	0
32	SLV 14	-27	-16	1066	0	0	0
32	SLV 15	-57	-48	925	0	0	0
32	SLV 16	-50	-43	930	0	0	0
32	SLV FO 1	112	-14	977	0	0	0
32	SLV FO 2	120	-9	982	0	0	0
32	SLV FO 3	87	-43	827	0	0	0
32	SLV FO 4	94	-38	832	0	0	0
32	SLV FO 5	90	19	1186	0	0	0
32	SLV FO 6	95	23	1190	0	0	0
32	SLV FO 7	5	-79	686	0	0	0
32	SLV FO 8	10	-75	689	0	0	0
32	SLV FO 9	44	17	1215	0	0	0
32	SLV FO 10	49	21	1218	0	0	0
32	SLV FO 11	-41	-81	715	0	0	0
32	SLV FO 12	-36	-77	718	0	0	0
32	SLV FO 13	-40	-20	1073	0	0	0
32	SLV FO 14	-33	-15	1078	0	0	0
32	SLV FO 15	-66	-50	923	0	0	0
32	SLV FO 16	-58	-44	928	0	0	0
32	CRTFP Uy+	0	0	0	0	0	0
32	CRTFP Uy-	0	0	0	0	0	0
33	SLU 1	25	-27	887	0	0	0
33	SLU 2	26	-26	892	0	0	0
33	SLU 3	25	-27	905	0	0	0
33	SLU 4	26	-26	908	0	0	0
33	SLU 5	26	-25	904	0	0	0
33	SLU 6	26	-27	917	0	0	0
33	SLU 7	26	-26	920	0	0	0
33	SLU 8	25	-27	910	0	0	0
33	SLU 9	26	-26	913	0	0	0
33	SLU 10	29	-29	1011	0	0	0
33	SLU 11	28	-30	1023	0	0	0
33	SLU 12	29	-29	1026	0	0	0
33	SLU 13	29	-29	1022	0	0	0
33	SLU 14	28	-30	1035	0	0	0
33	SLU 15	29	-29	1038	0	0	0
33	SLU 16	28	-30	1028	0	0	0
33	SLU 17	29	-29	1031	0	0	0
33	SLU 18	29	-32	1056	0	0	0
33	SLU 19	29	-31	1059	0	0	0
33	SLU 20	29	-32	1067	0	0	0
33	SLU 21	30	-31	1070	0	0	0
33	SLU 22	29	-28	1018	0	0	0
33	SLU 23	30	-26	1024	0	0	0
33	SLU 24	30	-28	1036	0	0	0
33	SLU 25	30	-27	1039	0	0	0
33	SLU 26	30	-26	1035	0	0	0
33	SLU 27	30	-28	1048	0	0	0
33	SLU 28	30	-27	1051	0	0	0
33	SLU 29	30	-28	1041	0	0	0
33	SLU 30	30	-27	1044	0	0	0
33	SLU 31	33	-30	1142	0	0	0
33	SLU 32	32	-31	1154	0	0	0
33	SLU 33	33	-30	1158	0	0	0
33	SLU 34	33	-29	1153	0	0	0
33	SLU 35	32	-31	1166	0	0	0
33	SLU 36	33	-30	1169	0	0	0
33	SLU 37	32	-31	1159	0	0	0
33	SLU 38	33	-30	1162	0	0	0
33	SLU 39	33	-33	1187	0	0	0
33	SLU 40	33	-32	1190	0	0	0
33	SLU 41	33	-32	1199	0	0	0
33	SLU 42	34	-31	1202	0	0	0
33	SLU 43	31	-35	1108	0	0	0
33	SLU 44	32	-34	1114	0	0	0
33	SLU 45	31	-35	1126	0	0	0
33	SLU 46	32	-34	1129	0	0	0
33	SLU 47	32	-33	1125	0	0	0
33	SLU 48	32	-35	1138	0	0	0
33	SLU 49	32	-34	1141	0	0	0
33	SLU 50	31	-35	1131	0	0	0
33	SLU 51	32	-34	1134	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLU 52	35	-37	1232	0	0	0
33	SLU 53	34	-38	1245	0	0	0
33	SLU 54	35	-37	1248	0	0	0
33	SLU 55	35	-37	1243	0	0	0
33	SLU 56	34	-38	1256	0	0	0
33	SLU 57	35	-37	1259	0	0	0
33	SLU 58	34	-38	1249	0	0	0
33	SLU 59	35	-37	1252	0	0	0
33	SLU 60	35	-40	1277	0	0	0
33	SLU 61	35	-39	1280	0	0	0
33	SLU 62	35	-40	1289	0	0	0
33	SLU 63	36	-39	1292	0	0	0
33	SLU 64	35	-36	1239	0	0	0
33	SLU 65	36	-34	1245	0	0	0
33	SLU 66	36	-36	1258	0	0	0
33	SLU 67	36	-35	1261	0	0	0
33	SLU 68	36	-34	1256	0	0	0
33	SLU 69	36	-36	1269	0	0	0
33	SLU 70	36	-35	1272	0	0	0
33	SLU 71	36	-36	1262	0	0	0
33	SLU 72	36	-35	1265	0	0	0
33	SLU 73	39	-38	1363	0	0	0
33	SLU 74	38	-39	1376	0	0	0
33	SLU 75	39	-38	1379	0	0	0
33	SLU 76	39	-37	1374	0	0	0
33	SLU 77	38	-39	1387	0	0	0
33	SLU 78	39	-38	1390	0	0	0
33	SLU 79	38	-39	1380	0	0	0
33	SLU 80	39	-38	1384	0	0	0
33	SLU 81	39	-41	1408	0	0	0
33	SLU 82	40	-40	1411	0	0	0
33	SLU 83	39	-40	1420	0	0	0
33	SLU 84	40	-39	1423	0	0	0
33	SLE RA 1	26	-28	925	0	0	0
33	SLE RA 2	27	-26	928	0	0	0
33	SLE RA 3	26	-27	937	0	0	0
33	SLE RA 4	27	-27	939	0	0	0
33	SLE RA 5	27	-26	936	0	0	0
33	SLE RA 6	27	-27	944	0	0	0
33	SLE RA 7	27	-27	946	0	0	0
33	SLE RA 8	26	-27	940	0	0	0
33	SLE RA 9	27	-27	942	0	0	0
33	SLE RA 10	29	-29	1007	0	0	0
33	SLE RA 11	28	-30	1015	0	0	0
33	SLE RA 12	29	-29	1017	0	0	0
33	SLE RA 13	29	-28	1014	0	0	0
33	SLE RA 14	28	-29	1023	0	0	0
33	SLE RA 15	29	-29	1025	0	0	0
33	SLE RA 16	28	-29	1019	0	0	0
33	SLE RA 17	29	-29	1021	0	0	0
33	SLE RA 18	29	-31	1037	0	0	0
33	SLE RA 19	29	-30	1039	0	0	0
33	SLE RA 20	29	-31	1045	0	0	0
33	SLE RA 21	29	-30	1047	0	0	0
33	SLE FR 1	26	-28	925	0	0	0
33	SLE FR 2	26	-27	925	0	0	0
33	SLE FR 3	26	-27	928	0	0	0
33	SLE FR 4	27	-28	959	0	0	0
33	SLE FR 5	27	-28	961	0	0	0
33	SLE FR 6	27	-29	981	0	0	0
33	SLE QP 1	26	-28	925	0	0	0
33	SLE QP 2	27	-28	958	0	0	0
33	SLD 1	75	-20	960	0	0	0
33	SLD 2	80	-16	962	0	0	0
33	SLD 3	62	-36	877	0	0	0
33	SLD 4	67	-33	880	0	0	0
33	SLD 5	61	-2	1084	0	0	0
33	SLD 6	64	1	1086	0	0	0
33	SLD 7	16	-56	808	0	0	0
33	SLD 8	19	-54	810	0	0	0
33	SLD 9	35	-3	1107	0	0	0
33	SLD 10	38	-1	1109	0	0	0
33	SLD 11	-10	-58	831	0	0	0
33	SLD 12	-7	-55	833	0	0	0
33	SLD 13	-13	-24	1037	0	0	0
33	SLD 14	-8	-21	1040	0	0	0
33	SLD 15	-26	-41	954	0	0	0
33	SLD 16	-22	-37	957	0	0	0
33	SLV 1	104	-14	966	0	0	0
33	SLV 2	111	-8	971	0	0	0
33	SLV 3	81	-42	825	0	0	0
33	SLV 4	88	-36	829	0	0	0
33	SLV 5	84	17	1174	0	0	0
33	SLV 6	88	21	1177	0	0	0
33	SLV 7	7	-76	703	0	0	0
33	SLV 8	12	-72	706	0	0	0
33	SLV 9	42	15	1211	0	0	0
33	SLV 10	47	19	1214	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLV 11	-35	-78	740	0	0	0
33	SLV 12	-30	-74	742	0	0	0
33	SLV 13	-34	-21	1087	0	0	0
33	SLV 14	-27	-15	1092	0	0	0
33	SLV 15	-57	-49	946	0	0	0
33	SLV 16	-50	-43	950	0	0	0
33	SLV FO 1	112	-12	967	0	0	0
33	SLV FO 2	120	-6	972	0	0	0
33	SLV FO 3	86	-43	812	0	0	0
33	SLV FO 4	94	-37	816	0	0	0
33	SLV FO 5	89	22	1196	0	0	0
33	SLV FO 6	95	26	1199	0	0	0
33	SLV FO 7	5	-81	678	0	0	0
33	SLV FO 8	10	-76	681	0	0	0
33	SLV FO 9	44	19	1236	0	0	0
33	SLV FO 10	49	24	1239	0	0	0
33	SLV FO 11	-41	-83	718	0	0	0
33	SLV FO 12	-36	-79	721	0	0	0
33	SLV FO 13	-40	-20	1100	0	0	0
33	SLV FO 14	-32	-14	1105	0	0	0
33	SLV FO 15	-66	-51	945	0	0	0
33	SLV FO 16	-58	-44	950	0	0	0
33	CRTFP Uy+	0	0	0	0	0	0
33	CRTFP Uy-	0	0	0	0	0	0
34	SLU 1	20	-21	726	0	0	0
34	SLU 2	21	-19	731	0	0	0
34	SLU 3	20	-21	741	0	0	0
34	SLU 4	21	-20	744	0	0	0
34	SLU 5	21	-19	740	0	0	0
34	SLU 6	21	-21	750	0	0	0
34	SLU 7	21	-20	753	0	0	0
34	SLU 8	20	-21	745	0	0	0
34	SLU 9	21	-20	748	0	0	0
34	SLU 10	23	-22	827	0	0	0
34	SLU 11	23	-23	838	0	0	0
34	SLU 12	23	-22	840	0	0	0
34	SLU 13	23	-22	837	0	0	0
34	SLU 14	23	-23	847	0	0	0
34	SLU 15	23	-22	850	0	0	0
34	SLU 16	23	-23	841	0	0	0
34	SLU 17	23	-22	844	0	0	0
34	SLU 18	23	-25	864	0	0	0
34	SLU 19	24	-24	867	0	0	0
34	SLU 20	23	-24	874	0	0	0
34	SLU 21	24	-24	876	0	0	0
34	SLU 22	23	-21	834	0	0	0
34	SLU 23	24	-20	839	0	0	0
34	SLU 24	24	-21	849	0	0	0
34	SLU 25	24	-20	852	0	0	0
34	SLU 26	24	-20	848	0	0	0
34	SLU 27	24	-21	858	0	0	0
34	SLU 28	24	-20	861	0	0	0
34	SLU 29	24	-21	853	0	0	0
34	SLU 30	24	-20	855	0	0	0
34	SLU 31	26	-22	935	0	0	0
34	SLU 32	26	-24	945	0	0	0
34	SLU 33	26	-23	948	0	0	0
34	SLU 34	27	-22	945	0	0	0
34	SLU 35	26	-24	955	0	0	0
34	SLU 36	27	-23	957	0	0	0
34	SLU 37	26	-24	949	0	0	0
34	SLU 38	26	-23	952	0	0	0
34	SLU 39	26	-25	972	0	0	0
34	SLU 40	27	-24	975	0	0	0
34	SLU 41	27	-25	981	0	0	0
34	SLU 42	27	-24	984	0	0	0
34	SLU 43	25	-27	907	0	0	0
34	SLU 44	26	-26	912	0	0	0
34	SLU 45	25	-27	922	0	0	0
34	SLU 46	26	-26	925	0	0	0
34	SLU 47	26	-25	921	0	0	0
34	SLU 48	25	-27	931	0	0	0
34	SLU 49	26	-26	934	0	0	0
34	SLU 50	25	-27	926	0	0	0
34	SLU 51	26	-26	929	0	0	0
34	SLU 52	28	-28	1008	0	0	0
34	SLU 53	27	-29	1019	0	0	0
34	SLU 54	28	-29	1021	0	0	0
34	SLU 55	28	-28	1018	0	0	0
34	SLU 56	28	-29	1028	0	0	0
34	SLU 57	28	-28	1031	0	0	0
34	SLU 58	27	-29	1022	0	0	0
34	SLU 59	28	-28	1025	0	0	0
34	SLU 60	28	-31	1045	0	0	0
34	SLU 61	28	-30	1048	0	0	0
34	SLU 62	28	-31	1054	0	0	0
34	SLU 63	29	-30	1057	0	0	0
34	SLU 64	28	-27	1015	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
34	SLU 65	29	-26	1020	0	0	0
34	SLU 66	29	-27	1030	0	0	0
34	SLU 67	29	-26	1033	0	0	0
34	SLU 68	29	-26	1029	0	0	0
34	SLU 69	29	-27	1039	0	0	0
34	SLU 70	29	-26	1042	0	0	0
34	SLU 71	29	-27	1034	0	0	0
34	SLU 72	29	-26	1036	0	0	0
34	SLU 73	31	-29	1116	0	0	0
34	SLU 74	31	-30	1126	0	0	0
34	SLU 75	31	-29	1129	0	0	0
34	SLU 76	31	-28	1125	0	0	0
34	SLU 77	31	-30	1136	0	0	0
34	SLU 78	31	-29	1138	0	0	0
34	SLU 79	31	-30	1130	0	0	0
34	SLU 80	31	-29	1133	0	0	0
34	SLU 81	31	-31	1153	0	0	0
34	SLU 82	32	-30	1156	0	0	0
34	SLU 83	31	-31	1162	0	0	0
34	SLU 84	32	-30	1165	0	0	0
34	SLE RA 1	21	-21	757	0	0	0
34	SLE RA 2	22	-20	760	0	0	0
34	SLE RA 3	21	-21	767	0	0	0
34	SLE RA 4	22	-20	769	0	0	0
34	SLE RA 5	22	-20	766	0	0	0
34	SLE RA 6	21	-21	773	0	0	0
34	SLE RA 7	22	-20	775	0	0	0
34	SLE RA 8	21	-21	769	0	0	0
34	SLE RA 9	22	-20	771	0	0	0
34	SLE RA 10	23	-22	825	0	0	0
34	SLE RA 11	23	-23	831	0	0	0
34	SLE RA 12	23	-22	833	0	0	0
34	SLE RA 13	23	-22	831	0	0	0
34	SLE RA 14	23	-23	837	0	0	0
34	SLE RA 15	23	-22	839	0	0	0
34	SLE RA 16	23	-23	834	0	0	0
34	SLE RA 17	23	-22	836	0	0	0
34	SLE RA 18	23	-23	849	0	0	0
34	SLE RA 19	23	-23	851	0	0	0
34	SLE RA 20	23	-23	855	0	0	0
34	SLE RA 21	23	-23	857	0	0	0
34	SLE FR 1	21	-21	757	0	0	0
34	SLE FR 2	21	-21	758	0	0	0
34	SLE FR 3	21	-21	760	0	0	0
34	SLE FR 4	22	-22	785	0	0	0
34	SLE FR 5	22	-22	787	0	0	0
34	SLE FR 6	22	-22	803	0	0	0
34	SLE QP 1	21	-21	757	0	0	0
34	SLE QP 2	22	-22	785	0	0	0
34	SLD 1	61	-14	766	0	0	0
34	SLD 2	64	-9	768	0	0	0
34	SLD 3	50	-29	693	0	0	0
34	SLD 4	53	-24	695	0	0	0
34	SLD 5	49	2	889	0	0	0
34	SLD 6	52	5	890	0	0	0
34	SLD 7	13	-47	647	0	0	0
34	SLD 8	15	-44	648	0	0	0
34	SLD 9	28	1	921	0	0	0
34	SLD 10	30	4	922	0	0	0
34	SLD 11	-8	-49	679	0	0	0
34	SLD 12	-6	-46	681	0	0	0
34	SLD 13	-10	-19	874	0	0	0
34	SLD 14	-7	-15	876	0	0	0
34	SLD 15	-21	-34	801	0	0	0
34	SLD 16	-17	-30	803	0	0	0
34	SLV 1	84	-9	761	0	0	0
34	SLV 2	89	-1	764	0	0	0
34	SLV 3	65	-34	637	0	0	0
34	SLV 4	71	-27	640	0	0	0
34	SLV 5	67	19	965	0	0	0
34	SLV 6	71	24	967	0	0	0
34	SLV 7	5	-65	552	0	0	0
34	SLV 8	9	-61	554	0	0	0
34	SLV 9	34	17	1015	0	0	0
34	SLV 10	38	22	1017	0	0	0
34	SLV 11	-28	-68	603	0	0	0
34	SLV 12	-24	-63	605	0	0	0
34	SLV 13	-28	-17	929	0	0	0
34	SLV 14	-22	-10	932	0	0	0
34	SLV 15	-46	-42	805	0	0	0
34	SLV 16	-40	-35	808	0	0	0
34	SLV FO 1	90	-7	758	0	0	0
34	SLV FO 2	96	1	762	0	0	0
34	SLV FO 3	69	-35	622	0	0	0
34	SLV FO 4	76	-27	626	0	0	0
34	SLV FO 5	72	24	983	0	0	0
34	SLV FO 6	76	29	985	0	0	0
34	SLV FO 7	4	-70	529	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
34	SLV FO 8	8	-64	531	0	0	0
34	SLV FO 9	35	21	1038	0	0	0
34	SLV FO 10	39	26	1041	0	0	0
34	SLV FO 11	-33	-73	584	0	0	0
34	SLV FO 12	-29	-67	587	0	0	0
34	SLV FO 13	-32	-16	944	0	0	0
34	SLV FO 14	-26	-8	947	0	0	0
34	SLV FO 15	-53	-44	807	0	0	0
34	SLV FO 16	-47	-36	811	0	0	0
35	SLU 1	32	-38	1102	0	0	0
35	SLU 2	33	-37	1106	0	0	0
35	SLU 3	32	-38	1125	0	0	0
35	SLU 4	33	-37	1127	0	0	0
35	SLU 5	33	-36	1120	0	0	0
35	SLU 6	33	-38	1140	0	0	0
35	SLU 7	33	-37	1142	0	0	0
35	SLU 8	32	-38	1132	0	0	0
35	SLU 9	33	-37	1134	0	0	0
35	SLU 10	36	-41	1253	0	0	0
35	SLU 11	36	-43	1273	0	0	0
35	SLU 12	36	-41	1275	0	0	0
35	SLU 13	37	-41	1268	0	0	0
35	SLU 14	36	-42	1287	0	0	0
35	SLU 15	37	-41	1289	0	0	0
35	SLU 16	36	-42	1279	0	0	0
35	SLU 17	36	-41	1281	0	0	0
35	SLU 18	36	-45	1313	0	0	0
35	SLU 19	37	-44	1315	0	0	0
35	SLU 20	37	-44	1328	0	0	0
35	SLU 21	37	-43	1329	0	0	0
35	SLU 22	37	-39	1267	0	0	0
35	SLU 23	38	-38	1270	0	0	0
35	SLU 24	38	-39	1290	0	0	0
35	SLU 25	38	-38	1291	0	0	0
35	SLU 26	38	-37	1284	0	0	0
35	SLU 27	38	-39	1304	0	0	0
35	SLU 28	39	-38	1306	0	0	0
35	SLU 29	38	-39	1296	0	0	0
35	SLU 30	38	-38	1298	0	0	0
35	SLU 31	42	-42	1417	0	0	0
35	SLU 32	41	-44	1437	0	0	0
35	SLU 33	42	-42	1439	0	0	0
35	SLU 34	42	-42	1432	0	0	0
35	SLU 35	41	-43	1452	0	0	0
35	SLU 36	42	-42	1453	0	0	0
35	SLU 37	41	-43	1443	0	0	0
35	SLU 38	42	-42	1445	0	0	0
35	SLU 39	42	-46	1477	0	0	0
35	SLU 40	43	-45	1479	0	0	0
35	SLU 41	42	-45	1492	0	0	0
35	SLU 42	43	-44	1494	0	0	0
35	SLU 43	39	-50	1377	0	0	0
35	SLU 44	40	-48	1380	0	0	0
35	SLU 45	40	-49	1400	0	0	0
35	SLU 46	41	-48	1402	0	0	0
35	SLU 47	41	-47	1395	0	0	0
35	SLU 48	40	-49	1414	0	0	0
35	SLU 49	41	-48	1416	0	0	0
35	SLU 50	40	-49	1406	0	0	0
35	SLU 51	41	-48	1408	0	0	0
35	SLU 52	44	-52	1527	0	0	0
35	SLU 53	43	-54	1547	0	0	0
35	SLU 54	44	-53	1549	0	0	0
35	SLU 55	44	-52	1542	0	0	0
35	SLU 56	44	-53	1562	0	0	0
35	SLU 57	44	-52	1564	0	0	0
35	SLU 58	43	-53	1554	0	0	0
35	SLU 59	44	-52	1555	0	0	0
35	SLU 60	44	-56	1587	0	0	0
35	SLU 61	45	-55	1589	0	0	0
35	SLU 62	44	-56	1602	0	0	0
35	SLU 63	45	-54	1604	0	0	0
35	SLU 64	45	-51	1541	0	0	0
35	SLU 65	46	-49	1544	0	0	0
35	SLU 66	45	-50	1564	0	0	0
35	SLU 67	46	-49	1566	0	0	0
35	SLU 68	46	-48	1559	0	0	0
35	SLU 69	46	-50	1579	0	0	0
35	SLU 70	46	-49	1580	0	0	0
35	SLU 71	45	-50	1570	0	0	0
35	SLU 72	46	-49	1572	0	0	0
35	SLU 73	49	-53	1691	0	0	0
35	SLU 74	49	-55	1711	0	0	0
35	SLU 75	49	-54	1713	0	0	0
35	SLU 76	50	-53	1706	0	0	0
35	SLU 77	49	-54	1726	0	0	0
35	SLU 78	50	-53	1728	0	0	0
35	SLU 79	49	-54	1718	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
35	SLU 80	49	-53	1720	0	0	0
35	SLU 81	49	-57	1752	0	0	0
35	SLU 82	50	-56	1753	0	0	0
35	SLU 83	50	-57	1766	0	0	0
35	SLU 84	50	-56	1768	0	0	0
35	SLE RA 1	33	-39	1149	0	0	0
35	SLE RA 2	34	-37	1151	0	0	0
35	SLE RA 3	34	-38	1165	0	0	0
35	SLE RA 4	34	-38	1166	0	0	0
35	SLE RA 5	34	-37	1161	0	0	0
35	SLE RA 6	34	-38	1174	0	0	0
35	SLE RA 7	34	-38	1176	0	0	0
35	SLE RA 8	34	-38	1169	0	0	0
35	SLE RA 9	34	-38	1170	0	0	0
35	SLE RA 10	36	-40	1250	0	0	0
35	SLE RA 11	36	-41	1263	0	0	0
35	SLE RA 12	36	-41	1264	0	0	0
35	SLE RA 13	36	-40	1259	0	0	0
35	SLE RA 14	36	-41	1273	0	0	0
35	SLE RA 15	36	-40	1274	0	0	0
35	SLE RA 16	36	-41	1267	0	0	0
35	SLE RA 17	36	-40	1268	0	0	0
35	SLE RA 18	36	-43	1290	0	0	0
35	SLE RA 19	37	-42	1291	0	0	0
35	SLE RA 20	37	-43	1299	0	0	0
35	SLE RA 21	37	-42	1301	0	0	0
35	SLE FR 1	33	-39	1149	0	0	0
35	SLE FR 2	33	-38	1150	0	0	0
35	SLE FR 3	33	-39	1153	0	0	0
35	SLE FR 4	34	-40	1192	0	0	0
35	SLE FR 5	34	-40	1195	0	0	0
35	SLE FR 6	35	-41	1219	0	0	0
35	SLE QP 1	33	-39	1149	0	0	0
35	SLE QP 2	34	-40	1191	0	0	0
35	SLD 1	97	-33	1228	0	0	0
35	SLD 2	101	-32	1231	0	0	0
35	SLD 3	81	-51	1171	0	0	0
35	SLD 4	85	-50	1174	0	0	0
35	SLD 5	76	-12	1288	0	0	0
35	SLD 6	79	-11	1290	0	0	0
35	SLD 7	23	-70	1098	0	0	0
35	SLD 8	26	-69	1100	0	0	0
35	SLD 9	42	-11	1283	0	0	0
35	SLD 10	45	-10	1285	0	0	0
35	SLD 11	-11	-69	1093	0	0	0
35	SLD 12	-8	-68	1095	0	0	0
35	SLD 13	-17	-30	1209	0	0	0
35	SLD 14	-12	-29	1212	0	0	0
35	SLD 15	-33	-48	1152	0	0	0
35	SLD 16	-28	-47	1155	0	0	0
35	SLV 1	133	-28	1253	0	0	0
35	SLV 2	140	-27	1257	0	0	0
35	SLV 3	106	-58	1155	0	0	0
35	SLV 4	113	-57	1160	0	0	0
35	SLV 5	104	8	1356	0	0	0
35	SLV 6	108	9	1359	0	0	0
35	SLV 7	13	-91	1032	0	0	0
35	SLV 8	18	-90	1035	0	0	0
35	SLV 9	50	10	1347	0	0	0
35	SLV 10	55	11	1351	0	0	0
35	SLV 11	-40	-89	1023	0	0	0
35	SLV 12	-35	-88	1026	0	0	0
35	SLV 13	-45	-23	1223	0	0	0
35	SLV 14	-38	-22	1228	0	0	0
35	SLV 15	-72	-53	1126	0	0	0
35	SLV 16	-65	-52	1130	0	0	0
35	SLV FO 1	143	-27	1259	0	0	0
35	SLV FO 2	151	-26	1264	0	0	0
35	SLV FO 3	113	-60	1152	0	0	0
35	SLV FO 4	121	-58	1157	0	0	0
35	SLV FO 5	111	13	1373	0	0	0
35	SLV FO 6	116	14	1376	0	0	0
35	SLV FO 7	11	-96	1016	0	0	0
35	SLV FO 8	16	-95	1020	0	0	0
35	SLV FO 9	52	15	1363	0	0	0
35	SLV FO 10	57	16	1367	0	0	0
35	SLV FO 11	-48	-94	1006	0	0	0
35	SLV FO 12	-42	-93	1010	0	0	0
35	SLV FO 13	-53	-22	1226	0	0	0
35	SLV FO 14	-45	-20	1231	0	0	0
35	SLV FO 15	-83	-54	1119	0	0	0
35	SLV FO 16	-75	-53	1124	0	0	0
36	SLU 1	32	-35	1148	0	0	0
36	SLU 2	33	-33	1152	0	0	0
36	SLU 3	32	-35	1172	0	0	0
36	SLU 4	33	-33	1175	0	0	0
36	SLU 5	33	-32	1168	0	0	0
36	SLU 6	32	-34	1187	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLU 7	33	-33	1190	0	0	0
36	SLU 8	32	-35	1178	0	0	0
36	SLU 9	33	-33	1181	0	0	0
36	SLU 10	36	-37	1305	0	0	0
36	SLU 11	35	-39	1325	0	0	0
36	SLU 12	36	-38	1328	0	0	0
36	SLU 13	36	-37	1321	0	0	0
36	SLU 14	36	-39	1340	0	0	0
36	SLU 15	37	-37	1343	0	0	0
36	SLU 16	36	-39	1331	0	0	0
36	SLU 17	36	-37	1334	0	0	0
36	SLU 18	36	-41	1366	0	0	0
36	SLU 19	37	-40	1369	0	0	0
36	SLU 20	37	-41	1382	0	0	0
36	SLU 21	37	-39	1384	0	0	0
36	SLU 22	37	-36	1320	0	0	0
36	SLU 23	38	-34	1325	0	0	0
36	SLU 24	37	-35	1344	0	0	0
36	SLU 25	38	-34	1347	0	0	0
36	SLU 26	38	-33	1340	0	0	0
36	SLU 27	38	-35	1359	0	0	0
36	SLU 28	38	-34	1362	0	0	0
36	SLU 29	37	-35	1350	0	0	0
36	SLU 30	38	-34	1353	0	0	0
36	SLU 31	41	-38	1478	0	0	0
36	SLU 32	41	-40	1497	0	0	0
36	SLU 33	42	-38	1500	0	0	0
36	SLU 34	42	-37	1493	0	0	0
36	SLU 35	41	-39	1512	0	0	0
36	SLU 36	42	-38	1515	0	0	0
36	SLU 37	41	-39	1503	0	0	0
36	SLU 38	42	-38	1506	0	0	0
36	SLU 39	42	-42	1539	0	0	0
36	SLU 40	42	-40	1541	0	0	0
36	SLU 41	42	-42	1554	0	0	0
36	SLU 42	43	-40	1557	0	0	0
36	SLU 43	39	-45	1433	0	0	0
36	SLU 44	40	-43	1438	0	0	0
36	SLU 45	40	-45	1457	0	0	0
36	SLU 46	40	-44	1460	0	0	0
36	SLU 47	41	-43	1453	0	0	0
36	SLU 48	40	-45	1472	0	0	0
36	SLU 49	41	-43	1475	0	0	0
36	SLU 50	40	-45	1464	0	0	0
36	SLU 51	40	-43	1466	0	0	0
36	SLU 52	44	-47	1591	0	0	0
36	SLU 53	43	-49	1610	0	0	0
36	SLU 54	44	-48	1613	0	0	0
36	SLU 55	44	-47	1606	0	0	0
36	SLU 56	43	-49	1625	0	0	0
36	SLU 57	44	-48	1628	0	0	0
36	SLU 58	43	-49	1616	0	0	0
36	SLU 59	44	-48	1619	0	0	0
36	SLU 60	44	-51	1652	0	0	0
36	SLU 61	45	-50	1654	0	0	0
36	SLU 62	44	-51	1667	0	0	0
36	SLU 63	45	-50	1670	0	0	0
36	SLU 64	44	-46	1605	0	0	0
36	SLU 65	46	-44	1610	0	0	0
36	SLU 66	45	-46	1629	0	0	0
36	SLU 67	46	-44	1632	0	0	0
36	SLU 68	46	-43	1625	0	0	0
36	SLU 69	45	-45	1645	0	0	0
36	SLU 70	46	-44	1647	0	0	0
36	SLU 71	45	-46	1636	0	0	0
36	SLU 72	46	-44	1639	0	0	0
36	SLU 73	49	-48	1763	0	0	0
36	SLU 74	48	-50	1782	0	0	0
36	SLU 75	49	-49	1785	0	0	0
36	SLU 76	49	-48	1778	0	0	0
36	SLU 77	49	-50	1797	0	0	0
36	SLU 78	49	-48	1800	0	0	0
36	SLU 79	48	-50	1789	0	0	0
36	SLU 80	49	-48	1792	0	0	0
36	SLU 81	49	-52	1824	0	0	0
36	SLU 82	50	-51	1827	0	0	0
36	SLU 83	50	-52	1839	0	0	0
36	SLU 84	50	-50	1842	0	0	0
36	SLE RA 1	33	-35	1197	0	0	0
36	SLE RA 2	34	-34	1200	0	0	0
36	SLE RA 3	33	-35	1213	0	0	0
36	SLE RA 4	34	-34	1215	0	0	0
36	SLE RA 5	34	-34	1210	0	0	0
36	SLE RA 6	34	-35	1223	0	0	0
36	SLE RA 7	34	-34	1225	0	0	0
36	SLE RA 8	33	-35	1217	0	0	0
36	SLE RA 9	34	-34	1219	0	0	0
36	SLE RA 10	36	-37	1302	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLE RA 11	36	-38	1315	0	0	0
36	SLE RA 12	36	-37	1317	0	0	0
36	SLE RA 13	36	-36	1312	0	0	0
36	SLE RA 14	36	-38	1325	0	0	0
36	SLE RA 15	36	-37	1327	0	0	0
36	SLE RA 16	36	-38	1319	0	0	0
36	SLE RA 17	36	-37	1321	0	0	0
36	SLE RA 18	36	-39	1343	0	0	0
36	SLE RA 19	37	-38	1345	0	0	0
36	SLE RA 20	36	-39	1353	0	0	0
36	SLE RA 21	37	-38	1355	0	0	0
36	SLE FR 1	33	-35	1197	0	0	0
36	SLE FR 2	33	-35	1198	0	0	0
36	SLE FR 3	33	-35	1201	0	0	0
36	SLE FR 4	34	-36	1241	0	0	0
36	SLE FR 5	34	-36	1245	0	0	0
36	SLE FR 6	35	-37	1270	0	0	0
36	SLE QP 1	33	-35	1197	0	0	0
36	SLE QP 2	34	-36	1241	0	0	0
36	SLD 1	96	-25	1214	0	0	0
36	SLD 2	101	-19	1217	0	0	0
36	SLD 3	80	-47	1137	0	0	0
36	SLD 4	85	-41	1140	0	0	0
36	SLD 5	76	0	1350	0	0	0
36	SLD 6	79	4	1351	0	0	0
36	SLD 7	23	-75	1092	0	0	0
36	SLD 8	26	-71	1094	0	0	0
36	SLD 9	42	-2	1388	0	0	0
36	SLD 10	45	2	1389	0	0	0
36	SLD 11	-11	-77	1130	0	0	0
36	SLD 12	-8	-73	1132	0	0	0
36	SLD 13	-17	-32	1342	0	0	0
36	SLD 14	-12	-26	1344	0	0	0
36	SLD 15	-33	-54	1264	0	0	0
36	SLD 16	-28	-48	1267	0	0	0
36	SLV 1	133	-17	1205	0	0	0
36	SLV 2	140	-7	1209	0	0	0
36	SLV 3	106	-55	1073	0	0	0
36	SLV 4	113	-46	1078	0	0	0
36	SLV 5	103	26	1429	0	0	0
36	SLV 6	108	32	1432	0	0	0
36	SLV 7	13	-101	990	0	0	0
36	SLV 8	18	-95	993	0	0	0
36	SLV 9	50	22	1489	0	0	0
36	SLV 10	55	29	1492	0	0	0
36	SLV 11	-40	-105	1049	0	0	0
36	SLV 12	-35	-99	1052	0	0	0
36	SLV 13	-45	-27	1404	0	0	0
36	SLV 14	-38	-18	1408	0	0	0
36	SLV 15	-72	-65	1272	0	0	0
36	SLV 16	-65	-56	1276	0	0	0
36	SLV FO 1	143	-15	1202	0	0	0
36	SLV FO 2	150	-4	1206	0	0	0
36	SLV FO 3	113	-57	1057	0	0	0
36	SLV FO 4	121	-46	1061	0	0	0
36	SLV FO 5	110	32	1448	0	0	0
36	SLV FO 6	116	39	1451	0	0	0
36	SLV FO 7	11	-108	965	0	0	0
36	SLV FO 8	16	-101	968	0	0	0
36	SLV FO 9	52	28	1514	0	0	0
36	SLV FO 10	57	35	1517	0	0	0
36	SLV FO 11	-48	-112	1030	0	0	0
36	SLV FO 12	-42	-105	1033	0	0	0
36	SLV FO 13	-53	-26	1420	0	0	0
36	SLV FO 14	-45	-16	1425	0	0	0
36	SLV FO 15	-82	-68	1275	0	0	0
36	SLV FO 16	-75	-58	1280	0	0	0
36	CRTFP Uy+	0	0	0	0	0	0
36	CRTFP Uy-	0	0	0	0	0	0
37	SLU 1	19	-24	667	0	0	0
37	SLU 2	20	-23	669	0	0	0
37	SLU 3	20	-24	681	0	0	0
37	SLU 4	20	-23	682	0	0	0
37	SLU 5	20	-23	677	0	0	0
37	SLU 6	20	-24	690	0	0	0
37	SLU 7	20	-23	691	0	0	0
37	SLU 8	20	-24	685	0	0	0
37	SLU 9	20	-23	686	0	0	0
37	SLU 10	22	-26	758	0	0	0
37	SLU 11	22	-27	770	0	0	0
37	SLU 12	22	-26	771	0	0	0
37	SLU 13	22	-26	767	0	0	0
37	SLU 14	22	-27	779	0	0	0
37	SLU 15	23	-26	780	0	0	0
37	SLU 16	22	-27	774	0	0	0
37	SLU 17	22	-26	775	0	0	0
37	SLU 18	22	-28	794	0	0	0
37	SLU 19	23	-28	795	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
37	SLU 20	23	-28	803	0	0	0
37	SLU 21	23	-27	804	0	0	0
37	SLU 22	23	-25	766	0	0	0
37	SLU 23	23	-24	768	0	0	0
37	SLU 24	23	-25	780	0	0	0
37	SLU 25	24	-24	781	0	0	0
37	SLU 26	24	-24	776	0	0	0
37	SLU 27	23	-25	789	0	0	0
37	SLU 28	24	-24	790	0	0	0
37	SLU 29	23	-25	784	0	0	0
37	SLU 30	24	-24	785	0	0	0
37	SLU 31	26	-27	857	0	0	0
37	SLU 32	25	-28	869	0	0	0
37	SLU 33	26	-27	870	0	0	0
37	SLU 34	26	-26	866	0	0	0
37	SLU 35	25	-27	878	0	0	0
37	SLU 36	26	-27	879	0	0	0
37	SLU 37	25	-27	873	0	0	0
37	SLU 38	26	-27	874	0	0	0
37	SLU 39	26	-29	893	0	0	0
37	SLU 40	26	-28	894	0	0	0
37	SLU 41	26	-29	902	0	0	0
37	SLU 42	26	-28	903	0	0	0
37	SLU 43	24	-31	833	0	0	0
37	SLU 44	25	-30	835	0	0	0
37	SLU 45	25	-31	847	0	0	0
37	SLU 46	25	-31	848	0	0	0
37	SLU 47	25	-30	844	0	0	0
37	SLU 48	25	-31	856	0	0	0
37	SLU 49	25	-30	857	0	0	0
37	SLU 50	25	-31	851	0	0	0
37	SLU 51	25	-30	852	0	0	0
37	SLU 52	27	-33	924	0	0	0
37	SLU 53	27	-34	936	0	0	0
37	SLU 54	27	-33	937	0	0	0
37	SLU 55	27	-33	933	0	0	0
37	SLU 56	27	-34	945	0	0	0
37	SLU 57	27	-33	946	0	0	0
37	SLU 58	27	-34	940	0	0	0
37	SLU 59	27	-33	941	0	0	0
37	SLU 60	27	-35	961	0	0	0
37	SLU 61	28	-35	962	0	0	0
37	SLU 62	27	-35	969	0	0	0
37	SLU 63	28	-34	970	0	0	0
37	SLU 64	27	-32	932	0	0	0
37	SLU 65	28	-31	934	0	0	0
37	SLU 66	28	-32	946	0	0	0
37	SLU 67	28	-31	947	0	0	0
37	SLU 68	28	-31	943	0	0	0
37	SLU 69	28	-32	955	0	0	0
37	SLU 70	28	-31	956	0	0	0
37	SLU 71	28	-32	950	0	0	0
37	SLU 72	28	-31	951	0	0	0
37	SLU 73	30	-34	1023	0	0	0
37	SLU 74	30	-35	1035	0	0	0
37	SLU 75	30	-34	1036	0	0	0
37	SLU 76	30	-34	1032	0	0	0
37	SLU 77	30	-34	1044	0	0	0
37	SLU 78	31	-34	1045	0	0	0
37	SLU 79	30	-34	1039	0	0	0
37	SLU 80	30	-34	1040	0	0	0
37	SLU 81	30	-36	1060	0	0	0
37	SLU 82	31	-35	1061	0	0	0
37	SLU 83	31	-36	1068	0	0	0
37	SLU 84	31	-35	1069	0	0	0
37	SLE RA 1	20	-24	695	0	0	0
37	SLE RA 2	21	-24	696	0	0	0
37	SLE RA 3	21	-24	705	0	0	0
37	SLE RA 4	21	-24	705	0	0	0
37	SLE RA 5	21	-24	702	0	0	0
37	SLE RA 6	21	-24	710	0	0	0
37	SLE RA 7	21	-24	711	0	0	0
37	SLE RA 8	21	-24	707	0	0	0
37	SLE RA 9	21	-24	708	0	0	0
37	SLE RA 10	22	-26	756	0	0	0
37	SLE RA 11	22	-26	764	0	0	0
37	SLE RA 12	22	-26	765	0	0	0
37	SLE RA 13	22	-26	762	0	0	0
37	SLE RA 14	22	-26	770	0	0	0
37	SLE RA 15	22	-26	771	0	0	0
37	SLE RA 16	22	-26	767	0	0	0
37	SLE RA 17	22	-26	767	0	0	0
37	SLE RA 18	22	-27	780	0	0	0
37	SLE RA 19	23	-27	781	0	0	0
37	SLE RA 20	23	-27	786	0	0	0
37	SLE RA 21	23	-27	787	0	0	0
37	SLE FR 1	20	-24	695	0	0	0
37	SLE FR 2	20	-24	695	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
37	SLE FR 3	20	-24	698	0	0	0
37	SLE FR 4	21	-25	721	0	0	0
37	SLE FR 5	21	-25	723	0	0	0
37	SLE FR 6	21	-26	738	0	0	0
37	SLE QP 1	20	-24	695	0	0	0
37	SLE QP 2	21	-25	721	0	0	0
37	SLD 1	59	-21	754	0	0	0
37	SLD 2	62	-22	756	0	0	0
37	SLD 3	50	-31	724	0	0	0
37	SLD 4	52	-31	725	0	0	0
37	SLD 5	47	-9	777	0	0	0
37	SLD 6	49	-10	778	0	0	0
37	SLD 7	14	-42	675	0	0	0
37	SLD 8	16	-42	676	0	0	0
37	SLD 9	26	-9	765	0	0	0
37	SLD 10	28	-9	767	0	0	0
37	SLD 11	-7	-41	663	0	0	0
37	SLD 12	-5	-41	665	0	0	0
37	SLD 13	-10	-19	716	0	0	0
37	SLD 14	-8	-20	718	0	0	0
37	SLD 15	-20	-29	686	0	0	0
37	SLD 16	-17	-29	687	0	0	0
37	SLV 1	82	-18	775	0	0	0
37	SLV 2	86	-19	778	0	0	0
37	SLV 3	65	-35	723	0	0	0
37	SLV 4	70	-36	726	0	0	0
37	SLV 5	64	2	816	0	0	0
37	SLV 6	67	2	818	0	0	0
37	SLV 7	8	-53	642	0	0	0
37	SLV 8	11	-54	644	0	0	0
37	SLV 9	31	3	798	0	0	0
37	SLV 10	34	3	800	0	0	0
37	SLV 11	-25	-52	624	0	0	0
37	SLV 12	-22	-53	626	0	0	0
37	SLV 13	-28	-15	716	0	0	0
37	SLV 14	-23	-16	719	0	0	0
37	SLV 15	-44	-31	663	0	0	0
37	SLV 16	-40	-32	666	0	0	0
37	SLV FO 1	88	-18	781	0	0	0
37	SLV FO 2	93	-18	784	0	0	0
37	SLV FO 3	70	-36	723	0	0	0
37	SLV FO 4	74	-37	726	0	0	0
37	SLV FO 5	68	5	825	0	0	0
37	SLV FO 6	71	4	827	0	0	0
37	SLV FO 7	7	-56	634	0	0	0
37	SLV FO 8	10	-57	636	0	0	0
37	SLV FO 9	32	6	806	0	0	0
37	SLV FO 10	35	5	808	0	0	0
37	SLV FO 11	-29	-55	614	0	0	0
37	SLV FO 12	-26	-55	616	0	0	0
37	SLV FO 13	-32	-14	715	0	0	0
37	SLV FO 14	-28	-15	718	0	0	0
37	SLV FO 15	-51	-32	658	0	0	0
37	SLV FO 16	-46	-33	661	0	0	0
38	SLU 1	24	-29	853	0	0	0
38	SLU 2	25	-27	856	0	0	0
38	SLU 3	25	-29	871	0	0	0
38	SLU 4	25	-28	873	0	0	0
38	SLU 5	25	-27	867	0	0	0
38	SLU 6	25	-28	882	0	0	0
38	SLU 7	26	-28	884	0	0	0
38	SLU 8	25	-29	876	0	0	0
38	SLU 9	25	-28	877	0	0	0
38	SLU 10	28	-31	970	0	0	0
38	SLU 11	27	-32	985	0	0	0
38	SLU 12	28	-31	987	0	0	0
38	SLU 13	28	-31	981	0	0	0
38	SLU 14	28	-32	996	0	0	0
38	SLU 15	28	-31	998	0	0	0
38	SLU 16	27	-32	990	0	0	0
38	SLU 17	28	-31	991	0	0	0
38	SLU 18	28	-34	1016	0	0	0
38	SLU 19	29	-33	1018	0	0	0
38	SLU 20	28	-34	1027	0	0	0
38	SLU 21	29	-33	1029	0	0	0
38	SLU 22	28	-30	980	0	0	0
38	SLU 23	29	-28	983	0	0	0
38	SLU 24	29	-29	998	0	0	0
38	SLU 25	29	-29	1000	0	0	0
38	SLU 26	30	-28	994	0	0	0
38	SLU 27	29	-29	1010	0	0	0
38	SLU 28	30	-28	1011	0	0	0
38	SLU 29	29	-29	1003	0	0	0
38	SLU 30	29	-28	1005	0	0	0
38	SLU 31	32	-32	1097	0	0	0
38	SLU 32	31	-33	1112	0	0	0
38	SLU 33	32	-32	1114	0	0	0
38	SLU 34	32	-31	1108	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLU 35	32	-33	1124	0	0	0
38	SLU 36	32	-32	1125	0	0	0
38	SLU 37	31	-33	1117	0	0	0
38	SLU 38	32	-32	1119	0	0	0
38	SLU 39	32	-35	1143	0	0	0
38	SLU 40	33	-34	1145	0	0	0
38	SLU 41	32	-34	1155	0	0	0
38	SLU 42	33	-33	1156	0	0	0
38	SLU 43	30	-37	1065	0	0	0
38	SLU 44	31	-36	1068	0	0	0
38	SLU 45	31	-37	1083	0	0	0
38	SLU 46	31	-36	1085	0	0	0
38	SLU 47	31	-36	1079	0	0	0
38	SLU 48	31	-37	1095	0	0	0
38	SLU 49	31	-36	1096	0	0	0
38	SLU 50	31	-37	1088	0	0	0
38	SLU 51	31	-36	1090	0	0	0
38	SLU 52	34	-39	1182	0	0	0
38	SLU 53	33	-41	1197	0	0	0
38	SLU 54	34	-40	1199	0	0	0
38	SLU 55	34	-39	1193	0	0	0
38	SLU 56	33	-40	1209	0	0	0
38	SLU 57	34	-39	1210	0	0	0
38	SLU 58	33	-40	1202	0	0	0
38	SLU 59	34	-39	1204	0	0	0
38	SLU 60	34	-42	1228	0	0	0
38	SLU 61	34	-41	1230	0	0	0
38	SLU 62	34	-42	1240	0	0	0
38	SLU 63	35	-41	1241	0	0	0
38	SLU 64	34	-38	1193	0	0	0
38	SLU 65	35	-37	1195	0	0	0
38	SLU 66	35	-38	1211	0	0	0
38	SLU 67	35	-37	1212	0	0	0
38	SLU 68	35	-36	1207	0	0	0
38	SLU 69	35	-38	1222	0	0	0
38	SLU 70	35	-37	1223	0	0	0
38	SLU 71	35	-38	1215	0	0	0
38	SLU 72	35	-37	1217	0	0	0
38	SLU 73	38	-40	1309	0	0	0
38	SLU 74	37	-41	1325	0	0	0
38	SLU 75	38	-40	1326	0	0	0
38	SLU 76	38	-40	1321	0	0	0
38	SLU 77	38	-41	1336	0	0	0
38	SLU 78	38	-40	1337	0	0	0
38	SLU 79	37	-41	1329	0	0	0
38	SLU 80	38	-40	1331	0	0	0
38	SLU 81	38	-43	1356	0	0	0
38	SLU 82	38	-42	1357	0	0	0
38	SLU 83	38	-43	1367	0	0	0
38	SLU 84	39	-42	1369	0	0	0
38	SLE RA 1	25	-29	890	0	0	0
38	SLE RA 2	26	-28	891	0	0	0
38	SLE RA 3	26	-29	901	0	0	0
38	SLE RA 4	26	-28	902	0	0	0
38	SLE RA 5	26	-28	899	0	0	0
38	SLE RA 6	26	-29	909	0	0	0
38	SLE RA 7	26	-28	910	0	0	0
38	SLE RA 8	26	-29	905	0	0	0
38	SLE RA 9	26	-28	906	0	0	0
38	SLE RA 10	28	-30	967	0	0	0
38	SLE RA 11	27	-31	977	0	0	0
38	SLE RA 12	28	-31	978	0	0	0
38	SLE RA 13	28	-30	975	0	0	0
38	SLE RA 14	28	-31	985	0	0	0
38	SLE RA 15	28	-31	986	0	0	0
38	SLE RA 16	27	-31	981	0	0	0
38	SLE RA 17	28	-31	982	0	0	0
38	SLE RA 18	28	-32	998	0	0	0
38	SLE RA 19	28	-32	999	0	0	0
38	SLE RA 20	28	-32	1006	0	0	0
38	SLE RA 21	28	-32	1007	0	0	0
38	SLE FR 1	25	-29	890	0	0	0
38	SLE FR 2	26	-29	890	0	0	0
38	SLE FR 3	25	-29	893	0	0	0
38	SLE FR 4	26	-30	922	0	0	0
38	SLE FR 5	26	-30	925	0	0	0
38	SLE FR 6	27	-31	944	0	0	0
38	SLE QP 1	25	-29	890	0	0	0
38	SLE QP 2	26	-30	922	0	0	0
38	SLD 1	74	-25	937	0	0	0
38	SLD 2	78	-24	939	0	0	0
38	SLD 3	62	-39	891	0	0	0
38	SLD 4	65	-38	893	0	0	0
38	SLD 5	58	-7	996	0	0	0
38	SLD 6	61	-7	998	0	0	0
38	SLD 7	18	-54	842	0	0	0
38	SLD 8	20	-54	843	0	0	0
38	SLD 9	32	-7	1001	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLD 10	35	-6	1002	0	0	0
38	SLD 11	-8	-54	846	0	0	0
38	SLD 12	-6	-53	848	0	0	0
38	SLD 13	-13	-23	951	0	0	0
38	SLD 14	-10	-21	954	0	0	0
38	SLD 15	-25	-37	905	0	0	0
38	SLD 16	-22	-35	907	0	0	0
38	SLV 1	102	-21	949	0	0	0
38	SLV 2	108	-19	952	0	0	0
38	SLV 3	81	-45	870	0	0	0
38	SLV 4	87	-43	873	0	0	0
38	SLV 5	80	9	1049	0	0	0
38	SLV 6	83	10	1052	0	0	0
38	SLV 7	10	-72	786	0	0	0
38	SLV 8	14	-70	788	0	0	0
38	SLV 9	39	10	1056	0	0	0
38	SLV 10	42	11	1058	0	0	0
38	SLV 11	-31	-70	793	0	0	0
38	SLV 12	-27	-69	795	0	0	0
38	SLV 13	-34	-17	971	0	0	0
38	SLV 14	-29	-15	975	0	0	0
38	SLV 15	-55	-41	892	0	0	0
38	SLV 16	-50	-39	896	0	0	0
38	SLV FO 1	110	-20	951	0	0	0
38	SLV FO 2	116	-18	955	0	0	0
38	SLV FO 3	87	-47	864	0	0	0
38	SLV FO 4	93	-44	868	0	0	0
38	SLV FO 5	85	13	1062	0	0	0
38	SLV FO 6	89	14	1065	0	0	0
38	SLV FO 7	9	-76	772	0	0	0
38	SLV FO 8	13	-74	775	0	0	0
38	SLV FO 9	40	14	1070	0	0	0
38	SLV FO 10	44	16	1072	0	0	0
38	SLV FO 11	-37	-75	780	0	0	0
38	SLV FO 12	-33	-73	782	0	0	0
38	SLV FO 13	-40	-16	976	0	0	0
38	SLV FO 14	-34	-13	980	0	0	0
38	SLV FO 15	-63	-42	889	0	0	0
38	SLV FO 16	-57	-40	893	0	0	0
39	SLU 1	24	-29	862	0	0	0
39	SLU 2	25	-27	864	0	0	0
39	SLU 3	25	-28	880	0	0	0
39	SLU 4	25	-27	881	0	0	0
39	SLU 5	25	-27	876	0	0	0
39	SLU 6	25	-28	891	0	0	0
39	SLU 7	26	-27	893	0	0	0
39	SLU 8	25	-28	885	0	0	0
39	SLU 9	25	-27	886	0	0	0
39	SLU 10	28	-30	979	0	0	0
39	SLU 11	27	-32	995	0	0	0
39	SLU 12	28	-31	996	0	0	0
39	SLU 13	28	-30	991	0	0	0
39	SLU 14	28	-31	1006	0	0	0
39	SLU 15	28	-30	1008	0	0	0
39	SLU 16	27	-31	1000	0	0	0
39	SLU 17	28	-30	1001	0	0	0
39	SLU 18	28	-33	1026	0	0	0
39	SLU 19	29	-32	1028	0	0	0
39	SLU 20	28	-33	1037	0	0	0
39	SLU 21	29	-32	1039	0	0	0
39	SLU 22	28	-29	990	0	0	0
39	SLU 23	29	-28	993	0	0	0
39	SLU 24	29	-29	1008	0	0	0
39	SLU 25	29	-28	1010	0	0	0
39	SLU 26	30	-27	1005	0	0	0
39	SLU 27	29	-29	1020	0	0	0
39	SLU 28	30	-28	1021	0	0	0
39	SLU 29	29	-29	1013	0	0	0
39	SLU 30	29	-28	1015	0	0	0
39	SLU 31	32	-31	1108	0	0	0
39	SLU 32	31	-32	1123	0	0	0
39	SLU 33	32	-31	1125	0	0	0
39	SLU 34	32	-31	1120	0	0	0
39	SLU 35	32	-32	1135	0	0	0
39	SLU 36	32	-31	1136	0	0	0
39	SLU 37	31	-32	1128	0	0	0
39	SLU 38	32	-31	1130	0	0	0
39	SLU 39	32	-34	1155	0	0	0
39	SLU 40	33	-33	1156	0	0	0
39	SLU 41	32	-34	1166	0	0	0
39	SLU 42	33	-33	1168	0	0	0
39	SLU 43	30	-37	1076	0	0	0
39	SLU 44	31	-35	1079	0	0	0
39	SLU 45	31	-37	1094	0	0	0
39	SLU 46	31	-36	1096	0	0	0
39	SLU 47	31	-35	1090	0	0	0
39	SLU 48	31	-36	1105	0	0	0
39	SLU 49	31	-35	1107	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLU 50	31	-36	1099	0	0	0
39	SLU 51	31	-35	1101	0	0	0
39	SLU 52	34	-39	1194	0	0	0
39	SLU 53	33	-40	1209	0	0	0
39	SLU 54	34	-39	1211	0	0	0
39	SLU 55	34	-38	1205	0	0	0
39	SLU 56	34	-40	1220	0	0	0
39	SLU 57	34	-39	1222	0	0	0
39	SLU 58	33	-40	1214	0	0	0
39	SLU 59	34	-39	1216	0	0	0
39	SLU 60	34	-42	1240	0	0	0
39	SLU 61	34	-41	1242	0	0	0
39	SLU 62	34	-41	1252	0	0	0
39	SLU 63	35	-40	1253	0	0	0
39	SLU 64	34	-38	1205	0	0	0
39	SLU 65	35	-36	1208	0	0	0
39	SLU 66	35	-37	1223	0	0	0
39	SLU 67	35	-36	1224	0	0	0
39	SLU 68	35	-36	1219	0	0	0
39	SLU 69	35	-37	1234	0	0	0
39	SLU 70	36	-36	1236	0	0	0
39	SLU 71	35	-37	1228	0	0	0
39	SLU 72	35	-36	1229	0	0	0
39	SLU 73	38	-39	1323	0	0	0
39	SLU 74	37	-41	1338	0	0	0
39	SLU 75	38	-40	1339	0	0	0
39	SLU 76	38	-39	1334	0	0	0
39	SLU 77	38	-40	1349	0	0	0
39	SLU 78	38	-39	1351	0	0	0
39	SLU 79	37	-40	1343	0	0	0
39	SLU 80	38	-39	1344	0	0	0
39	SLU 81	38	-42	1369	0	0	0
39	SLU 82	39	-41	1371	0	0	0
39	SLU 83	38	-42	1380	0	0	0
39	SLU 84	39	-41	1382	0	0	0
39	SLE RA 1	25	-29	898	0	0	0
39	SLE RA 2	26	-28	900	0	0	0
39	SLE RA 3	26	-29	910	0	0	0
39	SLE RA 4	26	-28	912	0	0	0
39	SLE RA 5	26	-28	908	0	0	0
39	SLE RA 6	26	-28	918	0	0	0
39	SLE RA 7	26	-28	919	0	0	0
39	SLE RA 8	26	-28	914	0	0	0
39	SLE RA 9	26	-28	915	0	0	0
39	SLE RA 10	28	-30	977	0	0	0
39	SLE RA 11	28	-31	987	0	0	0
39	SLE RA 12	28	-30	988	0	0	0
39	SLE RA 13	28	-30	985	0	0	0
39	SLE RA 14	28	-31	995	0	0	0
39	SLE RA 15	28	-30	996	0	0	0
39	SLE RA 16	28	-31	990	0	0	0
39	SLE RA 17	28	-30	991	0	0	0
39	SLE RA 18	28	-32	1008	0	0	0
39	SLE RA 19	28	-31	1009	0	0	0
39	SLE RA 20	28	-32	1016	0	0	0
39	SLE RA 21	28	-31	1017	0	0	0
39	SLE FR 1	25	-29	898	0	0	0
39	SLE FR 2	26	-29	899	0	0	0
39	SLE FR 3	26	-29	901	0	0	0
39	SLE FR 4	26	-29	932	0	0	0
39	SLE FR 5	26	-30	934	0	0	0
39	SLE FR 6	27	-30	953	0	0	0
39	SLE QP 1	25	-29	898	0	0	0
39	SLE QP 2	26	-30	931	0	0	0
39	SLD 1	74	-22	938	0	0	0
39	SLD 2	78	-20	940	0	0	0
39	SLD 3	62	-37	888	0	0	0
39	SLD 4	66	-35	891	0	0	0
39	SLD 5	59	-5	1008	0	0	0
39	SLD 6	61	-4	1009	0	0	0
39	SLD 7	18	-55	843	0	0	0
39	SLD 8	20	-53	844	0	0	0
39	SLD 9	32	-6	1018	0	0	0
39	SLD 10	35	-5	1020	0	0	0
39	SLD 11	-8	-56	853	0	0	0
39	SLD 12	-6	-54	854	0	0	0
39	SLD 13	-13	-25	972	0	0	0
39	SLD 14	-10	-23	974	0	0	0
39	SLD 15	-25	-40	922	0	0	0
39	SLD 16	-22	-37	925	0	0	0
39	SLV 1	102	-16	945	0	0	0
39	SLV 2	108	-13	949	0	0	0
39	SLV 3	81	-42	861	0	0	0
39	SLV 4	87	-38	864	0	0	0
39	SLV 5	80	12	1063	0	0	0
39	SLV 6	83	15	1065	0	0	0
39	SLV 7	10	-73	781	0	0	0
39	SLV 8	14	-70	783	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLV 9	39	11	1079	0	0	0
39	SLV 10	42	13	1081	0	0	0
39	SLV 11	-31	-74	797	0	0	0
39	SLV 12	-27	-72	799	0	0	0
39	SLV 13	-34	-21	998	0	0	0
39	SLV 14	-29	-18	1002	0	0	0
39	SLV 15	-55	-47	914	0	0	0
39	SLV 16	-50	-43	917	0	0	0
39	SLV FO 1	110	-15	947	0	0	0
39	SLV FO 2	116	-11	950	0	0	0
39	SLV FO 3	87	-43	854	0	0	0
39	SLV FO 4	93	-39	857	0	0	0
39	SLV FO 5	85	16	1076	0	0	0
39	SLV FO 6	89	19	1079	0	0	0
39	SLV FO 7	9	-77	766	0	0	0
39	SLV FO 8	13	-74	769	0	0	0
39	SLV FO 9	40	15	1094	0	0	0
39	SLV FO 10	44	17	1096	0	0	0
39	SLV FO 11	-37	-78	784	0	0	0
39	SLV FO 12	-33	-76	786	0	0	0
39	SLV FO 13	-41	-20	1005	0	0	0
39	SLV FO 14	-35	-16	1009	0	0	0
39	SLV FO 15	-64	-48	912	0	0	0
39	SLV FO 16	-58	-44	916	0	0	0
40	SLU 1	24	-28	869	0	0	0
40	SLU 2	25	-26	872	0	0	0
40	SLU 3	25	-28	887	0	0	0
40	SLU 4	25	-27	889	0	0	0
40	SLU 5	25	-26	884	0	0	0
40	SLU 6	25	-28	899	0	0	0
40	SLU 7	26	-27	900	0	0	0
40	SLU 8	25	-28	892	0	0	0
40	SLU 9	25	-27	894	0	0	0
40	SLU 10	28	-30	988	0	0	0
40	SLU 11	27	-31	1003	0	0	0
40	SLU 12	28	-30	1005	0	0	0
40	SLU 13	28	-29	1000	0	0	0
40	SLU 14	28	-31	1015	0	0	0
40	SLU 15	28	-30	1016	0	0	0
40	SLU 16	27	-31	1008	0	0	0
40	SLU 17	28	-30	1010	0	0	0
40	SLU 18	28	-33	1035	0	0	0
40	SLU 19	29	-32	1036	0	0	0
40	SLU 20	28	-33	1046	0	0	0
40	SLU 21	29	-32	1048	0	0	0
40	SLU 22	28	-29	999	0	0	0
40	SLU 23	29	-27	1002	0	0	0
40	SLU 24	29	-28	1017	0	0	0
40	SLU 25	29	-27	1019	0	0	0
40	SLU 26	30	-27	1014	0	0	0
40	SLU 27	29	-28	1029	0	0	0
40	SLU 28	30	-27	1031	0	0	0
40	SLU 29	29	-28	1022	0	0	0
40	SLU 30	29	-27	1024	0	0	0
40	SLU 31	32	-30	1118	0	0	0
40	SLU 32	31	-32	1133	0	0	0
40	SLU 33	32	-31	1135	0	0	0
40	SLU 34	32	-30	1130	0	0	0
40	SLU 35	32	-32	1145	0	0	0
40	SLU 36	32	-31	1146	0	0	0
40	SLU 37	31	-32	1138	0	0	0
40	SLU 38	32	-31	1140	0	0	0
40	SLU 39	32	-33	1165	0	0	0
40	SLU 40	33	-32	1166	0	0	0
40	SLU 41	32	-33	1176	0	0	0
40	SLU 42	33	-32	1178	0	0	0
40	SLU 43	30	-36	1085	0	0	0
40	SLU 44	31	-35	1088	0	0	0
40	SLU 45	31	-36	1103	0	0	0
40	SLU 46	31	-35	1105	0	0	0
40	SLU 47	31	-34	1100	0	0	0
40	SLU 48	31	-36	1115	0	0	0
40	SLU 49	31	-35	1117	0	0	0
40	SLU 50	31	-36	1108	0	0	0
40	SLU 51	31	-35	1110	0	0	0
40	SLU 52	34	-38	1204	0	0	0
40	SLU 53	33	-39	1219	0	0	0
40	SLU 54	34	-38	1221	0	0	0
40	SLU 55	34	-38	1216	0	0	0
40	SLU 56	33	-39	1231	0	0	0
40	SLU 57	34	-38	1233	0	0	0
40	SLU 58	33	-39	1224	0	0	0
40	SLU 59	34	-38	1226	0	0	0
40	SLU 60	34	-41	1251	0	0	0
40	SLU 61	34	-40	1253	0	0	0
40	SLU 62	34	-41	1262	0	0	0
40	SLU 63	35	-40	1264	0	0	0
40	SLU 64	34	-37	1215	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
40	SLU 65	35	-35	1218	0	0	0
40	SLU 66	35	-37	1233	0	0	0
40	SLU 67	35	-36	1235	0	0	0
40	SLU 68	35	-35	1230	0	0	0
40	SLU 69	35	-36	1245	0	0	0
40	SLU 70	36	-35	1247	0	0	0
40	SLU 71	35	-36	1238	0	0	0
40	SLU 72	35	-35	1240	0	0	0
40	SLU 73	38	-39	1334	0	0	0
40	SLU 74	37	-40	1349	0	0	0
40	SLU 75	38	-39	1351	0	0	0
40	SLU 76	38	-38	1346	0	0	0
40	SLU 77	38	-40	1361	0	0	0
40	SLU 78	38	-39	1363	0	0	0
40	SLU 79	37	-40	1354	0	0	0
40	SLU 80	38	-39	1356	0	0	0
40	SLU 81	38	-42	1381	0	0	0
40	SLU 82	39	-41	1383	0	0	0
40	SLU 83	38	-41	1392	0	0	0
40	SLU 84	39	-40	1394	0	0	0
40	SLE RA 1	25	-28	906	0	0	0
40	SLE RA 2	26	-27	908	0	0	0
40	SLE RA 3	26	-28	918	0	0	0
40	SLE RA 4	26	-27	919	0	0	0
40	SLE RA 5	26	-27	916	0	0	0
40	SLE RA 6	26	-28	926	0	0	0
40	SLE RA 7	26	-27	927	0	0	0
40	SLE RA 8	26	-28	921	0	0	0
40	SLE RA 9	26	-27	923	0	0	0
40	SLE RA 10	28	-29	985	0	0	0
40	SLE RA 11	28	-30	995	0	0	0
40	SLE RA 12	28	-30	997	0	0	0
40	SLE RA 13	28	-29	993	0	0	0
40	SLE RA 14	28	-30	1003	0	0	0
40	SLE RA 15	28	-29	1004	0	0	0
40	SLE RA 16	28	-30	999	0	0	0
40	SLE RA 17	28	-29	1000	0	0	0
40	SLE RA 18	28	-31	1017	0	0	0
40	SLE RA 19	28	-31	1018	0	0	0
40	SLE RA 20	28	-31	1024	0	0	0
40	SLE RA 21	28	-31	1025	0	0	0
40	SLE FR 1	25	-28	906	0	0	0
40	SLE FR 2	26	-28	907	0	0	0
40	SLE FR 3	26	-28	909	0	0	0
40	SLE FR 4	26	-29	940	0	0	0
40	SLE FR 5	26	-29	942	0	0	0
40	SLE FR 6	27	-30	961	0	0	0
40	SLE QP 1	25	-28	906	0	0	0
40	SLE QP 2	26	-29	939	0	0	0
40	SLD 1	74	-21	937	0	0	0
40	SLD 2	78	-18	939	0	0	0
40	SLD 3	62	-37	884	0	0	0
40	SLD 4	65	-34	886	0	0	0
40	SLD 5	59	-3	1018	0	0	0
40	SLD 6	61	-2	1020	0	0	0
40	SLD 7	18	-56	842	0	0	0
40	SLD 8	20	-54	844	0	0	0
40	SLD 9	32	-5	1035	0	0	0
40	SLD 10	35	-3	1036	0	0	0
40	SLD 11	-8	-57	859	0	0	0
40	SLD 12	-6	-55	860	0	0	0
40	SLD 13	-13	-25	992	0	0	0
40	SLD 14	-10	-22	994	0	0	0
40	SLD 15	-25	-40	939	0	0	0
40	SLD 16	-22	-37	941	0	0	0
40	SLV 1	102	-15	940	0	0	0
40	SLV 2	108	-10	943	0	0	0
40	SLV 3	81	-42	850	0	0	0
40	SLV 4	87	-37	853	0	0	0
40	SLV 5	80	15	1075	0	0	0
40	SLV 6	83	18	1077	0	0	0
40	SLV 7	10	-74	775	0	0	0
40	SLV 8	14	-71	777	0	0	0
40	SLV 9	39	13	1101	0	0	0
40	SLV 10	42	16	1103	0	0	0
40	SLV 11	-31	-76	801	0	0	0
40	SLV 12	-27	-73	803	0	0	0
40	SLV 13	-34	-21	1026	0	0	0
40	SLV 14	-29	-16	1029	0	0	0
40	SLV 15	-55	-48	936	0	0	0
40	SLV 16	-50	-43	939	0	0	0
40	SLV FO 1	110	-14	940	0	0	0
40	SLV FO 2	116	-9	943	0	0	0
40	SLV FO 3	87	-43	841	0	0	0
40	SLV FO 4	93	-38	844	0	0	0
40	SLV FO 5	85	19	1089	0	0	0
40	SLV FO 6	89	23	1091	0	0	0
40	SLV FO 7	9	-79	759	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
40	SLV FO 8	13	-75	761	0	0	0
40	SLV FO 9	40	17	1117	0	0	0
40	SLV FO 10	44	21	1120	0	0	0
40	SLV FO 11	-37	-81	787	0	0	0
40	SLV FO 12	-33	-77	790	0	0	0
40	SLV FO 13	-41	-20	1034	0	0	0
40	SLV FO 14	-35	-15	1038	0	0	0
40	SLV FO 15	-63	-50	935	0	0	0
40	SLV FO 16	-57	-44	939	0	0	0
41	SLU 1	24	-27	875	0	0	0
41	SLU 2	25	-26	878	0	0	0
41	SLU 3	25	-27	893	0	0	0
41	SLU 4	25	-26	895	0	0	0
41	SLU 5	25	-26	889	0	0	0
41	SLU 6	25	-27	904	0	0	0
41	SLU 7	25	-26	906	0	0	0
41	SLU 8	25	-27	898	0	0	0
41	SLU 9	25	-26	900	0	0	0
41	SLU 10	28	-29	995	0	0	0
41	SLU 11	27	-30	1009	0	0	0
41	SLU 12	28	-29	1011	0	0	0
41	SLU 13	28	-29	1006	0	0	0
41	SLU 14	28	-30	1021	0	0	0
41	SLU 15	28	-29	1023	0	0	0
41	SLU 16	27	-30	1014	0	0	0
41	SLU 17	28	-29	1016	0	0	0
41	SLU 18	28	-32	1041	0	0	0
41	SLU 19	28	-31	1043	0	0	0
41	SLU 20	28	-32	1053	0	0	0
41	SLU 21	29	-31	1055	0	0	0
41	SLU 22	28	-28	1006	0	0	0
41	SLU 23	29	-26	1009	0	0	0
41	SLU 24	29	-28	1024	0	0	0
41	SLU 25	29	-27	1026	0	0	0
41	SLU 26	29	-26	1021	0	0	0
41	SLU 27	29	-28	1036	0	0	0
41	SLU 28	30	-27	1037	0	0	0
41	SLU 29	29	-28	1029	0	0	0
41	SLU 30	29	-27	1031	0	0	0
41	SLU 31	32	-30	1126	0	0	0
41	SLU 32	31	-31	1141	0	0	0
41	SLU 33	32	-30	1143	0	0	0
41	SLU 34	32	-29	1137	0	0	0
41	SLU 35	32	-31	1152	0	0	0
41	SLU 36	32	-30	1154	0	0	0
41	SLU 37	31	-31	1145	0	0	0
41	SLU 38	32	-30	1147	0	0	0
41	SLU 39	32	-33	1172	0	0	0
41	SLU 40	33	-32	1174	0	0	0
41	SLU 41	32	-32	1184	0	0	0
41	SLU 42	33	-31	1186	0	0	0
41	SLU 43	30	-35	1092	0	0	0
41	SLU 44	31	-34	1095	0	0	0
41	SLU 45	31	-35	1110	0	0	0
41	SLU 46	31	-34	1112	0	0	0
41	SLU 47	31	-34	1107	0	0	0
41	SLU 48	31	-35	1122	0	0	0
41	SLU 49	31	-34	1124	0	0	0
41	SLU 50	31	-35	1115	0	0	0
41	SLU 51	31	-34	1117	0	0	0
41	SLU 52	34	-37	1212	0	0	0
41	SLU 53	33	-38	1227	0	0	0
41	SLU 54	34	-37	1229	0	0	0
41	SLU 55	34	-37	1224	0	0	0
41	SLU 56	33	-38	1238	0	0	0
41	SLU 57	34	-37	1240	0	0	0
41	SLU 58	33	-38	1232	0	0	0
41	SLU 59	34	-37	1234	0	0	0
41	SLU 60	34	-40	1259	0	0	0
41	SLU 61	34	-39	1261	0	0	0
41	SLU 62	34	-40	1270	0	0	0
41	SLU 63	35	-39	1272	0	0	0
41	SLU 64	34	-36	1223	0	0	0
41	SLU 65	35	-34	1226	0	0	0
41	SLU 66	35	-36	1241	0	0	0
41	SLU 67	35	-35	1243	0	0	0
41	SLU 68	35	-34	1238	0	0	0
41	SLU 69	35	-36	1253	0	0	0
41	SLU 70	35	-35	1255	0	0	0
41	SLU 71	35	-36	1246	0	0	0
41	SLU 72	35	-35	1248	0	0	0
41	SLU 73	38	-38	1343	0	0	0
41	SLU 74	37	-39	1358	0	0	0
41	SLU 75	38	-38	1360	0	0	0
41	SLU 76	38	-37	1355	0	0	0
41	SLU 77	37	-39	1370	0	0	0
41	SLU 78	38	-38	1372	0	0	0
41	SLU 79	37	-39	1363	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
41	SLU 80	38	-38	1365	0	0	0
41	SLU 81	38	-41	1390	0	0	0
41	SLU 82	38	-40	1392	0	0	0
41	SLU 83	38	-40	1401	0	0	0
41	SLU 84	39	-39	1403	0	0	0
41	SLE RA 1	25	-28	912	0	0	0
41	SLE RA 2	26	-26	914	0	0	0
41	SLE RA 3	26	-27	924	0	0	0
41	SLE RA 4	26	-27	926	0	0	0
41	SLE RA 5	26	-26	922	0	0	0
41	SLE RA 6	26	-27	932	0	0	0
41	SLE RA 7	26	-27	933	0	0	0
41	SLE RA 8	26	-27	927	0	0	0
41	SLE RA 9	26	-27	929	0	0	0
41	SLE RA 10	28	-29	992	0	0	0
41	SLE RA 11	27	-30	1002	0	0	0
41	SLE RA 12	28	-29	1003	0	0	0
41	SLE RA 13	28	-29	1000	0	0	0
41	SLE RA 14	28	-29	1010	0	0	0
41	SLE RA 15	28	-29	1011	0	0	0
41	SLE RA 16	27	-29	1005	0	0	0
41	SLE RA 17	28	-29	1007	0	0	0
41	SLE RA 18	28	-31	1023	0	0	0
41	SLE RA 19	28	-30	1024	0	0	0
41	SLE RA 20	28	-31	1031	0	0	0
41	SLE RA 21	28	-30	1032	0	0	0
41	SLE FR 1	25	-28	912	0	0	0
41	SLE FR 2	26	-27	912	0	0	0
41	SLE FR 3	25	-28	915	0	0	0
41	SLE FR 4	26	-28	946	0	0	0
41	SLE FR 5	26	-28	948	0	0	0
41	SLE FR 6	27	-29	968	0	0	0
41	SLE QP 1	25	-28	912	0	0	0
41	SLE QP 2	26	-29	945	0	0	0
41	SLD 1	74	-20	934	0	0	0
41	SLD 2	77	-16	936	0	0	0
41	SLD 3	62	-36	878	0	0	0
41	SLD 4	65	-33	880	0	0	0
41	SLD 5	58	-2	1026	0	0	0
41	SLD 6	61	1	1027	0	0	0
41	SLD 7	18	-56	840	0	0	0
41	SLD 8	20	-54	842	0	0	0
41	SLD 9	32	-3	1049	0	0	0
41	SLD 10	34	-1	1050	0	0	0
41	SLD 11	-8	-58	863	0	0	0
41	SLD 12	-6	-55	865	0	0	0
41	SLD 13	-13	-24	1010	0	0	0
41	SLD 14	-10	-21	1012	0	0	0
41	SLD 15	-25	-41	955	0	0	0
41	SLD 16	-22	-37	957	0	0	0
41	SLV 1	102	-14	932	0	0	0
41	SLV 2	107	-8	935	0	0	0
41	SLV 3	81	-42	837	0	0	0
41	SLV 4	87	-36	840	0	0	0
41	SLV 5	79	17	1085	0	0	0
41	SLV 6	83	21	1087	0	0	0
41	SLV 7	10	-76	768	0	0	0
41	SLV 8	14	-72	770	0	0	0
41	SLV 9	38	15	1121	0	0	0
41	SLV 10	42	19	1123	0	0	0
41	SLV 11	-31	-78	804	0	0	0
41	SLV 12	-27	-74	806	0	0	0
41	SLV 13	-34	-21	1051	0	0	0
41	SLV 14	-29	-15	1054	0	0	0
41	SLV 15	-55	-49	956	0	0	0
41	SLV 16	-50	-43	959	0	0	0
41	SLV FO 1	110	-13	930	0	0	0
41	SLV FO 2	116	-6	934	0	0	0
41	SLV FO 3	87	-43	826	0	0	0
41	SLV FO 4	93	-37	829	0	0	0
41	SLV FO 5	85	22	1099	0	0	0
41	SLV FO 6	89	26	1101	0	0	0
41	SLV FO 7	9	-81	750	0	0	0
41	SLV FO 8	13	-77	752	0	0	0
41	SLV FO 9	40	19	1138	0	0	0
41	SLV FO 10	44	24	1141	0	0	0
41	SLV FO 11	-36	-83	789	0	0	0
41	SLV FO 12	-32	-79	792	0	0	0
41	SLV FO 13	-40	-20	1061	0	0	0
41	SLV FO 14	-34	-14	1065	0	0	0
41	SLV FO 15	-63	-51	957	0	0	0
41	SLV FO 16	-57	-45	960	0	0	0
42	SLU 1	19	-21	716	0	0	0
42	SLU 2	20	-19	720	0	0	0
42	SLU 3	20	-21	731	0	0	0
42	SLU 4	20	-20	733	0	0	0
42	SLU 5	20	-19	729	0	0	0
42	SLU 6	20	-21	741	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLU 7	20	-20	743	0	0	0
42	SLU 8	20	-21	735	0	0	0
42	SLU 9	20	-20	737	0	0	0
42	SLU 10	22	-22	815	0	0	0
42	SLU 11	22	-23	827	0	0	0
42	SLU 12	22	-22	829	0	0	0
42	SLU 13	23	-22	824	0	0	0
42	SLU 14	22	-23	836	0	0	0
42	SLU 15	23	-22	838	0	0	0
42	SLU 16	22	-23	831	0	0	0
42	SLU 17	22	-22	833	0	0	0
42	SLU 18	22	-25	853	0	0	0
42	SLU 19	23	-24	854	0	0	0
42	SLU 20	23	-24	862	0	0	0
42	SLU 21	23	-24	864	0	0	0
42	SLU 22	23	-21	824	0	0	0
42	SLU 23	24	-20	827	0	0	0
42	SLU 24	23	-21	839	0	0	0
42	SLU 25	24	-20	841	0	0	0
42	SLU 26	24	-20	837	0	0	0
42	SLU 27	23	-21	849	0	0	0
42	SLU 28	24	-20	850	0	0	0
42	SLU 29	23	-21	843	0	0	0
42	SLU 30	24	-20	845	0	0	0
42	SLU 31	26	-22	923	0	0	0
42	SLU 32	25	-24	934	0	0	0
42	SLU 33	26	-23	936	0	0	0
42	SLU 34	26	-22	932	0	0	0
42	SLU 35	25	-24	944	0	0	0
42	SLU 36	26	-23	946	0	0	0
42	SLU 37	25	-24	938	0	0	0
42	SLU 38	26	-23	940	0	0	0
42	SLU 39	26	-25	960	0	0	0
42	SLU 40	26	-24	962	0	0	0
42	SLU 41	26	-25	970	0	0	0
42	SLU 42	26	-24	972	0	0	0
42	SLU 43	24	-27	894	0	0	0
42	SLU 44	25	-26	897	0	0	0
42	SLU 45	25	-27	909	0	0	0
42	SLU 46	25	-26	911	0	0	0
42	SLU 47	25	-25	907	0	0	0
42	SLU 48	25	-27	919	0	0	0
42	SLU 49	25	-26	921	0	0	0
42	SLU 50	25	-27	913	0	0	0
42	SLU 51	25	-26	915	0	0	0
42	SLU 52	27	-28	993	0	0	0
42	SLU 53	27	-29	1005	0	0	0
42	SLU 54	27	-29	1007	0	0	0
42	SLU 55	27	-28	1002	0	0	0
42	SLU 56	27	-29	1014	0	0	0
42	SLU 57	27	-28	1016	0	0	0
42	SLU 58	27	-29	1009	0	0	0
42	SLU 59	27	-28	1011	0	0	0
42	SLU 60	27	-31	1031	0	0	0
42	SLU 61	28	-30	1032	0	0	0
42	SLU 62	27	-31	1040	0	0	0
42	SLU 63	28	-30	1042	0	0	0
42	SLU 64	27	-27	1002	0	0	0
42	SLU 65	28	-26	1005	0	0	0
42	SLU 66	28	-27	1017	0	0	0
42	SLU 67	28	-26	1019	0	0	0
42	SLU 68	28	-26	1015	0	0	0
42	SLU 69	28	-27	1027	0	0	0
42	SLU 70	29	-26	1028	0	0	0
42	SLU 71	28	-27	1021	0	0	0
42	SLU 72	28	-26	1023	0	0	0
42	SLU 73	30	-29	1101	0	0	0
42	SLU 74	30	-30	1112	0	0	0
42	SLU 75	30	-29	1114	0	0	0
42	SLU 76	31	-28	1110	0	0	0
42	SLU 77	30	-30	1122	0	0	0
42	SLU 78	31	-29	1124	0	0	0
42	SLU 79	30	-30	1116	0	0	0
42	SLU 80	30	-29	1118	0	0	0
42	SLU 81	30	-31	1138	0	0	0
42	SLU 82	31	-30	1140	0	0	0
42	SLU 83	31	-31	1148	0	0	0
42	SLU 84	31	-30	1150	0	0	0
42	SLE RA 1	20	-21	747	0	0	0
42	SLE RA 2	21	-20	749	0	0	0
42	SLE RA 3	21	-21	757	0	0	0
42	SLE RA 4	21	-20	758	0	0	0
42	SLE RA 5	21	-20	756	0	0	0
42	SLE RA 6	21	-21	763	0	0	0
42	SLE RA 7	21	-20	765	0	0	0
42	SLE RA 8	21	-21	760	0	0	0
42	SLE RA 9	21	-20	761	0	0	0
42	SLE RA 10	22	-22	813	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLE RA 11	22	-23	821	0	0	0
42	SLE RA 12	22	-22	822	0	0	0
42	SLE RA 13	22	-22	819	0	0	0
42	SLE RA 14	22	-23	827	0	0	0
42	SLE RA 15	22	-22	828	0	0	0
42	SLE RA 16	22	-23	823	0	0	0
42	SLE RA 17	22	-22	825	0	0	0
42	SLE RA 18	22	-23	838	0	0	0
42	SLE RA 19	23	-23	839	0	0	0
42	SLE RA 20	23	-23	844	0	0	0
42	SLE RA 21	23	-23	846	0	0	0
42	SLE FR 1	20	-21	747	0	0	0
42	SLE FR 2	21	-21	748	0	0	0
42	SLE FR 3	20	-21	750	0	0	0
42	SLE FR 4	21	-22	775	0	0	0
42	SLE FR 5	21	-22	777	0	0	0
42	SLE FR 6	21	-22	793	0	0	0
42	SLE QP 1	20	-21	747	0	0	0
42	SLE QP 2	21	-22	774	0	0	0
42	SLD 1	60	-14	746	0	0	0
42	SLD 2	62	-9	748	0	0	0
42	SLD 3	50	-29	695	0	0	0
42	SLD 4	52	-24	697	0	0	0
42	SLD 5	47	2	843	0	0	0
42	SLD 6	49	5	844	0	0	0
42	SLD 7	14	-47	673	0	0	0
42	SLD 8	16	-44	674	0	0	0
42	SLD 9	26	1	875	0	0	0
42	SLD 10	28	4	876	0	0	0
42	SLD 11	-7	-49	705	0	0	0
42	SLD 12	-5	-46	706	0	0	0
42	SLD 13	-10	-19	852	0	0	0
42	SLD 14	-8	-15	854	0	0	0
42	SLD 15	-20	-34	801	0	0	0
42	SLD 16	-17	-30	803	0	0	0
42	SLV 1	82	-9	734	0	0	0
42	SLV 2	86	-1	736	0	0	0
42	SLV 3	65	-34	647	0	0	0
42	SLV 4	70	-27	649	0	0	0
42	SLV 5	64	19	894	0	0	0
42	SLV 6	67	24	896	0	0	0
42	SLV 7	8	-65	603	0	0	0
42	SLV 8	11	-61	605	0	0	0
42	SLV 9	31	17	944	0	0	0
42	SLV 10	34	22	946	0	0	0
42	SLV 11	-25	-68	653	0	0	0
42	SLV 12	-22	-63	655	0	0	0
42	SLV 13	-28	-17	900	0	0	0
42	SLV 14	-23	-10	902	0	0	0
42	SLV 15	-44	-42	812	0	0	0
42	SLV 16	-40	-35	815	0	0	0
42	SLV FO 1	88	-7	730	0	0	0
42	SLV FO 2	93	1	733	0	0	0
42	SLV FO 3	70	-35	634	0	0	0
42	SLV FO 4	75	-27	637	0	0	0
42	SLV FO 5	68	24	906	0	0	0
42	SLV FO 6	71	29	908	0	0	0
42	SLV FO 7	7	-70	586	0	0	0
42	SLV FO 8	10	-64	588	0	0	0
42	SLV FO 9	32	21	961	0	0	0
42	SLV FO 10	35	26	963	0	0	0
42	SLV FO 11	-29	-73	641	0	0	0
42	SLV FO 12	-26	-67	643	0	0	0
42	SLV FO 13	-33	-16	912	0	0	0
42	SLV FO 14	-28	-8	915	0	0	0
42	SLV FO 15	-51	-44	816	0	0	0
42	SLV FO 16	-46	-36	819	0	0	0
44	SLU 1	31	-38	1091	0	0	0
44	SLU 2	32	-37	1092	0	0	0
44	SLU 3	31	-38	1115	0	0	0
44	SLU 4	32	-37	1115	0	0	0
44	SLU 5	32	-36	1107	0	0	0
44	SLU 6	32	-38	1130	0	0	0
44	SLU 7	32	-37	1130	0	0	0
44	SLU 8	31	-38	1121	0	0	0
44	SLU 9	32	-37	1122	0	0	0
44	SLU 10	35	-41	1238	0	0	0
44	SLU 11	35	-42	1261	0	0	0
44	SLU 12	35	-41	1261	0	0	0
44	SLU 13	35	-41	1253	0	0	0
44	SLU 14	35	-42	1276	0	0	0
44	SLU 15	36	-41	1276	0	0	0
44	SLU 16	35	-42	1267	0	0	0
44	SLU 17	35	-41	1268	0	0	0
44	SLU 18	35	-45	1300	0	0	0
44	SLU 19	36	-44	1300	0	0	0
44	SLU 20	36	-44	1315	0	0	0
44	SLU 21	36	-43	1315	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLU 22	36	-39	1256	0	0	0
44	SLU 23	37	-38	1257	0	0	0
44	SLU 24	37	-39	1279	0	0	0
44	SLU 25	37	-38	1280	0	0	0
44	SLU 26	37	-37	1272	0	0	0
44	SLU 27	37	-39	1294	0	0	0
44	SLU 28	38	-38	1295	0	0	0
44	SLU 29	37	-39	1286	0	0	0
44	SLU 30	37	-38	1286	0	0	0
44	SLU 31	40	-42	1403	0	0	0
44	SLU 32	40	-43	1425	0	0	0
44	SLU 33	41	-42	1426	0	0	0
44	SLU 34	41	-42	1418	0	0	0
44	SLU 35	40	-43	1441	0	0	0
44	SLU 36	41	-42	1441	0	0	0
44	SLU 37	40	-43	1432	0	0	0
44	SLU 38	41	-42	1433	0	0	0
44	SLU 39	41	-46	1465	0	0	0
44	SLU 40	41	-45	1465	0	0	0
44	SLU 41	41	-45	1480	0	0	0
44	SLU 42	42	-44	1480	0	0	0
44	SLU 43	38	-50	1362	0	0	0
44	SLU 44	39	-48	1363	0	0	0
44	SLU 45	39	-49	1385	0	0	0
44	SLU 46	39	-48	1386	0	0	0
44	SLU 47	39	-47	1378	0	0	0
44	SLU 48	39	-49	1400	0	0	0
44	SLU 49	40	-48	1401	0	0	0
44	SLU 50	39	-49	1392	0	0	0
44	SLU 51	39	-48	1392	0	0	0
44	SLU 52	42	-52	1509	0	0	0
44	SLU 53	42	-54	1531	0	0	0
44	SLU 54	43	-53	1532	0	0	0
44	SLU 55	43	-52	1524	0	0	0
44	SLU 56	42	-53	1547	0	0	0
44	SLU 57	43	-52	1547	0	0	0
44	SLU 58	42	-53	1538	0	0	0
44	SLU 59	43	-52	1539	0	0	0
44	SLU 60	43	-56	1571	0	0	0
44	SLU 61	43	-55	1571	0	0	0
44	SLU 62	43	-56	1586	0	0	0
44	SLU 63	44	-54	1586	0	0	0
44	SLU 64	43	-51	1527	0	0	0
44	SLU 65	44	-49	1527	0	0	0
44	SLU 66	44	-50	1550	0	0	0
44	SLU 67	45	-49	1551	0	0	0
44	SLU 68	45	-48	1543	0	0	0
44	SLU 69	44	-50	1565	0	0	0
44	SLU 70	45	-49	1566	0	0	0
44	SLU 71	44	-50	1557	0	0	0
44	SLU 72	45	-49	1557	0	0	0
44	SLU 73	48	-53	1674	0	0	0
44	SLU 74	47	-55	1696	0	0	0
44	SLU 75	48	-54	1697	0	0	0
44	SLU 76	48	-53	1689	0	0	0
44	SLU 77	48	-54	1711	0	0	0
44	SLU 78	48	-53	1712	0	0	0
44	SLU 79	47	-54	1703	0	0	0
44	SLU 80	48	-53	1703	0	0	0
44	SLU 81	48	-57	1736	0	0	0
44	SLU 82	49	-56	1736	0	0	0
44	SLU 83	48	-57	1751	0	0	0
44	SLU 84	49	-55	1751	0	0	0
44	SLE RA 1	32	-39	1138	0	0	0
44	SLE RA 2	33	-37	1139	0	0	0
44	SLE RA 3	33	-38	1154	0	0	0
44	SLE RA 4	33	-38	1154	0	0	0
44	SLE RA 5	33	-37	1149	0	0	0
44	SLE RA 6	33	-38	1164	0	0	0
44	SLE RA 7	33	-37	1164	0	0	0
44	SLE RA 8	33	-38	1158	0	0	0
44	SLE RA 9	33	-37	1159	0	0	0
44	SLE RA 10	35	-40	1236	0	0	0
44	SLE RA 11	35	-41	1251	0	0	0
44	SLE RA 12	35	-41	1252	0	0	0
44	SLE RA 13	35	-40	1246	0	0	0
44	SLE RA 14	35	-41	1261	0	0	0
44	SLE RA 15	35	-40	1262	0	0	0
44	SLE RA 16	35	-41	1256	0	0	0
44	SLE RA 17	35	-40	1256	0	0	0
44	SLE RA 18	35	-43	1277	0	0	0
44	SLE RA 19	36	-42	1278	0	0	0
44	SLE RA 20	36	-43	1287	0	0	0
44	SLE RA 21	36	-42	1288	0	0	0
44	SLE FR 1	32	-39	1138	0	0	0
44	SLE FR 2	32	-38	1138	0	0	0
44	SLE FR 3	32	-39	1142	0	0	0
44	SLE FR 4	33	-40	1180	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLE FR 5	33	-40	1184	0	0	0
44	SLE FR 6	34	-41	1208	0	0	0
44	SLE QP 1	32	-39	1138	0	0	0
44	SLE QP 2	33	-40	1180	0	0	0
44	SLD 1	95	-33	1199	0	0	0
44	SLD 2	98	-32	1201	0	0	0
44	SLD 3	80	-51	1177	0	0	0
44	SLD 4	84	-50	1179	0	0	0
44	SLD 5	73	-12	1220	0	0	0
44	SLD 6	75	-11	1221	0	0	0
44	SLD 7	25	-70	1145	0	0	0
44	SLD 8	27	-69	1146	0	0	0
44	SLD 9	39	-11	1214	0	0	0
44	SLD 10	41	-10	1215	0	0	0
44	SLD 11	-8	-69	1139	0	0	0
44	SLD 12	-6	-68	1140	0	0	0
44	SLD 13	-17	-30	1181	0	0	0
44	SLD 14	-14	-29	1183	0	0	0
44	SLD 15	-32	-48	1159	0	0	0
44	SLD 16	-28	-47	1161	0	0	0
44	SLV 1	131	-28	1212	0	0	0
44	SLV 2	135	-27	1215	0	0	0
44	SLV 3	106	-58	1173	0	0	0
44	SLV 4	111	-57	1176	0	0	0
44	SLV 5	98	9	1247	0	0	0
44	SLV 6	101	9	1249	0	0	0
44	SLV 7	17	-91	1119	0	0	0
44	SLV 8	21	-90	1121	0	0	0
44	SLV 9	46	10	1239	0	0	0
44	SLV 10	49	11	1241	0	0	0
44	SLV 11	-35	-89	1111	0	0	0
44	SLV 12	-32	-88	1113	0	0	0
44	SLV 13	-45	-23	1183	0	0	0
44	SLV 14	-40	-22	1186	0	0	0
44	SLV 15	-69	-53	1145	0	0	0
44	SLV 16	-64	-52	1148	0	0	0
44	SLV FO 1	140	-27	1215	0	0	0
44	SLV FO 2	146	-25	1218	0	0	0
44	SLV FO 3	114	-60	1173	0	0	0
44	SLV FO 4	119	-58	1176	0	0	0
44	SLV FO 5	105	13	1254	0	0	0
44	SLV FO 6	108	14	1256	0	0	0
44	SLV FO 7	16	-96	1113	0	0	0
44	SLV FO 8	20	-95	1115	0	0	0
44	SLV FO 9	47	15	1245	0	0	0
44	SLV FO 10	50	16	1247	0	0	0
44	SLV FO 11	-42	-94	1104	0	0	0
44	SLV FO 12	-38	-93	1106	0	0	0
44	SLV FO 13	-53	-22	1184	0	0	0
44	SLV FO 14	-47	-20	1187	0	0	0
44	SLV FO 15	-79	-54	1142	0	0	0
44	SLV FO 16	-74	-53	1145	0	0	0
45	SLU 1	31	-35	1132	0	0	0
45	SLU 2	32	-33	1135	0	0	0
45	SLU 3	31	-35	1157	0	0	0
45	SLU 4	32	-33	1158	0	0	0
45	SLU 5	32	-32	1150	0	0	0
45	SLU 6	32	-34	1172	0	0	0
45	SLU 7	32	-33	1174	0	0	0
45	SLU 8	31	-34	1163	0	0	0
45	SLU 9	32	-33	1165	0	0	0
45	SLU 10	35	-37	1286	0	0	0
45	SLU 11	35	-39	1308	0	0	0
45	SLU 12	35	-38	1309	0	0	0
45	SLU 13	35	-37	1301	0	0	0
45	SLU 14	35	-39	1323	0	0	0
45	SLU 15	35	-37	1325	0	0	0
45	SLU 16	35	-39	1315	0	0	0
45	SLU 17	35	-37	1316	0	0	0
45	SLU 18	35	-41	1348	0	0	0
45	SLU 19	36	-40	1350	0	0	0
45	SLU 20	36	-41	1364	0	0	0
45	SLU 21	36	-39	1365	0	0	0
45	SLU 22	36	-36	1305	0	0	0
45	SLU 23	37	-33	1307	0	0	0
45	SLU 24	36	-35	1329	0	0	0
45	SLU 25	37	-34	1330	0	0	0
45	SLU 26	37	-33	1323	0	0	0
45	SLU 27	37	-35	1345	0	0	0
45	SLU 28	37	-34	1346	0	0	0
45	SLU 29	36	-35	1336	0	0	0
45	SLU 30	37	-34	1337	0	0	0
45	SLU 31	40	-38	1458	0	0	0
45	SLU 32	40	-40	1480	0	0	0
45	SLU 33	40	-38	1482	0	0	0
45	SLU 34	41	-37	1474	0	0	0
45	SLU 35	40	-39	1496	0	0	0
45	SLU 36	41	-38	1497	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
45	SLU 37	40	-39	1487	0	0	0
45	SLU 38	40	-38	1488	0	0	0
45	SLU 39	41	-42	1521	0	0	0
45	SLU 40	41	-40	1522	0	0	0
45	SLU 41	41	-42	1536	0	0	0
45	SLU 42	42	-40	1537	0	0	0
45	SLU 43	38	-45	1413	0	0	0
45	SLU 44	39	-43	1415	0	0	0
45	SLU 45	39	-45	1437	0	0	0
45	SLU 46	39	-44	1439	0	0	0
45	SLU 47	39	-43	1431	0	0	0
45	SLU 48	39	-45	1453	0	0	0
45	SLU 49	40	-43	1454	0	0	0
45	SLU 50	39	-45	1444	0	0	0
45	SLU 51	39	-43	1445	0	0	0
45	SLU 52	42	-47	1567	0	0	0
45	SLU 53	42	-49	1589	0	0	0
45	SLU 54	43	-48	1590	0	0	0
45	SLU 55	43	-47	1582	0	0	0
45	SLU 56	42	-49	1604	0	0	0
45	SLU 57	43	-48	1605	0	0	0
45	SLU 58	42	-49	1595	0	0	0
45	SLU 59	43	-48	1597	0	0	0
45	SLU 60	43	-51	1629	0	0	0
45	SLU 61	43	-50	1630	0	0	0
45	SLU 62	43	-51	1645	0	0	0
45	SLU 63	44	-50	1646	0	0	0
45	SLU 64	43	-46	1585	0	0	0
45	SLU 65	44	-44	1588	0	0	0
45	SLU 66	44	-46	1610	0	0	0
45	SLU 67	44	-44	1611	0	0	0
45	SLU 68	45	-43	1603	0	0	0
45	SLU 69	44	-45	1625	0	0	0
45	SLU 70	45	-44	1627	0	0	0
45	SLU 71	44	-45	1616	0	0	0
45	SLU 72	44	-44	1618	0	0	0
45	SLU 73	48	-48	1739	0	0	0
45	SLU 74	47	-50	1761	0	0	0
45	SLU 75	48	-49	1762	0	0	0
45	SLU 76	48	-48	1754	0	0	0
45	SLU 77	47	-50	1776	0	0	0
45	SLU 78	48	-48	1778	0	0	0
45	SLU 79	47	-50	1768	0	0	0
45	SLU 80	48	-48	1769	0	0	0
45	SLU 81	48	-52	1801	0	0	0
45	SLU 82	49	-51	1803	0	0	0
45	SLU 83	48	-52	1817	0	0	0
45	SLU 84	49	-50	1818	0	0	0
45	SLE RA 1	32	-35	1182	0	0	0
45	SLE RA 2	33	-34	1183	0	0	0
45	SLE RA 3	32	-35	1198	0	0	0
45	SLE RA 4	33	-34	1199	0	0	0
45	SLE RA 5	33	-34	1194	0	0	0
45	SLE RA 6	33	-35	1208	0	0	0
45	SLE RA 7	33	-34	1209	0	0	0
45	SLE RA 8	33	-35	1202	0	0	0
45	SLE RA 9	33	-34	1203	0	0	0
45	SLE RA 10	35	-37	1284	0	0	0
45	SLE RA 11	35	-38	1299	0	0	0
45	SLE RA 12	35	-37	1300	0	0	0
45	SLE RA 13	35	-36	1294	0	0	0
45	SLE RA 14	35	-38	1309	0	0	0
45	SLE RA 15	35	-37	1310	0	0	0
45	SLE RA 16	35	-38	1303	0	0	0
45	SLE RA 17	35	-37	1304	0	0	0
45	SLE RA 18	35	-39	1326	0	0	0
45	SLE RA 19	36	-38	1327	0	0	0
45	SLE RA 20	35	-39	1336	0	0	0
45	SLE RA 21	36	-38	1337	0	0	0
45	SLE FR 1	32	-35	1182	0	0	0
45	SLE FR 2	32	-35	1182	0	0	0
45	SLE FR 3	32	-35	1186	0	0	0
45	SLE FR 4	33	-36	1225	0	0	0
45	SLE FR 5	33	-36	1229	0	0	0
45	SLE FR 6	34	-37	1254	0	0	0
45	SLE QP 1	32	-35	1182	0	0	0
45	SLE QP 2	33	-36	1225	0	0	0
45	SLD 1	94	-25	1183	0	0	0
45	SLD 2	97	-19	1185	0	0	0
45	SLD 3	80	-47	1140	0	0	0
45	SLD 4	83	-41	1142	0	0	0
45	SLD 5	72	0	1277	0	0	0
45	SLD 6	74	4	1278	0	0	0
45	SLD 7	25	-75	1134	0	0	0
45	SLD 8	27	-71	1136	0	0	0
45	SLD 9	39	-2	1314	0	0	0
45	SLD 10	41	2	1315	0	0	0
45	SLD 11	-8	-77	1172	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
45	SLD 12	-6	-73	1173	0	0	0
45	SLD 13	-17	-32	1308	0	0	0
45	SLD 14	-14	-26	1310	0	0	0
45	SLD 15	-31	-54	1265	0	0	0
45	SLD 16	-28	-48	1267	0	0	0
45	SLV 1	130	-17	1162	0	0	0
45	SLV 2	135	-7	1165	0	0	0
45	SLV 3	106	-55	1089	0	0	0
45	SLV 4	111	-46	1092	0	0	0
45	SLV 5	98	26	1316	0	0	0
45	SLV 6	101	32	1318	0	0	0
45	SLV 7	17	-102	1073	0	0	0
45	SLV 8	21	-95	1075	0	0	0
45	SLV 9	45	22	1374	0	0	0
45	SLV 10	49	29	1377	0	0	0
45	SLV 11	-35	-105	1132	0	0	0
45	SLV 12	-32	-99	1134	0	0	0
45	SLV 13	-45	-27	1357	0	0	0
45	SLV 14	-40	-18	1360	0	0	0
45	SLV 15	-69	-66	1284	0	0	0
45	SLV 16	-64	-56	1288	0	0	0
45	SLV FO 1	140	-15	1156	0	0	0
45	SLV FO 2	145	-4	1159	0	0	0
45	SLV FO 3	113	-57	1076	0	0	0
45	SLV FO 4	119	-46	1079	0	0	0
45	SLV FO 5	104	32	1325	0	0	0
45	SLV FO 6	108	39	1327	0	0	0
45	SLV FO 7	16	-108	1058	0	0	0
45	SLV FO 8	19	-101	1060	0	0	0
45	SLV FO 9	47	28	1389	0	0	0
45	SLV FO 10	50	35	1392	0	0	0
45	SLV FO 11	-42	-112	1122	0	0	0
45	SLV FO 12	-38	-105	1125	0	0	0
45	SLV FO 13	-53	-26	1371	0	0	0
45	SLV FO 14	-47	-16	1374	0	0	0
45	SLV FO 15	-79	-68	1290	0	0	0
45	SLV FO 16	-74	-58	1294	0	0	0
46	SLU 1	19	-24	661	0	0	0
46	SLU 2	20	-23	661	0	0	0
46	SLU 3	19	-24	675	0	0	0
46	SLU 4	20	-23	675	0	0	0
46	SLU 5	20	-23	670	0	0	0
46	SLU 6	19	-24	684	0	0	0
46	SLU 7	20	-23	684	0	0	0
46	SLU 8	19	-24	679	0	0	0
46	SLU 9	20	-23	679	0	0	0
46	SLU 10	22	-26	749	0	0	0
46	SLU 11	21	-27	763	0	0	0
46	SLU 12	22	-26	763	0	0	0
46	SLU 13	22	-26	758	0	0	0
46	SLU 14	22	-27	773	0	0	0
46	SLU 15	22	-26	773	0	0	0
46	SLU 16	21	-27	768	0	0	0
46	SLU 17	22	-26	768	0	0	0
46	SLU 18	22	-28	787	0	0	0
46	SLU 19	22	-28	787	0	0	0
46	SLU 20	22	-28	796	0	0	0
46	SLU 21	22	-27	796	0	0	0
46	SLU 22	22	-25	760	0	0	0
46	SLU 23	23	-24	760	0	0	0
46	SLU 24	23	-25	774	0	0	0
46	SLU 25	23	-24	775	0	0	0
46	SLU 26	23	-24	770	0	0	0
46	SLU 27	23	-24	784	0	0	0
46	SLU 28	23	-24	784	0	0	0
46	SLU 29	23	-24	779	0	0	0
46	SLU 30	23	-24	779	0	0	0
46	SLU 31	25	-27	849	0	0	0
46	SLU 32	25	-27	863	0	0	0
46	SLU 33	25	-27	863	0	0	0
46	SLU 34	25	-26	858	0	0	0
46	SLU 35	25	-27	872	0	0	0
46	SLU 36	25	-27	872	0	0	0
46	SLU 37	25	-27	867	0	0	0
46	SLU 38	25	-27	867	0	0	0
46	SLU 39	25	-29	887	0	0	0
46	SLU 40	25	-28	887	0	0	0
46	SLU 41	25	-29	896	0	0	0
46	SLU 42	26	-28	896	0	0	0
46	SLU 43	23	-31	825	0	0	0
46	SLU 44	24	-30	825	0	0	0
46	SLU 45	24	-31	839	0	0	0
46	SLU 46	24	-30	839	0	0	0
46	SLU 47	24	-30	834	0	0	0
46	SLU 48	24	-31	848	0	0	0
46	SLU 49	24	-30	848	0	0	0
46	SLU 50	24	-31	843	0	0	0
46	SLU 51	24	-30	843	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
46	SLU 52	26	-33	913	0	0	0
46	SLU 53	26	-34	928	0	0	0
46	SLU 54	26	-33	928	0	0	0
46	SLU 55	26	-33	923	0	0	0
46	SLU 56	26	-34	937	0	0	0
46	SLU 57	26	-33	937	0	0	0
46	SLU 58	26	-34	932	0	0	0
46	SLU 59	26	-33	932	0	0	0
46	SLU 60	26	-35	951	0	0	0
46	SLU 61	27	-35	951	0	0	0
46	SLU 62	27	-35	960	0	0	0
46	SLU 63	27	-34	960	0	0	0
46	SLU 64	27	-32	924	0	0	0
46	SLU 65	27	-31	924	0	0	0
46	SLU 66	27	-32	939	0	0	0
46	SLU 67	27	-31	939	0	0	0
46	SLU 68	28	-31	934	0	0	0
46	SLU 69	27	-32	948	0	0	0
46	SLU 70	28	-31	948	0	0	0
46	SLU 71	27	-32	943	0	0	0
46	SLU 72	27	-31	943	0	0	0
46	SLU 73	29	-34	1013	0	0	0
46	SLU 74	29	-35	1027	0	0	0
46	SLU 75	30	-34	1027	0	0	0
46	SLU 76	30	-33	1022	0	0	0
46	SLU 77	29	-34	1036	0	0	0
46	SLU 78	30	-34	1036	0	0	0
46	SLU 79	29	-34	1031	0	0	0
46	SLU 80	30	-34	1031	0	0	0
46	SLU 81	30	-36	1051	0	0	0
46	SLU 82	30	-35	1051	0	0	0
46	SLU 83	30	-36	1060	0	0	0
46	SLU 84	30	-35	1060	0	0	0
46	SLE RA 1	20	-24	689	0	0	0
46	SLE RA 2	20	-24	689	0	0	0
46	SLE RA 3	20	-24	699	0	0	0
46	SLE RA 4	20	-24	699	0	0	0
46	SLE RA 5	20	-24	695	0	0	0
46	SLE RA 6	20	-24	705	0	0	0
46	SLE RA 7	20	-24	705	0	0	0
46	SLE RA 8	20	-24	701	0	0	0
46	SLE RA 9	20	-24	701	0	0	0
46	SLE RA 10	22	-26	748	0	0	0
46	SLE RA 11	21	-26	758	0	0	0
46	SLE RA 12	22	-26	758	0	0	0
46	SLE RA 13	22	-25	754	0	0	0
46	SLE RA 14	22	-26	764	0	0	0
46	SLE RA 15	22	-26	764	0	0	0
46	SLE RA 16	21	-26	760	0	0	0
46	SLE RA 17	22	-26	760	0	0	0
46	SLE RA 18	22	-27	774	0	0	0
46	SLE RA 19	22	-27	774	0	0	0
46	SLE RA 20	22	-27	780	0	0	0
46	SLE RA 21	22	-27	780	0	0	0
46	SLE FR 1	20	-24	689	0	0	0
46	SLE FR 2	20	-24	689	0	0	0
46	SLE FR 3	20	-24	692	0	0	0
46	SLE FR 4	20	-25	714	0	0	0
46	SLE FR 5	20	-25	717	0	0	0
46	SLE FR 6	21	-26	731	0	0	0
46	SLE QP 1	20	-24	689	0	0	0
46	SLE QP 2	20	-25	714	0	0	0
46	SLD 1	58	-21	737	0	0	0
46	SLD 2	60	-22	738	0	0	0
46	SLD 3	50	-31	728	0	0	0
46	SLD 4	51	-31	729	0	0	0
46	SLD 5	45	-9	735	0	0	0
46	SLD 6	46	-10	736	0	0	0
46	SLD 7	16	-42	704	0	0	0
46	SLD 8	17	-42	705	0	0	0
46	SLD 9	24	-9	724	0	0	0
46	SLD 10	25	-9	725	0	0	0
46	SLD 11	-5	-41	693	0	0	0
46	SLD 12	-4	-41	694	0	0	0
46	SLD 13	-11	-19	700	0	0	0
46	SLD 14	-9	-20	701	0	0	0
46	SLD 15	-19	-29	691	0	0	0
46	SLD 16	-17	-29	692	0	0	0
46	SLV 1	80	-18	751	0	0	0
46	SLV 2	83	-19	753	0	0	0
46	SLV 3	66	-35	735	0	0	0
46	SLV 4	68	-36	737	0	0	0
46	SLV 5	60	2	749	0	0	0
46	SLV 6	62	2	751	0	0	0
46	SLV 7	11	-53	696	0	0	0
46	SLV 8	13	-54	697	0	0	0
46	SLV 9	28	3	732	0	0	0
46	SLV 10	30	3	733	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
46	SLV 11	-22	-52	678	0	0	0
46	SLV 12	-20	-53	680	0	0	0
46	SLV 13	-28	-15	692	0	0	0
46	SLV 14	-25	-16	694	0	0	0
46	SLV 15	-43	-31	676	0	0	0
46	SLV 16	-40	-32	678	0	0	0
46	SLV FO 1	86	-18	754	0	0	0
46	SLV FO 2	90	-18	756	0	0	0
46	SLV FO 3	70	-36	737	0	0	0
46	SLV FO 4	73	-37	739	0	0	0
46	SLV FO 5	64	5	753	0	0	0
46	SLV FO 6	67	4	754	0	0	0
46	SLV FO 7	10	-56	694	0	0	0
46	SLV FO 8	12	-57	695	0	0	0
46	SLV FO 9	29	6	734	0	0	0
46	SLV FO 10	31	6	735	0	0	0
46	SLV FO 11	-26	-55	675	0	0	0
46	SLV FO 12	-24	-55	676	0	0	0
46	SLV FO 13	-33	-14	690	0	0	0
46	SLV FO 14	-29	-15	692	0	0	0
46	SLV FO 15	-49	-32	673	0	0	0
46	SLV FO 16	-46	-33	675	0	0	0
47	SLU 1	24	-29	844	0	0	0
47	SLU 2	24	-27	845	0	0	0
47	SLU 3	24	-29	862	0	0	0
47	SLU 4	25	-28	862	0	0	0
47	SLU 5	25	-27	856	0	0	0
47	SLU 6	24	-28	874	0	0	0
47	SLU 7	25	-28	874	0	0	0
47	SLU 8	24	-28	867	0	0	0
47	SLU 9	25	-28	868	0	0	0
47	SLU 10	27	-31	957	0	0	0
47	SLU 11	27	-32	975	0	0	0
47	SLU 12	27	-31	975	0	0	0
47	SLU 13	27	-31	969	0	0	0
47	SLU 14	27	-32	986	0	0	0
47	SLU 15	27	-31	987	0	0	0
47	SLU 16	27	-32	980	0	0	0
47	SLU 17	27	-31	980	0	0	0
47	SLU 18	27	-34	1005	0	0	0
47	SLU 19	28	-33	1006	0	0	0
47	SLU 20	27	-34	1017	0	0	0
47	SLU 21	28	-33	1017	0	0	0
47	SLU 22	28	-30	972	0	0	0
47	SLU 23	28	-28	972	0	0	0
47	SLU 24	28	-29	990	0	0	0
47	SLU 25	29	-29	990	0	0	0
47	SLU 26	29	-28	984	0	0	0
47	SLU 27	28	-29	1001	0	0	0
47	SLU 28	29	-28	1002	0	0	0
47	SLU 29	28	-29	995	0	0	0
47	SLU 30	29	-28	995	0	0	0
47	SLU 31	31	-32	1085	0	0	0
47	SLU 32	31	-33	1103	0	0	0
47	SLU 33	31	-32	1103	0	0	0
47	SLU 34	31	-31	1097	0	0	0
47	SLU 35	31	-33	1114	0	0	0
47	SLU 36	31	-32	1115	0	0	0
47	SLU 37	31	-33	1108	0	0	0
47	SLU 38	31	-32	1108	0	0	0
47	SLU 39	31	-35	1133	0	0	0
47	SLU 40	32	-34	1133	0	0	0
47	SLU 41	31	-34	1144	0	0	0
47	SLU 42	32	-33	1145	0	0	0
47	SLU 43	29	-37	1053	0	0	0
47	SLU 44	30	-36	1054	0	0	0
47	SLU 45	30	-37	1071	0	0	0
47	SLU 46	30	-36	1072	0	0	0
47	SLU 47	30	-36	1066	0	0	0
47	SLU 48	30	-37	1083	0	0	0
47	SLU 49	30	-36	1083	0	0	0
47	SLU 50	30	-37	1076	0	0	0
47	SLU 51	30	-36	1077	0	0	0
47	SLU 52	33	-39	1167	0	0	0
47	SLU 53	32	-41	1184	0	0	0
47	SLU 54	33	-40	1185	0	0	0
47	SLU 55	33	-39	1178	0	0	0
47	SLU 56	32	-40	1196	0	0	0
47	SLU 57	33	-39	1196	0	0	0
47	SLU 58	32	-40	1189	0	0	0
47	SLU 59	33	-39	1190	0	0	0
47	SLU 60	33	-42	1214	0	0	0
47	SLU 61	33	-41	1215	0	0	0
47	SLU 62	33	-42	1226	0	0	0
47	SLU 63	34	-41	1227	0	0	0
47	SLU 64	33	-38	1181	0	0	0
47	SLU 65	34	-37	1182	0	0	0
47	SLU 66	34	-38	1199	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
47	SLU 67	34	-37	1199	0	0	0
47	SLU 68	34	-36	1193	0	0	0
47	SLU 69	34	-38	1211	0	0	0
47	SLU 70	34	-37	1211	0	0	0
47	SLU 71	34	-38	1204	0	0	0
47	SLU 72	34	-37	1205	0	0	0
47	SLU 73	37	-40	1295	0	0	0
47	SLU 74	36	-41	1312	0	0	0
47	SLU 75	37	-40	1312	0	0	0
47	SLU 76	37	-40	1306	0	0	0
47	SLU 77	37	-41	1324	0	0	0
47	SLU 78	37	-40	1324	0	0	0
47	SLU 79	36	-41	1317	0	0	0
47	SLU 80	37	-40	1317	0	0	0
47	SLU 81	37	-43	1342	0	0	0
47	SLU 82	37	-42	1343	0	0	0
47	SLU 83	37	-43	1354	0	0	0
47	SLU 84	38	-42	1354	0	0	0
47	SLE RA 1	25	-29	880	0	0	0
47	SLE RA 2	25	-28	881	0	0	0
47	SLE RA 3	25	-29	892	0	0	0
47	SLE RA 4	25	-28	893	0	0	0
47	SLE RA 5	25	-28	889	0	0	0
47	SLE RA 6	25	-29	900	0	0	0
47	SLE RA 7	26	-28	900	0	0	0
47	SLE RA 8	25	-29	896	0	0	0
47	SLE RA 9	25	-28	896	0	0	0
47	SLE RA 10	27	-30	956	0	0	0
47	SLE RA 11	27	-31	968	0	0	0
47	SLE RA 12	27	-31	968	0	0	0
47	SLE RA 13	27	-30	964	0	0	0
47	SLE RA 14	27	-31	975	0	0	0
47	SLE RA 15	27	-31	976	0	0	0
47	SLE RA 16	27	-31	971	0	0	0
47	SLE RA 17	27	-31	971	0	0	0
47	SLE RA 18	27	-32	988	0	0	0
47	SLE RA 19	27	-32	988	0	0	0
47	SLE RA 20	27	-32	996	0	0	0
47	SLE RA 21	28	-32	996	0	0	0
47	SLE FR 1	25	-29	880	0	0	0
47	SLE FR 2	25	-29	880	0	0	0
47	SLE FR 3	25	-29	883	0	0	0
47	SLE FR 4	26	-30	913	0	0	0
47	SLE FR 5	25	-30	916	0	0	0
47	SLE FR 6	26	-31	934	0	0	0
47	SLE QP 1	25	-29	880	0	0	0
47	SLE QP 2	25	-30	913	0	0	0
47	SLD 1	73	-25	915	0	0	0
47	SLD 2	75	-24	916	0	0	0
47	SLD 3	62	-39	895	0	0	0
47	SLD 4	64	-38	896	0	0	0
47	SLD 5	56	-7	942	0	0	0
47	SLD 6	57	-7	943	0	0	0
47	SLD 7	19	-54	878	0	0	0
47	SLD 8	21	-54	878	0	0	0
47	SLD 9	30	-7	947	0	0	0
47	SLD 10	31	-6	948	0	0	0
47	SLD 11	-6	-54	882	0	0	0
47	SLD 12	-5	-53	883	0	0	0
47	SLD 13	-13	-23	929	0	0	0
47	SLD 14	-11	-21	930	0	0	0
47	SLD 15	-24	-37	909	0	0	0
47	SLD 16	-22	-35	911	0	0	0
47	SLV 1	100	-21	917	0	0	0
47	SLV 2	104	-19	919	0	0	0
47	SLV 3	82	-45	884	0	0	0
47	SLV 4	85	-43	886	0	0	0
47	SLV 5	75	9	964	0	0	0
47	SLV 6	78	10	965	0	0	0
47	SLV 7	13	-72	853	0	0	0
47	SLV 8	16	-70	855	0	0	0
47	SLV 9	35	10	971	0	0	0
47	SLV 10	37	11	972	0	0	0
47	SLV 11	-27	-71	860	0	0	0
47	SLV 12	-24	-69	861	0	0	0
47	SLV 13	-35	-17	939	0	0	0
47	SLV 14	-31	-15	942	0	0	0
47	SLV 15	-53	-41	906	0	0	0
47	SLV 16	-49	-39	908	0	0	0
47	SLV FO 1	108	-20	917	0	0	0
47	SLV FO 2	112	-18	920	0	0	0
47	SLV FO 3	87	-47	881	0	0	0
47	SLV FO 4	91	-44	883	0	0	0
47	SLV FO 5	80	13	969	0	0	0
47	SLV FO 6	83	14	971	0	0	0
47	SLV FO 7	12	-76	847	0	0	0
47	SLV FO 8	15	-74	849	0	0	0
47	SLV FO 9	36	14	976	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
47	SLV FO 10	39	16	978	0	0	0
47	SLV FO 11	-32	-75	854	0	0	0
47	SLV FO 12	-29	-73	856	0	0	0
47	SLV FO 13	-41	-16	942	0	0	0
47	SLV FO 14	-36	-13	944	0	0	0
47	SLV FO 15	-61	-42	905	0	0	0
47	SLV FO 16	-57	-40	908	0	0	0
48	SLU 1	24	-29	852	0	0	0
48	SLU 2	24	-27	853	0	0	0
48	SLU 3	24	-28	870	0	0	0
48	SLU 4	25	-27	871	0	0	0
48	SLU 5	25	-27	864	0	0	0
48	SLU 6	24	-28	882	0	0	0
48	SLU 7	25	-27	882	0	0	0
48	SLU 8	24	-28	875	0	0	0
48	SLU 9	25	-27	876	0	0	0
48	SLU 10	27	-30	967	0	0	0
48	SLU 11	27	-32	984	0	0	0
48	SLU 12	27	-31	984	0	0	0
48	SLU 13	27	-30	978	0	0	0
48	SLU 14	27	-31	996	0	0	0
48	SLU 15	27	-30	996	0	0	0
48	SLU 16	27	-31	989	0	0	0
48	SLU 17	27	-31	990	0	0	0
48	SLU 18	27	-33	1014	0	0	0
48	SLU 19	28	-32	1015	0	0	0
48	SLU 20	27	-33	1026	0	0	0
48	SLU 21	28	-32	1027	0	0	0
48	SLU 22	28	-29	981	0	0	0
48	SLU 23	28	-28	982	0	0	0
48	SLU 24	28	-29	999	0	0	0
48	SLU 25	29	-28	1000	0	0	0
48	SLU 26	29	-27	993	0	0	0
48	SLU 27	28	-29	1011	0	0	0
48	SLU 28	29	-28	1011	0	0	0
48	SLU 29	28	-29	1004	0	0	0
48	SLU 30	29	-28	1005	0	0	0
48	SLU 31	31	-31	1096	0	0	0
48	SLU 32	31	-32	1113	0	0	0
48	SLU 33	31	-31	1114	0	0	0
48	SLU 34	31	-31	1107	0	0	0
48	SLU 35	31	-32	1125	0	0	0
48	SLU 36	31	-31	1125	0	0	0
48	SLU 37	31	-32	1118	0	0	0
48	SLU 38	31	-31	1119	0	0	0
48	SLU 39	31	-34	1143	0	0	0
48	SLU 40	32	-33	1144	0	0	0
48	SLU 41	32	-34	1155	0	0	0
48	SLU 42	32	-33	1156	0	0	0
48	SLU 43	29	-37	1063	0	0	0
48	SLU 44	30	-35	1064	0	0	0
48	SLU 45	30	-37	1081	0	0	0
48	SLU 46	30	-36	1082	0	0	0
48	SLU 47	30	-35	1076	0	0	0
48	SLU 48	30	-36	1093	0	0	0
48	SLU 49	30	-35	1094	0	0	0
48	SLU 50	30	-36	1086	0	0	0
48	SLU 51	30	-35	1087	0	0	0
48	SLU 52	33	-39	1178	0	0	0
48	SLU 53	32	-40	1195	0	0	0
48	SLU 54	33	-39	1196	0	0	0
48	SLU 55	33	-38	1190	0	0	0
48	SLU 56	33	-40	1207	0	0	0
48	SLU 57	33	-39	1207	0	0	0
48	SLU 58	32	-40	1200	0	0	0
48	SLU 59	33	-39	1201	0	0	0
48	SLU 60	33	-42	1226	0	0	0
48	SLU 61	33	-41	1226	0	0	0
48	SLU 62	33	-41	1237	0	0	0
48	SLU 63	34	-40	1238	0	0	0
48	SLU 64	33	-38	1192	0	0	0
48	SLU 65	34	-36	1193	0	0	0
48	SLU 66	34	-37	1210	0	0	0
48	SLU 67	34	-36	1211	0	0	0
48	SLU 68	34	-36	1205	0	0	0
48	SLU 69	34	-37	1222	0	0	0
48	SLU 70	35	-36	1223	0	0	0
48	SLU 71	34	-37	1215	0	0	0
48	SLU 72	34	-36	1216	0	0	0
48	SLU 73	37	-39	1307	0	0	0
48	SLU 74	36	-41	1324	0	0	0
48	SLU 75	37	-40	1325	0	0	0
48	SLU 76	37	-39	1319	0	0	0
48	SLU 77	37	-40	1336	0	0	0
48	SLU 78	37	-40	1337	0	0	0
48	SLU 79	36	-40	1329	0	0	0
48	SLU 80	37	-40	1330	0	0	0
48	SLU 81	37	-42	1355	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLU 82	37	-41	1355	0	0	0
48	SLU 83	37	-42	1366	0	0	0
48	SLU 84	38	-41	1367	0	0	0
48	SLE RA 1	25	-29	889	0	0	0
48	SLE RA 2	25	-28	889	0	0	0
48	SLE RA 3	25	-29	901	0	0	0
48	SLE RA 4	25	-28	901	0	0	0
48	SLE RA 5	25	-28	897	0	0	0
48	SLE RA 6	25	-28	909	0	0	0
48	SLE RA 7	26	-28	909	0	0	0
48	SLE RA 8	25	-28	904	0	0	0
48	SLE RA 9	25	-28	905	0	0	0
48	SLE RA 10	27	-30	965	0	0	0
48	SLE RA 11	27	-31	977	0	0	0
48	SLE RA 12	27	-30	977	0	0	0
48	SLE RA 13	27	-30	973	0	0	0
48	SLE RA 14	27	-31	985	0	0	0
48	SLE RA 15	27	-30	985	0	0	0
48	SLE RA 16	27	-31	980	0	0	0
48	SLE RA 17	27	-30	981	0	0	0
48	SLE RA 18	27	-32	997	0	0	0
48	SLE RA 19	27	-31	997	0	0	0
48	SLE RA 20	27	-32	1005	0	0	0
48	SLE RA 21	28	-31	1005	0	0	0
48	SLE FR 1	25	-29	889	0	0	0
48	SLE FR 2	25	-29	889	0	0	0
48	SLE FR 3	25	-29	892	0	0	0
48	SLE FR 4	26	-29	921	0	0	0
48	SLE FR 5	26	-30	924	0	0	0
48	SLE FR 6	26	-30	943	0	0	0
48	SLE QP 1	25	-29	889	0	0	0
48	SLE QP 2	25	-30	921	0	0	0
48	SLD 1	73	-22	915	0	0	0
48	SLD 2	75	-20	916	0	0	0
48	SLD 3	62	-37	892	0	0	0
48	SLD 4	64	-35	894	0	0	0
48	SLD 5	56	-5	953	0	0	0
48	SLD 6	57	-4	954	0	0	0
48	SLD 7	19	-55	878	0	0	0
48	SLD 8	21	-53	879	0	0	0
48	SLD 9	30	-6	963	0	0	0
48	SLD 10	31	-5	964	0	0	0
48	SLD 11	-6	-56	888	0	0	0
48	SLD 12	-5	-54	889	0	0	0
48	SLD 13	-13	-25	948	0	0	0
48	SLD 14	-11	-23	950	0	0	0
48	SLD 15	-24	-40	926	0	0	0
48	SLD 16	-22	-37	927	0	0	0
48	SLV 1	100	-16	913	0	0	0
48	SLV 2	104	-13	915	0	0	0
48	SLV 3	82	-42	875	0	0	0
48	SLV 4	86	-38	877	0	0	0
48	SLV 5	75	12	977	0	0	0
48	SLV 6	78	15	978	0	0	0
48	SLV 7	14	-73	848	0	0	0
48	SLV 8	16	-70	850	0	0	0
48	SLV 9	35	11	992	0	0	0
48	SLV 10	37	13	994	0	0	0
48	SLV 11	-27	-74	864	0	0	0
48	SLV 12	-25	-72	866	0	0	0
48	SLV 13	-35	-21	965	0	0	0
48	SLV 14	-31	-18	968	0	0	0
48	SLV 15	-53	-47	927	0	0	0
48	SLV 16	-49	-43	929	0	0	0
48	SLV FO 1	108	-15	912	0	0	0
48	SLV FO 2	112	-11	915	0	0	0
48	SLV FO 3	87	-43	870	0	0	0
48	SLV FO 4	92	-39	872	0	0	0
48	SLV FO 5	80	17	982	0	0	0
48	SLV FO 6	83	19	984	0	0	0
48	SLV FO 7	12	-77	841	0	0	0
48	SLV FO 8	15	-74	843	0	0	0
48	SLV FO 9	36	15	1000	0	0	0
48	SLV FO 10	39	18	1001	0	0	0
48	SLV FO 11	-32	-79	858	0	0	0
48	SLV FO 12	-30	-76	860	0	0	0
48	SLV FO 13	-41	-20	970	0	0	0
48	SLV FO 14	-37	-16	972	0	0	0
48	SLV FO 15	-61	-48	927	0	0	0
48	SLV FO 16	-57	-44	930	0	0	0
49	SLU 1	24	-28	858	0	0	0
49	SLU 2	24	-26	860	0	0	0
49	SLU 3	24	-28	877	0	0	0
49	SLU 4	25	-27	878	0	0	0
49	SLU 5	25	-26	871	0	0	0
49	SLU 6	24	-28	889	0	0	0
49	SLU 7	25	-27	889	0	0	0
49	SLU 8	24	-28	882	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
49	SLU 9	25	-27	883	0	0	0
49	SLU 10	27	-30	974	0	0	0
49	SLU 11	27	-31	992	0	0	0
49	SLU 12	27	-30	992	0	0	0
49	SLU 13	27	-30	986	0	0	0
49	SLU 14	27	-31	1003	0	0	0
49	SLU 15	27	-30	1004	0	0	0
49	SLU 16	27	-31	997	0	0	0
49	SLU 17	27	-30	997	0	0	0
49	SLU 18	27	-33	1022	0	0	0
49	SLU 19	28	-32	1023	0	0	0
49	SLU 20	27	-33	1034	0	0	0
49	SLU 21	28	-32	1035	0	0	0
49	SLU 22	28	-29	989	0	0	0
49	SLU 23	28	-27	990	0	0	0
49	SLU 24	28	-28	1007	0	0	0
49	SLU 25	29	-27	1008	0	0	0
49	SLU 26	29	-27	1002	0	0	0
49	SLU 27	28	-28	1019	0	0	0
49	SLU 28	29	-27	1020	0	0	0
49	SLU 29	28	-28	1012	0	0	0
49	SLU 30	29	-27	1013	0	0	0
49	SLU 31	31	-30	1105	0	0	0
49	SLU 32	31	-32	1122	0	0	0
49	SLU 33	31	-31	1123	0	0	0
49	SLU 34	31	-30	1116	0	0	0
49	SLU 35	31	-32	1134	0	0	0
49	SLU 36	31	-31	1134	0	0	0
49	SLU 37	31	-32	1127	0	0	0
49	SLU 38	31	-31	1128	0	0	0
49	SLU 39	31	-33	1153	0	0	0
49	SLU 40	32	-32	1153	0	0	0
49	SLU 41	32	-33	1164	0	0	0
49	SLU 42	32	-32	1165	0	0	0
49	SLU 43	29	-36	1071	0	0	0
49	SLU 44	30	-35	1072	0	0	0
49	SLU 45	30	-36	1090	0	0	0
49	SLU 46	30	-35	1090	0	0	0
49	SLU 47	30	-34	1084	0	0	0
49	SLU 48	30	-36	1101	0	0	0
49	SLU 49	30	-35	1102	0	0	0
49	SLU 50	30	-36	1095	0	0	0
49	SLU 51	30	-35	1096	0	0	0
49	SLU 52	33	-38	1187	0	0	0
49	SLU 53	32	-39	1204	0	0	0
49	SLU 54	33	-38	1205	0	0	0
49	SLU 55	33	-38	1199	0	0	0
49	SLU 56	33	-39	1216	0	0	0
49	SLU 57	33	-38	1217	0	0	0
49	SLU 58	32	-39	1210	0	0	0
49	SLU 59	33	-38	1210	0	0	0
49	SLU 60	33	-41	1235	0	0	0
49	SLU 61	33	-40	1236	0	0	0
49	SLU 62	33	-41	1247	0	0	0
49	SLU 63	34	-40	1248	0	0	0
49	SLU 64	33	-37	1202	0	0	0
49	SLU 65	34	-35	1203	0	0	0
49	SLU 66	34	-37	1220	0	0	0
49	SLU 67	34	-36	1221	0	0	0
49	SLU 68	34	-35	1215	0	0	0
49	SLU 69	34	-36	1232	0	0	0
49	SLU 70	35	-35	1232	0	0	0
49	SLU 71	34	-36	1225	0	0	0
49	SLU 72	34	-35	1226	0	0	0
49	SLU 73	37	-39	1317	0	0	0
49	SLU 74	36	-40	1335	0	0	0
49	SLU 75	37	-39	1335	0	0	0
49	SLU 76	37	-38	1329	0	0	0
49	SLU 77	37	-40	1346	0	0	0
49	SLU 78	37	-39	1347	0	0	0
49	SLU 79	36	-40	1340	0	0	0
49	SLU 80	37	-39	1341	0	0	0
49	SLU 81	37	-42	1365	0	0	0
49	SLU 82	37	-41	1366	0	0	0
49	SLU 83	37	-41	1377	0	0	0
49	SLU 84	38	-40	1378	0	0	0
49	SLE RA 1	25	-28	896	0	0	0
49	SLE RA 2	25	-27	896	0	0	0
49	SLE RA 3	25	-28	908	0	0	0
49	SLE RA 4	25	-27	908	0	0	0
49	SLE RA 5	25	-27	904	0	0	0
49	SLE RA 6	25	-28	916	0	0	0
49	SLE RA 7	26	-27	916	0	0	0
49	SLE RA 8	25	-28	911	0	0	0
49	SLE RA 9	25	-27	912	0	0	0
49	SLE RA 10	27	-29	973	0	0	0
49	SLE RA 11	27	-30	984	0	0	0
49	SLE RA 12	27	-30	985	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
49	SLE RA 13	27	-29	981	0	0	0
49	SLE RA 14	27	-30	992	0	0	0
49	SLE RA 15	27	-29	993	0	0	0
49	SLE RA 16	27	-30	988	0	0	0
49	SLE RA 17	27	-29	988	0	0	0
49	SLE RA 18	27	-31	1005	0	0	0
49	SLE RA 19	27	-31	1005	0	0	0
49	SLE RA 20	27	-31	1013	0	0	0
49	SLE RA 21	28	-31	1013	0	0	0
49	SLE FR 1	25	-28	896	0	0	0
49	SLE FR 2	25	-28	896	0	0	0
49	SLE FR 3	25	-28	899	0	0	0
49	SLE FR 4	26	-29	929	0	0	0
49	SLE FR 5	26	-29	932	0	0	0
49	SLE FR 6	26	-30	950	0	0	0
49	SLE QP 1	25	-28	896	0	0	0
49	SLE QP 2	25	-29	928	0	0	0
49	SLD 1	73	-21	913	0	0	0
49	SLD 2	75	-18	915	0	0	0
49	SLD 3	62	-37	888	0	0	0
49	SLD 4	64	-34	889	0	0	0
49	SLD 5	56	-3	963	0	0	0
49	SLD 6	57	-2	964	0	0	0
49	SLD 7	19	-56	877	0	0	0
49	SLD 8	21	-54	878	0	0	0
49	SLD 9	30	-5	979	0	0	0
49	SLD 10	31	-3	980	0	0	0
49	SLD 11	-6	-57	893	0	0	0
49	SLD 12	-5	-55	894	0	0	0
49	SLD 13	-13	-25	968	0	0	0
49	SLD 14	-11	-22	969	0	0	0
49	SLD 15	-24	-40	942	0	0	0
49	SLD 16	-22	-37	943	0	0	0
49	SLV 1	100	-15	907	0	0	0
49	SLV 2	104	-10	909	0	0	0
49	SLV 3	82	-42	863	0	0	0
49	SLV 4	86	-37	865	0	0	0
49	SLV 5	75	15	988	0	0	0
49	SLV 6	78	18	990	0	0	0
49	SLV 7	14	-75	842	0	0	0
49	SLV 8	16	-71	843	0	0	0
49	SLV 9	35	13	1013	0	0	0
49	SLV 10	37	16	1015	0	0	0
49	SLV 11	-27	-76	867	0	0	0
49	SLV 12	-25	-73	869	0	0	0
49	SLV 13	-35	-21	991	0	0	0
49	SLV 14	-31	-16	994	0	0	0
49	SLV 15	-53	-48	948	0	0	0
49	SLV 16	-49	-43	950	0	0	0
49	SLV FO 1	108	-14	905	0	0	0
49	SLV FO 2	112	-9	907	0	0	0
49	SLV FO 3	87	-43	856	0	0	0
49	SLV FO 4	92	-38	859	0	0	0
49	SLV FO 5	80	19	994	0	0	0
49	SLV FO 6	83	23	996	0	0	0
49	SLV FO 7	12	-79	833	0	0	0
49	SLV FO 8	15	-76	835	0	0	0
49	SLV FO 9	36	17	1022	0	0	0
49	SLV FO 10	39	21	1024	0	0	0
49	SLV FO 11	-32	-81	861	0	0	0
49	SLV FO 12	-30	-77	863	0	0	0
49	SLV FO 13	-41	-20	998	0	0	0
49	SLV FO 14	-37	-15	1000	0	0	0
49	SLV FO 15	-61	-50	950	0	0	0
49	SLV FO 16	-57	-45	952	0	0	0
50	SLU 1	23	-27	863	0	0	0
50	SLU 2	24	-26	865	0	0	0
50	SLU 3	24	-27	882	0	0	0
50	SLU 4	24	-26	883	0	0	0
50	SLU 5	25	-26	877	0	0	0
50	SLU 6	24	-27	894	0	0	0
50	SLU 7	25	-26	895	0	0	0
50	SLU 8	24	-27	887	0	0	0
50	SLU 9	24	-26	888	0	0	0
50	SLU 10	27	-29	980	0	0	0
50	SLU 11	27	-30	997	0	0	0
50	SLU 12	27	-29	998	0	0	0
50	SLU 13	27	-29	992	0	0	0
50	SLU 14	27	-30	1009	0	0	0
50	SLU 15	27	-29	1010	0	0	0
50	SLU 16	27	-30	1002	0	0	0
50	SLU 17	27	-29	1003	0	0	0
50	SLU 18	27	-32	1028	0	0	0
50	SLU 19	28	-31	1029	0	0	0
50	SLU 20	27	-32	1040	0	0	0
50	SLU 21	28	-31	1041	0	0	0
50	SLU 22	28	-28	994	0	0	0
50	SLU 23	28	-26	996	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLU 24	28	-28	1013	0	0	0
50	SLU 25	29	-27	1014	0	0	0
50	SLU 26	29	-26	1008	0	0	0
50	SLU 27	28	-28	1025	0	0	0
50	SLU 28	29	-27	1026	0	0	0
50	SLU 29	28	-28	1018	0	0	0
50	SLU 30	29	-27	1019	0	0	0
50	SLU 31	31	-30	1111	0	0	0
50	SLU 32	31	-31	1128	0	0	0
50	SLU 33	31	-30	1129	0	0	0
50	SLU 34	31	-29	1123	0	0	0
50	SLU 35	31	-31	1140	0	0	0
50	SLU 36	31	-30	1141	0	0	0
50	SLU 37	31	-31	1133	0	0	0
50	SLU 38	31	-30	1134	0	0	0
50	SLU 39	31	-33	1159	0	0	0
50	SLU 40	32	-32	1160	0	0	0
50	SLU 41	31	-33	1171	0	0	0
50	SLU 42	32	-32	1172	0	0	0
50	SLU 43	29	-35	1077	0	0	0
50	SLU 44	30	-34	1079	0	0	0
50	SLU 45	30	-35	1096	0	0	0
50	SLU 46	30	-34	1097	0	0	0
50	SLU 47	30	-34	1091	0	0	0
50	SLU 48	30	-35	1108	0	0	0
50	SLU 49	30	-34	1109	0	0	0
50	SLU 50	30	-35	1101	0	0	0
50	SLU 51	30	-34	1102	0	0	0
50	SLU 52	33	-37	1194	0	0	0
50	SLU 53	32	-38	1211	0	0	0
50	SLU 54	33	-37	1212	0	0	0
50	SLU 55	33	-37	1206	0	0	0
50	SLU 56	32	-38	1223	0	0	0
50	SLU 57	33	-37	1224	0	0	0
50	SLU 58	32	-38	1216	0	0	0
50	SLU 59	33	-37	1217	0	0	0
50	SLU 60	33	-40	1242	0	0	0
50	SLU 61	33	-39	1243	0	0	0
50	SLU 62	33	-40	1254	0	0	0
50	SLU 63	34	-39	1255	0	0	0
50	SLU 64	33	-36	1208	0	0	0
50	SLU 65	34	-34	1210	0	0	0
50	SLU 66	34	-36	1227	0	0	0
50	SLU 67	34	-35	1228	0	0	0
50	SLU 68	34	-34	1222	0	0	0
50	SLU 69	34	-36	1239	0	0	0
50	SLU 70	34	-35	1240	0	0	0
50	SLU 71	34	-36	1232	0	0	0
50	SLU 72	34	-35	1233	0	0	0
50	SLU 73	37	-38	1325	0	0	0
50	SLU 74	36	-39	1342	0	0	0
50	SLU 75	37	-38	1343	0	0	0
50	SLU 76	37	-37	1337	0	0	0
50	SLU 77	36	-39	1354	0	0	0
50	SLU 78	37	-38	1355	0	0	0
50	SLU 79	36	-39	1347	0	0	0
50	SLU 80	37	-38	1348	0	0	0
50	SLU 81	37	-41	1373	0	0	0
50	SLU 82	37	-40	1374	0	0	0
50	SLU 83	37	-41	1385	0	0	0
50	SLU 84	38	-40	1386	0	0	0
50	SLE RA 1	25	-28	901	0	0	0
50	SLE RA 2	25	-26	902	0	0	0
50	SLE RA 3	25	-27	913	0	0	0
50	SLE RA 4	25	-27	914	0	0	0
50	SLE RA 5	25	-26	910	0	0	0
50	SLE RA 6	25	-27	921	0	0	0
50	SLE RA 7	25	-27	922	0	0	0
50	SLE RA 8	25	-27	917	0	0	0
50	SLE RA 9	25	-27	917	0	0	0
50	SLE RA 10	27	-29	979	0	0	0
50	SLE RA 11	27	-30	990	0	0	0
50	SLE RA 12	27	-29	991	0	0	0
50	SLE RA 13	27	-29	986	0	0	0
50	SLE RA 14	27	-29	998	0	0	0
50	SLE RA 15	27	-29	998	0	0	0
50	SLE RA 16	27	-30	993	0	0	0
50	SLE RA 17	27	-29	994	0	0	0
50	SLE RA 18	27	-31	1011	0	0	0
50	SLE RA 19	27	-30	1011	0	0	0
50	SLE RA 20	27	-31	1018	0	0	0
50	SLE RA 21	28	-30	1019	0	0	0
50	SLE FR 1	25	-28	901	0	0	0
50	SLE FR 2	25	-27	901	0	0	0
50	SLE FR 3	25	-28	904	0	0	0
50	SLE FR 4	25	-28	934	0	0	0
50	SLE FR 5	25	-28	937	0	0	0
50	SLE FR 6	26	-29	956	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLE QP 1	25	-28	901	0	0	0
50	SLE QP 2	25	-29	934	0	0	0
50	SLD 1	73	-20	910	0	0	0
50	SLD 2	75	-16	911	0	0	0
50	SLD 3	62	-36	881	0	0	0
50	SLD 4	64	-33	883	0	0	0
50	SLD 5	56	-2	970	0	0	0
50	SLD 6	57	1	971	0	0	0
50	SLD 7	19	-56	874	0	0	0
50	SLD 8	21	-54	875	0	0	0
50	SLD 9	30	-3	992	0	0	0
50	SLD 10	31	-1	993	0	0	0
50	SLD 11	-6	-58	896	0	0	0
50	SLD 12	-5	-55	897	0	0	0
50	SLD 13	-13	-24	985	0	0	0
50	SLD 14	-11	-21	986	0	0	0
50	SLD 15	-24	-41	956	0	0	0
50	SLD 16	-22	-37	958	0	0	0
50	SLV 1	100	-14	899	0	0	0
50	SLV 2	104	-8	901	0	0	0
50	SLV 3	82	-42	849	0	0	0
50	SLV 4	85	-36	852	0	0	0
50	SLV 5	75	17	997	0	0	0
50	SLV 6	78	21	999	0	0	0
50	SLV 7	13	-76	833	0	0	0
50	SLV 8	16	-72	835	0	0	0
50	SLV 9	35	15	1032	0	0	0
50	SLV 10	37	19	1034	0	0	0
50	SLV 11	-27	-78	869	0	0	0
50	SLV 12	-24	-74	870	0	0	0
50	SLV 13	-35	-21	1016	0	0	0
50	SLV 14	-31	-15	1018	0	0	0
50	SLV 15	-53	-49	966	0	0	0
50	SLV 16	-49	-43	969	0	0	0
50	SLV FO 1	108	-13	895	0	0	0
50	SLV FO 2	112	-6	898	0	0	0
50	SLV FO 3	87	-43	841	0	0	0
50	SLV FO 4	91	-37	844	0	0	0
50	SLV FO 5	80	22	1004	0	0	0
50	SLV FO 6	83	26	1005	0	0	0
50	SLV FO 7	12	-81	823	0	0	0
50	SLV FO 8	15	-77	825	0	0	0
50	SLV FO 9	36	19	1042	0	0	0
50	SLV FO 10	38	24	1044	0	0	0
50	SLV FO 11	-32	-83	862	0	0	0
50	SLV FO 12	-29	-79	864	0	0	0
50	SLV FO 13	-41	-20	1024	0	0	0
50	SLV FO 14	-36	-14	1026	0	0	0
50	SLV FO 15	-61	-51	970	0	0	0
50	SLV FO 16	-57	-45	972	0	0	0
51	SLU 1	19	-21	706	0	0	0
51	SLU 2	20	-19	708	0	0	0
51	SLU 3	19	-21	721	0	0	0
51	SLU 4	20	-20	722	0	0	0
51	SLU 5	20	-19	718	0	0	0
51	SLU 6	19	-21	731	0	0	0
51	SLU 7	20	-20	732	0	0	0
51	SLU 8	19	-21	726	0	0	0
51	SLU 9	20	-20	727	0	0	0
51	SLU 10	22	-22	802	0	0	0
51	SLU 11	21	-23	816	0	0	0
51	SLU 12	22	-22	817	0	0	0
51	SLU 13	22	-22	812	0	0	0
51	SLU 14	22	-23	825	0	0	0
51	SLU 15	22	-22	826	0	0	0
51	SLU 16	21	-23	820	0	0	0
51	SLU 17	22	-22	821	0	0	0
51	SLU 18	22	-25	841	0	0	0
51	SLU 19	22	-24	842	0	0	0
51	SLU 20	22	-24	850	0	0	0
51	SLU 21	22	-24	851	0	0	0
51	SLU 22	22	-21	814	0	0	0
51	SLU 23	23	-20	816	0	0	0
51	SLU 24	23	-21	829	0	0	0
51	SLU 25	23	-20	830	0	0	0
51	SLU 26	23	-20	825	0	0	0
51	SLU 27	23	-21	839	0	0	0
51	SLU 28	23	-20	840	0	0	0
51	SLU 29	23	-21	833	0	0	0
51	SLU 30	23	-20	834	0	0	0
51	SLU 31	25	-22	910	0	0	0
51	SLU 32	25	-24	923	0	0	0
51	SLU 33	25	-23	924	0	0	0
51	SLU 34	25	-22	919	0	0	0
51	SLU 35	25	-24	933	0	0	0
51	SLU 36	25	-23	934	0	0	0
51	SLU 37	25	-24	927	0	0	0
51	SLU 38	25	-23	928	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLU 39	25	-25	948	0	0	0
51	SLU 40	25	-24	950	0	0	0
51	SLU 41	25	-25	958	0	0	0
51	SLU 42	26	-24	959	0	0	0
51	SLU 43	23	-27	881	0	0	0
51	SLU 44	24	-26	883	0	0	0
51	SLU 45	24	-27	896	0	0	0
51	SLU 46	24	-26	897	0	0	0
51	SLU 47	24	-25	893	0	0	0
51	SLU 48	24	-27	906	0	0	0
51	SLU 49	24	-26	907	0	0	0
51	SLU 50	24	-27	901	0	0	0
51	SLU 51	24	-26	902	0	0	0
51	SLU 52	26	-28	977	0	0	0
51	SLU 53	26	-29	991	0	0	0
51	SLU 54	26	-29	992	0	0	0
51	SLU 55	26	-28	987	0	0	0
51	SLU 56	26	-29	1000	0	0	0
51	SLU 57	26	-28	1001	0	0	0
51	SLU 58	26	-29	995	0	0	0
51	SLU 59	26	-28	996	0	0	0
51	SLU 60	26	-31	1016	0	0	0
51	SLU 61	27	-30	1017	0	0	0
51	SLU 62	27	-31	1025	0	0	0
51	SLU 63	27	-30	1026	0	0	0
51	SLU 64	27	-27	989	0	0	0
51	SLU 65	27	-26	991	0	0	0
51	SLU 66	27	-27	1004	0	0	0
51	SLU 67	27	-26	1005	0	0	0
51	SLU 68	28	-26	1000	0	0	0
51	SLU 69	27	-27	1014	0	0	0
51	SLU 70	28	-26	1015	0	0	0
51	SLU 71	27	-27	1008	0	0	0
51	SLU 72	27	-26	1009	0	0	0
51	SLU 73	29	-29	1085	0	0	0
51	SLU 74	29	-30	1098	0	0	0
51	SLU 75	29	-29	1099	0	0	0
51	SLU 76	30	-28	1094	0	0	0
51	SLU 77	29	-30	1108	0	0	0
51	SLU 78	30	-29	1109	0	0	0
51	SLU 79	29	-30	1102	0	0	0
51	SLU 80	30	-29	1103	0	0	0
51	SLU 81	30	-31	1123	0	0	0
51	SLU 82	30	-30	1124	0	0	0
51	SLU 83	30	-31	1133	0	0	0
51	SLU 84	30	-30	1134	0	0	0
51	SLE RA 1	20	-21	737	0	0	0
51	SLE RA 2	20	-20	738	0	0	0
51	SLE RA 3	20	-21	747	0	0	0
51	SLE RA 4	20	-20	748	0	0	0
51	SLE RA 5	20	-20	745	0	0	0
51	SLE RA 6	20	-21	754	0	0	0
51	SLE RA 7	20	-20	754	0	0	0
51	SLE RA 8	20	-21	750	0	0	0
51	SLE RA 9	20	-20	751	0	0	0
51	SLE RA 10	22	-22	801	0	0	0
51	SLE RA 11	21	-23	810	0	0	0
51	SLE RA 12	22	-22	811	0	0	0
51	SLE RA 13	22	-22	807	0	0	0
51	SLE RA 14	22	-23	816	0	0	0
51	SLE RA 15	22	-22	817	0	0	0
51	SLE RA 16	21	-23	813	0	0	0
51	SLE RA 17	22	-22	813	0	0	0
51	SLE RA 18	22	-23	827	0	0	0
51	SLE RA 19	22	-23	827	0	0	0
51	SLE RA 20	22	-23	833	0	0	0
51	SLE RA 21	22	-23	834	0	0	0
51	SLE FR 1	20	-21	737	0	0	0
51	SLE FR 2	20	-21	737	0	0	0
51	SLE FR 3	20	-21	740	0	0	0
51	SLE FR 4	20	-22	764	0	0	0
51	SLE FR 5	20	-22	767	0	0	0
51	SLE FR 6	21	-22	782	0	0	0
51	SLE QP 1	20	-21	737	0	0	0
51	SLE QP 2	20	-22	764	0	0	0
51	SLD 1	58	-14	726	0	0	0
51	SLD 2	60	-9	727	0	0	0
51	SLD 3	50	-29	696	0	0	0
51	SLD 4	51	-24	697	0	0	0
51	SLD 5	45	2	797	0	0	0
51	SLD 6	46	5	798	0	0	0
51	SLD 7	16	-47	698	0	0	0
51	SLD 8	17	-44	699	0	0	0
51	SLD 9	24	1	829	0	0	0
51	SLD 10	25	4	830	0	0	0
51	SLD 11	-5	-49	730	0	0	0
51	SLD 12	-4	-46	731	0	0	0
51	SLD 13	-11	-19	831	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLD 14	-9	-15	832	0	0	0
51	SLD 15	-19	-34	801	0	0	0
51	SLD 16	-18	-30	802	0	0	0
51	SLV 1	80	-9	707	0	0	0
51	SLV 2	83	-1	709	0	0	0
51	SLV 3	66	-34	656	0	0	0
51	SLV 4	69	-27	658	0	0	0
51	SLV 5	60	19	823	0	0	0
51	SLV 6	62	24	825	0	0	0
51	SLV 7	11	-65	654	0	0	0
51	SLV 8	13	-61	656	0	0	0
51	SLV 9	28	17	872	0	0	0
51	SLV 10	30	22	874	0	0	0
51	SLV 11	-22	-68	703	0	0	0
51	SLV 12	-20	-63	705	0	0	0
51	SLV 13	-28	-17	870	0	0	0
51	SLV 14	-25	-10	872	0	0	0
51	SLV 15	-43	-42	819	0	0	0
51	SLV 16	-40	-35	821	0	0	0
51	SLV FO 1	86	-7	701	0	0	0
51	SLV FO 2	90	1	703	0	0	0
51	SLV FO 3	70	-35	645	0	0	0
51	SLV FO 4	73	-27	647	0	0	0
51	SLV FO 5	64	24	829	0	0	0
51	SLV FO 6	67	29	831	0	0	0
51	SLV FO 7	10	-70	643	0	0	0
51	SLV FO 8	12	-64	645	0	0	0
51	SLV FO 9	29	21	883	0	0	0
51	SLV FO 10	31	26	885	0	0	0
51	SLV FO 11	-26	-72	697	0	0	0
51	SLV FO 12	-24	-67	699	0	0	0
51	SLV FO 13	-33	-16	881	0	0	0
51	SLV FO 14	-29	-8	883	0	0	0
51	SLV FO 15	-49	-44	825	0	0	0
51	SLV FO 16	-46	-36	827	0	0	0
52	SLU 1	30	-38	1081	0	0	0
52	SLU 2	31	-36	1080	0	0	0
52	SLU 3	30	-38	1105	0	0	0
52	SLU 4	31	-37	1104	0	0	0
52	SLU 5	31	-36	1095	0	0	0
52	SLU 6	31	-38	1121	0	0	0
52	SLU 7	31	-37	1120	0	0	0
52	SLU 8	31	-38	1112	0	0	0
52	SLU 9	31	-37	1111	0	0	0
52	SLU 10	34	-41	1225	0	0	0
52	SLU 11	34	-42	1250	0	0	0
52	SLU 12	34	-41	1249	0	0	0
52	SLU 13	34	-41	1240	0	0	0
52	SLU 14	34	-42	1266	0	0	0
52	SLU 15	35	-41	1265	0	0	0
52	SLU 16	34	-42	1257	0	0	0
52	SLU 17	34	-41	1256	0	0	0
52	SLU 18	35	-45	1288	0	0	0
52	SLU 19	35	-44	1287	0	0	0
52	SLU 20	35	-44	1304	0	0	0
52	SLU 21	35	-43	1303	0	0	0
52	SLU 22	35	-39	1247	0	0	0
52	SLU 23	36	-37	1245	0	0	0
52	SLU 24	36	-39	1271	0	0	0
52	SLU 25	36	-38	1270	0	0	0
52	SLU 26	36	-37	1261	0	0	0
52	SLU 27	36	-39	1286	0	0	0
52	SLU 28	37	-38	1285	0	0	0
52	SLU 29	36	-39	1278	0	0	0
52	SLU 30	36	-38	1277	0	0	0
52	SLU 31	39	-42	1390	0	0	0
52	SLU 32	39	-43	1416	0	0	0
52	SLU 33	40	-42	1415	0	0	0
52	SLU 34	40	-42	1406	0	0	0
52	SLU 35	39	-43	1431	0	0	0
52	SLU 36	40	-42	1430	0	0	0
52	SLU 37	39	-43	1423	0	0	0
52	SLU 38	40	-42	1422	0	0	0
52	SLU 39	40	-46	1454	0	0	0
52	SLU 40	40	-45	1453	0	0	0
52	SLU 41	40	-45	1470	0	0	0
52	SLU 42	41	-44	1469	0	0	0
52	SLU 43	37	-50	1349	0	0	0
52	SLU 44	38	-48	1347	0	0	0
52	SLU 45	38	-49	1373	0	0	0
52	SLU 46	38	-48	1372	0	0	0
52	SLU 47	38	-47	1362	0	0	0
52	SLU 48	38	-49	1388	0	0	0
52	SLU 49	39	-48	1387	0	0	0
52	SLU 50	38	-49	1380	0	0	0
52	SLU 51	38	-48	1379	0	0	0
52	SLU 52	41	-52	1492	0	0	0
52	SLU 53	41	-54	1518	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
52	SLU 54	41	-52	1517	0	0	0
52	SLU 55	42	-52	1508	0	0	0
52	SLU 56	41	-53	1533	0	0	0
52	SLU 57	42	-52	1532	0	0	0
52	SLU 58	41	-53	1525	0	0	0
52	SLU 59	42	-52	1524	0	0	0
52	SLU 60	42	-56	1556	0	0	0
52	SLU 61	42	-55	1555	0	0	0
52	SLU 62	42	-55	1571	0	0	0
52	SLU 63	43	-54	1570	0	0	0
52	SLU 64	42	-51	1515	0	0	0
52	SLU 65	43	-49	1513	0	0	0
52	SLU 66	43	-50	1538	0	0	0
52	SLU 67	43	-49	1537	0	0	0
52	SLU 68	44	-48	1528	0	0	0
52	SLU 69	43	-50	1554	0	0	0
52	SLU 70	44	-49	1553	0	0	0
52	SLU 71	43	-50	1545	0	0	0
52	SLU 72	43	-49	1544	0	0	0
52	SLU 73	46	-53	1658	0	0	0
52	SLU 74	46	-55	1683	0	0	0
52	SLU 75	47	-53	1682	0	0	0
52	SLU 76	47	-53	1673	0	0	0
52	SLU 77	46	-54	1699	0	0	0
52	SLU 78	47	-53	1698	0	0	0
52	SLU 79	46	-54	1690	0	0	0
52	SLU 80	47	-53	1689	0	0	0
52	SLU 81	47	-57	1722	0	0	0
52	SLU 82	47	-56	1721	0	0	0
52	SLU 83	47	-56	1737	0	0	0
52	SLU 84	48	-55	1736	0	0	0
52	SLE RA 1	31	-39	1129	0	0	0
52	SLE RA 2	32	-37	1127	0	0	0
52	SLE RA 3	32	-38	1145	0	0	0
52	SLE RA 4	32	-38	1144	0	0	0
52	SLE RA 5	32	-37	1138	0	0	0
52	SLE RA 6	32	-38	1155	0	0	0
52	SLE RA 7	32	-37	1154	0	0	0
52	SLE RA 8	32	-38	1149	0	0	0
52	SLE RA 9	32	-37	1148	0	0	0
52	SLE RA 10	34	-40	1224	0	0	0
52	SLE RA 11	34	-41	1241	0	0	0
52	SLE RA 12	34	-41	1241	0	0	0
52	SLE RA 13	34	-40	1234	0	0	0
52	SLE RA 14	34	-41	1252	0	0	0
52	SLE RA 15	35	-40	1251	0	0	0
52	SLE RA 16	34	-41	1246	0	0	0
52	SLE RA 17	34	-40	1245	0	0	0
52	SLE RA 18	34	-43	1267	0	0	0
52	SLE RA 19	35	-42	1266	0	0	0
52	SLE RA 20	35	-43	1277	0	0	0
52	SLE RA 21	35	-42	1276	0	0	0
52	SLE FR 1	31	-39	1129	0	0	0
52	SLE FR 2	31	-38	1128	0	0	0
52	SLE FR 3	31	-39	1133	0	0	0
52	SLE FR 4	32	-40	1170	0	0	0
52	SLE FR 5	32	-40	1174	0	0	0
52	SLE FR 6	33	-41	1198	0	0	0
52	SLE QP 1	31	-39	1129	0	0	0
52	SLE QP 2	32	-40	1170	0	0	0
52	SLD 1	93	-33	1172	0	0	0
52	SLD 2	95	-32	1173	0	0	0
52	SLD 3	80	-50	1185	0	0	0
52	SLD 4	82	-50	1186	0	0	0
52	SLD 5	69	-12	1150	0	0	0
52	SLD 6	70	-11	1151	0	0	0
52	SLD 7	28	-70	1194	0	0	0
52	SLD 8	29	-69	1195	0	0	0
52	SLD 9	36	-11	1145	0	0	0
52	SLD 10	37	-10	1146	0	0	0
52	SLD 11	-6	-69	1189	0	0	0
52	SLD 12	-5	-68	1190	0	0	0
52	SLD 13	-18	-30	1154	0	0	0
52	SLD 14	-16	-29	1155	0	0	0
52	SLD 15	-30	-48	1167	0	0	0
52	SLD 16	-28	-47	1168	0	0	0
52	SLV 1	128	-28	1172	0	0	0
52	SLV 2	131	-27	1174	0	0	0
52	SLV 3	107	-58	1195	0	0	0
52	SLV 4	110	-57	1196	0	0	0
52	SLV 5	93	9	1136	0	0	0
52	SLV 6	95	10	1137	0	0	0
52	SLV 7	22	-91	1211	0	0	0
52	SLV 8	24	-90	1212	0	0	0
52	SLV 9	41	10	1128	0	0	0
52	SLV 10	43	11	1129	0	0	0
52	SLV 11	-30	-89	1203	0	0	0
52	SLV 12	-28	-88	1204	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
52	SLV 13	-45	-23	1144	0	0	0
52	SLV 14	-42	-22	1145	0	0	0
52	SLV 15	-66	-53	1166	0	0	0
52	SLV 16	-64	-52	1168	0	0	0
52	SLV FO 1	138	-27	1173	0	0	0
52	SLV FO 2	141	-25	1174	0	0	0
52	SLV FO 3	114	-60	1197	0	0	0
52	SLV FO 4	117	-58	1199	0	0	0
52	SLV FO 5	99	13	1133	0	0	0
52	SLV FO 6	101	15	1134	0	0	0
52	SLV FO 7	21	-96	1216	0	0	0
52	SLV FO 8	23	-95	1216	0	0	0
52	SLV FO 9	42	15	1124	0	0	0
52	SLV FO 10	44	16	1125	0	0	0
52	SLV FO 11	-36	-94	1206	0	0	0
52	SLV FO 12	-34	-93	1207	0	0	0
52	SLV FO 13	-53	-22	1141	0	0	0
52	SLV FO 14	-50	-20	1143	0	0	0
52	SLV FO 15	-76	-54	1166	0	0	0
52	SLV FO 16	-73	-53	1168	0	0	0
53	SLU 1	30	-35	1119	0	0	0
53	SLU 2	31	-33	1118	0	0	0
53	SLU 3	30	-35	1143	0	0	0
53	SLU 4	31	-33	1143	0	0	0
53	SLU 5	31	-32	1134	0	0	0
53	SLU 6	31	-34	1159	0	0	0
53	SLU 7	31	-33	1159	0	0	0
53	SLU 8	30	-34	1150	0	0	0
53	SLU 9	31	-33	1150	0	0	0
53	SLU 10	34	-37	1268	0	0	0
53	SLU 11	33	-39	1293	0	0	0
53	SLU 12	34	-38	1293	0	0	0
53	SLU 13	34	-37	1284	0	0	0
53	SLU 14	34	-39	1309	0	0	0
53	SLU 15	34	-37	1308	0	0	0
53	SLU 16	33	-39	1300	0	0	0
53	SLU 17	34	-37	1300	0	0	0
53	SLU 18	34	-41	1332	0	0	0
53	SLU 19	35	-40	1332	0	0	0
53	SLU 20	35	-41	1348	0	0	0
53	SLU 21	35	-39	1348	0	0	0
53	SLU 22	35	-36	1291	0	0	0
53	SLU 23	36	-33	1291	0	0	0
53	SLU 24	35	-35	1316	0	0	0
53	SLU 25	36	-34	1316	0	0	0
53	SLU 26	36	-33	1307	0	0	0
53	SLU 27	36	-35	1332	0	0	0
53	SLU 28	36	-34	1332	0	0	0
53	SLU 29	35	-35	1323	0	0	0
53	SLU 30	36	-34	1323	0	0	0
53	SLU 31	39	-38	1441	0	0	0
53	SLU 32	39	-40	1465	0	0	0
53	SLU 33	39	-38	1465	0	0	0
53	SLU 34	39	-37	1456	0	0	0
53	SLU 35	39	-39	1481	0	0	0
53	SLU 36	40	-38	1481	0	0	0
53	SLU 37	39	-39	1472	0	0	0
53	SLU 38	39	-38	1472	0	0	0
53	SLU 39	39	-42	1505	0	0	0
53	SLU 40	40	-40	1505	0	0	0
53	SLU 41	40	-41	1521	0	0	0
53	SLU 42	40	-40	1520	0	0	0
53	SLU 43	37	-45	1395	0	0	0
53	SLU 44	38	-43	1395	0	0	0
53	SLU 45	37	-45	1420	0	0	0
53	SLU 46	38	-44	1420	0	0	0
53	SLU 47	38	-43	1411	0	0	0
53	SLU 48	38	-45	1435	0	0	0
53	SLU 49	38	-43	1435	0	0	0
53	SLU 50	37	-45	1427	0	0	0
53	SLU 51	38	-43	1427	0	0	0
53	SLU 52	41	-47	1544	0	0	0
53	SLU 53	41	-49	1569	0	0	0
53	SLU 54	41	-48	1569	0	0	0
53	SLU 55	41	-47	1560	0	0	0
53	SLU 56	41	-49	1585	0	0	0
53	SLU 57	41	-48	1585	0	0	0
53	SLU 58	41	-49	1576	0	0	0
53	SLU 59	41	-48	1576	0	0	0
53	SLU 60	41	-51	1609	0	0	0
53	SLU 61	42	-50	1608	0	0	0
53	SLU 62	42	-51	1624	0	0	0
53	SLU 63	42	-50	1624	0	0	0
53	SLU 64	42	-46	1568	0	0	0
53	SLU 65	43	-44	1567	0	0	0
53	SLU 66	42	-46	1592	0	0	0
53	SLU 67	43	-44	1592	0	0	0
53	SLU 68	43	-43	1583	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
53	SLU 69	43	-45	1608	0	0	0
53	SLU 70	43	-44	1608	0	0	0
53	SLU 71	43	-45	1599	0	0	0
53	SLU 72	43	-44	1599	0	0	0
53	SLU 73	46	-48	1717	0	0	0
53	SLU 74	46	-50	1742	0	0	0
53	SLU 75	46	-49	1742	0	0	0
53	SLU 76	46	-48	1733	0	0	0
53	SLU 77	46	-50	1758	0	0	0
53	SLU 78	47	-48	1757	0	0	0
53	SLU 79	46	-50	1749	0	0	0
53	SLU 80	46	-48	1749	0	0	0
53	SLU 81	46	-52	1781	0	0	0
53	SLU 82	47	-51	1781	0	0	0
53	SLU 83	47	-52	1797	0	0	0
53	SLU 84	47	-50	1797	0	0	0
53	SLE RA 1	31	-35	1168	0	0	0
53	SLE RA 2	32	-34	1168	0	0	0
53	SLE RA 3	31	-35	1184	0	0	0
53	SLE RA 4	32	-34	1184	0	0	0
53	SLE RA 5	32	-34	1178	0	0	0
53	SLE RA 6	32	-35	1195	0	0	0
53	SLE RA 7	32	-34	1195	0	0	0
53	SLE RA 8	31	-35	1189	0	0	0
53	SLE RA 9	32	-34	1189	0	0	0
53	SLE RA 10	34	-36	1267	0	0	0
53	SLE RA 11	34	-38	1284	0	0	0
53	SLE RA 12	34	-37	1284	0	0	0
53	SLE RA 13	34	-36	1278	0	0	0
53	SLE RA 14	34	-38	1295	0	0	0
53	SLE RA 15	34	-37	1294	0	0	0
53	SLE RA 16	34	-38	1289	0	0	0
53	SLE RA 17	34	-37	1289	0	0	0
53	SLE RA 18	34	-39	1310	0	0	0
53	SLE RA 19	34	-38	1310	0	0	0
53	SLE RA 20	34	-39	1321	0	0	0
53	SLE RA 21	35	-38	1321	0	0	0
53	SLE FR 1	31	-35	1168	0	0	0
53	SLE FR 2	31	-35	1168	0	0	0
53	SLE FR 3	31	-35	1172	0	0	0
53	SLE FR 4	32	-36	1211	0	0	0
53	SLE FR 5	32	-36	1215	0	0	0
53	SLE FR 6	33	-37	1239	0	0	0
53	SLE QP 1	31	-35	1168	0	0	0
53	SLE QP 2	32	-36	1211	0	0	0
53	SLD 1	93	-25	1153	0	0	0
53	SLD 2	94	-19	1154	0	0	0
53	SLD 3	80	-47	1144	0	0	0
53	SLD 4	82	-41	1146	0	0	0
53	SLD 5	69	0	1206	0	0	0
53	SLD 6	70	4	1207	0	0	0
53	SLD 7	27	-75	1178	0	0	0
53	SLD 8	28	-71	1178	0	0	0
53	SLD 9	36	-2	1243	0	0	0
53	SLD 10	37	2	1244	0	0	0
53	SLD 11	-6	-77	1215	0	0	0
53	SLD 12	-5	-73	1215	0	0	0
53	SLD 13	-18	-31	1276	0	0	0
53	SLD 14	-16	-26	1277	0	0	0
53	SLD 15	-30	-54	1267	0	0	0
53	SLD 16	-29	-48	1268	0	0	0
53	SLV 1	128	-17	1121	0	0	0
53	SLV 2	130	-7	1123	0	0	0
53	SLV 3	106	-55	1106	0	0	0
53	SLV 4	109	-45	1108	0	0	0
53	SLV 5	93	26	1205	0	0	0
53	SLV 6	94	32	1207	0	0	0
53	SLV 7	21	-102	1157	0	0	0
53	SLV 8	23	-95	1158	0	0	0
53	SLV 9	41	23	1263	0	0	0
53	SLV 10	42	29	1264	0	0	0
53	SLV 11	-30	-105	1215	0	0	0
53	SLV 12	-29	-99	1216	0	0	0
53	SLV 13	-45	-27	1313	0	0	0
53	SLV 14	-43	-18	1315	0	0	0
53	SLV 15	-66	-65	1298	0	0	0
53	SLV 16	-64	-56	1300	0	0	0
53	SLV FO 1	137	-15	1112	0	0	0
53	SLV FO 2	140	-4	1114	0	0	0
53	SLV FO 3	114	-57	1096	0	0	0
53	SLV FO 4	117	-46	1098	0	0	0
53	SLV FO 5	99	32	1205	0	0	0
53	SLV FO 6	101	39	1206	0	0	0
53	SLV FO 7	20	-108	1152	0	0	0
53	SLV FO 8	22	-101	1153	0	0	0
53	SLV FO 9	41	28	1268	0	0	0
53	SLV FO 10	43	35	1270	0	0	0
53	SLV FO 11	-37	-112	1215	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
53	SLV FO 12	-35	-105	1216	0	0	0
53	SLV FO 13	-53	-26	1323	0	0	0
53	SLV FO 14	-50	-16	1325	0	0	0
53	SLV FO 15	-76	-68	1307	0	0	0
53	SLV FO 16	-73	-58	1309	0	0	0
54	SLU 1	18	-24	655	0	0	0
54	SLU 2	19	-23	653	0	0	0
54	SLU 3	19	-24	669	0	0	0
54	SLU 4	19	-23	668	0	0	0
54	SLU 5	19	-23	663	0	0	0
54	SLU 6	19	-24	679	0	0	0
54	SLU 7	19	-23	678	0	0	0
54	SLU 8	19	-24	674	0	0	0
54	SLU 9	19	-23	673	0	0	0
54	SLU 10	21	-26	741	0	0	0
54	SLU 11	21	-27	757	0	0	0
54	SLU 12	21	-26	756	0	0	0
54	SLU 13	21	-26	751	0	0	0
54	SLU 14	21	-27	767	0	0	0
54	SLU 15	21	-26	766	0	0	0
54	SLU 16	21	-27	761	0	0	0
54	SLU 17	21	-26	761	0	0	0
54	SLU 18	21	-28	780	0	0	0
54	SLU 19	22	-28	779	0	0	0
54	SLU 20	21	-28	790	0	0	0
54	SLU 21	22	-27	789	0	0	0
54	SLU 22	22	-25	755	0	0	0
54	SLU 23	22	-24	753	0	0	0
54	SLU 24	22	-25	769	0	0	0
54	SLU 25	22	-24	769	0	0	0
54	SLU 26	22	-24	763	0	0	0
54	SLU 27	22	-24	779	0	0	0
54	SLU 28	23	-24	778	0	0	0
54	SLU 29	22	-24	774	0	0	0
54	SLU 30	22	-24	773	0	0	0
54	SLU 31	24	-27	841	0	0	0
54	SLU 32	24	-27	857	0	0	0
54	SLU 33	24	-27	856	0	0	0
54	SLU 34	24	-26	851	0	0	0
54	SLU 35	24	-27	867	0	0	0
54	SLU 36	25	-27	866	0	0	0
54	SLU 37	24	-27	862	0	0	0
54	SLU 38	24	-27	861	0	0	0
54	SLU 39	24	-29	880	0	0	0
54	SLU 40	25	-28	880	0	0	0
54	SLU 41	25	-29	890	0	0	0
54	SLU 42	25	-28	889	0	0	0
54	SLU 43	23	-31	817	0	0	0
54	SLU 44	23	-30	815	0	0	0
54	SLU 45	23	-31	831	0	0	0
54	SLU 46	23	-30	830	0	0	0
54	SLU 47	24	-30	825	0	0	0
54	SLU 48	23	-31	841	0	0	0
54	SLU 49	24	-30	840	0	0	0
54	SLU 50	23	-31	836	0	0	0
54	SLU 51	24	-30	835	0	0	0
54	SLU 52	25	-33	903	0	0	0
54	SLU 53	25	-34	919	0	0	0
54	SLU 54	26	-33	918	0	0	0
54	SLU 55	26	-33	913	0	0	0
54	SLU 56	25	-34	929	0	0	0
54	SLU 57	26	-33	928	0	0	0
54	SLU 58	25	-34	924	0	0	0
54	SLU 59	26	-33	923	0	0	0
54	SLU 60	26	-35	942	0	0	0
54	SLU 61	26	-35	942	0	0	0
54	SLU 62	26	-35	952	0	0	0
54	SLU 63	26	-34	951	0	0	0
54	SLU 64	26	-32	917	0	0	0
54	SLU 65	27	-31	916	0	0	0
54	SLU 66	26	-32	931	0	0	0
54	SLU 67	27	-31	931	0	0	0
54	SLU 68	27	-31	925	0	0	0
54	SLU 69	27	-32	941	0	0	0
54	SLU 70	27	-31	940	0	0	0
54	SLU 71	26	-32	936	0	0	0
54	SLU 72	27	-31	935	0	0	0
54	SLU 73	29	-34	1003	0	0	0
54	SLU 74	28	-34	1019	0	0	0
54	SLU 75	29	-34	1019	0	0	0
54	SLU 76	29	-33	1013	0	0	0
54	SLU 77	29	-34	1029	0	0	0
54	SLU 78	29	-34	1028	0	0	0
54	SLU 79	28	-34	1024	0	0	0
54	SLU 80	29	-34	1023	0	0	0
54	SLU 81	29	-36	1043	0	0	0
54	SLU 82	29	-35	1042	0	0	0
54	SLU 83	29	-36	1052	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLU 84	29	-35	1051	0	0	0
54	SLE RA 1	19	-24	683	0	0	0
54	SLE RA 2	20	-24	682	0	0	0
54	SLE RA 3	20	-24	693	0	0	0
54	SLE RA 4	20	-24	692	0	0	0
54	SLE RA 5	20	-24	689	0	0	0
54	SLE RA 6	20	-24	699	0	0	0
54	SLE RA 7	20	-24	699	0	0	0
54	SLE RA 8	20	-24	696	0	0	0
54	SLE RA 9	20	-24	695	0	0	0
54	SLE RA 10	21	-26	741	0	0	0
54	SLE RA 11	21	-26	752	0	0	0
54	SLE RA 12	21	-26	751	0	0	0
54	SLE RA 13	21	-25	747	0	0	0
54	SLE RA 14	21	-26	758	0	0	0
54	SLE RA 15	21	-26	757	0	0	0
54	SLE RA 16	21	-26	754	0	0	0
54	SLE RA 17	21	-26	754	0	0	0
54	SLE RA 18	21	-27	767	0	0	0
54	SLE RA 19	21	-27	767	0	0	0
54	SLE RA 20	21	-27	773	0	0	0
54	SLE RA 21	22	-26	773	0	0	0
54	SLE FR 1	19	-24	683	0	0	0
54	SLE FR 2	19	-24	683	0	0	0
54	SLE FR 3	19	-24	686	0	0	0
54	SLE FR 4	20	-25	708	0	0	0
54	SLE FR 5	20	-25	711	0	0	0
54	SLE FR 6	20	-26	725	0	0	0
54	SLE QP 1	19	-24	683	0	0	0
54	SLE QP 2	20	-25	708	0	0	0
54	SLD 1	57	-21	720	0	0	0
54	SLD 2	58	-22	721	0	0	0
54	SLD 3	50	-31	733	0	0	0
54	SLD 4	51	-31	733	0	0	0
54	SLD 5	42	-9	692	0	0	0
54	SLD 6	43	-9	693	0	0	0
54	SLD 7	17	-42	735	0	0	0
54	SLD 8	18	-42	736	0	0	0
54	SLD 9	22	-9	681	0	0	0
54	SLD 10	23	-9	682	0	0	0
54	SLD 11	-3	-41	724	0	0	0
54	SLD 12	-3	-41	725	0	0	0
54	SLD 13	-11	-19	683	0	0	0
54	SLD 14	-10	-20	684	0	0	0
54	SLD 15	-19	-29	696	0	0	0
54	SLD 16	-18	-29	697	0	0	0
54	SLV 1	79	-18	726	0	0	0
54	SLV 2	80	-19	727	0	0	0
54	SLV 3	66	-35	748	0	0	0
54	SLV 4	67	-36	749	0	0	0
54	SLV 5	57	2	680	0	0	0
54	SLV 6	58	2	681	0	0	0
54	SLV 7	14	-53	753	0	0	0
54	SLV 8	15	-54	754	0	0	0
54	SLV 9	25	3	663	0	0	0
54	SLV 10	26	3	664	0	0	0
54	SLV 11	-18	-52	736	0	0	0
54	SLV 12	-17	-53	737	0	0	0
54	SLV 13	-28	-15	668	0	0	0
54	SLV 14	-26	-15	669	0	0	0
54	SLV 15	-41	-31	690	0	0	0
54	SLV 16	-39	-32	691	0	0	0
54	SLV FO 1	85	-18	728	0	0	0
54	SLV FO 2	87	-18	728	0	0	0
54	SLV FO 3	70	-36	752	0	0	0
54	SLV FO 4	72	-37	753	0	0	0
54	SLV FO 5	61	5	678	0	0	0
54	SLV FO 6	62	4	678	0	0	0
54	SLV FO 7	13	-56	758	0	0	0
54	SLV FO 8	14	-57	758	0	0	0
54	SLV FO 9	26	6	659	0	0	0
54	SLV FO 10	27	6	659	0	0	0
54	SLV FO 11	-22	-55	739	0	0	0
54	SLV FO 12	-21	-55	739	0	0	0
54	SLV FO 13	-33	-14	664	0	0	0
54	SLV FO 14	-31	-15	665	0	0	0
54	SLV FO 15	-47	-32	688	0	0	0
54	SLV FO 16	-45	-33	689	0	0	0
55	SLU 1	23	-29	836	0	0	0
55	SLU 2	24	-27	835	0	0	0
55	SLU 3	23	-29	855	0	0	0
55	SLU 4	24	-28	854	0	0	0
55	SLU 5	24	-27	847	0	0	0
55	SLU 6	24	-28	867	0	0	0
55	SLU 7	24	-28	866	0	0	0
55	SLU 8	23	-29	860	0	0	0
55	SLU 9	24	-28	859	0	0	0
55	SLU 10	26	-31	947	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLU 11	26	-32	967	0	0	0
55	SLU 12	26	-31	966	0	0	0
55	SLU 13	26	-31	959	0	0	0
55	SLU 14	26	-32	979	0	0	0
55	SLU 15	27	-31	978	0	0	0
55	SLU 16	26	-32	972	0	0	0
55	SLU 17	26	-31	971	0	0	0
55	SLU 18	26	-34	996	0	0	0
55	SLU 19	27	-33	996	0	0	0
55	SLU 20	27	-34	1008	0	0	0
55	SLU 21	27	-33	1008	0	0	0
55	SLU 22	27	-30	965	0	0	0
55	SLU 23	28	-28	963	0	0	0
55	SLU 24	27	-29	983	0	0	0
55	SLU 25	28	-29	982	0	0	0
55	SLU 26	28	-28	975	0	0	0
55	SLU 27	28	-29	995	0	0	0
55	SLU 28	28	-28	994	0	0	0
55	SLU 29	27	-29	988	0	0	0
55	SLU 30	28	-28	988	0	0	0
55	SLU 31	30	-32	1076	0	0	0
55	SLU 32	30	-33	1095	0	0	0
55	SLU 33	30	-32	1095	0	0	0
55	SLU 34	30	-31	1088	0	0	0
55	SLU 35	30	-33	1107	0	0	0
55	SLU 36	31	-32	1106	0	0	0
55	SLU 37	30	-33	1101	0	0	0
55	SLU 38	30	-32	1100	0	0	0
55	SLU 39	30	-35	1125	0	0	0
55	SLU 40	31	-34	1124	0	0	0
55	SLU 41	31	-34	1137	0	0	0
55	SLU 42	31	-33	1136	0	0	0
55	SLU 43	28	-37	1043	0	0	0
55	SLU 44	29	-36	1042	0	0	0
55	SLU 45	29	-37	1061	0	0	0
55	SLU 46	29	-36	1061	0	0	0
55	SLU 47	29	-36	1054	0	0	0
55	SLU 48	29	-37	1073	0	0	0
55	SLU 49	30	-36	1073	0	0	0
55	SLU 50	29	-37	1067	0	0	0
55	SLU 51	29	-36	1066	0	0	0
55	SLU 52	32	-39	1154	0	0	0
55	SLU 53	31	-41	1174	0	0	0
55	SLU 54	32	-40	1173	0	0	0
55	SLU 55	32	-39	1166	0	0	0
55	SLU 56	32	-40	1186	0	0	0
55	SLU 57	32	-39	1185	0	0	0
55	SLU 58	31	-40	1179	0	0	0
55	SLU 59	32	-39	1178	0	0	0
55	SLU 60	32	-42	1203	0	0	0
55	SLU 61	32	-41	1202	0	0	0
55	SLU 62	32	-42	1215	0	0	0
55	SLU 63	33	-41	1214	0	0	0
55	SLU 64	32	-38	1171	0	0	0
55	SLU 65	33	-37	1170	0	0	0
55	SLU 66	33	-38	1190	0	0	0
55	SLU 67	33	-37	1189	0	0	0
55	SLU 68	33	-36	1182	0	0	0
55	SLU 69	33	-38	1202	0	0	0
55	SLU 70	34	-37	1201	0	0	0
55	SLU 71	33	-38	1195	0	0	0
55	SLU 72	33	-37	1195	0	0	0
55	SLU 73	36	-40	1282	0	0	0
55	SLU 74	35	-41	1302	0	0	0
55	SLU 75	36	-40	1301	0	0	0
55	SLU 76	36	-40	1294	0	0	0
55	SLU 77	36	-41	1314	0	0	0
55	SLU 78	36	-40	1313	0	0	0
55	SLU 79	35	-41	1307	0	0	0
55	SLU 80	36	-40	1307	0	0	0
55	SLU 81	36	-43	1332	0	0	0
55	SLU 82	36	-42	1331	0	0	0
55	SLU 83	36	-43	1344	0	0	0
55	SLU 84	37	-42	1343	0	0	0
55	SLE RA 1	24	-29	873	0	0	0
55	SLE RA 2	24	-28	872	0	0	0
55	SLE RA 3	24	-29	885	0	0	0
55	SLE RA 4	25	-28	885	0	0	0
55	SLE RA 5	25	-28	880	0	0	0
55	SLE RA 6	25	-29	893	0	0	0
55	SLE RA 7	25	-28	893	0	0	0
55	SLE RA 8	24	-29	889	0	0	0
55	SLE RA 9	25	-28	888	0	0	0
55	SLE RA 10	26	-30	947	0	0	0
55	SLE RA 11	26	-31	960	0	0	0
55	SLE RA 12	26	-31	959	0	0	0
55	SLE RA 13	26	-30	955	0	0	0
55	SLE RA 14	26	-31	968	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLE RA 15	26	-31	967	0	0	0
55	SLE RA 16	26	-31	964	0	0	0
55	SLE RA 17	26	-31	963	0	0	0
55	SLE RA 18	26	-32	980	0	0	0
55	SLE RA 19	27	-32	979	0	0	0
55	SLE RA 20	27	-32	988	0	0	0
55	SLE RA 21	27	-32	987	0	0	0
55	SLE FR 1	24	-29	873	0	0	0
55	SLE FR 2	24	-29	873	0	0	0
55	SLE FR 3	24	-29	876	0	0	0
55	SLE FR 4	25	-30	905	0	0	0
55	SLE FR 5	25	-30	908	0	0	0
55	SLE FR 6	25	-31	926	0	0	0
55	SLE QP 1	24	-29	873	0	0	0
55	SLE QP 2	25	-30	905	0	0	0
55	SLD 1	71	-25	894	0	0	0
55	SLD 2	73	-24	894	0	0	0
55	SLD 3	62	-39	902	0	0	0
55	SLD 4	63	-38	903	0	0	0
55	SLD 5	53	-7	889	0	0	0
55	SLD 6	54	-6	889	0	0	0
55	SLD 7	21	-55	916	0	0	0
55	SLD 8	22	-54	917	0	0	0
55	SLD 9	27	-7	893	0	0	0
55	SLD 10	28	-6	893	0	0	0
55	SLD 11	-4	-54	921	0	0	0
55	SLD 12	-3	-53	921	0	0	0
55	SLD 13	-14	-23	907	0	0	0
55	SLD 14	-12	-21	908	0	0	0
55	SLD 15	-23	-37	916	0	0	0
55	SLD 16	-22	-35	916	0	0	0
55	SLV 1	98	-21	886	0	0	0
55	SLV 2	100	-19	887	0	0	0
55	SLV 3	82	-45	901	0	0	0
55	SLV 4	84	-43	902	0	0	0
55	SLV 5	71	9	878	0	0	0
55	SLV 6	72	10	879	0	0	0
55	SLV 7	17	-72	925	0	0	0
55	SLV 8	18	-70	925	0	0	0
55	SLV 9	31	10	884	0	0	0
55	SLV 10	32	12	885	0	0	0
55	SLV 11	-23	-71	931	0	0	0
55	SLV 12	-22	-69	932	0	0	0
55	SLV 13	-35	-17	908	0	0	0
55	SLV 14	-33	-15	909	0	0	0
55	SLV 15	-51	-41	922	0	0	0
55	SLV 16	-49	-39	923	0	0	0
55	SLV FO 1	106	-20	885	0	0	0
55	SLV FO 2	108	-18	886	0	0	0
55	SLV FO 3	88	-47	900	0	0	0
55	SLV FO 4	90	-44	901	0	0	0
55	SLV FO 5	76	13	875	0	0	0
55	SLV FO 6	77	14	876	0	0	0
55	SLV FO 7	16	-76	927	0	0	0
55	SLV FO 8	18	-74	927	0	0	0
55	SLV FO 9	32	14	882	0	0	0
55	SLV FO 10	33	16	883	0	0	0
55	SLV FO 11	-28	-75	934	0	0	0
55	SLV FO 12	-26	-73	935	0	0	0
55	SLV FO 13	-41	-16	909	0	0	0
55	SLV FO 14	-38	-13	910	0	0	0
55	SLV FO 15	-58	-42	924	0	0	0
55	SLV FO 16	-56	-40	925	0	0	0
56	SLU 1	23	-29	844	0	0	0
56	SLU 2	24	-27	843	0	0	0
56	SLU 3	23	-28	863	0	0	0
56	SLU 4	24	-27	862	0	0	0
56	SLU 5	24	-27	855	0	0	0
56	SLU 6	24	-28	875	0	0	0
56	SLU 7	24	-27	874	0	0	0
56	SLU 8	23	-28	868	0	0	0
56	SLU 9	24	-27	868	0	0	0
56	SLU 10	26	-30	956	0	0	0
56	SLU 11	26	-32	976	0	0	0
56	SLU 12	26	-31	975	0	0	0
56	SLU 13	26	-30	968	0	0	0
56	SLU 14	26	-31	988	0	0	0
56	SLU 15	27	-31	987	0	0	0
56	SLU 16	26	-31	981	0	0	0
56	SLU 17	26	-31	981	0	0	0
56	SLU 18	26	-33	1006	0	0	0
56	SLU 19	27	-32	1005	0	0	0
56	SLU 20	27	-33	1018	0	0	0
56	SLU 21	27	-32	1017	0	0	0
56	SLU 22	27	-29	974	0	0	0
56	SLU 23	28	-28	973	0	0	0
56	SLU 24	27	-29	993	0	0	0
56	SLU 25	28	-28	992	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLU 26	28	-27	985	0	0	0
56	SLU 27	28	-29	1005	0	0	0
56	SLU 28	28	-28	1004	0	0	0
56	SLU 29	27	-29	998	0	0	0
56	SLU 30	28	-28	997	0	0	0
56	SLU 31	30	-31	1086	0	0	0
56	SLU 32	30	-32	1106	0	0	0
56	SLU 33	30	-31	1105	0	0	0
56	SLU 34	30	-31	1098	0	0	0
56	SLU 35	30	-32	1118	0	0	0
56	SLU 36	31	-31	1117	0	0	0
56	SLU 37	30	-32	1111	0	0	0
56	SLU 38	30	-31	1110	0	0	0
56	SLU 39	30	-34	1135	0	0	0
56	SLU 40	31	-33	1135	0	0	0
56	SLU 41	31	-34	1147	0	0	0
56	SLU 42	31	-33	1147	0	0	0
56	SLU 43	28	-37	1053	0	0	0
56	SLU 44	29	-35	1052	0	0	0
56	SLU 45	29	-37	1071	0	0	0
56	SLU 46	29	-36	1071	0	0	0
56	SLU 47	29	-35	1064	0	0	0
56	SLU 48	29	-36	1083	0	0	0
56	SLU 49	30	-35	1083	0	0	0
56	SLU 50	29	-36	1077	0	0	0
56	SLU 51	29	-35	1076	0	0	0
56	SLU 52	32	-39	1165	0	0	0
56	SLU 53	31	-40	1184	0	0	0
56	SLU 54	32	-39	1184	0	0	0
56	SLU 55	32	-38	1177	0	0	0
56	SLU 56	32	-40	1196	0	0	0
56	SLU 57	32	-39	1196	0	0	0
56	SLU 58	31	-40	1190	0	0	0
56	SLU 59	32	-39	1189	0	0	0
56	SLU 60	32	-42	1214	0	0	0
56	SLU 61	32	-41	1214	0	0	0
56	SLU 62	32	-41	1226	0	0	0
56	SLU 63	33	-41	1226	0	0	0
56	SLU 64	32	-38	1183	0	0	0
56	SLU 65	33	-36	1182	0	0	0
56	SLU 66	33	-37	1201	0	0	0
56	SLU 67	33	-36	1201	0	0	0
56	SLU 68	33	-36	1194	0	0	0
56	SLU 69	33	-37	1213	0	0	0
56	SLU 70	34	-36	1213	0	0	0
56	SLU 71	33	-37	1207	0	0	0
56	SLU 72	33	-36	1206	0	0	0
56	SLU 73	36	-39	1295	0	0	0
56	SLU 74	35	-41	1314	0	0	0
56	SLU 75	36	-40	1314	0	0	0
56	SLU 76	36	-39	1307	0	0	0
56	SLU 77	36	-40	1326	0	0	0
56	SLU 78	36	-40	1326	0	0	0
56	SLU 79	35	-40	1320	0	0	0
56	SLU 80	36	-40	1319	0	0	0
56	SLU 81	36	-42	1344	0	0	0
56	SLU 82	36	-41	1344	0	0	0
56	SLU 83	36	-42	1356	0	0	0
56	SLU 84	37	-41	1356	0	0	0
56	SLE RA 1	24	-29	881	0	0	0
56	SLE RA 2	25	-28	880	0	0	0
56	SLE RA 3	24	-29	894	0	0	0
56	SLE RA 4	25	-28	893	0	0	0
56	SLE RA 5	25	-28	889	0	0	0
56	SLE RA 6	25	-28	902	0	0	0
56	SLE RA 7	25	-28	901	0	0	0
56	SLE RA 8	24	-28	897	0	0	0
56	SLE RA 9	25	-28	897	0	0	0
56	SLE RA 10	26	-30	956	0	0	0
56	SLE RA 11	26	-31	969	0	0	0
56	SLE RA 12	26	-30	969	0	0	0
56	SLE RA 13	26	-30	964	0	0	0
56	SLE RA 14	26	-31	977	0	0	0
56	SLE RA 15	26	-30	977	0	0	0
56	SLE RA 16	26	-31	973	0	0	0
56	SLE RA 17	26	-30	972	0	0	0
56	SLE RA 18	26	-32	989	0	0	0
56	SLE RA 19	27	-31	988	0	0	0
56	SLE RA 20	27	-32	997	0	0	0
56	SLE RA 21	27	-31	996	0	0	0
56	SLE FR 1	24	-29	881	0	0	0
56	SLE FR 2	24	-29	881	0	0	0
56	SLE FR 3	24	-29	884	0	0	0
56	SLE FR 4	25	-30	913	0	0	0
56	SLE FR 5	25	-30	917	0	0	0
56	SLE FR 6	25	-30	935	0	0	0
56	SLE QP 1	24	-29	881	0	0	0
56	SLE QP 2	25	-30	913	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLD 1	71	-22	894	0	0	0
56	SLD 2	73	-20	895	0	0	0
56	SLD 3	62	-37	899	0	0	0
56	SLD 4	63	-35	900	0	0	0
56	SLD 5	53	-5	899	0	0	0
56	SLD 6	54	-4	900	0	0	0
56	SLD 7	21	-55	917	0	0	0
56	SLD 8	22	-53	918	0	0	0
56	SLD 9	27	-6	909	0	0	0
56	SLD 10	28	-5	909	0	0	0
56	SLD 11	-4	-56	927	0	0	0
56	SLD 12	-4	-54	928	0	0	0
56	SLD 13	-14	-25	927	0	0	0
56	SLD 14	-12	-23	927	0	0	0
56	SLD 15	-23	-40	932	0	0	0
56	SLD 16	-22	-37	933	0	0	0
56	SLV 1	99	-16	883	0	0	0
56	SLV 2	101	-13	884	0	0	0
56	SLV 3	82	-42	892	0	0	0
56	SLV 4	84	-38	893	0	0	0
56	SLV 5	71	12	890	0	0	0
56	SLV 6	73	15	891	0	0	0
56	SLV 7	17	-73	921	0	0	0
56	SLV 8	18	-70	922	0	0	0
56	SLV 9	31	11	905	0	0	0
56	SLV 10	33	13	906	0	0	0
56	SLV 11	-23	-74	936	0	0	0
56	SLV 12	-22	-72	937	0	0	0
56	SLV 13	-35	-21	934	0	0	0
56	SLV 14	-33	-18	935	0	0	0
56	SLV 15	-51	-47	943	0	0	0
56	SLV 16	-49	-43	944	0	0	0
56	SLV FO 1	106	-15	880	0	0	0
56	SLV FO 2	108	-11	881	0	0	0
56	SLV FO 3	88	-43	890	0	0	0
56	SLV FO 4	90	-39	891	0	0	0
56	SLV FO 5	76	17	888	0	0	0
56	SLV FO 6	77	19	888	0	0	0
56	SLV FO 7	16	-77	922	0	0	0
56	SLV FO 8	18	-74	922	0	0	0
56	SLV FO 9	32	15	904	0	0	0
56	SLV FO 10	33	18	905	0	0	0
56	SLV FO 11	-28	-79	939	0	0	0
56	SLV FO 12	-26	-76	939	0	0	0
56	SLV FO 13	-41	-20	936	0	0	0
56	SLV FO 14	-39	-16	937	0	0	0
56	SLV FO 15	-59	-48	946	0	0	0
56	SLV FO 16	-57	-44	947	0	0	0
57	SLU 1	23	-28	850	0	0	0
57	SLU 2	24	-26	849	0	0	0
57	SLU 3	23	-28	869	0	0	0
57	SLU 4	24	-27	868	0	0	0
57	SLU 5	24	-26	861	0	0	0
57	SLU 6	24	-28	881	0	0	0
57	SLU 7	24	-27	881	0	0	0
57	SLU 8	23	-28	874	0	0	0
57	SLU 9	24	-27	874	0	0	0
57	SLU 10	26	-30	963	0	0	0
57	SLU 11	26	-31	983	0	0	0
57	SLU 12	26	-30	982	0	0	0
57	SLU 13	26	-30	975	0	0	0
57	SLU 14	26	-31	995	0	0	0
57	SLU 15	27	-30	994	0	0	0
57	SLU 16	26	-31	988	0	0	0
57	SLU 17	26	-30	988	0	0	0
57	SLU 18	26	-33	1013	0	0	0
57	SLU 19	27	-32	1012	0	0	0
57	SLU 20	27	-33	1025	0	0	0
57	SLU 21	27	-32	1024	0	0	0
57	SLU 22	27	-29	981	0	0	0
57	SLU 23	28	-27	980	0	0	0
57	SLU 24	27	-28	1000	0	0	0
57	SLU 25	28	-28	999	0	0	0
57	SLU 26	28	-27	992	0	0	0
57	SLU 27	28	-28	1012	0	0	0
57	SLU 28	28	-27	1011	0	0	0
57	SLU 29	27	-28	1005	0	0	0
57	SLU 30	28	-27	1005	0	0	0
57	SLU 31	30	-30	1094	0	0	0
57	SLU 32	30	-32	1114	0	0	0
57	SLU 33	30	-31	1113	0	0	0
57	SLU 34	30	-30	1106	0	0	0
57	SLU 35	30	-32	1126	0	0	0
57	SLU 36	31	-31	1125	0	0	0
57	SLU 37	30	-32	1119	0	0	0
57	SLU 38	30	-31	1119	0	0	0
57	SLU 39	30	-33	1144	0	0	0
57	SLU 40	31	-32	1143	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
57	SLU 41	31	-33	1156	0	0	0
57	SLU 42	31	-32	1155	0	0	0
57	SLU 43	28	-36	1060	0	0	0
57	SLU 44	29	-35	1060	0	0	0
57	SLU 45	29	-36	1079	0	0	0
57	SLU 46	29	-35	1079	0	0	0
57	SLU 47	29	-34	1072	0	0	0
57	SLU 48	29	-36	1091	0	0	0
57	SLU 49	30	-35	1091	0	0	0
57	SLU 50	29	-36	1084	0	0	0
57	SLU 51	29	-35	1084	0	0	0
57	SLU 52	32	-38	1173	0	0	0
57	SLU 53	31	-39	1193	0	0	0
57	SLU 54	32	-38	1192	0	0	0
57	SLU 55	32	-38	1185	0	0	0
57	SLU 56	32	-39	1205	0	0	0
57	SLU 57	32	-38	1204	0	0	0
57	SLU 58	31	-39	1198	0	0	0
57	SLU 59	32	-38	1198	0	0	0
57	SLU 60	32	-41	1223	0	0	0
57	SLU 61	32	-40	1222	0	0	0
57	SLU 62	32	-41	1235	0	0	0
57	SLU 63	33	-40	1234	0	0	0
57	SLU 64	32	-37	1191	0	0	0
57	SLU 65	33	-35	1190	0	0	0
57	SLU 66	33	-37	1210	0	0	0
57	SLU 67	33	-36	1210	0	0	0
57	SLU 68	33	-35	1203	0	0	0
57	SLU 69	33	-36	1222	0	0	0
57	SLU 70	34	-35	1222	0	0	0
57	SLU 71	33	-36	1215	0	0	0
57	SLU 72	33	-36	1215	0	0	0
57	SLU 73	36	-39	1304	0	0	0
57	SLU 74	35	-40	1324	0	0	0
57	SLU 75	36	-39	1323	0	0	0
57	SLU 76	36	-38	1316	0	0	0
57	SLU 77	36	-40	1336	0	0	0
57	SLU 78	36	-39	1335	0	0	0
57	SLU 79	35	-40	1329	0	0	0
57	SLU 80	36	-39	1329	0	0	0
57	SLU 81	36	-42	1354	0	0	0
57	SLU 82	36	-41	1353	0	0	0
57	SLU 83	36	-41	1366	0	0	0
57	SLU 84	37	-40	1365	0	0	0
57	SLE RA 1	24	-28	887	0	0	0
57	SLE RA 2	24	-27	887	0	0	0
57	SLE RA 3	24	-28	900	0	0	0
57	SLE RA 4	25	-27	900	0	0	0
57	SLE RA 5	25	-27	895	0	0	0
57	SLE RA 6	24	-28	908	0	0	0
57	SLE RA 7	25	-27	908	0	0	0
57	SLE RA 8	24	-28	904	0	0	0
57	SLE RA 9	25	-27	903	0	0	0
57	SLE RA 10	26	-29	963	0	0	0
57	SLE RA 11	26	-30	976	0	0	0
57	SLE RA 12	26	-30	976	0	0	0
57	SLE RA 13	26	-29	971	0	0	0
57	SLE RA 14	26	-30	984	0	0	0
57	SLE RA 15	26	-30	984	0	0	0
57	SLE RA 16	26	-30	979	0	0	0
57	SLE RA 17	26	-30	979	0	0	0
57	SLE RA 18	26	-31	996	0	0	0
57	SLE RA 19	27	-31	996	0	0	0
57	SLE RA 20	27	-31	1004	0	0	0
57	SLE RA 21	27	-31	1004	0	0	0
57	SLE FR 1	24	-28	887	0	0	0
57	SLE FR 2	24	-28	887	0	0	0
57	SLE FR 3	24	-28	891	0	0	0
57	SLE FR 4	25	-29	920	0	0	0
57	SLE FR 5	25	-29	923	0	0	0
57	SLE FR 6	25	-30	942	0	0	0
57	SLE QP 1	24	-28	887	0	0	0
57	SLE QP 2	25	-29	920	0	0	0
57	SLD 1	71	-21	892	0	0	0
57	SLD 2	73	-18	892	0	0	0
57	SLD 3	62	-37	895	0	0	0
57	SLD 4	63	-34	895	0	0	0
57	SLD 5	53	-3	907	0	0	0
57	SLD 6	54	-2	907	0	0	0
57	SLD 7	21	-56	917	0	0	0
57	SLD 8	22	-54	917	0	0	0
57	SLD 9	27	-5	923	0	0	0
57	SLD 10	28	-3	923	0	0	0
57	SLD 11	-4	-57	933	0	0	0
57	SLD 12	-4	-55	933	0	0	0
57	SLD 13	-14	-25	945	0	0	0
57	SLD 14	-12	-22	945	0	0	0
57	SLD 15	-23	-40	948	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
57	SLD 16	-22	-37	948	0	0	0
57	SLV 1	99	-15	875	0	0	0
57	SLV 2	101	-11	877	0	0	0
57	SLV 3	82	-42	881	0	0	0
57	SLV 4	84	-37	882	0	0	0
57	SLV 5	71	15	898	0	0	0
57	SLV 6	73	18	899	0	0	0
57	SLV 7	17	-75	916	0	0	0
57	SLV 8	18	-71	917	0	0	0
57	SLV 9	31	13	923	0	0	0
57	SLV 10	33	16	924	0	0	0
57	SLV 11	-23	-76	941	0	0	0
57	SLV 12	-22	-73	942	0	0	0
57	SLV 13	-35	-21	958	0	0	0
57	SLV 14	-33	-16	959	0	0	0
57	SLV 15	-51	-48	963	0	0	0
57	SLV 16	-49	-43	965	0	0	0
57	SLV FO 1	106	-14	871	0	0	0
57	SLV FO 2	108	-9	872	0	0	0
57	SLV FO 3	88	-43	877	0	0	0
57	SLV FO 4	90	-38	878	0	0	0
57	SLV FO 5	76	19	896	0	0	0
57	SLV FO 6	77	23	897	0	0	0
57	SLV FO 7	16	-79	915	0	0	0
57	SLV FO 8	18	-76	916	0	0	0
57	SLV FO 9	32	17	924	0	0	0
57	SLV FO 10	33	21	925	0	0	0
57	SLV FO 11	-28	-81	943	0	0	0
57	SLV FO 12	-27	-78	944	0	0	0
57	SLV FO 13	-41	-20	962	0	0	0
57	SLV FO 14	-39	-15	963	0	0	0
57	SLV FO 15	-59	-50	968	0	0	0
57	SLV FO 16	-57	-45	969	0	0	0
58	SLU 1	23	-27	854	0	0	0
58	SLU 2	23	-26	853	0	0	0
58	SLU 3	23	-27	873	0	0	0
58	SLU 4	24	-26	872	0	0	0
58	SLU 5	24	-26	865	0	0	0
58	SLU 6	23	-27	885	0	0	0
58	SLU 7	24	-26	885	0	0	0
58	SLU 8	23	-27	878	0	0	0
58	SLU 9	24	-26	878	0	0	0
58	SLU 10	26	-29	968	0	0	0
58	SLU 11	26	-30	987	0	0	0
58	SLU 12	26	-29	987	0	0	0
58	SLU 13	26	-29	980	0	0	0
58	SLU 14	26	-30	999	0	0	0
58	SLU 15	26	-29	999	0	0	0
58	SLU 16	26	-30	992	0	0	0
58	SLU 17	26	-29	992	0	0	0
58	SLU 18	26	-32	1017	0	0	0
58	SLU 19	27	-31	1017	0	0	0
58	SLU 20	27	-32	1029	0	0	0
58	SLU 21	27	-31	1029	0	0	0
58	SLU 22	27	-28	985	0	0	0
58	SLU 23	27	-26	985	0	0	0
58	SLU 24	27	-28	1004	0	0	0
58	SLU 25	28	-27	1004	0	0	0
58	SLU 26	28	-26	997	0	0	0
58	SLU 27	27	-28	1016	0	0	0
58	SLU 28	28	-27	1016	0	0	0
58	SLU 29	27	-28	1010	0	0	0
58	SLU 30	28	-27	1009	0	0	0
58	SLU 31	30	-30	1099	0	0	0
58	SLU 32	30	-31	1118	0	0	0
58	SLU 33	30	-30	1118	0	0	0
58	SLU 34	30	-29	1111	0	0	0
58	SLU 35	30	-31	1131	0	0	0
58	SLU 36	30	-30	1130	0	0	0
58	SLU 37	30	-31	1124	0	0	0
58	SLU 38	30	-30	1124	0	0	0
58	SLU 39	30	-33	1149	0	0	0
58	SLU 40	31	-32	1148	0	0	0
58	SLU 41	31	-33	1161	0	0	0
58	SLU 42	31	-32	1160	0	0	0
58	SLU 43	28	-35	1065	0	0	0
58	SLU 44	29	-34	1064	0	0	0
58	SLU 45	29	-35	1084	0	0	0
58	SLU 46	29	-34	1083	0	0	0
58	SLU 47	29	-34	1076	0	0	0
58	SLU 48	29	-35	1096	0	0	0
58	SLU 49	29	-34	1096	0	0	0
58	SLU 50	29	-35	1089	0	0	0
58	SLU 51	29	-34	1089	0	0	0
58	SLU 52	31	-37	1179	0	0	0
58	SLU 53	31	-39	1198	0	0	0
58	SLU 54	32	-38	1198	0	0	0
58	SLU 55	32	-37	1191	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLU 56	31	-38	1210	0	0	0
58	SLU 57	32	-37	1210	0	0	0
58	SLU 58	31	-38	1203	0	0	0
58	SLU 59	32	-37	1203	0	0	0
58	SLU 60	32	-40	1228	0	0	0
58	SLU 61	32	-39	1228	0	0	0
58	SLU 62	32	-40	1240	0	0	0
58	SLU 63	32	-39	1240	0	0	0
58	SLU 64	32	-36	1196	0	0	0
58	SLU 65	33	-34	1196	0	0	0
58	SLU 66	33	-36	1215	0	0	0
58	SLU 67	33	-35	1215	0	0	0
58	SLU 68	33	-34	1208	0	0	0
58	SLU 69	33	-36	1227	0	0	0
58	SLU 70	33	-35	1227	0	0	0
58	SLU 71	33	-36	1221	0	0	0
58	SLU 72	33	-35	1220	0	0	0
58	SLU 73	35	-38	1310	0	0	0
58	SLU 74	35	-39	1329	0	0	0
58	SLU 75	36	-38	1329	0	0	0
58	SLU 76	36	-37	1322	0	0	0
58	SLU 77	35	-39	1342	0	0	0
58	SLU 78	36	-38	1341	0	0	0
58	SLU 79	35	-39	1335	0	0	0
58	SLU 80	36	-38	1335	0	0	0
58	SLU 81	36	-41	1360	0	0	0
58	SLU 82	36	-40	1359	0	0	0
58	SLU 83	36	-41	1372	0	0	0
58	SLU 84	36	-40	1371	0	0	0
58	SLE RA 1	24	-28	891	0	0	0
58	SLE RA 2	24	-27	891	0	0	0
58	SLE RA 3	24	-27	904	0	0	0
58	SLE RA 4	24	-27	904	0	0	0
58	SLE RA 5	25	-26	899	0	0	0
58	SLE RA 6	24	-27	912	0	0	0
58	SLE RA 7	25	-27	912	0	0	0
58	SLE RA 8	24	-27	908	0	0	0
58	SLE RA 9	25	-27	907	0	0	0
58	SLE RA 10	26	-29	967	0	0	0
58	SLE RA 11	26	-30	980	0	0	0
58	SLE RA 12	26	-29	980	0	0	0
58	SLE RA 13	26	-29	975	0	0	0
58	SLE RA 14	26	-30	988	0	0	0
58	SLE RA 15	26	-29	988	0	0	0
58	SLE RA 16	26	-30	984	0	0	0
58	SLE RA 17	26	-29	984	0	0	0
58	SLE RA 18	26	-31	1000	0	0	0
58	SLE RA 19	27	-30	1000	0	0	0
58	SLE RA 20	26	-31	1008	0	0	0
58	SLE RA 21	27	-30	1008	0	0	0
58	SLE FR 1	24	-28	891	0	0	0
58	SLE FR 2	24	-27	891	0	0	0
58	SLE FR 3	24	-28	895	0	0	0
58	SLE FR 4	25	-28	924	0	0	0
58	SLE FR 5	25	-29	927	0	0	0
58	SLE FR 6	25	-29	946	0	0	0
58	SLE QP 1	24	-28	891	0	0	0
58	SLE QP 2	25	-29	924	0	0	0
58	SLD 1	71	-20	888	0	0	0
58	SLD 2	72	-16	889	0	0	0
58	SLD 3	62	-36	885	0	0	0
58	SLD 4	63	-33	886	0	0	0
58	SLD 5	53	-2	918	0	0	0
58	SLD 6	54	1	918	0	0	0
58	SLD 7	21	-56	908	0	0	0
58	SLD 8	22	-54	908	0	0	0
58	SLD 9	27	-3	940	0	0	0
58	SLD 10	28	-1	940	0	0	0
58	SLD 11	-4	-58	930	0	0	0
58	SLD 12	-4	-55	930	0	0	0
58	SLD 13	-14	-24	962	0	0	0
58	SLD 14	-12	-21	963	0	0	0
58	SLD 15	-23	-41	959	0	0	0
58	SLD 16	-22	-37	960	0	0	0
58	SLV 1	98	-14	869	0	0	0
58	SLV 2	100	-8	870	0	0	0
58	SLV 3	82	-42	863	0	0	0
58	SLV 4	84	-36	865	0	0	0
58	SLV 5	71	17	915	0	0	0
58	SLV 6	72	21	916	0	0	0
58	SLV 7	17	-76	898	0	0	0
58	SLV 8	18	-72	899	0	0	0
58	SLV 9	31	15	949	0	0	0
58	SLV 10	32	19	950	0	0	0
58	SLV 11	-23	-78	932	0	0	0
58	SLV 12	-22	-74	933	0	0	0
58	SLV 13	-35	-21	983	0	0	0
58	SLV 14	-33	-15	985	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLV 15	-51	-49	978	0	0	0
58	SLV 16	-49	-43	980	0	0	0
58	SLV FO 1	106	-13	863	0	0	0
58	SLV FO 2	108	-6	864	0	0	0
58	SLV FO 3	88	-43	857	0	0	0
58	SLV FO 4	90	-37	859	0	0	0
58	SLV FO 5	76	22	914	0	0	0
58	SLV FO 6	77	26	915	0	0	0
58	SLV FO 7	16	-81	895	0	0	0
58	SLV FO 8	17	-77	896	0	0	0
58	SLV FO 9	32	20	952	0	0	0
58	SLV FO 10	33	24	953	0	0	0
58	SLV FO 11	-28	-83	933	0	0	0
58	SLV FO 12	-27	-79	934	0	0	0
58	SLV FO 13	-41	-20	989	0	0	0
58	SLV FO 14	-39	-14	991	0	0	0
58	SLV FO 15	-59	-51	984	0	0	0
58	SLV FO 16	-56	-45	985	0	0	0
59	SLU 1	18	-21	697	0	0	0
59	SLU 2	19	-19	697	0	0	0
59	SLU 3	19	-21	712	0	0	0
59	SLU 4	19	-20	712	0	0	0
59	SLU 5	19	-19	707	0	0	0
59	SLU 6	19	-21	722	0	0	0
59	SLU 7	19	-20	722	0	0	0
59	SLU 8	19	-21	717	0	0	0
59	SLU 9	19	-20	717	0	0	0
59	SLU 10	21	-22	790	0	0	0
59	SLU 11	21	-23	805	0	0	0
59	SLU 12	21	-22	805	0	0	0
59	SLU 13	21	-22	800	0	0	0
59	SLU 14	21	-23	815	0	0	0
59	SLU 15	21	-22	815	0	0	0
59	SLU 16	21	-23	810	0	0	0
59	SLU 17	21	-22	810	0	0	0
59	SLU 18	21	-25	830	0	0	0
59	SLU 19	21	-24	830	0	0	0
59	SLU 20	21	-24	840	0	0	0
59	SLU 21	22	-24	840	0	0	0
59	SLU 22	21	-21	805	0	0	0
59	SLU 23	22	-20	805	0	0	0
59	SLU 24	22	-21	820	0	0	0
59	SLU 25	22	-20	820	0	0	0
59	SLU 26	22	-20	815	0	0	0
59	SLU 27	22	-21	830	0	0	0
59	SLU 28	22	-20	830	0	0	0
59	SLU 29	22	-21	824	0	0	0
59	SLU 30	22	-20	824	0	0	0
59	SLU 31	24	-22	898	0	0	0
59	SLU 32	24	-24	913	0	0	0
59	SLU 33	24	-23	913	0	0	0
59	SLU 34	24	-22	908	0	0	0
59	SLU 35	24	-24	923	0	0	0
59	SLU 36	24	-23	923	0	0	0
59	SLU 37	24	-24	917	0	0	0
59	SLU 38	24	-23	917	0	0	0
59	SLU 39	24	-25	938	0	0	0
59	SLU 40	25	-24	938	0	0	0
59	SLU 41	25	-25	947	0	0	0
59	SLU 42	25	-24	947	0	0	0
59	SLU 43	23	-27	869	0	0	0
59	SLU 44	23	-26	869	0	0	0
59	SLU 45	23	-27	884	0	0	0
59	SLU 46	23	-26	885	0	0	0
59	SLU 47	23	-25	879	0	0	0
59	SLU 48	23	-27	894	0	0	0
59	SLU 49	24	-26	894	0	0	0
59	SLU 50	23	-27	889	0	0	0
59	SLU 51	23	-26	889	0	0	0
59	SLU 52	25	-28	962	0	0	0
59	SLU 53	25	-29	977	0	0	0
59	SLU 54	25	-29	978	0	0	0
59	SLU 55	25	-28	972	0	0	0
59	SLU 56	25	-29	987	0	0	0
59	SLU 57	26	-28	987	0	0	0
59	SLU 58	25	-29	982	0	0	0
59	SLU 59	25	-28	982	0	0	0
59	SLU 60	25	-31	1002	0	0	0
59	SLU 61	26	-30	1002	0	0	0
59	SLU 62	26	-31	1012	0	0	0
59	SLU 63	26	-30	1012	0	0	0
59	SLU 64	26	-27	977	0	0	0
59	SLU 65	26	-26	977	0	0	0
59	SLU 66	26	-27	992	0	0	0
59	SLU 67	27	-26	992	0	0	0
59	SLU 68	27	-26	987	0	0	0
59	SLU 69	26	-27	1002	0	0	0
59	SLU 70	27	-26	1002	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
59	SLU 71	26	-27	996	0	0	0
59	SLU 72	27	-26	997	0	0	0
59	SLU 73	28	-29	1070	0	0	0
59	SLU 74	28	-30	1085	0	0	0
59	SLU 75	29	-29	1085	0	0	0
59	SLU 76	29	-28	1080	0	0	0
59	SLU 77	28	-30	1095	0	0	0
59	SLU 78	29	-29	1095	0	0	0
59	SLU 79	28	-30	1089	0	0	0
59	SLU 80	29	-29	1090	0	0	0
59	SLU 81	29	-31	1110	0	0	0
59	SLU 82	29	-30	1110	0	0	0
59	SLU 83	29	-31	1119	0	0	0
59	SLU 84	29	-30	1120	0	0	0
59	SLE RA 1	19	-21	728	0	0	0
59	SLE RA 2	20	-20	728	0	0	0
59	SLE RA 3	19	-21	738	0	0	0
59	SLE RA 4	20	-20	738	0	0	0
59	SLE RA 5	20	-20	734	0	0	0
59	SLE RA 6	20	-21	745	0	0	0
59	SLE RA 7	20	-20	745	0	0	0
59	SLE RA 8	19	-21	741	0	0	0
59	SLE RA 9	20	-20	741	0	0	0
59	SLE RA 10	21	-22	790	0	0	0
59	SLE RA 11	21	-23	800	0	0	0
59	SLE RA 12	21	-22	800	0	0	0
59	SLE RA 13	21	-22	796	0	0	0
59	SLE RA 14	21	-23	807	0	0	0
59	SLE RA 15	21	-22	807	0	0	0
59	SLE RA 16	21	-23	803	0	0	0
59	SLE RA 17	21	-22	803	0	0	0
59	SLE RA 18	21	-23	816	0	0	0
59	SLE RA 19	21	-23	816	0	0	0
59	SLE RA 20	21	-23	823	0	0	0
59	SLE RA 21	21	-23	823	0	0	0
59	SLE FR 1	19	-21	728	0	0	0
59	SLE FR 2	19	-21	728	0	0	0
59	SLE FR 3	19	-21	730	0	0	0
59	SLE FR 4	20	-22	754	0	0	0
59	SLE FR 5	20	-22	757	0	0	0
59	SLE FR 6	20	-22	772	0	0	0
59	SLE QP 1	19	-21	728	0	0	0
59	SLE QP 2	20	-22	754	0	0	0
59	SLD 1	57	-14	707	0	0	0
59	SLD 2	58	-9	707	0	0	0
59	SLD 3	49	-29	698	0	0	0
59	SLD 4	50	-24	699	0	0	0
59	SLD 5	42	2	752	0	0	0
59	SLD 6	43	5	753	0	0	0
59	SLD 7	17	-47	725	0	0	0
59	SLD 8	17	-44	725	0	0	0
59	SLD 9	22	1	783	0	0	0
59	SLD 10	23	4	784	0	0	0
59	SLD 11	-4	-49	756	0	0	0
59	SLD 12	-3	-46	756	0	0	0
59	SLD 13	-11	-19	810	0	0	0
59	SLD 14	-10	-15	810	0	0	0
59	SLD 15	-19	-34	801	0	0	0
59	SLD 16	-18	-30	802	0	0	0
59	SLV 1	79	-9	680	0	0	0
59	SLV 2	81	-1	682	0	0	0
59	SLV 3	66	-34	666	0	0	0
59	SLV 4	67	-27	667	0	0	0
59	SLV 5	57	19	754	0	0	0
59	SLV 6	58	24	754	0	0	0
59	SLV 7	13	-65	706	0	0	0
59	SLV 8	14	-60	707	0	0	0
59	SLV 9	25	17	802	0	0	0
59	SLV 10	26	22	803	0	0	0
59	SLV 11	-19	-68	754	0	0	0
59	SLV 12	-18	-63	755	0	0	0
59	SLV 13	-28	-17	841	0	0	0
59	SLV 14	-26	-10	842	0	0	0
59	SLV 15	-41	-42	827	0	0	0
59	SLV 16	-39	-35	828	0	0	0
59	SLV FO 1	85	-7	673	0	0	0
59	SLV FO 2	87	1	674	0	0	0
59	SLV FO 3	70	-35	657	0	0	0
59	SLV FO 4	72	-27	659	0	0	0
59	SLV FO 5	61	24	753	0	0	0
59	SLV FO 6	62	29	754	0	0	0
59	SLV FO 7	13	-70	701	0	0	0
59	SLV FO 8	14	-64	702	0	0	0
59	SLV FO 9	26	21	806	0	0	0
59	SLV FO 10	27	26	807	0	0	0
59	SLV FO 11	-23	-72	754	0	0	0
59	SLV FO 12	-21	-67	755	0	0	0
59	SLV FO 13	-33	-16	850	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
59	SLV FO 14	-31	-8	851	0	0	0
59	SLV FO 15	-47	-44	834	0	0	0
59	SLV FO 16	-45	-36	835	0	0	0
61	SLU 1	11	-15	415	99.56	-0.02	-2.67
61	SLU 2	11	-14	413	99.2	-0.02	-2.74
61	SLU 3	11	-14	424	101.83	-0.02	-2.73
61	SLU 4	12	-14	423	101.61	-0.02	-2.78
61	SLU 5	12	-14	419	100.67	-0.02	-2.78
61	SLU 6	12	-14	430	103.3	-0.03	-2.76
61	SLU 7	12	-14	429	103.08	-0.03	-2.81
61	SLU 8	11	-14	427	102.5	-0.03	-2.74
61	SLU 9	12	-14	426	102.28	-0.03	-2.78
61	SLU 10	13	-15	469	112.57	-0.03	-3.04
61	SLU 11	13	-16	480	115.2	-0.03	-3.03
61	SLU 12	13	-16	479	114.98	-0.03	-3.07
61	SLU 13	13	-15	475	114.04	-0.03	-3.08
61	SLU 14	13	-16	486	116.67	-0.03	-3.06
61	SLU 15	13	-16	485	116.45	-0.03	-3.11
61	SLU 16	13	-16	483	115.88	-0.03	-3.03
61	SLU 17	13	-16	482	115.66	-0.03	-3.08
61	SLU 18	13	-17	494	118.67	-0.03	-3.09
61	SLU 19	13	-16	494	118.45	-0.03	-3.14
61	SLU 20	13	-17	501	120.14	-0.03	-3.13
61	SLU 21	13	-16	500	119.92	-0.03	-3.17
61	SLU 22	13	-15	480	115.08	-0.03	-3.14
61	SLU 23	13	-14	478	114.72	-0.03	-3.22
61	SLU 24	13	-15	489	117.35	-0.03	-3.21
61	SLU 25	14	-14	488	117.13	-0.03	-3.25
61	SLU 26	14	-14	484	116.19	-0.03	-3.25
61	SLU 27	14	-15	495	118.82	-0.03	-3.24
61	SLU 28	14	-14	494	118.6	-0.03	-3.29
61	SLU 29	13	-15	492	118.03	-0.03	-3.21
61	SLU 30	14	-14	491	117.81	-0.03	-3.26
61	SLU 31	15	-16	534	128.09	-0.03	-3.52
61	SLU 32	15	-16	545	130.72	-0.03	-3.5
61	SLU 33	15	-16	544	130.51	-0.03	-3.55
61	SLU 34	15	-16	540	129.56	-0.03	-3.55
61	SLU 35	15	-16	551	132.2	-0.03	-3.54
61	SLU 36	15	-16	550	131.98	-0.03	-3.58
61	SLU 37	15	-16	548	131.4	-0.03	-3.51
61	SLU 38	15	-16	547	131.18	-0.03	-3.56
61	SLU 39	15	-17	559	134.19	-0.03	-3.57
61	SLU 40	15	-17	558	133.97	-0.03	-3.61
61	SLU 41	15	-17	565	135.66	-0.03	-3.6
61	SLU 42	15	-17	564	135.44	-0.03	-3.65
61	SLU 43	14	-19	517	124.11	-0.03	-3.3
61	SLU 44	14	-18	516	123.74	-0.03	-3.38
61	SLU 45	14	-19	527	126.37	-0.03	-3.37
61	SLU 46	14	-18	526	126.15	-0.03	-3.41
61	SLU 47	14	-18	522	125.21	-0.03	-3.42
61	SLU 48	14	-18	533	127.84	-0.03	-3.4
61	SLU 49	14	-18	532	127.62	-0.03	-3.45
61	SLU 50	14	-19	529	127.05	-0.03	-3.37
61	SLU 51	14	-18	528	126.83	-0.03	-3.42
61	SLU 52	15	-20	571	137.12	-0.03	-3.68
61	SLU 53	15	-20	582	139.75	-0.03	-3.66
61	SLU 54	15	-20	581	139.53	-0.03	-3.71
61	SLU 55	15	-20	577	138.59	-0.03	-3.71
61	SLU 56	15	-20	588	141.22	-0.03	-3.7
61	SLU 57	16	-20	587	141	-0.03	-3.74
61	SLU 58	15	-20	585	140.42	-0.03	-3.67
61	SLU 59	15	-20	584	140.2	-0.03	-3.72
61	SLU 60	16	-21	597	143.21	-0.04	-3.73
61	SLU 61	16	-21	596	143	-0.04	-3.77
61	SLU 62	16	-21	603	144.69	-0.04	-3.76
61	SLU 63	16	-21	602	144.47	-0.04	-3.81
61	SLU 64	16	-19	582	139.63	-0.03	-3.78
61	SLU 65	16	-18	580	139.26	-0.03	-3.86
61	SLU 66	16	-19	591	141.9	-0.03	-3.84
61	SLU 67	16	-19	590	141.68	-0.03	-3.89
61	SLU 68	16	-18	586	140.73	-0.03	-3.89
61	SLU 69	16	-19	597	143.37	-0.04	-3.88
61	SLU 70	16	-18	596	143.15	-0.04	-3.92
61	SLU 71	16	-19	594	142.57	-0.03	-3.85
61	SLU 72	16	-18	593	142.35	-0.03	-3.9
61	SLU 73	17	-20	636	152.64	-0.04	-4.15
61	SLU 74	17	-21	647	155.27	-0.04	-4.14
61	SLU 75	17	-20	646	155.05	-0.04	-4.19
61	SLU 76	17	-20	642	154.11	-0.04	-4.19
61	SLU 77	17	-21	653	156.74	-0.04	-4.18
61	SLU 78	18	-20	652	156.52	-0.04	-4.22
61	SLU 79	17	-21	650	155.95	-0.04	-4.15
61	SLU 80	17	-20	649	155.73	-0.04	-4.19
61	SLU 81	18	-22	661	158.74	-0.04	-4.2
61	SLU 82	18	-21	660	158.52	-0.04	-4.25
61	SLU 83	18	-21	668	160.21	-0.04	-4.24
61	SLU 84	18	-21	667	159.99	-0.04	-4.29
61	SLE RA 1	12	-15	433	104	-0.03	-2.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLE RA 2	12	-14	432	103.75	-0.03	-2.85
61	SLE RA 3	12	-15	440	105.51	-0.03	-2.85
61	SLE RA 4	12	-14	439	105.36	-0.03	-2.88
61	SLE RA 5	12	-14	436	104.73	-0.03	-2.88
61	SLE RA 6	12	-14	444	106.49	-0.03	-2.87
61	SLE RA 7	12	-14	443	106.34	-0.03	-2.9
61	SLE RA 8	12	-14	441	105.96	-0.03	-2.85
61	SLE RA 9	12	-14	441	105.81	-0.03	-2.88
61	SLE RA 10	13	-15	469	112.67	-0.03	-3.05
61	SLE RA 11	13	-16	477	114.42	-0.03	-3.04
61	SLE RA 12	13	-15	476	114.28	-0.03	-3.07
61	SLE RA 13	13	-15	474	113.65	-0.03	-3.08
61	SLE RA 14	13	-16	481	115.4	-0.03	-3.07
61	SLE RA 15	13	-15	480	115.26	-0.03	-3.1
61	SLE RA 16	13	-16	479	114.87	-0.03	-3.05
61	SLE RA 17	13	-15	478	114.73	-0.03	-3.08
61	SLE RA 18	13	-16	486	116.73	-0.03	-3.09
61	SLE RA 19	13	-16	486	116.59	-0.03	-3.12
61	SLE RA 20	13	-16	490	117.71	-0.03	-3.11
61	SLE RA 21	13	-16	490	117.57	-0.03	-3.14
61	SLE FR 1	12	-15	433	104	-0.03	-2.8
61	SLE FR 2	12	-15	433	103.95	-0.03	-2.81
61	SLE FR 3	12	-15	435	104.39	-0.03	-2.81
61	SLE FR 4	12	-15	449	107.77	-0.03	-2.9
61	SLE FR 5	12	-15	451	108.21	-0.03	-2.9
61	SLE FR 6	12	-15	460	110.37	-0.03	-2.94
61	SLE QP 1	12	-15	433	104	-0.03	-2.8
61	SLE QP 2	12	-15	449	107.82	-0.03	-2.89
61	SLD 1	35	-13	437	104.93	-0.03	-8.41
61	SLD 2	35	-12	437	104.91	-0.03	-8.42
61	SLD 3	31	-20	455	109.13	-0.03	-7.42
61	SLD 4	31	-19	455	109.12	-0.03	-7.44
61	SLD 5	25	-4	419	100.57	-0.02	-6.04
61	SLD 6	25	-3	419	100.56	-0.02	-6.05
61	SLD 7	11	-27	477	114.6	-0.03	-2.75
61	SLD 8	12	-27	477	114.59	-0.03	-2.76
61	SLD 9	13	-3	421	101.05	-0.02	-3.01
61	SLD 10	13	-3	421	101.04	-0.02	-3.03
61	SLD 11	-1	-27	479	115.07	-0.03	0.27
61	SLD 12	-1	-26	479	115.06	-0.03	0.26
61	SLD 13	-7	-11	444	106.52	-0.03	1.66
61	SLD 14	-7	-11	444	106.5	-0.03	1.64
61	SLD 15	-11	-18	461	110.72	-0.03	2.65
61	SLD 16	-11	-18	461	110.71	-0.03	2.63
61	SLV 1	48	-11	429	102.97	-0.03	-11.61
61	SLV 2	48	-9	429	102.94	-0.03	-11.64
61	SLV 3	41	-23	459	110.14	-0.03	-9.93
61	SLV 4	41	-22	459	110.11	-0.03	-9.96
61	SLV 5	34	4	398	95.49	-0.02	-8.05
61	SLV 6	34	5	398	95.47	-0.02	-8.07
61	SLV 7	10	-36	497	119.4	-0.03	-2.44
61	SLV 8	10	-35	497	119.38	-0.03	-2.46
61	SLV 9	14	5	401	96.26	-0.02	-3.31
61	SLV 10	14	6	401	96.24	-0.02	-3.33
61	SLV 11	-10	-35	501	120.16	-0.03	2.29
61	SLV 12	-9	-35	501	120.15	-0.03	2.27
61	SLV 13	-17	-9	440	105.52	-0.03	4.18
61	SLV 14	-17	-7	440	105.5	-0.03	4.15
61	SLV 15	-24	-21	470	112.69	-0.03	5.86
61	SLV 16	-24	-20	469	112.67	-0.03	5.83
61	SLV FO 1	52	-10	427	102.48	-0.03	-12.48
61	SLV FO 2	52	-9	427	102.45	-0.03	-12.51
61	SLV FO 3	44	-24	460	110.37	-0.03	-10.63
61	SLV FO 4	44	-22	460	110.34	-0.03	-10.66
61	SLV FO 5	36	6	393	94.26	-0.02	-8.56
61	SLV FO 6	36	7	393	94.24	-0.02	-8.59
61	SLV FO 7	10	-38	502	120.55	-0.03	-2.4
61	SLV FO 8	10	-37	502	120.54	-0.03	-2.42
61	SLV FO 9	14	7	396	95.1	-0.02	-3.35
61	SLV FO 10	14	8	396	95.08	-0.02	-3.38
61	SLV FO 11	-12	-37	506	121.4	-0.03	2.81
61	SLV FO 12	-12	-37	506	121.38	-0.03	2.79
61	SLV FO 13	-20	-8	439	105.29	-0.03	4.89
61	SLV FO 14	-20	-7	439	105.26	-0.03	4.85
61	SLV FO 15	-28	-21	472	113.18	-0.03	6.74
61	SLV FO 16	-28	-20	471	113.15	-0.03	6.7
61	CRTFP Ux+	0	0	0	0	0	0
61	CRTFP Ux-	0	0	0	0	0	0
61	CRTFP Uy+	0	0	0	0	0	0
61	CRTFP Uy-	0	0	0	0	0	0
62	SLU 1	11	-14	418	100.37	-0.02	-2.66
62	SLU 2	11	-14	417	100.03	-0.02	-2.74
62	SLU 3	11	-14	428	102.65	-0.02	-2.72
62	SLU 4	12	-14	427	102.45	-0.02	-2.77
62	SLU 5	12	-13	423	101.51	-0.02	-2.77
62	SLU 6	11	-14	434	104.13	-0.02	-2.76
62	SLU 7	12	-14	433	103.93	-0.02	-2.8
62	SLU 8	11	-14	431	103.32	-0.02	-2.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLU 9	12	-14	430	103.12	-0.02	-2.78
62	SLU 10	13	-15	473	113.5	-0.02	-3.03
62	SLU 11	13	-16	484	116.12	-0.02	-3.02
62	SLU 12	13	-15	483	115.92	-0.02	-3.07
62	SLU 13	13	-15	479	114.98	-0.02	-3.07
62	SLU 14	13	-16	490	117.6	-0.02	-3.05
62	SLU 15	13	-15	489	117.4	-0.02	-3.1
62	SLU 16	13	-16	487	116.8	-0.02	-3.03
62	SLU 17	13	-15	486	116.59	-0.02	-3.07
62	SLU 18	13	-17	498	119.61	-0.02	-3.08
62	SLU 19	13	-16	498	119.41	-0.02	-3.13
62	SLU 20	13	-17	505	121.09	-0.02	-3.12
62	SLU 21	13	-16	504	120.89	-0.02	-3.16
62	SLU 22	13	-15	483	116.03	-0.02	-3.14
62	SLU 23	13	-14	482	115.7	-0.02	-3.21
62	SLU 24	13	-15	493	118.32	-0.02	-3.2
62	SLU 25	14	-14	492	118.11	-0.02	-3.25
62	SLU 26	14	-14	488	117.18	-0.02	-3.25
62	SLU 27	13	-14	499	119.8	-0.02	-3.23
62	SLU 28	14	-14	498	119.59	-0.02	-3.28
62	SLU 29	13	-14	496	118.99	-0.02	-3.21
62	SLU 30	14	-14	495	118.79	-0.02	-3.25
62	SLU 31	15	-16	538	129.17	-0.02	-3.51
62	SLU 32	15	-16	549	131.79	-0.02	-3.5
62	SLU 33	15	-16	548	131.59	-0.02	-3.54
62	SLU 34	15	-15	544	130.65	-0.02	-3.54
62	SLU 35	15	-16	555	133.27	-0.02	-3.53
62	SLU 36	15	-16	554	133.07	-0.02	-3.58
62	SLU 37	15	-16	552	132.46	-0.02	-3.5
62	SLU 38	15	-16	551	132.26	-0.02	-3.55
62	SLU 39	15	-17	564	135.28	-0.02	-3.56
62	SLU 40	15	-17	563	135.08	-0.02	-3.61
62	SLU 41	15	-17	570	136.76	-0.03	-3.59
62	SLU 42	15	-16	569	136.55	-0.03	-3.64
62	SLU 43	14	-18	521	125.1	-0.02	-3.3
62	SLU 44	14	-18	520	124.77	-0.02	-3.37
62	SLU 45	14	-18	531	127.39	-0.02	-3.36
62	SLU 46	14	-18	530	127.18	-0.02	-3.41
62	SLU 47	14	-18	526	126.24	-0.02	-3.41
62	SLU 48	14	-18	537	128.87	-0.02	-3.39
62	SLU 49	14	-18	536	128.66	-0.02	-3.44
62	SLU 50	14	-18	534	128.06	-0.02	-3.37
62	SLU 51	14	-18	533	127.86	-0.02	-3.41
62	SLU 52	15	-19	576	138.24	-0.03	-3.67
62	SLU 53	15	-20	587	140.86	-0.03	-3.66
62	SLU 54	15	-20	586	140.65	-0.03	-3.7
62	SLU 55	15	-19	582	139.72	-0.03	-3.7
62	SLU 56	15	-20	593	142.34	-0.03	-3.69
62	SLU 57	16	-19	592	142.13	-0.03	-3.74
62	SLU 58	15	-20	590	141.53	-0.03	-3.66
62	SLU 59	15	-19	589	141.33	-0.03	-3.71
62	SLU 60	15	-21	601	144.35	-0.03	-3.72
62	SLU 61	16	-20	601	144.14	-0.03	-3.77
62	SLU 62	16	-21	608	145.83	-0.03	-3.75
62	SLU 63	16	-20	607	145.62	-0.03	-3.8
62	SLU 64	16	-19	587	140.77	-0.03	-3.77
62	SLU 65	16	-18	585	140.43	-0.03	-3.85
62	SLU 66	16	-19	596	143.06	-0.03	-3.83
62	SLU 67	16	-18	595	142.85	-0.03	-3.88
62	SLU 68	16	-18	591	141.91	-0.03	-3.88
62	SLU 69	16	-19	602	144.53	-0.03	-3.87
62	SLU 70	16	-18	601	144.33	-0.03	-3.91
62	SLU 71	16	-19	599	143.73	-0.03	-3.84
62	SLU 72	16	-18	598	143.53	-0.03	-3.89
62	SLU 73	17	-20	641	153.9	-0.03	-4.14
62	SLU 74	17	-20	652	156.53	-0.03	-4.13
62	SLU 75	17	-20	651	156.32	-0.03	-4.18
62	SLU 76	17	-20	647	155.38	-0.03	-4.18
62	SLU 77	17	-20	658	158.01	-0.03	-4.16
62	SLU 78	18	-20	658	157.8	-0.03	-4.21
62	SLU 79	17	-20	655	157.2	-0.03	-4.14
62	SLU 80	17	-20	654	157	-0.03	-4.18
62	SLU 81	17	-21	667	160.02	-0.03	-4.19
62	SLU 82	18	-21	666	159.81	-0.03	-4.24
62	SLU 83	18	-21	673	161.5	-0.03	-4.23
62	SLU 84	18	-21	672	161.29	-0.03	-4.28
62	SLE RA 1	12	-14	437	104.84	-0.02	-2.8
62	SLE RA 2	12	-14	436	104.62	-0.02	-2.85
62	SLE RA 3	12	-14	443	106.36	-0.02	-2.84
62	SLE RA 4	12	-14	443	106.23	-0.02	-2.87
62	SLE RA 5	12	-14	440	105.6	-0.02	-2.87
62	SLE RA 6	12	-14	447	107.35	-0.02	-2.86
62	SLE RA 7	12	-14	447	107.22	-0.02	-2.89
62	SLE RA 8	12	-14	445	106.82	-0.02	-2.84
62	SLE RA 9	12	-14	444	106.68	-0.02	-2.87
62	SLE RA 10	13	-15	473	113.6	-0.02	-3.05
62	SLE RA 11	13	-15	481	115.35	-0.02	-3.04
62	SLE RA 12	13	-15	480	115.21	-0.02	-3.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLE RA 13	13	-15	477	114.58	-0.02	-3.07
62	SLE RA 14	13	-15	485	116.33	-0.02	-3.06
62	SLE RA 15	13	-15	484	116.2	-0.02	-3.09
62	SLE RA 16	13	-15	482	115.8	-0.02	-3.04
62	SLE RA 17	13	-15	482	115.66	-0.02	-3.07
62	SLE RA 18	13	-16	490	117.67	-0.02	-3.08
62	SLE RA 19	13	-16	490	117.54	-0.02	-3.11
62	SLE RA 20	13	-16	494	118.66	-0.02	-3.1
62	SLE RA 21	13	-16	494	118.52	-0.02	-3.13
62	SLE FR 1	12	-14	437	104.84	-0.02	-2.8
62	SLE FR 2	12	-14	437	104.8	-0.02	-2.81
62	SLE FR 3	12	-14	438	105.24	-0.02	-2.81
62	SLE FR 4	12	-15	453	108.65	-0.02	-2.89
62	SLE FR 5	12	-15	455	109.09	-0.02	-2.89
62	SLE FR 6	12	-15	464	111.26	-0.02	-2.94
62	SLE QP 1	12	-14	437	104.84	-0.02	-2.8
62	SLE QP 2	12	-15	453	108.69	-0.02	-2.88
62	SLD 1	35	-11	437	104.86	-0.02	-8.41
62	SLD 2	35	-10	437	104.85	-0.02	-8.43
62	SLD 3	31	-18	453	108.71	-0.02	-7.42
62	SLD 4	31	-17	453	108.7	-0.02	-7.44
62	SLD 5	25	-3	424	101.7	-0.02	-6.04
62	SLD 6	25	-2	424	101.7	-0.02	-6.05
62	SLD 7	11	-27	477	114.53	-0.02	-2.74
62	SLD 8	11	-27	477	114.53	-0.02	-2.75
62	SLD 9	13	-3	429	102.85	-0.02	-3.01
62	SLD 10	13	-2	429	102.85	-0.02	-3.03
62	SLD 11	-1	-28	482	115.68	-0.02	0.29
62	SLD 12	-1	-27	482	115.68	-0.02	0.28
62	SLD 13	-7	-12	453	108.68	-0.02	1.67
62	SLD 14	-7	-11	453	108.68	-0.02	1.66
62	SLD 15	-11	-20	469	112.53	-0.02	2.66
62	SLD 16	-11	-19	469	112.52	-0.02	2.65
62	SLV 1	48	-8	427	102.42	-0.02	-11.61
62	SLV 2	49	-6	427	102.42	-0.02	-11.64
62	SLV 3	41	-21	454	108.98	-0.02	-9.93
62	SLV 4	41	-19	454	108.98	-0.02	-9.96
62	SLV 5	34	6	404	96.86	-0.02	-8.06
62	SLV 6	34	7	404	96.86	-0.02	-8.08
62	SLV 7	10	-36	495	118.73	-0.02	-2.43
62	SLV 8	10	-35	495	118.73	-0.02	-2.45
62	SLV 9	14	5	411	98.66	-0.02	-3.32
62	SLV 10	14	7	411	98.65	-0.02	-3.34
62	SLV 11	-10	-37	502	120.52	-0.02	2.31
62	SLV 12	-10	-36	502	120.52	-0.02	2.29
62	SLV 13	-17	-11	452	108.41	-0.02	4.19
62	SLV 14	-17	-9	452	108.4	-0.02	4.16
62	SLV 15	-25	-23	479	114.97	-0.02	5.88
62	SLV 16	-24	-22	479	114.96	-0.02	5.85
62	SLV FO 1	52	-7	424	101.8	-0.02	-12.49
62	SLV FO 2	52	-6	424	101.79	-0.02	-12.52
62	SLV FO 3	44	-22	454	109.01	-0.02	-10.63
62	SLV FO 4	44	-20	454	109.01	-0.02	-10.66
62	SLV FO 5	36	8	399	95.68	-0.02	-8.57
62	SLV FO 6	36	10	399	95.67	-0.02	-8.6
62	SLV FO 7	10	-39	499	119.73	-0.02	-2.38
62	SLV FO 8	10	-37	499	119.73	-0.02	-2.4
62	SLV FO 9	14	7	407	97.65	-0.02	-3.36
62	SLV FO 10	14	9	407	97.65	-0.02	-3.38
62	SLV FO 11	-12	-39	507	121.71	-0.02	2.83
62	SLV FO 12	-12	-38	507	121.7	-0.02	2.81
62	SLV FO 13	-20	-10	452	108.38	-0.02	4.9
62	SLV FO 14	-20	-8	452	108.37	-0.02	4.87
62	SLV FO 15	-28	-24	482	115.59	-0.02	6.76
62	SLV FO 16	-28	-22	482	115.59	-0.02	6.73
62	CRTFP Ux+	0	0	0	0	0	0
62	CRTFP Ux-	0	0	0	0	0	0
62	CRTFP Uy+	0	0	0	0	0	0
62	CRTFP Uy-	0	0	0	0	0	0
63	SLU 1	11	-14	421	101.02	-0.01	-2.65
63	SLU 2	11	-13	420	100.71	-0.01	-2.73
63	SLU 3	11	-14	430	103.32	-0.01	-2.71
63	SLU 4	11	-13	430	103.13	-0.01	-2.76
63	SLU 5	12	-13	426	102.2	-0.01	-2.76
63	SLU 6	11	-14	437	104.81	-0.01	-2.75
63	SLU 7	12	-13	436	104.62	-0.01	-2.79
63	SLU 8	11	-14	433	103.99	-0.01	-2.72
63	SLU 9	12	-13	433	103.81	-0.01	-2.76
63	SLU 10	13	-15	476	114.26	-0.01	-3.02
63	SLU 11	13	-16	487	116.87	-0.01	-3.01
63	SLU 12	13	-15	486	116.68	-0.01	-3.05
63	SLU 13	13	-15	482	115.75	-0.01	-3.06
63	SLU 14	13	-15	493	118.35	-0.01	-3.04
63	SLU 15	13	-15	492	118.17	-0.01	-3.09
63	SLU 16	13	-15	490	117.54	-0.01	-3.01
63	SLU 17	13	-15	489	117.36	-0.01	-3.06
63	SLU 18	13	-16	502	120.38	-0.01	-3.07
63	SLU 19	13	-16	501	120.19	-0.01	-3.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLU 20	13	-16	508	121.86	-0.01	-3.1
63	SLU 21	13	-16	507	121.68	-0.01	-3.15
63	SLU 22	13	-14	487	116.81	-0.01	-3.12
63	SLU 23	13	-14	485	116.5	-0.01	-3.2
63	SLU 24	13	-14	496	119.11	-0.01	-3.18
63	SLU 25	13	-14	496	118.92	-0.01	-3.23
63	SLU 26	13	-13	492	117.99	-0.01	-3.23
63	SLU 27	13	-14	502	120.59	-0.01	-3.22
63	SLU 28	14	-14	502	120.41	-0.01	-3.27
63	SLU 29	13	-14	499	119.78	-0.01	-3.19
63	SLU 30	13	-14	498	119.6	-0.01	-3.24
63	SLU 31	15	-15	542	130.05	-0.02	-3.49
63	SLU 32	14	-16	553	132.66	-0.02	-3.48
63	SLU 33	15	-15	552	132.47	-0.02	-3.53
63	SLU 34	15	-15	548	131.54	-0.02	-3.53
63	SLU 35	15	-16	559	134.14	-0.02	-3.51
63	SLU 36	15	-15	558	133.96	-0.02	-3.56
63	SLU 37	15	-16	556	133.33	-0.02	-3.49
63	SLU 38	15	-15	555	133.15	-0.02	-3.53
63	SLU 39	15	-17	567	136.16	-0.02	-3.54
63	SLU 40	15	-16	567	135.98	-0.02	-3.59
63	SLU 41	15	-17	574	137.65	-0.02	-3.58
63	SLU 42	15	-16	573	137.47	-0.02	-3.62
63	SLU 43	14	-18	525	125.92	-0.02	-3.28
63	SLU 44	14	-17	523	125.61	-0.02	-3.36
63	SLU 45	14	-18	534	128.21	-0.02	-3.34
63	SLU 46	14	-18	533	128.03	-0.02	-3.39
63	SLU 47	14	-17	530	127.09	-0.02	-3.39
63	SLU 48	14	-18	540	129.7	-0.02	-3.38
63	SLU 49	14	-17	540	129.51	-0.02	-3.43
63	SLU 50	14	-18	537	128.89	-0.02	-3.35
63	SLU 51	14	-17	536	128.7	-0.02	-3.4
63	SLU 52	15	-19	580	139.15	-0.02	-3.65
63	SLU 53	15	-20	591	141.76	-0.02	-3.64
63	SLU 54	15	-19	590	141.57	-0.02	-3.69
63	SLU 55	15	-19	586	140.64	-0.02	-3.69
63	SLU 56	15	-20	597	143.25	-0.02	-3.67
63	SLU 57	15	-19	596	143.06	-0.02	-3.72
63	SLU 58	15	-20	593	142.43	-0.02	-3.65
63	SLU 59	15	-19	593	142.25	-0.02	-3.69
63	SLU 60	15	-20	605	145.27	-0.02	-3.7
63	SLU 61	16	-20	605	145.08	-0.02	-3.75
63	SLU 62	16	-20	611	146.75	-0.02	-3.74
63	SLU 63	16	-20	611	146.57	-0.02	-3.78
63	SLU 64	16	-18	590	141.71	-0.02	-3.76
63	SLU 65	16	-18	589	141.4	-0.02	-3.83
63	SLU 66	16	-18	600	144	-0.02	-3.82
63	SLU 67	16	-18	599	143.82	-0.02	-3.86
63	SLU 68	16	-18	595	142.88	-0.02	-3.87
63	SLU 69	16	-18	606	145.49	-0.02	-3.85
63	SLU 70	16	-18	605	145.3	-0.02	-3.9
63	SLU 71	16	-18	603	144.68	-0.02	-3.82
63	SLU 72	16	-18	602	144.49	-0.02	-3.87
63	SLU 73	17	-19	646	154.94	-0.02	-4.13
63	SLU 74	17	-20	656	157.55	-0.02	-4.11
63	SLU 75	17	-20	656	157.36	-0.02	-4.16
63	SLU 76	17	-19	652	156.43	-0.02	-4.16
63	SLU 77	17	-20	663	159.03	-0.02	-4.15
63	SLU 78	17	-19	662	158.85	-0.02	-4.19
63	SLU 79	17	-20	659	158.22	-0.02	-4.12
63	SLU 80	17	-19	658	158.04	-0.02	-4.16
63	SLU 81	17	-21	671	161.06	-0.02	-4.18
63	SLU 82	18	-20	670	160.87	-0.02	-4.22
63	SLU 83	18	-21	677	162.54	-0.02	-4.21
63	SLU 84	18	-20	676	162.36	-0.02	-4.26
63	SLE RA 1	12	-14	440	105.53	-0.01	-2.78
63	SLE RA 2	12	-14	439	105.33	-0.01	-2.84
63	SLE RA 3	12	-14	446	107.06	-0.01	-2.83
63	SLE RA 4	12	-14	446	106.94	-0.01	-2.86
63	SLE RA 5	12	-14	443	106.32	-0.01	-2.86
63	SLE RA 6	12	-14	450	108.06	-0.01	-2.85
63	SLE RA 7	12	-14	450	107.93	-0.01	-2.88
63	SLE RA 8	12	-14	448	107.51	-0.01	-2.83
63	SLE RA 9	12	-14	447	107.39	-0.01	-2.86
63	SLE RA 10	13	-15	476	114.36	-0.01	-3.03
63	SLE RA 11	13	-15	484	116.1	-0.01	-3.02
63	SLE RA 12	13	-15	483	115.97	-0.01	-3.05
63	SLE RA 13	13	-15	481	115.35	-0.01	-3.06
63	SLE RA 14	13	-15	488	117.09	-0.01	-3.05
63	SLE RA 15	13	-15	487	116.96	-0.01	-3.08
63	SLE RA 16	13	-15	486	116.55	-0.01	-3.03
63	SLE RA 17	13	-15	485	116.42	-0.01	-3.06
63	SLE RA 18	13	-16	493	118.44	-0.01	-3.07
63	SLE RA 19	13	-15	493	118.31	-0.01	-3.1
63	SLE RA 20	13	-16	498	119.43	-0.01	-3.09
63	SLE RA 21	13	-15	497	119.3	-0.01	-3.12
63	SLE FR 1	12	-14	440	105.53	-0.01	-2.78
63	SLE FR 2	12	-14	440	105.49	-0.01	-2.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLE FR 3	12	-14	441	105.93	-0.01	-2.79
63	SLE FR 4	12	-14	456	109.36	-0.01	-2.88
63	SLE FR 5	12	-15	458	109.8	-0.01	-2.88
63	SLE FR 6	12	-15	467	111.98	-0.01	-2.92
63	SLE QP 1	12	-14	440	105.53	-0.01	-2.78
63	SLE QP 2	12	-15	456	109.4	-0.01	-2.87
63	SLD 1	35	-11	436	104.55	-0.01	-8.4
63	SLD 2	35	-9	436	104.56	-0.01	-8.42
63	SLD 3	31	-18	450	108.02	-0.01	-7.4
63	SLD 4	31	-17	450	108.03	-0.01	-7.42
63	SLD 5	25	-2	428	102.68	-0.01	-6.03
63	SLD 6	25	-1	428	102.69	-0.01	-6.04
63	SLD 7	11	-28	476	114.25	-0.01	-2.72
63	SLD 8	11	-27	476	114.25	-0.01	-2.73
63	SLD 9	13	-2	436	104.56	-0.01	-3.01
63	SLD 10	13	-1	436	104.56	-0.01	-3.02
63	SLD 11	-1	-28	484	116.12	-0.01	0.31
63	SLD 12	-1	-27	484	116.12	-0.01	0.29
63	SLD 13	-7	-12	462	110.78	-0.01	1.68
63	SLD 14	-7	-11	462	110.79	-0.01	1.66
63	SLD 15	-11	-20	476	114.25	-0.01	2.68
63	SLD 16	-11	-19	476	114.26	-0.01	2.66
63	SLV 1	48	-8	423	101.57	-0.01	-11.6
63	SLV 2	48	-5	423	101.59	-0.01	-11.63
63	SLV 3	41	-21	448	107.48	-0.01	-9.91
63	SLV 4	41	-19	448	107.5	-0.01	-9.94
63	SLV 5	34	7	409	98.08	-0.01	-8.05
63	SLV 6	34	9	409	98.1	-0.01	-8.07
63	SLV 7	10	-37	491	117.79	-0.01	-2.4
63	SLV 8	10	-36	491	117.8	-0.01	-2.42
63	SLV 9	14	7	421	101.01	-0.01	-3.31
63	SLV 10	14	8	421	101.02	-0.01	-3.33
63	SLV 11	-10	-38	503	120.71	-0.01	2.34
63	SLV 12	-10	-37	503	120.72	-0.01	2.32
63	SLV 13	-18	-11	464	111.31	-0.01	4.2
63	SLV 14	-17	-8	464	111.33	-0.01	4.17
63	SLV 15	-25	-24	488	117.22	-0.01	5.9
63	SLV 16	-24	-22	488	117.24	-0.01	5.87
63	SLV FO 1	52	-7	420	100.79	-0.01	-12.48
63	SLV FO 2	52	-4	420	100.81	-0.01	-12.51
63	SLV FO 3	44	-22	447	107.29	-0.01	-10.61
63	SLV FO 4	44	-19	447	107.31	-0.01	-10.65
63	SLV FO 5	36	10	404	96.95	-0.01	-8.57
63	SLV FO 6	36	11	404	96.97	-0.01	-8.6
63	SLV FO 7	10	-40	494	118.63	-0.01	-2.36
63	SLV FO 8	10	-38	494	118.64	-0.01	-2.38
63	SLV FO 9	14	9	417	100.17	-0.01	-3.36
63	SLV FO 10	14	10	417	100.18	-0.01	-3.38
63	SLV FO 11	-12	-41	508	121.84	-0.01	2.86
63	SLV FO 12	-12	-39	508	121.86	-0.01	2.84
63	SLV FO 13	-20	-10	465	111.5	-0.01	4.91
63	SLV FO 14	-20	-8	465	111.52	-0.01	4.87
63	SLV FO 15	-28	-25	492	118	-0.01	6.77
63	SLV FO 16	-28	-22	492	118.02	-0.01	6.74
63	CRTFP Ux+	0	0	0	0	0	0
63	CRTFP Ux-	0	0	0	0	0	0
63	CRTFP Uy+	0	0	0	0	0	0
63	CRTFP Uy-	0	0	0	0	0	0
64	SLU 1	11	-14	423	101.54	-0.01	-2.64
64	SLU 2	11	-13	422	101.26	-0.01	-2.71
64	SLU 3	11	-14	433	103.85	-0.01	-2.7
64	SLU 4	11	-13	432	103.68	-0.01	-2.74
64	SLU 5	11	-13	428	102.75	-0.01	-2.75
64	SLU 6	11	-14	439	105.34	-0.01	-2.73
64	SLU 7	12	-13	438	105.17	-0.01	-2.78
64	SLU 8	11	-14	435	104.52	-0.01	-2.7
64	SLU 9	11	-13	435	104.35	-0.01	-2.75
64	SLU 10	13	-15	479	114.87	-0.01	-3.01
64	SLU 11	12	-15	489	117.45	-0.01	-2.99
64	SLU 12	13	-15	489	117.29	-0.01	-3.04
64	SLU 13	13	-14	485	116.36	-0.01	-3.04
64	SLU 14	13	-15	496	118.94	-0.01	-3.02
64	SLU 15	13	-15	495	118.77	-0.01	-3.07
64	SLU 16	12	-15	492	118.12	-0.01	-3
64	SLU 17	13	-15	491	117.96	-0.01	-3.04
64	SLU 18	13	-16	504	120.98	-0.01	-3.05
64	SLU 19	13	-16	503	120.81	-0.01	-3.1
64	SLU 20	13	-16	510	122.46	-0.01	-3.09
64	SLU 21	13	-15	510	122.3	-0.01	-3.13
64	SLU 22	13	-14	489	117.43	-0.01	-3.11
64	SLU 23	13	-13	488	117.15	-0.01	-3.18
64	SLU 24	13	-14	499	119.73	-0.01	-3.17
64	SLU 25	13	-13	498	119.57	-0.01	-3.21
64	SLU 26	13	-13	494	118.64	-0.01	-3.22
64	SLU 27	13	-14	505	121.22	-0.01	-3.2
64	SLU 28	14	-13	504	121.06	-0.01	-3.25
64	SLU 29	13	-14	502	120.41	-0.01	-3.17
64	SLU 30	13	-13	501	120.24	-0.01	-3.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
64	SLU 31	14	-15	545	130.76	-0.01	-3.48
64	SLU 32	14	-16	556	133.34	-0.01	-3.46
64	SLU 33	15	-15	555	133.17	-0.01	-3.51
64	SLU 34	15	-15	551	132.24	-0.01	-3.51
64	SLU 35	15	-15	562	134.83	-0.01	-3.49
64	SLU 36	15	-15	561	134.66	-0.01	-3.54
64	SLU 37	14	-15	558	134.01	-0.01	-3.47
64	SLU 38	15	-15	558	133.84	-0.01	-3.51
64	SLU 39	15	-16	570	136.86	-0.01	-3.52
64	SLU 40	15	-16	570	136.7	-0.01	-3.57
64	SLU 41	15	-16	576	138.35	-0.01	-3.56
64	SLU 42	15	-16	576	138.19	-0.01	-3.6
64	SLU 43	14	-18	527	126.56	-0.01	-3.27
64	SLU 44	14	-17	526	126.28	-0.01	-3.34
64	SLU 45	14	-18	537	128.86	-0.01	-3.33
64	SLU 46	14	-17	536	128.7	-0.01	-3.37
64	SLU 47	14	-17	532	127.77	-0.01	-3.38
64	SLU 48	14	-18	543	130.35	-0.01	-3.36
64	SLU 49	14	-17	542	130.19	-0.01	-3.41
64	SLU 50	14	-18	540	129.53	-0.01	-3.33
64	SLU 51	14	-17	539	129.37	-0.01	-3.38
64	SLU 52	15	-19	583	139.88	-0.01	-3.64
64	SLU 53	15	-19	594	142.47	-0.01	-3.62
64	SLU 54	15	-19	593	142.3	-0.01	-3.67
64	SLU 55	15	-18	589	141.37	-0.01	-3.67
64	SLU 56	15	-19	600	143.96	-0.01	-3.65
64	SLU 57	15	-19	599	143.79	-0.01	-3.7
64	SLU 58	15	-19	596	143.14	-0.01	-3.63
64	SLU 59	15	-19	596	142.97	-0.01	-3.67
64	SLU 60	15	-20	608	145.99	-0.01	-3.68
64	SLU 61	16	-20	608	145.83	-0.01	-3.73
64	SLU 62	15	-20	615	147.48	-0.01	-3.72
64	SLU 63	16	-19	614	147.31	-0.01	-3.76
64	SLU 64	16	-18	594	142.44	-0.01	-3.74
64	SLU 65	16	-17	592	142.17	-0.01	-3.81
64	SLU 66	16	-18	603	144.75	-0.01	-3.8
64	SLU 67	16	-17	602	144.58	-0.01	-3.84
64	SLU 68	16	-17	599	143.66	-0.01	-3.85
64	SLU 69	16	-18	609	146.24	-0.01	-3.83
64	SLU 70	16	-17	609	146.07	-0.01	-3.88
64	SLU 71	16	-18	606	145.42	-0.01	-3.8
64	SLU 72	16	-17	605	145.26	-0.01	-3.85
64	SLU 73	17	-19	649	155.77	-0.01	-4.11
64	SLU 74	17	-20	660	158.35	-0.01	-4.09
64	SLU 75	17	-19	659	158.19	-0.01	-4.14
64	SLU 76	17	-19	655	157.26	-0.01	-4.14
64	SLU 77	17	-19	666	159.84	-0.01	-4.12
64	SLU 78	17	-19	665	159.68	-0.01	-4.17
64	SLU 79	17	-20	663	159.03	-0.01	-4.1
64	SLU 80	17	-19	662	158.86	-0.01	-4.14
64	SLU 81	17	-20	674	161.88	-0.01	-4.15
64	SLU 82	17	-20	674	161.71	-0.01	-4.2
64	SLU 83	17	-20	681	163.37	-0.01	-4.19
64	SLU 84	18	-20	680	163.2	-0.01	-4.23
64	SLE RA 1	12	-14	442	106.08	-0.01	-2.77
64	SLE RA 2	12	-13	441	105.9	-0.01	-2.82
64	SLE RA 3	12	-14	448	107.62	-0.01	-2.81
64	SLE RA 4	12	-13	448	107.51	-0.01	-2.84
64	SLE RA 5	12	-13	445	106.89	-0.01	-2.84
64	SLE RA 6	12	-14	453	108.61	-0.01	-2.83
64	SLE RA 7	12	-13	452	108.5	-0.01	-2.86
64	SLE RA 8	12	-14	450	108.07	-0.01	-2.82
64	SLE RA 9	12	-13	450	107.95	-0.01	-2.85
64	SLE RA 10	13	-14	479	114.97	-0.01	-3.02
64	SLE RA 11	13	-15	486	116.69	-0.01	-3.01
64	SLE RA 12	13	-15	486	116.58	-0.01	-3.04
64	SLE RA 13	13	-14	483	115.96	-0.01	-3.04
64	SLE RA 14	13	-15	490	117.68	-0.01	-3.03
64	SLE RA 15	13	-14	490	117.57	-0.01	-3.06
64	SLE RA 16	13	-15	488	117.14	-0.01	-3.01
64	SLE RA 17	13	-14	488	117.02	-0.01	-3.04
64	SLE RA 18	13	-15	496	119.04	-0.01	-3.05
64	SLE RA 19	13	-15	496	118.93	-0.01	-3.08
64	SLE RA 20	13	-15	500	120.03	-0.01	-3.07
64	SLE RA 21	13	-15	500	119.92	-0.01	-3.1
64	SLE FR 1	12	-14	442	106.08	-0.01	-2.77
64	SLE FR 2	12	-14	442	106.04	-0.01	-2.78
64	SLE FR 3	12	-14	444	106.48	-0.01	-2.78
64	SLE FR 4	12	-14	458	109.93	-0.01	-2.86
64	SLE FR 5	12	-14	460	110.36	-0.01	-2.86
64	SLE FR 6	12	-15	469	112.56	-0.01	-2.91
64	SLE QP 1	12	-14	442	106.08	-0.01	-2.77
64	SLE QP 2	12	-14	458	109.97	-0.01	-2.85
64	SLD 1	35	-10	434	104.08	-0.01	-8.37
64	SLD 2	35	-8	434	104.1	-0.01	-8.39
64	SLD 3	31	-18	446	107.14	-0.01	-7.38
64	SLD 4	31	-16	447	107.17	-0.01	-7.4
64	SLD 5	25	-1	431	103.55	-0.01	-6.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
64	SLD 6	25	0	432	103.57	-0.01	-6.03
64	SLD 7	11	-28	474	113.76	-0.01	-2.7
64	SLD 8	11	-27	474	113.78	-0.01	-2.71
64	SLD 9	12	-2	442	106.16	-0.01	-3
64	SLD 10	13	0	442	106.17	-0.01	-3.01
64	SLD 11	-1	-29	485	116.37	-0.01	0.32
64	SLD 12	-1	-28	485	116.38	-0.01	0.31
64	SLD 13	-7	-12	470	112.77	-0.01	1.69
64	SLD 14	-7	-10	470	112.79	-0.01	1.67
64	SLD 15	-11	-20	483	115.83	-0.01	2.69
64	SLD 16	-11	-19	483	115.86	-0.01	2.67
64	SLV 1	48	-7	419	100.55	-0.01	-11.58
64	SLV 2	48	-4	419	100.6	-0.01	-11.61
64	SLV 3	41	-21	441	105.78	-0.01	-9.88
64	SLV 4	41	-18	441	105.82	-0.01	-9.91
64	SLV 5	34	9	413	99.22	-0.01	-8.04
64	SLV 6	34	11	414	99.25	-0.01	-8.06
64	SLV 7	10	-38	486	116.62	-0.01	-2.38
64	SLV 8	10	-36	486	116.65	-0.01	-2.4
64	SLV 9	14	8	430	103.29	-0.01	-3.31
64	SLV 10	14	10	430	103.31	-0.01	-3.33
64	SLV 11	-10	-39	503	120.69	-0.01	2.35
64	SLV 12	-10	-37	503	120.72	-0.01	2.33
64	SLV 13	-18	-11	475	114.12	-0.01	4.2
64	SLV 14	-17	-8	476	114.16	-0.01	4.17
64	SLV 15	-25	-25	497	119.34	-0.01	5.9
64	SLV 16	-24	-22	497	119.38	-0.01	5.87
64	SLV FO 1	52	-6	415	99.61	-0.01	-12.45
64	SLV FO 2	52	-3	415	99.66	-0.01	-12.48
64	SLV FO 3	44	-22	439	105.36	-0.01	-10.58
64	SLV FO 4	44	-18	439	105.4	-0.01	-10.61
64	SLV FO 5	36	11	409	98.14	-0.01	-8.56
64	SLV FO 6	36	13	409	98.17	-0.01	-8.58
64	SLV FO 7	10	-41	489	117.28	-0.01	-2.33
64	SLV FO 8	10	-38	489	117.32	-0.01	-2.35
64	SLV FO 9	14	10	428	102.62	-0.01	-3.35
64	SLV FO 10	14	12	428	102.65	-0.01	-3.38
64	SLV FO 11	-12	-42	507	121.76	-0.01	2.88
64	SLV FO 12	-12	-40	507	121.79	-0.01	2.85
64	SLV FO 13	-20	-10	477	114.53	-0.01	4.91
64	SLV FO 14	-20	-7	477	114.58	-0.01	4.87
64	SLV FO 15	-28	-26	501	120.27	-0.01	6.78
64	SLV FO 16	-28	-22	501	120.32	-0.01	6.74
64	CRTFP Ux+	0	0	0	0	0	0
64	CRTFP Ux-	0	0	0	0	0	0
64	CRTFP Uy+	0	0	0	0	0	0
64	CRTFP Uy-	0	0	0	0	0	0
66	SLU 1	14	-19	534	0	0	0
66	SLU 2	15	-18	532	0	0	0
66	SLU 3	15	-19	546	0	0	0
66	SLU 4	15	-18	545	0	0	0
66	SLU 5	15	-18	540	0	0	0
66	SLU 6	15	-19	554	0	0	0
66	SLU 7	15	-18	553	0	0	0
66	SLU 8	15	-19	550	0	0	0
66	SLU 9	15	-18	549	0	0	0
66	SLU 10	16	-20	604	0	0	0
66	SLU 11	16	-21	618	0	0	0
66	SLU 12	17	-21	617	0	0	0
66	SLU 13	17	-20	612	0	0	0
66	SLU 14	17	-21	626	0	0	0
66	SLU 15	17	-20	625	0	0	0
66	SLU 16	16	-21	622	0	0	0
66	SLU 17	17	-20	621	0	0	0
66	SLU 18	17	-22	637	0	0	0
66	SLU 19	17	-22	636	0	0	0
66	SLU 20	17	-22	645	0	0	0
66	SLU 21	17	-22	643	0	0	0
66	SLU 22	17	-20	617	0	0	0
66	SLU 23	17	-19	615	0	0	0
66	SLU 24	17	-19	629	0	0	0
66	SLU 25	18	-19	628	0	0	0
66	SLU 26	18	-19	623	0	0	0
66	SLU 27	18	-19	637	0	0	0
66	SLU 28	18	-19	636	0	0	0
66	SLU 29	17	-19	633	0	0	0
66	SLU 30	18	-19	632	0	0	0
66	SLU 31	19	-21	687	0	0	0
66	SLU 32	19	-22	701	0	0	0
66	SLU 33	19	-21	700	0	0	0
66	SLU 34	19	-21	695	0	0	0
66	SLU 35	19	-22	709	0	0	0
66	SLU 36	19	-21	708	0	0	0
66	SLU 37	19	-22	705	0	0	0
66	SLU 38	19	-21	704	0	0	0
66	SLU 39	19	-23	720	0	0	0
66	SLU 40	20	-22	719	0	0	0
66	SLU 41	20	-23	728	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLU 42	20	-22	727	0	0	0
66	SLU 43	18	-25	666	0	0	0
66	SLU 44	18	-24	664	0	0	0
66	SLU 45	18	-25	678	0	0	0
66	SLU 46	19	-24	677	0	0	0
66	SLU 47	19	-24	672	0	0	0
66	SLU 48	18	-24	686	0	0	0
66	SLU 49	19	-24	685	0	0	0
66	SLU 50	18	-24	682	0	0	0
66	SLU 51	19	-24	681	0	0	0
66	SLU 52	20	-26	736	0	0	0
66	SLU 53	20	-27	750	0	0	0
66	SLU 54	20	-26	749	0	0	0
66	SLU 55	20	-26	744	0	0	0
66	SLU 56	20	-27	758	0	0	0
66	SLU 57	20	-26	757	0	0	0
66	SLU 58	20	-27	754	0	0	0
66	SLU 59	20	-26	752	0	0	0
66	SLU 60	20	-28	769	0	0	0
66	SLU 61	20	-27	767	0	0	0
66	SLU 62	20	-28	776	0	0	0
66	SLU 63	21	-27	775	0	0	0
66	SLU 64	20	-25	749	0	0	0
66	SLU 65	21	-24	747	0	0	0
66	SLU 66	21	-25	761	0	0	0
66	SLU 67	21	-24	760	0	0	0
66	SLU 68	21	-24	755	0	0	0
66	SLU 69	21	-25	769	0	0	0
66	SLU 70	21	-24	768	0	0	0
66	SLU 71	21	-25	765	0	0	0
66	SLU 72	21	-24	764	0	0	0
66	SLU 73	23	-27	819	0	0	0
66	SLU 74	22	-27	833	0	0	0
66	SLU 75	23	-27	832	0	0	0
66	SLU 76	23	-26	827	0	0	0
66	SLU 77	23	-27	841	0	0	0
66	SLU 78	23	-27	840	0	0	0
66	SLU 79	22	-27	837	0	0	0
66	SLU 80	23	-27	835	0	0	0
66	SLU 81	23	-28	852	0	0	0
66	SLU 82	23	-28	850	0	0	0
66	SLU 83	23	-28	860	0	0	0
66	SLU 84	23	-28	858	0	0	0
66	SLE RA 1	15	-19	558	0	0	0
66	SLE RA 2	15	-19	557	0	0	0
66	SLE RA 3	15	-19	566	0	0	0
66	SLE RA 4	16	-19	565	0	0	0
66	SLE RA 5	16	-19	562	0	0	0
66	SLE RA 6	16	-19	571	0	0	0
66	SLE RA 7	16	-19	570	0	0	0
66	SLE RA 8	15	-19	568	0	0	0
66	SLE RA 9	16	-19	568	0	0	0
66	SLE RA 10	17	-20	604	0	0	0
66	SLE RA 11	17	-21	614	0	0	0
66	SLE RA 12	17	-20	613	0	0	0
66	SLE RA 13	17	-20	610	0	0	0
66	SLE RA 14	17	-21	619	0	0	0
66	SLE RA 15	17	-20	618	0	0	0
66	SLE RA 16	17	-21	616	0	0	0
66	SLE RA 17	17	-20	616	0	0	0
66	SLE RA 18	17	-21	626	0	0	0
66	SLE RA 19	17	-21	626	0	0	0
66	SLE RA 20	17	-21	632	0	0	0
66	SLE RA 21	17	-21	631	0	0	0
66	SLE FR 1	15	-19	558	0	0	0
66	SLE FR 2	15	-19	558	0	0	0
66	SLE FR 3	15	-19	560	0	0	0
66	SLE FR 4	16	-20	578	0	0	0
66	SLE FR 5	16	-20	581	0	0	0
66	SLE FR 6	16	-20	592	0	0	0
66	SLE QP 1	15	-19	558	0	0	0
66	SLE QP 2	16	-20	578	0	0	0
66	SLD 1	45	-17	571	0	0	0
66	SLD 2	46	-16	571	0	0	0
66	SLD 3	40	-25	595	0	0	0
66	SLD 4	40	-25	595	0	0	0
66	SLD 5	33	-6	540	0	0	0
66	SLD 6	33	-5	540	0	0	0
66	SLD 7	15	-35	620	0	0	0
66	SLD 8	15	-34	619	0	0	0
66	SLD 9	16	-5	537	0	0	0
66	SLD 10	16	-5	537	0	0	0
66	SLD 11	-1	-34	617	0	0	0
66	SLD 12	-1	-34	617	0	0	0
66	SLD 13	-9	-15	562	0	0	0
66	SLD 14	-9	-15	562	0	0	0
66	SLD 15	-14	-24	586	0	0	0
66	SLD 16	-14	-23	586	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLV 1	63	-14	565	0	0	0
66	SLV 2	63	-13	565	0	0	0
66	SLV 3	54	-29	606	0	0	0
66	SLV 4	54	-28	606	0	0	0
66	SLV 5	44	4	513	0	0	0
66	SLV 6	44	5	513	0	0	0
66	SLV 7	13	-45	648	0	0	0
66	SLV 8	13	-45	648	0	0	0
66	SLV 9	18	5	509	0	0	0
66	SLV 10	18	6	509	0	0	0
66	SLV 11	-12	-45	644	0	0	0
66	SLV 12	-12	-44	644	0	0	0
66	SLV 13	-23	-12	551	0	0	0
66	SLV 14	-22	-11	551	0	0	0
66	SLV 15	-32	-26	592	0	0	0
66	SLV 16	-31	-26	591	0	0	0
66	SLV FO 1	68	-13	564	0	0	0
66	SLV FO 2	68	-13	564	0	0	0
66	SLV FO 3	57	-30	609	0	0	0
66	SLV FO 4	58	-29	609	0	0	0
66	SLV FO 5	46	7	506	0	0	0
66	SLV FO 6	47	7	506	0	0	0
66	SLV FO 7	13	-48	655	0	0	0
66	SLV FO 8	13	-47	655	0	0	0
66	SLV FO 9	18	8	502	0	0	0
66	SLV FO 10	18	8	502	0	0	0
66	SLV FO 11	-15	-47	651	0	0	0
66	SLV FO 12	-15	-47	650	0	0	0
66	SLV FO 13	-26	-11	548	0	0	0
66	SLV FO 14	-26	-10	548	0	0	0
66	SLV FO 15	-36	-27	593	0	0	0
66	SLV FO 16	-36	-26	593	0	0	0
67	SLU 1	14	-17	553	0	0	0
67	SLU 2	15	-16	551	0	0	0
67	SLU 3	15	-17	565	0	0	0
67	SLU 4	15	-17	564	0	0	0
67	SLU 5	15	-16	559	0	0	0
67	SLU 6	15	-17	573	0	0	0
67	SLU 7	15	-17	573	0	0	0
67	SLU 8	15	-17	569	0	0	0
67	SLU 9	15	-17	568	0	0	0
67	SLU 10	16	-18	625	0	0	0
67	SLU 11	16	-19	639	0	0	0
67	SLU 12	16	-19	638	0	0	0
67	SLU 13	16	-18	633	0	0	0
67	SLU 14	16	-19	647	0	0	0
67	SLU 15	17	-19	646	0	0	0
67	SLU 16	16	-19	643	0	0	0
67	SLU 17	16	-19	642	0	0	0
67	SLU 18	16	-21	658	0	0	0
67	SLU 19	17	-20	658	0	0	0
67	SLU 20	17	-20	666	0	0	0
67	SLU 21	17	-20	666	0	0	0
67	SLU 22	17	-18	639	0	0	0
67	SLU 23	17	-17	638	0	0	0
67	SLU 24	17	-18	652	0	0	0
67	SLU 25	17	-17	651	0	0	0
67	SLU 26	17	-17	646	0	0	0
67	SLU 27	17	-18	660	0	0	0
67	SLU 28	18	-17	659	0	0	0
67	SLU 29	17	-18	655	0	0	0
67	SLU 30	17	-17	655	0	0	0
67	SLU 31	19	-19	712	0	0	0
67	SLU 32	19	-20	726	0	0	0
67	SLU 33	19	-19	725	0	0	0
67	SLU 34	19	-19	720	0	0	0
67	SLU 35	19	-20	734	0	0	0
67	SLU 36	19	-19	733	0	0	0
67	SLU 37	19	-20	729	0	0	0
67	SLU 38	19	-19	729	0	0	0
67	SLU 39	19	-21	745	0	0	0
67	SLU 40	19	-20	744	0	0	0
67	SLU 41	19	-21	753	0	0	0
67	SLU 42	19	-20	752	0	0	0
67	SLU 43	18	-23	689	0	0	0
67	SLU 44	18	-21	688	0	0	0
67	SLU 45	18	-22	701	0	0	0
67	SLU 46	18	-22	701	0	0	0
67	SLU 47	18	-21	696	0	0	0
67	SLU 48	18	-22	709	0	0	0
67	SLU 49	18	-22	709	0	0	0
67	SLU 50	18	-22	705	0	0	0
67	SLU 51	18	-22	704	0	0	0
67	SLU 52	20	-24	762	0	0	0
67	SLU 53	20	-25	775	0	0	0
67	SLU 54	20	-24	775	0	0	0
67	SLU 55	20	-23	770	0	0	0
67	SLU 56	20	-24	783	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLU 57	20	-24	783	0	0	0
67	SLU 58	20	-24	779	0	0	0
67	SLU 59	20	-24	778	0	0	0
67	SLU 60	20	-26	795	0	0	0
67	SLU 61	20	-25	794	0	0	0
67	SLU 62	20	-25	803	0	0	0
67	SLU 63	20	-25	802	0	0	0
67	SLU 64	20	-23	775	0	0	0
67	SLU 65	21	-22	774	0	0	0
67	SLU 66	21	-23	788	0	0	0
67	SLU 67	21	-22	787	0	0	0
67	SLU 68	21	-22	782	0	0	0
67	SLU 69	21	-23	796	0	0	0
67	SLU 70	21	-22	795	0	0	0
67	SLU 71	21	-23	791	0	0	0
67	SLU 72	21	-22	791	0	0	0
67	SLU 73	22	-24	848	0	0	0
67	SLU 74	22	-25	862	0	0	0
67	SLU 75	22	-24	861	0	0	0
67	SLU 76	22	-24	856	0	0	0
67	SLU 77	22	-25	870	0	0	0
67	SLU 78	23	-24	869	0	0	0
67	SLU 79	22	-25	865	0	0	0
67	SLU 80	22	-24	865	0	0	0
67	SLU 81	22	-26	881	0	0	0
67	SLU 82	23	-25	880	0	0	0
67	SLU 83	23	-26	889	0	0	0
67	SLU 84	23	-25	888	0	0	0
67	SLE RA 1	15	-18	577	0	0	0
67	SLE RA 2	15	-17	577	0	0	0
67	SLE RA 3	15	-18	586	0	0	0
67	SLE RA 4	15	-17	585	0	0	0
67	SLE RA 5	15	-17	582	0	0	0
67	SLE RA 6	15	-17	591	0	0	0
67	SLE RA 7	15	-17	591	0	0	0
67	SLE RA 8	15	-17	588	0	0	0
67	SLE RA 9	15	-17	588	0	0	0
67	SLE RA 10	16	-18	626	0	0	0
67	SLE RA 11	16	-19	635	0	0	0
67	SLE RA 12	16	-18	635	0	0	0
67	SLE RA 13	16	-18	631	0	0	0
67	SLE RA 14	16	-19	640	0	0	0
67	SLE RA 15	17	-18	640	0	0	0
67	SLE RA 16	16	-19	637	0	0	0
67	SLE RA 17	16	-18	637	0	0	0
67	SLE RA 18	16	-20	648	0	0	0
67	SLE RA 19	17	-19	647	0	0	0
67	SLE RA 20	17	-20	653	0	0	0
67	SLE RA 21	17	-19	653	0	0	0
67	SLE FR 1	15	-18	577	0	0	0
67	SLE FR 2	15	-17	577	0	0	0
67	SLE FR 3	15	-18	580	0	0	0
67	SLE FR 4	15	-18	598	0	0	0
67	SLE FR 5	15	-18	601	0	0	0
67	SLE FR 6	16	-19	613	0	0	0
67	SLE QP 1	15	-18	577	0	0	0
67	SLE QP 2	15	-18	599	0	0	0
67	SLD 1	45	-12	561	0	0	0
67	SLD 2	45	-9	562	0	0	0
67	SLD 3	40	-24	575	0	0	0
67	SLD 4	40	-21	575	0	0	0
67	SLD 5	33	0	567	0	0	0
67	SLD 6	33	2	567	0	0	0
67	SLD 7	14	-37	612	0	0	0
67	SLD 8	15	-35	612	0	0	0
67	SLD 9	16	-1	585	0	0	0
67	SLD 10	16	1	585	0	0	0
67	SLD 11	-2	-38	630	0	0	0
67	SLD 12	-2	-36	630	0	0	0
67	SLD 13	-9	-16	622	0	0	0
67	SLD 14	-9	-13	622	0	0	0
67	SLD 15	-15	-27	635	0	0	0
67	SLD 16	-14	-24	636	0	0	0
67	SLV 1	63	-8	540	0	0	0
67	SLV 2	63	-4	540	0	0	0
67	SLV 3	53	-27	563	0	0	0
67	SLV 4	54	-23	563	0	0	0
67	SLV 5	44	13	546	0	0	0
67	SLV 6	44	16	546	0	0	0
67	SLV 7	13	-51	623	0	0	0
67	SLV 8	13	-48	623	0	0	0
67	SLV 9	18	11	574	0	0	0
67	SLV 10	18	14	574	0	0	0
67	SLV 11	-13	-52	651	0	0	0
67	SLV 12	-13	-49	651	0	0	0
67	SLV 13	-23	-14	634	0	0	0
67	SLV 14	-23	-9	634	0	0	0
67	SLV 15	-32	-33	657	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLV 16	-32	-28	657	0	0	0
67	SLV FO 1	67	-7	534	0	0	0
67	SLV FO 2	68	-2	534	0	0	0
67	SLV FO 3	57	-28	559	0	0	0
67	SLV FO 4	57	-23	559	0	0	0
67	SLV FO 5	46	16	541	0	0	0
67	SLV FO 6	47	19	541	0	0	0
67	SLV FO 7	12	-54	625	0	0	0
67	SLV FO 8	13	-51	625	0	0	0
67	SLV FO 9	18	14	572	0	0	0
67	SLV FO 10	18	18	572	0	0	0
67	SLV FO 11	-16	-56	656	0	0	0
67	SLV FO 12	-16	-52	656	0	0	0
67	SLV FO 13	-27	-13	638	0	0	0
67	SLV FO 14	-26	-8	638	0	0	0
67	SLV FO 15	-37	-34	663	0	0	0
67	SLV FO 16	-37	-29	663	0	0	0
68	SLU 1	9	-12	326	0	0	0
68	SLU 2	9	-12	324	0	0	0
68	SLU 3	9	-12	333	0	0	0
68	SLU 4	9	-12	332	0	0	0
68	SLU 5	9	-12	329	0	0	0
68	SLU 6	9	-12	338	0	0	0
68	SLU 7	9	-12	337	0	0	0
68	SLU 8	9	-12	335	0	0	0
68	SLU 9	9	-12	334	0	0	0
68	SLU 10	10	-13	368	0	0	0
68	SLU 11	10	-13	377	0	0	0
68	SLU 12	10	-13	376	0	0	0
68	SLU 13	10	-13	373	0	0	0
68	SLU 14	10	-13	382	0	0	0
68	SLU 15	10	-13	381	0	0	0
68	SLU 16	10	-13	379	0	0	0
68	SLU 17	10	-13	378	0	0	0
68	SLU 18	10	-14	388	0	0	0
68	SLU 19	11	-14	387	0	0	0
68	SLU 20	10	-14	393	0	0	0
68	SLU 21	11	-14	392	0	0	0
68	SLU 22	11	-12	376	0	0	0
68	SLU 23	11	-12	375	0	0	0
68	SLU 24	11	-12	384	0	0	0
68	SLU 25	11	-12	383	0	0	0
68	SLU 26	11	-12	380	0	0	0
68	SLU 27	11	-12	388	0	0	0
68	SLU 28	11	-12	388	0	0	0
68	SLU 29	11	-12	386	0	0	0
68	SLU 30	11	-12	385	0	0	0
68	SLU 31	12	-13	419	0	0	0
68	SLU 32	12	-14	427	0	0	0
68	SLU 33	12	-13	427	0	0	0
68	SLU 34	12	-13	423	0	0	0
68	SLU 35	12	-14	432	0	0	0
68	SLU 36	12	-13	431	0	0	0
68	SLU 37	12	-14	430	0	0	0
68	SLU 38	12	-13	429	0	0	0
68	SLU 39	12	-14	439	0	0	0
68	SLU 40	12	-14	438	0	0	0
68	SLU 41	12	-14	444	0	0	0
68	SLU 42	12	-14	443	0	0	0
68	SLU 43	11	-16	406	0	0	0
68	SLU 44	11	-15	405	0	0	0
68	SLU 45	11	-16	413	0	0	0
68	SLU 46	11	-15	413	0	0	0
68	SLU 47	11	-15	409	0	0	0
68	SLU 48	11	-15	418	0	0	0
68	SLU 49	12	-15	417	0	0	0
68	SLU 50	11	-15	416	0	0	0
68	SLU 51	11	-15	415	0	0	0
68	SLU 52	12	-17	448	0	0	0
68	SLU 53	12	-17	457	0	0	0
68	SLU 54	12	-17	456	0	0	0
68	SLU 55	12	-16	453	0	0	0
68	SLU 56	12	-17	462	0	0	0
68	SLU 57	13	-17	461	0	0	0
68	SLU 58	12	-17	459	0	0	0
68	SLU 59	12	-17	459	0	0	0
68	SLU 60	13	-18	469	0	0	0
68	SLU 61	13	-17	468	0	0	0
68	SLU 62	13	-18	473	0	0	0
68	SLU 63	13	-17	473	0	0	0
68	SLU 64	13	-16	457	0	0	0
68	SLU 65	13	-15	455	0	0	0
68	SLU 66	13	-16	464	0	0	0
68	SLU 67	13	-16	463	0	0	0
68	SLU 68	13	-15	460	0	0	0
68	SLU 69	13	-16	469	0	0	0
68	SLU 70	13	-15	468	0	0	0
68	SLU 71	13	-16	466	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLU 72	13	-15	465	0	0	0
68	SLU 73	14	-17	499	0	0	0
68	SLU 74	14	-17	508	0	0	0
68	SLU 75	14	-17	507	0	0	0
68	SLU 76	14	-17	504	0	0	0
68	SLU 77	14	-17	513	0	0	0
68	SLU 78	14	-17	512	0	0	0
68	SLU 79	14	-17	510	0	0	0
68	SLU 80	14	-17	509	0	0	0
68	SLU 81	14	-18	519	0	0	0
68	SLU 82	14	-18	518	0	0	0
68	SLU 83	14	-18	524	0	0	0
68	SLU 84	14	-18	523	0	0	0
68	SLE RA 1	9	-12	340	0	0	0
68	SLE RA 2	10	-12	339	0	0	0
68	SLE RA 3	10	-12	345	0	0	0
68	SLE RA 4	10	-12	344	0	0	0
68	SLE RA 5	10	-12	342	0	0	0
68	SLE RA 6	10	-12	348	0	0	0
68	SLE RA 7	10	-12	348	0	0	0
68	SLE RA 8	10	-12	347	0	0	0
68	SLE RA 9	10	-12	346	0	0	0
68	SLE RA 10	10	-13	368	0	0	0
68	SLE RA 11	10	-13	374	0	0	0
68	SLE RA 12	10	-13	374	0	0	0
68	SLE RA 13	10	-13	372	0	0	0
68	SLE RA 14	10	-13	377	0	0	0
68	SLE RA 15	10	-13	377	0	0	0
68	SLE RA 16	10	-13	376	0	0	0
68	SLE RA 17	10	-13	375	0	0	0
68	SLE RA 18	10	-14	382	0	0	0
68	SLE RA 19	10	-13	381	0	0	0
68	SLE RA 20	10	-13	385	0	0	0
68	SLE RA 21	11	-13	384	0	0	0
68	SLE FR 1	9	-12	340	0	0	0
68	SLE FR 2	9	-12	340	0	0	0
68	SLE FR 3	9	-12	341	0	0	0
68	SLE FR 4	10	-13	352	0	0	0
68	SLE FR 5	10	-13	354	0	0	0
68	SLE FR 6	10	-13	361	0	0	0
68	SLE QP 1	9	-12	340	0	0	0
68	SLE QP 2	10	-13	353	0	0	0
68	SLD 1	28	-11	353	0	0	0
68	SLD 2	28	-11	353	0	0	0
68	SLD 3	25	-15	370	0	0	0
68	SLD 4	25	-16	370	0	0	0
68	SLD 5	20	-5	327	0	0	0
68	SLD 6	20	-5	327	0	0	0
68	SLD 7	9	-21	384	0	0	0
68	SLD 8	9	-21	384	0	0	0
68	SLD 9	10	-4	321	0	0	0
68	SLD 10	10	-4	321	0	0	0
68	SLD 11	-1	-21	379	0	0	0
68	SLD 12	-1	-21	379	0	0	0
68	SLD 13	-6	-10	335	0	0	0
68	SLD 14	-6	-10	335	0	0	0
68	SLD 15	-9	-14	352	0	0	0
68	SLD 16	-9	-15	352	0	0	0
68	SLV 1	39	-9	352	0	0	0
68	SLV 2	39	-10	352	0	0	0
68	SLV 3	33	-18	382	0	0	0
68	SLV 4	33	-18	382	0	0	0
68	SLV 5	27	1	308	0	0	0
68	SLV 6	27	1	308	0	0	0
68	SLV 7	8	-27	406	0	0	0
68	SLV 8	8	-27	406	0	0	0
68	SLV 9	11	2	299	0	0	0
68	SLV 10	11	1	299	0	0	0
68	SLV 11	-8	-26	397	0	0	0
68	SLV 12	-8	-26	397	0	0	0
68	SLV 13	-14	-7	324	0	0	0
68	SLV 14	-14	-8	323	0	0	0
68	SLV 15	-20	-16	353	0	0	0
68	SLV 16	-19	-16	353	0	0	0
68	SLV FO 1	42	-9	352	0	0	0
68	SLV FO 2	42	-9	352	0	0	0
68	SLV FO 3	36	-18	385	0	0	0
68	SLV FO 4	36	-18	385	0	0	0
68	SLV FO 5	29	3	303	0	0	0
68	SLV FO 6	29	2	303	0	0	0
68	SLV FO 7	8	-28	411	0	0	0
68	SLV FO 8	8	-28	411	0	0	0
68	SLV FO 9	11	3	294	0	0	0
68	SLV FO 10	11	3	294	0	0	0
68	SLV FO 11	-9	-28	402	0	0	0
68	SLV FO 12	-9	-28	402	0	0	0
68	SLV FO 13	-16	-7	321	0	0	0
68	SLV FO 14	-16	-7	320	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLV FO 15	-23	-16	353	0	0	0
68	SLV FO 16	-22	-16	353	0	0	0
73	SLU 1	9	-10	344	0	0	0
73	SLU 2	9	-10	343	0	0	0
73	SLU 3	9	-10	352	0	0	0
73	SLU 4	9	-10	351	0	0	0
73	SLU 5	9	-10	348	0	0	0
73	SLU 6	9	-10	357	0	0	0
73	SLU 7	9	-10	357	0	0	0
73	SLU 8	9	-10	354	0	0	0
73	SLU 9	9	-10	354	0	0	0
73	SLU 10	10	-11	389	0	0	0
73	SLU 11	10	-12	398	0	0	0
73	SLU 12	10	-11	397	0	0	0
73	SLU 13	10	-11	394	0	0	0
73	SLU 14	10	-12	403	0	0	0
73	SLU 15	10	-11	402	0	0	0
73	SLU 16	10	-12	400	0	0	0
73	SLU 17	10	-11	400	0	0	0
73	SLU 18	10	-12	410	0	0	0
73	SLU 19	10	-12	409	0	0	0
73	SLU 20	10	-12	415	0	0	0
73	SLU 21	10	-12	414	0	0	0
73	SLU 22	10	-11	398	0	0	0
73	SLU 23	11	-10	397	0	0	0
73	SLU 24	11	-11	406	0	0	0
73	SLU 25	11	-10	405	0	0	0
73	SLU 26	11	-10	402	0	0	0
73	SLU 27	11	-10	411	0	0	0
73	SLU 28	11	-10	410	0	0	0
73	SLU 29	11	-11	408	0	0	0
73	SLU 30	11	-10	408	0	0	0
73	SLU 31	12	-11	443	0	0	0
73	SLU 32	12	-12	452	0	0	0
73	SLU 33	12	-11	451	0	0	0
73	SLU 34	12	-11	448	0	0	0
73	SLU 35	12	-12	457	0	0	0
73	SLU 36	12	-11	456	0	0	0
73	SLU 37	12	-12	454	0	0	0
73	SLU 38	12	-11	454	0	0	0
73	SLU 39	12	-12	464	0	0	0
73	SLU 40	12	-12	463	0	0	0
73	SLU 41	12	-12	469	0	0	0
73	SLU 42	12	-12	468	0	0	0
73	SLU 43	11	-14	429	0	0	0
73	SLU 44	11	-13	428	0	0	0
73	SLU 45	11	-13	437	0	0	0
73	SLU 46	11	-13	436	0	0	0
73	SLU 47	11	-13	433	0	0	0
73	SLU 48	11	-13	442	0	0	0
73	SLU 49	11	-13	441	0	0	0
73	SLU 50	11	-13	439	0	0	0
73	SLU 51	11	-13	438	0	0	0
73	SLU 52	12	-14	474	0	0	0
73	SLU 53	12	-15	483	0	0	0
73	SLU 54	12	-14	482	0	0	0
73	SLU 55	12	-14	479	0	0	0
73	SLU 56	12	-15	488	0	0	0
73	SLU 57	12	-14	487	0	0	0
73	SLU 58	12	-15	485	0	0	0
73	SLU 59	12	-14	484	0	0	0
73	SLU 60	12	-15	495	0	0	0
73	SLU 61	12	-15	494	0	0	0
73	SLU 62	12	-15	500	0	0	0
73	SLU 63	13	-15	499	0	0	0
73	SLU 64	12	-14	483	0	0	0
73	SLU 65	13	-13	482	0	0	0
73	SLU 66	13	-14	491	0	0	0
73	SLU 67	13	-13	490	0	0	0
73	SLU 68	13	-13	487	0	0	0
73	SLU 69	13	-14	496	0	0	0
73	SLU 70	13	-13	495	0	0	0
73	SLU 71	13	-14	493	0	0	0
73	SLU 72	13	-13	492	0	0	0
73	SLU 73	14	-14	528	0	0	0
73	SLU 74	14	-15	537	0	0	0
73	SLU 75	14	-14	536	0	0	0
73	SLU 76	14	-14	533	0	0	0
73	SLU 77	14	-15	542	0	0	0
73	SLU 78	14	-14	541	0	0	0
73	SLU 79	14	-15	539	0	0	0
73	SLU 80	14	-14	538	0	0	0
73	SLU 81	14	-16	548	0	0	0
73	SLU 82	14	-15	548	0	0	0
73	SLU 83	14	-15	553	0	0	0
73	SLU 84	14	-15	553	0	0	0
73	SLE RA 1	9	-11	360	0	0	0
73	SLE RA 2	9	-10	359	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
73	SLE RA 3	9	-10	365	0	0	0
73	SLE RA 4	9	-10	364	0	0	0
73	SLE RA 5	9	-10	362	0	0	0
73	SLE RA 6	9	-10	368	0	0	0
73	SLE RA 7	10	-10	368	0	0	0
73	SLE RA 8	9	-10	366	0	0	0
73	SLE RA 9	9	-10	366	0	0	0
73	SLE RA 10	10	-11	390	0	0	0
73	SLE RA 11	10	-11	395	0	0	0
73	SLE RA 12	10	-11	395	0	0	0
73	SLE RA 13	10	-11	393	0	0	0
73	SLE RA 14	10	-11	399	0	0	0
73	SLE RA 15	10	-11	398	0	0	0
73	SLE RA 16	10	-11	397	0	0	0
73	SLE RA 17	10	-11	397	0	0	0
73	SLE RA 18	10	-12	403	0	0	0
73	SLE RA 19	10	-11	403	0	0	0
73	SLE RA 20	10	-12	407	0	0	0
73	SLE RA 21	10	-11	406	0	0	0
73	SLE FR 1	9	-11	360	0	0	0
73	SLE FR 2	9	-10	359	0	0	0
73	SLE FR 3	9	-10	361	0	0	0
73	SLE FR 4	10	-11	373	0	0	0
73	SLE FR 5	10	-11	374	0	0	0
73	SLE FR 6	10	-11	381	0	0	0
73	SLE QP 1	9	-11	360	0	0	0
73	SLE QP 2	10	-11	373	0	0	0
73	SLD 1	28	-7	344	0	0	0
73	SLD 2	28	-5	344	0	0	0
73	SLD 3	25	-14	351	0	0	0
73	SLD 4	25	-12	351	0	0	0
73	SLD 5	20	1	354	0	0	0
73	SLD 6	20	3	354	0	0	0
73	SLD 7	9	-24	376	0	0	0
73	SLD 8	9	-22	376	0	0	0
73	SLD 9	10	0	369	0	0	0
73	SLD 10	10	2	369	0	0	0
73	SLD 11	-1	-24	391	0	0	0
73	SLD 12	-1	-23	392	0	0	0
73	SLD 13	-6	-10	395	0	0	0
73	SLD 14	-6	-7	395	0	0	0
73	SLD 15	-9	-17	401	0	0	0
73	SLD 16	-9	-15	402	0	0	0
73	SLV 1	39	-4	327	0	0	0
73	SLV 2	39	-1	327	0	0	0
73	SLV 3	33	-17	339	0	0	0
73	SLV 4	33	-13	339	0	0	0
73	SLV 5	27	10	341	0	0	0
73	SLV 6	27	12	342	0	0	0
73	SLV 7	8	-33	380	0	0	0
73	SLV 8	8	-30	380	0	0	0
73	SLV 9	11	8	365	0	0	0
73	SLV 10	11	11	365	0	0	0
73	SLV 11	-8	-34	404	0	0	0
73	SLV 12	-8	-31	404	0	0	0
73	SLV 13	-14	-8	406	0	0	0
73	SLV 14	-14	-5	407	0	0	0
73	SLV 15	-20	-21	418	0	0	0
73	SLV 16	-20	-17	418	0	0	0
73	SLV FO 1	42	-4	323	0	0	0
73	SLV FO 2	42	0	323	0	0	0
73	SLV FO 3	35	-18	335	0	0	0
73	SLV FO 4	35	-14	336	0	0	0
73	SLV FO 5	29	12	338	0	0	0
73	SLV FO 6	29	14	339	0	0	0
73	SLV FO 7	8	-35	381	0	0	0
73	SLV FO 8	8	-32	381	0	0	0
73	SLV FO 9	11	10	364	0	0	0
73	SLV FO 10	11	13	365	0	0	0
73	SLV FO 11	-10	-36	407	0	0	0
73	SLV FO 12	-10	-34	407	0	0	0
73	SLV FO 13	-16	-8	410	0	0	0
73	SLV FO 14	-16	-4	410	0	0	0
73	SLV FO 15	-23	-22	422	0	0	0
73	SLV FO 16	-23	-18	423	0	0	0
160	SLU 1	0	-5	252	-18.89	31.58	0.58
160	SLU 2	0	-4	259	-19.45	32.51	0.47
160	SLU 3	0	-5	256	-19.17	32.04	0.59
160	SLU 4	0	-4	260	-19.51	32.61	0.52
160	SLU 5	0	-4	262	-19.62	32.8	0.47
160	SLU 6	0	-5	258	-19.34	32.33	0.6
160	SLU 7	0	-5	262	-19.68	32.89	0.53
160	SLU 8	0	-5	256	-19.23	32.14	0.59
160	SLU 9	0	-4	261	-19.56	32.7	0.53
160	SLU 10	0	-5	293	-22.01	36.79	0.54
160	SLU 11	0	-6	290	-21.73	36.33	0.67
160	SLU 12	0	-5	294	-22.07	36.89	0.6
160	SLU 13	0	-5	296	-22.18	37.08	0.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
160	SLU 14	0	-6	292	-21.9	36.61	0.68
160	SLU 15	0	-5	296	-22.24	37.17	0.61
160	SLU 16	0	-6	291	-21.79	36.42	0.67
160	SLU 17	0	-5	295	-22.13	36.99	0.6
160	SLU 18	0	-6	301	-22.55	37.69	0.69
160	SLU 19	0	-5	305	-22.88	38.25	0.62
160	SLU 20	0	-6	303	-22.72	37.97	0.7
160	SLU 21	0	-5	307	-23.05	38.54	0.63
160	SLU 22	0	-5	286	-21.43	35.83	0.65
160	SLU 23	-1	-5	293	-21.99	36.77	0.53
160	SLU 24	-1	-6	290	-21.71	36.3	0.66
160	SLU 25	-1	-5	294	-22.05	36.86	0.59
160	SLU 26	-1	-5	296	-22.16	37.05	0.54
160	SLU 27	-1	-6	292	-21.88	36.58	0.66
160	SLU 28	-1	-5	296	-22.22	37.14	0.6
160	SLU 29	-1	-6	290	-21.77	36.4	0.66
160	SLU 30	-1	-5	295	-22.11	36.96	0.59
160	SLU 31	0	-5	327	-24.56	41.05	0.61
160	SLU 32	0	-6	324	-24.28	40.58	0.74
160	SLU 33	0	-6	328	-24.61	41.14	0.67
160	SLU 34	0	-5	330	-24.72	41.33	0.62
160	SLU 35	0	-6	326	-24.44	40.86	0.74
160	SLU 36	0	-6	330	-24.78	41.43	0.67
160	SLU 37	0	-6	324	-24.33	40.68	0.74
160	SLU 38	0	-6	329	-24.67	41.24	0.67
160	SLU 39	0	-6	335	-25.09	41.94	0.76
160	SLU 40	0	-6	339	-25.43	42.51	0.69
160	SLU 41	0	-6	337	-25.26	42.23	0.77
160	SLU 42	0	-6	341	-25.6	42.79	0.7
160	SLU 43	0	-6	316	-23.68	39.59	0.73
160	SLU 44	-1	-5	323	-24.24	40.53	0.62
160	SLU 45	0	-6	320	-23.96	40.06	0.74
160	SLU 46	-1	-6	324	-24.3	40.62	0.67
160	SLU 47	-1	-5	326	-24.41	40.81	0.63
160	SLU 48	0	-6	322	-24.13	40.34	0.75
160	SLU 49	-1	-6	326	-24.47	40.9	0.68
160	SLU 50	0	-6	320	-24.02	40.16	0.75
160	SLU 51	-1	-6	325	-24.36	40.72	0.68
160	SLU 52	0	-6	357	-26.8	44.81	0.7
160	SLU 53	0	-7	354	-26.52	44.34	0.82
160	SLU 54	0	-6	358	-26.86	44.9	0.75
160	SLU 55	0	-6	360	-26.97	45.09	0.7
160	SLU 56	0	-7	356	-26.69	44.62	0.83
160	SLU 57	0	-6	360	-27.03	45.19	0.76
160	SLU 58	0	-7	354	-26.58	44.44	0.82
160	SLU 59	0	-6	359	-26.92	45	0.76
160	SLU 60	0	-7	365	-27.34	45.7	0.84
160	SLU 61	0	-6	369	-27.68	46.27	0.78
160	SLU 62	0	-7	367	-27.51	45.99	0.85
160	SLU 63	0	-6	371	-27.85	46.55	0.78
160	SLU 64	-1	-7	350	-26.23	43.84	0.8
160	SLU 65	-1	-6	357	-26.79	44.78	0.68
160	SLU 66	-1	-7	353	-26.51	44.31	0.81
160	SLU 67	-1	-6	358	-26.85	44.88	0.74
160	SLU 68	-1	-6	359	-26.96	45.06	0.69
160	SLU 69	-1	-7	356	-26.68	44.6	0.82
160	SLU 70	-1	-6	360	-27.01	45.16	0.75
160	SLU 71	-1	-7	354	-26.57	44.41	0.81
160	SLU 72	-1	-6	359	-26.9	44.97	0.74
160	SLU 73	-1	-6	391	-29.35	49.06	0.76
160	SLU 74	0	-7	388	-29.07	48.59	0.89
160	SLU 75	-1	-7	392	-29.41	49.16	0.82
160	SLU 76	-1	-6	394	-29.52	49.35	0.77
160	SLU 77	0	-7	390	-29.24	48.88	0.89
160	SLU 78	-1	-7	394	-29.58	49.44	0.83
160	SLU 79	0	-7	388	-29.13	48.69	0.89
160	SLU 80	-1	-7	393	-29.46	49.25	0.82
160	SLU 81	0	-7	398	-29.89	49.96	0.91
160	SLU 82	0	-7	403	-30.22	50.52	0.84
160	SLU 83	0	-8	401	-30.06	50.24	0.92
160	SLU 84	0	-7	405	-30.39	50.8	0.85
160	SLE RA 1	0	-5	262	-19.62	32.79	0.6
160	SLE RA 2	0	-4	267	-19.99	33.42	0.52
160	SLE RA 3	0	-5	264	-19.8	33.1	0.61
160	SLE RA 4	0	-5	267	-20.03	33.48	0.56
160	SLE RA 5	0	-4	268	-20.1	33.61	0.53
160	SLE RA 6	0	-5	266	-19.92	33.29	0.61
160	SLE RA 7	0	-5	269	-20.14	33.67	0.57
160	SLE RA 8	0	-5	265	-19.84	33.17	0.61
160	SLE RA 9	0	-5	268	-20.07	33.54	0.56
160	SLE RA 10	0	-5	289	-21.7	36.27	0.58
160	SLE RA 11	0	-5	287	-21.51	35.96	0.66
160	SLE RA 12	0	-5	290	-21.73	36.33	0.61
160	SLE RA 13	0	-5	291	-21.81	36.46	0.58
160	SLE RA 14	0	-6	288	-21.62	36.15	0.66
160	SLE RA 15	0	-5	291	-21.85	36.52	0.62
160	SLE RA 16	0	-5	287	-21.55	36.02	0.66
160	SLE RA 17	0	-5	290	-21.77	36.4	0.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
160	SLE RA 18	0	-6	294	-22.05	36.87	0.67
160	SLE RA 19	0	-5	297	-22.28	37.24	0.63
160	SLE RA 20	0	-6	296	-22.17	37.06	0.68
160	SLE RA 21	0	-5	299	-22.39	37.43	0.63
160	SLE FR 1	0	-5	262	-19.62	32.79	0.6
160	SLE FR 2	0	-5	263	-19.69	32.92	0.58
160	SLE FR 3	0	-5	262	-19.66	32.87	0.6
160	SLE FR 4	0	-5	272	-20.42	34.14	0.61
160	SLE FR 5	0	-5	272	-20.39	34.09	0.62
160	SLE FR 6	0	-5	278	-20.84	34.83	0.64
160	SLE QP 1	0	-5	262	-19.62	32.79	0.6
160	SLE QP 2	0	-5	271	-20.35	34.01	0.62
160	SLD 1	20	-2	350	-26.25	43.87	1.72
160	SLD 2	24	-4	347	-26.03	43.51	2.34
160	SLD 3	20	-13	240	-18.01	30.1	3.13
160	SLD 4	25	-15	237	-17.79	29.74	3.75
160	SLD 5	4	13	462	-34.65	57.92	-1.3
160	SLD 6	7	11	460	-34.51	57.68	-0.9
160	SLD 7	6	-24	96	-7.19	12.02	3.41
160	SLD 8	9	-25	94	-7.05	11.78	3.81
160	SLD 9	-10	15	449	-33.65	56.24	-2.56
160	SLD 10	-7	13	447	-33.51	56.01	-2.16
160	SLD 11	-7	-22	83	-6.19	10.34	2.14
160	SLD 12	-4	-23	81	-6.05	10.11	2.54
160	SLD 13	-26	5	305	-22.9	38.29	-2.51
160	SLD 14	-21	2	302	-22.69	37.92	-1.88
160	SLD 15	-25	-6	196	-14.67	24.52	-1.09
160	SLD 16	-20	-8	193	-14.45	24.15	-0.47
160	SLV 1	31	1	402	-30.15	50.41	2.23
160	SLV 2	38	-3	397	-29.81	49.83	3.21
160	SLV 3	32	-18	215	-16.1	26.91	4.64
160	SLV 4	39	-21	210	-15.76	26.34	5.61
160	SLV 5	6	25	596	-44.67	74.67	-2.73
160	SLV 6	11	23	593	-44.44	74.29	-2.07
160	SLV 7	10	-36	-29	2.18	-3.64	5.29
160	SLV 8	15	-39	-32	2.41	-4.03	5.95
160	SLV 9	-16	28	575	-43.11	72.06	-4.71
160	SLV 10	-11	26	572	-42.87	71.67	-4.05
160	SLV 11	-11	-33	-50	3.74	-6.26	3.32
160	SLV 12	-6	-36	-53	3.97	-6.64	3.97
160	SLV 13	-40	11	333	-24.94	41.69	-4.37
160	SLV 14	-33	8	328	-24.59	41.11	-3.39
160	SLV 15	-39	-7	145	-10.88	18.19	-1.96
160	SLV 16	-32	-11	141	-10.54	17.62	-0.98
160	SLV FO 1	34	1	415	-31.14	52.05	2.39
160	SLV FO 2	42	-3	410	-30.76	51.42	3.47
160	SLV FO 3	35	-19	209	-15.68	26.2	5.04
160	SLV FO 4	43	-23	204	-15.3	25.57	6.11
160	SLV FO 5	6	28	628	-47.1	78.74	-3.07
160	SLV FO 6	12	26	625	-46.85	78.31	-2.34
160	SLV FO 7	11	-40	-59	4.43	-7.41	5.76
160	SLV FO 8	16	-42	-62	4.69	-7.83	6.49
160	SLV FO 9	-17	32	605	-45.38	75.86	-5.24
160	SLV FO 10	-12	29	602	-45.13	75.44	-4.52
160	SLV FO 11	-12	-36	-82	6.15	-10.28	3.58
160	SLV FO 12	-7	-39	-85	6.41	-10.71	4.31
160	SLV FO 13	-44	13	339	-25.4	42.46	-4.87
160	SLV FO 14	-36	9	334	-25.02	41.82	-3.79
160	SLV FO 15	-43	-8	133	-9.94	16.61	-2.22
160	SLV FO 16	-35	-12	127	-9.56	15.98	-1.14
160	CRTFP Ux+	0	0	0	0	0	0
160	CRTFP Ux-	0	0	0	0	0	0
160	CRTFP Uy+	0	0	0	0	0	0
160	CRTFP Uy-	0	0	0	0	0	0
161	SLU 1	-1	-8	493	-36.98	54.95	0.86
161	SLU 2	-1	-6	508	-38.08	56.58	0.65
161	SLU 3	-1	-8	500	-37.53	55.77	0.87
161	SLU 4	-1	-7	509	-38.19	56.74	0.75
161	SLU 5	-1	-7	512	-38.41	57.07	0.66
161	SLU 6	-1	-8	505	-37.86	56.26	0.88
161	SLU 7	-1	-7	514	-38.52	57.24	0.76
161	SLU 8	-1	-8	502	-37.65	55.94	0.88
161	SLU 9	-1	-7	511	-38.3	56.91	0.75
161	SLU 10	-1	-7	575	-43.1	64.04	0.77
161	SLU 11	-1	-9	567	-42.55	63.23	0.99
161	SLU 12	-1	-8	576	-43.21	64.2	0.87
161	SLU 13	-1	-7	579	-43.43	64.53	0.78
161	SLU 14	-1	-9	572	-42.88	63.72	1
161	SLU 15	-1	-8	581	-43.54	64.7	0.88
161	SLU 16	-1	-9	569	-42.67	63.4	1
161	SLU 17	-1	-8	578	-43.32	64.37	0.87
161	SLU 18	0	-9	589	-44.15	65.61	1.03
161	SLU 19	0	-8	597	-44.81	66.58	0.9
161	SLU 20	0	-10	593	-44.49	66.1	1.04
161	SLU 21	-1	-9	602	-45.14	67.08	0.91
161	SLU 22	-1	-9	559	-41.95	62.33	0.95
161	SLU 23	-1	-7	574	-43.04	63.96	0.74
161	SLU 24	-1	-9	567	-42.5	63.15	0.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
161	SLU 25	-1	-8	575	-43.15	64.12	0.84
161	SLU 26	-1	-7	578	-43.37	64.45	0.75
161	SLU 27	-1	-9	571	-42.83	63.64	0.97
161	SLU 28	-1	-8	580	-43.49	64.62	0.85
161	SLU 29	-1	-9	568	-42.61	63.32	0.97
161	SLU 30	-1	-8	577	-43.27	64.29	0.84
161	SLU 31	-1	-8	641	-48.06	71.41	0.86
161	SLU 32	-1	-10	634	-47.52	70.61	1.08
161	SLU 33	-1	-9	642	-48.17	71.58	0.96
161	SLU 34	-1	-8	645	-48.39	71.91	0.87
161	SLU 35	-1	-10	638	-47.85	71.1	1.09
161	SLU 36	-1	-9	647	-48.51	72.07	0.97
161	SLU 37	-1	-10	635	-47.63	70.78	1.09
161	SLU 38	-1	-9	644	-48.29	71.75	0.96
161	SLU 39	-1	-10	655	-49.12	72.99	1.12
161	SLU 40	-1	-9	664	-49.78	73.96	1
161	SLU 41	-1	-11	659	-49.45	73.48	1.13
161	SLU 42	-1	-10	668	-50.11	74.46	1.01
161	SLU 43	-1	-10	618	-46.38	68.91	1.08
161	SLU 44	-1	-9	633	-47.47	70.53	0.87
161	SLU 45	-1	-10	626	-46.92	69.73	1.1
161	SLU 46	-1	-9	634	-47.58	70.7	0.97
161	SLU 47	-1	-9	637	-47.8	71.03	0.88
161	SLU 48	-1	-11	630	-47.26	70.22	1.11
161	SLU 49	-1	-10	639	-47.91	71.19	0.98
161	SLU 50	-1	-11	627	-47.04	69.9	1.1
161	SLU 51	-1	-9	636	-47.69	70.87	0.98
161	SLU 52	-1	-9	700	-52.49	77.99	0.99
161	SLU 53	-1	-11	693	-51.94	77.19	1.22
161	SLU 54	-1	-10	701	-52.6	78.16	1.09
161	SLU 55	-1	-10	704	-52.82	78.49	1
161	SLU 56	-1	-11	697	-52.28	77.68	1.23
161	SLU 57	-1	-10	706	-52.93	78.65	1.1
161	SLU 58	-1	-11	694	-52.06	77.36	1.22
161	SLU 59	-1	-10	703	-52.71	78.33	1.1
161	SLU 60	-1	-12	714	-53.55	79.57	1.25
161	SLU 61	-1	-11	723	-54.2	80.54	1.13
161	SLU 62	-1	-12	718	-53.88	80.06	1.26
161	SLU 63	-1	-11	727	-54.53	81.03	1.14
161	SLU 64	-1	-11	685	-51.34	76.29	1.17
161	SLU 65	-1	-9	699	-52.43	77.91	0.97
161	SLU 66	-1	-11	692	-51.89	77.1	1.19
161	SLU 67	-1	-10	701	-52.55	78.08	1.06
161	SLU 68	-1	-10	704	-52.77	78.41	0.98
161	SLU 69	-1	-12	696	-52.22	77.6	1.2
161	SLU 70	-1	-10	705	-52.88	78.57	1.07
161	SLU 71	-1	-11	693	-52	77.27	1.19
161	SLU 72	-1	-10	702	-52.66	78.25	1.07
161	SLU 73	-1	-10	766	-57.45	85.37	1.09
161	SLU 74	-1	-12	759	-56.91	84.56	1.31
161	SLU 75	-1	-11	768	-57.57	85.54	1.18
161	SLU 76	-1	-11	770	-57.79	85.86	1.1
161	SLU 77	-1	-12	763	-57.24	85.06	1.32
161	SLU 78	-1	-11	772	-57.9	86.03	1.19
161	SLU 79	-1	-12	760	-57.02	84.73	1.31
161	SLU 80	-1	-11	769	-57.68	85.71	1.19
161	SLU 81	-1	-13	780	-58.51	86.94	1.35
161	SLU 82	-1	-12	789	-59.17	87.92	1.22
161	SLU 83	-1	-13	785	-58.84	87.44	1.36
161	SLU 84	-1	-12	793	-59.5	88.41	1.23
161	SLE RA 1	-1	-8	512	-38.4	57.06	0.88
161	SLE RA 2	-1	-7	522	-39.13	58.14	0.74
161	SLE RA 3	-1	-9	517	-38.77	57.61	0.89
161	SLE RA 4	-1	-8	523	-39.21	58.26	0.81
161	SLE RA 5	-1	-7	525	-39.35	58.47	0.75
161	SLE RA 6	-1	-9	520	-38.99	57.93	0.9
161	SLE RA 7	-1	-8	526	-39.43	58.58	0.82
161	SLE RA 8	-1	-9	518	-38.84	57.72	0.9
161	SLE RA 9	-1	-8	524	-39.28	58.37	0.81
161	SLE RA 10	-1	-8	566	-42.48	63.12	0.82
161	SLE RA 11	-1	-9	562	-42.11	62.58	0.97
161	SLE RA 12	-1	-8	567	-42.55	63.23	0.89
161	SLE RA 13	-1	-8	569	-42.7	63.45	0.83
161	SLE RA 14	-1	-9	564	-42.34	62.91	0.98
161	SLE RA 15	-1	-9	570	-42.77	63.56	0.9
161	SLE RA 16	-1	-9	563	-42.19	62.69	0.98
161	SLE RA 17	-1	-9	568	-42.63	63.34	0.89
161	SLE RA 18	-1	-9	576	-43.18	64.17	1
161	SLE RA 19	-1	-9	582	-43.62	64.82	0.91
161	SLE RA 20	-1	-9	579	-43.4	64.49	1
161	SLE RA 21	-1	-9	585	-43.84	65.14	0.92
161	SLE FR 1	-1	-8	512	-38.4	57.06	0.88
161	SLE FR 2	-1	-8	514	-38.55	57.28	0.86
161	SLE FR 3	-1	-8	513	-38.49	57.19	0.89
161	SLE FR 4	-1	-8	533	-39.98	59.41	0.89
161	SLE FR 5	-1	-9	532	-39.92	59.32	0.92
161	SLE FR 6	-1	-9	544	-40.79	60.61	0.94
161	SLE QP 1	-1	-8	512	-38.4	57.06	0.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
161	SLE QP 2	-1	-9	531	-39.84	59.19	0.92
161	SLD 1	39	-1	680	-51.03	75.83	3.06
161	SLD 2	48	-5	675	-50.64	75.24	4.18
161	SLD 3	40	-23	466	-34.94	51.92	5.61
161	SLD 4	49	-27	461	-34.54	51.33	6.73
161	SLD 5	7	28	902	-67.67	100.56	-2.51
161	SLD 6	13	25	899	-67.42	100.18	-1.79
161	SLD 7	12	-46	187	-14.03	20.84	6.01
161	SLD 8	18	-48	184	-13.77	20.46	6.73
161	SLD 9	-19	31	879	-65.9	97.93	-4.9
161	SLD 10	-14	29	875	-65.65	97.55	-4.18
161	SLD 11	-14	-42	163	-12.25	18.21	3.63
161	SLD 12	-9	-45	160	-12	17.83	4.35
161	SLD 13	-51	10	602	-45.13	67.06	-4.9
161	SLD 14	-42	6	596	-44.73	66.47	-3.78
161	SLD 15	-49	-12	387	-29.03	43.14	-2.34
161	SLD 16	-40	-16	382	-28.64	42.55	-1.22
161	SLV 1	61	4	780	-58.49	86.91	4.07
161	SLV 2	75	-2	772	-57.86	85.98	5.84
161	SLV 3	63	-33	414	-31.03	46.11	8.43
161	SLV 4	78	-40	405	-30.4	45.18	10.2
161	SLV 5	11	53	1163	-87.2	129.57	-5.08
161	SLV 6	21	49	1157	-86.78	128.94	-3.89
161	SLV 7	20	-72	-58	4.34	-6.45	9.46
161	SLV 8	29	-76	-63	4.76	-7.07	10.64
161	SLV 9	-31	59	1126	-84.43	125.46	-8.81
161	SLV 10	-21	55	1120	-84.01	124.83	-7.62
161	SLV 11	-22	-67	-95	7.1	-10.56	5.73
161	SLV 12	-13	-71	-100	7.53	-11.18	6.91
161	SLV 13	-79	22	657	-49.27	73.21	-8.36
161	SLV 14	-65	16	649	-48.64	72.28	-6.6
161	SLV 15	-76	-15	291	-21.81	32.41	-4
161	SLV 16	-62	-22	282	-21.18	31.47	-2.24
161	SLV FO 1	67	6	805	-60.36	89.68	4.39
161	SLV FO 2	83	-1	796	-59.67	88.66	6.33
161	SLV FO 3	70	-36	402	-30.15	44.8	9.18
161	SLV FO 4	85	-43	393	-29.46	43.77	11.12
161	SLV FO 5	13	60	1226	-91.93	136.61	-5.68
161	SLV FO 6	23	55	1220	-91.47	135.92	-4.37
161	SLV FO 7	22	-78	-117	8.76	-13.01	10.31
161	SLV FO 8	32	-83	-123	9.22	-13.7	11.61
161	SLV FO 9	-34	66	1185	-88.89	132.08	-9.78
161	SLV FO 10	-23	61	1179	-88.43	131.39	-8.47
161	SLV FO 11	-24	-72	-157	11.8	-17.53	6.21
161	SLV FO 12	-14	-77	-163	12.26	-18.22	7.51
161	SLV FO 13	-87	25	670	-50.21	74.61	-9.29
161	SLV FO 14	-71	18	660	-49.52	73.59	-7.35
161	SLV FO 15	-84	-16	267	-20.01	29.73	-4.49
161	SLV FO 16	-68	-23	258	-19.32	28.7	-2.55
161	CRTFP Ux+	0	0	0	0	0	0
161	CRTFP Ux-	0	0	0	0	0	0
161	CRTFP Uy+	0	0	0	0	0	0
161	CRTFP Uy-	0	0	0	0	0	0
162	SLU 1	-1	-7	494	-37.03	48.15	0.61
162	SLU 2	-1	-5	508	-38.12	49.56	0.42
162	SLU 3	-1	-7	501	-37.58	48.87	0.62
162	SLU 4	-1	-6	510	-38.24	49.71	0.51
162	SLU 5	-1	-5	513	-38.45	50	0.43
162	SLU 6	-1	-7	506	-37.92	49.3	0.63
162	SLU 7	-1	-6	514	-38.57	50.15	0.52
162	SLU 8	-1	-7	503	-37.7	49.01	0.63
162	SLU 9	-1	-6	511	-38.35	49.86	0.51
162	SLU 10	-1	-6	575	-43.16	56.11	0.52
162	SLU 11	-1	-8	568	-42.62	55.41	0.72
162	SLU 12	-1	-7	577	-43.27	56.26	0.6
162	SLU 13	-1	-6	580	-43.49	56.54	0.52
162	SLU 14	-1	-8	573	-42.95	55.85	0.72
162	SLU 15	-1	-7	581	-43.6	56.69	0.61
162	SLU 16	-1	-8	570	-42.73	55.56	0.72
162	SLU 17	-1	-7	578	-43.39	56.41	0.61
162	SLU 18	0	-8	590	-44.23	57.5	0.75
162	SLU 19	-1	-7	598	-44.88	58.35	0.63
162	SLU 20	-1	-8	594	-44.56	57.94	0.75
162	SLU 21	-1	-7	603	-45.21	58.78	0.64
162	SLU 22	-1	-8	560	-41.99	54.6	0.68
162	SLU 23	-1	-6	574	-43.08	56.01	0.49
162	SLU 24	-1	-8	567	-42.54	55.31	0.69
162	SLU 25	-1	-7	576	-43.19	56.16	0.57
162	SLU 26	-1	-6	579	-43.41	56.44	0.49
162	SLU 27	-1	-8	572	-42.87	55.74	0.69
162	SLU 28	-1	-7	580	-43.53	56.59	0.58
162	SLU 29	-1	-8	569	-42.66	55.46	0.69
162	SLU 30	-1	-7	577	-43.31	56.31	0.58
162	SLU 31	-1	-7	642	-48.12	62.56	0.58
162	SLU 32	-1	-9	634	-47.58	61.86	0.78
162	SLU 33	-1	-8	643	-48.23	62.71	0.66
162	SLU 34	-1	-7	646	-48.45	62.99	0.59
162	SLU 35	-1	-9	639	-47.91	62.29	0.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
162	SLU 36	-1	-8	648	-48.56	63.14	0.67
162	SLU 37	-1	-9	636	-47.69	62.01	0.78
162	SLU 38	-1	-8	645	-48.34	62.86	0.67
162	SLU 39	-1	-9	656	-49.19	63.95	0.81
162	SLU 40	-1	-8	665	-49.84	64.8	0.69
162	SLU 41	-1	-9	660	-49.52	64.38	0.82
162	SLU 42	-1	-8	669	-50.17	65.23	0.7
162	SLU 43	-1	-9	619	-46.44	60.39	0.78
162	SLU 44	-1	-7	634	-47.53	61.8	0.59
162	SLU 45	-1	-9	627	-46.99	61.1	0.79
162	SLU 46	-1	-8	635	-47.65	61.95	0.67
162	SLU 47	-1	-7	638	-47.86	62.23	0.59
162	SLU 48	-1	-9	631	-47.33	61.53	0.79
162	SLU 49	-1	-8	640	-47.98	62.38	0.68
162	SLU 50	-1	-9	628	-47.11	61.25	0.79
162	SLU 51	-1	-8	637	-47.76	62.1	0.68
162	SLU 52	-1	-8	701	-52.57	68.35	0.68
162	SLU 53	-1	-10	694	-52.03	67.65	0.88
162	SLU 54	-1	-9	702	-52.68	68.5	0.77
162	SLU 55	-1	-8	705	-52.9	68.78	0.69
162	SLU 56	-1	-10	698	-52.36	68.08	0.89
162	SLU 57	-1	-9	707	-53.01	68.93	0.77
162	SLU 58	-1	-10	695	-52.14	67.8	0.88
162	SLU 59	-1	-9	704	-52.8	68.65	0.77
162	SLU 60	-1	-10	715	-53.64	69.74	0.91
162	SLU 61	-1	-9	724	-54.29	70.59	0.8
162	SLU 62	-1	-10	720	-53.97	70.17	0.92
162	SLU 63	-1	-9	728	-54.62	71.02	0.8
162	SLU 64	-1	-9	685	-51.4	66.83	0.84
162	SLU 65	-1	-8	700	-52.49	68.25	0.65
162	SLU 66	-1	-10	693	-51.95	67.55	0.85
162	SLU 67	-1	-9	701	-52.61	68.4	0.73
162	SLU 68	-1	-8	704	-52.82	68.68	0.66
162	SLU 69	-1	-10	697	-52.28	67.98	0.86
162	SLU 70	-1	-9	706	-52.94	68.83	0.74
162	SLU 71	-1	-10	694	-52.07	67.7	0.85
162	SLU 72	-1	-9	703	-52.72	68.54	0.74
162	SLU 73	-1	-8	767	-57.53	74.79	0.74
162	SLU 74	-1	-10	760	-56.99	74.09	0.94
162	SLU 75	-1	-9	769	-57.64	74.94	0.83
162	SLU 76	-1	-9	771	-57.86	75.23	0.75
162	SLU 77	-1	-11	764	-57.32	74.53	0.95
162	SLU 78	-1	-9	773	-57.97	75.37	0.83
162	SLU 79	-1	-10	761	-57.1	74.24	0.95
162	SLU 80	-1	-9	770	-57.76	75.09	0.83
162	SLU 81	-1	-11	781	-58.6	76.18	0.97
162	SLU 82	-1	-10	790	-59.25	77.03	0.86
162	SLU 83	-1	-11	786	-58.93	76.62	0.98
162	SLU 84	-1	-10	794	-59.58	77.47	0.86
162	SLE RA 1	-1	-7	513	-38.45	49.99	0.63
162	SLE RA 2	-1	-6	522	-39.18	50.93	0.51
162	SLE RA 3	-1	-7	518	-38.82	50.47	0.64
162	SLE RA 4	-1	-6	523	-39.25	51.03	0.56
162	SLE RA 5	-1	-6	525	-39.4	51.22	0.51
162	SLE RA 6	-1	-7	521	-39.04	50.76	0.64
162	SLE RA 7	-1	-7	526	-39.47	51.32	0.57
162	SLE RA 8	-1	-7	519	-38.89	50.57	0.64
162	SLE RA 9	-1	-7	524	-39.33	51.13	0.56
162	SLE RA 10	-1	-6	567	-42.53	55.3	0.57
162	SLE RA 11	-1	-8	562	-42.17	54.83	0.7
162	SLE RA 12	-1	-7	568	-42.61	55.4	0.62
162	SLE RA 13	-1	-7	570	-42.75	55.59	0.57
162	SLE RA 14	-1	-8	565	-42.4	55.12	0.7
162	SLE RA 15	-1	-7	571	-42.83	55.69	0.63
162	SLE RA 16	-1	-8	563	-42.25	54.93	0.7
162	SLE RA 17	-1	-7	569	-42.69	55.5	0.63
162	SLE RA 18	-1	-8	577	-43.25	56.23	0.72
162	SLE RA 19	-1	-7	582	-43.68	56.79	0.64
162	SLE RA 20	-1	-8	580	-43.47	56.52	0.72
162	SLE RA 21	-1	-7	585	-43.9	57.08	0.65
162	SLE FR 1	-1	-7	513	-38.45	49.99	0.63
162	SLE FR 2	-1	-7	515	-38.6	50.18	0.61
162	SLE FR 3	-1	-7	514	-38.54	50.11	0.63
162	SLE FR 4	-1	-7	534	-40.03	52.05	0.63
162	SLE FR 5	-1	-7	533	-39.98	51.98	0.66
162	SLE FR 6	-1	-7	545	-40.85	53.11	0.68
162	SLE QP 1	-1	-7	513	-38.45	49.99	0.63
162	SLE QP 2	-1	-7	532	-39.89	51.86	0.66
162	SLD 1	39	1	676	-50.73	65.95	2.83
162	SLD 2	48	-3	671	-50.36	65.47	3.86
162	SLD 3	40	-22	462	-34.66	45.06	5.15
162	SLD 4	49	-26	457	-34.29	44.58	6.18
162	SLD 5	7	30	901	-67.57	87.85	-2.39
162	SLD 6	13	28	898	-67.33	87.55	-1.72
162	SLD 7	12	-46	187	-14.01	18.22	5.35
162	SLD 8	18	-48	184	-13.78	17.91	6.01
162	SLD 9	-20	33	880	-66	85.81	-4.69
162	SLD 10	-14	31	877	-65.76	85.5	-4.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
162	SLD 11	-15	-43	166	-12.44	16.18	3.04
162	SLD 12	-9	-45	163	-12.21	15.87	3.7
162	SLD 13	-51	11	607	-45.49	59.14	-4.86
162	SLD 14	-42	7	602	-45.12	58.66	-3.83
162	SLD 15	-49	-12	392	-29.42	38.25	-2.54
162	SLD 16	-40	-16	387	-29.05	37.77	-1.51
162	SLV 1	61	7	773	-57.98	75.38	3.88
162	SLV 2	75	1	765	-57.4	74.62	5.5
162	SLV 3	64	-32	407	-30.56	39.74	7.83
162	SLV 4	78	-37	400	-29.98	38.98	9.45
162	SLV 5	11	57	1160	-87	113.11	-4.68
162	SLV 6	21	53	1155	-86.61	112.61	-3.58
162	SLV 7	20	-73	-58	4.38	-5.69	8.51
162	SLV 8	29	-76	-64	4.77	-6.2	9.6
162	SLV 9	-31	62	1127	-84.55	109.92	-8.28
162	SLV 10	-21	58	1122	-84.16	109.42	-7.19
162	SLV 11	-22	-68	-91	6.83	-8.88	4.9
162	SLV 12	-13	-72	-96	7.22	-9.39	5.99
162	SLV 13	-79	23	664	-49.8	64.74	-8.14
162	SLV 14	-65	17	656	-49.22	63.99	-6.51
162	SLV 15	-77	-16	298	-22.38	29.1	-4.18
162	SLV 16	-63	-22	291	-21.8	28.35	-2.56
162	SLV FO 1	67	9	797	-59.78	77.73	4.2
162	SLV FO 2	83	2	789	-59.15	76.9	5.98
162	SLV FO 3	70	-34	395	-29.63	38.52	8.55
162	SLV FO 4	86	-40	387	-28.99	37.69	10.33
162	SLV FO 5	13	63	1223	-91.71	119.24	-5.21
162	SLV FO 6	23	59	1217	-91.28	118.68	-4.01
162	SLV FO 7	22	-79	-117	8.8	-11.45	9.29
162	SLV FO 8	32	-83	-123	9.23	-12.01	10.49
162	SLV FO 9	-34	69	1187	-89.01	115.73	-9.17
162	SLV FO 10	-23	64	1181	-88.58	115.17	-7.97
162	SLV FO 11	-25	-74	-153	11.5	-14.96	5.33
162	SLV FO 12	-14	-78	-159	11.93	-15.51	6.53
162	SLV FO 13	-87	26	677	-50.79	66.03	-9.02
162	SLV FO 14	-72	19	669	-50.15	65.2	-7.23
162	SLV FO 15	-84	-17	275	-20.63	26.82	-4.67
162	SLV FO 16	-69	-23	267	-19.99	26	-2.88
162	CRTFP Ux+	0	0	0	0	0	0
162	CRTFP Ux-	0	0	0	0	0	0
162	CRTFP Uy+	0	0	0	0	0	0
162	CRTFP Uy-	0	0	0	0	0	0
163	SLU 1	-1	-6	497	-37.3	41.57	0.42
163	SLU 2	-1	-4	512	-38.39	42.78	0.25
163	SLU 3	-1	-6	505	-37.85	42.19	0.43
163	SLU 4	-1	-5	513	-38.51	42.91	0.33
163	SLU 5	-1	-4	516	-38.72	43.15	0.26
163	SLU 6	-1	-6	509	-38.19	42.56	0.43
163	SLU 7	-1	-5	518	-38.84	43.29	0.33
163	SLU 8	-1	-6	506	-37.97	42.32	0.43
163	SLU 9	-1	-5	515	-38.62	43.04	0.33
163	SLU 10	-1	-5	580	-43.47	48.45	0.33
163	SLU 11	-1	-7	573	-42.94	47.85	0.5
163	SLU 12	-1	-5	581	-43.59	48.58	0.4
163	SLU 13	-1	-5	584	-43.81	48.82	0.33
163	SLU 14	-1	-7	577	-43.27	48.23	0.51
163	SLU 15	-1	-6	586	-43.93	48.95	0.4
163	SLU 16	-1	-7	574	-43.05	47.98	0.5
163	SLU 17	-1	-6	583	-43.71	48.71	0.4
163	SLU 18	-1	-7	594	-44.56	49.66	0.53
163	SLU 19	-1	-6	603	-45.22	50.39	0.42
163	SLU 20	-1	-7	599	-44.9	50.04	0.53
163	SLU 21	-1	-6	607	-45.55	50.76	0.43
163	SLU 22	-1	-6	564	-42.28	47.12	0.46
163	SLU 23	-1	-5	578	-43.37	48.34	0.29
163	SLU 24	-1	-7	571	-42.84	47.74	0.47
163	SLU 25	-1	-5	580	-43.49	48.47	0.37
163	SLU 26	-1	-5	583	-43.71	48.71	0.3
163	SLU 27	-1	-7	576	-43.17	48.11	0.47
163	SLU 28	-1	-6	584	-43.83	48.84	0.37
163	SLU 29	-1	-7	573	-42.95	47.87	0.47
163	SLU 30	-1	-6	581	-43.61	48.6	0.37
163	SLU 31	-1	-5	646	-48.46	54	0.36
163	SLU 32	-1	-7	639	-47.92	53.41	0.54
163	SLU 33	-1	-6	648	-48.58	54.13	0.44
163	SLU 34	-1	-5	651	-48.79	54.37	0.37
163	SLU 35	-1	-7	643	-48.26	53.78	0.54
163	SLU 36	-1	-6	652	-48.91	54.51	0.44
163	SLU 37	-1	-7	641	-48.04	53.54	0.54
163	SLU 38	-1	-6	649	-48.69	54.26	0.44
163	SLU 39	-1	-7	661	-49.55	55.22	0.56
163	SLU 40	-1	-6	669	-50.2	55.94	0.46
163	SLU 41	-1	-7	665	-49.88	55.59	0.57
163	SLU 42	-1	-6	674	-50.53	56.32	0.47
163	SLU 43	-1	-7	624	-46.78	52.13	0.54
163	SLU 44	-1	-5	638	-47.87	53.35	0.37
163	SLU 45	-1	-7	631	-47.34	52.75	0.54
163	SLU 46	-1	-6	640	-47.99	53.48	0.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
163	SLU 47	-1	-6	643	-48.2	53.72	0.37
163	SLU 48	-1	-8	636	-47.67	53.13	0.55
163	SLU 49	-1	-6	644	-48.32	53.85	0.45
163	SLU 50	-1	-8	633	-47.45	52.88	0.55
163	SLU 51	-1	-6	641	-48.1	53.61	0.44
163	SLU 52	-1	-6	706	-52.95	59.01	0.44
163	SLU 53	-1	-8	699	-52.42	58.42	0.62
163	SLU 54	-1	-7	708	-53.07	59.15	0.51
163	SLU 55	-1	-6	711	-53.29	59.39	0.44
163	SLU 56	-1	-8	703	-52.76	58.79	0.62
163	SLU 57	-1	-7	712	-53.41	59.52	0.52
163	SLU 58	-1	-8	700	-52.54	58.55	0.62
163	SLU 59	-1	-7	709	-53.19	59.28	0.52
163	SLU 60	-1	-8	721	-54.04	60.23	0.64
163	SLU 61	-1	-7	729	-54.7	60.96	0.54
163	SLU 62	-1	-8	725	-54.38	60.6	0.64
163	SLU 63	-1	-7	734	-55.03	61.33	0.54
163	SLU 64	-1	-8	690	-51.76	57.69	0.58
163	SLU 65	-1	-6	705	-52.85	58.9	0.41
163	SLU 66	-1	-8	698	-52.32	58.31	0.58
163	SLU 67	-1	-7	706	-52.97	59.04	0.48
163	SLU 68	-1	-6	709	-53.19	59.28	0.41
163	SLU 69	-1	-8	702	-52.66	58.68	0.59
163	SLU 70	-1	-7	711	-53.31	59.41	0.48
163	SLU 71	-1	-8	699	-52.44	58.44	0.58
163	SLU 72	-1	-7	708	-53.09	59.16	0.48
163	SLU 73	-1	-7	773	-57.94	64.57	0.48
163	SLU 74	-1	-9	765	-57.4	63.97	0.65
163	SLU 75	-1	-8	774	-58.06	64.7	0.55
163	SLU 76	-1	-7	777	-58.27	64.94	0.48
163	SLU 77	-1	-9	770	-57.74	64.35	0.66
163	SLU 78	-1	-8	779	-58.39	65.07	0.56
163	SLU 79	-1	-9	767	-57.52	64.1	0.66
163	SLU 80	-1	-8	776	-58.17	64.83	0.55
163	SLU 81	-1	-9	787	-59.03	65.78	0.68
163	SLU 82	-1	-8	796	-59.68	66.51	0.58
163	SLU 83	-1	-9	792	-59.36	66.16	0.68
163	SLU 84	-1	-8	800	-60.02	66.88	0.58
163	SLE RA 1	-1	-6	516	-38.72	43.16	0.44
163	SLE RA 2	-1	-5	526	-39.45	43.96	0.32
163	SLE RA 3	-1	-6	521	-39.09	43.57	0.44
163	SLE RA 4	-1	-5	527	-39.53	44.05	0.37
163	SLE RA 5	-1	-5	529	-39.67	44.21	0.32
163	SLE RA 6	-1	-6	524	-39.32	43.82	0.44
163	SLE RA 7	-1	-5	530	-39.75	44.3	0.37
163	SLE RA 8	-1	-6	522	-39.17	43.65	0.44
163	SLE RA 9	-1	-5	528	-39.61	44.14	0.37
163	SLE RA 10	-1	-5	571	-42.84	47.74	0.37
163	SLE RA 11	-1	-7	566	-42.48	47.34	0.49
163	SLE RA 12	-1	-6	572	-42.92	47.83	0.42
163	SLE RA 13	-1	-5	574	-43.06	47.99	0.37
163	SLE RA 14	-1	-7	569	-42.71	47.59	0.49
163	SLE RA 15	-1	-6	575	-43.14	48.08	0.42
163	SLE RA 16	-1	-7	567	-42.56	47.43	0.49
163	SLE RA 17	-1	-6	573	-43	47.92	0.42
163	SLE RA 18	-1	-7	581	-43.57	48.55	0.5
163	SLE RA 19	-1	-6	587	-44	49.04	0.44
163	SLE RA 20	-1	-7	584	-43.79	48.8	0.51
163	SLE RA 21	-1	-6	590	-44.22	49.29	0.44
163	SLE FR 1	-1	-6	516	-38.72	43.16	0.44
163	SLE FR 2	-1	-6	518	-38.87	43.32	0.41
163	SLE FR 3	-1	-6	518	-38.81	43.25	0.44
163	SLE FR 4	-1	-6	538	-40.32	44.94	0.43
163	SLE FR 5	-1	-6	537	-40.27	44.87	0.46
163	SLE FR 6	-1	-6	549	-41.14	45.85	0.47
163	SLE QP 1	-1	-6	516	-38.72	43.16	0.44
163	SLE QP 2	-1	-6	536	-40.18	44.77	0.46
163	SLD 1	39	3	676	-50.7	56.5	2.7
163	SLD 2	48	0	671	-50.36	56.12	3.65
163	SLD 3	41	-21	461	-34.57	38.52	4.76
163	SLD 4	50	-24	456	-34.23	38.14	5.71
163	SLD 5	7	33	905	-67.85	75.62	-2.16
163	SLD 6	13	31	902	-67.63	75.37	-1.55
163	SLD 7	12	-46	188	-14.09	15.7	4.71
163	SLD 8	18	-48	185	-13.87	15.46	5.33
163	SLD 9	-20	35	886	-66.48	74.09	-4.41
163	SLD 10	-14	33	883	-66.26	73.84	-3.8
163	SLD 11	-15	-43	170	-12.72	14.17	2.46
163	SLD 12	-9	-45	167	-12.5	13.93	3.08
163	SLD 13	-51	12	615	-46.13	51.4	-4.8
163	SLD 14	-42	8	610	-45.78	51.02	-3.85
163	SLD 15	-50	-12	400	-30	33.43	-2.74
163	SLD 16	-41	-15	395	-29.66	33.05	-1.79
163	SLV 1	62	10	770	-57.77	64.39	3.81
163	SLV 2	76	4	763	-57.24	63.79	5.31
163	SLV 3	64	-31	403	-30.26	33.72	7.32
163	SLV 4	78	-36	396	-29.72	33.12	8.83
163	SLV 5	12	60	1164	-87.29	97.28	-4.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
163	SLV 6	21	57	1159	-86.93	96.88	-3.14
163	SLV 7	20	-73	-59	4.44	-4.94	7.57
163	SLV 8	29	-77	-64	4.8	-5.35	8.58
163	SLV 9	-31	65	1135	-85.15	94.89	-7.67
163	SLV 10	-21	61	1131	-84.79	94.49	-6.66
163	SLV 11	-23	-69	-88	6.58	-7.33	4.05
163	SLV 12	-13	-73	-93	6.94	-7.73	5.06
163	SLV 13	-80	23	675	-50.63	56.43	-7.92
163	SLV 14	-66	18	668	-50.1	55.83	-6.41
163	SLV 15	-78	-17	308	-23.11	25.76	-4.4
163	SLV 16	-63	-22	301	-22.58	25.16	-2.9
163	SLV FO 1	68	11	794	-59.53	66.35	4.14
163	SLV FO 2	84	6	786	-58.94	65.69	5.8
163	SLV FO 3	70	-33	390	-29.26	32.61	8.01
163	SLV FO 4	86	-39	382	-28.67	31.95	9.66
163	SLV FO 5	13	67	1227	-92	102.53	-4.61
163	SLV FO 6	23	63	1221	-91.61	102.09	-3.5
163	SLV FO 7	22	-80	-119	8.9	-9.92	8.28
163	SLV FO 8	32	-84	-124	9.29	-10.36	9.39
163	SLV FO 9	-34	72	1195	-89.65	99.91	-8.48
163	SLV FO 10	-23	68	1190	-89.25	99.46	-7.37
163	SLV FO 11	-25	-76	-150	11.25	-12.54	4.41
163	SLV FO 12	-14	-79	-155	11.65	-12.98	5.52
163	SLV FO 13	-88	26	689	-51.68	57.59	-8.75
163	SLV FO 14	-72	21	681	-51.09	56.94	-7.1
163	SLV FO 15	-85	-18	285	-21.41	23.86	-4.89
163	SLV FO 16	-69	-24	278	-20.82	23.2	-3.23
163	CRTFP Ux+	0	0	0	0	0	0
163	CRTFP Ux-	0	0	0	0	0	0
163	CRTFP Uy+	0	0	0	0	0	0
163	CRTFP Uy-	0	0	0	0	0	0
164	SLU 1	-1	-5	502	-37.65	34.96	0.27
164	SLU 2	-1	-3	517	-38.74	35.98	0.12
164	SLU 3	-1	-5	509	-38.21	35.48	0.27
164	SLU 4	-1	-4	518	-38.86	36.09	0.18
164	SLU 5	-1	-3	521	-39.08	36.29	0.12
164	SLU 6	-1	-5	514	-38.55	35.8	0.27
164	SLU 7	-1	-4	523	-39.2	36.41	0.19
164	SLU 8	-1	-5	511	-38.32	35.59	0.27
164	SLU 9	-1	-4	520	-38.98	36.2	0.19
164	SLU 10	-1	-3	585	-43.89	40.76	0.18
164	SLU 11	-1	-5	578	-43.36	40.26	0.33
164	SLU 12	-1	-4	587	-44.01	40.87	0.24
164	SLU 13	-1	-3	590	-44.22	41.07	0.18
164	SLU 14	-1	-5	583	-43.69	40.58	0.33
164	SLU 15	-1	-4	591	-44.35	41.19	0.24
164	SLU 16	-1	-5	580	-43.47	40.37	0.33
164	SLU 17	-1	-4	588	-44.13	40.98	0.24
164	SLU 18	-1	-6	600	-45	41.79	0.35
164	SLU 19	-1	-4	609	-45.66	42.4	0.26
164	SLU 20	-1	-6	605	-45.34	42.11	0.35
164	SLU 21	-1	-4	613	-45.99	42.71	0.26
164	SLU 22	-1	-5	569	-42.67	39.63	0.29
164	SLU 23	-1	-3	584	-43.76	40.64	0.14
164	SLU 24	-1	-5	576	-43.23	40.15	0.29
164	SLU 25	-1	-4	585	-43.89	40.76	0.2
164	SLU 26	-1	-3	588	-44.1	40.96	0.14
164	SLU 27	-1	-5	581	-43.57	40.46	0.29
164	SLU 28	-1	-4	590	-44.23	41.07	0.2
164	SLU 29	-1	-5	578	-43.35	40.26	0.29
164	SLU 30	-1	-4	587	-44	40.87	0.2
164	SLU 31	-1	-4	652	-48.91	45.42	0.19
164	SLU 32	-1	-6	645	-48.38	44.93	0.34
164	SLU 33	-1	-5	654	-49.04	45.54	0.26
164	SLU 34	-1	-4	657	-49.25	45.74	0.2
164	SLU 35	-1	-6	650	-48.72	45.25	0.35
164	SLU 36	-1	-5	658	-49.37	45.85	0.26
164	SLU 37	-1	-6	647	-48.5	45.04	0.35
164	SLU 38	-1	-5	655	-49.15	45.65	0.26
164	SLU 39	-1	-6	667	-50.02	46.46	0.37
164	SLU 40	-1	-5	676	-50.68	47.07	0.28
164	SLU 41	-1	-6	672	-50.36	46.77	0.37
164	SLU 42	-1	-5	680	-51.02	47.38	0.28
164	SLU 43	-1	-6	630	-47.22	43.85	0.35
164	SLU 44	-1	-4	644	-48.31	44.86	0.2
164	SLU 45	-1	-6	637	-47.78	44.37	0.35
164	SLU 46	-1	-5	646	-48.43	44.98	0.26
164	SLU 47	-1	-4	649	-48.65	45.18	0.2
164	SLU 48	-1	-6	642	-48.12	44.69	0.35
164	SLU 49	-1	-5	650	-48.77	45.3	0.26
164	SLU 50	-1	-6	639	-47.9	44.48	0.35
164	SLU 51	-1	-5	647	-48.55	45.09	0.26
164	SLU 52	-1	-5	713	-53.46	49.65	0.25
164	SLU 53	-1	-7	706	-52.93	49.15	0.4
164	SLU 54	-1	-5	714	-53.58	49.76	0.31
164	SLU 55	-1	-5	717	-53.8	49.96	0.25
164	SLU 56	-1	-7	710	-53.27	49.47	0.4
164	SLU 57	-1	-6	719	-53.92	50.08	0.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
164	SLU 58	-1	-7	707	-53.04	49.26	0.4
164	SLU 59	-1	-6	716	-53.7	49.87	0.31
164	SLU 60	-1	-7	728	-54.57	50.68	0.42
164	SLU 61	-1	-6	736	-55.23	51.29	0.33
164	SLU 62	-1	-7	732	-54.91	50.99	0.42
164	SLU 63	-1	-6	741	-55.57	51.6	0.33
164	SLU 64	-1	-6	697	-52.24	48.52	0.36
164	SLU 65	-1	-5	711	-53.33	49.53	0.22
164	SLU 66	-1	-7	704	-52.8	49.04	0.37
164	SLU 67	-1	-5	713	-53.46	49.65	0.28
164	SLU 68	-1	-5	716	-53.67	49.85	0.22
164	SLU 69	-1	-7	709	-53.14	49.35	0.37
164	SLU 70	-1	-6	717	-53.8	49.96	0.28
164	SLU 71	-1	-7	706	-52.92	49.15	0.37
164	SLU 72	-1	-5	714	-53.58	49.76	0.28
164	SLU 73	-1	-5	780	-58.48	54.31	0.27
164	SLU 74	-1	-7	773	-57.95	53.82	0.42
164	SLU 75	-1	-6	781	-58.61	54.43	0.33
164	SLU 76	-1	-5	784	-58.82	54.63	0.27
164	SLU 77	-1	-7	777	-58.29	54.13	0.42
164	SLU 78	-1	-6	786	-58.95	54.74	0.33
164	SLU 79	-1	-7	774	-58.07	53.93	0.42
164	SLU 80	-1	-6	783	-58.72	54.54	0.33
164	SLU 81	-1	-7	795	-59.6	55.35	0.44
164	SLU 82	-1	-6	803	-60.25	55.95	0.35
164	SLU 83	-1	-7	799	-59.93	55.66	0.44
164	SLU 84	-1	-6	808	-60.59	56.27	0.35
164	SLE RA 1	-1	-5	521	-39.08	36.3	0.28
164	SLE RA 2	-1	-4	531	-39.81	36.97	0.18
164	SLE RA 3	-1	-5	526	-39.46	36.64	0.28
164	SLE RA 4	-1	-4	532	-39.89	37.05	0.22
164	SLE RA 5	-1	-4	534	-40.04	37.18	0.18
164	SLE RA 6	-1	-5	529	-39.68	36.85	0.28
164	SLE RA 7	-1	-4	535	-40.12	37.26	0.22
164	SLE RA 8	-1	-5	527	-39.53	36.72	0.28
164	SLE RA 9	-1	-4	533	-39.97	37.12	0.22
164	SLE RA 10	-1	-4	577	-43.24	40.16	0.21
164	SLE RA 11	-1	-5	572	-42.89	39.83	0.31
164	SLE RA 12	-1	-5	578	-43.32	40.24	0.25
164	SLE RA 13	-1	-4	580	-43.47	40.37	0.21
164	SLE RA 14	-1	-5	575	-43.11	40.04	0.31
164	SLE RA 15	-1	-5	581	-43.55	40.45	0.25
164	SLE RA 16	-1	-5	573	-42.97	39.9	0.31
164	SLE RA 17	-1	-5	579	-43.4	40.31	0.25
164	SLE RA 18	-1	-5	586	-43.98	40.85	0.33
164	SLE RA 19	-1	-5	592	-44.42	41.25	0.27
164	SLE RA 20	-1	-5	589	-44.21	41.06	0.33
164	SLE RA 21	-1	-5	595	-44.65	41.46	0.27
164	SLE FR 1	-1	-5	521	-39.08	36.3	0.28
164	SLE FR 2	-1	-5	523	-39.23	36.43	0.26
164	SLE FR 3	-1	-5	522	-39.17	36.38	0.28
164	SLE FR 4	-1	-5	543	-40.7	37.8	0.27
164	SLE FR 5	-1	-5	542	-40.64	37.75	0.29
164	SLE FR 6	-1	-5	554	-41.53	38.57	0.3
164	SLE QP 1	-1	-5	521	-39.08	36.3	0.28
164	SLE QP 2	-1	-5	541	-40.55	37.66	0.29
164	SLD 1	40	5	677	-50.77	47.15	2.63
164	SLD 2	49	2	673	-50.45	46.86	3.52
164	SLD 3	41	-20	461	-34.54	32.08	4.41
164	SLD 4	50	-22	456	-34.23	31.79	5.3
164	SLD 5	8	35	910	-68.28	63.41	-1.86
164	SLD 6	13	33	908	-68.08	63.22	-1.29
164	SLD 7	12	-46	189	-14.2	13.18	4.07
164	SLD 8	18	-48	187	-13.99	13	4.65
164	SLD 9	-20	38	895	-67.11	62.33	-4.06
164	SLD 10	-14	36	892	-66.91	62.14	-3.49
164	SLD 11	-15	-43	174	-13.03	12.1	1.87
164	SLD 12	-9	-45	171	-12.83	11.91	2.44
164	SLD 13	-52	12	625	-46.88	43.53	-4.72
164	SLD 14	-43	9	621	-46.56	43.24	-3.83
164	SLD 15	-50	-12	409	-30.65	28.47	-2.94
164	SLD 16	-41	-15	404	-30.34	28.17	-2.05
164	SLV 1	62	12	769	-57.69	53.57	3.82
164	SLV 2	77	7	763	-57.19	53.11	5.22
164	SLV 3	64	-29	400	-30	27.86	6.85
164	SLV 4	79	-34	393	-29.5	27.4	8.25
164	SLV 5	12	64	1170	-87.77	81.51	-3.52
164	SLV 6	22	61	1166	-87.44	81.2	-2.57
164	SLV 7	20	-74	-60	4.51	-4.19	6.6
164	SLV 8	29	-77	-65	4.84	-4.5	7.54
164	SLV 9	-31	67	1146	-85.95	79.82	-6.96
164	SLV 10	-21	64	1142	-85.61	79.51	-6.02
164	SLV 11	-23	-71	-84	6.33	-5.88	3.15
164	SLV 12	-13	-74	-89	6.67	-6.19	4.1
164	SLV 13	-81	24	688	-51.6	47.92	-7.67
164	SLV 14	-66	19	681	-51.1	47.46	-6.27
164	SLV 15	-78	-18	319	-23.92	22.21	-4.64
164	SLV 16	-64	-22	312	-23.42	21.75	-3.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
164	SLV FO 1	68	14	792	-59.4	55.16	4.17
164	SLV FO 2	84	9	785	-58.85	54.66	5.71
164	SLV FO 3	71	-32	386	-28.95	26.88	7.51
164	SLV FO 4	87	-37	379	-28.4	26.37	9.05
164	SLV FO 5	13	71	1233	-92.49	85.9	-3.9
164	SLV FO 6	24	67	1228	-92.13	85.56	-2.86
164	SLV FO 7	22	-81	-120	9.01	-8.37	7.23
164	SLV FO 8	32	-85	-125	9.38	-8.71	8.27
164	SLV FO 9	-34	75	1206	-90.49	84.03	-7.69
164	SLV FO 10	-23	71	1202	-90.12	83.69	-6.65
164	SLV FO 11	-25	-77	-147	11.02	-10.24	3.44
164	SLV FO 12	-15	-81	-152	11.39	-10.58	4.48
164	SLV FO 13	-88	27	703	-52.71	48.95	-8.47
164	SLV FO 14	-73	22	695	-52.16	48.44	-6.93
164	SLV FO 15	-86	-19	297	-22.25	20.67	-5.13
164	SLV FO 16	-70	-24	289	-21.71	20.16	-3.59
164	CRTFP Ux+	0	0	0	0	0	0
164	CRTFP Ux-	0	0	0	0	0	0
164	CRTFP Uy+	0	0	0	0	0	0
164	CRTFP Uy-	0	0	0	0	0	0
165	SLU 1	-1	-4	507	-38.03	28.25	0.15
165	SLU 2	-1	-2	522	-39.12	29.07	0.02
165	SLU 3	-1	-4	515	-38.6	28.68	0.15
165	SLU 4	-1	-3	523	-39.25	29.16	0.07
165	SLU 5	-1	-2	526	-39.47	29.32	0.02
165	SLU 6	-1	-4	519	-38.94	28.93	0.15
165	SLU 7	-1	-3	528	-39.6	29.42	0.07
165	SLU 8	-1	-4	516	-38.71	28.76	0.15
165	SLU 9	-1	-3	525	-39.37	29.25	0.07
165	SLU 10	-1	-2	591	-44.34	32.94	0.06
165	SLU 11	-1	-4	584	-43.82	32.55	0.18
165	SLU 12	-1	-3	593	-44.47	33.04	0.11
165	SLU 13	-1	-2	596	-44.69	33.2	0.06
165	SLU 14	-1	-4	589	-44.16	32.81	0.18
165	SLU 15	-1	-3	598	-44.82	33.3	0.11
165	SLU 16	-1	-4	586	-43.93	32.64	0.18
165	SLU 17	-1	-3	595	-44.59	33.13	0.11
165	SLU 18	0	-4	606	-45.48	33.79	0.2
165	SLU 19	-1	-3	615	-46.14	34.28	0.13
165	SLU 20	-1	-4	611	-45.83	34.05	0.2
165	SLU 21	-1	-3	620	-46.48	34.54	0.13
165	SLU 22	-1	-4	575	-43.1	32.02	0.15
165	SLU 23	-1	-2	589	-44.2	32.84	0.03
165	SLU 24	-1	-4	582	-43.67	32.45	0.15
165	SLU 25	-1	-3	591	-44.33	32.93	0.08
165	SLU 26	-1	-2	594	-44.54	33.09	0.03
165	SLU 27	-1	-4	587	-44.01	32.7	0.15
165	SLU 28	-1	-3	596	-44.67	33.19	0.08
165	SLU 29	-1	-4	584	-43.79	32.53	0.15
165	SLU 30	-1	-3	593	-44.45	33.02	0.08
165	SLU 31	-1	-2	659	-49.42	36.71	0.07
165	SLU 32	-1	-5	652	-48.89	36.32	0.19
165	SLU 33	-1	-3	661	-49.55	36.81	0.11
165	SLU 34	-1	-2	663	-49.76	36.97	0.06
165	SLU 35	-1	-5	656	-49.23	36.58	0.19
165	SLU 36	-1	-3	665	-49.89	37.07	0.11
165	SLU 37	-1	-5	653	-49.01	36.41	0.19
165	SLU 38	-1	-3	662	-49.67	36.9	0.11
165	SLU 39	-1	-5	674	-50.56	37.56	0.21
165	SLU 40	-1	-3	683	-51.22	38.05	0.13
165	SLU 41	-1	-5	679	-50.9	37.82	0.21
165	SLU 42	-1	-3	687	-51.56	38.31	0.13
165	SLU 43	-1	-5	636	-47.7	35.44	0.19
165	SLU 44	-1	-3	651	-48.79	36.25	0.07
165	SLU 45	-1	-5	644	-48.27	35.86	0.19
165	SLU 46	-1	-4	652	-48.92	36.35	0.11
165	SLU 47	-1	-3	655	-49.14	36.51	0.07
165	SLU 48	-1	-5	648	-48.61	36.11	0.19
165	SLU 49	-1	-4	657	-49.27	36.6	0.11
165	SLU 50	-1	-5	645	-48.38	35.95	0.19
165	SLU 51	-1	-4	654	-49.04	36.43	0.11
165	SLU 52	-1	-3	720	-54.01	40.13	0.1
165	SLU 53	-1	-5	713	-53.49	39.74	0.23
165	SLU 54	-1	-4	722	-54.14	40.23	0.15
165	SLU 55	-1	-3	725	-54.35	40.38	0.1
165	SLU 56	-1	-5	718	-53.83	39.99	0.23
165	SLU 57	-1	-4	726	-54.49	40.48	0.15
165	SLU 58	-1	-5	715	-53.6	39.82	0.23
165	SLU 59	-1	-4	723	-54.26	40.31	0.15
165	SLU 60	-1	-5	735	-55.15	40.98	0.24
165	SLU 61	-1	-4	744	-55.81	41.46	0.17
165	SLU 62	-1	-5	740	-55.5	41.23	0.24
165	SLU 63	-1	-4	749	-56.15	41.72	0.17
165	SLU 64	-1	-5	704	-52.77	39.21	0.19
165	SLU 65	-1	-3	718	-53.87	40.02	0.07
165	SLU 66	-1	-5	711	-53.34	39.63	0.19
165	SLU 67	-1	-4	720	-54	40.12	0.12
165	SLU 68	-1	-3	723	-54.21	40.28	0.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
165	SLU 69	-1	-5	716	-53.68	39.88	0.19
165	SLU 70	-1	-4	725	-54.34	40.37	0.12
165	SLU 71	-1	-5	713	-53.46	39.72	0.19
165	SLU 72	-1	-4	722	-54.11	40.2	0.12
165	SLU 73	-1	-3	788	-59.09	43.9	0.11
165	SLU 74	-1	-5	781	-58.56	43.51	0.23
165	SLU 75	-1	-4	790	-59.22	44	0.16
165	SLU 76	-1	-3	792	-59.43	44.15	0.11
165	SLU 77	-1	-6	785	-58.9	43.76	0.23
165	SLU 78	-1	-4	794	-59.56	44.25	0.16
165	SLU 79	-1	-6	782	-58.68	43.59	0.23
165	SLU 80	-1	-4	791	-59.33	44.08	0.16
165	SLU 81	-1	-6	803	-60.23	44.75	0.25
165	SLU 82	-1	-4	812	-60.88	45.23	0.17
165	SLU 83	-1	-6	808	-60.57	45	0.25
165	SLU 84	-1	-4	816	-61.23	45.49	0.17
165	SLE RA 1	-1	-4	526	-39.48	29.33	0.15
165	SLE RA 2	-1	-2	536	-40.21	29.87	0.06
165	SLE RA 3	-1	-4	531	-39.86	29.61	0.15
165	SLE RA 4	-1	-3	537	-40.3	29.94	0.1
165	SLE RA 5	-1	-2	539	-40.44	30.04	0.06
165	SLE RA 6	-1	-4	534	-40.09	29.78	0.15
165	SLE RA 7	-1	-3	540	-40.52	30.11	0.1
165	SLE RA 8	-1	-4	532	-39.94	29.67	0.15
165	SLE RA 9	-1	-3	538	-40.37	30	0.1
165	SLE RA 10	-1	-3	583	-43.69	32.46	0.09
165	SLE RA 11	-1	-4	578	-43.34	32.2	0.17
165	SLE RA 12	-1	-3	584	-43.77	32.52	0.12
165	SLE RA 13	-1	-3	586	-43.92	32.63	0.09
165	SLE RA 14	-1	-4	581	-43.57	32.37	0.17
165	SLE RA 15	-1	-3	587	-44	32.69	0.12
165	SLE RA 16	-1	-4	579	-43.41	32.26	0.17
165	SLE RA 17	-1	-3	585	-43.85	32.58	0.12
165	SLE RA 18	-1	-4	593	-44.45	33.02	0.18
165	SLE RA 19	-1	-3	598	-44.89	33.35	0.13
165	SLE RA 20	-1	-4	596	-44.68	33.19	0.18
165	SLE RA 21	-1	-3	602	-45.12	33.52	0.13
165	SLE FR 1	-1	-4	526	-39.48	29.33	0.15
165	SLE FR 2	-1	-4	528	-39.62	29.44	0.13
165	SLE FR 3	-1	-4	528	-39.57	29.4	0.15
165	SLE FR 4	-1	-4	548	-41.11	30.55	0.14
165	SLE FR 5	-1	-4	547	-41.06	30.51	0.16
165	SLE FR 6	-1	-4	560	-41.96	31.18	0.17
165	SLE QP 1	-1	-4	526	-39.48	29.33	0.15
165	SLE QP 2	-1	-4	546	-40.97	30.44	0.16
165	SLD 1	40	7	679	-50.89	37.81	2.61
165	SLD 2	49	4	675	-50.6	37.59	3.45
165	SLD 3	41	-18	461	-34.55	25.67	4.09
165	SLD 4	50	-21	457	-34.26	25.45	4.92
165	SLD 5	8	38	917	-68.77	51.1	-1.48
165	SLD 6	14	36	914	-68.59	50.96	-0.95
165	SLD 7	12	-46	191	-14.31	10.63	3.43
165	SLD 8	18	-47	188	-14.13	10.5	3.97
165	SLD 9	-20	40	904	-67.81	50.38	-3.65
165	SLD 10	-14	38	902	-67.62	50.24	-3.11
165	SLD 11	-15	-44	178	-13.35	9.92	1.26
165	SLD 12	-9	-45	176	-13.16	9.78	1.8
165	SLD 13	-52	13	636	-47.68	35.42	-4.6
165	SLD 14	-43	10	632	-47.39	35.21	-3.77
165	SLD 15	-51	-12	418	-31.34	23.28	-3.13
165	SLD 16	-41	-15	414	-31.05	23.07	-2.3
165	SLV 1	63	14	769	-57.65	42.83	3.89
165	SLV 2	77	10	762	-57.19	42.49	5.2
165	SLV 3	65	-28	397	-29.77	22.12	6.4
165	SLV 4	79	-32	391	-29.31	21.78	7.71
165	SLV 5	12	67	1178	-88.34	65.63	-2.78
165	SLV 6	22	64	1174	-88.03	65.4	-1.9
165	SLV 7	20	-75	-61	4.58	-3.41	5.6
165	SLV 8	29	-78	-65	4.89	-3.64	6.48
165	SLV 9	-31	70	1158	-86.83	64.51	-6.16
165	SLV 10	-21	67	1154	-86.52	64.28	-5.28
165	SLV 11	-24	-72	-81	6.09	-4.52	2.21
165	SLV 12	-14	-75	-85	6.4	-4.75	3.09
165	SLV 13	-81	24	702	-52.63	39.1	-7.4
165	SLV 14	-66	20	696	-52.17	38.76	-6.09
165	SLV 15	-79	-18	330	-24.75	18.39	-4.88
165	SLV 16	-64	-22	324	-24.29	18.05	-3.57
165	SLV FO 1	69	16	791	-59.31	44.07	4.26
165	SLV FO 2	85	12	784	-58.81	43.69	5.71
165	SLV FO 3	71	-31	382	-28.65	21.29	7.03
165	SLV FO 4	87	-35	375	-28.14	20.91	8.47
165	SLV FO 5	14	74	1241	-93.07	69.15	-3.07
165	SLV FO 6	24	71	1236	-92.73	68.9	-2.1
165	SLV FO 7	22	-82	-122	9.14	-6.79	6.14
165	SLV FO 8	32	-85	-126	9.48	-7.04	7.11
165	SLV FO 9	-34	77	1219	-91.42	67.92	-6.8
165	SLV FO 10	-23	74	1214	-91.08	67.67	-5.83
165	SLV FO 11	-26	-79	-144	10.8	-8.02	2.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
165	SLV FO 12	-15	-82	-148	11.14	-8.27	3.39
165	SLV FO 13	-89	27	717	-53.79	39.97	-8.15
165	SLV FO 14	-73	23	711	-53.29	39.59	-6.71
165	SLV FO 15	-87	-20	308	-23.13	17.18	-5.39
165	SLV FO 16	-71	-24	302	-22.62	16.81	-3.95
165	CRTFP Ux+	0	0	0	0	0	0
165	CRTFP Ux-	0	0	0	0	0	0
165	CRTFP Uy+	0	0	0	0	0	0
165	CRTFP Uy-	0	0	0	0	0	0
166	SLU 1	-1	-3	513	-38.46	21.43	0.05
166	SLU 2	-1	-1	527	-39.56	22.04	-0.05
166	SLU 3	-1	-3	520	-39.04	21.75	0.05
166	SLU 4	-1	-1	529	-39.7	22.12	-0.01
166	SLU 5	-1	-1	532	-39.91	22.24	-0.05
166	SLU 6	-1	-3	525	-39.38	21.95	0.04
166	SLU 7	-1	-1	534	-40.05	22.31	-0.01
166	SLU 8	-1	-3	522	-39.16	21.82	0.05
166	SLU 9	-1	-1	531	-39.82	22.19	-0.01
166	SLU 10	-1	-1	598	-44.86	25	-0.02
166	SLU 11	-1	-3	591	-44.34	24.71	0.07
166	SLU 12	-1	-2	600	-45	25.07	0.01
166	SLU 13	-1	-1	603	-45.21	25.19	-0.02
166	SLU 14	-1	-3	596	-44.69	24.9	0.07
166	SLU 15	-1	-2	605	-45.35	25.27	0.01
166	SLU 16	-1	-3	593	-44.46	24.77	0.07
166	SLU 17	-1	-2	602	-45.12	25.14	0.01
166	SLU 18	-1	-3	614	-46.03	25.65	0.09
166	SLU 19	-1	-2	623	-46.69	26.02	0.03
166	SLU 20	-1	-3	618	-46.38	25.84	0.09
166	SLU 21	-1	-2	627	-47.04	26.21	0.03
166	SLU 22	-1	-3	581	-43.59	24.29	0.04
166	SLU 23	-1	-1	596	-44.69	24.9	-0.06
166	SLU 24	-1	-3	589	-44.17	24.61	0.04
166	SLU 25	-1	-2	598	-44.83	24.98	-0.02
166	SLU 26	-1	-1	601	-45.04	25.1	-0.06
166	SLU 27	-1	-3	594	-44.52	24.81	0.04
166	SLU 28	-1	-2	602	-45.18	25.17	-0.02
166	SLU 29	-1	-3	591	-44.29	24.68	0.04
166	SLU 30	-1	-2	599	-44.95	25.05	-0.02
166	SLU 31	-1	-1	667	-50	27.86	-0.03
166	SLU 32	-1	-3	660	-49.47	27.57	0.07
166	SLU 33	-1	-2	668	-50.13	27.93	0.01
166	SLU 34	-1	-1	671	-50.34	28.05	-0.03
166	SLU 35	-1	-3	664	-49.82	27.76	0.06
166	SLU 36	-1	-2	673	-50.48	28.13	0.01
166	SLU 37	-1	-3	661	-49.59	27.63	0.06
166	SLU 38	-1	-2	670	-50.25	28	0.01
166	SLU 39	-1	-3	682	-51.17	28.51	0.08
166	SLU 40	-1	-2	691	-51.83	28.88	0.02
166	SLU 41	-1	-3	687	-51.51	28.7	0.08
166	SLU 42	-1	-2	696	-52.17	29.07	0.02
166	SLU 43	-1	-3	643	-48.24	26.88	0.07
166	SLU 44	-1	-1	658	-49.34	27.49	-0.03
166	SLU 45	-1	-3	651	-48.81	27.2	0.06
166	SLU 46	-1	-2	660	-49.47	27.57	0.01
166	SLU 47	-1	-1	662	-49.69	27.69	-0.03
166	SLU 48	-1	-3	655	-49.16	27.39	0.06
166	SLU 49	-1	-2	664	-49.82	27.76	0
166	SLU 50	-1	-3	652	-48.93	27.27	0.06
166	SLU 51	-1	-2	661	-49.59	27.63	0
166	SLU 52	-1	-2	729	-54.64	30.45	0
166	SLU 53	-1	-4	722	-54.12	30.15	0.09
166	SLU 54	-1	-2	730	-54.78	30.52	0.03
166	SLU 55	-1	-2	733	-54.99	30.64	-0.01
166	SLU 56	-1	-4	726	-54.46	30.35	0.09
166	SLU 57	-1	-2	735	-55.12	30.72	0.03
166	SLU 58	-1	-4	723	-54.23	30.22	0.09
166	SLU 59	-1	-2	732	-54.89	30.59	0.03
166	SLU 60	-1	-4	744	-55.81	31.1	0.1
166	SLU 61	-1	-2	753	-56.47	31.47	0.05
166	SLU 62	-1	-4	749	-56.16	31.29	0.1
166	SLU 63	-1	-3	758	-56.82	31.66	0.04
166	SLU 64	-1	-3	712	-53.37	29.74	0.06
166	SLU 65	-1	-1	726	-54.47	30.35	-0.04
166	SLU 66	-1	-4	719	-53.95	30.06	0.06
166	SLU 67	-1	-2	728	-54.61	30.43	0
166	SLU 68	-1	-1	731	-54.82	30.55	-0.04
166	SLU 69	-1	-4	724	-54.3	30.25	0.05
166	SLU 70	-1	-2	733	-54.96	30.62	0
166	SLU 71	-1	-4	721	-54.07	30.13	0.06
166	SLU 72	-1	-2	730	-54.73	30.49	0
166	SLU 73	-1	-2	797	-59.77	33.31	-0.01
166	SLU 74	-1	-4	790	-59.25	33.01	0.08
166	SLU 75	-1	-3	799	-59.91	33.38	0.02
166	SLU 76	-1	-2	802	-60.12	33.5	-0.01
166	SLU 77	-1	-4	795	-59.6	33.21	0.08
166	SLU 78	-1	-3	803	-60.26	33.58	0.02
166	SLU 79	-1	-4	792	-59.37	33.08	0.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
166	SLU 80	-1	-3	800	-60.03	33.45	0.02
166	SLU 81	-1	-4	813	-60.94	33.96	0.1
166	SLU 82	-1	-3	821	-61.6	34.33	0.04
166	SLU 83	-1	-4	817	-61.29	34.15	0.09
166	SLU 84	-1	-3	826	-61.95	34.52	0.04
166	SLE RA 1	-1	-3	532	-39.93	22.25	0.05
166	SLE RA 2	-1	-1	542	-40.66	22.66	-0.02
166	SLE RA 3	-1	-3	537	-40.31	22.46	0.05
166	SLE RA 4	-1	-2	543	-40.75	22.71	0.01
166	SLE RA 5	-1	-1	545	-40.89	22.79	-0.02
166	SLE RA 6	-1	-3	541	-40.54	22.59	0.04
166	SLE RA 7	-1	-2	546	-40.98	22.84	0.01
166	SLE RA 8	-1	-3	539	-40.39	22.51	0.04
166	SLE RA 9	-1	-2	544	-40.83	22.75	0.01
166	SLE RA 10	-1	-1	589	-44.19	24.63	0
166	SLE RA 11	-1	-3	585	-43.84	24.43	0.06
166	SLE RA 12	-1	-2	590	-44.29	24.68	0.02
166	SLE RA 13	-1	-1	592	-44.43	24.75	0
166	SLE RA 14	-1	-3	588	-44.08	24.56	0.06
166	SLE RA 15	-1	-2	594	-44.52	24.81	0.02
166	SLE RA 16	-1	-3	586	-43.92	24.48	0.06
166	SLE RA 17	-1	-2	592	-44.36	24.72	0.02
166	SLE RA 18	-1	-3	600	-44.97	25.06	0.07
166	SLE RA 19	-1	-2	606	-45.41	25.31	0.03
166	SLE RA 20	-1	-3	603	-45.21	25.19	0.07
166	SLE RA 21	-1	-2	609	-45.65	25.44	0.03
166	SLE FR 1	-1	-3	532	-39.93	22.25	0.05
166	SLE FR 2	-1	-2	534	-40.07	22.33	0.03
166	SLE FR 3	-1	-3	534	-40.02	22.3	0.05
166	SLE FR 4	-1	-2	554	-41.59	23.17	0.04
166	SLE FR 5	-1	-3	554	-41.53	23.14	0.05
166	SLE FR 6	-1	-3	566	-42.45	23.65	0.06
166	SLE QP 1	-1	-3	532	-39.93	22.25	0.05
166	SLE QP 2	-1	-3	553	-41.44	23.09	0.05
166	SLD 1	40	9	681	-51.08	28.46	2.65
166	SLD 2	49	7	677	-50.81	28.31	3.43
166	SLD 3	41	-17	461	-34.61	19.28	3.79
166	SLD 4	51	-19	458	-34.34	19.13	4.58
166	SLD 5	8	40	925	-69.36	38.65	-1.04
166	SLD 6	14	39	923	-69.19	38.55	-0.54
166	SLD 7	12	-46	193	-14.45	8.05	2.78
166	SLD 8	18	-47	190	-14.28	7.96	3.29
166	SLD 9	-20	42	915	-68.6	38.23	-3.18
166	SLD 10	-14	40	912	-68.43	38.13	-2.67
166	SLD 11	-16	-44	183	-13.69	7.63	0.65
166	SLD 12	-10	-46	180	-13.52	7.53	1.15
166	SLD 13	-52	14	647	-48.54	27.05	-4.47
166	SLD 14	-43	12	644	-48.27	26.9	-3.69
166	SLD 15	-51	-12	428	-32.07	17.87	-3.32
166	SLD 16	-42	-14	424	-31.8	17.72	-2.54
166	SLV 1	63	17	769	-57.69	32.14	4.02
166	SLV 2	78	14	764	-57.26	31.91	5.26
166	SLV 3	65	-27	394	-29.58	16.48	5.98
166	SLV 4	80	-30	389	-29.16	16.25	7.21
166	SLV 5	13	70	1187	-89.02	49.6	-1.95
166	SLV 6	22	68	1183	-88.74	49.44	-1.12
166	SLV 7	19	-76	-62	4.67	-2.6	4.57
166	SLV 8	29	-78	-66	4.95	-2.76	5.4
166	SLV 9	-31	73	1171	-87.83	48.94	-5.29
166	SLV 10	-21	70	1167	-87.55	48.78	-4.46
166	SLV 11	-24	-73	-78	5.86	-3.26	1.23
166	SLV 12	-14	-76	-82	6.14	-3.42	2.06
166	SLV 13	-81	25	716	-53.72	29.93	-7.1
166	SLV 14	-67	21	711	-53.3	29.7	-5.87
166	SLV 15	-79	-19	342	-25.62	14.27	-5.15
166	SLV 16	-65	-22	336	-25.19	14.04	-3.91
166	SLV FO 1	69	19	791	-59.31	33.05	4.42
166	SLV FO 2	86	15	785	-58.85	32.79	5.78
166	SLV FO 3	72	-29	379	-28.4	15.82	6.57
166	SLV FO 4	88	-33	372	-27.93	15.56	7.93
166	SLV FO 5	14	78	1250	-93.78	52.26	-2.15
166	SLV FO 6	25	75	1246	-93.47	52.08	-1.24
166	SLV FO 7	21	-83	-124	9.28	-5.17	5.02
166	SLV FO 8	32	-86	-128	9.59	-5.34	5.93
166	SLV FO 9	-34	80	1233	-92.47	51.53	-5.82
166	SLV FO 10	-23	78	1229	-92.16	51.35	-4.91
166	SLV FO 11	-26	-81	-141	10.59	-5.9	1.35
166	SLV FO 12	-15	-83	-145	10.9	-6.07	2.26
166	SLV FO 13	-89	28	733	-54.95	30.62	-7.82
166	SLV FO 14	-73	24	726	-54.48	30.36	-6.46
166	SLV FO 15	-87	-21	320	-24.03	13.39	-5.67
166	SLV FO 16	-71	-24	314	-23.57	13.13	-4.31
166	CRTFP Ux+	0	0	0	0	0	0
166	CRTFP Ux-	0	0	0	0	0	0
166	CRTFP Uy+	0	0	0	0	0	0
166	CRTFP Uy-	0	0	0	0	0	0
167	SLU 1	-1	-2	519	-38.95	14.47	-0.02
167	SLU 2	-1	1	534	-40.06	14.88	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
167	SLU 3	-1	-2	527	-39.54	14.69	-0.03
167	SLU 4	-1	0	536	-40.2	14.93	-0.07
167	SLU 5	-1	1	539	-40.41	15.01	-0.1
167	SLU 6	-1	-2	532	-39.89	14.82	-0.03
167	SLU 7	-1	0	541	-40.56	15.07	-0.07
167	SLU 8	-1	-2	529	-39.66	14.73	-0.03
167	SLU 9	-1	0	538	-40.32	14.98	-0.07
167	SLU 10	-1	0	606	-45.45	16.88	-0.08
167	SLU 11	-1	-2	599	-44.93	16.69	-0.01
167	SLU 12	-1	0	608	-45.6	16.94	-0.05
167	SLU 13	-1	0	611	-45.81	17.02	-0.08
167	SLU 14	-1	-2	604	-45.29	16.82	-0.01
167	SLU 15	-1	0	613	-45.95	17.07	-0.05
167	SLU 16	-1	-2	601	-45.05	16.74	-0.01
167	SLU 17	-1	0	610	-45.72	16.98	-0.05
167	SLU 18	-1	-2	622	-46.65	17.33	0
167	SLU 19	-1	0	631	-47.32	17.58	-0.04
167	SLU 20	-1	-2	627	-47.01	17.46	0
167	SLU 21	-1	-1	636	-47.67	17.71	-0.04
167	SLU 22	-1	-2	589	-44.15	16.4	-0.04
167	SLU 23	-1	1	604	-45.26	16.81	-0.11
167	SLU 24	-1	-2	597	-44.74	16.62	-0.04
167	SLU 25	-1	0	605	-45.41	16.87	-0.08
167	SLU 26	-1	1	608	-45.62	16.95	-0.11
167	SLU 27	-1	-2	601	-45.1	16.75	-0.04
167	SLU 28	-1	0	610	-45.76	17	-0.09
167	SLU 29	-1	-2	598	-44.86	16.67	-0.04
167	SLU 30	-1	0	607	-45.53	16.91	-0.09
167	SLU 31	-1	0	675	-50.66	18.82	-0.09
167	SLU 32	-1	-2	668	-50.14	18.62	-0.02
167	SLU 33	-1	0	677	-50.8	18.87	-0.07
167	SLU 34	-1	0	680	-51.01	18.95	-0.09
167	SLU 35	-1	-2	673	-50.49	18.76	-0.03
167	SLU 36	-1	0	682	-51.16	19	-0.07
167	SLU 37	-1	-2	670	-50.26	18.67	-0.03
167	SLU 38	-1	0	679	-50.92	18.92	-0.07
167	SLU 39	-1	-2	691	-51.86	19.26	-0.01
167	SLU 40	-1	0	700	-52.52	19.51	-0.06
167	SLU 41	-1	-2	696	-52.21	19.4	-0.02
167	SLU 42	-1	-1	705	-52.88	19.64	-0.06
167	SLU 43	-1	-2	651	-48.85	18.15	-0.02
167	SLU 44	-1	0	666	-49.96	18.56	-0.09
167	SLU 45	-1	-2	659	-49.44	18.37	-0.03
167	SLU 46	-1	-1	668	-50.1	18.61	-0.07
167	SLU 47	-1	0	671	-50.31	18.69	-0.1
167	SLU 48	-1	-2	664	-49.79	18.5	-0.03
167	SLU 49	-1	-1	673	-50.46	18.74	-0.07
167	SLU 50	-1	-2	661	-49.56	18.41	-0.03
167	SLU 51	-1	-1	670	-50.22	18.66	-0.07
167	SLU 52	-1	0	738	-55.35	20.56	-0.08
167	SLU 53	-1	-2	731	-54.83	20.37	-0.01
167	SLU 54	-1	-1	740	-55.5	20.62	-0.05
167	SLU 55	-1	0	743	-55.71	20.69	-0.08
167	SLU 56	-1	-2	736	-55.19	20.5	-0.01
167	SLU 57	-1	-1	745	-55.85	20.75	-0.06
167	SLU 58	-1	-2	733	-54.95	20.41	-0.01
167	SLU 59	-1	-1	742	-55.62	20.66	-0.06
167	SLU 60	-1	-2	754	-56.56	21.01	0
167	SLU 61	-1	-1	763	-57.22	21.26	-0.04
167	SLU 62	-1	-2	759	-56.91	21.14	0
167	SLU 63	-1	-1	768	-57.57	21.39	-0.05
167	SLU 64	-1	-2	721	-54.06	20.08	-0.04
167	SLU 65	-1	0	736	-55.16	20.49	-0.11
167	SLU 66	-1	-2	729	-54.64	20.3	-0.04
167	SLU 67	-1	-1	737	-55.31	20.55	-0.08
167	SLU 68	-1	0	740	-55.52	20.62	-0.11
167	SLU 69	-1	-2	733	-55	20.43	-0.05
167	SLU 70	-1	-1	742	-55.66	20.68	-0.09
167	SLU 71	-1	-2	730	-54.76	20.34	-0.05
167	SLU 72	-1	-1	739	-55.43	20.59	-0.09
167	SLU 73	-1	0	807	-60.56	22.5	-0.09
167	SLU 74	-1	-2	800	-60.04	22.3	-0.03
167	SLU 75	-1	-1	809	-60.7	22.55	-0.07
167	SLU 76	-1	0	812	-60.91	22.63	-0.1
167	SLU 77	-1	-2	805	-60.39	22.43	-0.03
167	SLU 78	-1	-1	814	-61.06	22.68	-0.07
167	SLU 79	-1	-2	802	-60.16	22.35	-0.03
167	SLU 80	-1	-1	811	-60.82	22.59	-0.07
167	SLU 81	-1	-2	823	-61.76	22.94	-0.02
167	SLU 82	-1	-1	832	-62.43	23.19	-0.06
167	SLU 83	-1	-2	828	-62.11	23.07	-0.02
167	SLU 84	-1	-1	837	-62.78	23.32	-0.06
167	SLE RA 1	-1	-2	539	-40.44	15.02	-0.03
167	SLE RA 2	-1	0	549	-41.18	15.3	-0.07
167	SLE RA 3	-1	-2	544	-40.83	15.17	-0.03
167	SLE RA 4	-1	-1	550	-41.27	15.33	-0.06
167	SLE RA 5	-1	0	552	-41.41	15.38	-0.08
167	SLE RA 6	-1	-2	548	-41.07	15.25	-0.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
167	SLE RA 7	-1	-1	553	-41.51	15.42	-0.06
167	SLE RA 8	-1	-2	545	-40.91	15.2	-0.03
167	SLE RA 9	-1	-1	551	-41.35	15.36	-0.06
167	SLE RA 10	-1	0	597	-44.77	16.63	-0.06
167	SLE RA 11	-1	-2	592	-44.42	16.5	-0.02
167	SLE RA 12	-1	-1	598	-44.87	16.67	-0.05
167	SLE RA 13	-1	0	600	-45.01	16.72	-0.06
167	SLE RA 14	-1	-2	595	-44.66	16.59	-0.02
167	SLE RA 15	-1	-1	601	-45.1	16.76	-0.05
167	SLE RA 16	-1	-2	593	-44.5	16.53	-0.02
167	SLE RA 17	-1	-1	599	-44.95	16.7	-0.05
167	SLE RA 18	-1	-2	608	-45.57	16.93	-0.01
167	SLE RA 19	-1	-1	614	-46.02	17.09	-0.04
167	SLE RA 20	-1	-2	611	-45.81	17.02	-0.01
167	SLE RA 21	-1	-1	617	-46.25	17.18	-0.04
167	SLE FR 1	-1	-2	539	-40.44	15.02	-0.03
167	SLE FR 2	-1	-1	541	-40.58	15.08	-0.04
167	SLE FR 3	-1	-2	540	-40.53	15.06	-0.03
167	SLE FR 4	-1	-1	562	-42.13	15.65	-0.03
167	SLE FR 5	-1	-2	561	-42.07	15.63	-0.02
167	SLE FR 6	-1	-2	573	-43.01	15.98	-0.02
167	SLE QP 1	-1	-2	539	-40.44	15.02	-0.03
167	SLE QP 2	-1	-2	560	-41.98	15.59	-0.02
167	SLD 1	40	11	685	-51.36	19.08	2.73
167	SLD 2	50	9	682	-51.12	18.99	3.48
167	SLD 3	41	-16	463	-34.73	12.9	3.53
167	SLD 4	51	-17	460	-34.48	12.81	4.28
167	SLD 5	8	43	934	-70.07	26.03	-0.54
167	SLD 6	14	41	932	-69.91	25.97	-0.06
167	SLD 7	12	-46	195	-14.61	5.43	2.13
167	SLD 8	18	-47	193	-14.45	5.37	2.61
167	SLD 9	-20	44	927	-69.5	25.82	-2.66
167	SLD 10	-14	43	925	-69.34	25.76	-2.18
167	SLD 11	-16	-45	187	-14.05	5.22	0.02
167	SLD 12	-10	-46	185	-13.89	5.16	0.5
167	SLD 13	-53	14	660	-49.48	18.38	-4.32
167	SLD 14	-43	13	656	-49.23	18.29	-3.58
167	SLD 15	-51	-12	438	-32.84	12.2	-3.52
167	SLD 16	-42	-14	435	-32.59	12.11	-2.77
167	SLV 1	63	20	771	-57.85	21.49	4.22
167	SLV 2	78	17	766	-57.46	21.34	5.4
167	SLV 3	65	-26	393	-29.46	10.94	5.59
167	SLV 4	80	-28	388	-29.07	10.8	6.76
167	SLV 5	13	74	1198	-89.86	33.38	-1.04
167	SLV 6	23	72	1195	-89.6	33.28	-0.25
167	SLV 7	19	-77	-63	4.76	-1.77	3.52
167	SLV 8	29	-79	-67	5.02	-1.86	4.31
167	SLV 9	-31	75	1186	-88.97	33.05	-4.35
167	SLV 10	-21	74	1183	-88.71	32.95	-3.56
167	SLV 11	-24	-75	-75	5.64	-2.1	0.21
167	SLV 12	-15	-77	-79	5.91	-2.19	1
167	SLV 13	-82	25	732	-54.88	20.39	-6.81
167	SLV 14	-67	22	727	-54.49	20.24	-5.63
167	SLV 15	-80	-20	353	-26.5	9.84	-5.44
167	SLV 16	-65	-23	348	-26.11	9.7	-4.26
167	SLV FO 1	70	22	792	-59.43	22.08	4.65
167	SLV FO 2	86	19	787	-59	21.92	5.94
167	SLV FO 3	72	-28	376	-28.21	10.48	6.15
167	SLV FO 4	88	-31	370	-27.78	10.32	7.44
167	SLV FO 5	14	81	1262	-94.65	35.16	-1.14
167	SLV FO 6	25	79	1258	-94.36	35.05	-0.27
167	SLV FO 7	21	-84	-126	9.43	-3.5	3.87
167	SLV FO 8	32	-86	-130	9.72	-3.61	4.74
167	SLV FO 9	-34	83	1249	-93.67	34.8	-4.78
167	SLV FO 10	-23	81	1245	-93.38	34.69	-3.91
167	SLV FO 11	-27	-82	-139	10.41	-3.87	0.23
167	SLV FO 12	-16	-84	-143	10.7	-3.97	1.1
167	SLV FO 13	-90	28	749	-56.18	20.87	-7.49
167	SLV FO 14	-74	25	743	-55.75	20.71	-6.19
167	SLV FO 15	-88	-22	333	-24.95	9.27	-5.98
167	SLV FO 16	-72	-25	327	-24.52	9.11	-4.69
167	CRTFP Ux+	0	0	0	0	0	0
167	CRTFP Ux-	0	0	0	0	0	0
167	CRTFP Uy+	0	0	0	0	0	0
167	CRTFP Uy-	0	0	0	0	0	0
168	SLU 1	-1	0	526	-39.46	7.33	-0.07
168	SLU 2	-1	2	541	-40.57	7.54	-0.11
168	SLU 3	-1	0	534	-40.06	7.44	-0.07
168	SLU 4	-1	1	543	-40.73	7.56	-0.1
168	SLU 5	-1	2	546	-40.93	7.6	-0.11
168	SLU 6	-1	0	539	-40.41	7.51	-0.08
168	SLU 7	-1	1	548	-41.08	7.63	-0.1
168	SLU 8	-1	0	536	-40.18	7.46	-0.08
168	SLU 9	-1	1	545	-40.85	7.59	-0.1
168	SLU 10	-1	2	614	-46.06	8.56	-0.1
168	SLU 11	-1	0	607	-45.54	8.46	-0.07
168	SLU 12	-1	1	616	-46.21	8.58	-0.09
168	SLU 13	-1	2	619	-46.42	8.62	-0.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
168	SLU 14	-1	0	612	-45.9	8.53	-0.07
168	SLU 15	-1	1	621	-46.57	8.65	-0.1
168	SLU 16	-1	-1	609	-45.66	8.48	-0.07
168	SLU 17	-1	1	618	-46.33	8.61	-0.09
168	SLU 18	-1	0	631	-47.3	8.78	-0.06
168	SLU 19	-1	1	640	-47.97	8.91	-0.08
168	SLU 20	-1	-1	635	-47.66	8.85	-0.06
168	SLU 21	-1	1	644	-48.33	8.98	-0.09
168	SLU 22	-1	0	596	-44.74	8.31	-0.09
168	SLU 23	-1	2	611	-45.85	8.52	-0.13
168	SLU 24	-1	0	604	-45.33	8.42	-0.09
168	SLU 25	-1	1	613	-46	8.54	-0.12
168	SLU 26	-1	2	616	-46.21	8.58	-0.13
168	SLU 27	-1	0	609	-45.69	8.49	-0.1
168	SLU 28	-1	1	618	-46.36	8.61	-0.12
168	SLU 29	-1	0	606	-45.45	8.44	-0.1
168	SLU 30	-1	1	615	-46.12	8.57	-0.12
168	SLU 31	-1	2	685	-51.34	9.54	-0.12
168	SLU 32	-1	0	678	-50.82	9.44	-0.09
168	SLU 33	-1	1	687	-51.49	9.56	-0.11
168	SLU 34	-1	2	689	-51.7	9.6	-0.13
168	SLU 35	-1	0	682	-51.18	9.51	-0.09
168	SLU 36	-1	1	691	-51.85	9.63	-0.11
168	SLU 37	-1	0	679	-50.94	9.46	-0.09
168	SLU 38	-1	1	688	-51.61	9.59	-0.11
168	SLU 39	-1	0	701	-52.58	9.77	-0.08
168	SLU 40	-1	1	710	-53.25	9.89	-0.1
168	SLU 41	-1	0	706	-52.94	9.83	-0.08
168	SLU 42	-1	1	715	-53.6	9.96	-0.11
168	SLU 43	-1	-1	660	-49.49	9.19	-0.08
168	SLU 44	-1	2	675	-50.6	9.4	-0.12
168	SLU 45	-1	-1	668	-50.08	9.3	-0.09
168	SLU 46	-1	1	677	-50.75	9.43	-0.11
168	SLU 47	-1	2	679	-50.96	9.47	-0.13
168	SLU 48	-1	-1	673	-50.44	9.37	-0.09
168	SLU 49	-1	1	681	-51.11	9.49	-0.12
168	SLU 50	-1	-1	669	-50.2	9.32	-0.09
168	SLU 51	-1	1	678	-50.87	9.45	-0.12
168	SLU 52	-1	2	748	-56.09	10.42	-0.12
168	SLU 53	-1	-1	741	-55.57	10.32	-0.08
168	SLU 54	-1	1	750	-56.24	10.45	-0.11
168	SLU 55	-1	2	753	-56.45	10.48	-0.12
168	SLU 56	-1	-1	746	-55.93	10.39	-0.09
168	SLU 57	-1	1	755	-56.6	10.51	-0.11
168	SLU 58	-1	-1	743	-55.69	10.34	-0.09
168	SLU 59	-1	1	751	-56.36	10.47	-0.11
168	SLU 60	-1	-1	764	-57.32	10.65	-0.07
168	SLU 61	-1	1	773	-57.99	10.77	-0.1
168	SLU 62	-1	-1	769	-57.68	10.71	-0.08
168	SLU 63	-1	1	778	-58.35	10.84	-0.1
168	SLU 64	-1	0	730	-54.76	10.17	-0.1
168	SLU 65	-2	2	745	-55.88	10.38	-0.14
168	SLU 66	-2	0	738	-55.36	10.28	-0.11
168	SLU 67	-2	1	747	-56.03	10.41	-0.13
168	SLU 68	-2	2	750	-56.24	10.45	-0.15
168	SLU 69	-2	0	743	-55.72	10.35	-0.11
168	SLU 70	-2	1	752	-56.39	10.47	-0.14
168	SLU 71	-2	0	740	-55.48	10.31	-0.11
168	SLU 72	-2	1	749	-56.15	10.43	-0.14
168	SLU 73	-1	2	818	-61.37	11.4	-0.14
168	SLU 74	-1	0	811	-60.85	11.3	-0.1
168	SLU 75	-2	1	820	-61.52	11.43	-0.12
168	SLU 76	-2	2	823	-61.73	11.47	-0.14
168	SLU 77	-1	-1	816	-61.21	11.37	-0.11
168	SLU 78	-2	1	825	-61.88	11.49	-0.13
168	SLU 79	-1	-1	813	-60.97	11.32	-0.1
168	SLU 80	-2	1	822	-61.64	11.45	-0.13
168	SLU 81	-1	-1	835	-62.6	11.63	-0.09
168	SLU 82	-1	1	844	-63.27	11.75	-0.12
168	SLU 83	-1	-1	840	-62.96	11.69	-0.1
168	SLU 84	-1	1	848	-63.63	11.82	-0.12
168	SLE RA 1	-1	0	546	-40.97	7.61	-0.08
168	SLE RA 2	-1	1	556	-41.71	7.75	-0.1
168	SLE RA 3	-1	0	552	-41.36	7.68	-0.08
168	SLE RA 4	-1	1	557	-41.81	7.77	-0.09
168	SLE RA 5	-1	1	559	-41.95	7.79	-0.1
168	SLE RA 6	-1	0	555	-41.6	7.73	-0.08
168	SLE RA 7	-1	1	561	-42.05	7.81	-0.1
168	SLE RA 8	-1	0	553	-41.45	7.7	-0.08
168	SLE RA 9	-1	0	559	-41.89	7.78	-0.1
168	SLE RA 10	-1	1	605	-45.37	8.43	-0.1
168	SLE RA 11	-1	0	600	-45.02	8.36	-0.07
168	SLE RA 12	-1	0	606	-45.47	8.45	-0.09
168	SLE RA 13	-1	1	608	-45.61	8.47	-0.1
168	SLE RA 14	-1	0	603	-45.26	8.41	-0.08
168	SLE RA 15	-1	0	609	-45.71	8.49	-0.09
168	SLE RA 16	-1	0	601	-45.1	8.38	-0.08
168	SLE RA 17	-1	0	607	-45.55	8.46	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
168	SLE RA 18	-1	0	616	-46.19	8.58	-0.07
168	SLE RA 19	-1	0	622	-46.64	8.66	-0.08
168	SLE RA 20	-1	0	619	-46.43	8.62	-0.07
168	SLE RA 21	-1	0	625	-46.88	8.71	-0.09
168	SLE FR 1	-1	0	546	-40.97	7.61	-0.08
168	SLE FR 2	-1	0	548	-41.11	7.64	-0.08
168	SLE FR 3	-1	0	547	-41.06	7.63	-0.08
168	SLE FR 4	-1	0	569	-42.68	7.93	-0.08
168	SLE FR 5	-1	0	568	-42.63	7.92	-0.07
168	SLE FR 6	-1	0	581	-43.58	8.09	-0.07
168	SLE QP 1	-1	0	546	-40.97	7.61	-0.08
168	SLE QP 2	-1	0	567	-42.53	7.9	-0.07
168	SLD 1	41	13	689	-51.71	9.6	2.87
168	SLD 2	50	11	686	-51.48	9.56	3.59
168	SLD 3	42	-15	465	-34.9	6.48	3.3
168	SLD 4	51	-16	462	-34.67	6.44	4.02
168	SLD 5	8	45	944	-70.82	13.15	0.03
168	SLD 6	14	44	942	-70.68	13.13	0.49
168	SLD 7	12	-46	197	-14.78	2.75	1.48
168	SLD 8	18	-47	195	-14.64	2.72	1.94
168	SLD 9	-20	46	939	-70.43	13.08	-2.09
168	SLD 10	-14	45	937	-70.28	13.05	-1.62
168	SLD 11	-16	-45	192	-14.39	2.67	-0.63
168	SLD 12	-10	-46	190	-14.24	2.65	-0.17
168	SLD 13	-53	15	672	-50.4	9.36	-4.17
168	SLD 14	-44	14	669	-50.17	9.32	-3.45
168	SLD 15	-52	-12	448	-33.59	6.24	-3.73
168	SLD 16	-43	-14	445	-33.36	6.2	-3.01
168	SLV 1	64	22	774	-58.09	10.79	4.49
168	SLV 2	79	20	770	-57.73	10.72	5.62
168	SLV 3	66	-24	392	-29.4	5.46	5.23
168	SLV 4	80	-27	387	-29.04	5.39	6.37
168	SLV 5	13	77	1210	-90.77	16.86	-0.04
168	SLV 6	23	76	1207	-90.53	16.82	0.72
168	SLV 7	19	-78	-65	4.84	-0.9	2.43
168	SLV 8	29	-79	-68	5.09	-0.94	3.19
168	SLV 9	-31	79	1202	-90.15	16.74	-3.34
168	SLV 10	-21	77	1199	-89.91	16.7	-2.58
168	SLV 11	-25	-77	-73	5.46	-1.01	-0.87
168	SLV 12	-15	-78	-76	5.7	-1.06	-0.11
168	SLV 13	-82	26	747	-56.02	10.41	-6.51
168	SLV 14	-68	24	742	-55.67	10.34	-5.38
168	SLV 15	-81	-21	365	-27.34	5.08	-5.77
168	SLV 16	-66	-23	360	-26.98	5.01	-4.64
168	SLV FO 1	70	24	795	-59.64	11.08	4.95
168	SLV FO 2	87	22	790	-59.25	11	6.19
168	SLV FO 3	72	-27	375	-28.09	5.22	5.76
168	SLV FO 4	88	-29	369	-27.7	5.14	7.01
168	SLV FO 5	15	85	1275	-95.59	17.76	-0.04
168	SLV FO 6	25	84	1271	-95.33	17.71	0.8
168	SLV FO 7	21	-86	-128	9.58	-1.78	2.68
168	SLV FO 8	32	-87	-131	9.85	-1.83	3.52
168	SLV FO 9	-34	86	1266	-94.91	17.63	-3.67
168	SLV FO 10	-23	85	1262	-94.65	17.58	-2.83
168	SLV FO 11	-27	-84	-137	10.26	-1.91	-0.95
168	SLV FO 12	-17	-86	-140	10.53	-1.96	-0.11
168	SLV FO 13	-91	29	765	-57.37	10.66	-7.16
168	SLV FO 14	-74	26	760	-56.98	10.58	-5.91
168	SLV FO 15	-89	-23	344	-25.82	4.8	-6.34
168	SLV FO 16	-72	-25	339	-25.43	4.72	-5.1
168	CRTFP Ux+	0	0	0	0	0	0
168	CRTFP Ux-	0	0	0	0	0	0
168	CRTFP Uy+	0	0	0	0	0	0
168	CRTFP Uy-	0	0	0	0	0	0
169	SLU 1	-5	1	2935	845.78	-310.3	1.5
169	SLU 2	-5	15	3011	865.34	-318.3	3.09
169	SLU 3	-5	1	2981	859.41	-315.13	1.64
169	SLU 4	-6	10	3026	871.14	-319.94	2.6
169	SLU 5	-6	15	3039	873.65	-321.23	3.21
169	SLU 6	-6	1	3008	867.72	-318.06	1.76
169	SLU 7	-6	9	3054	879.45	-322.86	2.72
169	SLU 8	-6	1	2990	862.4	-316.14	1.74
169	SLU 9	-6	9	3036	874.13	-320.95	2.7
169	SLU 10	-6	15	3419	982.41	-361.41	3.46
169	SLU 11	-6	1	3389	976.48	-358.24	2.01
169	SLU 12	-7	9	3434	988.22	-363.04	2.96
169	SLU 13	-7	15	3447	990.72	-364.34	3.58
169	SLU 14	-7	1	3416	984.79	-361.16	2.13
169	SLU 15	-7	9	3462	996.52	-365.97	3.08
169	SLU 16	-7	1	3398	979.47	-359.25	2.11
169	SLU 17	-7	9	3444	991.2	-364.06	3.06
169	SLU 18	-6	1	3518	1013.02	-371.88	2.02
169	SLU 19	-7	9	3564	1024.76	-376.68	2.98
169	SLU 20	-7	1	3545	1021.33	-374.8	2.15
169	SLU 21	-7	9	3591	1033.07	-379.61	3.1
169	SLU 22	-6	3	3330	960.48	-352.03	1.97
169	SLU 23	-6	16	3406	980.03	-360.04	3.56
169	SLU 24	-6	3	3375	974.11	-356.87	2.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
169	SLU 25	-7	11	3421	985.84	-361.67	3.07
169	SLU 26	-7	16	3434	988.34	-362.96	3.68
169	SLU 27	-7	3	3403	982.42	-359.79	2.23
169	SLU 28	-7	11	3449	994.15	-364.6	3.19
169	SLU 29	-7	2	3385	977.09	-357.88	2.21
169	SLU 30	-7	11	3431	988.83	-362.69	3.17
169	SLU 31	-8	16	3814	1097.1	-403.15	3.93
169	SLU 32	-8	3	3783	1091.18	-399.98	2.48
169	SLU 33	-8	11	3829	1102.91	-404.78	3.43
169	SLU 34	-8	16	3842	1105.41	-406.07	4.05
169	SLU 35	-8	2	3811	1099.49	-402.9	2.6
169	SLU 36	-8	11	3857	1111.22	-407.71	3.55
169	SLU 37	-8	2	3793	1094.17	-400.99	2.58
169	SLU 38	-8	10	3839	1105.9	-405.79	3.53
169	SLU 39	-8	2	3912	1127.72	-413.62	2.49
169	SLU 40	-8	11	3958	1139.45	-418.42	3.45
169	SLU 41	-8	2	3940	1136.03	-416.54	2.62
169	SLU 42	-8	10	3986	1147.76	-421.35	3.57
169	SLU 43	-6	1	3680	1060.19	-389.07	1.79
169	SLU 44	-6	15	3756	1079.74	-397.08	3.38
169	SLU 45	-6	1	3726	1073.82	-393.91	1.93
169	SLU 46	-7	9	3772	1085.55	-398.72	2.89
169	SLU 47	-7	15	3784	1088.05	-400.01	3.5
169	SLU 48	-7	1	3753	1082.13	-396.84	2.05
169	SLU 49	-7	9	3799	1093.86	-401.64	3.01
169	SLU 50	-7	1	3735	1076.8	-394.92	2.03
169	SLU 51	-7	9	3781	1088.54	-399.73	2.99
169	SLU 52	-8	15	4164	1196.81	-440.19	3.75
169	SLU 53	-8	1	4134	1190.89	-437.02	2.3
169	SLU 54	-8	9	4180	1202.62	-441.82	3.25
169	SLU 55	-8	14	4192	1205.12	-443.11	3.87
169	SLU 56	-8	1	4161	1199.2	-439.94	2.42
169	SLU 57	-8	9	4207	1210.93	-444.75	3.37
169	SLU 58	-8	1	4143	1193.88	-438.03	2.4
169	SLU 59	-8	9	4189	1205.61	-442.84	3.35
169	SLU 60	-8	1	4263	1227.43	-450.66	2.31
169	SLU 61	-8	9	4309	1239.16	-455.46	3.27
169	SLU 62	-8	1	4290	1235.74	-453.58	2.43
169	SLU 63	-8	9	4336	1247.47	-458.39	3.39
169	SLU 64	-7	3	4075	1174.88	-430.81	2.26
169	SLU 65	-7	16	4151	1194.44	-438.82	3.85
169	SLU 66	-7	3	4120	1188.52	-435.65	2.4
169	SLU 67	-8	11	4166	1200.25	-440.45	3.36
169	SLU 68	-8	16	4179	1202.75	-441.74	3.97
169	SLU 69	-8	3	4148	1196.82	-438.57	2.52
169	SLU 70	-8	11	4194	1208.56	-443.38	3.48
169	SLU 71	-8	2	4130	1191.5	-436.66	2.5
169	SLU 72	-8	11	4176	1203.24	-441.46	3.46
169	SLU 73	-9	16	4559	1311.51	-481.93	4.22
169	SLU 74	-9	2	4528	1305.59	-478.76	2.77
169	SLU 75	-9	11	4574	1317.32	-483.56	3.72
169	SLU 76	-9	16	4587	1319.82	-484.85	4.34
169	SLU 77	-9	2	4556	1313.9	-481.68	2.89
169	SLU 78	-9	11	4602	1325.63	-486.49	3.84
169	SLU 79	-9	2	4538	1308.57	-479.77	2.87
169	SLU 80	-9	10	4584	1320.31	-484.57	3.82
169	SLU 81	-9	2	4658	1342.13	-492.4	2.78
169	SLU 82	-9	11	4703	1353.86	-497.2	3.74
169	SLU 83	-9	2	4685	1350.44	-495.32	2.91
169	SLU 84	-9	10	4731	1362.17	-500.12	3.86
169	SLE RA 1	-5	2	3048	878.55	-322.22	1.64
169	SLE RA 2	-5	11	3099	891.59	-327.56	2.7
169	SLE RA 3	-5	2	3078	887.64	-325.45	1.73
169	SLE RA 4	-6	7	3109	895.46	-328.65	2.37
169	SLE RA 5	-6	11	3117	897.13	-329.51	2.78
169	SLE RA 6	-6	2	3097	893.18	-327.39	1.81
169	SLE RA 7	-6	7	3127	901	-330.6	2.45
169	SLE RA 8	-6	2	3085	889.63	-326.12	1.8
169	SLE RA 9	-6	7	3115	897.45	-329.32	2.43
169	SLE RA 10	-6	11	3371	969.63	-356.3	2.94
169	SLE RA 11	-6	2	3350	965.68	-354.18	1.97
169	SLE RA 12	-6	7	3381	973.51	-357.39	2.61
169	SLE RA 13	-7	11	3389	975.17	-358.25	3.02
169	SLE RA 14	-7	1	3369	971.22	-356.13	2.05
169	SLE RA 15	-7	7	3399	979.05	-359.34	2.69
169	SLE RA 16	-7	1	3356	967.68	-354.86	2.04
169	SLE RA 17	-7	7	3387	975.5	-358.06	2.68
169	SLE RA 18	-6	1	3436	990.04	-363.28	1.99
169	SLE RA 19	-6	7	3467	997.87	-366.48	2.62
169	SLE RA 20	-7	1	3455	995.58	-365.23	2.07
169	SLE RA 21	-7	7	3485	1003.41	-368.43	2.7
169	SLE FR 1	-5	2	3048	878.55	-322.22	1.64
169	SLE FR 2	-5	4	3058	881.16	-323.29	1.85
169	SLE FR 3	-5	2	3055	880.76	-323	1.67
169	SLE FR 4	-6	3	3174	914.6	-335.61	1.95
169	SLE FR 5	-6	2	3172	914.21	-335.32	1.77
169	SLE FR 6	-6	2	3242	934.3	-342.75	1.81
169	SLE QP 1	-5	2	3048	878.55	-322.22	1.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
169	SLE QP 2	-6	2	3164	912	-334.54	1.74
169	SLD 1	250	95	3776	1069.46	-398.66	-69.79
169	SLD 2	304	89	3764	1066.28	-397.39	-87.5
169	SLD 3	256	-74	2616	769.64	-276.92	-89.14
169	SLD 4	310	-80	2604	766.45	-275.65	-106.85
169	SLD 5	53	287	5110	1414.52	-538.63	12.67
169	SLD 6	88	283	5102	1412.47	-537.81	1.26
169	SLD 7	72	-276	1242	415.1	-132.84	-51.82
169	SLD 8	108	-280	1234	413.05	-132.02	-63.22
169	SLD 9	-119	283	5094	1410.94	-537.06	66.71
169	SLD 10	-83	280	5086	1408.89	-536.24	55.3
169	SLD 11	-99	-280	1227	411.52	-131.27	2.22
169	SLD 12	-64	-284	1219	409.47	-130.45	-9.18
169	SLD 13	-321	84	3725	1057.54	-393.43	110.33
169	SLD 14	-267	78	3712	1054.36	-392.16	92.62
169	SLD 15	-315	-85	2565	757.72	-271.69	90.99
169	SLD 16	-261	-91	2552	754.53	-270.42	73.28
169	SLV 1	393	159	4205	1179.9	-443.59	-108.65
169	SLV 2	479	150	4186	1174.88	-441.59	-136.57
169	SLV 3	403	-129	2226	668.32	-235.88	-141.61
169	SLV 4	489	-138	2206	663.3	-233.88	-169.53
169	SLV 5	83	488	6483	1769.2	-682.66	23.82
169	SLV 6	141	481	6470	1765.82	-681.31	5.03
169	SLV 7	116	-473	-116	63.93	9.72	-86.04
169	SLV 8	174	-479	-130	60.55	11.06	-104.84
169	SLV 9	-185	482	6458	1763.44	-680.14	108.32
169	SLV 10	-127	476	6445	1760.06	-678.79	89.53
169	SLV 11	-152	-478	-141	58.17	12.24	-1.54
169	SLV 12	-94	-484	-154	54.79	13.58	-20.34
169	SLV 13	-500	141	4123	1160.7	-435.2	173.01
169	SLV 14	-414	132	4103	1155.68	-433.2	145.1
169	SLV 15	-490	-147	2143	649.12	-227.48	140.05
169	SLV 16	-404	-156	2123	644.1	-225.48	112.14
169	SLV FO 1	433	175	4310	1206.69	-454.5	-119.69
169	SLV FO 2	528	165	4288	1201.17	-452.3	-150.4
169	SLV FO 3	444	-142	2132	643.95	-226.01	-155.95
169	SLV FO 4	538	-152	2110	638.43	-223.81	-186.66
169	SLV FO 5	92	536	6815	1854.92	-717.47	26.03
169	SLV FO 6	156	529	6800	1851.2	-715.99	5.36
169	SLV FO 7	128	-520	-444	-20.87	44.14	-94.82
169	SLV FO 8	192	-527	-459	-24.59	45.62	-115.49
169	SLV FO 9	-203	530	6788	1848.58	-714.7	118.98
169	SLV FO 10	-139	523	6773	1844.87	-713.22	98.31
169	SLV FO 11	-167	-526	-472	-27.21	46.91	-1.87
169	SLV FO 12	-103	-533	-486	-30.93	48.39	-22.54
169	SLV FO 13	-549	155	4219	1185.57	-445.26	190.14
169	SLV FO 14	-455	145	4197	1180.04	-443.06	159.43
169	SLV FO 15	-539	-162	2041	622.83	-216.78	153.89
169	SLV FO 16	-444	-172	2019	617.31	-214.58	123.18
169	CRTFP Ux+	0	0	0	0	0	0
169	CRTFP Ux-	0	0	0	0	0	0
169	CRTFP Uy+	0	0	0	0	0	0
169	CRTFP Uy-	0	0	0	0	0	0
170	SLU 1	-7	-2	3980	1258.61	-71.47	2.1
170	SLU 2	-7	17	4083	1287.69	-73.31	2.64
170	SLU 3	-7	-2	4042	1278.77	-72.56	2.31
170	SLU 4	-8	9	4103	1296.22	-73.67	2.63
170	SLU 5	-8	16	4120	1299.97	-73.97	2.85
170	SLU 6	-8	-3	4079	1291.05	-73.22	2.52
170	SLU 7	-8	9	4141	1308.5	-74.33	2.84
170	SLU 8	-8	-3	4055	1283.16	-72.78	2.52
170	SLU 9	-8	8	4116	1300.61	-73.89	2.84
170	SLU 10	-9	17	4635	1461.12	-83.17	3.29
170	SLU 11	-9	-2	4594	1452.2	-82.43	2.96
170	SLU 12	-9	9	4655	1469.65	-83.53	3.28
170	SLU 13	-10	16	4672	1473.4	-83.83	3.5
170	SLU 14	-10	-3	4631	1464.47	-83.08	3.17
170	SLU 15	-10	9	4692	1481.93	-84.19	3.49
170	SLU 16	-10	-3	4606	1456.59	-82.65	3.17
170	SLU 17	-10	9	4668	1474.04	-83.75	3.49
170	SLU 18	-9	-2	4768	1506.36	-85.56	3.03
170	SLU 19	-10	9	4830	1523.81	-86.66	3.35
170	SLU 20	-10	-2	4806	1518.64	-86.22	3.24
170	SLU 21	-10	9	4867	1536.09	-87.32	3.56
170	SLU 22	-8	-1	4514	1428.38	-80.98	2.61
170	SLU 23	-9	18	4616	1457.47	-82.83	3.15
170	SLU 24	-9	-1	4575	1448.55	-82.08	2.82
170	SLU 25	-9	10	4637	1466	-83.18	3.15
170	SLU 26	-9	18	4654	1469.75	-83.48	3.36
170	SLU 27	-9	-1	4613	1460.83	-82.74	3.03
170	SLU 28	-10	10	4674	1478.28	-83.84	3.36
170	SLU 29	-9	-2	4588	1452.94	-82.3	3.03
170	SLU 30	-10	10	4650	1470.39	-83.4	3.36
170	SLU 31	-10	18	5168	1630.9	-92.69	3.81
170	SLU 32	-10	-1	5127	1621.97	-91.94	3.48
170	SLU 33	-11	10	5189	1639.43	-93.05	3.8
170	SLU 34	-11	18	5206	1643.17	-93.35	4.02
170	SLU 35	-11	-1	5165	1634.25	-92.6	3.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLU 36	-11	10	5226	1651.7	-93.7	4.01
170	SLU 37	-11	-1	5140	1626.37	-92.16	3.69
170	SLU 38	-11	10	5202	1643.82	-93.27	4.01
170	SLU 39	-11	-1	5302	1676.14	-95.07	3.55
170	SLU 40	-11	10	5364	1693.59	-96.18	3.87
170	SLU 41	-11	-1	5339	1688.41	-95.73	3.76
170	SLU 42	-12	10	5401	1705.87	-96.84	4.08
170	SLU 43	-8	-4	4991	1577.98	-89.65	2.55
170	SLU 44	-9	15	5094	1607.06	-91.49	3.09
170	SLU 45	-9	-4	5053	1598.14	-90.74	2.76
170	SLU 46	-9	8	5114	1615.59	-91.85	3.08
170	SLU 47	-9	15	5131	1619.34	-92.15	3.3
170	SLU 48	-9	-4	5090	1610.42	-91.4	2.97
170	SLU 49	-10	8	5152	1627.87	-92.5	3.29
170	SLU 50	-9	-4	5066	1602.53	-90.96	2.97
170	SLU 51	-10	7	5127	1619.99	-92.07	3.29
170	SLU 52	-10	16	5646	1780.49	-101.35	3.74
170	SLU 53	-10	-3	5605	1771.57	-100.6	3.41
170	SLU 54	-11	8	5666	1789.02	-101.71	3.74
170	SLU 55	-11	15	5683	1792.77	-102.01	3.95
170	SLU 56	-11	-4	5642	1783.85	-101.26	3.62
170	SLU 57	-11	8	5703	1801.3	-102.37	3.95
170	SLU 58	-11	-4	5617	1775.96	-100.83	3.62
170	SLU 59	-11	7	5679	1793.41	-101.93	3.95
170	SLU 60	-11	-3	5779	1825.73	-103.74	3.48
170	SLU 61	-11	8	5841	1843.18	-104.84	3.81
170	SLU 62	-11	-4	5817	1838.01	-104.39	3.69
170	SLU 63	-12	8	5878	1855.46	-105.5	4.02
170	SLU 64	-10	-2	5525	1747.76	-99.16	3.06
170	SLU 65	-10	17	5627	1776.84	-101	3.6
170	SLU 66	-10	-2	5586	1767.92	-100.26	3.27
170	SLU 67	-10	9	5648	1785.37	-101.36	3.6
170	SLU 68	-11	16	5665	1789.12	-101.66	3.81
170	SLU 69	-11	-3	5624	1780.2	-100.91	3.48
170	SLU 70	-11	9	5685	1797.65	-102.02	3.81
170	SLU 71	-11	-3	5599	1772.31	-100.48	3.48
170	SLU 72	-11	9	5661	1789.76	-101.58	3.81
170	SLU 73	-12	17	6179	1950.27	-110.87	4.26
170	SLU 74	-12	-2	6138	1941.35	-110.12	3.93
170	SLU 75	-12	9	6200	1958.8	-111.22	4.25
170	SLU 76	-13	17	6217	1962.55	-111.52	4.47
170	SLU 77	-13	-2	6176	1953.62	-110.78	4.14
170	SLU 78	-13	9	6237	1971.08	-111.88	4.46
170	SLU 79	-13	-3	6151	1945.74	-110.34	4.14
170	SLU 80	-13	9	6213	1963.19	-111.45	4.46
170	SLU 81	-12	-2	6313	1995.51	-113.25	4
170	SLU 82	-12	9	6375	2012.96	-114.36	4.32
170	SLU 83	-13	-2	6350	2007.79	-113.91	4.21
170	SLU 84	-13	9	6412	2025.24	-115.01	4.53
170	SLE RA 1	-7	-2	4132	1307.11	-74.19	2.24
170	SLE RA 2	-7	11	4201	1326.5	-75.41	2.6
170	SLE RA 3	-7	-2	4174	1320.56	-74.92	2.38
170	SLE RA 4	-8	5	4215	1332.19	-75.65	2.6
170	SLE RA 5	-8	10	4226	1334.69	-75.85	2.74
170	SLE RA 6	-8	-2	4198	1328.74	-75.36	2.52
170	SLE RA 7	-8	5	4240	1340.38	-76.09	2.74
170	SLE RA 8	-8	-2	4182	1323.48	-75.06	2.52
170	SLE RA 9	-8	5	4223	1335.12	-75.8	2.74
170	SLE RA 10	-9	11	4569	1442.12	-81.99	3.04
170	SLE RA 11	-9	-2	4542	1436.17	-81.49	2.82
170	SLE RA 12	-9	6	4583	1447.81	-82.23	3.04
170	SLE RA 13	-9	11	4594	1450.31	-82.43	3.18
170	SLE RA 14	-9	-2	4566	1444.36	-81.93	2.96
170	SLE RA 15	-9	5	4607	1455.99	-82.67	3.18
170	SLE RA 16	-9	-2	4550	1439.1	-81.64	2.96
170	SLE RA 17	-9	5	4591	1450.74	-82.38	3.18
170	SLE RA 18	-9	-2	4658	1472.28	-83.58	2.87
170	SLE RA 19	-9	6	4699	1483.92	-84.32	3.08
170	SLE RA 20	-9	-2	4683	1480.47	-84.02	3.01
170	SLE RA 21	-9	6	4724	1492.1	-84.76	3.22
170	SLE FR 1	-7	-2	4132	1307.11	-74.19	2.24
170	SLE FR 2	-7	0	4146	1310.99	-74.43	2.32
170	SLE FR 3	-7	-2	4142	1310.39	-74.36	2.3
170	SLE FR 4	-8	0	4304	1360.54	-77.25	2.5
170	SLE FR 5	-8	-2	4300	1359.94	-77.18	2.49
170	SLE FR 6	-8	-2	4395	1389.7	-78.88	2.56
170	SLE QP 1	-7	-2	4132	1307.11	-74.19	2.24
170	SLE QP 2	-8	-2	4290	1356.66	-77	2.43
170	SLD 1	348	110	5109	1590.07	-90.44	-120.45
170	SLD 2	424	103	5096	1586.57	-90.37	-147.04
170	SLD 3	357	-127	3547	1144.33	-62.39	-127.1
170	SLD 4	432	-134	3535	1140.82	-62.31	-153.69
170	SLD 5	74	391	6906	2103.34	-123.6	-19.78
170	SLD 6	123	387	6898	2101.08	-123.55	-36.9
170	SLD 7	101	-397	1701	617.52	-30.09	-41.94
170	SLD 8	150	-401	1693	615.26	-30.04	-59.06
170	SLD 9	-165	397	6887	2098.07	-123.97	63.92
170	SLD 10	-116	393	6879	2095.81	-123.92	46.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLD 11	-138	-391	1682	612.25	-30.46	41.76
170	SLD 12	-89	-395	1674	609.99	-30.41	24.64
170	SLD 13	-447	130	5046	1572.51	-91.7	158.55
170	SLD 14	-372	122	5033	1569	-91.62	131.96
170	SLD 15	-439	-107	3484	1126.76	-63.64	151.91
170	SLD 16	-363	-114	3471	1123.25	-63.57	125.31
170	SLV 1	548	189	5683	1753.86	-100	-189.15
170	SLV 2	668	178	5663	1748.33	-99.88	-231.06
170	SLV 3	562	-214	3019	993.3	-52.13	-200.38
170	SLV 4	681	-225	2999	987.77	-52.01	-242.3
170	SLV 5	117	669	8753	2630.37	-156.52	-30.18
170	SLV 6	197	661	8739	2626.65	-156.44	-58.4
170	SLV 7	161	-675	-129	95.17	3.03	-67.63
170	SLV 8	241	-682	-142	91.45	3.11	-95.85
170	SLV 9	-256	678	8722	2621.88	-157.12	100.71
170	SLV 10	-176	671	8709	2618.16	-157.04	72.49
170	SLV 11	-212	-665	-159	86.68	2.43	63.26
170	SLV 12	-132	-673	-173	82.96	2.51	35.04
170	SLV 13	-696	221	5582	1725.56	-102	247.16
170	SLV 14	-577	210	5562	1720.03	-101.88	205.24
170	SLV 15	-683	-182	2917	965	-54.13	235.93
170	SLV 16	-563	-193	2897	959.47	-54.01	194.01
170	SLV FO 1	604	208	5823	1793.58	-102.3	-208.3
170	SLV FO 2	735	196	5801	1787.5	-102.16	-254.41
170	SLV FO 3	619	-235	2892	956.96	-49.64	-220.66
170	SLV FO 4	750	-247	2870	950.88	-49.51	-266.77
170	SLV FO 5	129	736	9199	2757.74	-164.47	-33.44
170	SLV FO 6	218	728	9184	2753.64	-164.38	-64.48
170	SLV FO 7	178	-742	-571	-30.98	11.03	-74.64
170	SLV FO 8	266	-750	-585	-35.07	11.12	-105.68
170	SLV FO 9	-281	746	9166	2748.4	-165.13	110.54
170	SLV FO 10	-193	738	9151	2744.31	-165.04	79.5
170	SLV FO 11	-233	-732	-604	-40.32	10.37	69.34
170	SLV FO 12	-144	-740	-619	-44.41	10.46	38.3
170	SLV FO 13	-765	243	5711	1762.45	-104.5	271.63
170	SLV FO 14	-634	231	5689	1756.36	-104.36	225.53
170	SLV FO 15	-750	-200	2780	925.83	-51.85	259.27
170	SLV FO 16	-619	-213	2758	919.75	-51.71	213.17
170	CRTFP Ux+	0	0	0	0	0	0
170	CRTFP Ux-	0	0	0	0	0	0
170	CRTFP Uy+	0	0	0	-0.01	0	0
170	CRTFP Uy-	0	0	0	0.01	0	0
171	SLU 1	-8	-10	4303	1325.71	2.86	2.36
171	SLU 2	-8	11	4414	1356.25	2.93	2.55
171	SLU 3	-8	-10	4370	1346.75	2.93	2.6
171	SLU 4	-9	3	4436	1365.08	2.97	2.71
171	SLU 5	-9	11	4454	1369.04	2.98	2.79
171	SLU 6	-9	-10	4409	1359.54	2.97	2.84
171	SLU 7	-9	2	4476	1377.87	3.01	2.95
171	SLU 8	-9	-10	4383	1351.28	2.95	2.85
171	SLU 9	-9	2	4450	1369.61	2.99	2.96
171	SLU 10	-10	11	5009	1537.69	3.41	3.33
171	SLU 11	-10	-10	4964	1528.19	3.4	3.38
171	SLU 12	-11	3	5031	1546.52	3.45	3.49
171	SLU 13	-11	11	5049	1550.48	3.45	3.57
171	SLU 14	-11	-10	5004	1540.98	3.45	3.62
171	SLU 15	-11	2	5071	1559.31	3.49	3.73
171	SLU 16	-11	-10	4978	1532.72	3.42	3.63
171	SLU 17	-11	2	5044	1551.05	3.47	3.74
171	SLU 18	-11	-10	5153	1584.91	3.54	3.48
171	SLU 19	-11	3	5219	1603.24	3.58	3.59
171	SLU 20	-11	-10	5193	1597.69	3.58	3.72
171	SLU 21	-12	3	5259	1616.02	3.63	3.83
171	SLU 22	-9	-10	4878	1503.28	3.34	2.9
171	SLU 23	-10	11	4989	1533.83	3.41	3.09
171	SLU 24	-10	-10	4944	1524.32	3.4	3.14
171	SLU 25	-10	3	5011	1542.65	3.45	3.25
171	SLU 26	-10	11	5029	1546.61	3.45	3.33
171	SLU 27	-11	-10	4984	1537.11	3.45	3.38
171	SLU 28	-11	2	5050	1555.44	3.49	3.49
171	SLU 29	-11	-10	4957	1528.85	3.43	3.38
171	SLU 30	-11	2	5024	1547.18	3.47	3.5
171	SLU 31	-12	12	5583	1715.27	3.89	3.87
171	SLU 32	-12	-10	5539	1705.77	3.88	3.92
171	SLU 33	-12	3	5605	1724.09	3.92	4.03
171	SLU 34	-13	11	5623	1728.06	3.93	4.11
171	SLU 35	-13	-10	5578	1718.55	3.92	4.16
171	SLU 36	-13	3	5645	1736.88	3.97	4.27
171	SLU 37	-13	-10	5552	1710.29	3.9	4.17
171	SLU 38	-13	2	5619	1728.62	3.94	4.28
171	SLU 39	-12	-9	5727	1762.48	4.02	4.02
171	SLU 40	-13	3	5794	1780.81	4.06	4.13
171	SLU 41	-13	-10	5767	1775.27	4.06	4.26
171	SLU 42	-13	3	5834	1793.6	4.11	4.37
171	SLU 43	-9	-13	5398	1662.53	3.56	2.89
171	SLU 44	-10	8	5509	1693.08	3.63	3.08
171	SLU 45	-10	-13	5464	1683.58	3.62	3.12
171	SLU 46	-10	0	5530	1701.91	3.67	3.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLU 47	-10	8	5548	1705.87	3.67	3.32
171	SLU 48	-11	-13	5504	1696.37	3.67	3.36
171	SLU 49	-11	-1	5570	1714.7	3.71	3.48
171	SLU 50	-11	-14	5477	1688.11	3.64	3.37
171	SLU 51	-11	-1	5544	1706.44	3.69	3.48
171	SLU 52	-12	8	6103	1874.52	4.11	3.86
171	SLU 53	-12	-13	6058	1865.02	4.1	3.9
171	SLU 54	-12	0	6125	1883.35	4.14	4.02
171	SLU 55	-13	8	6143	1887.31	4.15	4.1
171	SLU 56	-13	-13	6098	1877.81	4.14	4.15
171	SLU 57	-13	-1	6165	1896.14	4.18	4.26
171	SLU 58	-13	-13	6072	1869.55	4.12	4.15
171	SLU 59	-13	-1	6138	1887.88	4.16	4.26
171	SLU 60	-12	-13	6247	1921.74	4.24	4.01
171	SLU 61	-13	0	6314	1940.07	4.28	4.12
171	SLU 62	-13	-13	6287	1934.52	4.28	4.25
171	SLU 63	-13	0	6353	1952.85	4.32	4.36
171	SLU 64	-11	-13	5972	1840.11	4.04	3.43
171	SLU 65	-11	8	6083	1870.66	4.11	3.61
171	SLU 66	-12	-13	6038	1861.15	4.1	3.66
171	SLU 67	-12	0	6105	1879.48	4.14	3.77
171	SLU 68	-12	8	6123	1883.44	4.15	3.85
171	SLU 69	-12	-13	6078	1873.94	4.14	3.9
171	SLU 70	-13	-1	6144	1892.27	4.19	4.01
171	SLU 71	-12	-13	6052	1865.68	4.12	3.91
171	SLU 72	-13	-1	6118	1884.01	4.16	4.02
171	SLU 73	-14	9	6677	2052.1	4.58	4.39
171	SLU 74	-14	-13	6633	2042.6	4.57	4.44
171	SLU 75	-14	0	6699	2060.92	4.62	4.55
171	SLU 76	-14	8	6717	2064.88	4.63	4.64
171	SLU 77	-15	-13	6673	2055.38	4.62	4.68
171	SLU 78	-15	0	6739	2073.71	4.66	4.79
171	SLU 79	-15	-13	6646	2047.12	4.6	4.69
171	SLU 80	-15	-1	6713	2065.45	4.64	4.8
171	SLU 81	-14	-12	6821	2099.31	4.71	4.54
171	SLU 82	-14	0	6888	2117.64	4.76	4.66
171	SLU 83	-15	-13	6861	2112.1	4.76	4.78
171	SLU 84	-15	0	6928	2130.43	4.8	4.9
171	SLE RA 1	-8	-10	4468	1376.44	3	2.52
171	SLE RA 2	-8	4	4542	1396.81	3.05	2.64
171	SLE RA 3	-8	-10	4512	1390.47	3.04	2.67
171	SLE RA 4	-9	-1	4556	1402.69	3.07	2.75
171	SLE RA 5	-9	4	4568	1405.33	3.08	2.8
171	SLE RA 6	-9	-10	4538	1399	3.07	2.83
171	SLE RA 7	-9	-2	4583	1411.22	3.1	2.91
171	SLE RA 8	-9	-10	4521	1393.49	3.06	2.84
171	SLE RA 9	-9	-2	4565	1405.71	3.09	2.91
171	SLE RA 10	-10	4	4938	1517.77	3.36	3.16
171	SLE RA 11	-10	-10	4908	1511.43	3.36	3.2
171	SLE RA 12	-10	-1	4952	1523.65	3.39	3.27
171	SLE RA 13	-10	4	4964	1526.29	3.39	3.32
171	SLE RA 14	-10	-10	4935	1519.96	3.39	3.36
171	SLE RA 15	-11	-2	4979	1532.18	3.42	3.43
171	SLE RA 16	-10	-10	4917	1514.45	3.37	3.36
171	SLE RA 17	-11	-2	4961	1526.67	3.4	3.43
171	SLE RA 18	-10	-10	5034	1549.24	3.45	3.26
171	SLE RA 19	-10	-1	5078	1561.46	3.48	3.34
171	SLE RA 20	-11	-10	5060	1557.77	3.48	3.42
171	SLE RA 21	-11	-1	5105	1569.99	3.51	3.5
171	SLE FR 1	-8	-10	4468	1376.44	3	2.52
171	SLE FR 2	-8	-7	4482	1380.51	3.01	2.54
171	SLE FR 3	-8	-10	4478	1379.85	3.01	2.58
171	SLE FR 4	-9	-7	4652	1432.35	3.14	2.77
171	SLE FR 5	-9	-10	4648	1431.69	3.15	2.81
171	SLE FR 6	-9	-10	4751	1462.84	3.23	2.89
171	SLE QP 1	-8	-10	4468	1376.44	3	2.52
171	SLE QP 2	-9	-10	4637	1428.28	3.13	2.74
171	SLD 1	385	112	5521	1672.46	4.12	-135.23
171	SLD 2	469	106	5513	1670.78	3.89	-164.46
171	SLD 3	394	-152	3831	1204.45	3.03	-138.3
171	SLD 4	478	-158	3824	1202.77	2.8	-167.53
171	SLD 5	82	428	7466	2211.64	5.13	-28.96
171	SLD 6	136	425	7461	2210.55	4.98	-47.78
171	SLD 7	111	-452	1835	651.61	1.48	-39.21
171	SLD 8	165	-456	1830	650.52	1.33	-58.03
171	SLD 9	-182	437	7445	2206.04	4.93	63.51
171	SLD 10	-128	433	7440	2204.95	4.79	44.69
171	SLD 11	-153	-444	1814	646.01	1.29	53.26
171	SLD 12	-99	-448	1809	644.92	1.14	34.45
171	SLD 13	-495	139	5451	1653.79	3.47	173.01
171	SLD 14	-411	133	5443	1652.11	3.24	143.79
171	SLD 15	-486	-125	3762	1185.78	2.38	169.94
171	SLD 16	-403	-131	3754	1184.1	2.15	140.71
171	SLV 1	607	199	6140	1843.9	4.75	-212.72
171	SLV 2	739	189	6129	1841.24	4.39	-258.79
171	SLV 3	621	-252	3258	1045.35	2.89	-217.76
171	SLV 4	753	-261	3247	1042.7	2.53	-263.82
171	SLV 5	130	738	9462	2764.59	6.52	-45.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLV 6	219	732	9454	2762.8	6.28	-76.68
171	SLV 7	177	-764	-146	102.77	0.3	-62.45
171	SLV 8	266	-770	-153	100.98	0.05	-93.46
171	SLV 9	-283	751	9428	2755.58	6.22	98.94
171	SLV 10	-194	744	9420	2753.79	5.97	67.93
171	SLV 11	-236	-751	-179	93.76	-0.01	82.16
171	SLV 12	-147	-757	-187	91.98	-0.25	51.15
171	SLV 13	-770	242	6028	1813.87	3.74	269.31
171	SLV 14	-638	232	6017	1811.21	3.38	223.24
171	SLV 15	-756	-209	3146	1015.32	1.88	264.27
171	SLV 16	-624	-218	3135	1012.67	1.52	218.21
171	SLV FO 1	668	220	6291	1885.46	4.92	-234.27
171	SLV FO 2	813	209	6278	1882.53	4.52	-284.94
171	SLV FO 3	684	-276	3120	1007.06	2.86	-239.81
171	SLV FO 4	829	-286	3107	1004.14	2.47	-290.48
171	SLV FO 5	144	813	9944	2898.22	6.86	-50.51
171	SLV FO 6	242	806	9936	2896.25	6.59	-84.62
171	SLV FO 7	195	-839	-624	-29.78	0.01	-68.97
171	SLV FO 8	293	-846	-632	-31.74	-0.25	-103.08
171	SLV FO 9	-310	827	9907	2888.31	6.52	108.56
171	SLV FO 10	-213	820	9899	2886.34	6.26	74.45
171	SLV FO 11	-259	-825	-661	-39.69	-0.32	90.1
171	SLV FO 12	-161	-832	-669	-41.65	-0.59	55.99
171	SLV FO 13	-846	267	6167	1852.42	3.8	295.96
171	SLV FO 14	-701	256	6155	1849.5	3.41	245.29
171	SLV FO 15	-831	-229	2997	974.03	1.75	290.43
171	SLV FO 16	-685	-239	2984	971.1	1.35	239.75
171	CRTFP Ux+	0	0	0	0	0	0
171	CRTFP Ux-	0	0	0	0	0	0
171	CRTFP Uy+	0	0	0	-0.01	0	0
171	CRTFP Uy-	0	0	0	0.01	0	0
172	SLU 1	-8	-19	4235	1284.29	1.47	2.36
172	SLU 2	-8	3	4344	1313.86	1.5	2.52
172	SLU 3	-8	-19	4299	1304.46	1.51	2.59
172	SLU 4	-9	-6	4365	1322.21	1.53	2.69
172	SLU 5	-9	2	4383	1326.08	1.53	2.76
172	SLU 6	-9	-20	4338	1316.68	1.54	2.84
172	SLU 7	-9	-7	4404	1334.42	1.56	2.93
172	SLU 8	-9	-20	4312	1308.72	1.53	2.85
172	SLU 9	-9	-7	4378	1326.47	1.55	2.94
172	SLU 10	-11	2	4927	1488.4	1.79	3.36
172	SLU 11	-11	-20	4882	1478.99	1.8	3.44
172	SLU 12	-11	-7	4947	1496.74	1.82	3.53
172	SLU 13	-11	2	4965	1500.62	1.82	3.6
172	SLU 14	-12	-20	4920	1491.21	1.83	3.68
172	SLU 15	-12	-7	4986	1508.96	1.85	3.77
172	SLU 16	-12	-20	4895	1483.26	1.81	3.69
172	SLU 17	-12	-7	4960	1501.01	1.83	3.78
172	SLU 18	-11	-19	5067	1533.62	1.88	3.56
172	SLU 19	-11	-7	5133	1551.37	1.89	3.65
172	SLU 20	-12	-20	5106	1545.84	1.91	3.8
172	SLU 21	-12	-7	5171	1563.59	1.92	3.9
172	SLU 22	-9	-20	4797	1455.12	1.75	2.89
172	SLU 23	-10	1	4906	1484.7	1.78	3.04
172	SLU 24	-10	-20	4862	1475.3	1.79	3.12
172	SLU 25	-10	-8	4927	1493.04	1.81	3.22
172	SLU 26	-10	1	4945	1496.92	1.81	3.29
172	SLU 27	-11	-21	4900	1487.51	1.82	3.37
172	SLU 28	-11	-8	4966	1505.26	1.84	3.46
172	SLU 29	-11	-21	4874	1479.56	1.81	3.37
172	SLU 30	-11	-8	4940	1497.31	1.83	3.47
172	SLU 31	-12	1	5489	1659.24	2.06	3.88
172	SLU 32	-12	-21	5444	1649.83	2.07	3.96
172	SLU 33	-13	-8	5510	1667.58	2.09	4.06
172	SLU 34	-13	0	5528	1671.46	2.09	4.13
172	SLU 35	-13	-21	5483	1662.05	2.1	4.21
172	SLU 36	-13	-9	5548	1679.8	2.12	4.3
172	SLU 37	-13	-21	5457	1654.1	2.09	4.22
172	SLU 38	-13	-9	5523	1671.84	2.11	4.31
172	SLU 39	-13	-21	5629	1704.46	2.15	4.09
172	SLU 40	-13	-8	5695	1722.21	2.17	4.18
172	SLU 41	-14	-21	5668	1716.68	2.18	4.33
172	SLU 42	-14	-8	5734	1734.43	2.2	4.43
172	SLU 43	-9	-24	5312	1611	1.81	2.88
172	SLU 44	-10	-3	5422	1640.58	1.85	3.04
172	SLU 45	-10	-24	5377	1631.17	1.86	3.12
172	SLU 46	-10	-11	5442	1648.92	1.88	3.22
172	SLU 47	-10	-3	5460	1652.79	1.88	3.29
172	SLU 48	-11	-25	5416	1643.39	1.89	3.36
172	SLU 49	-11	-12	5481	1661.14	1.91	3.46
172	SLU 50	-11	-25	5390	1635.43	1.87	3.37
172	SLU 51	-11	-12	5455	1653.18	1.89	3.47
172	SLU 52	-12	-3	6004	1815.11	2.13	3.88
172	SLU 53	-13	-25	5959	1805.71	2.14	3.96
172	SLU 54	-13	-12	6025	1823.45	2.16	4.06
172	SLU 55	-13	-4	6043	1827.33	2.16	4.13
172	SLU 56	-13	-25	5998	1817.92	2.17	4.21
172	SLU 57	-13	-13	6064	1835.67	2.19	4.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLU 58	-13	-25	5972	1809.97	2.16	4.21
172	SLU 59	-13	-13	6038	1827.72	2.18	4.31
172	SLU 60	-13	-25	6145	1860.34	2.22	4.09
172	SLU 61	-13	-12	6210	1878.08	2.24	4.18
172	SLU 62	-14	-25	6183	1872.55	2.25	4.33
172	SLU 63	-14	-12	6249	1890.3	2.27	4.43
172	SLU 64	-11	-25	5875	1781.84	2.09	3.41
172	SLU 65	-11	-4	5984	1811.42	2.12	3.57
172	SLU 66	-12	-25	5939	1802.01	2.13	3.65
172	SLU 67	-12	-13	6005	1819.76	2.15	3.74
172	SLU 68	-12	-4	6023	1823.63	2.15	3.81
172	SLU 69	-12	-26	5978	1814.23	2.16	3.89
172	SLU 70	-13	-13	6043	1831.97	2.18	3.99
172	SLU 71	-12	-26	5952	1806.27	2.15	3.9
172	SLU 72	-13	-13	6018	1824.02	2.17	3.99
172	SLU 73	-14	-4	6567	1985.95	2.41	4.41
172	SLU 74	-14	-26	6522	1976.55	2.42	4.49
172	SLU 75	-14	-13	6587	1994.29	2.44	4.58
172	SLU 76	-15	-5	6605	1998.17	2.44	4.66
172	SLU 77	-15	-27	6560	1988.76	2.45	4.73
172	SLU 78	-15	-14	6626	2006.51	2.47	4.83
172	SLU 79	-15	-27	6535	1980.81	2.44	4.74
172	SLU 80	-15	-14	6600	1998.56	2.46	4.84
172	SLU 81	-15	-26	6707	2031.17	2.5	4.61
172	SLU 82	-15	-13	6773	2048.92	2.52	4.71
172	SLU 83	-15	-26	6746	2043.39	2.53	4.86
172	SLU 84	-15	-14	6811	2061.14	2.55	4.95
172	SLE RA 1	-8	-19	4395	1333.1	1.55	2.51
172	SLE RA 2	-8	-5	4468	1352.82	1.57	2.61
172	SLE RA 3	-9	-19	4438	1346.54	1.58	2.67
172	SLE RA 4	-9	-11	4482	1358.38	1.59	2.73
172	SLE RA 5	-9	-5	4494	1360.96	1.59	2.78
172	SLE RA 6	-9	-20	4464	1354.69	1.6	2.83
172	SLE RA 7	-9	-11	4508	1366.52	1.61	2.89
172	SLE RA 8	-9	-20	4447	1349.39	1.59	2.83
172	SLE RA 9	-9	-11	4491	1361.22	1.6	2.9
172	SLE RA 10	-10	-5	4857	1469.17	1.76	3.17
172	SLE RA 11	-10	-20	4827	1462.9	1.77	3.23
172	SLE RA 12	-10	-11	4871	1474.73	1.78	3.29
172	SLE RA 13	-10	-6	4882	1477.32	1.78	3.34
172	SLE RA 14	-11	-20	4853	1471.05	1.79	3.39
172	SLE RA 15	-11	-11	4896	1482.88	1.8	3.45
172	SLE RA 16	-11	-20	4835	1465.75	1.78	3.4
172	SLE RA 17	-11	-12	4879	1477.58	1.79	3.46
172	SLE RA 18	-10	-20	4950	1499.32	1.82	3.31
172	SLE RA 19	-11	-11	4994	1511.15	1.83	3.37
172	SLE RA 20	-11	-20	4976	1507.47	1.84	3.47
172	SLE RA 21	-11	-11	5020	1519.3	1.85	3.54
172	SLE FR 1	-8	-19	4395	1333.1	1.55	2.51
172	SLE FR 2	-8	-16	4410	1337.04	1.55	2.53
172	SLE FR 3	-8	-19	4406	1336.35	1.56	2.57
172	SLE FR 4	-9	-16	4576	1386.91	1.63	2.77
172	SLE FR 5	-9	-19	4572	1386.22	1.64	2.81
172	SLE FR 6	-9	-19	4673	1416.21	1.68	2.91
172	SLE QP 1	-8	-19	4395	1333.1	1.55	2.51
172	SLE QP 2	-9	-19	4562	1382.96	1.63	2.75
172	SLD 1	385	102	5356	1599.57	2.29	-135.2
172	SLD 2	469	98	5356	1600.22	2.06	-164.39
172	SLD 3	394	-166	3693	1146.86	1.75	-138.13
172	SLD 4	477	-170	3693	1147.52	1.52	-167.31
172	SLD 5	83	424	7323	2134.43	2.68	-29.18
172	SLD 6	137	422	7323	2134.85	2.53	-47.97
172	SLD 7	110	-469	1778	625.42	0.89	-38.94
172	SLD 8	164	-471	1778	625.85	0.74	-57.73
172	SLD 9	-181	433	7345	2140.08	2.52	63.23
172	SLD 10	-128	430	7345	2140.51	2.37	44.43
172	SLD 11	-154	-460	1801	631.08	0.73	53.47
172	SLD 12	-100	-462	1801	631.5	0.58	34.68
172	SLD 13	-495	131	5431	1618.41	1.74	172.81
172	SLD 14	-411	127	5431	1619.06	1.51	143.63
172	SLD 15	-487	-137	3768	1165.71	1.2	169.89
172	SLD 16	-403	-140	3768	1166.36	0.97	140.7
172	SLV 1	607	189	5921	1753.55	2.7	-212.7
172	SLV 2	739	183	5921	1754.58	2.33	-258.7
172	SLV 3	620	-268	3083	981.12	1.78	-217.48
172	SLV 4	752	-274	3083	982.16	1.42	-263.48
172	SLV 5	131	737	9274	2665.46	3.41	-46.06
172	SLV 6	220	733	9274	2666.15	3.16	-77.03
172	SLV 7	176	-785	-186	90.71	0.35	-61.98
172	SLV 8	264	-789	-186	91.41	0.11	-92.95
172	SLV 9	-282	751	9310	2674.52	3.15	98.45
172	SLV 10	-193	747	9310	2675.22	2.9	67.48
172	SLV 11	-237	-772	-150	99.78	0.1	82.52
172	SLV 12	-149	-776	-150	100.47	-0.15	51.56
172	SLV 13	-769	235	6041	1783.77	1.84	268.98
172	SLV 14	-638	229	6041	1784.81	1.47	222.97
172	SLV 15	-756	-221	3203	1011.35	0.92	264.2
172	SLV 16	-624	-228	3202	1012.38	0.56	218.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLV FO 1	668	210	6057	1790.61	2.81	-234.24
172	SLV FO 2	813	203	6057	1791.74	2.4	-284.85
172	SLV FO 3	683	-292	2935	940.94	1.8	-239.5
172	SLV FO 4	828	-299	2935	942.08	1.4	-290.1
172	SLV FO 5	145	813	9745	2793.71	3.59	-50.94
172	SLV FO 6	243	809	9745	2794.47	3.32	-85
172	SLV FO 7	194	-862	-661	-38.52	0.23	-68.45
172	SLV FO 8	291	-867	-661	-37.75	-0.05	-102.52
172	SLV FO 9	-309	828	9785	2803.68	3.3	108.01
172	SLV FO 10	-211	824	9785	2804.44	3.03	73.95
172	SLV FO 11	-260	-847	-621	-28.54	-0.06	90.5
172	SLV FO 12	-163	-851	-622	-27.78	-0.33	56.44
172	SLV FO 13	-845	261	6189	1823.85	1.86	295.6
172	SLV FO 14	-701	254	6188	1824.99	1.46	245
172	SLV FO 15	-831	-242	3067	974.19	0.85	290.35
172	SLV FO 16	-686	-248	3067	975.32	0.45	239.74
172	CRTFP Ux+	0	0	0	0	0	0
172	CRTFP Ux-	0	0	0	0	0	0
172	CRTFP Uy+	0	0	0	-0.01	0	0
172	CRTFP Uy-	0	0	0	0.01	0	0
173	SLU 1	-7	-28	4214	1280.57	-0.15	2.3
173	SLU 2	-8	-7	4323	1310.15	-0.16	2.42
173	SLU 3	-8	-29	4278	1300.47	-0.13	2.54
173	SLU 4	-8	-16	4343	1318.22	-0.14	2.61
173	SLU 5	-9	-8	4361	1322.16	-0.15	2.67
173	SLU 6	-9	-30	4316	1312.49	-0.12	2.78
173	SLU 7	-9	-17	4381	1330.24	-0.12	2.86
173	SLU 8	-9	-30	4290	1304.59	-0.12	2.79
173	SLU 9	-9	-17	4356	1322.34	-0.13	2.87
173	SLU 10	-11	-9	4900	1483.26	-0.1	3.32
173	SLU 11	-11	-31	4855	1473.58	-0.07	3.43
173	SLU 12	-11	-18	4920	1491.33	-0.08	3.51
173	SLU 13	-11	-9	4938	1495.27	-0.09	3.57
173	SLU 14	-12	-31	4893	1485.59	-0.06	3.68
173	SLU 15	-12	-19	4958	1503.34	-0.07	3.75
173	SLU 16	-12	-31	4867	1477.7	-0.06	3.69
173	SLU 17	-12	-19	4933	1495.45	-0.07	3.76
173	SLU 18	-11	-31	5039	1527.86	-0.07	3.58
173	SLU 19	-12	-18	5104	1545.61	-0.07	3.65
173	SLU 20	-12	-32	5077	1539.87	-0.05	3.83
173	SLU 21	-12	-19	5142	1557.62	-0.06	3.9
173	SLU 22	-9	-31	4772	1450.08	-0.11	2.8
173	SLU 23	-9	-10	4881	1479.67	-0.12	2.92
173	SLU 24	-10	-32	4835	1469.99	-0.09	3.04
173	SLU 25	-10	-19	4901	1487.74	-0.1	3.11
173	SLU 26	-10	-10	4919	1491.68	-0.1	3.17
173	SLU 27	-10	-32	4873	1482	-0.07	3.29
173	SLU 28	-11	-20	4938	1499.75	-0.08	3.36
173	SLU 29	-11	-32	4847	1474.1	-0.08	3.3
173	SLU 30	-11	-20	4913	1491.86	-0.08	3.37
173	SLU 31	-12	-12	5458	1652.77	-0.06	3.82
173	SLU 32	-12	-34	5412	1643.09	-0.03	3.94
173	SLU 33	-13	-21	5478	1660.84	-0.04	4.01
173	SLU 34	-13	-12	5496	1664.78	-0.05	4.07
173	SLU 35	-13	-34	5450	1655.1	-0.02	4.19
173	SLU 36	-13	-21	5516	1672.86	-0.02	4.26
173	SLU 37	-13	-34	5425	1647.21	-0.02	4.2
173	SLU 38	-13	-21	5490	1664.96	-0.03	4.27
173	SLU 39	-13	-34	5596	1697.37	-0.02	4.09
173	SLU 40	-13	-21	5662	1715.12	-0.03	4.16
173	SLU 41	-14	-34	5634	1709.39	-0.01	4.33
173	SLU 42	-14	-22	5700	1727.14	-0.02	4.41
173	SLU 43	-9	-36	5287	1606.62	-0.21	2.81
173	SLU 44	-10	-14	5396	1636.2	-0.22	2.94
173	SLU 45	-10	-37	5351	1626.53	-0.19	3.05
173	SLU 46	-10	-24	5416	1644.28	-0.2	3.13
173	SLU 47	-10	-15	5434	1648.22	-0.21	3.18
173	SLU 48	-11	-37	5389	1638.54	-0.18	3.3
173	SLU 49	-11	-24	5454	1656.29	-0.18	3.37
173	SLU 50	-11	-37	5363	1630.64	-0.18	3.31
173	SLU 51	-11	-24	5429	1648.39	-0.19	3.38
173	SLU 52	-12	-16	5974	1809.31	-0.16	3.83
173	SLU 53	-13	-38	5928	1799.63	-0.13	3.95
173	SLU 54	-13	-26	5994	1817.38	-0.14	4.02
173	SLU 55	-13	-17	6012	1821.32	-0.15	4.08
173	SLU 56	-13	-39	5966	1811.64	-0.12	4.2
173	SLU 57	-14	-26	6032	1829.39	-0.13	4.27
173	SLU 58	-13	-39	5941	1803.75	-0.12	4.21
173	SLU 59	-14	-26	6006	1821.5	-0.13	4.28
173	SLU 60	-13	-38	6112	1853.91	-0.13	4.1
173	SLU 61	-13	-26	6177	1871.66	-0.13	4.17
173	SLU 62	-14	-39	6150	1865.92	-0.11	4.34
173	SLU 63	-14	-26	6215	1883.68	-0.12	4.42
173	SLU 64	-11	-39	5845	1776.13	-0.16	3.32
173	SLU 65	-11	-17	5954	1805.72	-0.18	3.44
173	SLU 66	-11	-39	5908	1796.04	-0.15	3.56
173	SLU 67	-12	-27	5974	1813.79	-0.16	3.63
173	SLU 68	-12	-18	5992	1817.73	-0.16	3.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLU 69	-12	-40	5946	1808.05	-0.13	3.8
173	SLU 70	-12	-27	6012	1825.8	-0.14	3.88
173	SLU 71	-12	-40	5921	1800.16	-0.14	3.81
173	SLU 72	-12	-27	5986	1817.91	-0.14	3.89
173	SLU 73	-14	-19	6531	1978.82	-0.12	4.34
173	SLU 74	-14	-41	6485	1969.14	-0.09	4.45
173	SLU 75	-14	-28	6551	1986.89	-0.1	4.53
173	SLU 76	-15	-20	6569	1990.83	-0.11	4.59
173	SLU 77	-15	-42	6523	1981.16	-0.08	4.7
173	SLU 78	-15	-29	6589	1998.91	-0.08	4.78
173	SLU 79	-15	-42	6498	1973.26	-0.08	4.71
173	SLU 80	-15	-29	6563	1991.01	-0.09	4.79
173	SLU 81	-15	-41	6669	2023.43	-0.08	4.6
173	SLU 82	-15	-28	6735	2041.18	-0.09	4.67
173	SLU 83	-15	-42	6707	2035.44	-0.07	4.85
173	SLU 84	-16	-29	6773	2053.19	-0.08	4.92
173	SLE RA 1	-8	-29	4373	1329	-0.14	2.44
173	SLE RA 2	-8	-15	4446	1348.72	-0.14	2.52
173	SLE RA 3	-8	-30	4416	1342.27	-0.12	2.6
173	SLE RA 4	-9	-21	4459	1354.1	-0.13	2.65
173	SLE RA 5	-9	-15	4471	1356.73	-0.13	2.69
173	SLE RA 6	-9	-30	4441	1350.28	-0.12	2.77
173	SLE RA 7	-9	-21	4485	1362.11	-0.12	2.81
173	SLE RA 8	-9	-30	4424	1345.02	-0.12	2.77
173	SLE RA 9	-9	-21	4468	1356.85	-0.12	2.82
173	SLE RA 10	-10	-16	4831	1464.13	-0.11	3.12
173	SLE RA 11	-10	-31	4801	1457.67	-0.09	3.2
173	SLE RA 12	-10	-22	4844	1469.51	-0.09	3.25
173	SLE RA 13	-10	-17	4856	1472.13	-0.1	3.29
173	SLE RA 14	-11	-31	4826	1465.68	-0.08	3.36
173	SLE RA 15	-11	-23	4870	1477.52	-0.08	3.41
173	SLE RA 16	-11	-31	4809	1460.42	-0.08	3.37
173	SLE RA 17	-11	-23	4852	1472.25	-0.08	3.42
173	SLE RA 18	-11	-31	4923	1493.86	-0.08	3.3
173	SLE RA 19	-11	-22	4967	1505.7	-0.09	3.35
173	SLE RA 20	-11	-31	4948	1501.87	-0.07	3.46
173	SLE RA 21	-11	-23	4992	1513.7	-0.08	3.51
173	SLE FR 1	-8	-29	4373	1329	-0.14	2.44
173	SLE FR 2	-8	-26	4388	1332.94	-0.14	2.46
173	SLE FR 3	-8	-29	4384	1332.2	-0.13	2.51
173	SLE FR 4	-9	-27	4553	1382.4	-0.12	2.71
173	SLE FR 5	-9	-30	4548	1381.66	-0.12	2.76
173	SLE FR 6	-9	-30	4648	1411.43	-0.11	2.87
173	SLE QP 1	-8	-29	4373	1329	-0.14	2.44
173	SLE QP 2	-9	-30	4538	1378.46	-0.12	2.7
173	SLD 1	385	93	5321	1592.85	0.24	-135.13
173	SLD 2	469	92	5328	1595.79	0.01	-164.25
173	SLD 3	393	-178	3665	1140.82	0.35	-137.88
173	SLD 4	476	-180	3672	1143.76	0.12	-167
173	SLD 5	83	419	7285	2127.85	-0.14	-29.47
173	SLD 6	137	418	7289	2129.75	-0.29	-48.22
173	SLD 7	109	-486	1762	621.08	0.23	-38.64
173	SLD 8	163	-487	1767	622.97	0.08	-57.39
173	SLD 9	-180	427	7310	2133.94	-0.32	62.79
173	SLD 10	-127	426	7314	2135.84	-0.47	44.04
173	SLD 11	-155	-478	1788	627.17	0.05	53.62
173	SLD 12	-101	-479	1792	629.06	-0.1	34.87
173	SLD 13	-494	121	5405	1613.16	-0.36	172.4
173	SLD 14	-410	119	5412	1616.1	-0.59	143.28
173	SLD 15	-486	-151	3748	1161.12	-0.25	169.65
173	SLD 16	-403	-152	3756	1164.06	-0.48	140.52
173	SLV 1	607	181	5880	1745.56	0.44	-212.57
173	SLV 2	738	179	5891	1750.2	0.08	-258.48
173	SLV 3	619	-282	3053	974.28	0.63	-217.04
173	SLV 4	751	-284	3064	978.92	0.27	-262.94
173	SLV 5	132	736	9226	2657.5	-0.18	-46.54
173	SLV 6	221	735	9233	2660.62	-0.42	-77.44
173	SLV 7	174	-807	-197	86.56	0.46	-61.43
173	SLV 8	263	-809	-189	89.69	0.22	-92.33
173	SLV 9	-280	749	9266	2667.23	-0.46	97.73
173	SLV 10	-191	748	9273	2670.35	-0.7	66.83
173	SLV 11	-238	-794	-157	96.3	0.18	82.84
173	SLV 12	-150	-796	-149	99.42	-0.06	51.94
173	SLV 13	-768	225	6013	1778	-0.51	268.34
173	SLV 14	-637	222	6024	1782.64	-0.86	222.44
173	SLV 15	-756	-238	3186	1006.72	-0.32	263.87
173	SLV 16	-624	-241	3197	1011.36	-0.67	217.97
173	SLV FO 1	668	202	6014	1782.27	0.49	-234.1
173	SLV FO 2	813	200	6026	1787.37	0.1	-284.59
173	SLV FO 3	682	-307	2904	933.86	0.7	-239.01
173	SLV FO 4	827	-309	2917	938.96	0.31	-289.51
173	SLV FO 5	146	813	9695	2785.4	-0.18	-51.47
173	SLV FO 6	244	811	9703	2788.84	-0.45	-85.46
173	SLV FO 7	192	-885	-670	-42.63	0.52	-67.85
173	SLV FO 8	290	-887	-662	-39.19	0.25	-101.84
173	SLV FO 9	-307	827	9738	2796.11	-0.49	107.23
173	SLV FO 10	-210	826	9747	2799.54	-0.76	73.24
173	SLV FO 11	-261	-871	-626	-31.92	0.21	90.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLV FO 12	-164	-872	-618	-28.49	-0.06	56.86
173	SLV FO 13	-844	250	6160	1817.96	-0.55	294.9
173	SLV FO 14	-699	248	6172	1823.06	-0.94	244.41
173	SLV FO 15	-830	-259	3051	969.55	-0.34	289.99
173	SLV FO 16	-686	-262	3063	974.65	-0.73	239.5
173	CRTFP Ux+	0	0	0	0	0	0
173	CRTFP Ux-	0	0	0	0	0	0
173	CRTFP Uy+	0	0	0	-0.01	0	0
173	CRTFP Uy-	0	0	0	0.01	0	0
174	SLU 1	-7	-38	4241	1314.29	-1.48	2.18
174	SLU 2	-7	-17	4351	1344.86	-1.53	2.26
174	SLU 3	-8	-39	4304	1334.54	-1.48	2.42
174	SLU 4	-8	-26	4370	1352.88	-1.51	2.47
174	SLU 5	-8	-18	4389	1357.03	-1.53	2.51
174	SLU 6	-9	-40	4342	1346.71	-1.48	2.67
174	SLU 7	-9	-27	4408	1365.05	-1.51	2.72
174	SLU 8	-9	-40	4316	1338.63	-1.48	2.68
174	SLU 9	-9	-27	4382	1356.97	-1.51	2.73
174	SLU 10	-10	-20	4929	1522.04	-1.66	3.21
174	SLU 11	-11	-43	4883	1511.72	-1.62	3.37
174	SLU 12	-11	-30	4949	1530.06	-1.65	3.41
174	SLU 13	-11	-21	4967	1534.21	-1.66	3.46
174	SLU 14	-11	-44	4920	1523.89	-1.62	3.62
174	SLU 15	-12	-31	4986	1542.23	-1.65	3.66
174	SLU 16	-11	-43	4895	1515.81	-1.61	3.63
174	SLU 17	-12	-30	4961	1534.15	-1.64	3.68
174	SLU 18	-11	-43	5067	1567.4	-1.67	3.53
174	SLU 19	-11	-30	5133	1585.74	-1.7	3.58
174	SLU 20	-12	-44	5105	1579.57	-1.67	3.78
174	SLU 21	-12	-31	5171	1597.91	-1.7	3.83
174	SLU 22	-9	-43	4800	1487.91	-1.63	2.65
174	SLU 23	-9	-21	4910	1518.48	-1.68	2.73
174	SLU 24	-9	-44	4863	1508.16	-1.64	2.89
174	SLU 25	-9	-31	4929	1526.5	-1.67	2.93
174	SLU 26	-10	-22	4948	1530.65	-1.68	2.98
174	SLU 27	-10	-45	4901	1520.33	-1.64	3.14
174	SLU 28	-10	-32	4967	1538.67	-1.67	3.19
174	SLU 29	-10	-44	4875	1512.25	-1.63	3.15
174	SLU 30	-10	-31	4941	1530.59	-1.66	3.2
174	SLU 31	-12	-25	5489	1695.65	-1.82	3.68
174	SLU 32	-12	-47	5442	1685.34	-1.77	3.84
174	SLU 33	-12	-34	5508	1703.68	-1.8	3.88
174	SLU 34	-12	-25	5526	1707.83	-1.82	3.93
174	SLU 35	-13	-48	5480	1697.51	-1.77	4.09
174	SLU 36	-13	-35	5546	1715.85	-1.8	4.13
174	SLU 37	-13	-48	5454	1689.43	-1.76	4.1
174	SLU 38	-13	-35	5520	1707.77	-1.79	4.14
174	SLU 39	-13	-48	5627	1741.02	-1.82	4
174	SLU 40	-13	-35	5693	1759.36	-1.85	4.05
174	SLU 41	-13	-48	5664	1753.19	-1.82	4.25
174	SLU 42	-14	-35	5730	1771.53	-1.85	4.3
174	SLU 43	-9	-48	5321	1649.05	-1.87	2.67
174	SLU 44	-9	-27	5431	1679.62	-1.92	2.75
174	SLU 45	-9	-49	5385	1669.3	-1.87	2.91
174	SLU 46	-10	-36	5451	1687.64	-1.9	2.96
174	SLU 47	-10	-28	5469	1691.79	-1.92	3
174	SLU 48	-10	-50	5422	1681.47	-1.87	3.16
174	SLU 49	-10	-37	5488	1699.81	-1.9	3.21
174	SLU 50	-10	-50	5397	1673.39	-1.87	3.17
174	SLU 51	-10	-37	5463	1691.73	-1.9	3.22
174	SLU 52	-12	-30	6010	1856.8	-2.05	3.7
174	SLU 53	-12	-53	5963	1846.48	-2.01	3.86
174	SLU 54	-12	-40	6029	1864.82	-2.04	3.91
174	SLU 55	-13	-31	6048	1868.97	-2.05	3.95
174	SLU 56	-13	-54	6001	1858.65	-2.01	4.11
174	SLU 57	-13	-41	6067	1876.99	-2.04	4.16
174	SLU 58	-13	-53	5975	1850.57	-2	4.12
174	SLU 59	-13	-40	6041	1868.91	-2.03	4.17
174	SLU 60	-13	-53	6148	1902.16	-2.06	4.03
174	SLU 61	-13	-40	6214	1920.5	-2.09	4.07
174	SLU 62	-14	-54	6186	1914.34	-2.06	4.28
174	SLU 63	-14	-41	6252	1932.67	-2.09	4.32
174	SLU 64	-10	-53	5880	1822.67	-2.02	3.14
174	SLU 65	-10	-31	5991	1853.24	-2.07	3.22
174	SLU 66	-11	-54	5944	1842.92	-2.03	3.38
174	SLU 67	-11	-41	6010	1861.26	-2.06	3.43
174	SLU 68	-11	-32	6028	1865.41	-2.07	3.47
174	SLU 69	-12	-55	5982	1855.09	-2.03	3.63
174	SLU 70	-12	-42	6048	1873.43	-2.06	3.68
174	SLU 71	-12	-54	5956	1847.01	-2.02	3.64
174	SLU 72	-12	-41	6022	1865.35	-2.05	3.69
174	SLU 73	-13	-35	6569	2030.42	-2.21	4.17
174	SLU 74	-14	-57	6522	2020.1	-2.16	4.33
174	SLU 75	-14	-44	6588	2038.44	-2.19	4.38
174	SLU 76	-14	-35	6607	2042.59	-2.21	4.42
174	SLU 77	-15	-58	6560	2032.27	-2.16	4.58
174	SLU 78	-15	-45	6626	2050.61	-2.19	4.63
174	SLU 79	-15	-58	6535	2024.19	-2.15	4.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLU 80	-15	-45	6601	2042.53	-2.18	4.64
174	SLU 81	-14	-58	6707	2075.78	-2.21	4.5
174	SLU 82	-14	-45	6773	2094.12	-2.24	4.54
174	SLU 83	-15	-58	6745	2087.95	-2.21	4.75
174	SLU 84	-15	-46	6811	2106.29	-2.24	4.79
174	SLE RA 1	-8	-40	4401	1363.9	-1.52	2.31
174	SLE RA 2	-8	-25	4474	1384.27	-1.56	2.37
174	SLE RA 3	-8	-40	4443	1377.4	-1.53	2.47
174	SLE RA 4	-8	-32	4487	1389.62	-1.55	2.5
174	SLE RA 5	-8	-26	4499	1392.39	-1.55	2.53
174	SLE RA 6	-9	-41	4468	1385.51	-1.53	2.64
174	SLE RA 7	-9	-32	4512	1397.74	-1.55	2.67
174	SLE RA 8	-9	-41	4451	1380.12	-1.52	2.65
174	SLE RA 9	-9	-32	4495	1392.35	-1.54	2.68
174	SLE RA 10	-10	-28	4860	1502.39	-1.64	3
174	SLE RA 11	-10	-43	4829	1495.52	-1.61	3.1
174	SLE RA 12	-10	-34	4873	1507.74	-1.63	3.14
174	SLE RA 13	-10	-28	4885	1510.51	-1.64	3.17
174	SLE RA 14	-10	-43	4854	1503.63	-1.61	3.27
174	SLE RA 15	-11	-34	4898	1515.86	-1.63	3.3
174	SLE RA 16	-10	-43	4837	1498.24	-1.61	3.28
174	SLE RA 17	-11	-34	4881	1510.47	-1.63	3.31
174	SLE RA 18	-10	-43	4952	1532.64	-1.65	3.22
174	SLE RA 19	-10	-34	4996	1544.86	-1.67	3.25
174	SLE RA 20	-11	-43	4977	1540.75	-1.65	3.38
174	SLE RA 21	-11	-35	5021	1552.98	-1.67	3.41
174	SLE FR 1	-8	-40	4401	1363.9	-1.52	2.31
174	SLE FR 2	-8	-37	4415	1367.97	-1.53	2.32
174	SLE FR 3	-8	-40	4411	1367.14	-1.52	2.38
174	SLE FR 4	-8	-38	4581	1418.59	-1.57	2.6
174	SLE FR 5	-9	-41	4576	1417.76	-1.56	2.65
174	SLE FR 6	-9	-41	4676	1448.27	-1.59	2.77
174	SLE QP 1	-8	-40	4401	1363.9	-1.52	2.31
174	SLE QP 2	-8	-41	4566	1414.52	-1.56	2.58
174	SLD 1	385	84	5344	1633.07	-1.37	-135
174	SLD 2	468	86	5358	1638.15	-1.58	-164.04
174	SLD 3	392	-190	3675	1167.08	-0.73	-137.57
174	SLD 4	475	-188	3689	1172.16	-0.94	-166.61
174	SLD 5	84	412	7328	2185.96	-2.44	-29.81
174	SLD 6	138	413	7337	2189.23	-2.57	-48.51
174	SLD 7	109	-501	1765	632.66	-0.31	-38.36
174	SLD 8	162	-501	1774	635.93	-0.44	-57.06
174	SLD 9	-179	419	7357	2193.11	-2.68	62.23
174	SLD 10	-125	420	7366	2196.38	-2.81	43.53
174	SLD 11	-155	-495	1795	639.8	-0.55	53.67
174	SLD 12	-101	-494	1804	643.07	-0.69	34.98
174	SLD 13	-492	107	5443	1656.88	-2.18	171.78
174	SLD 14	-409	109	5457	1661.96	-2.39	142.74
174	SLD 15	-485	-167	3774	1190.89	-1.54	169.21
174	SLD 16	-402	-166	3788	1195.97	-1.75	140.17
174	SLV 1	606	174	5900	1789.14	-1.31	-212.33
174	SLV 2	737	176	5922	1797.15	-1.64	-258.1
174	SLV 3	618	-294	3053	994.05	-0.22	-216.47
174	SLV 4	749	-292	3075	1002.05	-0.55	-262.24
174	SLV 5	134	733	9280	2731.31	-3.07	-47.07
174	SLV 6	222	734	9295	2736.7	-3.3	-77.88
174	SLV 7	173	-826	-210	80.98	0.55	-60.87
174	SLV 8	261	-825	-196	86.37	0.33	-91.69
174	SLV 9	-278	743	9327	2742.66	-3.45	96.85
174	SLV 10	-190	745	9342	2748.05	-3.68	66.04
174	SLV 11	-239	-815	-164	92.34	0.18	83.05
174	SLV 12	-150	-814	-149	97.73	-0.05	52.24
174	SLV 13	-766	210	6057	1826.98	-2.57	267.41
174	SLV 14	-635	212	6079	1834.99	-2.9	221.64
174	SLV 15	-754	-257	3209	1031.89	-1.48	263.27
174	SLV 16	-623	-255	3231	1039.89	-1.81	217.5
174	SLV FO 1	668	195	6034	1826.61	-1.28	-233.82
174	SLV FO 2	812	198	6058	1835.41	-1.65	-284.17
174	SLV FO 3	680	-319	2902	952	-0.09	-238.38
174	SLV FO 4	825	-317	2926	960.81	-0.45	-288.73
174	SLV FO 5	148	810	9752	2862.99	-3.23	-52.03
174	SLV FO 6	245	811	9768	2868.92	-3.47	-85.93
174	SLV FO 7	191	-905	-688	-52.37	0.77	-67.22
174	SLV FO 8	288	-903	-672	-46.44	0.52	-101.11
174	SLV FO 9	-305	822	9804	2875.48	-3.64	106.28
174	SLV FO 10	-208	823	9820	2881.41	-3.89	72.39
174	SLV FO 11	-262	-893	-636	-39.88	0.35	91.1
174	SLV FO 12	-165	-891	-620	-33.95	0.11	57.2
174	SLV FO 13	-842	235	6206	1868.23	-2.67	293.9
174	SLV FO 14	-697	238	6230	1877.04	-3.04	243.55
174	SLV FO 15	-829	-279	3074	993.62	-1.47	289.34
174	SLV FO 16	-684	-277	3098	1002.43	-1.84	238.99
174	CRTFP Ux+	0	0	0	0	0	0
174	CRTFP Ux-	0	0	0	0	0	0
174	CRTFP Uy+	0	0	0	-0.01	0	0
174	CRTFP Uy-	0	0	0	0.01	0	0
175	SLU 1	-6	-43	3885	1242.52	70.8	2.66
175	SLU 2	-6	-24	3986	1271.67	72.64	2.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLU 3	-7	-44	3942	1261.54	71.86	2.9
175	SLU 4	-7	-32	4003	1279.03	72.96	2.69
175	SLU 5	-7	-24	4020	1283.06	73.27	2.57
175	SLU 6	-7	-45	3976	1272.92	72.5	3.14
175	SLU 7	-7	-33	4037	1290.41	73.6	2.94
175	SLU 8	-7	-45	3953	1265.29	72.07	3.15
175	SLU 9	-7	-33	4014	1282.78	73.17	2.95
175	SLU 10	-9	-28	4514	1439.11	82.31	3.31
175	SLU 11	-9	-49	4470	1428.97	81.54	3.88
175	SLU 12	-9	-37	4531	1446.46	82.64	3.68
175	SLU 13	-9	-29	4548	1450.5	82.94	3.55
175	SLU 14	-10	-49	4505	1440.36	82.17	4.12
175	SLU 15	-10	-38	4565	1457.85	83.27	3.92
175	SLU 16	-10	-49	4481	1432.73	81.74	4.13
175	SLU 17	-10	-38	4542	1450.22	82.84	3.93
175	SLU 18	-10	-49	4639	1481.72	84.62	4.07
175	SLU 19	-10	-38	4700	1499.21	85.72	3.86
175	SLU 20	-10	-50	4673	1493.1	85.26	4.31
175	SLU 21	-10	-39	4734	1510.59	86.36	4.11
175	SLU 22	-7	-48	4396	1406.74	80.14	3.15
175	SLU 23	-7	-29	4497	1435.89	81.97	2.81
175	SLU 24	-8	-49	4454	1425.76	81.2	3.38
175	SLU 25	-8	-38	4514	1443.25	82.3	3.18
175	SLU 26	-8	-30	4531	1447.28	82.61	3.05
175	SLU 27	-8	-50	4488	1437.15	81.84	3.63
175	SLU 28	-8	-39	4549	1454.64	82.94	3.42
175	SLU 29	-8	-50	4464	1429.52	81.41	3.64
175	SLU 30	-9	-38	4525	1447.01	82.51	3.43
175	SLU 31	-10	-33	5025	1603.33	91.65	3.79
175	SLU 32	-10	-54	4982	1593.2	90.88	4.37
175	SLU 33	-10	-42	5043	1610.69	91.98	4.16
175	SLU 34	-11	-34	5060	1614.72	92.28	4.04
175	SLU 35	-11	-55	5016	1604.58	91.51	4.61
175	SLU 36	-11	-43	5077	1622.07	92.61	4.41
175	SLU 37	-11	-54	4993	1596.95	91.08	4.62
175	SLU 38	-11	-43	5053	1614.45	92.18	4.42
175	SLU 39	-11	-55	5151	1645.94	93.96	4.55
175	SLU 40	-11	-43	5211	1663.43	95.06	4.35
175	SLU 41	-12	-56	5185	1657.33	94.59	4.8
175	SLU 42	-12	-44	5245	1674.82	95.69	4.59
175	SLU 43	-7	-54	4875	1558.97	88.84	3.29
175	SLU 44	-7	-35	4976	1588.12	90.67	2.95
175	SLU 45	-8	-55	4932	1577.99	89.9	3.53
175	SLU 46	-8	-44	4993	1595.48	91	3.32
175	SLU 47	-8	-36	5010	1599.51	91.31	3.2
175	SLU 48	-9	-56	4966	1589.37	90.54	3.77
175	SLU 49	-9	-44	5027	1606.86	91.64	3.57
175	SLU 50	-9	-56	4943	1581.74	90.11	3.78
175	SLU 51	-9	-44	5004	1599.23	91.21	3.58
175	SLU 52	-10	-39	5504	1755.56	100.35	3.94
175	SLU 53	-11	-60	5460	1745.42	99.58	4.51
175	SLU 54	-11	-48	5521	1762.92	100.68	4.31
175	SLU 55	-11	-40	5538	1766.95	100.98	4.18
175	SLU 56	-11	-61	5495	1756.81	100.21	4.76
175	SLU 57	-11	-49	5555	1774.3	101.31	4.55
175	SLU 58	-11	-60	5471	1749.18	99.78	4.77
175	SLU 59	-11	-49	5532	1766.67	100.88	4.56
175	SLU 60	-11	-61	5629	1798.17	102.66	4.7
175	SLU 61	-11	-49	5690	1815.66	103.76	4.49
175	SLU 62	-12	-61	5663	1809.55	103.29	4.94
175	SLU 63	-12	-50	5724	1827.04	104.39	4.74
175	SLU 64	-9	-59	5386	1723.19	98.18	3.78
175	SLU 65	-9	-40	5487	1752.34	100.01	3.44
175	SLU 66	-9	-61	5444	1742.21	99.24	4.01
175	SLU 67	-9	-49	5504	1759.7	100.34	3.81
175	SLU 68	-9	-41	5521	1763.73	100.65	3.69
175	SLU 69	-10	-61	5478	1753.6	99.88	4.26
175	SLU 70	-10	-50	5539	1771.09	100.98	4.06
175	SLU 71	-10	-61	5454	1745.97	99.45	4.27
175	SLU 72	-10	-49	5515	1763.46	100.55	4.07
175	SLU 73	-11	-44	6015	1919.78	109.69	4.42
175	SLU 74	-12	-65	5972	1909.65	108.92	5
175	SLU 75	-12	-53	6033	1927.14	110.02	4.79
175	SLU 76	-12	-45	6050	1931.17	110.32	4.67
175	SLU 77	-12	-66	6006	1921.03	109.55	5.24
175	SLU 78	-13	-54	6067	1938.53	110.65	5.04
175	SLU 79	-13	-66	5983	1913.41	109.12	5.25
175	SLU 80	-13	-54	6043	1930.9	110.22	5.05
175	SLU 81	-12	-66	6141	1962.39	112	5.18
175	SLU 82	-12	-54	6201	1979.88	113.1	4.98
175	SLU 83	-13	-67	6175	1973.78	112.63	5.43
175	SLU 84	-13	-55	6235	1991.27	113.73	5.23
175	SLE RA 1	-6	-45	4031	1289.44	73.47	2.8
175	SLE RA 2	-6	-32	4098	1308.87	74.69	2.57
175	SLE RA 3	-7	-45	4069	1302.12	74.18	2.96
175	SLE RA 4	-7	-37	4110	1313.78	74.91	2.82
175	SLE RA 5	-7	-32	4121	1316.46	75.11	2.74
175	SLE RA 6	-7	-46	4092	1309.71	74.6	3.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLE RA 7	-7	-38	4132	1321.37	75.33	2.98
175	SLE RA 8	-7	-46	4076	1304.62	74.31	3.13
175	SLE RA 9	-7	-38	4117	1316.28	75.05	2.99
175	SLE RA 10	-8	-35	4450	1420.5	81.14	3.23
175	SLE RA 11	-8	-48	4421	1413.74	80.63	3.61
175	SLE RA 12	-9	-40	4462	1425.4	81.36	3.48
175	SLE RA 13	-9	-35	4473	1428.09	81.56	3.39
175	SLE RA 14	-9	-49	4444	1421.33	81.05	3.78
175	SLE RA 15	-9	-41	4484	1432.99	81.78	3.64
175	SLE RA 16	-9	-49	4428	1416.25	80.76	3.78
175	SLE RA 17	-9	-41	4469	1427.91	81.5	3.65
175	SLE RA 18	-9	-49	4534	1448.9	82.68	3.74
175	SLE RA 19	-9	-41	4574	1460.57	83.42	3.6
175	SLE RA 20	-9	-49	4556	1456.5	83.11	3.9
175	SLE RA 21	-9	-42	4597	1468.16	83.84	3.76
175	SLE FR 1	-6	-45	4031	1289.44	73.47	2.8
175	SLE FR 2	-6	-42	4044	1293.33	73.72	2.75
175	SLE FR 3	-6	-45	4040	1292.48	73.64	2.86
175	SLE FR 4	-7	-43	4195	1341.17	76.48	3.04
175	SLE FR 5	-7	-46	4191	1340.32	76.4	3.15
175	SLE FR 6	-8	-47	4282	1369.17	78.08	3.27
175	SLE QP 1	-6	-45	4031	1289.44	73.47	2.8
175	SLE QP 2	-7	-46	4182	1337.28	76.23	3.08
175	SLD 1	348	68	4882	1542.3	89.35	-124.44
175	SLD 2	423	72	4900	1548.48	89.55	-150.7
175	SLD 3	354	-180	3352	1098.92	61.51	-119.73
175	SLD 4	429	-176	3370	1105.1	61.71	-145.99
175	SLD 5	77	365	6710	2070.18	122.36	-37.8
175	SLD 6	125	367	6721	2074.16	122.49	-54.72
175	SLD 7	98	-464	1609	592.25	29.56	-22.1
175	SLD 8	146	-461	1620	596.23	29.69	-39.01
175	SLD 9	-160	369	6743	2078.33	122.78	45.17
175	SLD 10	-112	372	6754	2082.31	122.91	28.26
175	SLD 11	-139	-459	1642	600.4	29.98	60.88
175	SLD 12	-91	-456	1654	604.38	30.11	43.96
175	SLD 13	-443	84	4993	1569.46	90.76	152.15
175	SLD 14	-368	88	5011	1575.64	90.96	125.89
175	SLD 15	-437	-164	3463	1126.08	62.92	156.87
175	SLD 16	-362	-160	3481	1132.26	63.12	130.6
175	SLV 1	548	150	5386	1689.21	98.71	-196.47
175	SLV 2	666	156	5414	1698.96	99.03	-237.88
175	SLV 3	558	-274	2775	932.69	51.21	-188.51
175	SLV 4	676	-268	2803	942.44	51.52	-229.91
175	SLV 5	122	654	8498	2588.43	154.97	-61.14
175	SLV 6	202	659	8516	2594.99	155.18	-89.01
175	SLV 7	156	-758	-206	66.7	-3.38	-34.59
175	SLV 8	235	-754	-187	73.26	-3.17	-62.46
175	SLV 9	-249	662	8550	2601.3	155.64	68.62
175	SLV 10	-170	666	8569	2607.86	155.85	40.75
175	SLV 11	-216	-750	-153	79.57	-2.71	95.18
175	SLV 12	-136	-746	-134	86.13	-2.5	67.31
175	SLV 13	-690	176	5560	1732.12	100.95	236.07
175	SLV 14	-572	182	5588	1741.87	101.26	194.67
175	SLV 15	-680	-248	2949	975.6	53.44	244.04
175	SLV 16	-562	-242	2977	985.35	53.76	202.64
175	SLV FO 1	603	170	5506	1724.4	100.96	-216.43
175	SLV FO 2	733	176	5537	1735.12	101.31	-261.97
175	SLV FO 3	614	-296	2634	892.23	48.71	-207.67
175	SLV FO 4	744	-290	2665	902.95	49.05	-253.21
175	SLV FO 5	135	724	8929	2713.54	162.84	-67.57
175	SLV FO 6	222	729	8950	2720.76	163.07	-98.22
175	SLV FO 7	172	-829	-644	-60.36	-11.34	-38.36
175	SLV FO 8	259	-825	-623	-53.14	-11.11	-69.01
175	SLV FO 9	-274	733	8987	2727.7	163.58	75.17
175	SLV FO 10	-186	737	9007	2734.92	163.81	44.52
175	SLV FO 11	-237	-821	-587	-46.2	-10.6	104.38
175	SLV FO 12	-149	-816	-566	-38.98	-10.37	73.73
175	SLV FO 13	-758	198	5698	1771.6	103.42	259.37
175	SLV FO 14	-628	205	5729	1782.33	103.76	213.83
175	SLV FO 15	-747	-268	2826	939.43	51.16	268.13
175	SLV FO 16	-617	-261	2857	950.15	51.51	222.59
175	CRTFP Ux+	0	0	0	0	0	0
175	CRTFP Ux-	0	0	0	0	0	0
175	CRTFP Uy+	0	0	0	-0.01	0	0
175	CRTFP Uy-	0	0	0	0.01	0	0
177	SLU 1	-10	-66	5532	1142.38	1212.51	15.86
177	SLU 2	-11	-38	5680	1170.42	1245.2	9.84
177	SLU 3	-11	-67	5613	1159.62	1230.33	16.4
177	SLU 4	-11	-51	5702	1176.44	1249.94	12.79
177	SLU 5	-11	-40	5728	1180.68	1255.74	10.32
177	SLU 6	-12	-69	5660	1169.88	1240.87	16.88
177	SLU 7	-12	-52	5749	1186.7	1260.49	13.27
177	SLU 8	-12	-68	5627	1162.91	1233.6	16.82
177	SLU 9	-12	-52	5716	1179.73	1253.21	13.21
177	SLU 10	-15	-46	6432	1324.95	1410.64	12.2
177	SLU 11	-16	-74	6364	1314.14	1395.77	18.76
177	SLU 12	-16	-58	6454	1330.96	1415.38	15.15
177	SLU 13	-16	-47	6480	1335.21	1421.18	12.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLU 14	-17	-76	6412	1324.4	1406.32	19.24
177	SLU 15	-17	-59	6501	1341.23	1425.93	15.63
177	SLU 16	-17	-75	6379	1317.43	1399.04	19.17
177	SLU 17	-17	-59	6468	1334.25	1418.65	15.57
177	SLU 18	-16	-76	6606	1363.13	1448.85	19.23
177	SLU 19	-17	-60	6695	1379.95	1468.47	15.62
177	SLU 20	-17	-77	6653	1373.39	1459.4	19.71
177	SLU 21	-17	-61	6743	1390.22	1479.01	16.1
177	SLU 22	-12	-74	6258	1293.35	1371.69	17.94
177	SLU 23	-12	-47	6406	1321.39	1404.38	11.92
177	SLU 24	-13	-75	6339	1310.59	1389.51	18.48
177	SLU 25	-13	-59	6428	1327.41	1409.13	14.87
177	SLU 26	-13	-48	6454	1331.65	1414.93	12.4
177	SLU 27	-14	-77	6386	1320.85	1400.06	18.96
177	SLU 28	-14	-60	6476	1337.67	1419.67	15.35
177	SLU 29	-14	-76	6353	1313.88	1392.78	18.9
177	SLU 30	-14	-60	6442	1330.7	1412.4	15.29
177	SLU 31	-17	-54	7158	1475.91	1569.83	14.28
177	SLU 32	-17	-83	7091	1465.11	1554.96	20.84
177	SLU 33	-18	-66	7180	1481.93	1574.57	17.23
177	SLU 34	-18	-55	7206	1486.18	1580.37	14.76
177	SLU 35	-18	-84	7138	1475.37	1565.5	21.32
177	SLU 36	-18	-68	7227	1492.2	1585.12	17.71
177	SLU 37	-18	-83	7105	1468.4	1558.23	21.25
177	SLU 38	-19	-67	7194	1485.22	1577.84	17.64
177	SLU 39	-18	-84	7332	1514.1	1608.04	21.31
177	SLU 40	-18	-68	7421	1530.92	1627.65	17.7
177	SLU 41	-19	-85	7380	1524.36	1618.58	21.79
177	SLU 42	-19	-69	7469	1541.18	1638.2	18.18
177	SLU 43	-13	-83	6942	1433.34	1521.68	19.9
177	SLU 44	-13	-55	7091	1461.38	1554.37	13.89
177	SLU 45	-14	-84	7023	1450.57	1539.5	20.45
177	SLU 46	-14	-68	7112	1467.4	1559.12	16.84
177	SLU 47	-14	-57	7138	1471.64	1564.92	14.37
177	SLU 48	-15	-86	7071	1460.83	1550.05	20.92
177	SLU 49	-15	-69	7160	1477.66	1569.66	17.31
177	SLU 50	-15	-85	7038	1453.86	1542.77	20.86
177	SLU 51	-15	-69	7127	1470.68	1562.38	17.25
177	SLU 52	-17	-63	7842	1615.9	1719.81	16.25
177	SLU 53	-18	-91	7775	1605.1	1704.94	22.8
177	SLU 54	-18	-75	7864	1621.92	1724.56	19.19
177	SLU 55	-18	-64	7890	1626.16	1730.36	16.72
177	SLU 56	-19	-93	7823	1615.36	1715.49	23.28
177	SLU 57	-19	-76	7912	1632.18	1735.1	19.67
177	SLU 58	-19	-92	7790	1608.38	1708.21	23.22
177	SLU 59	-19	-76	7879	1625.21	1727.83	19.61
177	SLU 60	-19	-93	8016	1654.09	1758.03	23.27
177	SLU 61	-19	-76	8105	1670.91	1777.64	19.66
177	SLU 62	-20	-94	8064	1664.35	1768.57	23.75
177	SLU 63	-20	-78	8153	1681.17	1788.19	20.14
177	SLU 64	-15	-91	7668	1584.31	1680.87	21.98
177	SLU 65	-15	-64	7817	1612.35	1713.56	15.97
177	SLU 66	-16	-92	7749	1601.54	1698.69	22.52
177	SLU 67	-16	-76	7838	1618.37	1718.3	18.91
177	SLU 68	-16	-65	7864	1622.61	1724.1	16.45
177	SLU 69	-17	-94	7797	1611.8	1709.23	23
177	SLU 70	-17	-77	7886	1628.63	1728.85	19.39
177	SLU 71	-17	-93	7764	1604.83	1701.96	22.94
177	SLU 72	-17	-77	7853	1621.65	1721.57	19.33
177	SLU 73	-19	-71	8569	1766.87	1879	18.33
177	SLU 74	-20	-99	8501	1756.07	1864.13	24.88
177	SLU 75	-20	-83	8590	1772.89	1883.75	21.27
177	SLU 76	-20	-72	8616	1777.13	1889.54	18.8
177	SLU 77	-21	-101	8549	1766.33	1874.68	25.36
177	SLU 78	-21	-84	8638	1783.15	1894.29	21.75
177	SLU 79	-21	-100	8516	1759.35	1867.4	25.3
177	SLU 80	-21	-84	8605	1776.18	1887.01	21.69
177	SLU 81	-21	-101	8742	1805.06	1917.21	25.35
177	SLU 82	-21	-85	8831	1821.88	1936.83	21.74
177	SLU 83	-22	-102	8790	1815.32	1927.76	25.83
177	SLU 84	-22	-86	8879	1832.14	1947.37	22.22
177	SLE RA 1	-11	-68	5739	1185.52	1257.99	16.45
177	SLE RA 2	-11	-50	5838	1204.21	1279.78	12.44
177	SLE RA 3	-12	-69	5793	1197.01	1269.87	16.81
177	SLE RA 4	-12	-58	5852	1208.22	1282.95	14.41
177	SLE RA 5	-12	-51	5870	1211.05	1286.81	12.76
177	SLE RA 6	-12	-70	5825	1203.85	1276.9	17.13
177	SLE RA 7	-12	-59	5884	1215.06	1289.98	14.73
177	SLE RA 8	-12	-70	5803	1199.2	1272.05	17.09
177	SLE RA 9	-12	-59	5862	1210.41	1285.12	14.69
177	SLE RA 10	-14	-55	6339	1307.23	1390.08	14.01
177	SLE RA 11	-14	-74	6294	1300.02	1380.16	18.39
177	SLE RA 12	-14	-63	6354	1311.24	1393.24	15.98
177	SLE RA 13	-14	-55	6371	1314.07	1397.11	14.33
177	SLE RA 14	-15	-75	6326	1306.86	1387.19	18.71
177	SLE RA 15	-15	-64	6386	1318.08	1400.27	16.3
177	SLE RA 16	-15	-74	6304	1302.21	1382.34	18.66
177	SLE RA 17	-15	-64	6363	1313.43	1395.42	16.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLE RA 18	-15	-75	6455	1332.68	1415.55	18.7
177	SLE RA 19	-15	-64	6515	1343.9	1428.63	16.29
177	SLE RA 20	-16	-76	6487	1339.52	1422.58	19.02
177	SLE RA 21	-16	-65	6546	1350.74	1435.66	16.61
177	SLE FR 1	-11	-68	5739	1185.52	1257.99	16.45
177	SLE FR 2	-11	-64	5759	1189.26	1262.35	15.65
177	SLE FR 3	-11	-68	5752	1188.25	1260.8	16.58
177	SLE FR 4	-12	-66	5974	1233.41	1309.62	16.33
177	SLE FR 5	-12	-70	5967	1232.4	1308.07	17.25
177	SLE FR 6	-13	-71	6097	1259.1	1336.77	17.58
177	SLE QP 1	-11	-68	5739	1185.52	1257.99	16.45
177	SLE QP 2	-12	-70	5954	1229.67	1305.26	17.13
177	SLD 1	483	109	6962	1423.71	1533.49	-127.65
177	SLD 2	589	117	6991	1429.79	1538.71	-151.79
177	SLD 3	492	-236	4723	998.71	1039.18	-51.46
177	SLD 4	598	-229	4752	1004.79	1044.4	-75.6
177	SLD 5	105	506	9648	1931.41	2122.55	-137.71
177	SLD 6	173	511	9667	1935.33	2125.91	-153.25
177	SLD 7	134	-645	2183	514.76	474.82	116.25
177	SLD 8	203	-640	2201	518.67	478.18	100.71
177	SLD 9	-227	500	9706	1940.66	2132.33	-66.46
177	SLD 10	-159	505	9725	1944.58	2135.69	-82
177	SLD 11	-197	-651	2241	524.01	484.61	187.51
177	SLD 12	-129	-646	2259	527.92	487.97	171.96
177	SLD 13	-622	89	7156	1454.54	1566.12	109.86
177	SLD 14	-516	96	7185	1460.62	1571.34	85.71
177	SLD 15	-613	-257	4916	1029.55	1071.8	186.04
177	SLD 16	-507	-249	4945	1035.63	1077.02	161.9
177	SLV 1	762	235	7690	1563.19	1697.15	-214.58
177	SLV 2	928	247	7735	1572.77	1705.37	-252.63
177	SLV 3	776	-354	3869	838.04	853.73	-84.6
177	SLV 4	943	-342	3914	847.63	861.96	-122.66
177	SLV 5	167	913	12262	2427.75	2700.47	-242.41
177	SLV 6	279	921	12292	2434.2	2706.01	-268.02
177	SLV 7	215	-1051	-476	10.58	-110.92	190.83
177	SLV 8	327	-1043	-445	17.03	-105.38	165.22
177	SLV 9	-351	903	12353	2442.3	2715.9	-130.96
177	SLV 10	-239	911	12383	2448.75	2721.44	-156.58
177	SLV 11	-304	-1061	-385	25.14	-95.5	302.28
177	SLV 12	-191	-1053	-354	31.59	-89.96	276.66
177	SLV 13	-967	202	7994	1611.71	1748.56	156.91
177	SLV 14	-800	214	8039	1621.29	1756.79	118.86
177	SLV 15	-953	-387	4172	886.56	905.14	286.88
177	SLV 16	-786	-375	4218	896.15	913.37	248.83
177	SLV FO 1	839	266	7864	1596.54	1736.34	-237.75
177	SLV FO 2	1022	279	7913	1607.09	1745.39	-279.61
177	SLV FO 3	855	-382	3660	798.88	808.58	-94.78
177	SLV FO 4	1038	-369	3710	809.42	817.63	-136.64
177	SLV FO 5	185	1011	12893	2547.55	2840	-268.36
177	SLV FO 6	309	1020	12926	2554.65	2846.09	-296.54
177	SLV FO 7	238	-1149	-1119	-111.33	-252.54	208.2
177	SLV FO 8	361	-1140	-1085	-104.23	-246.45	180.03
177	SLV FO 9	-385	1000	12993	2563.56	2856.96	-145.77
177	SLV FO 10	-262	1009	13026	2570.66	2863.05	-173.95
177	SLV FO 11	-333	-1160	-1018	-95.31	-235.57	330.79
177	SLV FO 12	-209	-1151	-985	-88.22	-229.48	302.62
177	SLV FO 13	-1063	229	8198	1649.91	1792.89	170.89
177	SLV FO 14	-879	242	8248	1660.46	1801.94	129.03
177	SLV FO 15	-1047	-419	3994	852.25	865.13	313.86
177	SLV FO 16	-863	-406	4044	862.79	874.18	272
177	CRTFP Ux+	0	0	0	0	0	0
177	CRTFP Ux-	0	0	0	0	0	0
177	CRTFP Uy+	0	0	0	-0.01	-0.01	0
177	CRTFP Uy-	0	0	0	0.01	0.01	0
178	SLU 1	-2	-8	629	-47.03	-8.73	-0.24
178	SLU 2	-2	-6	647	-48.38	-8.98	-0.2
178	SLU 3	-2	-9	638	-47.7	-8.86	-0.25
178	SLU 4	-2	-7	648	-48.51	-9.01	-0.23
178	SLU 5	-2	-6	652	-48.77	-9.05	-0.21
178	SLU 6	-2	-9	643	-48.09	-8.93	-0.26
178	SLU 7	-2	-7	654	-48.89	-9.08	-0.24
178	SLU 8	-2	-9	639	-47.81	-8.88	-0.26
178	SLU 9	-2	-7	650	-48.62	-9.03	-0.24
178	SLU 10	-2	-7	732	-54.75	-10.17	-0.25
178	SLU 11	-2	-10	723	-54.08	-10.04	-0.3
178	SLU 12	-2	-8	734	-54.88	-10.19	-0.28
178	SLU 13	-2	-7	737	-55.14	-10.24	-0.26
178	SLU 14	-2	-10	728	-54.46	-10.11	-0.31
178	SLU 15	-2	-8	739	-55.27	-10.26	-0.29
178	SLU 16	-2	-10	724	-54.19	-10.06	-0.31
178	SLU 17	-2	-8	735	-54.99	-10.21	-0.29
178	SLU 18	-2	-10	751	-56.14	-10.42	-0.31
178	SLU 19	-2	-8	761	-56.95	-10.57	-0.29
178	SLU 20	-2	-10	756	-56.53	-10.5	-0.32
178	SLU 21	-3	-8	767	-57.34	-10.65	-0.3
178	SLU 22	-2	-9	711	-53.17	-9.87	-0.27
178	SLU 23	-2	-7	729	-54.51	-10.12	-0.23
178	SLU 24	-2	-10	720	-53.83	-10	-0.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLU 25	-2	-8	731	-54.64	-10.15	-0.26
178	SLU 26	-2	-7	734	-54.9	-10.19	-0.24
178	SLU 27	-2	-10	725	-54.22	-10.07	-0.29
178	SLU 28	-2	-8	736	-55.03	-10.22	-0.27
178	SLU 29	-2	-10	721	-53.95	-10.02	-0.29
178	SLU 30	-2	-8	732	-54.75	-10.17	-0.27
178	SLU 31	-2	-8	814	-60.89	-11.31	-0.29
178	SLU 32	-2	-11	805	-60.21	-11.18	-0.33
178	SLU 33	-3	-9	816	-61.02	-11.33	-0.31
178	SLU 34	-3	-8	819	-61.28	-11.38	-0.3
178	SLU 35	-3	-11	810	-60.6	-11.25	-0.34
178	SLU 36	-3	-9	821	-61.41	-11.4	-0.32
178	SLU 37	-3	-11	806	-60.32	-11.2	-0.34
178	SLU 38	-3	-9	817	-61.13	-11.35	-0.32
178	SLU 39	-3	-11	833	-62.28	-11.56	-0.35
178	SLU 40	-3	-9	843	-63.08	-11.71	-0.33
178	SLU 41	-3	-11	838	-62.67	-11.64	-0.36
178	SLU 42	-3	-9	849	-63.47	-11.79	-0.34
178	SLU 43	-2	-11	789	-59.04	-10.96	-0.3
178	SLU 44	-2	-8	807	-60.38	-11.21	-0.26
178	SLU 45	-2	-11	798	-59.71	-11.09	-0.31
178	SLU 46	-2	-9	809	-60.51	-11.24	-0.28
178	SLU 47	-2	-8	812	-60.77	-11.28	-0.27
178	SLU 48	-2	-11	803	-60.09	-11.16	-0.32
178	SLU 49	-2	-9	814	-60.9	-11.31	-0.3
178	SLU 50	-2	-11	800	-59.82	-11.11	-0.32
178	SLU 51	-2	-9	810	-60.62	-11.26	-0.29
178	SLU 52	-3	-9	893	-66.76	-12.4	-0.31
178	SLU 53	-3	-12	883	-66.08	-12.27	-0.36
178	SLU 54	-3	-10	894	-66.89	-12.42	-0.34
178	SLU 55	-3	-9	898	-67.15	-12.47	-0.32
178	SLU 56	-3	-12	889	-66.47	-12.34	-0.37
178	SLU 57	-3	-10	899	-67.28	-12.49	-0.35
178	SLU 58	-3	-12	885	-66.19	-12.29	-0.37
178	SLU 59	-3	-10	896	-67	-12.44	-0.35
178	SLU 60	-3	-12	911	-68.15	-12.65	-0.37
178	SLU 61	-3	-10	922	-68.96	-12.8	-0.35
178	SLU 62	-3	-12	916	-68.54	-12.73	-0.38
178	SLU 63	-3	-10	927	-69.34	-12.88	-0.36
178	SLU 64	-2	-12	871	-65.17	-12.1	-0.33
178	SLU 65	-2	-9	889	-66.52	-12.35	-0.29
178	SLU 66	-2	-12	880	-65.84	-12.23	-0.34
178	SLU 67	-2	-10	891	-66.65	-12.38	-0.32
178	SLU 68	-2	-9	894	-66.91	-12.42	-0.3
178	SLU 69	-2	-12	885	-66.23	-12.3	-0.35
178	SLU 70	-2	-10	896	-67.04	-12.45	-0.33
178	SLU 71	-2	-12	882	-65.95	-12.25	-0.35
178	SLU 72	-2	-10	892	-66.76	-12.4	-0.33
178	SLU 73	-3	-10	975	-72.9	-13.54	-0.35
178	SLU 74	-3	-13	965	-72.22	-13.41	-0.39
178	SLU 75	-3	-11	976	-73.02	-13.56	-0.37
178	SLU 76	-3	-10	980	-73.28	-13.61	-0.36
178	SLU 77	-3	-13	971	-72.61	-13.48	-0.4
178	SLU 78	-3	-11	981	-73.41	-13.63	-0.38
178	SLU 79	-3	-13	967	-72.33	-13.43	-0.4
178	SLU 80	-3	-11	978	-73.14	-13.58	-0.38
178	SLU 81	-3	-13	993	-74.28	-13.79	-0.41
178	SLU 82	-3	-11	1004	-75.09	-13.94	-0.38
178	SLU 83	-3	-13	998	-74.67	-13.87	-0.42
178	SLU 84	-3	-11	1009	-75.48	-14.01	-0.39
178	SLE RA 1	-2	-9	652	-48.79	-9.06	-0.25
178	SLE RA 2	-2	-7	664	-49.68	-9.22	-0.22
178	SLE RA 3	-2	-9	658	-49.23	-9.14	-0.25
178	SLE RA 4	-2	-8	665	-49.77	-9.24	-0.24
178	SLE RA 5	-2	-7	668	-49.94	-9.27	-0.23
178	SLE RA 6	-2	-9	662	-49.49	-9.19	-0.26
178	SLE RA 7	-2	-8	669	-50.03	-9.29	-0.25
178	SLE RA 8	-2	-9	659	-49.3	-9.15	-0.26
178	SLE RA 9	-2	-8	666	-49.84	-9.25	-0.25
178	SLE RA 10	-2	-7	721	-53.93	-10.01	-0.26
178	SLE RA 11	-2	-9	715	-53.48	-9.93	-0.29
178	SLE RA 12	-2	-8	722	-54.02	-10.03	-0.27
178	SLE RA 13	-2	-8	724	-54.19	-10.06	-0.26
178	SLE RA 14	-2	-10	718	-53.74	-9.98	-0.3
178	SLE RA 15	-2	-8	726	-54.28	-10.08	-0.28
178	SLE RA 16	-2	-10	716	-53.56	-9.94	-0.29
178	SLE RA 17	-2	-8	723	-54.09	-10.04	-0.28
178	SLE RA 18	-2	-10	733	-54.86	-10.19	-0.3
178	SLE RA 19	-2	-8	741	-55.4	-10.29	-0.28
178	SLE RA 20	-2	-10	737	-55.12	-10.23	-0.3
178	SLE RA 21	-2	-9	744	-55.66	-10.33	-0.29
178	SLE FR 1	-2	-9	652	-48.79	-9.06	-0.25
178	SLE FR 2	-2	-8	655	-48.97	-9.09	-0.24
178	SLE FR 3	-2	-9	654	-48.89	-9.08	-0.25
178	SLE FR 4	-2	-9	679	-50.79	-9.43	-0.26
178	SLE FR 5	-2	-9	678	-50.71	-9.42	-0.26
178	SLE FR 6	-2	-9	693	-51.82	-9.62	-0.27
178	SLE QP 1	-2	-9	652	-48.79	-9.06	-0.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLE QP 2	-2	-9	677	-50.61	-9.4	-0.26
178	SLD 1	52	10	791	-59.14	-10.98	4.08
178	SLD 2	64	12	795	-59.44	-11.04	4.99
178	SLD 3	54	-26	522	-39.02	-7.25	3.63
178	SLD 4	66	-24	526	-39.33	-7.3	4.54
178	SLD 5	11	51	1118	-83.62	-15.53	1.57
178	SLD 6	18	53	1121	-83.82	-15.56	2.16
178	SLD 7	15	-69	222	-16.57	-3.08	0.06
178	SLD 8	22	-68	224	-16.77	-3.11	0.65
178	SLD 9	-26	50	1129	-84.45	-15.68	-1.17
178	SLD 10	-18	51	1132	-84.64	-15.72	-0.59
178	SLD 11	-22	-70	233	-17.4	-3.23	-2.68
178	SLD 12	-14	-69	235	-17.59	-3.27	-2.09
178	SLD 13	-69	6	827	-61.89	-11.49	-5.06
178	SLD 14	-57	8	831	-62.19	-11.55	-4.15
178	SLD 15	-68	-30	559	-41.78	-7.76	-5.51
178	SLD 16	-56	-28	563	-42.08	-7.81	-4.6
178	SLV 1	83	24	874	-65.38	-12.14	6.55
178	SLV 2	102	26	880	-65.85	-12.23	7.99
178	SLV 3	85	-38	415	-31.06	-5.77	5.78
178	SLV 4	104	-36	422	-31.54	-5.86	7.22
178	SLV 5	17	94	1430	-107	-19.87	2.68
178	SLV 6	30	96	1435	-107.32	-19.93	3.65
178	SLV 7	24	-112	-99	7.4	1.37	0.12
178	SLV 8	36	-110	-95	7.08	1.31	1.08
178	SLV 9	-40	92	1448	-108.29	-20.11	-1.61
178	SLV 10	-27	94	1452	-108.61	-20.17	-0.64
178	SLV 11	-33	-114	-82	6.11	1.13	-4.17
178	SLV 12	-21	-112	-77	5.78	1.07	-3.2
178	SLV 13	-107	18	932	-69.68	-12.94	-7.74
178	SLV 14	-89	20	938	-70.16	-13.03	-6.3
178	SLV 15	-105	-44	473	-35.36	-6.57	-8.51
178	SLV 16	-87	-42	479	-35.84	-6.65	-7.07
178	SLV FO 1	91	27	894	-66.85	-12.41	7.23
178	SLV FO 2	112	30	901	-67.38	-12.51	8.81
178	SLV FO 3	94	-41	389	-29.1	-5.4	6.39
178	SLV FO 4	114	-38	396	-29.63	-5.5	7.97
178	SLV FO 5	19	104	1506	-112.64	-20.91	2.98
178	SLV FO 6	33	106	1511	-112.99	-20.98	4.04
178	SLV FO 7	26	-122	-176	13.2	2.45	0.15
178	SLV FO 8	40	-120	-172	12.84	2.38	1.22
178	SLV FO 9	-44	102	1525	-114.06	-21.18	-1.74
178	SLV FO 10	-30	104	1530	-114.41	-21.24	-0.68
178	SLV FO 11	-36	-124	-157	11.78	2.19	-4.56
178	SLV FO 12	-23	-122	-153	11.42	2.12	-3.5
178	SLV FO 13	-118	20	957	-71.59	-13.29	-8.49
178	SLV FO 14	-97	23	964	-72.11	-13.39	-6.91
178	SLV FO 15	-116	-48	452	-33.84	-6.28	-9.34
178	SLV FO 16	-95	-45	459	-34.36	-6.38	-7.75
178	CRTFP Ux+	0	0	0	0	0	0
178	CRTFP Ux-	0	0	0	0	0	0
178	CRTFP Uy+	0	0	0	0	0	0
178	CRTFP Uy-	0	0	0	0	0	0
179	SLU 1	-1	-9	626	-46.85	-17.4	-0.36
179	SLU 2	-2	-6	644	-48.2	-17.9	-0.29
179	SLU 3	-2	-9	635	-47.51	-17.64	-0.38
179	SLU 4	-2	-8	646	-48.32	-17.94	-0.33
179	SLU 5	-2	-6	649	-48.58	-18.04	-0.3
179	SLU 6	-2	-9	640	-47.9	-17.79	-0.39
179	SLU 7	-2	-8	651	-48.7	-18.09	-0.34
179	SLU 8	-2	-9	637	-47.62	-17.68	-0.39
179	SLU 9	-2	-8	647	-48.43	-17.98	-0.34
179	SLU 10	-2	-7	729	-54.53	-20.25	-0.36
179	SLU 11	-2	-10	720	-53.84	-19.99	-0.44
179	SLU 12	-2	-9	731	-54.65	-20.29	-0.4
179	SLU 13	-2	-7	734	-54.91	-20.39	-0.37
179	SLU 14	-2	-10	725	-54.23	-20.14	-0.46
179	SLU 15	-2	-9	736	-55.03	-20.44	-0.41
179	SLU 16	-2	-10	721	-53.95	-20.03	-0.45
179	SLU 17	-2	-9	732	-54.76	-20.33	-0.41
179	SLU 18	-2	-10	747	-55.89	-20.76	-0.46
179	SLU 19	-2	-9	758	-56.7	-21.06	-0.42
179	SLU 20	-2	-11	752	-56.28	-20.9	-0.47
179	SLU 21	-2	-9	763	-57.09	-21.2	-0.43
179	SLU 22	-2	-10	708	-52.96	-19.67	-0.41
179	SLU 23	-2	-7	726	-54.31	-20.17	-0.34
179	SLU 24	-2	-10	717	-53.62	-19.91	-0.42
179	SLU 25	-2	-9	728	-54.43	-20.21	-0.38
179	SLU 26	-2	-8	731	-54.69	-20.31	-0.35
179	SLU 27	-2	-10	722	-54	-20.05	-0.44
179	SLU 28	-2	-9	733	-54.81	-20.35	-0.39
179	SLU 29	-2	-10	718	-53.73	-19.95	-0.44
179	SLU 30	-2	-9	729	-54.53	-20.25	-0.39
179	SLU 31	-2	-8	811	-60.63	-22.52	-0.41
179	SLU 32	-2	-11	801	-59.95	-22.26	-0.49
179	SLU 33	-2	-10	812	-60.76	-22.56	-0.45
179	SLU 34	-2	-9	816	-61.02	-22.66	-0.42
179	SLU 35	-2	-11	807	-60.33	-22.41	-0.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
179	SLU 36	-3	-10	817	-61.14	-22.7	-0.46
179	SLU 37	-2	-11	803	-60.06	-22.3	-0.5
179	SLU 38	-3	-10	814	-60.86	-22.6	-0.46
179	SLU 39	-2	-12	829	-62	-23.03	-0.51
179	SLU 40	-3	-10	840	-62.81	-23.32	-0.46
179	SLU 41	-3	-12	834	-62.39	-23.17	-0.52
179	SLU 42	-3	-10	845	-63.19	-23.47	-0.48
179	SLU 43	-2	-11	786	-58.82	-21.84	-0.45
179	SLU 44	-2	-9	804	-60.16	-22.34	-0.38
179	SLU 45	-2	-12	795	-59.48	-22.09	-0.47
179	SLU 46	-2	-10	806	-60.28	-22.39	-0.42
179	SLU 47	-2	-9	809	-60.54	-22.48	-0.39
179	SLU 48	-2	-12	800	-59.86	-22.23	-0.48
179	SLU 49	-2	-10	811	-60.67	-22.53	-0.44
179	SLU 50	-2	-12	797	-59.58	-22.13	-0.48
179	SLU 51	-2	-10	807	-60.39	-22.43	-0.43
179	SLU 52	-2	-10	889	-66.49	-24.69	-0.45
179	SLU 53	-3	-13	880	-65.8	-24.44	-0.54
179	SLU 54	-3	-11	891	-66.61	-24.74	-0.49
179	SLU 55	-3	-10	894	-66.87	-24.83	-0.46
179	SLU 56	-3	-13	885	-66.19	-24.58	-0.55
179	SLU 57	-3	-11	896	-66.99	-24.88	-0.5
179	SLU 58	-3	-13	881	-65.91	-24.48	-0.55
179	SLU 59	-3	-11	892	-66.72	-24.78	-0.5
179	SLU 60	-3	-13	907	-67.86	-25.2	-0.55
179	SLU 61	-3	-11	918	-68.66	-25.5	-0.51
179	SLU 62	-3	-13	912	-68.24	-25.34	-0.56
179	SLU 63	-3	-11	923	-69.05	-25.64	-0.52
179	SLU 64	-2	-12	868	-64.92	-24.11	-0.5
179	SLU 65	-2	-10	886	-66.27	-24.61	-0.43
179	SLU 66	-2	-13	877	-65.58	-24.35	-0.52
179	SLU 67	-2	-11	888	-66.39	-24.65	-0.47
179	SLU 68	-2	-10	891	-66.65	-24.75	-0.44
179	SLU 69	-2	-13	882	-65.97	-24.5	-0.53
179	SLU 70	-2	-11	893	-66.77	-24.8	-0.48
179	SLU 71	-2	-13	878	-65.69	-24.39	-0.53
179	SLU 72	-2	-11	889	-66.5	-24.69	-0.48
179	SLU 73	-3	-11	971	-72.6	-26.96	-0.5
179	SLU 74	-3	-14	961	-71.91	-26.71	-0.58
179	SLU 75	-3	-12	972	-72.72	-27	-0.54
179	SLU 76	-3	-11	976	-72.98	-27.1	-0.51
179	SLU 77	-3	-14	967	-72.29	-26.85	-0.6
179	SLU 78	-3	-12	977	-73.1	-27.15	-0.55
179	SLU 79	-3	-14	963	-72.02	-26.74	-0.6
179	SLU 80	-3	-12	974	-72.83	-27.04	-0.55
179	SLU 81	-3	-14	989	-73.96	-27.47	-0.6
179	SLU 82	-3	-12	1000	-74.77	-27.77	-0.56
179	SLU 83	-3	-14	994	-74.35	-27.61	-0.61
179	SLU 84	-3	-12	1005	-75.15	-27.91	-0.57
179	SLE RA 1	-2	-9	650	-48.6	-18.05	-0.38
179	SLE RA 2	-2	-7	662	-49.5	-18.38	-0.33
179	SLE RA 3	-2	-9	656	-49.04	-18.21	-0.38
179	SLE RA 4	-2	-8	663	-49.58	-18.41	-0.36
179	SLE RA 5	-2	-8	665	-49.75	-18.48	-0.34
179	SLE RA 6	-2	-10	659	-49.29	-18.31	-0.39
179	SLE RA 7	-2	-8	666	-49.83	-18.51	-0.36
179	SLE RA 8	-2	-10	657	-49.11	-18.24	-0.39
179	SLE RA 9	-2	-8	664	-49.65	-18.44	-0.36
179	SLE RA 10	-2	-8	718	-53.71	-19.95	-0.37
179	SLE RA 11	-2	-10	712	-53.26	-19.78	-0.43
179	SLE RA 12	-2	-9	719	-53.8	-19.98	-0.4
179	SLE RA 13	-2	-8	722	-53.97	-20.04	-0.38
179	SLE RA 14	-2	-10	715	-53.51	-19.87	-0.44
179	SLE RA 15	-2	-9	723	-54.05	-20.07	-0.41
179	SLE RA 16	-2	-10	713	-53.33	-19.8	-0.44
179	SLE RA 17	-2	-9	720	-53.87	-20	-0.41
179	SLE RA 18	-2	-10	730	-54.63	-20.29	-0.44
179	SLE RA 19	-2	-9	737	-55.16	-20.49	-0.41
179	SLE RA 20	-2	-10	734	-54.88	-20.38	-0.45
179	SLE RA 21	-2	-9	741	-55.42	-20.58	-0.42
179	SLE FR 1	-2	-9	650	-48.6	-18.05	-0.38
179	SLE FR 2	-2	-9	652	-48.78	-18.11	-0.37
179	SLE FR 3	-2	-9	651	-48.7	-18.09	-0.38
179	SLE FR 4	-2	-9	676	-50.59	-18.79	-0.39
179	SLE FR 5	-2	-10	675	-50.51	-18.76	-0.4
179	SLE FR 6	-2	-10	690	-51.61	-19.17	-0.41
179	SLE QP 1	-2	-9	650	-48.6	-18.05	-0.38
179	SLE QP 2	-2	-10	674	-50.41	-18.72	-0.4
179	SLD 1	52	10	783	-58.55	-21.74	4.18
179	SLD 2	64	12	787	-58.89	-21.87	5.12
179	SLD 3	53	-26	515	-38.5	-14.3	3.25
179	SLD 4	65	-23	519	-38.83	-14.42	4.2
179	SLD 5	11	49	1112	-83.21	-30.9	2.22
179	SLD 6	18	51	1115	-83.42	-30.98	2.83
179	SLD 7	15	-68	219	-16.36	-6.08	-0.87
179	SLD 8	22	-67	222	-16.58	-6.16	-0.26
179	SLD 9	-26	47	1126	-84.24	-31.28	-0.53
179	SLD 10	-18	49	1129	-84.45	-31.36	0.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
179	SLD 11	-22	-70	232	-17.39	-6.46	-3.62
179	SLD 12	-14	-68	235	-17.6	-6.54	-3.01
179	SLD 13	-69	4	829	-61.98	-23.02	-4.99
179	SLD 14	-57	6	833	-62.31	-23.14	-4.04
179	SLD 15	-67	-31	561	-41.93	-15.57	-5.91
179	SLD 16	-56	-29	565	-42.26	-15.69	-4.97
179	SLV 1	82	23	863	-64.58	-23.98	6.82
179	SLV 2	101	26	870	-65.1	-24.18	8.31
179	SLV 3	84	-37	406	-30.36	-11.27	5.24
179	SLV 4	103	-34	413	-30.88	-11.47	6.73
179	SLV 5	17	91	1423	-106.46	-39.53	3.89
179	SLV 6	30	93	1428	-106.81	-39.66	4.89
179	SLV 7	24	-109	-102	7.6	2.82	-1.38
179	SLV 8	36	-107	-97	7.25	2.69	-0.38
179	SLV 9	-39	88	1445	-108.06	-40.13	-0.41
179	SLV 10	-27	90	1449	-108.41	-40.26	0.59
179	SLV 11	-33	-112	-80	5.99	2.23	-5.68
179	SLV 12	-21	-110	-75	5.64	2.09	-4.68
179	SLV 13	-106	14	935	-69.93	-25.97	-7.52
179	SLV 14	-88	18	942	-70.45	-26.16	-6.03
179	SLV 15	-104	-46	477	-35.71	-13.26	-9.1
179	SLV 16	-86	-42	484	-36.24	-13.46	-7.61
179	SLV FO 1	91	26	882	-65.99	-24.51	7.54
179	SLV FO 2	111	30	890	-66.57	-24.72	9.18
179	SLV FO 3	93	-40	379	-28.36	-10.53	5.8
179	SLV FO 4	113	-36	387	-28.93	-10.74	7.44
179	SLV FO 5	19	101	1498	-112.06	-41.61	4.32
179	SLV FO 6	33	103	1503	-112.45	-41.76	5.42
179	SLV FO 7	26	-119	-179	13.4	4.98	-1.48
179	SLV FO 8	40	-117	-174	13.01	4.83	-0.38
179	SLV FO 9	-43	98	1522	-113.83	-42.27	-0.41
179	SLV FO 10	-29	100	1527	-114.21	-42.41	0.69
179	SLV FO 11	-36	-122	-156	11.63	4.32	-6.21
179	SLV FO 12	-22	-120	-150	11.25	4.18	-5.11
179	SLV FO 13	-117	17	961	-71.88	-26.69	-8.23
179	SLV FO 14	-96	20	969	-72.46	-26.91	-6.59
179	SLV FO 15	-115	-49	458	-34.24	-12.72	-9.97
179	SLV FO 16	-94	-45	466	-34.82	-12.93	-8.33
179	CRTFP Ux+	0	0	0	0	0	0
179	CRTFP Ux-	0	0	0	0	0	0
179	CRTFP Uy+	0	0	0	0	0	0
179	CRTFP Uy-	0	0	0	0	0	0
180	SLU 1	-1	-10	622	-46.56	-25.93	-0.51
180	SLU 2	-2	-7	640	-47.9	-26.68	-0.4
180	SLU 3	-2	-10	631	-47.21	-26.3	-0.53
180	SLU 4	-2	-8	642	-48.01	-26.74	-0.46
180	SLU 5	-2	-7	645	-48.28	-26.89	-0.42
180	SLU 6	-2	-10	636	-47.58	-26.51	-0.54
180	SLU 7	-2	-8	647	-48.39	-26.95	-0.48
180	SLU 8	-2	-10	632	-47.31	-26.35	-0.54
180	SLU 9	-2	-8	643	-48.11	-26.8	-0.47
180	SLU 10	-2	-8	724	-54.16	-30.17	-0.49
180	SLU 11	-2	-11	715	-53.47	-29.79	-0.61
180	SLU 12	-2	-9	726	-54.28	-30.23	-0.55
180	SLU 13	-2	-8	729	-54.54	-30.38	-0.5
180	SLU 14	-2	-11	720	-53.85	-30	-0.63
180	SLU 15	-2	-9	731	-54.65	-30.44	-0.56
180	SLU 16	-2	-11	716	-53.57	-29.84	-0.62
180	SLU 17	-2	-9	727	-54.38	-30.29	-0.56
180	SLU 18	-2	-11	742	-55.51	-30.92	-0.63
180	SLU 19	-2	-10	753	-56.31	-31.37	-0.57
180	SLU 20	-2	-11	747	-55.88	-31.13	-0.65
180	SLU 21	-2	-10	758	-56.69	-31.58	-0.58
180	SLU 22	-2	-11	703	-52.62	-29.31	-0.58
180	SLU 23	-2	-8	721	-53.96	-30.06	-0.47
180	SLU 24	-2	-11	712	-53.27	-29.67	-0.59
180	SLU 25	-2	-9	723	-54.08	-30.12	-0.53
180	SLU 26	-2	-8	726	-54.34	-30.27	-0.48
180	SLU 27	-2	-11	717	-53.65	-29.88	-0.61
180	SLU 28	-2	-10	728	-54.45	-30.33	-0.54
180	SLU 29	-2	-11	714	-53.37	-29.73	-0.61
180	SLU 30	-2	-10	724	-54.18	-30.18	-0.54
180	SLU 31	-2	-9	805	-60.23	-33.55	-0.55
180	SLU 32	-2	-12	796	-59.54	-33.16	-0.68
180	SLU 33	-2	-11	807	-60.34	-33.61	-0.61
180	SLU 34	-2	-9	810	-60.61	-33.76	-0.57
180	SLU 35	-2	-12	801	-59.91	-33.37	-0.69
180	SLU 36	-2	-11	812	-60.72	-33.82	-0.63
180	SLU 37	-2	-12	797	-59.64	-33.22	-0.69
180	SLU 38	-2	-11	808	-60.44	-33.67	-0.63
180	SLU 39	-2	-12	823	-61.57	-34.3	-0.7
180	SLU 40	-2	-11	834	-62.38	-34.75	-0.63
180	SLU 41	-3	-13	828	-61.95	-34.51	-0.71
180	SLU 42	-3	-11	839	-62.75	-34.96	-0.65
180	SLU 43	-2	-12	781	-58.44	-32.56	-0.64
180	SLU 44	-2	-9	799	-59.79	-33.3	-0.53
180	SLU 45	-2	-12	790	-59.09	-32.92	-0.66
180	SLU 46	-2	-11	801	-59.9	-33.37	-0.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
180	SLU 47	-2	-10	804	-60.16	-33.51	-0.55
180	SLU 48	-2	-12	795	-59.47	-33.13	-0.67
180	SLU 49	-2	-11	806	-60.28	-33.58	-0.61
180	SLU 50	-2	-12	791	-59.2	-32.97	-0.67
180	SLU 51	-2	-11	802	-60	-33.42	-0.6
180	SLU 52	-2	-10	883	-66.05	-36.79	-0.62
180	SLU 53	-2	-13	874	-65.36	-36.41	-0.74
180	SLU 54	-3	-12	885	-66.16	-36.86	-0.68
180	SLU 55	-3	-11	888	-66.43	-37	-0.63
180	SLU 56	-3	-14	879	-65.74	-36.62	-0.76
180	SLU 57	-3	-12	890	-66.54	-37.07	-0.69
180	SLU 58	-3	-13	875	-65.46	-36.46	-0.75
180	SLU 59	-3	-12	886	-66.27	-36.91	-0.69
180	SLU 60	-3	-14	901	-67.39	-37.54	-0.76
180	SLU 61	-3	-12	912	-68.2	-37.99	-0.7
180	SLU 62	-3	-14	906	-67.77	-37.75	-0.78
180	SLU 63	-3	-12	917	-68.58	-38.2	-0.71
180	SLU 64	-2	-13	862	-64.51	-35.93	-0.71
180	SLU 65	-2	-11	880	-65.85	-36.68	-0.6
180	SLU 66	-2	-13	871	-65.16	-36.3	-0.72
180	SLU 67	-2	-12	882	-65.96	-36.74	-0.66
180	SLU 68	-2	-11	885	-66.23	-36.89	-0.61
180	SLU 69	-2	-14	876	-65.54	-36.51	-0.74
180	SLU 70	-2	-12	887	-66.34	-36.95	-0.67
180	SLU 71	-2	-14	872	-65.26	-36.35	-0.74
180	SLU 72	-2	-12	883	-66.07	-36.8	-0.67
180	SLU 73	-3	-12	964	-72.12	-40.17	-0.68
180	SLU 74	-3	-15	955	-71.42	-39.79	-0.81
180	SLU 75	-3	-13	966	-72.23	-40.23	-0.74
180	SLU 76	-3	-12	969	-72.49	-40.38	-0.7
180	SLU 77	-3	-15	960	-71.8	-40	-0.82
180	SLU 78	-3	-13	971	-72.61	-40.44	-0.76
180	SLU 79	-3	-15	956	-71.53	-39.84	-0.82
180	SLU 80	-3	-13	967	-72.33	-40.29	-0.76
180	SLU 81	-3	-15	982	-73.46	-40.92	-0.83
180	SLU 82	-3	-13	993	-74.26	-41.37	-0.76
180	SLU 83	-3	-15	987	-73.83	-41.13	-0.84
180	SLU 84	-3	-13	998	-74.64	-41.58	-0.78
180	SLE RA 1	-2	-10	646	-48.29	-26.9	-0.53
180	SLE RA 2	-2	-8	658	-49.18	-27.4	-0.46
180	SLE RA 3	-2	-10	651	-48.72	-27.14	-0.54
180	SLE RA 4	-2	-9	659	-49.26	-27.44	-0.5
180	SLE RA 5	-2	-8	661	-49.44	-27.54	-0.47
180	SLE RA 6	-2	-10	655	-48.97	-27.28	-0.55
180	SLE RA 7	-2	-9	662	-49.51	-27.58	-0.51
180	SLE RA 8	-2	-10	652	-48.79	-27.18	-0.55
180	SLE RA 9	-2	-9	659	-49.33	-27.48	-0.51
180	SLE RA 10	-2	-9	713	-53.36	-29.72	-0.51
180	SLE RA 11	-2	-11	707	-52.9	-29.47	-0.6
180	SLE RA 12	-2	-10	714	-53.44	-29.77	-0.55
180	SLE RA 13	-2	-9	717	-53.61	-29.86	-0.52
180	SLE RA 14	-2	-11	711	-53.15	-29.61	-0.61
180	SLE RA 15	-2	-10	718	-53.69	-29.91	-0.56
180	SLE RA 16	-2	-11	708	-52.97	-29.5	-0.61
180	SLE RA 17	-2	-10	715	-53.5	-29.8	-0.56
180	SLE RA 18	-2	-11	725	-54.26	-30.22	-0.61
180	SLE RA 19	-2	-10	733	-54.79	-30.52	-0.57
180	SLE RA 20	-2	-11	729	-54.51	-30.36	-0.62
180	SLE RA 21	-2	-10	736	-55.04	-30.66	-0.58
180	SLE FR 1	-2	-10	646	-48.29	-26.9	-0.53
180	SLE FR 2	-2	-10	648	-48.47	-27	-0.51
180	SLE FR 3	-2	-10	647	-48.39	-26.95	-0.53
180	SLE FR 4	-2	-10	672	-50.26	-28	-0.54
180	SLE FR 5	-2	-10	671	-50.18	-27.95	-0.56
180	SLE FR 6	-2	-10	685	-51.27	-28.56	-0.57
180	SLE QP 1	-2	-10	646	-48.29	-26.9	-0.53
180	SLE QP 2	-2	-10	669	-50.08	-27.9	-0.55
180	SLD 1	52	9	773	-57.79	-32.19	4.27
180	SLD 2	64	12	777	-58.15	-32.39	5.25
180	SLD 3	53	-25	506	-37.84	-21.08	2.89
180	SLD 4	65	-22	511	-38.2	-21.28	3.88
180	SLD 5	11	47	1104	-82.59	-46.01	2.81
180	SLD 6	18	49	1107	-82.82	-46.14	3.45
180	SLD 7	14	-67	215	-16.08	-8.96	-1.78
180	SLD 8	22	-65	218	-16.31	-9.09	-1.15
180	SLD 9	-25	45	1121	-83.85	-46.71	0.04
180	SLD 10	-18	46	1124	-84.08	-46.83	0.67
180	SLD 11	-22	-69	232	-17.33	-9.66	-4.56
180	SLD 12	-14	-67	235	-17.56	-9.78	-3.92
180	SLD 13	-68	2	828	-61.96	-34.52	-4.98
180	SLD 14	-56	5	833	-62.32	-34.71	-4
180	SLD 15	-67	-32	562	-42.01	-23.4	-6.36
180	SLD 16	-55	-30	566	-42.37	-23.6	-5.37
180	SLV 1	82	22	850	-63.56	-35.41	7.08
180	SLV 2	100	27	857	-64.13	-35.72	8.63
180	SLV 3	84	-36	395	-29.52	-16.44	4.73
180	SLV 4	102	-32	402	-30.08	-16.76	6.28
180	SLV 5	17	87	1412	-105.65	-58.85	5.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
180	SLV 6	30	90	1418	-106.03	-59.06	6.06
180	SLV 7	23	-107	-105	7.83	4.36	-2.83
180	SLV 8	36	-104	-100	7.45	4.15	-1.78
180	SLV 9	-39	84	1439	-107.61	-59.94	0.67
180	SLV 10	-27	86	1444	-107.99	-60.15	1.72
180	SLV 11	-33	-110	-79	5.88	3.27	-7.17
180	SLV 12	-21	-108	-73	5.5	3.06	-6.12
180	SLV 13	-106	11	937	-70.07	-39.03	-7.39
180	SLV 14	-87	15	944	-70.64	-39.35	-5.83
180	SLV 15	-104	-47	482	-36.03	-20.07	-9.74
180	SLV 16	-85	-43	489	-36.59	-20.38	-8.18
180	SLV FO 1	90	26	868	-64.91	-36.16	7.84
180	SLV FO 2	111	30	876	-65.53	-36.5	9.55
180	SLV FO 3	92	-38	367	-27.46	-15.3	5.25
180	SLV FO 4	113	-34	375	-28.08	-15.64	6.96
180	SLV FO 5	19	97	1487	-111.21	-61.95	5.57
180	SLV FO 6	33	100	1492	-111.63	-62.18	6.72
180	SLV FO 7	26	-117	-182	13.62	7.59	-3.05
180	SLV FO 8	39	-114	-177	13.2	7.35	-1.9
180	SLV FO 9	-43	93	1515	-113.36	-63.15	0.8
180	SLV FO 10	-29	96	1521	-113.78	-63.38	1.95
180	SLV FO 11	-36	-120	-153	11.47	6.39	-7.83
180	SLV FO 12	-22	-117	-148	11.05	6.16	-6.68
180	SLV FO 13	-116	13	964	-72.07	-40.15	-8.07
180	SLV FO 14	-96	18	972	-72.69	-40.49	-6.36
180	SLV FO 15	-114	-51	463	-34.62	-19.29	-10.66
180	SLV FO 16	-94	-46	471	-35.24	-19.63	-8.95
180	CRTFP Ux+	0	0	0	0	0	0
180	CRTFP Ux-	0	0	0	0	0	0
180	CRTFP Uy+	0	0	0	0	0	0
180	CRTFP Uy-	0	0	0	0	0	0
181	SLU 1	-1	-10	619	-46.27	-34.36	-0.68
181	SLU 2	-1	-8	636	-47.61	-35.36	-0.54
181	SLU 3	-2	-10	627	-46.91	-34.84	-0.7
181	SLU 4	-2	-9	638	-47.71	-35.44	-0.61
181	SLU 5	-2	-8	641	-47.98	-35.63	-0.55
181	SLU 6	-2	-11	632	-47.28	-35.11	-0.71
181	SLU 7	-2	-9	643	-48.08	-35.71	-0.63
181	SLU 8	-2	-11	628	-47.01	-34.91	-0.71
181	SLU 9	-2	-9	639	-47.81	-35.51	-0.63
181	SLU 10	-2	-9	719	-53.81	-39.97	-0.64
181	SLU 11	-2	-12	710	-53.11	-39.45	-0.8
181	SLU 12	-2	-10	721	-53.92	-40.05	-0.72
181	SLU 13	-2	-9	724	-54.18	-40.24	-0.66
181	SLU 14	-2	-12	715	-53.48	-39.72	-0.82
181	SLU 15	-2	-10	726	-54.29	-40.32	-0.74
181	SLU 16	-2	-12	711	-53.21	-39.52	-0.82
181	SLU 17	-2	-10	722	-54.02	-40.12	-0.73
181	SLU 18	-2	-12	737	-55.13	-40.95	-0.83
181	SLU 19	-2	-10	748	-55.93	-41.54	-0.74
181	SLU 20	-2	-12	742	-55.5	-41.22	-0.85
181	SLU 21	-2	-11	753	-56.3	-41.82	-0.76
181	SLU 22	-2	-12	699	-52.29	-38.84	-0.76
181	SLU 23	-2	-9	717	-53.63	-39.84	-0.62
181	SLU 24	-2	-12	708	-52.93	-39.32	-0.78
181	SLU 25	-2	-10	718	-53.74	-39.91	-0.7
181	SLU 26	-2	-9	722	-54	-40.11	-0.64
181	SLU 27	-2	-12	713	-53.3	-39.59	-0.8
181	SLU 28	-2	-10	723	-54.11	-40.19	-0.72
181	SLU 29	-2	-12	709	-53.03	-39.39	-0.8
181	SLU 30	-2	-10	720	-53.84	-39.99	-0.71
181	SLU 31	-2	-10	800	-59.84	-44.44	-0.73
181	SLU 32	-2	-13	791	-59.14	-43.92	-0.89
181	SLU 33	-2	-11	801	-59.94	-44.52	-0.81
181	SLU 34	-2	-10	805	-60.21	-44.72	-0.75
181	SLU 35	-2	-13	796	-59.51	-44.2	-0.91
181	SLU 36	-2	-12	806	-60.31	-44.8	-0.82
181	SLU 37	-2	-13	792	-59.24	-44	-0.9
181	SLU 38	-2	-11	803	-60.04	-44.59	-0.82
181	SLU 39	-2	-13	818	-61.16	-45.42	-0.92
181	SLU 40	-2	-12	828	-61.96	-46.02	-0.83
181	SLU 41	-3	-13	823	-61.53	-45.7	-0.93
181	SLU 42	-3	-12	833	-62.33	-46.29	-0.85
181	SLU 43	-2	-13	776	-58.08	-43.14	-0.85
181	SLU 44	-2	-10	794	-59.42	-44.13	-0.71
181	SLU 45	-2	-13	785	-58.72	-43.61	-0.87
181	SLU 46	-2	-12	796	-59.53	-44.21	-0.79
181	SLU 47	-2	-10	799	-59.79	-44.41	-0.73
181	SLU 48	-2	-13	790	-59.09	-43.89	-0.89
181	SLU 49	-2	-12	801	-59.9	-44.49	-0.8
181	SLU 50	-2	-13	786	-58.82	-43.69	-0.88
181	SLU 51	-2	-12	797	-59.63	-44.29	-0.8
181	SLU 52	-2	-11	877	-65.63	-48.74	-0.82
181	SLU 53	-2	-14	868	-64.93	-48.22	-0.98
181	SLU 54	-2	-13	879	-65.73	-48.82	-0.89
181	SLU 55	-2	-12	882	-66	-49.02	-0.83
181	SLU 56	-3	-14	873	-65.3	-48.5	-0.99
181	SLU 57	-3	-13	884	-66.1	-49.09	-0.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLU 58	-3	-14	869	-65.02	-48.3	-0.99
181	SLU 59	-3	-13	880	-65.83	-48.89	-0.91
181	SLU 60	-3	-15	895	-66.94	-49.72	-1
181	SLU 61	-3	-13	906	-67.75	-50.32	-0.92
181	SLU 62	-3	-15	900	-67.31	-50	-1.02
181	SLU 63	-3	-13	911	-68.12	-50.59	-0.93
181	SLU 64	-2	-14	857	-64.11	-47.61	-0.94
181	SLU 65	-2	-12	875	-65.45	-48.61	-0.8
181	SLU 66	-2	-14	866	-64.75	-48.09	-0.96
181	SLU 67	-2	-13	876	-65.55	-48.69	-0.87
181	SLU 68	-2	-12	880	-65.82	-48.88	-0.81
181	SLU 69	-2	-15	871	-65.12	-48.36	-0.98
181	SLU 70	-2	-13	881	-65.92	-48.96	-0.89
181	SLU 71	-2	-14	867	-64.85	-48.16	-0.97
181	SLU 72	-2	-13	878	-65.65	-48.76	-0.89
181	SLU 73	-3	-13	958	-71.65	-53.22	-0.9
181	SLU 74	-3	-16	949	-70.95	-52.7	-1.06
181	SLU 75	-3	-14	959	-71.76	-53.3	-0.98
181	SLU 76	-3	-13	963	-72.02	-53.49	-0.92
181	SLU 77	-3	-16	954	-71.32	-52.97	-1.08
181	SLU 78	-3	-14	964	-72.13	-53.57	-1
181	SLU 79	-3	-16	950	-71.05	-52.77	-1.08
181	SLU 80	-3	-14	961	-71.86	-53.37	-0.99
181	SLU 81	-3	-16	976	-72.97	-54.2	-1.09
181	SLU 82	-3	-14	986	-73.77	-54.79	-1
181	SLU 83	-3	-16	980	-73.34	-54.47	-1.11
181	SLU 84	-3	-14	991	-74.15	-55.07	-1.02
181	SLE RA 1	-2	-11	642	-47.99	-35.64	-0.7
181	SLE RA 2	-2	-9	654	-48.88	-36.31	-0.61
181	SLE RA 3	-2	-11	647	-48.42	-35.96	-0.72
181	SLE RA 4	-2	-10	654	-48.95	-36.36	-0.66
181	SLE RA 5	-2	-9	657	-49.13	-36.49	-0.62
181	SLE RA 6	-2	-11	651	-48.66	-36.14	-0.73
181	SLE RA 7	-2	-10	658	-49.2	-36.54	-0.67
181	SLE RA 8	-2	-11	648	-48.48	-36.01	-0.72
181	SLE RA 9	-2	-10	655	-49.02	-36.41	-0.67
181	SLE RA 10	-2	-10	709	-53.02	-39.38	-0.68
181	SLE RA 11	-2	-12	703	-52.55	-39.03	-0.79
181	SLE RA 12	-2	-11	710	-53.09	-39.43	-0.73
181	SLE RA 13	-2	-10	712	-53.27	-39.56	-0.69
181	SLE RA 14	-2	-12	706	-52.8	-39.21	-0.8
181	SLE RA 15	-2	-11	713	-53.34	-39.61	-0.74
181	SLE RA 16	-2	-12	703	-52.62	-39.08	-0.8
181	SLE RA 17	-2	-11	711	-53.15	-39.48	-0.74
181	SLE RA 18	-2	-12	721	-53.9	-40.03	-0.8
181	SLE RA 19	-2	-11	728	-54.43	-40.43	-0.75
181	SLE RA 20	-2	-12	724	-54.14	-40.21	-0.81
181	SLE RA 21	-2	-11	731	-54.68	-40.61	-0.76
181	SLE FR 1	-2	-11	642	-47.99	-35.64	-0.7
181	SLE FR 2	-2	-10	644	-48.17	-35.77	-0.68
181	SLE FR 3	-2	-11	643	-48.09	-35.72	-0.71
181	SLE FR 4	-2	-11	668	-49.94	-37.09	-0.71
181	SLE FR 5	-2	-11	667	-49.86	-37.03	-0.74
181	SLE FR 6	-2	-11	681	-50.94	-37.84	-0.75
181	SLE QP 1	-2	-11	642	-47.99	-35.64	-0.7
181	SLE QP 2	-2	-11	665	-49.76	-36.96	-0.73
181	SLD 1	52	8	762	-57.03	-42.36	4.34
181	SLD 2	63	12	768	-57.41	-42.64	5.39
181	SLD 3	53	-25	497	-37.16	-27.6	2.54
181	SLD 4	64	-22	502	-37.54	-27.88	3.58
181	SLD 5	11	45	1096	-82.01	-60.91	3.35
181	SLD 6	18	47	1100	-82.25	-61.09	4.02
181	SLD 7	14	-66	211	-15.78	-11.72	-2.67
181	SLD 8	22	-64	214	-16.03	-11.9	-2
181	SLD 9	-25	42	1116	-83.49	-62.01	0.53
181	SLD 10	-18	44	1120	-83.74	-62.2	1.21
181	SLD 11	-22	-68	231	-17.27	-12.83	-5.49
181	SLD 12	-14	-66	234	-17.51	-13.01	-4.81
181	SLD 13	-68	0	829	-61.98	-46.03	-5.04
181	SLD 14	-56	3	834	-62.36	-46.32	-4
181	SLD 15	-67	-33	563	-42.11	-31.28	-6.85
181	SLD 16	-55	-30	568	-42.5	-31.56	-5.81
181	SLV 1	81	22	836	-62.54	-46.45	7.32
181	SLV 2	100	27	844	-63.15	-46.9	8.97
181	SLV 3	83	-35	383	-28.65	-21.28	4.24
181	SLV 4	102	-30	391	-29.25	-21.72	5.89
181	SLV 5	17	84	1402	-104.89	-77.91	6.05
181	SLV 6	30	87	1408	-105.3	-78.21	7.16
181	SLV 7	23	-105	-108	8.1	6.01	-4.22
181	SLV 8	35	-101	-103	7.69	5.71	-3.11
181	SLV 9	-39	80	1433	-107.21	-79.63	1.65
181	SLV 10	-26	83	1439	-107.62	-79.93	2.76
181	SLV 11	-33	-109	-77	5.78	4.29	-8.62
181	SLV 12	-21	-106	-72	5.37	3.99	-7.52
181	SLV 13	-105	8	939	-70.27	-52.19	-7.35
181	SLV 14	-87	13	948	-70.88	-52.64	-5.71
181	SLV 15	-103	-49	486	-36.37	-27.02	-10.43
181	SLV 16	-85	-44	494	-36.98	-27.46	-8.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLV FO 1	90	25	853	-63.82	-47.4	8.13
181	SLV FO 2	110	30	862	-64.49	-47.9	9.94
181	SLV FO 3	92	-37	355	-26.53	-19.71	4.74
181	SLV FO 4	112	-32	364	-27.2	-20.2	6.55
181	SLV FO 5	19	93	1476	-110.41	-82	6.73
181	SLV FO 6	33	97	1482	-110.86	-82.33	7.95
181	SLV FO 7	25	-114	-186	13.88	10.31	-4.57
181	SLV FO 8	39	-110	-180	13.44	9.98	-3.35
181	SLV FO 9	-42	89	1510	-112.96	-83.9	1.89
181	SLV FO 10	-29	92	1516	-113.41	-84.23	3.1
181	SLV FO 11	-36	-119	-152	11.33	8.42	-9.41
181	SLV FO 12	-23	-115	-146	10.89	8.09	-8.19
181	SLV FO 13	-115	10	967	-72.32	-53.72	-8.02
181	SLV FO 14	-95	15	976	-72.99	-54.21	-6.21
181	SLV FO 15	-113	-52	468	-35.04	-26.02	-11.4
181	SLV FO 16	-93	-47	477	-35.7	-26.52	-9.59
181	CRTFP Ux+	0	0	0	0	0	0
181	CRTFP Ux-	0	0	0	0	0	0
181	CRTFP Uy+	0	0	0	0	0	0
181	CRTFP Uy-	0	0	0	0	0	0
182	SLU 1	-1	-11	615	-46	-42.7	-0.86
182	SLU 2	-1	-8	633	-47.34	-43.95	-0.69
182	SLU 3	-2	-11	623	-46.63	-43.29	-0.89
182	SLU 4	-2	-10	634	-47.43	-44.04	-0.78
182	SLU 5	-2	-9	638	-47.7	-44.29	-0.71
182	SLU 6	-2	-11	628	-46.99	-43.63	-0.91
182	SLU 7	-2	-10	639	-47.8	-44.38	-0.8
182	SLU 8	-2	-11	625	-46.72	-43.38	-0.9
182	SLU 9	-2	-10	635	-47.53	-44.13	-0.8
182	SLU 10	-2	-10	715	-53.49	-49.66	-0.82
182	SLU 11	-2	-12	706	-52.78	-49	-1.02
182	SLU 12	-2	-11	716	-53.58	-49.75	-0.91
182	SLU 13	-2	-10	720	-53.85	-49.99	-0.84
182	SLU 14	-2	-13	710	-53.14	-49.34	-1.04
182	SLU 15	-2	-11	721	-53.95	-50.08	-0.93
182	SLU 16	-2	-12	707	-52.87	-49.09	-1.03
182	SLU 17	-2	-11	718	-53.68	-49.83	-0.93
182	SLU 18	-2	-13	732	-54.78	-50.86	-1.05
182	SLU 19	-2	-11	743	-55.59	-51.61	-0.94
182	SLU 20	-2	-13	737	-55.14	-51.2	-1.07
182	SLU 21	-2	-11	748	-55.95	-51.94	-0.96
182	SLU 22	-2	-12	695	-51.99	-48.27	-0.97
182	SLU 23	-2	-10	713	-53.33	-49.51	-0.8
182	SLU 24	-2	-12	704	-52.62	-48.86	-1
182	SLU 25	-2	-11	714	-53.43	-49.6	-0.9
182	SLU 26	-2	-10	718	-53.7	-49.85	-0.82
182	SLU 27	-2	-13	708	-52.99	-49.19	-1.02
182	SLU 28	-2	-11	719	-53.79	-49.94	-0.91
182	SLU 29	-2	-13	705	-52.72	-48.94	-1.01
182	SLU 30	-2	-11	716	-53.52	-49.69	-0.91
182	SLU 31	-2	-11	795	-59.48	-55.22	-0.93
182	SLU 32	-2	-14	786	-58.77	-54.56	-1.13
182	SLU 33	-2	-12	796	-59.58	-55.31	-1.02
182	SLU 34	-2	-11	800	-59.84	-55.56	-0.95
182	SLU 35	-2	-14	791	-59.14	-54.9	-1.15
182	SLU 36	-2	-12	801	-59.94	-55.65	-1.04
182	SLU 37	-2	-14	787	-58.87	-54.65	-1.14
182	SLU 38	-2	-12	798	-59.67	-55.4	-1.04
182	SLU 39	-2	-14	812	-60.77	-56.42	-1.16
182	SLU 40	-2	-13	823	-61.58	-57.17	-1.05
182	SLU 41	-3	-14	817	-61.14	-56.76	-1.18
182	SLU 42	-3	-13	828	-61.94	-57.51	-1.07
182	SLU 43	-2	-14	772	-57.74	-53.61	-1.08
182	SLU 44	-2	-11	790	-59.08	-54.85	-0.91
182	SLU 45	-2	-14	780	-58.37	-54.19	-1.11
182	SLU 46	-2	-12	791	-59.18	-54.94	-1.01
182	SLU 47	-2	-11	795	-59.44	-55.19	-0.93
182	SLU 48	-2	-14	785	-58.74	-54.53	-1.13
182	SLU 49	-2	-13	796	-59.54	-55.28	-1.03
182	SLU 50	-2	-14	782	-58.47	-54.28	-1.12
182	SLU 51	-2	-13	792	-59.27	-55.03	-1.02
182	SLU 52	-2	-12	872	-65.23	-60.56	-1.04
182	SLU 53	-2	-15	863	-64.52	-59.9	-1.24
182	SLU 54	-2	-14	873	-65.33	-60.65	-1.13
182	SLU 55	-2	-13	877	-65.59	-60.9	-1.06
182	SLU 56	-3	-15	867	-64.89	-60.24	-1.26
182	SLU 57	-3	-14	878	-65.69	-60.99	-1.15
182	SLU 58	-3	-15	864	-64.62	-59.99	-1.25
182	SLU 59	-3	-14	875	-65.42	-60.74	-1.15
182	SLU 60	-3	-15	889	-66.52	-61.76	-1.27
182	SLU 61	-3	-14	900	-67.33	-62.51	-1.16
182	SLU 62	-3	-16	894	-66.89	-62.1	-1.29
182	SLU 63	-3	-14	905	-67.69	-62.85	-1.18
182	SLU 64	-2	-15	852	-63.73	-59.17	-1.19
182	SLU 65	-2	-13	870	-65.08	-60.42	-1.02
182	SLU 66	-2	-15	861	-64.37	-59.76	-1.22
182	SLU 67	-2	-14	871	-65.17	-60.51	-1.12
182	SLU 68	-2	-13	875	-65.44	-60.75	-1.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLU 69	-2	-15	865	-64.73	-60.1	-1.24
182	SLU 70	-2	-14	876	-65.54	-60.84	-1.14
182	SLU 71	-2	-15	862	-64.46	-59.85	-1.23
182	SLU 72	-2	-14	873	-65.27	-60.59	-1.13
182	SLU 73	-3	-14	952	-71.22	-66.12	-1.15
182	SLU 74	-3	-17	943	-70.52	-65.47	-1.35
182	SLU 75	-3	-15	953	-71.32	-66.21	-1.24
182	SLU 76	-3	-14	957	-71.59	-66.46	-1.17
182	SLU 77	-3	-17	948	-70.88	-65.81	-1.37
182	SLU 78	-3	-15	958	-71.69	-66.55	-1.26
182	SLU 79	-3	-17	944	-70.61	-65.55	-1.36
182	SLU 80	-3	-15	955	-71.42	-66.3	-1.26
182	SLU 81	-3	-17	969	-72.52	-67.33	-1.38
182	SLU 82	-3	-15	980	-73.32	-68.07	-1.27
182	SLU 83	-3	-17	974	-72.88	-67.66	-1.4
182	SLU 84	-3	-16	985	-73.69	-68.41	-1.29
182	SLE RA 1	-1	-11	638	-47.71	-44.29	-0.89
182	SLE RA 2	-2	-10	650	-48.6	-45.12	-0.78
182	SLE RA 3	-2	-11	643	-48.13	-44.68	-0.91
182	SLE RA 4	-2	-10	651	-48.67	-45.18	-0.84
182	SLE RA 5	-2	-10	653	-48.85	-45.35	-0.79
182	SLE RA 6	-2	-12	647	-48.37	-44.91	-0.92
182	SLE RA 7	-2	-11	654	-48.91	-45.41	-0.86
182	SLE RA 8	-2	-12	644	-48.19	-44.74	-0.92
182	SLE RA 9	-2	-11	651	-48.73	-45.24	-0.85
182	SLE RA 10	-2	-10	705	-52.7	-48.93	-0.87
182	SLE RA 11	-2	-12	698	-52.23	-48.49	-1
182	SLE RA 12	-2	-11	705	-52.77	-48.99	-0.93
182	SLE RA 13	-2	-11	708	-52.94	-49.15	-0.88
182	SLE RA 14	-2	-12	702	-52.47	-48.72	-1.01
182	SLE RA 15	-2	-11	709	-53.01	-49.21	-0.94
182	SLE RA 16	-2	-12	699	-52.29	-48.55	-1.01
182	SLE RA 17	-2	-11	706	-52.83	-49.05	-0.94
182	SLE RA 18	-2	-12	716	-53.56	-49.73	-1.02
182	SLE RA 19	-2	-11	723	-54.1	-50.23	-0.95
182	SLE RA 20	-2	-13	719	-53.81	-49.95	-1.03
182	SLE RA 21	-2	-12	727	-54.34	-50.45	-0.96
182	SLE FR 1	-1	-11	638	-47.71	-44.29	-0.89
182	SLE FR 2	-1	-11	640	-47.89	-44.46	-0.87
182	SLE FR 3	-2	-11	639	-47.81	-44.38	-0.9
182	SLE FR 4	-2	-11	664	-49.64	-46.09	-0.91
182	SLE FR 5	-2	-12	663	-49.56	-46.01	-0.94
182	SLE FR 6	-2	-12	677	-50.64	-47.01	-0.96
182	SLE QP 1	-1	-11	638	-47.71	-44.29	-0.89
182	SLE QP 2	-2	-12	661	-49.47	-45.92	-0.93
182	SLD 1	51	8	752	-56.29	-52.26	4.4
182	SLD 2	63	11	758	-56.7	-52.64	5.51
182	SLD 3	52	-24	488	-36.49	-33.87	2.19
182	SLD 4	64	-21	493	-36.9	-34.25	3.3
182	SLD 5	11	42	1089	-81.47	-75.64	3.83
182	SLD 6	18	45	1093	-81.73	-75.88	4.54
182	SLD 7	14	-65	207	-15.47	-14.36	-3.54
182	SLD 8	22	-63	210	-15.74	-14.61	-2.82
182	SLD 9	-25	39	1112	-83.2	-77.24	0.96
182	SLD 10	-17	42	1116	-83.46	-77.48	1.67
182	SLD 11	-21	-68	230	-17.2	-15.97	-6.41
182	SLD 12	-14	-66	233	-17.46	-16.21	-5.69
182	SLD 13	-67	-2	829	-62.04	-57.59	-5.17
182	SLD 14	-56	1	835	-62.45	-57.97	-4.05
182	SLD 15	-66	-35	565	-42.24	-39.21	-7.37
182	SLD 16	-55	-31	570	-42.65	-39.59	-6.26
182	SLV 1	81	21	823	-61.55	-57.14	7.55
182	SLV 2	99	27	831	-62.19	-57.74	9.31
182	SLV 3	83	-34	371	-27.77	-25.78	3.78
182	SLV 4	101	-28	380	-28.41	-26.38	5.54
182	SLV 5	17	80	1393	-104.2	-96.74	7
182	SLV 6	30	84	1399	-104.64	-97.15	8.18
182	SLV 7	23	-103	-112	8.4	7.8	-5.56
182	SLV 8	35	-99	-106	7.96	7.39	-4.38
182	SLV 9	-38	76	1429	-106.9	-99.24	2.52
182	SLV 10	-26	79	1435	-107.33	-99.65	3.7
182	SLV 11	-33	-107	-76	5.71	5.3	-10.05
182	SLV 12	-21	-104	-71	5.27	4.9	-8.86
182	SLV 13	-104	5	943	-70.52	-65.47	-7.4
182	SLV 14	-86	10	951	-71.17	-66.07	-5.65
182	SLV 15	-103	-50	491	-36.74	-34.11	-11.17
182	SLV 16	-84	-44	500	-37.38	-34.71	-9.41
182	SLV FO 1	89	24	839	-62.76	-58.26	8.4
182	SLV FO 2	109	31	848	-63.47	-58.92	10.33
182	SLV FO 3	91	-36	342	-25.6	-23.76	4.26
182	SLV FO 4	111	-30	352	-26.31	-24.42	6.19
182	SLV FO 5	19	90	1466	-109.68	-101.83	7.8
182	SLV FO 6	33	94	1473	-110.16	-102.27	9.09
182	SLV FO 7	25	-112	-190	14.19	13.17	-6.02
182	SLV FO 8	39	-108	-183	13.71	12.73	-4.72
182	SLV FO 9	-42	84	1506	-112.64	-104.57	2.86
182	SLV FO 10	-28	88	1512	-113.12	-105.02	4.16
182	SLV FO 11	-36	-117	-150	11.23	10.42	-10.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLV FO 12	-23	-113	-144	10.75	9.98	-9.66
182	SLV FO 13	-115	7	971	-72.62	-67.42	-8.05
182	SLV FO 14	-94	13	980	-73.34	-68.08	-6.12
182	SLV FO 15	-113	-54	474	-35.46	-32.93	-12.19
182	SLV FO 16	-93	-48	484	-36.18	-33.59	-10.26
182	CRTFP Ux+	0	0	0	0	0	0
182	CRTFP Ux-	0	0	0	0	0	0
182	CRTFP Uy+	0	0	0	0	0	0
182	CRTFP Uy-	0	0	0	0	0	0
183	SLU 1	-1	-12	611	-45.7	-50.91	-1.07
183	SLU 2	-1	-9	629	-47.04	-52.4	-0.87
183	SLU 3	-2	-12	619	-46.32	-51.61	-1.1
183	SLU 4	-2	-10	630	-47.13	-52.5	-0.98
183	SLU 5	-2	-9	634	-47.39	-52.8	-0.89
183	SLU 6	-2	-12	624	-46.68	-52	-1.12
183	SLU 7	-2	-11	635	-47.48	-52.9	-1
183	SLU 8	-2	-12	620	-46.41	-51.71	-1.11
183	SLU 9	-2	-10	631	-47.22	-52.6	-1
183	SLU 10	-2	-10	710	-53.13	-59.19	-1.02
183	SLU 11	-2	-13	701	-52.42	-58.4	-1.25
183	SLU 12	-2	-12	712	-53.22	-59.29	-1.13
183	SLU 13	-2	-11	715	-53.49	-59.59	-1.05
183	SLU 14	-2	-13	706	-52.77	-58.79	-1.27
183	SLU 15	-2	-12	716	-53.58	-59.69	-1.15
183	SLU 16	-2	-13	702	-52.51	-58.5	-1.27
183	SLU 17	-2	-12	713	-53.31	-59.39	-1.15
183	SLU 18	-2	-13	727	-54.4	-60.61	-1.29
183	SLU 19	-2	-12	738	-55.21	-61.51	-1.17
183	SLU 20	-2	-14	732	-54.76	-61.01	-1.31
183	SLU 21	-2	-12	743	-55.56	-61.9	-1.19
183	SLU 22	-2	-13	691	-51.66	-57.55	-1.21
183	SLU 23	-2	-11	709	-53	-59.05	-1.01
183	SLU 24	-2	-13	699	-52.29	-58.25	-1.23
183	SLU 25	-2	-12	710	-53.09	-59.15	-1.12
183	SLU 26	-2	-11	713	-53.36	-59.45	-1.03
183	SLU 27	-2	-13	704	-52.64	-58.65	-1.26
183	SLU 28	-2	-12	715	-53.45	-59.54	-1.14
183	SLU 29	-2	-13	700	-52.38	-58.35	-1.25
183	SLU 30	-2	-12	711	-53.18	-59.25	-1.13
183	SLU 31	-2	-12	790	-59.1	-65.84	-1.16
183	SLU 32	-2	-15	780	-58.38	-65.04	-1.39
183	SLU 33	-2	-13	791	-59.18	-65.94	-1.27
183	SLU 34	-2	-12	795	-59.45	-66.23	-1.18
183	SLU 35	-2	-15	785	-58.74	-65.44	-1.41
183	SLU 36	-2	-13	796	-59.54	-66.33	-1.29
183	SLU 37	-2	-15	782	-58.47	-65.14	-1.4
183	SLU 38	-2	-13	792	-59.27	-66.04	-1.28
183	SLU 39	-2	-15	807	-60.37	-67.25	-1.42
183	SLU 40	-2	-13	818	-61.17	-68.15	-1.3
183	SLU 41	-3	-15	812	-60.72	-67.65	-1.45
183	SLU 42	-3	-14	823	-61.53	-68.55	-1.33
183	SLU 43	-2	-15	767	-57.36	-63.91	-1.34
183	SLU 44	-2	-12	785	-58.7	-65.4	-1.15
183	SLU 45	-2	-15	775	-57.99	-64.6	-1.37
183	SLU 46	-2	-13	786	-58.79	-65.5	-1.25
183	SLU 47	-2	-12	790	-59.06	-65.8	-1.17
183	SLU 48	-2	-15	780	-58.34	-65	-1.4
183	SLU 49	-2	-13	791	-59.15	-65.9	-1.28
183	SLU 50	-2	-15	776	-58.08	-64.7	-1.39
183	SLU 51	-2	-13	787	-58.88	-65.6	-1.27
183	SLU 52	-2	-13	866	-64.8	-72.19	-1.3
183	SLU 53	-2	-16	857	-64.08	-71.39	-1.53
183	SLU 54	-2	-15	867	-64.89	-72.29	-1.41
183	SLU 55	-2	-14	871	-65.15	-72.59	-1.32
183	SLU 56	-3	-16	861	-64.44	-71.79	-1.55
183	SLU 57	-3	-15	872	-65.24	-72.69	-1.43
183	SLU 58	-3	-16	858	-64.17	-71.49	-1.54
183	SLU 59	-3	-15	869	-64.97	-72.39	-1.42
183	SLU 60	-3	-16	883	-66.07	-73.6	-1.56
183	SLU 61	-3	-15	894	-66.87	-74.5	-1.44
183	SLU 62	-3	-17	888	-66.42	-74	-1.59
183	SLU 63	-3	-15	899	-67.23	-74.9	-1.47
183	SLU 64	-2	-16	847	-63.32	-70.55	-1.48
183	SLU 65	-2	-14	865	-64.67	-72.04	-1.28
183	SLU 66	-2	-16	855	-63.95	-71.25	-1.51
183	SLU 67	-2	-15	866	-64.75	-72.14	-1.39
183	SLU 68	-2	-14	869	-65.02	-72.44	-1.3
183	SLU 69	-2	-16	860	-64.31	-71.64	-1.53
183	SLU 70	-2	-15	870	-65.11	-72.54	-1.41
183	SLU 71	-2	-16	856	-64.04	-71.35	-1.53
183	SLU 72	-2	-15	867	-64.84	-72.24	-1.41
183	SLU 73	-3	-15	946	-70.76	-78.83	-1.43
183	SLU 74	-3	-18	936	-70.04	-78.03	-1.66
183	SLU 75	-3	-16	947	-70.85	-78.93	-1.54
183	SLU 76	-3	-15	951	-71.12	-79.23	-1.46
183	SLU 77	-3	-18	941	-70.4	-78.43	-1.68
183	SLU 78	-3	-16	952	-71.21	-79.33	-1.56
183	SLU 79	-3	-18	938	-70.13	-78.13	-1.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
183	SLU 80	-3	-16	948	-70.94	-79.03	-1.56
183	SLU 81	-3	-18	963	-72.03	-80.25	-1.7
183	SLU 82	-3	-16	974	-72.84	-81.14	-1.58
183	SLU 83	-3	-18	968	-72.39	-80.65	-1.72
183	SLU 84	-3	-17	979	-73.19	-81.54	-1.6
183	SLE RA 1	-1	-12	634	-47.4	-52.81	-1.11
183	SLE RA 2	-2	-10	646	-48.29	-53.8	-0.98
183	SLE RA 3	-2	-12	639	-47.82	-53.27	-1.13
183	SLE RA 4	-2	-11	646	-48.35	-53.87	-1.05
183	SLE RA 5	-2	-10	649	-48.53	-54.07	-0.99
183	SLE RA 6	-2	-12	642	-48.06	-53.54	-1.14
183	SLE RA 7	-2	-11	650	-48.59	-54.14	-1.06
183	SLE RA 8	-2	-12	640	-47.88	-53.34	-1.14
183	SLE RA 9	-2	-11	647	-48.41	-53.94	-1.06
183	SLE RA 10	-2	-11	700	-52.36	-58.33	-1.08
183	SLE RA 11	-2	-13	694	-51.88	-57.8	-1.23
183	SLE RA 12	-2	-12	701	-52.42	-58.4	-1.15
183	SLE RA 13	-2	-11	703	-52.6	-58.6	-1.09
183	SLE RA 14	-2	-13	697	-52.12	-58.06	-1.24
183	SLE RA 15	-2	-12	704	-52.65	-58.66	-1.17
183	SLE RA 16	-2	-13	694	-51.94	-57.87	-1.24
183	SLE RA 17	-2	-12	702	-52.48	-58.46	-1.16
183	SLE RA 18	-2	-13	711	-53.2	-59.27	-1.25
183	SLE RA 19	-2	-12	718	-53.74	-59.87	-1.17
183	SLE RA 20	-2	-13	714	-53.44	-59.54	-1.27
183	SLE RA 21	-2	-12	722	-53.98	-60.14	-1.19
183	SLE FR 1	-1	-12	634	-47.4	-52.81	-1.11
183	SLE FR 2	-1	-12	636	-47.58	-53.01	-1.08
183	SLE FR 3	-2	-12	635	-47.5	-52.91	-1.12
183	SLE FR 4	-2	-12	659	-49.32	-54.95	-1.13
183	SLE FR 5	-2	-12	658	-49.24	-54.85	-1.16
183	SLE FR 6	-2	-13	672	-50.3	-56.04	-1.18
183	SLE QP 1	-1	-12	634	-47.4	-52.81	-1.11
183	SLE QP 2	-2	-12	657	-49.14	-54.75	-1.15
183	SLD 1	51	7	742	-55.52	-61.85	4.42
183	SLD 2	62	11	748	-55.96	-62.34	5.62
183	SLD 3	52	-24	478	-35.79	-39.87	1.84
183	SLD 4	63	-20	484	-36.23	-40.36	3.04
183	SLD 5	11	40	1082	-80.9	-90.13	4.23
183	SLD 6	18	43	1085	-81.18	-90.45	5
183	SLD 7	14	-64	202	-15.14	-16.86	-4.37
183	SLD 8	21	-61	206	-15.42	-17.18	-3.6
183	SLD 9	-25	37	1108	-82.86	-92.32	1.3
183	SLD 10	-17	39	1112	-83.15	-92.63	2.07
183	SLD 11	-21	-67	229	-17.1	-19.05	-7.3
183	SLD 12	-14	-65	232	-17.38	-19.36	-6.53
183	SLD 13	-67	-5	830	-62.06	-69.14	-5.34
183	SLD 14	-55	-1	835	-62.5	-69.62	-4.15
183	SLD 15	-66	-36	566	-42.33	-47.16	-7.92
183	SLD 16	-54	-32	572	-42.77	-47.64	-6.73
183	SLV 1	81	20	809	-60.53	-67.43	7.74
183	SLV 2	99	27	818	-61.22	-68.2	9.62
183	SLV 3	82	-33	359	-26.87	-29.93	3.34
183	SLV 4	100	-27	368	-27.56	-30.7	5.22
183	SLV 5	17	77	1383	-103.48	-115.29	7.84
183	SLV 6	30	81	1390	-103.95	-115.8	9.11
183	SLV 7	22	-100	-117	8.72	9.72	-6.83
183	SLV 8	35	-96	-110	8.26	9.2	-5.57
183	SLV 9	-38	71	1424	-106.54	-118.69	3.26
183	SLV 10	-26	76	1431	-107.01	-119.21	4.53
183	SLV 11	-33	-106	-76	5.66	6.31	-11.41
183	SLV 12	-21	-102	-69	5.2	5.79	-10.15
183	SLV 13	-103	2	946	-70.73	-78.8	-7.53
183	SLV 14	-85	8	955	-71.42	-79.57	-5.64
183	SLV 15	-102	-51	496	-37.07	-41.3	-11.93
183	SLV 16	-84	-45	505	-37.76	-42.07	-10.05
183	SLV FO 1	89	24	824	-61.66	-68.7	8.63
183	SLV FO 2	109	31	835	-62.42	-69.55	10.7
183	SLV FO 3	90	-35	329	-24.64	-27.45	3.79
183	SLV FO 4	110	-28	340	-25.4	-28.29	5.86
183	SLV FO 5	19	86	1456	-108.91	-121.34	8.74
183	SLV FO 6	33	91	1463	-109.43	-121.91	10.13
183	SLV FO 7	25	-109	-194	14.51	16.16	-7.4
183	SLV FO 8	38	-105	-187	14	15.59	-6.01
183	SLV FO 9	-42	80	1501	-112.28	-125.09	3.7
183	SLV FO 10	-28	84	1508	-112.79	-125.66	5.1
183	SLV FO 11	-36	-115	-149	11.14	12.41	-12.44
183	SLV FO 12	-22	-111	-142	10.63	11.84	-11.05
183	SLV FO 13	-114	3	974	-72.89	-81.2	-8.16
183	SLV FO 14	-94	10	985	-73.65	-82.05	-6.09
183	SLV FO 15	-112	-55	479	-35.86	-39.95	-13.01
183	SLV FO 16	-92	-48	490	-36.62	-40.8	-10.94
183	CRTFP Ux+	0	0	0	0	0	0
183	CRTFP Ux-	0	0	0	0	0	0
183	CRTFP Uy+	0	0	0	0	0	0
183	CRTFP Uy-	0	0	0	0	0	0
184	SLU 1	-1	-12	606	-45.34	-58.94	-1.3
184	SLU 2	-1	-10	624	-46.68	-60.68	-1.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
184	SLU 3	-2	-13	614	-45.96	-59.74	-1.33
184	SLU 4	-2	-11	625	-46.76	-60.78	-1.2
184	SLU 5	-2	-10	629	-47.03	-61.13	-1.1
184	SLU 6	-2	-13	619	-46.31	-60.19	-1.36
184	SLU 7	-2	-11	630	-47.11	-61.24	-1.22
184	SLU 8	-2	-13	616	-46.05	-59.85	-1.35
184	SLU 9	-2	-11	626	-46.85	-60.89	-1.22
184	SLU 10	-2	-11	705	-52.72	-68.52	-1.26
184	SLU 11	-2	-14	695	-52	-67.58	-1.51
184	SLU 12	-2	-13	706	-52.8	-68.63	-1.38
184	SLU 13	-2	-12	709	-53.07	-68.98	-1.28
184	SLU 14	-2	-14	700	-52.35	-68.04	-1.54
184	SLU 15	-2	-13	711	-53.15	-69.08	-1.4
184	SLU 16	-2	-14	696	-52.08	-67.69	-1.53
184	SLU 17	-2	-13	707	-52.88	-68.74	-1.4
184	SLU 18	-2	-14	721	-53.97	-70.14	-1.56
184	SLU 19	-2	-13	732	-54.77	-71.19	-1.42
184	SLU 20	-2	-14	726	-54.32	-70.6	-1.58
184	SLU 21	-2	-13	737	-55.12	-71.64	-1.45
184	SLU 22	-2	-14	685	-51.27	-66.64	-1.46
184	SLU 23	-2	-11	703	-52.61	-68.38	-1.24
184	SLU 24	-2	-14	694	-51.89	-67.45	-1.5
184	SLU 25	-2	-13	704	-52.69	-68.49	-1.36
184	SLU 26	-2	-12	708	-52.96	-68.84	-1.27
184	SLU 27	-2	-14	698	-52.24	-67.9	-1.52
184	SLU 28	-2	-13	709	-53.04	-68.95	-1.39
184	SLU 29	-2	-14	695	-51.98	-67.56	-1.52
184	SLU 30	-2	-13	706	-52.78	-68.6	-1.38
184	SLU 31	-2	-13	784	-58.65	-76.23	-1.42
184	SLU 32	-2	-15	774	-57.93	-75.29	-1.68
184	SLU 33	-2	-14	785	-58.73	-76.34	-1.54
184	SLU 34	-2	-13	789	-59	-76.69	-1.45
184	SLU 35	-2	-16	779	-58.28	-75.75	-1.7
184	SLU 36	-2	-14	790	-59.08	-76.79	-1.57
184	SLU 37	-2	-16	776	-58.01	-75.4	-1.7
184	SLU 38	-2	-14	786	-58.81	-76.45	-1.56
184	SLU 39	-2	-16	801	-59.9	-77.85	-1.72
184	SLU 40	-2	-14	811	-60.7	-78.9	-1.59
184	SLU 41	-3	-16	805	-60.25	-78.31	-1.75
184	SLU 42	-3	-15	816	-61.05	-79.35	-1.61
184	SLU 43	-2	-15	761	-56.91	-73.97	-1.63
184	SLU 44	-2	-13	779	-58.25	-75.71	-1.41
184	SLU 45	-2	-16	769	-57.53	-74.78	-1.67
184	SLU 46	-2	-14	780	-58.33	-75.82	-1.53
184	SLU 47	-2	-13	783	-58.6	-76.17	-1.44
184	SLU 48	-2	-16	774	-57.88	-75.23	-1.69
184	SLU 49	-2	-14	785	-58.68	-76.28	-1.56
184	SLU 50	-2	-16	770	-57.61	-74.89	-1.68
184	SLU 51	-2	-14	781	-58.42	-75.93	-1.55
184	SLU 52	-2	-15	859	-64.29	-83.56	-1.59
184	SLU 53	-3	-17	850	-63.57	-82.62	-1.85
184	SLU 54	-3	-16	861	-64.37	-83.67	-1.71
184	SLU 55	-3	-15	864	-64.64	-84.02	-1.62
184	SLU 56	-3	-17	855	-63.92	-83.08	-1.87
184	SLU 57	-3	-16	865	-64.72	-84.12	-1.74
184	SLU 58	-3	-17	851	-63.65	-82.73	-1.86
184	SLU 59	-3	-16	862	-64.45	-83.78	-1.73
184	SLU 60	-3	-17	876	-65.54	-85.18	-1.89
184	SLU 61	-3	-16	887	-66.34	-86.23	-1.76
184	SLU 62	-3	-18	881	-65.89	-85.64	-1.92
184	SLU 63	-3	-16	892	-66.69	-86.68	-1.78
184	SLU 64	-2	-17	840	-62.84	-81.68	-1.8
184	SLU 65	-2	-15	858	-64.18	-83.42	-1.57
184	SLU 66	-2	-17	848	-63.46	-82.48	-1.83
184	SLU 67	-2	-16	859	-64.26	-83.53	-1.7
184	SLU 68	-2	-15	863	-64.53	-83.88	-1.6
184	SLU 69	-2	-17	853	-63.81	-82.94	-1.86
184	SLU 70	-2	-16	864	-64.61	-83.98	-1.72
184	SLU 71	-2	-17	850	-63.54	-82.59	-1.85
184	SLU 72	-2	-16	860	-64.35	-83.64	-1.71
184	SLU 73	-3	-16	939	-70.22	-91.27	-1.75
184	SLU 74	-3	-19	929	-69.5	-90.33	-2.01
184	SLU 75	-3	-17	940	-70.3	-91.37	-1.88
184	SLU 76	-3	-16	943	-70.57	-91.72	-1.78
184	SLU 77	-3	-19	934	-69.85	-90.79	-2.04
184	SLU 78	-3	-17	945	-70.65	-91.83	-1.9
184	SLU 79	-3	-19	930	-69.58	-90.44	-2.03
184	SLU 80	-3	-17	941	-70.38	-91.48	-1.89
184	SLU 81	-3	-19	955	-71.47	-92.89	-2.06
184	SLU 82	-3	-18	966	-72.27	-93.93	-1.92
184	SLU 83	-3	-19	960	-71.82	-93.35	-2.08
184	SLU 84	-3	-18	971	-72.62	-94.39	-1.95
184	SLE RA 1	-2	-13	629	-47.04	-61.14	-1.35
184	SLE RA 2	-2	-11	641	-47.93	-62.3	-1.2
184	SLE RA 3	-2	-13	634	-47.45	-61.67	-1.37
184	SLE RA 4	-2	-12	642	-47.98	-62.37	-1.28
184	SLE RA 5	-2	-11	644	-48.16	-62.6	-1.21
184	SLE RA 6	-2	-13	637	-47.68	-61.98	-1.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
184	SLE RA 7	-2	-12	645	-48.22	-62.67	-1.3
184	SLE RA 8	-2	-13	635	-47.51	-61.75	-1.38
184	SLE RA 9	-2	-12	642	-48.04	-62.44	-1.29
184	SLE RA 10	-2	-12	695	-51.95	-67.53	-1.32
184	SLE RA 11	-2	-14	688	-51.47	-66.9	-1.49
184	SLE RA 12	-2	-13	695	-52.01	-67.6	-1.4
184	SLE RA 13	-2	-12	698	-52.19	-67.83	-1.33
184	SLE RA 14	-2	-14	691	-51.71	-67.21	-1.51
184	SLE RA 15	-2	-13	698	-52.24	-67.9	-1.42
184	SLE RA 16	-2	-14	689	-51.53	-66.98	-1.5
184	SLE RA 17	-2	-13	696	-52.07	-67.67	-1.41
184	SLE RA 18	-2	-14	706	-52.79	-68.61	-1.52
184	SLE RA 19	-2	-13	713	-53.32	-69.31	-1.43
184	SLE RA 20	-2	-14	709	-53.02	-68.91	-1.54
184	SLE RA 21	-2	-13	716	-53.56	-69.61	-1.45
184	SLE FR 1	-2	-13	629	-47.04	-61.14	-1.35
184	SLE FR 2	-2	-12	631	-47.22	-61.37	-1.32
184	SLE FR 3	-2	-13	630	-47.13	-61.26	-1.35
184	SLE FR 4	-2	-13	654	-48.94	-63.61	-1.37
184	SLE FR 5	-2	-13	653	-48.86	-63.5	-1.41
184	SLE FR 6	-2	-13	667	-49.91	-64.87	-1.43
184	SLE QP 1	-2	-13	629	-47.04	-61.14	-1.35
184	SLE QP 2	-2	-13	652	-48.76	-63.38	-1.4
184	SLD 1	50	6	731	-54.7	-71.1	4.41
184	SLD 2	62	11	738	-55.17	-71.71	5.69
184	SLD 3	51	-24	469	-35.06	-45.57	1.5
184	SLD 4	63	-19	475	-35.53	-46.17	2.78
184	SLD 5	11	38	1073	-80.26	-104.31	4.54
184	SLD 6	18	41	1077	-80.56	-104.7	5.37
184	SLD 7	14	-63	198	-14.78	-19.21	-5.17
184	SLD 8	21	-60	202	-15.08	-19.6	-4.35
184	SLD 9	-24	34	1102	-82.45	-107.16	1.55
184	SLD 10	-17	37	1106	-82.75	-107.55	2.37
184	SLD 11	-21	-67	227	-16.97	-22.05	-8.17
184	SLD 12	-14	-64	231	-17.27	-22.45	-7.34
184	SLD 13	-66	-7	829	-62	-80.58	-5.57
184	SLD 14	-55	-2	835	-62.47	-81.19	-4.29
184	SLD 15	-65	-37	566	-42.36	-55.05	-8.49
184	SLD 16	-54	-33	573	-42.82	-55.66	-7.21
184	SLV 1	80	20	795	-59.46	-77.28	7.88
184	SLV 2	98	26	805	-60.2	-78.24	9.9
184	SLV 3	81	-32	347	-25.94	-33.72	2.91
184	SLV 4	99	-25	357	-26.68	-34.68	4.93
184	SLV 5	17	73	1373	-102.66	-133.44	8.55
184	SLV 6	29	78	1379	-103.16	-134.08	9.91
184	SLV 7	22	-98	-121	9.05	11.76	-8.02
184	SLV 8	34	-93	-114	8.55	11.12	-6.67
184	SLV 9	-38	67	1418	-106.08	-137.88	3.87
184	SLV 10	-25	72	1425	-106.57	-138.52	5.23
184	SLV 11	-33	-104	-75	5.63	7.32	-12.71
184	SLV 12	-20	-100	-69	5.14	6.68	-11.35
184	SLV 13	-103	-1	947	-70.84	-92.08	-7.73
184	SLV 14	-85	6	957	-71.58	-93.04	-5.71
184	SLV 15	-101	-53	499	-37.33	-48.52	-12.7
184	SLV 16	-83	-46	509	-38.07	-49.48	-10.68
184	SLV FO 1	88	23	809	-60.53	-78.67	8.81
184	SLV FO 2	108	30	820	-61.34	-79.73	11.03
184	SLV FO 3	89	-34	316	-23.66	-30.76	3.34
184	SLV FO 4	109	-26	327	-24.47	-31.81	5.56
184	SLV FO 5	19	82	1445	-108.05	-140.44	9.55
184	SLV FO 6	32	87	1452	-108.6	-141.15	11.04
184	SLV FO 7	24	-106	-198	14.83	19.28	-8.69
184	SLV FO 8	38	-101	-191	14.29	18.57	-7.19
184	SLV FO 9	-41	75	1495	-111.81	-145.33	4.39
184	SLV FO 10	-28	80	1502	-112.36	-146.04	5.89
184	SLV FO 11	-36	-113	-148	11.07	14.39	-13.84
184	SLV FO 12	-22	-108	-141	10.53	13.68	-12.34
184	SLV FO 13	-113	0	977	-73.05	-94.95	-8.36
184	SLV FO 14	-93	8	987	-73.86	-96	-6.14
184	SLV FO 15	-111	-57	484	-36.19	-47.03	-13.83
184	SLV FO 16	-91	-49	495	-37	-48.09	-11.61
184	CRTFP Ux+	0	0	0	0	0	0
184	CRTFP Ux-	0	0	0	0	0	0
184	CRTFP Uy+	0	0	0	0	0	0
184	CRTFP Uy-	0	0	0	0	0	0
185	SLU 1	-2	-13	602	-45.06	-66.93	-1.57
185	SLU 2	-2	-11	620	-46.4	-68.92	-1.32
185	SLU 3	-2	-13	611	-45.67	-67.84	-1.61
185	SLU 4	-2	-12	621	-46.47	-69.03	-1.46
185	SLU 5	-2	-11	625	-46.74	-69.43	-1.35
185	SLU 6	-2	-14	615	-46.01	-68.35	-1.64
185	SLU 7	-2	-12	626	-46.82	-69.55	-1.49
185	SLU 8	-2	-13	612	-45.75	-67.96	-1.63
185	SLU 9	-2	-12	622	-46.55	-69.15	-1.48
185	SLU 10	-2	-12	700	-52.39	-77.82	-1.53
185	SLU 11	-2	-15	691	-51.66	-76.74	-1.82
185	SLU 12	-2	-14	701	-52.46	-77.93	-1.67
185	SLU 13	-2	-13	705	-52.73	-78.33	-1.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLU 14	-2	-15	695	-52.01	-77.25	-1.85
185	SLU 15	-2	-14	706	-52.81	-78.45	-1.7
185	SLU 16	-2	-15	692	-51.74	-76.86	-1.84
185	SLU 17	-2	-14	702	-52.54	-78.05	-1.69
185	SLU 18	-2	-15	717	-53.62	-79.65	-1.87
185	SLU 19	-2	-14	728	-54.42	-80.84	-1.72
185	SLU 20	-2	-15	721	-53.96	-80.16	-1.9
185	SLU 21	-2	-14	732	-54.77	-81.35	-1.75
185	SLU 22	-2	-15	681	-50.97	-75.71	-1.77
185	SLU 23	-2	-13	699	-52.31	-77.7	-1.52
185	SLU 24	-2	-15	690	-51.58	-76.62	-1.81
185	SLU 25	-2	-14	700	-52.38	-77.81	-1.66
185	SLU 26	-2	-13	704	-52.65	-78.21	-1.55
185	SLU 27	-2	-15	694	-51.93	-77.13	-1.83
185	SLU 28	-2	-14	705	-52.73	-78.32	-1.69
185	SLU 29	-2	-15	691	-51.66	-76.74	-1.82
185	SLU 30	-2	-14	701	-52.46	-77.93	-1.68
185	SLU 31	-2	-14	779	-58.3	-86.6	-1.73
185	SLU 32	-2	-17	770	-57.57	-85.52	-2.02
185	SLU 33	-2	-15	780	-58.38	-86.71	-1.87
185	SLU 34	-2	-14	784	-58.65	-87.11	-1.76
185	SLU 35	-2	-17	774	-57.92	-86.03	-2.05
185	SLU 36	-2	-15	785	-58.72	-87.23	-1.9
185	SLU 37	-2	-17	771	-57.65	-85.64	-2.04
185	SLU 38	-2	-15	781	-58.45	-86.83	-1.89
185	SLU 39	-3	-17	796	-59.53	-88.43	-2.07
185	SLU 40	-3	-16	807	-60.33	-89.62	-1.92
185	SLU 41	-3	-17	800	-59.87	-88.94	-2.1
185	SLU 42	-3	-16	811	-60.68	-90.13	-1.95
185	SLU 43	-2	-16	756	-56.55	-84	-1.97
185	SLU 44	-2	-14	774	-57.89	-85.99	-1.73
185	SLU 45	-2	-17	764	-57.16	-84.91	-2.01
185	SLU 46	-2	-15	775	-57.96	-86.1	-1.86
185	SLU 47	-2	-14	779	-58.23	-86.5	-1.75
185	SLU 48	-2	-17	769	-57.51	-85.42	-2.04
185	SLU 49	-2	-16	780	-58.31	-86.61	-1.89
185	SLU 50	-2	-17	765	-57.24	-85.03	-2.03
185	SLU 51	-2	-15	776	-58.04	-86.22	-1.88
185	SLU 52	-2	-16	854	-63.88	-94.89	-1.94
185	SLU 53	-3	-18	844	-63.15	-93.81	-2.22
185	SLU 54	-3	-17	855	-63.96	-95	-2.08
185	SLU 55	-3	-16	859	-64.23	-95.4	-1.97
185	SLU 56	-3	-18	849	-63.5	-94.32	-2.25
185	SLU 57	-3	-17	860	-64.3	-95.52	-2.1
185	SLU 58	-3	-18	845	-63.23	-93.93	-2.24
185	SLU 59	-3	-17	856	-64.04	-95.12	-2.09
185	SLU 60	-3	-19	870	-65.11	-96.72	-2.28
185	SLU 61	-3	-17	881	-65.91	-97.91	-2.13
185	SLU 62	-3	-19	875	-65.46	-97.23	-2.3
185	SLU 63	-3	-18	886	-66.26	-98.42	-2.16
185	SLU 64	-2	-18	835	-62.46	-92.78	-2.17
185	SLU 65	-2	-16	853	-63.8	-94.77	-1.92
185	SLU 66	-2	-18	843	-63.07	-93.69	-2.21
185	SLU 67	-2	-17	854	-63.87	-94.88	-2.06
185	SLU 68	-2	-16	858	-64.14	-95.28	-1.95
185	SLU 69	-2	-19	848	-63.42	-94.2	-2.24
185	SLU 70	-2	-17	859	-64.22	-95.39	-2.09
185	SLU 71	-2	-18	844	-63.15	-93.81	-2.23
185	SLU 72	-2	-17	855	-63.95	-95	-2.08
185	SLU 73	-3	-17	933	-69.79	-103.67	-2.14
185	SLU 74	-3	-20	923	-69.06	-102.59	-2.42
185	SLU 75	-3	-19	934	-69.87	-103.78	-2.27
185	SLU 76	-3	-18	938	-70.14	-104.18	-2.16
185	SLU 77	-3	-20	928	-69.41	-103.1	-2.45
185	SLU 78	-3	-19	939	-70.21	-104.3	-2.3
185	SLU 79	-3	-20	924	-69.14	-102.71	-2.44
185	SLU 80	-3	-19	935	-69.95	-103.9	-2.29
185	SLU 81	-3	-20	949	-71.02	-105.5	-2.47
185	SLU 82	-3	-19	960	-71.82	-106.69	-2.32
185	SLU 83	-3	-20	954	-71.37	-106.01	-2.5
185	SLU 84	-3	-19	965	-72.17	-107.2	-2.35
185	SLE RA 1	-2	-14	625	-46.75	-69.44	-1.63
185	SLE RA 2	-2	-12	637	-47.64	-70.77	-1.46
185	SLE RA 3	-2	-14	630	-47.15	-70.05	-1.65
185	SLE RA 4	-2	-13	638	-47.69	-70.84	-1.55
185	SLE RA 5	-2	-12	640	-47.87	-71.11	-1.48
185	SLE RA 6	-2	-14	633	-47.38	-70.39	-1.67
185	SLE RA 7	-2	-13	641	-47.92	-71.18	-1.57
185	SLE RA 8	-2	-14	631	-47.21	-70.12	-1.66
185	SLE RA 9	-2	-13	638	-47.74	-70.92	-1.56
185	SLE RA 10	-2	-13	690	-51.63	-76.7	-1.6
185	SLE RA 11	-2	-15	684	-51.15	-75.98	-1.79
185	SLE RA 12	-2	-14	691	-51.68	-76.77	-1.69
185	SLE RA 13	-2	-13	693	-51.86	-77.04	-1.62
185	SLE RA 14	-2	-15	687	-51.38	-76.32	-1.81
185	SLE RA 15	-2	-14	694	-51.91	-77.12	-1.71
185	SLE RA 16	-2	-15	685	-51.2	-76.06	-1.8
185	SLE RA 17	-2	-14	692	-51.74	-76.85	-1.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLE RA 18	-2	-15	701	-52.45	-77.92	-1.83
185	SLE RA 19	-2	-14	708	-52.99	-78.71	-1.73
185	SLE RA 20	-2	-15	704	-52.68	-78.26	-1.85
185	SLE RA 21	-2	-14	711	-53.22	-79.05	-1.75
185	SLE FR 1	-2	-14	625	-46.75	-69.44	-1.63
185	SLE FR 2	-2	-13	627	-46.93	-69.71	-1.59
185	SLE FR 3	-2	-14	626	-46.84	-69.58	-1.63
185	SLE FR 4	-2	-14	650	-48.64	-72.25	-1.65
185	SLE FR 5	-2	-14	649	-48.55	-72.12	-1.69
185	SLE FR 6	-2	-14	663	-49.6	-73.68	-1.73
185	SLE QP 1	-2	-14	625	-46.75	-69.44	-1.63
185	SLE QP 2	-2	-14	648	-48.46	-71.98	-1.69
185	SLD 1	50	6	722	-53.99	-80.2	4.36
185	SLD 2	61	10	728	-54.49	-80.94	5.75
185	SLD 3	51	-23	460	-34.4	-51.1	1.15
185	SLD 4	62	-19	467	-34.9	-51.84	2.53
185	SLD 5	10	35	1066	-79.74	-118.45	4.76
185	SLD 6	18	38	1070	-80.06	-118.93	5.65
185	SLD 7	13	-62	193	-14.45	-21.46	-5.95
185	SLD 8	21	-59	197	-14.77	-21.94	-5.06
185	SLD 9	-24	31	1098	-82.15	-122.03	1.68
185	SLD 10	-17	34	1103	-82.47	-122.51	2.57
185	SLD 11	-21	-66	225	-16.86	-25.04	-9.03
185	SLD 12	-14	-63	230	-17.18	-25.51	-8.14
185	SLD 13	-66	-9	829	-62.02	-92.13	-5.9
185	SLD 14	-54	-5	836	-62.52	-92.87	-4.52
185	SLD 15	-65	-38	567	-42.43	-63.03	-9.12
185	SLD 16	-53	-34	574	-42.93	-63.77	-7.74
185	SLV 1	79	19	782	-58.51	-86.92	7.99
185	SLV 2	97	26	793	-59.3	-88.08	10.17
185	SLV 3	80	-31	335	-25.09	-37.27	2.51
185	SLV 4	98	-23	346	-25.88	-38.44	4.69
185	SLV 5	17	69	1364	-102.02	-151.54	9.13
185	SLV 6	29	75	1371	-102.55	-152.33	10.59
185	SLV 7	22	-96	-125	9.38	13.94	-9.15
185	SLV 8	34	-90	-118	8.86	13.16	-7.68
185	SLV 9	-37	62	1414	-105.78	-157.12	4.31
185	SLV 10	-25	68	1421	-106.3	-157.91	5.78
185	SLV 11	-32	-103	-75	5.63	8.36	-13.96
185	SLV 12	-20	-97	-68	5.1	7.57	-12.5
185	SLV 13	-102	-5	950	-71.04	-105.53	-8.06
185	SLV 14	-84	3	960	-71.83	-106.69	-5.88
185	SLV 15	-100	-54	503	-37.62	-55.88	-13.54
185	SLV 16	-82	-47	513	-38.41	-57.05	-11.37
185	SLV FO 1	87	22	796	-59.52	-88.41	8.96
185	SLV FO 2	106	30	807	-60.38	-89.69	11.36
185	SLV FO 3	88	-32	304	-22.76	-33.8	2.93
185	SLV FO 4	108	-24	316	-23.62	-35.09	5.33
185	SLV FO 5	19	78	1435	-107.37	-159.5	10.21
185	SLV FO 6	32	83	1443	-107.95	-160.36	11.82
185	SLV FO 7	24	-104	-203	15.17	22.53	-9.89
185	SLV FO 8	37	-98	-195	14.59	21.67	-8.28
185	SLV FO 9	-41	70	1491	-111.51	-165.64	4.91
185	SLV FO 10	-28	76	1499	-112.09	-166.5	6.52
185	SLV FO 11	-35	-111	-148	11.04	16.39	-15.19
185	SLV FO 12	-22	-106	-140	10.45	15.53	-13.58
185	SLV FO 13	-112	-4	980	-73.3	-108.88	-8.7
185	SLV FO 14	-92	5	991	-74.16	-110.16	-6.3
185	SLV FO 15	-110	-58	488	-36.54	-54.27	-14.73
185	SLV FO 16	-90	-50	500	-37.4	-55.56	-12.33
185	CRTFP Ux+	0	0	0	0	0	0
185	CRTFP Ux-	0	0	0	0	0	0
185	CRTFP Uy+	0	0	0	0	0	0
185	CRTFP Uy-	0	0	0	0	0	0
186	SLU 1	-1	-7	296	-22.15	-37.01	-0.92
186	SLU 2	-1	-6	305	-22.81	-38.12	-0.79
186	SLU 3	-1	-7	300	-22.45	-37.51	-0.94
186	SLU 4	-1	-6	305	-22.84	-38.17	-0.86
186	SLU 5	-1	-6	307	-22.98	-38.4	-0.81
186	SLU 6	-1	-7	302	-22.61	-37.79	-0.96
186	SLU 7	-1	-7	308	-23.01	-38.45	-0.88
186	SLU 8	-1	-7	301	-22.48	-37.57	-0.95
186	SLU 9	-1	-6	306	-22.88	-38.24	-0.87
186	SLU 10	-1	-7	344	-25.75	-43.03	-0.91
186	SLU 11	-1	-8	339	-25.39	-42.43	-1.07
186	SLU 12	-1	-7	345	-25.79	-43.09	-0.99
186	SLU 13	-1	-7	347	-25.92	-43.32	-0.93
186	SLU 14	-1	-8	342	-25.56	-42.71	-1.08
186	SLU 15	-1	-7	347	-25.95	-43.37	-1
186	SLU 16	-1	-8	340	-25.43	-42.49	-1.07
186	SLU 17	-1	-7	345	-25.82	-43.15	-1
186	SLU 18	-1	-8	352	-26.35	-44.04	-1.1
186	SLU 19	-1	-7	358	-26.75	-44.7	-1.02
186	SLU 20	-1	-8	355	-26.52	-44.32	-1.11
186	SLU 21	-1	-8	360	-26.92	-44.98	-1.03
186	SLU 22	-1	-8	335	-25.06	-41.88	-1.04
186	SLU 23	-1	-7	344	-25.72	-42.99	-0.9
186	SLU 24	-1	-8	339	-25.36	-42.38	-1.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
186	SLU 25	-1	-7	344	-25.76	-43.05	-0.98
186	SLU 26	-1	-7	346	-25.89	-43.27	-0.92
186	SLU 27	-1	-8	341	-25.53	-42.66	-1.07
186	SLU 28	-1	-7	347	-25.93	-43.33	-1
186	SLU 29	-1	-8	340	-25.4	-42.44	-1.07
186	SLU 30	-1	-7	345	-25.8	-43.11	-0.99
186	SLU 31	-1	-8	383	-28.67	-47.91	-1.03
186	SLU 32	-1	-9	378	-28.31	-47.3	-1.18
186	SLU 33	-1	-8	384	-28.7	-47.96	-1.1
186	SLU 34	-1	-8	386	-28.84	-48.19	-1.04
186	SLU 35	-1	-9	381	-28.47	-47.58	-1.2
186	SLU 36	-1	-8	386	-28.87	-48.25	-1.12
186	SLU 37	-1	-9	379	-28.34	-47.36	-1.19
186	SLU 38	-1	-8	384	-28.74	-48.03	-1.11
186	SLU 39	-1	-9	391	-29.27	-48.91	-1.21
186	SLU 40	-1	-8	397	-29.66	-49.57	-1.13
186	SLU 41	-1	-9	394	-29.44	-49.19	-1.23
186	SLU 42	-1	-8	399	-29.83	-49.85	-1.15
186	SLU 43	-1	-9	372	-27.79	-46.44	-1.16
186	SLU 44	-1	-8	380	-28.45	-47.55	-1.03
186	SLU 45	-1	-9	376	-28.09	-46.94	-1.18
186	SLU 46	-1	-8	381	-28.49	-47.61	-1.1
186	SLU 47	-1	-8	383	-28.62	-47.83	-1.04
186	SLU 48	-1	-9	378	-28.26	-47.22	-1.2
186	SLU 49	-1	-8	383	-28.66	-47.89	-1.12
186	SLU 50	-1	-9	376	-28.13	-47.01	-1.19
186	SLU 51	-1	-8	381	-28.52	-47.67	-1.11
186	SLU 52	-1	-8	420	-31.4	-52.47	-1.15
186	SLU 53	-1	-10	415	-31.03	-51.86	-1.3
186	SLU 54	-1	-9	420	-31.43	-52.53	-1.22
186	SLU 55	-1	-9	422	-31.56	-52.75	-1.16
186	SLU 56	-1	-10	417	-31.2	-52.14	-1.32
186	SLU 57	-1	-9	422	-31.6	-52.81	-1.24
186	SLU 58	-1	-10	415	-31.07	-51.92	-1.31
186	SLU 59	-1	-9	421	-31.47	-52.59	-1.23
186	SLU 60	-1	-10	428	-32	-53.47	-1.33
186	SLU 61	-1	-9	433	-32.39	-54.13	-1.25
186	SLU 62	-1	-10	430	-32.16	-53.75	-1.35
186	SLU 63	-1	-9	435	-32.56	-54.41	-1.27
186	SLU 64	-1	-10	411	-30.71	-51.32	-1.27
186	SLU 65	-1	-9	419	-31.37	-52.42	-1.14
186	SLU 66	-1	-10	415	-31.01	-51.82	-1.29
186	SLU 67	-1	-9	420	-31.4	-52.48	-1.22
186	SLU 68	-1	-9	422	-31.54	-52.7	-1.16
186	SLU 69	-1	-10	417	-31.17	-52.1	-1.31
186	SLU 70	-1	-9	422	-31.57	-52.76	-1.23
186	SLU 71	-1	-10	415	-31.04	-51.88	-1.3
186	SLU 72	-1	-9	420	-31.44	-52.54	-1.23
186	SLU 73	-1	-9	459	-34.31	-57.34	-1.26
186	SLU 74	-1	-11	454	-33.95	-56.73	-1.42
186	SLU 75	-1	-10	459	-34.35	-57.4	-1.34
186	SLU 76	-1	-9	461	-34.48	-57.62	-1.28
186	SLU 77	-1	-11	456	-34.12	-57.01	-1.43
186	SLU 78	-1	-10	461	-34.51	-57.68	-1.35
186	SLU 79	-1	-11	454	-33.99	-56.8	-1.43
186	SLU 80	-1	-10	460	-34.38	-57.46	-1.35
186	SLU 81	-1	-11	467	-34.91	-58.34	-1.45
186	SLU 82	-1	-10	472	-35.31	-59.01	-1.37
186	SLU 83	-1	-11	469	-35.08	-58.62	-1.46
186	SLU 84	-1	-10	474	-35.48	-59.29	-1.38
186	SLE RA 1	-1	-7	307	-22.98	-38.4	-0.95
186	SLE RA 2	-1	-6	313	-23.42	-39.14	-0.87
186	SLE RA 3	-1	-7	310	-23.18	-38.74	-0.97
186	SLE RA 4	-1	-7	313	-23.44	-39.18	-0.92
186	SLE RA 5	-1	-7	315	-23.53	-39.33	-0.88
186	SLE RA 6	-1	-7	311	-23.29	-38.92	-0.98
186	SLE RA 7	-1	-7	315	-23.56	-39.37	-0.93
186	SLE RA 8	-1	-7	310	-23.2	-38.78	-0.97
186	SLE RA 9	-1	-7	314	-23.47	-39.22	-0.92
186	SLE RA 10	-1	-7	339	-25.38	-42.42	-0.95
186	SLE RA 11	-1	-8	336	-25.14	-42.02	-1.05
186	SLE RA 12	-1	-7	340	-25.41	-42.46	-1
186	SLE RA 13	-1	-7	341	-25.5	-42.61	-0.96
186	SLE RA 14	-1	-8	338	-25.25	-42.2	-1.06
186	SLE RA 15	-1	-7	341	-25.52	-42.64	-1.01
186	SLE RA 16	-1	-8	336	-25.17	-42.06	-1.06
186	SLE RA 17	-1	-7	340	-25.43	-42.5	-1
186	SLE RA 18	-1	-8	345	-25.78	-43.09	-1.07
186	SLE RA 19	-1	-8	348	-26.05	-43.53	-1.02
186	SLE RA 20	-1	-8	346	-25.9	-43.27	-1.08
186	SLE RA 21	-1	-8	350	-26.16	-43.72	-1.03
186	SLE FR 1	-1	-7	307	-22.98	-38.4	-0.95
186	SLE FR 2	-1	-7	308	-23.07	-38.55	-0.94
186	SLE FR 3	-1	-7	308	-23.02	-38.48	-0.96
186	SLE FR 4	-1	-7	320	-23.91	-39.96	-0.97
186	SLE FR 5	-1	-7	319	-23.87	-39.88	-0.99
186	SLE FR 6	-1	-8	326	-24.38	-40.74	-1.01
186	SLE QP 1	-1	-7	307	-22.98	-38.4	-0.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
186	SLE QP 2	-1	-7	318	-23.82	-39.81	-0.99
186	SLD 1	24	2	352	-26.36	-44.06	2.12
186	SLD 2	30	5	356	-26.62	-44.49	2.86
186	SLD 3	25	-11	223	-16.71	-27.92	0.4
186	SLD 4	30	-9	227	-16.97	-28.36	1.14
186	SLD 5	5	16	524	-39.18	-65.48	2.42
186	SLD 6	9	18	526	-39.35	-65.76	2.9
186	SLD 7	7	-30	94	-7	-11.69	-3.3
186	SLD 8	10	-28	96	-7.17	-11.97	-2.83
186	SLD 9	-12	13	541	-40.48	-67.64	0.85
186	SLD 10	-8	15	543	-40.64	-67.92	1.32
186	SLD 11	-10	-32	111	-8.29	-13.85	-4.87
186	SLD 12	-7	-31	113	-8.46	-14.13	-4.4
186	SLD 13	-32	-6	410	-30.67	-51.26	-3.12
186	SLD 14	-26	-3	414	-30.93	-51.69	-2.38
186	SLD 15	-32	-20	281	-21.02	-35.12	-4.83
186	SLD 16	-26	-17	284	-21.28	-35.56	-4.1
186	SLV 1	38	9	381	-28.49	-47.61	3.99
186	SLV 2	47	13	386	-28.9	-48.3	5.15
186	SLV 3	39	-15	161	-12.02	-20.08	1.06
186	SLV 4	48	-11	166	-12.43	-20.77	2.22
186	SLV 5	8	32	670	-50.13	-83.78	4.73
186	SLV 6	14	35	674	-50.41	-84.24	5.51
186	SLV 7	11	-46	-64	4.78	7.99	-5.03
186	SLV 8	16	-43	-60	4.51	7.53	-4.25
186	SLV 9	-18	28	697	-52.15	-87.15	2.27
186	SLV 10	-12	31	701	-52.42	-87.61	3.05
186	SLV 11	-16	-50	-37	2.77	4.62	-7.49
186	SLV 12	-10	-47	-33	2.49	4.16	-6.71
186	SLV 13	-50	-4	471	-35.21	-58.85	-4.2
186	SLV 14	-41	0	476	-35.62	-59.53	-3.04
186	SLV 15	-49	-28	251	-18.74	-31.32	-7.13
186	SLV 16	-40	-24	256	-19.15	-32	-5.97
186	SLV FO 1	42	10	387	-28.96	-48.39	4.49
186	SLV FO 2	52	15	393	-29.41	-49.15	5.77
186	SLV FO 3	43	-15	145	-10.84	-18.11	1.27
186	SLV FO 4	53	-11	151	-11.29	-18.86	2.54
186	SLV FO 5	9	36	705	-52.76	-88.17	5.3
186	SLV FO 6	16	39	709	-53.07	-88.68	6.16
186	SLV FO 7	12	-50	-102	7.64	12.77	-5.44
186	SLV FO 8	18	-47	-98	7.34	12.26	-4.58
186	SLV FO 9	-20	32	735	-54.98	-91.88	2.6
186	SLV FO 10	-13	35	739	-55.28	-92.39	3.46
186	SLV FO 11	-17	-54	-73	5.42	9.06	-8.14
186	SLV FO 12	-11	-51	-68	5.12	8.56	-7.28
186	SLV FO 13	-54	-4	486	-36.35	-60.75	-4.52
186	SLV FO 14	-45	1	492	-36.81	-61.51	-3.24
186	SLV FO 15	-54	-30	244	-18.23	-30.47	-7.74
186	SLV FO 16	-44	-25	250	-18.68	-31.22	-6.46
186	CRTFP Ux+	0	0	0	0	0	0
186	CRTFP Ux-	0	0	0	0	0	0
186	CRTFP Uy+	0	0	0	0	0	0
186	CRTFP Uy-	0	0	0	0	0	0
188	SLU 1	-4	-16	942	0	0	0
188	SLU 2	-4	-13	968	0	0	0
188	SLU 3	-4	-16	956	0	0	0
188	SLU 4	-4	-14	972	0	0	0
188	SLU 5	-4	-13	977	0	0	0
188	SLU 6	-4	-17	964	0	0	0
188	SLU 7	-4	-15	980	0	0	0
188	SLU 8	-4	-17	959	0	0	0
188	SLU 9	-4	-15	975	0	0	0
188	SLU 10	-4	-15	1095	0	0	0
188	SLU 11	-4	-18	1083	0	0	0
188	SLU 12	-4	-16	1099	0	0	0
188	SLU 13	-4	-15	1104	0	0	0
188	SLU 14	-4	-19	1092	0	0	0
188	SLU 15	-4	-16	1108	0	0	0
188	SLU 16	-4	-18	1086	0	0	0
188	SLU 17	-4	-16	1102	0	0	0
188	SLU 18	-3	-19	1124	0	0	0
188	SLU 19	-4	-17	1139	0	0	0
188	SLU 20	-4	-19	1132	0	0	0
188	SLU 21	-4	-17	1148	0	0	0
188	SLU 22	-4	-18	1069	0	0	0
188	SLU 23	-5	-15	1095	0	0	0
188	SLU 24	-5	-18	1083	0	0	0
188	SLU 25	-5	-16	1099	0	0	0
188	SLU 26	-5	-15	1104	0	0	0
188	SLU 27	-5	-19	1092	0	0	0
188	SLU 28	-5	-17	1108	0	0	0
188	SLU 29	-5	-19	1086	0	0	0
188	SLU 30	-5	-16	1102	0	0	0
188	SLU 31	-5	-16	1223	0	0	0
188	SLU 32	-4	-20	1211	0	0	0
188	SLU 33	-5	-18	1226	0	0	0
188	SLU 34	-5	-17	1231	0	0	0
188	SLU 35	-4	-20	1219	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLU 36	-5	-18	1235	0	0	0
188	SLU 37	-4	-20	1214	0	0	0
188	SLU 38	-5	-18	1229	0	0	0
188	SLU 39	-4	-21	1251	0	0	0
188	SLU 40	-4	-19	1267	0	0	0
188	SLU 41	-4	-21	1260	0	0	0
188	SLU 42	-5	-19	1275	0	0	0
188	SLU 43	-5	-20	1180	0	0	0
188	SLU 44	-5	-17	1207	0	0	0
188	SLU 45	-5	-21	1195	0	0	0
188	SLU 46	-5	-19	1210	0	0	0
188	SLU 47	-5	-17	1215	0	0	0
188	SLU 48	-5	-21	1203	0	0	0
188	SLU 49	-5	-19	1219	0	0	0
188	SLU 50	-5	-21	1198	0	0	0
188	SLU 51	-5	-19	1213	0	0	0
188	SLU 52	-5	-19	1334	0	0	0
188	SLU 53	-5	-22	1322	0	0	0
188	SLU 54	-5	-20	1338	0	0	0
188	SLU 55	-5	-19	1343	0	0	0
188	SLU 56	-5	-23	1331	0	0	0
188	SLU 57	-5	-21	1347	0	0	0
188	SLU 58	-5	-23	1325	0	0	0
188	SLU 59	-5	-21	1341	0	0	0
188	SLU 60	-4	-23	1362	0	0	0
188	SLU 61	-5	-21	1378	0	0	0
188	SLU 62	-4	-23	1371	0	0	0
188	SLU 63	-5	-21	1387	0	0	0
188	SLU 64	-5	-22	1308	0	0	0
188	SLU 65	-6	-19	1334	0	0	0
188	SLU 66	-5	-23	1322	0	0	0
188	SLU 67	-6	-21	1338	0	0	0
188	SLU 68	-6	-19	1343	0	0	0
188	SLU 69	-6	-23	1331	0	0	0
188	SLU 70	-6	-21	1346	0	0	0
188	SLU 71	-6	-23	1325	0	0	0
188	SLU 72	-6	-21	1341	0	0	0
188	SLU 73	-6	-21	1461	0	0	0
188	SLU 74	-5	-24	1449	0	0	0
188	SLU 75	-5	-22	1465	0	0	0
188	SLU 76	-6	-21	1470	0	0	0
188	SLU 77	-5	-25	1458	0	0	0
188	SLU 78	-6	-23	1474	0	0	0
188	SLU 79	-5	-25	1452	0	0	0
188	SLU 80	-6	-22	1468	0	0	0
188	SLU 81	-5	-25	1490	0	0	0
188	SLU 82	-5	-23	1506	0	0	0
188	SLU 83	-5	-25	1498	0	0	0
188	SLU 84	-5	-23	1514	0	0	0
188	SLE RA 1	-4	-17	978	0	0	0
188	SLE RA 2	-4	-14	995	0	0	0
188	SLE RA 3	-4	-17	987	0	0	0
188	SLE RA 4	-4	-16	998	0	0	0
188	SLE RA 5	-4	-15	1001	0	0	0
188	SLE RA 6	-4	-17	993	0	0	0
188	SLE RA 7	-4	-16	1004	0	0	0
188	SLE RA 8	-4	-17	989	0	0	0
188	SLE RA 9	-4	-16	1000	0	0	0
188	SLE RA 10	-4	-16	1080	0	0	0
188	SLE RA 11	-4	-18	1072	0	0	0
188	SLE RA 12	-4	-17	1083	0	0	0
188	SLE RA 13	-4	-16	1086	0	0	0
188	SLE RA 14	-4	-18	1078	0	0	0
188	SLE RA 15	-4	-17	1089	0	0	0
188	SLE RA 16	-4	-18	1074	0	0	0
188	SLE RA 17	-4	-17	1085	0	0	0
188	SLE RA 18	-4	-18	1099	0	0	0
188	SLE RA 19	-4	-17	1110	0	0	0
188	SLE RA 20	-4	-19	1105	0	0	0
188	SLE RA 21	-4	-17	1116	0	0	0
188	SLE FR 1	-4	-17	978	0	0	0
188	SLE FR 2	-4	-16	981	0	0	0
188	SLE FR 3	-4	-17	980	0	0	0
188	SLE FR 4	-4	-17	1018	0	0	0
188	SLE FR 5	-4	-17	1017	0	0	0
188	SLE FR 6	-4	-18	1039	0	0	0
188	SLE QP 1	-4	-17	978	0	0	0
188	SLE QP 2	-4	-17	1014	0	0	0
188	SLD 1	72	-3	1285	0	0	0
188	SLD 2	89	-11	1275	0	0	0
188	SLD 3	76	-46	897	0	0	0
188	SLD 4	93	-54	887	0	0	0
188	SLD 5	10	54	1685	0	0	0
188	SLD 6	21	49	1679	0	0	0
188	SLD 7	23	-91	393	0	0	0
188	SLD 8	34	-96	386	0	0	0
188	SLD 9	-42	61	1642	0	0	0
188	SLD 10	-31	56	1636	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLD 11	-29	-84	350	0	0	0
188	SLD 12	-18	-89	343	0	0	0
188	SLD 13	-101	20	1141	0	0	0
188	SLD 14	-84	12	1131	0	0	0
188	SLD 15	-97	-24	754	0	0	0
188	SLD 16	-80	-32	744	0	0	0
188	SLV 1	115	8	1465	0	0	0
188	SLV 2	142	-4	1449	0	0	0
188	SLV 3	122	-66	804	0	0	0
188	SLV 4	148	-78	788	0	0	0
188	SLV 5	17	105	2156	0	0	0
188	SLV 6	35	97	2145	0	0	0
188	SLV 7	39	-142	-49	0	0	0
188	SLV 8	57	-150	-60	0	0	0
188	SLV 9	-64	116	2089	0	0	0
188	SLV 10	-46	108	2078	0	0	0
188	SLV 11	-43	-131	-117	0	0	0
188	SLV 12	-25	-140	-127	0	0	0
188	SLV 13	-156	44	1241	0	0	0
188	SLV 14	-129	31	1225	0	0	0
188	SLV 15	-150	-30	579	0	0	0
188	SLV 16	-123	-43	564	0	0	0
188	SLV FO 1	127	11	1510	0	0	0
188	SLV FO 2	157	-3	1493	0	0	0
188	SLV FO 3	134	-71	783	0	0	0
188	SLV FO 4	164	-84	765	0	0	0
188	SLV FO 5	19	118	2270	0	0	0
188	SLV FO 6	39	108	2258	0	0	0
188	SLV FO 7	43	-154	-156	0	0	0
188	SLV FO 8	63	-164	-167	0	0	0
188	SLV FO 9	-70	129	2196	0	0	0
188	SLV FO 10	-51	120	2184	0	0	0
188	SLV FO 11	-47	-143	-230	0	0	0
188	SLV FO 12	-27	-152	-241	0	0	0
188	SLV FO 13	-171	50	1264	0	0	0
188	SLV FO 14	-142	36	1246	0	0	0
188	SLV FO 15	-164	-32	536	0	0	0
188	SLV FO 16	-135	-45	518	0	0	0
188	CRTFP Uy+	0	0	0	0	0	0
188	CRTFP Uy-	0	0	0	0	0	0
189	SLU 1	-4	-14	945	0	0	0
189	SLU 2	-4	-10	971	0	0	0
189	SLU 3	-4	-14	960	0	0	0
189	SLU 4	-4	-12	975	0	0	0
189	SLU 5	-4	-10	980	0	0	0
189	SLU 6	-4	-14	968	0	0	0
189	SLU 7	-4	-12	984	0	0	0
189	SLU 8	-4	-14	963	0	0	0
189	SLU 9	-4	-12	978	0	0	0
189	SLU 10	-4	-12	1100	0	0	0
189	SLU 11	-4	-16	1088	0	0	0
189	SLU 12	-4	-14	1103	0	0	0
189	SLU 13	-4	-12	1108	0	0	0
189	SLU 14	-4	-16	1096	0	0	0
189	SLU 15	-4	-14	1112	0	0	0
189	SLU 16	-4	-16	1091	0	0	0
189	SLU 17	-4	-14	1107	0	0	0
189	SLU 18	-3	-16	1128	0	0	0
189	SLU 19	-4	-14	1144	0	0	0
189	SLU 20	-4	-16	1137	0	0	0
189	SLU 21	-4	-14	1153	0	0	0
189	SLU 22	-4	-15	1073	0	0	0
189	SLU 23	-5	-12	1099	0	0	0
189	SLU 24	-5	-16	1087	0	0	0
189	SLU 25	-5	-14	1103	0	0	0
189	SLU 26	-5	-12	1108	0	0	0
189	SLU 27	-5	-16	1096	0	0	0
189	SLU 28	-5	-14	1111	0	0	0
189	SLU 29	-5	-16	1090	0	0	0
189	SLU 30	-5	-14	1106	0	0	0
189	SLU 31	-5	-13	1227	0	0	0
189	SLU 32	-4	-17	1215	0	0	0
189	SLU 33	-5	-15	1231	0	0	0
189	SLU 34	-5	-14	1236	0	0	0
189	SLU 35	-5	-17	1224	0	0	0
189	SLU 36	-5	-15	1240	0	0	0
189	SLU 37	-4	-17	1218	0	0	0
189	SLU 38	-5	-15	1234	0	0	0
189	SLU 39	-4	-18	1256	0	0	0
189	SLU 40	-4	-16	1271	0	0	0
189	SLU 41	-4	-18	1264	0	0	0
189	SLU 42	-5	-16	1280	0	0	0
189	SLU 43	-5	-17	1185	0	0	0
189	SLU 44	-5	-14	1211	0	0	0
189	SLU 45	-5	-18	1199	0	0	0
189	SLU 46	-5	-16	1215	0	0	0
189	SLU 47	-5	-14	1220	0	0	0
189	SLU 48	-5	-18	1208	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLU 49	-5	-16	1224	0	0	0
189	SLU 50	-5	-18	1202	0	0	0
189	SLU 51	-5	-16	1218	0	0	0
189	SLU 52	-5	-15	1340	0	0	0
189	SLU 53	-5	-19	1328	0	0	0
189	SLU 54	-5	-17	1343	0	0	0
189	SLU 55	-5	-16	1348	0	0	0
189	SLU 56	-5	-19	1336	0	0	0
189	SLU 57	-5	-17	1352	0	0	0
189	SLU 58	-5	-19	1331	0	0	0
189	SLU 59	-5	-17	1346	0	0	0
189	SLU 60	-4	-20	1368	0	0	0
189	SLU 61	-5	-18	1384	0	0	0
189	SLU 62	-4	-20	1377	0	0	0
189	SLU 63	-5	-18	1393	0	0	0
189	SLU 64	-5	-19	1313	0	0	0
189	SLU 65	-6	-15	1339	0	0	0
189	SLU 66	-5	-19	1327	0	0	0
189	SLU 67	-6	-17	1343	0	0	0
189	SLU 68	-6	-16	1347	0	0	0
189	SLU 69	-6	-20	1336	0	0	0
189	SLU 70	-6	-17	1351	0	0	0
189	SLU 71	-6	-19	1330	0	0	0
189	SLU 72	-6	-17	1346	0	0	0
189	SLU 73	-6	-17	1467	0	0	0
189	SLU 74	-5	-21	1455	0	0	0
189	SLU 75	-6	-19	1471	0	0	0
189	SLU 76	-6	-17	1476	0	0	0
189	SLU 77	-5	-21	1464	0	0	0
189	SLU 78	-6	-19	1479	0	0	0
189	SLU 79	-5	-21	1458	0	0	0
189	SLU 80	-6	-19	1474	0	0	0
189	SLU 81	-5	-21	1496	0	0	0
189	SLU 82	-5	-19	1511	0	0	0
189	SLU 83	-5	-21	1504	0	0	0
189	SLU 84	-5	-19	1520	0	0	0
189	SLE RA 1	-4	-14	982	0	0	0
189	SLE RA 2	-4	-12	999	0	0	0
189	SLE RA 3	-4	-14	991	0	0	0
189	SLE RA 4	-4	-13	1002	0	0	0
189	SLE RA 5	-4	-12	1005	0	0	0
189	SLE RA 6	-4	-15	997	0	0	0
189	SLE RA 7	-4	-13	1007	0	0	0
189	SLE RA 8	-4	-15	993	0	0	0
189	SLE RA 9	-4	-13	1004	0	0	0
189	SLE RA 10	-4	-13	1085	0	0	0
189	SLE RA 11	-4	-16	1077	0	0	0
189	SLE RA 12	-4	-14	1087	0	0	0
189	SLE RA 13	-4	-13	1090	0	0	0
189	SLE RA 14	-4	-16	1082	0	0	0
189	SLE RA 15	-4	-14	1093	0	0	0
189	SLE RA 16	-4	-16	1079	0	0	0
189	SLE RA 17	-4	-14	1089	0	0	0
189	SLE RA 18	-4	-16	1104	0	0	0
189	SLE RA 19	-4	-14	1114	0	0	0
189	SLE RA 20	-4	-16	1109	0	0	0
189	SLE RA 21	-4	-14	1120	0	0	0
189	SLE FR 1	-4	-14	982	0	0	0
189	SLE FR 2	-4	-14	985	0	0	0
189	SLE FR 3	-4	-14	984	0	0	0
189	SLE FR 4	-4	-14	1022	0	0	0
189	SLE FR 5	-4	-15	1021	0	0	0
189	SLE FR 6	-4	-15	1043	0	0	0
189	SLE QP 1	-4	-14	982	0	0	0
189	SLE QP 2	-4	-15	1018	0	0	0
189	SLD 1	73	1	1281	0	0	0
189	SLD 2	91	-6	1272	0	0	0
189	SLD 3	77	-44	893	0	0	0
189	SLD 4	94	-51	883	0	0	0
189	SLD 5	11	60	1688	0	0	0
189	SLD 6	22	55	1682	0	0	0
189	SLD 7	23	-91	393	0	0	0
189	SLD 8	34	-95	387	0	0	0
189	SLD 9	-42	66	1649	0	0	0
189	SLD 10	-31	61	1643	0	0	0
189	SLD 11	-29	-85	355	0	0	0
189	SLD 12	-18	-89	349	0	0	0
189	SLD 13	-102	21	1153	0	0	0
189	SLD 14	-85	14	1144	0	0	0
189	SLD 15	-98	-24	765	0	0	0
189	SLD 16	-81	-31	756	0	0	0
189	SLV 1	117	14	1457	0	0	0
189	SLV 2	144	2	1442	0	0	0
189	SLV 3	123	-63	794	0	0	0
189	SLV 4	150	-75	779	0	0	0
189	SLV 5	17	113	2157	0	0	0
189	SLV 6	36	105	2148	0	0	0
189	SLV 7	39	-144	-51	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLV 8	57	-152	-61	0	0	0
189	SLV 9	-65	122	2098	0	0	0
189	SLV 10	-47	115	2088	0	0	0
189	SLV 11	-43	-135	-111	0	0	0
189	SLV 12	-25	-142	-121	0	0	0
189	SLV 13	-158	45	1257	0	0	0
189	SLV 14	-131	34	1242	0	0	0
189	SLV 15	-151	-32	595	0	0	0
189	SLV 16	-124	-43	580	0	0	0
189	SLV FO 1	129	17	1500	0	0	0
189	SLV FO 2	159	4	1484	0	0	0
189	SLV FO 3	136	-68	772	0	0	0
189	SLV FO 4	166	-81	755	0	0	0
189	SLV FO 5	19	126	2271	0	0	0
189	SLV FO 6	40	117	2261	0	0	0
189	SLV FO 7	43	-157	-158	0	0	0
189	SLV FO 8	63	-165	-169	0	0	0
189	SLV FO 9	-71	136	2206	0	0	0
189	SLV FO 10	-51	127	2195	0	0	0
189	SLV FO 11	-47	-147	-224	0	0	0
189	SLV FO 12	-27	-155	-235	0	0	0
189	SLV FO 13	-173	51	1281	0	0	0
189	SLV FO 14	-143	39	1265	0	0	0
189	SLV FO 15	-166	-34	552	0	0	0
189	SLV FO 16	-136	-46	536	0	0	0
189	CRTFP Uy+	0	0	0	0	0	0
189	CRTFP Uy-	0	0	0	0	0	0
190	SLU 1	-4	-12	954	0	0	0
190	SLU 2	-4	-8	981	0	0	0
190	SLU 3	-4	-12	969	0	0	0
190	SLU 4	-4	-10	985	0	0	0
190	SLU 5	-4	-8	989	0	0	0
190	SLU 6	-4	-12	977	0	0	0
190	SLU 7	-4	-10	993	0	0	0
190	SLU 8	-4	-12	972	0	0	0
190	SLU 9	-4	-10	988	0	0	0
190	SLU 10	-4	-9	1110	0	0	0
190	SLU 11	-4	-13	1098	0	0	0
190	SLU 12	-4	-11	1114	0	0	0
190	SLU 13	-4	-10	1119	0	0	0
190	SLU 14	-4	-14	1107	0	0	0
190	SLU 15	-4	-11	1123	0	0	0
190	SLU 16	-4	-13	1101	0	0	0
190	SLU 17	-4	-11	1117	0	0	0
190	SLU 18	-3	-14	1139	0	0	0
190	SLU 19	-4	-11	1155	0	0	0
190	SLU 20	-4	-14	1148	0	0	0
190	SLU 21	-4	-12	1164	0	0	0
190	SLU 22	-4	-13	1082	0	0	0
190	SLU 23	-5	-9	1109	0	0	0
190	SLU 24	-5	-13	1097	0	0	0
190	SLU 25	-5	-11	1113	0	0	0
190	SLU 26	-5	-10	1118	0	0	0
190	SLU 27	-5	-13	1106	0	0	0
190	SLU 28	-5	-11	1122	0	0	0
190	SLU 29	-5	-13	1100	0	0	0
190	SLU 30	-5	-11	1116	0	0	0
190	SLU 31	-5	-11	1239	0	0	0
190	SLU 32	-4	-15	1227	0	0	0
190	SLU 33	-5	-12	1242	0	0	0
190	SLU 34	-5	-11	1247	0	0	0
190	SLU 35	-5	-15	1235	0	0	0
190	SLU 36	-5	-13	1251	0	0	0
190	SLU 37	-4	-15	1230	0	0	0
190	SLU 38	-5	-13	1246	0	0	0
190	SLU 39	-4	-15	1268	0	0	0
190	SLU 40	-4	-13	1284	0	0	0
190	SLU 41	-4	-15	1276	0	0	0
190	SLU 42	-5	-13	1292	0	0	0
190	SLU 43	-5	-15	1197	0	0	0
190	SLU 44	-5	-11	1223	0	0	0
190	SLU 45	-5	-15	1211	0	0	0
190	SLU 46	-5	-13	1227	0	0	0
190	SLU 47	-5	-11	1232	0	0	0
190	SLU 48	-5	-15	1220	0	0	0
190	SLU 49	-5	-13	1236	0	0	0
190	SLU 50	-5	-15	1214	0	0	0
190	SLU 51	-5	-13	1230	0	0	0
190	SLU 52	-5	-12	1353	0	0	0
190	SLU 53	-5	-16	1341	0	0	0
190	SLU 54	-5	-14	1356	0	0	0
190	SLU 55	-5	-13	1361	0	0	0
190	SLU 56	-5	-17	1349	0	0	0
190	SLU 57	-5	-14	1365	0	0	0
190	SLU 58	-5	-17	1344	0	0	0
190	SLU 59	-5	-14	1360	0	0	0
190	SLU 60	-4	-17	1382	0	0	0
190	SLU 61	-5	-15	1398	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLU 62	-4	-17	1391	0	0	0
190	SLU 63	-5	-15	1406	0	0	0
190	SLU 64	-5	-16	1325	0	0	0
190	SLU 65	-6	-12	1351	0	0	0
190	SLU 66	-5	-16	1339	0	0	0
190	SLU 67	-6	-14	1355	0	0	0
190	SLU 68	-6	-13	1360	0	0	0
190	SLU 69	-6	-17	1348	0	0	0
190	SLU 70	-6	-14	1364	0	0	0
190	SLU 71	-6	-17	1342	0	0	0
190	SLU 72	-6	-14	1358	0	0	0
190	SLU 73	-6	-14	1481	0	0	0
190	SLU 74	-5	-18	1469	0	0	0
190	SLU 75	-6	-15	1485	0	0	0
190	SLU 76	-6	-14	1490	0	0	0
190	SLU 77	-5	-18	1478	0	0	0
190	SLU 78	-6	-16	1493	0	0	0
190	SLU 79	-5	-18	1472	0	0	0
190	SLU 80	-6	-16	1488	0	0	0
190	SLU 81	-5	-18	1510	0	0	0
190	SLU 82	-5	-16	1526	0	0	0
190	SLU 83	-5	-18	1519	0	0	0
190	SLU 84	-5	-16	1535	0	0	0
190	SLE RA 1	-4	-12	991	0	0	0
190	SLE RA 2	-4	-10	1008	0	0	0
190	SLE RA 3	-4	-12	1001	0	0	0
190	SLE RA 4	-4	-11	1011	0	0	0
190	SLE RA 5	-4	-10	1014	0	0	0
190	SLE RA 6	-4	-12	1006	0	0	0
190	SLE RA 7	-4	-11	1017	0	0	0
190	SLE RA 8	-4	-12	1003	0	0	0
190	SLE RA 9	-4	-11	1013	0	0	0
190	SLE RA 10	-4	-11	1095	0	0	0
190	SLE RA 11	-4	-13	1087	0	0	0
190	SLE RA 12	-4	-12	1098	0	0	0
190	SLE RA 13	-4	-11	1101	0	0	0
190	SLE RA 14	-4	-13	1093	0	0	0
190	SLE RA 15	-4	-12	1103	0	0	0
190	SLE RA 16	-4	-13	1089	0	0	0
190	SLE RA 17	-4	-12	1100	0	0	0
190	SLE RA 18	-4	-13	1114	0	0	0
190	SLE RA 19	-4	-12	1125	0	0	0
190	SLE RA 20	-4	-14	1120	0	0	0
190	SLE RA 21	-4	-12	1131	0	0	0
190	SLE FR 1	-4	-12	991	0	0	0
190	SLE FR 2	-4	-12	994	0	0	0
190	SLE FR 3	-4	-12	993	0	0	0
190	SLE FR 4	-4	-12	1031	0	0	0
190	SLE FR 5	-4	-13	1030	0	0	0
190	SLE FR 6	-4	-13	1053	0	0	0
190	SLE QP 1	-4	-12	991	0	0	0
190	SLE QP 2	-4	-13	1028	0	0	0
190	SLD 1	75	5	1284	0	0	0
190	SLD 2	92	-1	1275	0	0	0
190	SLD 3	78	-42	892	0	0	0
190	SLD 4	96	-48	884	0	0	0
190	SLD 5	11	65	1699	0	0	0
190	SLD 6	22	61	1694	0	0	0
190	SLD 7	24	-91	396	0	0	0
190	SLD 8	35	-96	390	0	0	0
190	SLD 9	-43	70	1666	0	0	0
190	SLD 10	-31	66	1660	0	0	0
190	SLD 11	-30	-86	362	0	0	0
190	SLD 12	-19	-90	357	0	0	0
190	SLD 13	-104	23	1172	0	0	0
190	SLD 14	-86	17	1163	0	0	0
190	SLD 15	-100	-24	781	0	0	0
190	SLD 16	-82	-30	772	0	0	0
190	SLV 1	118	19	1456	0	0	0
190	SLV 2	146	8	1442	0	0	0
190	SLV 3	125	-61	788	0	0	0
190	SLV 4	152	-72	775	0	0	0
190	SLV 5	18	120	2171	0	0	0
190	SLV 6	37	113	2162	0	0	0
190	SLV 7	39	-147	-54	0	0	0
190	SLV 8	58	-154	-63	0	0	0
190	SLV 9	-66	129	2119	0	0	0
190	SLV 10	-47	122	2109	0	0	0
190	SLV 11	-44	-138	-106	0	0	0
190	SLV 12	-26	-145	-115	0	0	0
190	SLV 13	-160	47	1281	0	0	0
190	SLV 14	-133	36	1268	0	0	0
190	SLV 15	-154	-34	614	0	0	0
190	SLV 16	-126	-44	600	0	0	0
190	SLV FO 1	131	22	1498	0	0	0
190	SLV FO 2	161	11	1483	0	0	0
190	SLV FO 3	138	-66	764	0	0	0
190	SLV FO 4	168	-77	749	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLV FO 5	20	133	2285	0	0	0
190	SLV FO 6	41	126	2275	0	0	0
190	SLV FO 7	44	-160	-162	0	0	0
190	SLV FO 8	64	-168	-172	0	0	0
190	SLV FO 9	-72	143	2228	0	0	0
190	SLV FO 10	-51	135	2218	0	0	0
190	SLV FO 11	-48	-151	-219	0	0	0
190	SLV FO 12	-28	-159	-229	0	0	0
190	SLV FO 13	-176	52	1307	0	0	0
190	SLV FO 14	-145	41	1292	0	0	0
190	SLV FO 15	-169	-36	573	0	0	0
190	SLV FO 16	-138	-47	558	0	0	0
190	CRTFP Uy+	0	0	0	0	0	0
190	CRTFP Uy-	0	0	0	0	0	0
191	SLU 1	-4	-10	964	0	0	0
191	SLU 2	-4	-6	991	0	0	0
191	SLU 3	-4	-10	979	0	0	0
191	SLU 4	-4	-8	995	0	0	0
191	SLU 5	-4	-6	1000	0	0	0
191	SLU 6	-4	-10	988	0	0	0
191	SLU 7	-4	-8	1004	0	0	0
191	SLU 8	-4	-10	982	0	0	0
191	SLU 9	-4	-8	998	0	0	0
191	SLU 10	-4	-7	1122	0	0	0
191	SLU 11	-4	-11	1110	0	0	0
191	SLU 12	-4	-9	1126	0	0	0
191	SLU 13	-4	-7	1131	0	0	0
191	SLU 14	-4	-11	1119	0	0	0
191	SLU 15	-4	-9	1135	0	0	0
191	SLU 16	-4	-11	1113	0	0	0
191	SLU 17	-4	-9	1129	0	0	0
191	SLU 18	-3	-11	1152	0	0	0
191	SLU 19	-4	-9	1168	0	0	0
191	SLU 20	-4	-11	1161	0	0	0
191	SLU 21	-4	-9	1177	0	0	0
191	SLU 22	-4	-11	1094	0	0	0
191	SLU 23	-5	-7	1120	0	0	0
191	SLU 24	-5	-11	1108	0	0	0
191	SLU 25	-5	-9	1124	0	0	0
191	SLU 26	-5	-7	1129	0	0	0
191	SLU 27	-5	-11	1117	0	0	0
191	SLU 28	-5	-9	1133	0	0	0
191	SLU 29	-5	-11	1111	0	0	0
191	SLU 30	-5	-9	1127	0	0	0
191	SLU 31	-5	-8	1252	0	0	0
191	SLU 32	-4	-12	1240	0	0	0
191	SLU 33	-5	-10	1256	0	0	0
191	SLU 34	-5	-8	1260	0	0	0
191	SLU 35	-4	-12	1249	0	0	0
191	SLU 36	-5	-10	1265	0	0	0
191	SLU 37	-4	-12	1243	0	0	0
191	SLU 38	-5	-10	1259	0	0	0
191	SLU 39	-4	-12	1281	0	0	0
191	SLU 40	-4	-10	1297	0	0	0
191	SLU 41	-4	-12	1290	0	0	0
191	SLU 42	-4	-10	1306	0	0	0
191	SLU 43	-5	-12	1209	0	0	0
191	SLU 44	-5	-8	1236	0	0	0
191	SLU 45	-5	-12	1224	0	0	0
191	SLU 46	-5	-10	1240	0	0	0
191	SLU 47	-5	-9	1245	0	0	0
191	SLU 48	-5	-13	1233	0	0	0
191	SLU 49	-5	-10	1249	0	0	0
191	SLU 50	-5	-13	1227	0	0	0
191	SLU 51	-5	-10	1243	0	0	0
191	SLU 52	-5	-10	1367	0	0	0
191	SLU 53	-4	-14	1355	0	0	0
191	SLU 54	-5	-11	1371	0	0	0
191	SLU 55	-5	-10	1376	0	0	0
191	SLU 56	-5	-14	1364	0	0	0
191	SLU 57	-5	-11	1380	0	0	0
191	SLU 58	-5	-14	1358	0	0	0
191	SLU 59	-5	-11	1374	0	0	0
191	SLU 60	-4	-14	1397	0	0	0
191	SLU 61	-5	-12	1413	0	0	0
191	SLU 62	-4	-14	1406	0	0	0
191	SLU 63	-5	-12	1422	0	0	0
191	SLU 64	-5	-13	1339	0	0	0
191	SLU 65	-6	-9	1365	0	0	0
191	SLU 66	-5	-14	1353	0	0	0
191	SLU 67	-6	-11	1369	0	0	0
191	SLU 68	-6	-10	1374	0	0	0
191	SLU 69	-6	-14	1362	0	0	0
191	SLU 70	-6	-11	1378	0	0	0
191	SLU 71	-5	-14	1356	0	0	0
191	SLU 72	-6	-11	1372	0	0	0
191	SLU 73	-5	-11	1497	0	0	0
191	SLU 74	-5	-15	1485	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
191	SLU 75	-5	-12	1501	0	0	0
191	SLU 76	-6	-11	1505	0	0	0
191	SLU 77	-5	-15	1494	0	0	0
191	SLU 78	-6	-12	1509	0	0	0
191	SLU 79	-5	-15	1488	0	0	0
191	SLU 80	-6	-12	1504	0	0	0
191	SLU 81	-5	-15	1526	0	0	0
191	SLU 82	-5	-13	1542	0	0	0
191	SLU 83	-5	-15	1535	0	0	0
191	SLU 84	-5	-13	1551	0	0	0
191	SLE RA 1	-4	-10	1001	0	0	0
191	SLE RA 2	-4	-7	1019	0	0	0
191	SLE RA 3	-4	-10	1011	0	0	0
191	SLE RA 4	-4	-9	1022	0	0	0
191	SLE RA 5	-4	-8	1025	0	0	0
191	SLE RA 6	-4	-10	1017	0	0	0
191	SLE RA 7	-4	-9	1028	0	0	0
191	SLE RA 8	-4	-10	1013	0	0	0
191	SLE RA 9	-4	-9	1024	0	0	0
191	SLE RA 10	-4	-8	1107	0	0	0
191	SLE RA 11	-4	-11	1099	0	0	0
191	SLE RA 12	-4	-9	1109	0	0	0
191	SLE RA 13	-4	-8	1112	0	0	0
191	SLE RA 14	-4	-11	1105	0	0	0
191	SLE RA 15	-4	-9	1115	0	0	0
191	SLE RA 16	-4	-11	1101	0	0	0
191	SLE RA 17	-4	-9	1111	0	0	0
191	SLE RA 18	-4	-11	1126	0	0	0
191	SLE RA 19	-4	-10	1137	0	0	0
191	SLE RA 20	-4	-11	1132	0	0	0
191	SLE RA 21	-4	-10	1143	0	0	0
191	SLE FR 1	-4	-10	1001	0	0	0
191	SLE FR 2	-4	-10	1005	0	0	0
191	SLE FR 3	-4	-10	1004	0	0	0
191	SLE FR 4	-4	-10	1042	0	0	0
191	SLE FR 5	-4	-10	1041	0	0	0
191	SLE FR 6	-4	-11	1064	0	0	0
191	SLE QP 1	-4	-10	1001	0	0	0
191	SLE QP 2	-4	-10	1039	0	0	0
191	SLD 1	76	9	1287	0	0	0
191	SLD 2	93	3	1279	0	0	0
191	SLD 3	79	-39	893	0	0	0
191	SLD 4	97	-45	885	0	0	0
191	SLD 5	11	70	1713	0	0	0
191	SLD 6	23	66	1708	0	0	0
191	SLD 7	24	-92	399	0	0	0
191	SLD 8	35	-96	393	0	0	0
191	SLD 9	-43	75	1684	0	0	0
191	SLD 10	-31	71	1679	0	0	0
191	SLD 11	-30	-87	370	0	0	0
191	SLD 12	-19	-91	365	0	0	0
191	SLD 13	-105	25	1193	0	0	0
191	SLD 14	-87	19	1185	0	0	0
191	SLD 15	-101	-24	798	0	0	0
191	SLD 16	-83	-30	790	0	0	0
191	SLV 1	120	24	1455	0	0	0
191	SLV 2	148	14	1443	0	0	0
191	SLV 3	126	-59	783	0	0	0
191	SLV 4	154	-68	770	0	0	0
191	SLV 5	19	127	2186	0	0	0
191	SLV 6	37	121	2178	0	0	0
191	SLV 7	40	-149	-56	0	0	0
191	SLV 8	58	-155	-64	0	0	0
191	SLV 9	-66	134	2142	0	0	0
191	SLV 10	-47	128	2133	0	0	0
191	SLV 11	-45	-142	-100	0	0	0
191	SLV 12	-26	-148	-109	0	0	0
191	SLV 13	-162	48	1307	0	0	0
191	SLV 14	-134	38	1295	0	0	0
191	SLV 15	-156	-35	635	0	0	0
191	SLV 16	-128	-44	622	0	0	0
191	SLV FO 1	132	27	1497	0	0	0
191	SLV FO 2	163	17	1483	0	0	0
191	SLV FO 3	139	-64	757	0	0	0
191	SLV FO 4	170	-74	743	0	0	0
191	SLV FO 5	21	141	2301	0	0	0
191	SLV FO 6	42	134	2292	0	0	0
191	SLV FO 7	44	-163	-165	0	0	0
191	SLV FO 8	65	-170	-175	0	0	0
191	SLV FO 9	-72	149	2252	0	0	0
191	SLV FO 10	-51	142	2243	0	0	0
191	SLV FO 11	-49	-155	-214	0	0	0
191	SLV FO 12	-29	-162	-223	0	0	0
191	SLV FO 13	-178	54	1334	0	0	0
191	SLV FO 14	-147	43	1320	0	0	0
191	SLV FO 15	-171	-38	594	0	0	0
191	SLV FO 16	-140	-48	581	0	0	0
191	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
191	CRTFP Uy-	0	0	0	0	0	0
192	SLU 1	-4	-8	976	0	0	0
192	SLU 2	-4	-4	1002	0	0	0
192	SLU 3	-4	-8	991	0	0	0
192	SLU 4	-4	-5	1007	0	0	0
192	SLU 5	-4	-4	1011	0	0	0
192	SLU 6	-4	-8	1000	0	0	0
192	SLU 7	-4	-5	1016	0	0	0
192	SLU 8	-4	-8	994	0	0	0
192	SLU 9	-4	-5	1010	0	0	0
192	SLU 10	-4	-4	1136	0	0	0
192	SLU 11	-4	-9	1124	0	0	0
192	SLU 12	-4	-6	1140	0	0	0
192	SLU 13	-4	-5	1145	0	0	0
192	SLU 14	-4	-9	1133	0	0	0
192	SLU 15	-4	-6	1149	0	0	0
192	SLU 16	-4	-9	1127	0	0	0
192	SLU 17	-4	-6	1143	0	0	0
192	SLU 18	-3	-9	1166	0	0	0
192	SLU 19	-4	-6	1182	0	0	0
192	SLU 20	-3	-9	1175	0	0	0
192	SLU 21	-4	-7	1191	0	0	0
192	SLU 22	-4	-8	1107	0	0	0
192	SLU 23	-5	-4	1133	0	0	0
192	SLU 24	-4	-8	1121	0	0	0
192	SLU 25	-5	-6	1137	0	0	0
192	SLU 26	-5	-4	1142	0	0	0
192	SLU 27	-5	-9	1130	0	0	0
192	SLU 28	-5	-6	1146	0	0	0
192	SLU 29	-5	-9	1125	0	0	0
192	SLU 30	-5	-6	1141	0	0	0
192	SLU 31	-5	-5	1267	0	0	0
192	SLU 32	-4	-9	1255	0	0	0
192	SLU 33	-5	-7	1271	0	0	0
192	SLU 34	-5	-5	1276	0	0	0
192	SLU 35	-4	-9	1264	0	0	0
192	SLU 36	-5	-7	1280	0	0	0
192	SLU 37	-4	-9	1258	0	0	0
192	SLU 38	-5	-7	1274	0	0	0
192	SLU 39	-4	-9	1297	0	0	0
192	SLU 40	-4	-7	1313	0	0	0
192	SLU 41	-4	-10	1306	0	0	0
192	SLU 42	-4	-7	1322	0	0	0
192	SLU 43	-4	-10	1224	0	0	0
192	SLU 44	-5	-6	1250	0	0	0
192	SLU 45	-5	-10	1238	0	0	0
192	SLU 46	-5	-7	1254	0	0	0
192	SLU 47	-5	-6	1259	0	0	0
192	SLU 48	-5	-10	1247	0	0	0
192	SLU 49	-5	-7	1263	0	0	0
192	SLU 50	-5	-10	1242	0	0	0
192	SLU 51	-5	-7	1258	0	0	0
192	SLU 52	-5	-6	1384	0	0	0
192	SLU 53	-4	-11	1372	0	0	0
192	SLU 54	-5	-8	1388	0	0	0
192	SLU 55	-5	-7	1393	0	0	0
192	SLU 56	-5	-11	1381	0	0	0
192	SLU 57	-5	-8	1397	0	0	0
192	SLU 58	-5	-11	1375	0	0	0
192	SLU 59	-5	-8	1391	0	0	0
192	SLU 60	-4	-11	1414	0	0	0
192	SLU 61	-4	-8	1430	0	0	0
192	SLU 62	-4	-11	1423	0	0	0
192	SLU 63	-5	-9	1439	0	0	0
192	SLU 64	-5	-10	1354	0	0	0
192	SLU 65	-6	-6	1381	0	0	0
192	SLU 66	-5	-10	1369	0	0	0
192	SLU 67	-6	-8	1385	0	0	0
192	SLU 68	-6	-6	1390	0	0	0
192	SLU 69	-5	-11	1378	0	0	0
192	SLU 70	-6	-8	1394	0	0	0
192	SLU 71	-5	-11	1372	0	0	0
192	SLU 72	-6	-8	1388	0	0	0
192	SLU 73	-5	-7	1515	0	0	0
192	SLU 74	-5	-11	1503	0	0	0
192	SLU 75	-5	-9	1519	0	0	0
192	SLU 76	-6	-7	1524	0	0	0
192	SLU 77	-5	-11	1512	0	0	0
192	SLU 78	-6	-9	1528	0	0	0
192	SLU 79	-5	-11	1506	0	0	0
192	SLU 80	-5	-9	1522	0	0	0
192	SLU 81	-5	-12	1545	0	0	0
192	SLU 82	-5	-9	1561	0	0	0
192	SLU 83	-5	-12	1554	0	0	0
192	SLU 84	-5	-9	1570	0	0	0
192	SLE RA 1	-4	-8	1013	0	0	0
192	SLE RA 2	-4	-5	1031	0	0	0
192	SLE RA 3	-4	-8	1023	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
192	SLE RA 4	-4	-6	1034	0	0	0
192	SLE RA 5	-4	-5	1037	0	0	0
192	SLE RA 6	-4	-8	1029	0	0	0
192	SLE RA 7	-4	-6	1040	0	0	0
192	SLE RA 8	-4	-8	1025	0	0	0
192	SLE RA 9	-4	-6	1036	0	0	0
192	SLE RA 10	-4	-6	1120	0	0	0
192	SLE RA 11	-4	-8	1112	0	0	0
192	SLE RA 12	-4	-7	1123	0	0	0
192	SLE RA 13	-4	-6	1126	0	0	0
192	SLE RA 14	-4	-9	1118	0	0	0
192	SLE RA 15	-4	-7	1129	0	0	0
192	SLE RA 16	-4	-9	1114	0	0	0
192	SLE RA 17	-4	-7	1125	0	0	0
192	SLE RA 18	-4	-9	1140	0	0	0
192	SLE RA 19	-4	-7	1151	0	0	0
192	SLE RA 20	-4	-9	1146	0	0	0
192	SLE RA 21	-4	-7	1157	0	0	0
192	SLE FR 1	-4	-8	1013	0	0	0
192	SLE FR 2	-4	-7	1017	0	0	0
192	SLE FR 3	-4	-8	1016	0	0	0
192	SLE FR 4	-4	-7	1055	0	0	0
192	SLE FR 5	-4	-8	1054	0	0	0
192	SLE FR 6	-4	-8	1077	0	0	0
192	SLE QP 1	-4	-8	1013	0	0	0
192	SLE QP 2	-4	-8	1051	0	0	0
192	SLD 1	76	13	1293	0	0	0
192	SLD 2	94	8	1285	0	0	0
192	SLD 3	80	-37	895	0	0	0
192	SLD 4	98	-42	887	0	0	0
192	SLD 5	12	75	1728	0	0	0
192	SLD 6	23	72	1723	0	0	0
192	SLD 7	24	-92	402	0	0	0
192	SLD 8	35	-95	398	0	0	0
192	SLD 9	-43	79	1705	0	0	0
192	SLD 10	-31	76	1700	0	0	0
192	SLD 11	-31	-88	379	0	0	0
192	SLD 12	-19	-91	374	0	0	0
192	SLD 13	-105	26	1215	0	0	0
192	SLD 14	-88	21	1208	0	0	0
192	SLD 15	-102	-24	817	0	0	0
192	SLD 16	-84	-29	810	0	0	0
192	SLV 1	121	29	1457	0	0	0
192	SLV 2	149	21	1445	0	0	0
192	SLV 3	127	-57	778	0	0	0
192	SLV 4	156	-65	767	0	0	0
192	SLV 5	19	134	2204	0	0	0
192	SLV 6	38	129	2197	0	0	0
192	SLV 7	40	-151	-58	0	0	0
192	SLV 8	58	-156	-65	0	0	0
192	SLV 9	-66	140	2168	0	0	0
192	SLV 10	-47	135	2160	0	0	0
192	SLV 11	-46	-145	-94	0	0	0
192	SLV 12	-27	-150	-102	0	0	0
192	SLV 13	-163	49	1336	0	0	0
192	SLV 14	-135	41	1324	0	0	0
192	SLV 15	-157	-37	657	0	0	0
192	SLV 16	-129	-45	646	0	0	0
192	SLV FO 1	134	32	1497	0	0	0
192	SLV FO 2	165	23	1485	0	0	0
192	SLV FO 3	141	-62	751	0	0	0
192	SLV FO 4	171	-71	738	0	0	0
192	SLV FO 5	22	148	2320	0	0	0
192	SLV FO 6	43	142	2311	0	0	0
192	SLV FO 7	44	-165	-169	0	0	0
192	SLV FO 8	65	-171	-177	0	0	0
192	SLV FO 9	-72	155	2280	0	0	0
192	SLV FO 10	-51	149	2271	0	0	0
192	SLV FO 11	-50	-158	-209	0	0	0
192	SLV FO 12	-29	-164	-217	0	0	0
192	SLV FO 13	-179	55	1364	0	0	0
192	SLV FO 14	-148	46	1352	0	0	0
192	SLV FO 15	-172	-39	618	0	0	0
192	SLV FO 16	-141	-48	605	0	0	0
192	CRTFP Uy+	0	0	0	0	0	0
192	CRTFP Uy-	0	0	0	0	0	0
193	SLU 1	-4	-5	990	0	0	0
193	SLU 2	-4	-1	1017	0	0	0
193	SLU 3	-4	-5	1006	0	0	0
193	SLU 4	-4	-3	1022	0	0	0
193	SLU 5	-4	-1	1026	0	0	0
193	SLU 6	-4	-6	1015	0	0	0
193	SLU 7	-4	-3	1031	0	0	0
193	SLU 8	-4	-6	1009	0	0	0
193	SLU 9	-4	-3	1025	0	0	0
193	SLU 10	-4	-2	1153	0	0	0
193	SLU 11	-4	-6	1142	0	0	0
193	SLU 12	-4	-4	1158	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
193	SLU 13	-4	-2	1163	0	0	0
193	SLU 14	-4	-6	1151	0	0	0
193	SLU 15	-4	-4	1167	0	0	0
193	SLU 16	-4	-6	1145	0	0	0
193	SLU 17	-4	-4	1161	0	0	0
193	SLU 18	-3	-6	1185	0	0	0
193	SLU 19	-4	-4	1201	0	0	0
193	SLU 20	-4	-6	1194	0	0	0
193	SLU 21	-4	-4	1210	0	0	0
193	SLU 22	-4	-6	1123	0	0	0
193	SLU 23	-5	-2	1150	0	0	0
193	SLU 24	-4	-6	1138	0	0	0
193	SLU 25	-5	-3	1155	0	0	0
193	SLU 26	-5	-2	1159	0	0	0
193	SLU 27	-5	-6	1148	0	0	0
193	SLU 28	-5	-3	1164	0	0	0
193	SLU 29	-5	-6	1142	0	0	0
193	SLU 30	-5	-3	1158	0	0	0
193	SLU 31	-5	-2	1286	0	0	0
193	SLU 32	-4	-6	1275	0	0	0
193	SLU 33	-5	-4	1291	0	0	0
193	SLU 34	-5	-2	1295	0	0	0
193	SLU 35	-4	-7	1284	0	0	0
193	SLU 36	-5	-4	1300	0	0	0
193	SLU 37	-4	-7	1278	0	0	0
193	SLU 38	-5	-4	1294	0	0	0
193	SLU 39	-4	-7	1318	0	0	0
193	SLU 40	-4	-4	1334	0	0	0
193	SLU 41	-4	-7	1327	0	0	0
193	SLU 42	-4	-4	1343	0	0	0
193	SLU 43	-4	-7	1242	0	0	0
193	SLU 44	-5	-3	1269	0	0	0
193	SLU 45	-5	-7	1257	0	0	0
193	SLU 46	-5	-4	1273	0	0	0
193	SLU 47	-5	-3	1278	0	0	0
193	SLU 48	-5	-7	1266	0	0	0
193	SLU 49	-5	-5	1282	0	0	0
193	SLU 50	-5	-7	1260	0	0	0
193	SLU 51	-5	-5	1276	0	0	0
193	SLU 52	-5	-3	1405	0	0	0
193	SLU 53	-4	-8	1393	0	0	0
193	SLU 54	-5	-5	1409	0	0	0
193	SLU 55	-5	-3	1414	0	0	0
193	SLU 56	-5	-8	1402	0	0	0
193	SLU 57	-5	-5	1419	0	0	0
193	SLU 58	-5	-8	1396	0	0	0
193	SLU 59	-5	-5	1413	0	0	0
193	SLU 60	-4	-8	1436	0	0	0
193	SLU 61	-4	-5	1453	0	0	0
193	SLU 62	-4	-8	1446	0	0	0
193	SLU 63	-5	-5	1462	0	0	0
193	SLU 64	-5	-7	1375	0	0	0
193	SLU 65	-6	-3	1402	0	0	0
193	SLU 66	-5	-7	1390	0	0	0
193	SLU 67	-6	-5	1406	0	0	0
193	SLU 68	-6	-3	1411	0	0	0
193	SLU 69	-5	-7	1399	0	0	0
193	SLU 70	-6	-5	1415	0	0	0
193	SLU 71	-5	-7	1393	0	0	0
193	SLU 72	-6	-5	1409	0	0	0
193	SLU 73	-5	-4	1538	0	0	0
193	SLU 74	-5	-8	1526	0	0	0
193	SLU 75	-5	-5	1542	0	0	0
193	SLU 76	-6	-4	1547	0	0	0
193	SLU 77	-5	-8	1535	0	0	0
193	SLU 78	-6	-6	1551	0	0	0
193	SLU 79	-5	-8	1529	0	0	0
193	SLU 80	-5	-6	1545	0	0	0
193	SLU 81	-5	-8	1569	0	0	0
193	SLU 82	-5	-6	1585	0	0	0
193	SLU 83	-5	-8	1579	0	0	0
193	SLU 84	-5	-6	1595	0	0	0
193	SLE RA 1	-4	-5	1028	0	0	0
193	SLE RA 2	-4	-3	1046	0	0	0
193	SLE RA 3	-4	-6	1038	0	0	0
193	SLE RA 4	-4	-4	1049	0	0	0
193	SLE RA 5	-4	-3	1052	0	0	0
193	SLE RA 6	-4	-6	1045	0	0	0
193	SLE RA 7	-4	-4	1055	0	0	0
193	SLE RA 8	-4	-6	1041	0	0	0
193	SLE RA 9	-4	-4	1051	0	0	0
193	SLE RA 10	-4	-3	1137	0	0	0
193	SLE RA 11	-4	-6	1129	0	0	0
193	SLE RA 12	-4	-4	1140	0	0	0
193	SLE RA 13	-4	-3	1143	0	0	0
193	SLE RA 14	-4	-6	1135	0	0	0
193	SLE RA 15	-4	-4	1146	0	0	0
193	SLE RA 16	-4	-6	1131	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
193	SLE RA 17	-4	-4	1142	0	0	0
193	SLE RA 18	-4	-6	1158	0	0	0
193	SLE RA 19	-4	-4	1169	0	0	0
193	SLE RA 20	-4	-6	1164	0	0	0
193	SLE RA 21	-4	-4	1175	0	0	0
193	SLE FR 1	-4	-5	1028	0	0	0
193	SLE FR 2	-4	-5	1032	0	0	0
193	SLE FR 3	-4	-5	1031	0	0	0
193	SLE FR 4	-4	-5	1071	0	0	0
193	SLE FR 5	-4	-6	1070	0	0	0
193	SLE FR 6	-4	-6	1093	0	0	0
193	SLE QP 1	-4	-5	1028	0	0	0
193	SLE QP 2	-4	-6	1067	0	0	0
193	SLD 1	77	17	1302	0	0	0
193	SLD 2	95	13	1295	0	0	0
193	SLD 3	81	-34	900	0	0	0
193	SLD 4	99	-39	893	0	0	0
193	SLD 5	12	80	1749	0	0	0
193	SLD 6	24	77	1745	0	0	0
193	SLD 7	24	-92	408	0	0	0
193	SLD 8	35	-95	404	0	0	0
193	SLD 9	-43	83	1731	0	0	0
193	SLD 10	-31	81	1727	0	0	0
193	SLD 11	-31	-89	390	0	0	0
193	SLD 12	-20	-92	385	0	0	0
193	SLD 13	-106	28	1242	0	0	0
193	SLD 14	-88	23	1235	0	0	0
193	SLD 15	-103	-24	839	0	0	0
193	SLD 16	-85	-29	833	0	0	0
193	SLV 1	122	34	1463	0	0	0
193	SLV 2	151	27	1452	0	0	0
193	SLV 3	128	-54	777	0	0	0
193	SLV 4	157	-61	766	0	0	0
193	SLV 5	20	141	2229	0	0	0
193	SLV 6	39	136	2222	0	0	0
193	SLV 7	39	-153	-59	0	0	0
193	SLV 8	58	-157	-66	0	0	0
193	SLV 9	-66	146	2201	0	0	0
193	SLV 10	-47	141	2194	0	0	0
193	SLV 11	-47	-148	-87	0	0	0
193	SLV 12	-28	-152	-95	0	0	0
193	SLV 13	-164	50	1369	0	0	0
193	SLV 14	-136	43	1358	0	0	0
193	SLV 15	-158	-38	682	0	0	0
193	SLV 16	-130	-45	671	0	0	0
193	SLV FO 1	135	38	1503	0	0	0
193	SLV FO 2	166	30	1491	0	0	0
193	SLV FO 3	141	-59	748	0	0	0
193	SLV FO 4	173	-67	736	0	0	0
193	SLV FO 5	22	156	2345	0	0	0
193	SLV FO 6	43	151	2337	0	0	0
193	SLV FO 7	44	-167	-172	0	0	0
193	SLV FO 8	65	-172	-180	0	0	0
193	SLV FO 9	-72	161	2314	0	0	0
193	SLV FO 10	-51	156	2306	0	0	0
193	SLV FO 11	-51	-162	-203	0	0	0
193	SLV FO 12	-30	-167	-211	0	0	0
193	SLV FO 13	-180	55	1399	0	0	0
193	SLV FO 14	-149	48	1387	0	0	0
193	SLV FO 15	-174	-41	644	0	0	0
193	SLV FO 16	-143	-49	632	0	0	0
193	CRTFP Uy+	0	0	0	0	0	0
193	CRTFP Uy-	0	0	0	0	0	0
194	SLU 1	-4	-3	1009	0	0	0
194	SLU 2	-4	1	1036	0	0	0
194	SLU 3	-4	-3	1024	0	0	0
194	SLU 4	-4	-1	1041	0	0	0
194	SLU 5	-4	1	1045	0	0	0
194	SLU 6	-4	-3	1034	0	0	0
194	SLU 7	-4	-1	1050	0	0	0
194	SLU 8	-4	-3	1028	0	0	0
194	SLU 9	-4	-1	1044	0	0	0
194	SLU 10	-4	1	1175	0	0	0
194	SLU 11	-4	-4	1164	0	0	0
194	SLU 12	-4	-1	1180	0	0	0
194	SLU 13	-4	1	1185	0	0	0
194	SLU 14	-4	-4	1173	0	0	0
194	SLU 15	-4	-1	1190	0	0	0
194	SLU 16	-4	-4	1167	0	0	0
194	SLU 17	-4	-1	1183	0	0	0
194	SLU 18	-4	-4	1208	0	0	0
194	SLU 19	-4	-1	1224	0	0	0
194	SLU 20	-4	-4	1218	0	0	0
194	SLU 21	-4	-1	1234	0	0	0
194	SLU 22	-4	-3	1145	0	0	0
194	SLU 23	-5	1	1172	0	0	0
194	SLU 24	-5	-3	1160	0	0	0
194	SLU 25	-5	-1	1176	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
194	SLU 26	-5	1	1181	0	0	0
194	SLU 27	-5	-3	1169	0	0	0
194	SLU 28	-5	-1	1186	0	0	0
194	SLU 29	-5	-3	1163	0	0	0
194	SLU 30	-5	-1	1180	0	0	0
194	SLU 31	-5	1	1311	0	0	0
194	SLU 32	-4	-4	1299	0	0	0
194	SLU 33	-5	-1	1316	0	0	0
194	SLU 34	-5	1	1320	0	0	0
194	SLU 35	-5	-4	1309	0	0	0
194	SLU 36	-5	-1	1325	0	0	0
194	SLU 37	-5	-4	1303	0	0	0
194	SLU 38	-5	-1	1319	0	0	0
194	SLU 39	-4	-4	1344	0	0	0
194	SLU 40	-4	-1	1360	0	0	0
194	SLU 41	-4	-4	1353	0	0	0
194	SLU 42	-5	-1	1369	0	0	0
194	SLU 43	-5	-4	1265	0	0	0
194	SLU 44	-5	0	1292	0	0	0
194	SLU 45	-5	-4	1281	0	0	0
194	SLU 46	-5	-1	1297	0	0	0
194	SLU 47	-5	0	1302	0	0	0
194	SLU 48	-5	-4	1290	0	0	0
194	SLU 49	-5	-2	1306	0	0	0
194	SLU 50	-5	-4	1284	0	0	0
194	SLU 51	-5	-2	1300	0	0	0
194	SLU 52	-5	0	1432	0	0	0
194	SLU 53	-5	-4	1420	0	0	0
194	SLU 54	-5	-2	1436	0	0	0
194	SLU 55	-5	0	1441	0	0	0
194	SLU 56	-5	-5	1429	0	0	0
194	SLU 57	-5	-2	1446	0	0	0
194	SLU 58	-5	-5	1423	0	0	0
194	SLU 59	-5	-2	1440	0	0	0
194	SLU 60	-4	-5	1464	0	0	0
194	SLU 61	-5	-2	1481	0	0	0
194	SLU 62	-5	-5	1474	0	0	0
194	SLU 63	-5	-2	1490	0	0	0
194	SLU 64	-5	-4	1401	0	0	0
194	SLU 65	-6	0	1428	0	0	0
194	SLU 66	-5	-4	1416	0	0	0
194	SLU 67	-6	-2	1433	0	0	0
194	SLU 68	-6	0	1437	0	0	0
194	SLU 69	-6	-4	1426	0	0	0
194	SLU 70	-6	-2	1442	0	0	0
194	SLU 71	-6	-4	1420	0	0	0
194	SLU 72	-6	-2	1436	0	0	0
194	SLU 73	-6	0	1567	0	0	0
194	SLU 74	-5	-4	1556	0	0	0
194	SLU 75	-6	-2	1572	0	0	0
194	SLU 76	-6	0	1577	0	0	0
194	SLU 77	-5	-5	1565	0	0	0
194	SLU 78	-6	-2	1581	0	0	0
194	SLU 79	-5	-5	1559	0	0	0
194	SLU 80	-6	-2	1575	0	0	0
194	SLU 81	-5	-5	1600	0	0	0
194	SLU 82	-5	-2	1616	0	0	0
194	SLU 83	-5	-5	1609	0	0	0
194	SLU 84	-5	-2	1626	0	0	0
194	SLE RA 1	-4	-3	1048	0	0	0
194	SLE RA 2	-4	0	1066	0	0	0
194	SLE RA 3	-4	-3	1058	0	0	0
194	SLE RA 4	-4	-1	1069	0	0	0
194	SLE RA 5	-4	0	1072	0	0	0
194	SLE RA 6	-4	-3	1064	0	0	0
194	SLE RA 7	-4	-1	1075	0	0	0
194	SLE RA 8	-4	-3	1060	0	0	0
194	SLE RA 9	-4	-1	1071	0	0	0
194	SLE RA 10	-4	0	1159	0	0	0
194	SLE RA 11	-4	-3	1151	0	0	0
194	SLE RA 12	-4	-2	1162	0	0	0
194	SLE RA 13	-4	-1	1165	0	0	0
194	SLE RA 14	-4	-3	1157	0	0	0
194	SLE RA 15	-4	-2	1168	0	0	0
194	SLE RA 16	-4	-3	1153	0	0	0
194	SLE RA 17	-4	-2	1164	0	0	0
194	SLE RA 18	-4	-3	1180	0	0	0
194	SLE RA 19	-4	-2	1191	0	0	0
194	SLE RA 20	-4	-4	1187	0	0	0
194	SLE RA 21	-4	-2	1198	0	0	0
194	SLE FR 1	-4	-3	1048	0	0	0
194	SLE FR 2	-4	-3	1051	0	0	0
194	SLE FR 3	-4	-3	1050	0	0	0
194	SLE FR 4	-4	-3	1091	0	0	0
194	SLE FR 5	-4	-3	1090	0	0	0
194	SLE FR 6	-4	-3	1114	0	0	0
194	SLE QP 1	-4	-3	1048	0	0	0
194	SLE QP 2	-4	-3	1088	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
194	SLD 1	78	22	1317	0	0	0
194	SLD 2	96	18	1311	0	0	0
194	SLD 3	81	-32	908	0	0	0
194	SLD 4	99	-35	902	0	0	0
194	SLD 5	12	86	1777	0	0	0
194	SLD 6	24	83	1773	0	0	0
194	SLD 7	24	-92	415	0	0	0
194	SLD 8	35	-94	411	0	0	0
194	SLD 9	-43	88	1764	0	0	0
194	SLD 10	-31	86	1760	0	0	0
194	SLD 11	-32	-90	402	0	0	0
194	SLD 12	-20	-92	398	0	0	0
194	SLD 13	-107	29	1273	0	0	0
194	SLD 14	-89	25	1267	0	0	0
194	SLD 15	-104	-24	864	0	0	0
194	SLD 16	-85	-28	858	0	0	0
194	SLV 1	124	39	1475	0	0	0
194	SLV 2	152	34	1465	0	0	0
194	SLV 3	129	-52	778	0	0	0
194	SLV 4	158	-57	769	0	0	0
194	SLV 5	21	149	2262	0	0	0
194	SLV 6	40	145	2256	0	0	0
194	SLV 7	39	-155	-60	0	0	0
194	SLV 8	58	-158	-67	0	0	0
194	SLV 9	-66	152	2242	0	0	0
194	SLV 10	-47	148	2235	0	0	0
194	SLV 11	-47	-151	-81	0	0	0
194	SLV 12	-28	-155	-87	0	0	0
194	SLV 13	-165	51	1406	0	0	0
194	SLV 14	-137	45	1397	0	0	0
194	SLV 15	-160	-40	710	0	0	0
194	SLV 16	-131	-46	700	0	0	0
194	SLV FO 1	136	43	1514	0	0	0
194	SLV FO 2	168	37	1503	0	0	0
194	SLV FO 3	142	-57	748	0	0	0
194	SLV FO 4	174	-63	737	0	0	0
194	SLV FO 5	23	164	2380	0	0	0
194	SLV FO 6	44	159	2373	0	0	0
194	SLV FO 7	44	-170	-175	0	0	0
194	SLV FO 8	65	-174	-182	0	0	0
194	SLV FO 9	-72	168	2357	0	0	0
194	SLV FO 10	-51	163	2350	0	0	0
194	SLV FO 11	-52	-166	-198	0	0	0
194	SLV FO 12	-31	-170	-205	0	0	0
194	SLV FO 13	-181	56	1438	0	0	0
194	SLV FO 14	-150	50	1427	0	0	0
194	SLV FO 15	-175	-44	672	0	0	0
194	SLV FO 16	-144	-50	661	0	0	0
194	CRTFP Uy+	0	0	0	0	0	0
194	CRTFP Uy-	0	0	0	0	0	0
195	SLU 1	-4	-1	1028	0	0	0
195	SLU 2	-4	4	1055	0	0	0
195	SLU 3	-4	-1	1044	0	0	0
195	SLU 4	-4	2	1060	0	0	0
195	SLU 5	-4	3	1065	0	0	0
195	SLU 6	-4	-1	1053	0	0	0
195	SLU 7	-4	2	1070	0	0	0
195	SLU 8	-4	-1	1047	0	0	0
195	SLU 9	-4	2	1063	0	0	0
195	SLU 10	-4	3	1198	0	0	0
195	SLU 11	-4	-1	1186	0	0	0
195	SLU 12	-4	2	1203	0	0	0
195	SLU 13	-4	3	1208	0	0	0
195	SLU 14	-4	-1	1196	0	0	0
195	SLU 15	-4	2	1212	0	0	0
195	SLU 16	-4	-1	1190	0	0	0
195	SLU 17	-4	1	1206	0	0	0
195	SLU 18	-4	-1	1232	0	0	0
195	SLU 19	-4	2	1248	0	0	0
195	SLU 20	-4	-1	1241	0	0	0
195	SLU 21	-4	1	1258	0	0	0
195	SLU 22	-5	-1	1166	0	0	0
195	SLU 23	-5	4	1193	0	0	0
195	SLU 24	-5	-1	1182	0	0	0
195	SLU 25	-5	2	1198	0	0	0
195	SLU 26	-5	4	1203	0	0	0
195	SLU 27	-5	-1	1192	0	0	0
195	SLU 28	-5	2	1208	0	0	0
195	SLU 29	-5	-1	1185	0	0	0
195	SLU 30	-5	2	1202	0	0	0
195	SLU 31	-5	4	1336	0	0	0
195	SLU 32	-5	-1	1325	0	0	0
195	SLU 33	-5	2	1341	0	0	0
195	SLU 34	-5	4	1346	0	0	0
195	SLU 35	-5	-1	1334	0	0	0
195	SLU 36	-5	2	1351	0	0	0
195	SLU 37	-5	-1	1328	0	0	0
195	SLU 38	-5	2	1344	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
195	SLU 39	-4	-1	1370	0	0	0
195	SLU 40	-5	2	1386	0	0	0
195	SLU 41	-5	-1	1380	0	0	0
195	SLU 42	-5	2	1396	0	0	0
195	SLU 43	-5	-1	1289	0	0	0
195	SLU 44	-5	3	1316	0	0	0
195	SLU 45	-5	-1	1305	0	0	0
195	SLU 46	-5	1	1321	0	0	0
195	SLU 47	-5	3	1326	0	0	0
195	SLU 48	-5	-1	1314	0	0	0
195	SLU 49	-5	1	1331	0	0	0
195	SLU 50	-5	-1	1308	0	0	0
195	SLU 51	-5	1	1324	0	0	0
195	SLU 52	-5	3	1459	0	0	0
195	SLU 53	-5	-1	1447	0	0	0
195	SLU 54	-5	1	1464	0	0	0
195	SLU 55	-5	3	1468	0	0	0
195	SLU 56	-5	-2	1457	0	0	0
195	SLU 57	-5	1	1473	0	0	0
195	SLU 58	-5	-2	1451	0	0	0
195	SLU 59	-5	1	1467	0	0	0
195	SLU 60	-5	-2	1493	0	0	0
195	SLU 61	-5	1	1509	0	0	0
195	SLU 62	-5	-2	1502	0	0	0
195	SLU 63	-5	1	1519	0	0	0
195	SLU 64	-5	-1	1427	0	0	0
195	SLU 65	-6	3	1454	0	0	0
195	SLU 66	-6	-1	1443	0	0	0
195	SLU 67	-6	2	1459	0	0	0
195	SLU 68	-6	3	1464	0	0	0
195	SLU 69	-6	-1	1453	0	0	0
195	SLU 70	-6	2	1469	0	0	0
195	SLU 71	-6	-1	1446	0	0	0
195	SLU 72	-6	2	1463	0	0	0
195	SLU 73	-6	3	1597	0	0	0
195	SLU 74	-6	-1	1586	0	0	0
195	SLU 75	-6	2	1602	0	0	0
195	SLU 76	-6	3	1607	0	0	0
195	SLU 77	-6	-1	1595	0	0	0
195	SLU 78	-6	1	1612	0	0	0
195	SLU 79	-6	-1	1589	0	0	0
195	SLU 80	-6	1	1605	0	0	0
195	SLU 81	-5	-1	1631	0	0	0
195	SLU 82	-6	1	1647	0	0	0
195	SLU 83	-6	-1	1640	0	0	0
195	SLU 84	-6	1	1657	0	0	0
195	SLE RA 1	-4	-1	1067	0	0	0
195	SLE RA 2	-4	2	1086	0	0	0
195	SLE RA 3	-4	-1	1078	0	0	0
195	SLE RA 4	-4	1	1089	0	0	0
195	SLE RA 5	-4	2	1092	0	0	0
195	SLE RA 6	-4	-1	1084	0	0	0
195	SLE RA 7	-4	1	1095	0	0	0
195	SLE RA 8	-4	-1	1080	0	0	0
195	SLE RA 9	-4	1	1091	0	0	0
195	SLE RA 10	-4	2	1181	0	0	0
195	SLE RA 11	-4	-1	1173	0	0	0
195	SLE RA 12	-4	1	1184	0	0	0
195	SLE RA 13	-4	2	1187	0	0	0
195	SLE RA 14	-4	-1	1179	0	0	0
195	SLE RA 15	-4	1	1190	0	0	0
195	SLE RA 16	-4	-1	1175	0	0	0
195	SLE RA 17	-4	1	1186	0	0	0
195	SLE RA 18	-4	-1	1203	0	0	0
195	SLE RA 19	-4	1	1214	0	0	0
195	SLE RA 20	-4	-1	1210	0	0	0
195	SLE RA 21	-4	1	1221	0	0	0
195	SLE FR 1	-4	-1	1067	0	0	0
195	SLE FR 2	-4	0	1071	0	0	0
195	SLE FR 3	-4	-1	1070	0	0	0
195	SLE FR 4	-4	0	1112	0	0	0
195	SLE FR 5	-4	-1	1111	0	0	0
195	SLE FR 6	-4	-1	1135	0	0	0
195	SLE QP 1	-4	-1	1067	0	0	0
195	SLE QP 2	-4	-1	1108	0	0	0
195	SLD 1	78	26	1333	0	0	0
195	SLD 2	96	23	1327	0	0	0
195	SLD 3	82	-30	918	0	0	0
195	SLD 4	100	-32	913	0	0	0
195	SLD 5	13	91	1805	0	0	0
195	SLD 6	24	89	1801	0	0	0
195	SLD 7	23	-93	423	0	0	0
195	SLD 8	35	-94	420	0	0	0
195	SLD 9	-43	93	1796	0	0	0
195	SLD 10	-32	91	1793	0	0	0
195	SLD 11	-32	-91	415	0	0	0
195	SLD 12	-21	-93	411	0	0	0
195	SLD 13	-108	31	1303	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
195	SLD 14	-90	28	1298	0	0	0
195	SLD 15	-105	-25	889	0	0	0
195	SLD 16	-86	-27	883	0	0	0
195	SLV 1	124	44	1489	0	0	0
195	SLV 2	153	40	1480	0	0	0
195	SLV 3	130	-50	782	0	0	0
195	SLV 4	159	-54	773	0	0	0
195	SLV 5	21	156	2297	0	0	0
195	SLV 6	40	153	2291	0	0	0
195	SLV 7	39	-157	-61	0	0	0
195	SLV 8	58	-160	-67	0	0	0
195	SLV 9	-66	159	2283	0	0	0
195	SLV 10	-47	156	2277	0	0	0
195	SLV 11	-48	-155	-75	0	0	0
195	SLV 12	-29	-158	-81	0	0	0
195	SLV 13	-167	52	1443	0	0	0
195	SLV 14	-138	48	1434	0	0	0
195	SLV 15	-161	-42	736	0	0	0
195	SLV 16	-132	-46	727	0	0	0
195	SLV FO 1	137	49	1527	0	0	0
195	SLV FO 2	169	44	1518	0	0	0
195	SLV FO 3	143	-55	749	0	0	0
195	SLV FO 4	175	-59	740	0	0	0
195	SLV FO 5	23	172	2416	0	0	0
195	SLV FO 6	45	169	2409	0	0	0
195	SLV FO 7	43	-173	-178	0	0	0
195	SLV FO 8	65	-176	-184	0	0	0
195	SLV FO 9	-73	175	2400	0	0	0
195	SLV FO 10	-51	171	2394	0	0	0
195	SLV FO 11	-53	-170	-193	0	0	0
195	SLV FO 12	-31	-174	-200	0	0	0
195	SLV FO 13	-183	58	1476	0	0	0
195	SLV FO 14	-151	53	1467	0	0	0
195	SLV FO 15	-177	-46	698	0	0	0
195	SLV FO 16	-145	-51	689	0	0	0
195	CRTFP Uy+	0	0	0	0	0	0
195	CRTFP Uy-	0	0	0	0	0	0
197	SLU 1	-2	-9	475	-28.49	59.77	1.07
197	SLU 2	-2	-8	488	-29.29	61.45	0.85
197	SLU 3	-2	-10	482	-28.92	60.68	1.09
197	SLU 4	-2	-9	490	-29.4	61.69	0.96
197	SLU 5	-2	-8	493	-29.55	62	0.86
197	SLU 6	-2	-10	486	-29.19	61.23	1.11
197	SLU 7	-2	-9	494	-29.67	62.24	0.97
197	SLU 8	-2	-10	484	-29.02	60.87	1.1
197	SLU 9	-2	-9	492	-29.5	61.88	0.97
197	SLU 10	-2	-9	552	-33.15	69.53	0.99
197	SLU 11	-2	-11	546	-32.78	68.76	1.23
197	SLU 12	-2	-10	554	-33.26	69.77	1.1
197	SLU 13	-2	-9	557	-33.41	70.08	1
197	SLU 14	-2	-11	551	-33.04	69.31	1.25
197	SLU 15	-2	-10	559	-33.52	70.32	1.11
197	SLU 16	-2	-11	548	-32.87	68.96	1.24
197	SLU 17	-2	-10	556	-33.35	69.96	1.11
197	SLU 18	-2	-11	567	-34	71.32	1.28
197	SLU 19	-2	-10	575	-34.48	72.33	1.14
197	SLU 20	-2	-11	571	-34.26	71.87	1.29
197	SLU 21	-2	-10	579	-34.74	72.88	1.15
197	SLU 22	-2	-11	539	-32.36	67.88	1.2
197	SLU 23	-2	-9	553	-33.16	69.56	0.97
197	SLU 24	-2	-11	547	-32.79	68.79	1.22
197	SLU 25	-2	-10	555	-33.27	69.8	1.08
197	SLU 26	-2	-9	557	-33.42	70.11	0.99
197	SLU 27	-2	-11	551	-33.05	69.34	1.23
197	SLU 28	-2	-10	559	-33.53	70.35	1.1
197	SLU 29	-2	-11	548	-32.88	68.98	1.22
197	SLU 30	-2	-10	556	-33.36	69.99	1.09
197	SLU 31	-2	-10	617	-37.01	77.64	1.11
197	SLU 32	-2	-12	611	-36.64	76.87	1.36
197	SLU 33	-2	-11	619	-37.12	77.88	1.22
197	SLU 34	-2	-10	621	-37.27	78.19	1.13
197	SLU 35	-2	-12	615	-36.91	77.42	1.37
197	SLU 36	-2	-11	623	-37.39	78.43	1.24
197	SLU 37	-2	-12	612	-36.74	77.07	1.36
197	SLU 38	-2	-11	620	-37.22	78.07	1.23
197	SLU 39	-2	-12	631	-37.86	79.43	1.4
197	SLU 40	-2	-11	639	-38.34	80.44	1.26
197	SLU 41	-2	-12	635	-38.12	79.98	1.41
197	SLU 42	-2	-11	643	-38.6	80.99	1.28
197	SLU 43	-2	-12	595	-35.71	74.92	1.35
197	SLU 44	-2	-10	609	-36.51	76.6	1.13
197	SLU 45	-2	-12	602	-36.15	75.83	1.37
197	SLU 46	-2	-11	610	-36.63	76.84	1.24
197	SLU 47	-3	-10	613	-36.78	77.15	1.14
197	SLU 48	-2	-12	607	-36.41	76.38	1.39
197	SLU 49	-3	-11	615	-36.89	77.39	1.25
197	SLU 50	-2	-12	604	-36.24	76.02	1.38
197	SLU 51	-3	-11	612	-36.72	77.03	1.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLU 52	-2	-11	673	-40.37	84.69	1.27
197	SLU 53	-2	-13	667	-40	83.91	1.52
197	SLU 54	-2	-12	675	-40.48	84.92	1.38
197	SLU 55	-2	-11	677	-40.63	85.23	1.28
197	SLU 56	-2	-13	671	-40.26	84.46	1.53
197	SLU 57	-2	-12	679	-40.74	85.47	1.39
197	SLU 58	-2	-13	668	-40.09	84.11	1.52
197	SLU 59	-2	-12	676	-40.57	85.11	1.39
197	SLU 60	-2	-13	687	-41.22	86.47	1.56
197	SLU 61	-2	-12	695	-41.7	87.48	1.42
197	SLU 62	-2	-14	691	-41.48	87.02	1.57
197	SLU 63	-2	-13	699	-41.96	88.03	1.43
197	SLU 64	-3	-13	660	-39.58	83.03	1.48
197	SLU 65	-3	-11	673	-40.38	84.71	1.25
197	SLU 66	-3	-13	667	-40.01	83.94	1.5
197	SLU 67	-3	-12	675	-40.49	84.95	1.36
197	SLU 68	-3	-11	677	-40.64	85.26	1.27
197	SLU 69	-3	-13	671	-40.27	84.49	1.51
197	SLU 70	-3	-12	679	-40.75	85.5	1.38
197	SLU 71	-3	-13	668	-40.1	84.13	1.5
197	SLU 72	-3	-12	676	-40.58	85.14	1.37
197	SLU 73	-3	-12	737	-44.23	92.8	1.39
197	SLU 74	-3	-14	731	-43.87	92.02	1.64
197	SLU 75	-3	-13	739	-44.35	93.03	1.5
197	SLU 76	-3	-13	742	-44.5	93.35	1.41
197	SLU 77	-3	-14	735	-44.13	92.57	1.65
197	SLU 78	-3	-13	743	-44.61	93.58	1.52
197	SLU 79	-3	-14	733	-43.96	92.22	1.64
197	SLU 80	-3	-13	741	-44.44	93.22	1.51
197	SLU 81	-2	-15	751	-45.08	94.58	1.68
197	SLU 82	-3	-14	759	-45.56	95.59	1.54
197	SLU 83	-3	-15	756	-45.35	95.13	1.69
197	SLU 84	-3	-14	764	-45.83	96.14	1.56
197	SLE RA 1	-2	-10	493	-29.6	62.09	1.11
197	SLE RA 2	-2	-9	502	-30.13	63.21	0.96
197	SLE RA 3	-2	-10	498	-29.88	62.69	1.12
197	SLE RA 4	-2	-9	503	-30.2	63.37	1.03
197	SLE RA 5	-2	-9	505	-30.3	63.58	0.97
197	SLE RA 6	-2	-10	501	-30.06	63.06	1.13
197	SLE RA 7	-2	-9	506	-30.38	63.73	1.04
197	SLE RA 8	-2	-10	499	-29.95	62.82	1.13
197	SLE RA 9	-2	-9	504	-30.27	63.49	1.04
197	SLE RA 10	-2	-9	545	-32.7	68.6	1.05
197	SLE RA 11	-2	-11	541	-32.45	68.08	1.22
197	SLE RA 12	-2	-10	546	-32.77	68.75	1.13
197	SLE RA 13	-2	-9	548	-32.87	68.96	1.06
197	SLE RA 14	-2	-11	544	-32.63	68.45	1.23
197	SLE RA 15	-2	-10	549	-32.95	69.12	1.14
197	SLE RA 16	-2	-11	542	-32.51	68.21	1.22
197	SLE RA 17	-2	-10	547	-32.83	68.88	1.13
197	SLE RA 18	-2	-11	554	-33.27	69.79	1.24
197	SLE RA 19	-2	-10	560	-33.59	70.46	1.15
197	SLE RA 20	-2	-11	557	-33.44	70.15	1.25
197	SLE RA 21	-2	-10	563	-33.76	70.83	1.16
197	SLE FR 1	-2	-10	493	-29.6	62.09	1.11
197	SLE FR 2	-2	-10	495	-29.7	62.31	1.08
197	SLE FR 3	-2	-10	494	-29.67	62.24	1.11
197	SLE FR 4	-2	-10	513	-30.8	64.62	1.12
197	SLE FR 5	-2	-10	513	-30.77	64.55	1.15
197	SLE FR 6	-2	-10	524	-31.43	65.94	1.18
197	SLE QP 1	-2	-10	493	-29.6	62.09	1.11
197	SLE QP 2	-2	-10	512	-30.7	64.4	1.15
197	SLD 1	36	-4	653	-39.15	82.13	2.64
197	SLD 2	45	-8	647	-38.83	81.45	3.7
197	SLD 3	38	-25	457	-27.39	57.47	5.41
197	SLD 4	47	-29	451	-27.07	56.78	6.46
197	SLD 5	5	25	852	-51.12	107.25	-2.78
197	SLD 6	11	22	849	-50.91	106.81	-2.1
197	SLD 7	12	-46	199	-11.93	25.02	6.44
197	SLD 8	17	-49	195	-11.72	24.59	7.12
197	SLD 9	-21	29	828	-49.68	104.21	-4.82
197	SLD 10	-15	26	824	-49.47	103.78	-4.14
197	SLD 11	-14	-42	175	-10.48	21.99	4.4
197	SLD 12	-9	-45	171	-10.27	21.55	5.08
197	SLD 13	-50	9	572	-34.33	72.02	-4.16
197	SLD 14	-42	5	567	-34	71.33	-3.11
197	SLD 15	-48	-12	376	-22.57	47.35	-1.4
197	SLD 16	-40	-16	371	-22.24	46.67	-0.34
197	SLV 1	57	1	746	-44.75	93.88	3.27
197	SLV 2	71	-6	737	-44.24	92.8	4.94
197	SLV 3	61	-35	411	-24.69	51.79	7.99
197	SLV 4	74	-42	403	-24.17	50.72	9.65
197	SLV 5	8	49	1091	-65.44	137.28	-5.68
197	SLV 6	18	45	1085	-65.09	136.55	-4.56
197	SLV 7	19	-71	-24	1.44	-3.02	10.05
197	SLV 8	28	-75	-30	1.78	-3.74	11.17
197	SLV 9	-32	55	1053	-63.18	132.54	-8.87
197	SLV 10	-23	51	1047	-62.83	131.81	-7.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLV 11	-21	-65	-62	3.7	-7.75	6.86
197	SLV 12	-12	-69	-67	4.04	-8.48	7.98
197	SLV 13	-78	22	620	-37.22	78.08	-7.36
197	SLV 14	-64	15	612	-36.71	77.01	-5.69
197	SLV 15	-75	-15	286	-17.16	36	-2.64
197	SLV 16	-61	-21	277	-16.65	34.92	-0.97
197	SLV FO 1	63	2	769	-46.15	96.83	3.48
197	SLV FO 2	78	-5	760	-45.59	95.64	5.32
197	SLV FO 3	67	-37	401	-24.09	50.53	8.67
197	SLV FO 4	82	-45	392	-23.52	49.35	10.51
197	SLV FO 5	10	55	1149	-68.91	144.56	-6.36
197	SLV FO 6	19	50	1142	-68.53	143.77	-5.13
197	SLV FO 7	21	-77	-78	4.65	-9.76	10.93
197	SLV FO 8	31	-82	-84	5.03	-10.55	12.17
197	SLV FO 9	-35	62	1107	-66.43	139.35	-9.87
197	SLV FO 10	-25	57	1101	-66.05	138.56	-8.64
197	SLV FO 11	-23	-70	-119	7.14	-14.97	7.43
197	SLV FO 12	-13	-75	-125	7.51	-15.77	8.66
197	SLV FO 13	-86	25	631	-37.87	79.45	-8.21
197	SLV FO 14	-71	17	622	-37.31	78.27	-6.38
197	SLV FO 15	-82	-15	263	-15.8	33.16	-3.02
197	SLV FO 16	-67	-22	254	-15.24	31.97	-1.19
197	CRTFP Ux+	0	0	0	0	0	0
197	CRTFP Ux-	0	0	0	0	0	0
197	CRTFP Uy+	0	0	0	0	0	0
197	CRTFP Uy-	0	0	0	0	0	0
198	SLU 1	-2	0	520	-31.21	0	-0.11
198	SLU 2	-2	3	534	-32.04	0	-0.12
198	SLU 3	-2	1	528	-31.69	0	-0.12
198	SLU 4	-2	2	536	-32.19	0	-0.12
198	SLU 5	-2	3	539	-32.33	0	-0.13
198	SLU 6	-2	0	533	-31.99	0	-0.12
198	SLU 7	-2	2	541	-32.48	0	-0.13
198	SLU 8	-2	0	530	-31.79	0	-0.12
198	SLU 9	-2	2	538	-32.29	0	-0.13
198	SLU 10	-2	3	606	-36.39	0	-0.12
198	SLU 11	-2	0	601	-36.04	0	-0.12
198	SLU 12	-2	2	609	-36.54	0	-0.12
198	SLU 13	-2	3	611	-36.68	0	-0.13
198	SLU 14	-2	0	606	-36.34	0	-0.12
198	SLU 15	-2	2	614	-36.83	0	-0.13
198	SLU 16	-2	0	602	-36.14	0	-0.12
198	SLU 17	-2	2	611	-36.64	0	-0.13
198	SLU 18	-2	0	624	-37.42	0	-0.11
198	SLU 19	-2	2	632	-37.92	0	-0.12
198	SLU 20	-2	0	629	-37.72	0	-0.11
198	SLU 21	-2	2	637	-38.21	0	-0.12
198	SLU 22	-2	1	590	-35.41	0	-0.13
198	SLU 23	-2	3	604	-36.24	0	-0.14
198	SLU 24	-2	1	598	-35.9	0	-0.14
198	SLU 25	-2	2	607	-36.39	0	-0.14
198	SLU 26	-2	3	609	-36.53	0	-0.15
198	SLU 27	-2	1	603	-36.19	0	-0.14
198	SLU 28	-2	2	611	-36.69	0	-0.15
198	SLU 29	-2	1	600	-36	0	-0.14
198	SLU 30	-2	2	608	-36.49	0	-0.15
198	SLU 31	-2	3	677	-40.59	0	-0.14
198	SLU 32	-2	1	671	-40.25	0	-0.14
198	SLU 33	-2	2	679	-40.74	0	-0.14
198	SLU 34	-2	3	681	-40.88	0	-0.15
198	SLU 35	-2	1	676	-40.54	0	-0.14
198	SLU 36	-2	2	684	-41.04	0	-0.15
198	SLU 37	-2	1	672	-40.35	0	-0.14
198	SLU 38	-2	2	681	-40.84	0	-0.15
198	SLU 39	-2	1	694	-41.63	0	-0.13
198	SLU 40	-2	2	702	-42.12	0	-0.14
198	SLU 41	-2	1	699	-41.92	0	-0.13
198	SLU 42	-2	2	707	-42.42	0	-0.14
198	SLU 43	-2	1	652	-39.13	0	-0.14
198	SLU 44	-2	3	666	-39.96	0	-0.15
198	SLU 45	-2	1	660	-39.61	0	-0.14
198	SLU 46	-2	2	669	-40.11	0	-0.15
198	SLU 47	-3	3	671	-40.25	0	-0.15
198	SLU 48	-2	1	665	-39.91	0	-0.15
198	SLU 49	-3	2	673	-40.4	0	-0.15
198	SLU 50	-2	0	662	-39.71	0	-0.15
198	SLU 51	-3	2	670	-40.21	0	-0.15
198	SLU 52	-2	3	738	-44.31	0	-0.15
198	SLU 53	-2	1	733	-43.96	0	-0.14
198	SLU 54	-2	2	741	-44.46	0	-0.15
198	SLU 55	-3	3	743	-44.6	0	-0.15
198	SLU 56	-2	0	738	-44.26	0	-0.15
198	SLU 57	-3	2	746	-44.75	0	-0.15
198	SLU 58	-2	0	734	-44.07	0	-0.14
198	SLU 59	-3	2	743	-44.56	0	-0.15
198	SLU 60	-2	0	756	-45.34	0	-0.14
198	SLU 61	-2	2	764	-45.84	0	-0.14
198	SLU 62	-2	0	761	-45.64	0	-0.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLU 63	-2	2	769	-46.13	0	-0.15
198	SLU 64	-3	1	722	-43.33	0	-0.16
198	SLU 65	-3	3	736	-44.16	0	-0.17
198	SLU 66	-3	1	730	-43.82	0	-0.16
198	SLU 67	-3	2	739	-44.31	0	-0.17
198	SLU 68	-3	3	741	-44.45	0	-0.17
198	SLU 69	-3	1	735	-44.11	0	-0.17
198	SLU 70	-3	2	743	-44.61	0	-0.18
198	SLU 71	-3	1	732	-43.92	0	-0.17
198	SLU 72	-3	2	740	-44.42	0	-0.17
198	SLU 73	-3	3	809	-48.51	0	-0.17
198	SLU 74	-3	1	803	-48.17	0	-0.16
198	SLU 75	-3	2	811	-48.67	0	-0.17
198	SLU 76	-3	3	813	-48.8	0	-0.17
198	SLU 77	-3	1	808	-48.46	0	-0.17
198	SLU 78	-3	2	816	-48.96	0	-0.17
198	SLU 79	-3	1	804	-48.27	0	-0.17
198	SLU 80	-3	2	813	-48.77	0	-0.17
198	SLU 81	-3	1	826	-49.55	0	-0.16
198	SLU 82	-3	2	834	-50.04	0	-0.16
198	SLU 83	-3	1	831	-49.84	0	-0.16
198	SLU 84	-3	2	839	-50.34	0	-0.17
198	SLE RA 1	-2	1	540	-32.41	0	-0.12
198	SLE RA 2	-2	2	549	-32.96	0	-0.13
198	SLE RA 3	-2	1	546	-32.73	0	-0.12
198	SLE RA 4	-2	2	551	-33.06	0	-0.13
198	SLE RA 5	-2	2	553	-33.16	0	-0.13
198	SLE RA 6	-2	1	549	-32.93	0	-0.12
198	SLE RA 7	-2	1	554	-33.26	0	-0.13
198	SLE RA 8	-2	1	547	-32.8	0	-0.12
198	SLE RA 9	-2	1	552	-33.13	0	-0.13
198	SLE RA 10	-2	2	598	-35.86	0	-0.12
198	SLE RA 11	-2	1	594	-35.63	0	-0.12
198	SLE RA 12	-2	1	599	-35.96	0	-0.12
198	SLE RA 13	-2	2	601	-36.06	0	-0.13
198	SLE RA 14	-2	1	597	-35.83	0	-0.12
198	SLE RA 15	-2	1	603	-36.16	0	-0.13
198	SLE RA 16	-2	1	595	-35.7	0	-0.12
198	SLE RA 17	-2	1	601	-36.03	0	-0.13
198	SLE RA 18	-2	1	609	-36.55	0	-0.12
198	SLE RA 19	-2	1	615	-36.88	0	-0.12
198	SLE RA 20	-2	1	612	-36.75	0	-0.12
198	SLE RA 21	-2	1	618	-37.08	0	-0.12
198	SLE FR 1	-2	1	540	-32.41	0	-0.12
198	SLE FR 2	-2	1	542	-32.52	0	-0.12
198	SLE FR 3	-2	1	541	-32.49	0	-0.12
198	SLE FR 4	-2	1	563	-33.76	0	-0.12
198	SLE FR 5	-2	1	562	-33.73	0	-0.12
198	SLE FR 6	-2	1	575	-34.48	0	-0.12
198	SLE QP 1	-2	1	540	-32.41	0	-0.12
198	SLE QP 2	-2	1	561	-33.65	0	-0.12
198	SLD 1	39	16	672	-40.29	0	2.37
198	SLD 2	49	15	669	-40.14	0	2.92
198	SLD 3	41	-12	462	-27.74	0	2.47
198	SLD 4	50	-13	460	-27.59	0	3.01
198	SLD 5	6	49	912	-54.7	0	0.39
198	SLD 6	12	48	910	-54.61	0	0.74
198	SLD 7	12	-47	215	-12.87	0	0.71
198	SLD 8	18	-47	213	-12.78	0	1.06
198	SLD 9	-22	48	909	-54.53	0	-1.3
198	SLD 10	-16	48	907	-54.43	0	-0.94
198	SLD 11	-16	-47	212	-12.7	0	-0.98
198	SLD 12	-10	-48	210	-12.6	0	-0.62
198	SLD 13	-54	14	662	-39.71	0	-3.25
198	SLD 14	-45	13	659	-39.56	0	-2.7
198	SLD 15	-53	-14	453	-27.16	0	-3.15
198	SLD 16	-43	-15	450	-27.01	0	-2.6
198	SLV 1	63	27	749	-44.94	0	3.76
198	SLV 2	77	26	745	-44.7	0	4.63
198	SLV 3	65	-22	392	-23.53	0	3.92
198	SLV 4	80	-23	388	-23.29	0	4.79
198	SLV 5	11	83	1159	-69.56	0	0.64
198	SLV 6	20	82	1157	-69.4	0	1.22
198	SLV 7	20	-80	-30	1.82	0	1.18
198	SLV 8	29	-81	-33	1.97	0	1.76
198	SLV 9	-33	82	1155	-69.28	0	-2
198	SLV 10	-24	81	1152	-69.12	0	-1.41
198	SLV 11	-24	-81	-35	2.09	0	-1.46
198	SLV 12	-15	-82	-38	2.25	0	-0.88
198	SLV 13	-84	24	734	-44.01	0	-5.02
198	SLV 14	-69	23	730	-43.78	0	-4.16
198	SLV 15	-81	-25	377	-22.6	0	-4.86
198	SLV 16	-67	-26	373	-22.37	0	-4
198	SLV FO 1	69	30	768	-46.07	0	4.15
198	SLV FO 2	85	28	763	-45.81	0	5.1
198	SLV FO 3	72	-24	375	-22.51	0	4.33
198	SLV FO 4	88	-26	371	-22.26	0	5.28
198	SLV FO 5	12	91	1219	-73.15	0	0.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLV FO 6	23	90	1216	-72.97	0	1.36
198	SLV FO 7	22	-88	-89	5.36	0	1.31
198	SLV FO 8	32	-89	-92	5.54	0	1.95
198	SLV FO 9	-36	90	1214	-72.84	0	-2.18
198	SLV FO 10	-26	89	1211	-72.67	0	-1.54
198	SLV FO 11	-27	-89	-94	5.67	0	-1.59
198	SLV FO 12	-16	-90	-97	5.84	0	-0.95
198	SLV FO 13	-92	27	751	-45.05	0	-5.51
198	SLV FO 14	-76	25	746	-44.79	0	-4.56
198	SLV FO 15	-89	-27	358	-21.5	0	-5.34
198	SLV FO 16	-73	-29	354	-21.24	0	-4.39
198	CRTFP Ux+	0	0	0	0	0	0
198	CRTFP Ux-	0	0	0	0	0	0
198	CRTFP Uy+	0	0	0	0	0	0
198	CRTFP Uy-	0	0	0	0	0	0
200	SLU 1	-2	-17	1238	0	0	0
200	SLU 2	-2	-11	1271	0	0	0
200	SLU 3	-2	-18	1256	0	0	0
200	SLU 4	-2	-14	1276	0	0	0
200	SLU 5	-2	-12	1282	0	0	0
200	SLU 6	-2	-18	1267	0	0	0
200	SLU 7	-2	-15	1286	0	0	0
200	SLU 8	-2	-18	1259	0	0	0
200	SLU 9	-2	-14	1279	0	0	0
200	SLU 10	-3	-13	1438	0	0	0
200	SLU 11	-3	-20	1423	0	0	0
200	SLU 12	-3	-16	1443	0	0	0
200	SLU 13	-3	-14	1449	0	0	0
200	SLU 14	-3	-20	1434	0	0	0
200	SLU 15	-3	-16	1454	0	0	0
200	SLU 16	-3	-20	1427	0	0	0
200	SLU 17	-3	-16	1446	0	0	0
200	SLU 18	-3	-20	1477	0	0	0
200	SLU 19	-3	-17	1497	0	0	0
200	SLU 20	-3	-20	1488	0	0	0
200	SLU 21	-3	-17	1507	0	0	0
200	SLU 22	-2	-20	1401	0	0	0
200	SLU 23	-2	-14	1434	0	0	0
200	SLU 24	-2	-20	1419	0	0	0
200	SLU 25	-2	-16	1438	0	0	0
200	SLU 26	-2	-14	1444	0	0	0
200	SLU 27	-2	-20	1429	0	0	0
200	SLU 28	-2	-17	1449	0	0	0
200	SLU 29	-2	-20	1422	0	0	0
200	SLU 30	-2	-17	1442	0	0	0
200	SLU 31	-3	-16	1601	0	0	0
200	SLU 32	-3	-22	1586	0	0	0
200	SLU 33	-3	-18	1606	0	0	0
200	SLU 34	-3	-16	1611	0	0	0
200	SLU 35	-3	-22	1597	0	0	0
200	SLU 36	-3	-19	1616	0	0	0
200	SLU 37	-3	-22	1589	0	0	0
200	SLU 38	-3	-19	1609	0	0	0
200	SLU 39	-3	-22	1640	0	0	0
200	SLU 40	-3	-19	1659	0	0	0
200	SLU 41	-3	-23	1650	0	0	0
200	SLU 42	-3	-19	1670	0	0	0
200	SLU 43	-2	-22	1554	0	0	0
200	SLU 44	-2	-16	1587	0	0	0
200	SLU 45	-2	-22	1572	0	0	0
200	SLU 46	-2	-19	1592	0	0	0
200	SLU 47	-2	-16	1597	0	0	0
200	SLU 48	-2	-22	1582	0	0	0
200	SLU 49	-2	-19	1602	0	0	0
200	SLU 50	-2	-22	1575	0	0	0
200	SLU 51	-2	-19	1595	0	0	0
200	SLU 52	-3	-18	1754	0	0	0
200	SLU 53	-3	-24	1739	0	0	0
200	SLU 54	-3	-21	1759	0	0	0
200	SLU 55	-3	-18	1764	0	0	0
200	SLU 56	-3	-24	1750	0	0	0
200	SLU 57	-3	-21	1769	0	0	0
200	SLU 58	-3	-24	1742	0	0	0
200	SLU 59	-3	-21	1762	0	0	0
200	SLU 60	-3	-25	1793	0	0	0
200	SLU 61	-3	-21	1812	0	0	0
200	SLU 62	-4	-25	1803	0	0	0
200	SLU 63	-4	-21	1823	0	0	0
200	SLU 64	-2	-24	1716	0	0	0
200	SLU 65	-2	-18	1749	0	0	0
200	SLU 66	-3	-24	1734	0	0	0
200	SLU 67	-3	-21	1754	0	0	0
200	SLU 68	-3	-18	1760	0	0	0
200	SLU 69	-3	-25	1745	0	0	0
200	SLU 70	-3	-21	1765	0	0	0
200	SLU 71	-3	-25	1738	0	0	0
200	SLU 72	-3	-21	1757	0	0	0
200	SLU 73	-3	-20	1916	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLU 74	-3	-26	1902	0	0	0
200	SLU 75	-3	-23	1921	0	0	0
200	SLU 76	-3	-20	1927	0	0	0
200	SLU 77	-4	-27	1912	0	0	0
200	SLU 78	-4	-23	1932	0	0	0
200	SLU 79	-4	-27	1905	0	0	0
200	SLU 80	-4	-23	1925	0	0	0
200	SLU 81	-4	-27	1955	0	0	0
200	SLU 82	-4	-23	1975	0	0	0
200	SLU 83	-4	-27	1966	0	0	0
200	SLU 84	-4	-24	1986	0	0	0
200	SLE RA 1	-2	-18	1285	0	0	0
200	SLE RA 2	-2	-14	1306	0	0	0
200	SLE RA 3	-2	-18	1297	0	0	0
200	SLE RA 4	-2	-16	1310	0	0	0
200	SLE RA 5	-2	-14	1314	0	0	0
200	SLE RA 6	-2	-18	1304	0	0	0
200	SLE RA 7	-2	-16	1317	0	0	0
200	SLE RA 8	-2	-18	1299	0	0	0
200	SLE RA 9	-2	-16	1312	0	0	0
200	SLE RA 10	-2	-15	1418	0	0	0
200	SLE RA 11	-2	-20	1408	0	0	0
200	SLE RA 12	-2	-17	1421	0	0	0
200	SLE RA 13	-2	-16	1425	0	0	0
200	SLE RA 14	-3	-20	1415	0	0	0
200	SLE RA 15	-3	-17	1428	0	0	0
200	SLE RA 16	-3	-20	1410	0	0	0
200	SLE RA 17	-3	-17	1423	0	0	0
200	SLE RA 18	-3	-20	1444	0	0	0
200	SLE RA 19	-3	-17	1457	0	0	0
200	SLE RA 20	-3	-20	1451	0	0	0
200	SLE RA 21	-3	-18	1464	0	0	0
200	SLE FR 1	-2	-18	1285	0	0	0
200	SLE FR 2	-2	-17	1289	0	0	0
200	SLE FR 3	-2	-18	1287	0	0	0
200	SLE FR 4	-2	-18	1337	0	0	0
200	SLE FR 5	-2	-19	1335	0	0	0
200	SLE FR 6	-2	-19	1364	0	0	0
200	SLE QP 1	-2	-18	1285	0	0	0
200	SLE QP 2	-2	-18	1332	0	0	0
200	SLD 1	110	21	1544	0	0	0
200	SLD 2	133	24	1552	0	0	0
200	SLD 3	108	-53	1050	0	0	0
200	SLD 4	131	-50	1058	0	0	0
200	SLD 5	31	106	2143	0	0	0
200	SLD 6	46	108	2148	0	0	0
200	SLD 7	24	-142	497	0	0	0
200	SLD 8	39	-140	502	0	0	0
200	SLD 9	-43	103	2162	0	0	0
200	SLD 10	-28	105	2167	0	0	0
200	SLD 11	-50	-145	516	0	0	0
200	SLD 12	-35	-143	521	0	0	0
200	SLD 13	-135	13	1607	0	0	0
200	SLD 14	-112	16	1614	0	0	0
200	SLD 15	-137	-61	1113	0	0	0
200	SLD 16	-114	-58	1121	0	0	0
200	SLV 1	173	49	1698	0	0	0
200	SLV 2	210	54	1711	0	0	0
200	SLV 3	170	-78	856	0	0	0
200	SLV 4	207	-73	868	0	0	0
200	SLV 5	48	193	2718	0	0	0
200	SLV 6	73	197	2726	0	0	0
200	SLV 7	38	-230	-91	0	0	0
200	SLV 8	63	-226	-82	0	0	0
200	SLV 9	-67	189	2747	0	0	0
200	SLV 10	-42	193	2755	0	0	0
200	SLV 11	-77	-234	-61	0	0	0
200	SLV 12	-52	-230	-53	0	0	0
200	SLV 13	-211	36	1796	0	0	0
200	SLV 14	-174	41	1809	0	0	0
200	SLV 15	-214	-91	954	0	0	0
200	SLV 16	-177	-86	966	0	0	0
200	SLV FO 1	190	55	1735	0	0	0
200	SLV FO 2	231	61	1749	0	0	0
200	SLV FO 3	187	-84	808	0	0	0
200	SLV FO 4	227	-78	822	0	0	0
200	SLV FO 5	53	214	2856	0	0	0
200	SLV FO 6	81	218	2865	0	0	0
200	SLV FO 7	42	-251	-233	0	0	0
200	SLV FO 8	69	-247	-224	0	0	0
200	SLV FO 9	-73	210	2889	0	0	0
200	SLV FO 10	-46	214	2898	0	0	0
200	SLV FO 11	-85	-255	-201	0	0	0
200	SLV FO 12	-57	-251	-192	0	0	0
200	SLV FO 13	-231	41	1843	0	0	0
200	SLV FO 14	-191	47	1856	0	0	0
200	SLV FO 15	-235	-98	916	0	0	0
200	SLV FO 16	-194	-92	930	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	CRTFP Uy+	0	0	0	0	0	0
200	CRTFP Uy-	0	0	0	0	0	0
201	SLU 1	-1	-18	1208	0	0	0
201	SLU 2	-1	-13	1241	0	0	0
201	SLU 3	-2	-19	1226	0	0	0
201	SLU 4	-2	-15	1245	0	0	0
201	SLU 5	-2	-13	1251	0	0	0
201	SLU 6	-2	-19	1236	0	0	0
201	SLU 7	-2	-16	1256	0	0	0
201	SLU 8	-2	-19	1229	0	0	0
201	SLU 9	-2	-16	1248	0	0	0
201	SLU 10	-2	-15	1403	0	0	0
201	SLU 11	-3	-21	1388	0	0	0
201	SLU 12	-2	-17	1408	0	0	0
201	SLU 13	-2	-15	1414	0	0	0
201	SLU 14	-3	-21	1399	0	0	0
201	SLU 15	-3	-18	1418	0	0	0
201	SLU 16	-3	-21	1391	0	0	0
201	SLU 17	-3	-18	1411	0	0	0
201	SLU 18	-3	-21	1441	0	0	0
201	SLU 19	-3	-18	1460	0	0	0
201	SLU 20	-3	-21	1451	0	0	0
201	SLU 21	-3	-18	1470	0	0	0
201	SLU 22	-2	-21	1367	0	0	0
201	SLU 23	-2	-15	1399	0	0	0
201	SLU 24	-2	-21	1385	0	0	0
201	SLU 25	-2	-18	1404	0	0	0
201	SLU 26	-2	-15	1410	0	0	0
201	SLU 27	-2	-21	1395	0	0	0
201	SLU 28	-2	-18	1414	0	0	0
201	SLU 29	-2	-21	1388	0	0	0
201	SLU 30	-2	-18	1407	0	0	0
201	SLU 31	-3	-17	1562	0	0	0
201	SLU 32	-3	-23	1547	0	0	0
201	SLU 33	-3	-20	1566	0	0	0
201	SLU 34	-3	-17	1572	0	0	0
201	SLU 35	-3	-23	1557	0	0	0
201	SLU 36	-3	-20	1577	0	0	0
201	SLU 37	-3	-23	1550	0	0	0
201	SLU 38	-3	-20	1569	0	0	0
201	SLU 39	-3	-23	1599	0	0	0
201	SLU 40	-3	-20	1619	0	0	0
201	SLU 41	-3	-24	1609	0	0	0
201	SLU 42	-3	-20	1629	0	0	0
201	SLU 43	-2	-23	1517	0	0	0
201	SLU 44	-2	-17	1549	0	0	0
201	SLU 45	-2	-23	1534	0	0	0
201	SLU 46	-2	-20	1553	0	0	0
201	SLU 47	-2	-18	1559	0	0	0
201	SLU 48	-2	-24	1544	0	0	0
201	SLU 49	-2	-20	1564	0	0	0
201	SLU 50	-2	-24	1537	0	0	0
201	SLU 51	-2	-20	1556	0	0	0
201	SLU 52	-3	-19	1711	0	0	0
201	SLU 53	-3	-25	1697	0	0	0
201	SLU 54	-3	-22	1716	0	0	0
201	SLU 55	-3	-20	1722	0	0	0
201	SLU 56	-3	-26	1707	0	0	0
201	SLU 57	-3	-22	1726	0	0	0
201	SLU 58	-3	-26	1700	0	0	0
201	SLU 59	-3	-22	1719	0	0	0
201	SLU 60	-3	-26	1749	0	0	0
201	SLU 61	-3	-22	1768	0	0	0
201	SLU 62	-3	-26	1759	0	0	0
201	SLU 63	-3	-23	1778	0	0	0
201	SLU 64	-2	-25	1675	0	0	0
201	SLU 65	-2	-20	1707	0	0	0
201	SLU 66	-2	-26	1693	0	0	0
201	SLU 67	-2	-22	1712	0	0	0
201	SLU 68	-2	-20	1718	0	0	0
201	SLU 69	-2	-26	1703	0	0	0
201	SLU 70	-2	-23	1722	0	0	0
201	SLU 71	-2	-26	1696	0	0	0
201	SLU 72	-2	-22	1715	0	0	0
201	SLU 73	-3	-22	1870	0	0	0
201	SLU 74	-3	-28	1855	0	0	0
201	SLU 75	-3	-24	1875	0	0	0
201	SLU 76	-3	-22	1880	0	0	0
201	SLU 77	-3	-28	1865	0	0	0
201	SLU 78	-3	-25	1885	0	0	0
201	SLU 79	-3	-28	1858	0	0	0
201	SLU 80	-3	-25	1878	0	0	0
201	SLU 81	-3	-28	1907	0	0	0
201	SLU 82	-3	-25	1927	0	0	0
201	SLU 83	-4	-28	1918	0	0	0
201	SLU 84	-3	-25	1937	0	0	0
201	SLE RA 1	-2	-19	1254	0	0	0
201	SLE RA 2	-1	-15	1275	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLE RA 3	-2	-19	1265	0	0	0
201	SLE RA 4	-2	-17	1278	0	0	0
201	SLE RA 5	-2	-15	1282	0	0	0
201	SLE RA 6	-2	-19	1272	0	0	0
201	SLE RA 7	-2	-17	1285	0	0	0
201	SLE RA 8	-2	-19	1267	0	0	0
201	SLE RA 9	-2	-17	1280	0	0	0
201	SLE RA 10	-2	-17	1384	0	0	0
201	SLE RA 11	-2	-21	1374	0	0	0
201	SLE RA 12	-2	-18	1387	0	0	0
201	SLE RA 13	-2	-17	1390	0	0	0
201	SLE RA 14	-2	-21	1381	0	0	0
201	SLE RA 15	-2	-19	1394	0	0	0
201	SLE RA 16	-2	-21	1376	0	0	0
201	SLE RA 17	-2	-18	1389	0	0	0
201	SLE RA 18	-2	-21	1409	0	0	0
201	SLE RA 19	-2	-19	1421	0	0	0
201	SLE RA 20	-3	-21	1415	0	0	0
201	SLE RA 21	-2	-19	1428	0	0	0
201	SLE FR 1	-2	-19	1254	0	0	0
201	SLE FR 2	-2	-18	1258	0	0	0
201	SLE FR 3	-2	-19	1257	0	0	0
201	SLE FR 4	-2	-19	1305	0	0	0
201	SLE FR 5	-2	-20	1303	0	0	0
201	SLE FR 6	-2	-20	1331	0	0	0
201	SLE QP 1	-2	-19	1254	0	0	0
201	SLE QP 2	-2	-19	1300	0	0	0
201	SLD 1	107	19	1498	0	0	0
201	SLD 2	130	24	1506	0	0	0
201	SLD 3	105	-51	1015	0	0	0
201	SLD 4	128	-47	1024	0	0	0
201	SLD 5	30	99	2090	0	0	0
201	SLD 6	45	102	2095	0	0	0
201	SLD 7	24	-137	481	0	0	0
201	SLD 8	38	-134	487	0	0	0
201	SLD 9	-42	95	2114	0	0	0
201	SLD 10	-27	98	2119	0	0	0
201	SLD 11	-48	-141	505	0	0	0
201	SLD 12	-34	-138	510	0	0	0
201	SLD 13	-132	8	1577	0	0	0
201	SLD 14	-109	12	1585	0	0	0
201	SLD 15	-134	-63	1094	0	0	0
201	SLD 16	-111	-58	1102	0	0	0
201	SLV 1	169	46	1644	0	0	0
201	SLV 2	205	53	1657	0	0	0
201	SLV 3	166	-74	821	0	0	0
201	SLV 4	202	-67	834	0	0	0
201	SLV 5	47	182	2650	0	0	0
201	SLV 6	72	187	2659	0	0	0
201	SLV 7	37	-220	-95	0	0	0
201	SLV 8	61	-216	-86	0	0	0
201	SLV 9	-65	177	2687	0	0	0
201	SLV 10	-41	181	2695	0	0	0
201	SLV 11	-75	-226	-58	0	0	0
201	SLV 12	-51	-221	-49	0	0	0
201	SLV 13	-205	29	1767	0	0	0
201	SLV 14	-169	35	1780	0	0	0
201	SLV 15	-208	-92	943	0	0	0
201	SLV 16	-172	-85	956	0	0	0
201	SLV FO 1	186	53	1678	0	0	0
201	SLV FO 2	225	61	1693	0	0	0
201	SLV FO 3	183	-80	773	0	0	0
201	SLV FO 4	222	-72	787	0	0	0
201	SLV FO 5	52	202	2785	0	0	0
201	SLV FO 6	79	207	2794	0	0	0
201	SLV FO 7	41	-240	-235	0	0	0
201	SLV FO 8	68	-235	-225	0	0	0
201	SLV FO 9	-71	196	2825	0	0	0
201	SLV FO 10	-45	202	2835	0	0	0
201	SLV FO 11	-83	-246	-194	0	0	0
201	SLV FO 12	-56	-241	-184	0	0	0
201	SLV FO 13	-226	33	1813	0	0	0
201	SLV FO 14	-186	41	1828	0	0	0
201	SLV FO 15	-229	-99	908	0	0	0
201	SLV FO 16	-190	-92	922	0	0	0
201	CRTFP Uy+	0	0	0	0	0	0
201	CRTFP Uy-	0	0	0	0	0	0
202	SLU 1	-1	-19	1196	0	0	0
202	SLU 2	-1	-14	1228	0	0	0
202	SLU 3	-2	-20	1213	0	0	0
202	SLU 4	-1	-17	1232	0	0	0
202	SLU 5	-1	-14	1238	0	0	0
202	SLU 6	-2	-20	1223	0	0	0
202	SLU 7	-2	-17	1242	0	0	0
202	SLU 8	-2	-20	1216	0	0	0
202	SLU 9	-2	-17	1235	0	0	0
202	SLU 10	-2	-16	1388	0	0	0
202	SLU 11	-2	-22	1373	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLU 12	-2	-19	1392	0	0	0
202	SLU 13	-2	-17	1398	0	0	0
202	SLU 14	-3	-22	1383	0	0	0
202	SLU 15	-3	-19	1402	0	0	0
202	SLU 16	-3	-22	1376	0	0	0
202	SLU 17	-3	-19	1395	0	0	0
202	SLU 18	-3	-23	1424	0	0	0
202	SLU 19	-3	-19	1444	0	0	0
202	SLU 20	-3	-23	1434	0	0	0
202	SLU 21	-3	-20	1454	0	0	0
202	SLU 22	-2	-22	1352	0	0	0
202	SLU 23	-1	-17	1385	0	0	0
202	SLU 24	-2	-22	1370	0	0	0
202	SLU 25	-2	-19	1389	0	0	0
202	SLU 26	-2	-17	1395	0	0	0
202	SLU 27	-2	-23	1380	0	0	0
202	SLU 28	-2	-19	1399	0	0	0
202	SLU 29	-2	-23	1372	0	0	0
202	SLU 30	-2	-19	1392	0	0	0
202	SLU 31	-2	-19	1545	0	0	0
202	SLU 32	-3	-25	1530	0	0	0
202	SLU 33	-3	-21	1549	0	0	0
202	SLU 34	-3	-19	1555	0	0	0
202	SLU 35	-3	-25	1540	0	0	0
202	SLU 36	-3	-22	1559	0	0	0
202	SLU 37	-3	-25	1533	0	0	0
202	SLU 38	-3	-22	1552	0	0	0
202	SLU 39	-3	-25	1581	0	0	0
202	SLU 40	-3	-22	1601	0	0	0
202	SLU 41	-3	-25	1591	0	0	0
202	SLU 42	-3	-22	1611	0	0	0
202	SLU 43	-2	-24	1501	0	0	0
202	SLU 44	-2	-19	1533	0	0	0
202	SLU 45	-2	-25	1518	0	0	0
202	SLU 46	-2	-22	1537	0	0	0
202	SLU 47	-2	-19	1543	0	0	0
202	SLU 48	-2	-25	1528	0	0	0
202	SLU 49	-2	-22	1547	0	0	0
202	SLU 50	-2	-25	1521	0	0	0
202	SLU 51	-2	-22	1540	0	0	0
202	SLU 52	-2	-21	1693	0	0	0
202	SLU 53	-3	-27	1678	0	0	0
202	SLU 54	-3	-24	1697	0	0	0
202	SLU 55	-3	-22	1703	0	0	0
202	SLU 56	-3	-27	1688	0	0	0
202	SLU 57	-3	-24	1707	0	0	0
202	SLU 58	-3	-27	1681	0	0	0
202	SLU 59	-3	-24	1700	0	0	0
202	SLU 60	-3	-28	1729	0	0	0
202	SLU 61	-3	-24	1749	0	0	0
202	SLU 62	-3	-28	1739	0	0	0
202	SLU 63	-3	-25	1759	0	0	0
202	SLU 64	-2	-27	1657	0	0	0
202	SLU 65	-2	-22	1689	0	0	0
202	SLU 66	-2	-27	1675	0	0	0
202	SLU 67	-2	-24	1694	0	0	0
202	SLU 68	-2	-22	1699	0	0	0
202	SLU 69	-2	-28	1685	0	0	0
202	SLU 70	-2	-24	1704	0	0	0
202	SLU 71	-2	-27	1677	0	0	0
202	SLU 72	-2	-24	1697	0	0	0
202	SLU 73	-3	-24	1850	0	0	0
202	SLU 74	-3	-30	1835	0	0	0
202	SLU 75	-3	-26	1854	0	0	0
202	SLU 76	-3	-24	1860	0	0	0
202	SLU 77	-3	-30	1845	0	0	0
202	SLU 78	-3	-27	1864	0	0	0
202	SLU 79	-3	-30	1838	0	0	0
202	SLU 80	-3	-26	1857	0	0	0
202	SLU 81	-3	-30	1886	0	0	0
202	SLU 82	-3	-27	1905	0	0	0
202	SLU 83	-3	-30	1896	0	0	0
202	SLU 84	-3	-27	1915	0	0	0
202	SLE RA 1	-1	-20	1240	0	0	0
202	SLE RA 2	-1	-17	1262	0	0	0
202	SLE RA 3	-2	-20	1252	0	0	0
202	SLE RA 4	-1	-18	1265	0	0	0
202	SLE RA 5	-1	-17	1268	0	0	0
202	SLE RA 6	-2	-21	1259	0	0	0
202	SLE RA 7	-2	-18	1271	0	0	0
202	SLE RA 8	-2	-21	1254	0	0	0
202	SLE RA 9	-2	-18	1267	0	0	0
202	SLE RA 10	-2	-18	1369	0	0	0
202	SLE RA 11	-2	-22	1359	0	0	0
202	SLE RA 12	-2	-20	1371	0	0	0
202	SLE RA 13	-2	-18	1375	0	0	0
202	SLE RA 14	-2	-22	1365	0	0	0
202	SLE RA 15	-2	-20	1378	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLE RA 16	-2	-22	1361	0	0	0
202	SLE RA 17	-2	-20	1373	0	0	0
202	SLE RA 18	-2	-22	1393	0	0	0
202	SLE RA 19	-2	-20	1406	0	0	0
202	SLE RA 20	-2	-22	1400	0	0	0
202	SLE RA 21	-2	-20	1412	0	0	0
202	SLE FR 1	-1	-20	1240	0	0	0
202	SLE FR 2	-1	-19	1245	0	0	0
202	SLE FR 3	-1	-20	1243	0	0	0
202	SLE FR 4	-2	-20	1290	0	0	0
202	SLE FR 5	-2	-21	1289	0	0	0
202	SLE FR 6	-2	-21	1317	0	0	0
202	SLE QP 1	-1	-20	1240	0	0	0
202	SLE QP 2	-2	-21	1286	0	0	0
202	SLD 1	107	18	1472	0	0	0
202	SLD 2	129	24	1481	0	0	0
202	SLD 3	105	-50	994	0	0	0
202	SLD 4	127	-45	1003	0	0	0
202	SLD 5	30	94	2066	0	0	0
202	SLD 6	44	97	2072	0	0	0
202	SLD 7	23	-134	472	0	0	0
202	SLD 8	38	-131	478	0	0	0
202	SLD 9	-41	89	2095	0	0	0
202	SLD 10	-27	93	2101	0	0	0
202	SLD 11	-48	-139	501	0	0	0
202	SLD 12	-33	-135	507	0	0	0
202	SLD 13	-130	3	1569	0	0	0
202	SLD 14	-108	9	1578	0	0	0
202	SLD 15	-132	-65	1091	0	0	0
202	SLD 16	-110	-60	1100	0	0	0
202	SLV 1	168	45	1611	0	0	0
202	SLV 2	203	53	1626	0	0	0
202	SLV 3	164	-72	795	0	0	0
202	SLV 4	200	-63	810	0	0	0
202	SLV 5	47	175	2619	0	0	0
202	SLV 6	71	180	2628	0	0	0
202	SLV 7	37	-215	-101	0	0	0
202	SLV 8	61	-209	-92	0	0	0
202	SLV 9	-64	168	2664	0	0	0
202	SLV 10	-40	173	2674	0	0	0
202	SLV 11	-75	-222	-56	0	0	0
202	SLV 12	-51	-216	-46	0	0	0
202	SLV 13	-203	22	1763	0	0	0
202	SLV 14	-168	30	1777	0	0	0
202	SLV 15	-206	-95	947	0	0	0
202	SLV 16	-171	-87	961	0	0	0
202	SLV FO 1	184	52	1644	0	0	0
202	SLV FO 2	224	61	1660	0	0	0
202	SLV FO 3	181	-77	746	0	0	0
202	SLV FO 4	220	-68	762	0	0	0
202	SLV FO 5	52	194	2752	0	0	0
202	SLV FO 6	79	200	2762	0	0	0
202	SLV FO 7	41	-234	-240	0	0	0
202	SLV FO 8	67	-228	-229	0	0	0
202	SLV FO 9	-70	186	2802	0	0	0
202	SLV FO 10	-44	193	2812	0	0	0
202	SLV FO 11	-82	-242	-190	0	0	0
202	SLV FO 12	-55	-236	-179	0	0	0
202	SLV FO 13	-223	26	1810	0	0	0
202	SLV FO 14	-184	35	1826	0	0	0
202	SLV FO 15	-227	-102	913	0	0	0
202	SLV FO 16	-188	-93	928	0	0	0
202	CRTFP Uy+	0	0	0	0	0	0
202	CRTFP Uy-	0	0	0	0	0	0
203	SLU 1	-1	-21	1185	0	0	0
203	SLU 2	-1	-16	1217	0	0	0
203	SLU 3	-1	-21	1202	0	0	0
203	SLU 4	-1	-18	1221	0	0	0
203	SLU 5	-1	-16	1227	0	0	0
203	SLU 6	-2	-21	1212	0	0	0
203	SLU 7	-2	-18	1231	0	0	0
203	SLU 8	-2	-21	1205	0	0	0
203	SLU 9	-2	-18	1224	0	0	0
203	SLU 10	-2	-18	1376	0	0	0
203	SLU 11	-2	-24	1360	0	0	0
203	SLU 12	-2	-20	1380	0	0	0
203	SLU 13	-2	-18	1385	0	0	0
203	SLU 14	-2	-24	1370	0	0	0
203	SLU 15	-2	-21	1389	0	0	0
203	SLU 16	-2	-24	1363	0	0	0
203	SLU 17	-2	-21	1382	0	0	0
203	SLU 18	-2	-24	1411	0	0	0
203	SLU 19	-2	-21	1431	0	0	0
203	SLU 20	-3	-24	1421	0	0	0
203	SLU 21	-3	-21	1440	0	0	0
203	SLU 22	-1	-23	1341	0	0	0
203	SLU 23	-1	-18	1373	0	0	0
203	SLU 24	-2	-24	1358	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLU 25	-2	-21	1377	0	0	0
203	SLU 26	-2	-18	1383	0	0	0
203	SLU 27	-2	-24	1367	0	0	0
203	SLU 28	-2	-21	1387	0	0	0
203	SLU 29	-2	-24	1360	0	0	0
203	SLU 30	-2	-21	1380	0	0	0
203	SLU 31	-2	-21	1531	0	0	0
203	SLU 32	-2	-26	1516	0	0	0
203	SLU 33	-2	-23	1535	0	0	0
203	SLU 34	-2	-21	1541	0	0	0
203	SLU 35	-3	-26	1526	0	0	0
203	SLU 36	-3	-23	1545	0	0	0
203	SLU 37	-3	-26	1519	0	0	0
203	SLU 38	-3	-23	1538	0	0	0
203	SLU 39	-3	-27	1567	0	0	0
203	SLU 40	-3	-24	1586	0	0	0
203	SLU 41	-3	-27	1577	0	0	0
203	SLU 42	-3	-24	1596	0	0	0
203	SLU 43	-1	-26	1488	0	0	0
203	SLU 44	-1	-21	1520	0	0	0
203	SLU 45	-2	-26	1504	0	0	0
203	SLU 46	-2	-23	1524	0	0	0
203	SLU 47	-2	-21	1529	0	0	0
203	SLU 48	-2	-27	1514	0	0	0
203	SLU 49	-2	-24	1533	0	0	0
203	SLU 50	-2	-27	1507	0	0	0
203	SLU 51	-2	-24	1526	0	0	0
203	SLU 52	-2	-23	1678	0	0	0
203	SLU 53	-3	-29	1663	0	0	0
203	SLU 54	-2	-26	1682	0	0	0
203	SLU 55	-2	-24	1688	0	0	0
203	SLU 56	-3	-29	1673	0	0	0
203	SLU 57	-3	-26	1692	0	0	0
203	SLU 58	-3	-29	1665	0	0	0
203	SLU 59	-3	-26	1685	0	0	0
203	SLU 60	-3	-29	1714	0	0	0
203	SLU 61	-3	-26	1733	0	0	0
203	SLU 62	-3	-30	1723	0	0	0
203	SLU 63	-3	-27	1743	0	0	0
203	SLU 64	-2	-29	1643	0	0	0
203	SLU 65	-2	-23	1675	0	0	0
203	SLU 66	-2	-29	1660	0	0	0
203	SLU 67	-2	-26	1679	0	0	0
203	SLU 68	-2	-24	1685	0	0	0
203	SLU 69	-2	-29	1670	0	0	0
203	SLU 70	-2	-26	1689	0	0	0
203	SLU 71	-2	-29	1663	0	0	0
203	SLU 72	-2	-26	1682	0	0	0
203	SLU 73	-2	-26	1833	0	0	0
203	SLU 74	-3	-31	1818	0	0	0
203	SLU 75	-3	-28	1837	0	0	0
203	SLU 76	-3	-26	1843	0	0	0
203	SLU 77	-3	-32	1828	0	0	0
203	SLU 78	-3	-29	1847	0	0	0
203	SLU 79	-3	-32	1821	0	0	0
203	SLU 80	-3	-29	1840	0	0	0
203	SLU 81	-3	-32	1869	0	0	0
203	SLU 82	-3	-29	1888	0	0	0
203	SLU 83	-3	-32	1879	0	0	0
203	SLU 84	-3	-29	1898	0	0	0
203	SLE RA 1	-1	-21	1230	0	0	0
203	SLE RA 2	-1	-18	1251	0	0	0
203	SLE RA 3	-1	-22	1241	0	0	0
203	SLE RA 4	-1	-20	1254	0	0	0
203	SLE RA 5	-1	-18	1258	0	0	0
203	SLE RA 6	-2	-22	1248	0	0	0
203	SLE RA 7	-1	-20	1260	0	0	0
203	SLE RA 8	-2	-22	1243	0	0	0
203	SLE RA 9	-1	-20	1256	0	0	0
203	SLE RA 10	-2	-20	1357	0	0	0
203	SLE RA 11	-2	-23	1346	0	0	0
203	SLE RA 12	-2	-21	1359	0	0	0
203	SLE RA 13	-2	-20	1363	0	0	0
203	SLE RA 14	-2	-24	1353	0	0	0
203	SLE RA 15	-2	-21	1366	0	0	0
203	SLE RA 16	-2	-23	1348	0	0	0
203	SLE RA 17	-2	-21	1361	0	0	0
203	SLE RA 18	-2	-24	1380	0	0	0
203	SLE RA 19	-2	-22	1393	0	0	0
203	SLE RA 20	-2	-24	1387	0	0	0
203	SLE RA 21	-2	-22	1400	0	0	0
203	SLE FR 1	-1	-21	1230	0	0	0
203	SLE FR 2	-1	-21	1234	0	0	0
203	SLE FR 3	-1	-22	1232	0	0	0
203	SLE FR 4	-1	-21	1279	0	0	0
203	SLE FR 5	-2	-22	1278	0	0	0
203	SLE FR 6	-2	-23	1305	0	0	0
203	SLE QP 1	-1	-21	1230	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLE QP 2	-2	-22	1275	0	0	0
203	SLD 1	106	17	1449	0	0	0
203	SLD 2	128	23	1459	0	0	0
203	SLD 3	104	-49	975	0	0	0
203	SLD 4	126	-43	984	0	0	0
203	SLD 5	30	89	2046	0	0	0
203	SLD 6	44	93	2052	0	0	0
203	SLD 7	23	-132	463	0	0	0
203	SLD 8	38	-128	469	0	0	0
203	SLD 9	-41	84	2081	0	0	0
203	SLD 10	-26	88	2087	0	0	0
203	SLD 11	-47	-137	498	0	0	0
203	SLD 12	-33	-133	504	0	0	0
203	SLD 13	-129	-1	1566	0	0	0
203	SLD 14	-107	5	1575	0	0	0
203	SLD 15	-131	-67	1091	0	0	0
203	SLD 16	-109	-61	1100	0	0	0
203	SLV 1	166	44	1582	0	0	0
203	SLV 2	202	54	1597	0	0	0
203	SLV 3	163	-70	771	0	0	0
203	SLV 4	198	-60	787	0	0	0
203	SLV 5	47	167	2593	0	0	0
203	SLV 6	71	174	2603	0	0	0
203	SLV 7	36	-210	-108	0	0	0
203	SLV 8	60	-203	-98	0	0	0
203	SLV 9	-63	159	2648	0	0	0
203	SLV 10	-39	166	2658	0	0	0
203	SLV 11	-74	-218	-54	0	0	0
203	SLV 12	-50	-212	-43	0	0	0
203	SLV 13	-201	15	1763	0	0	0
203	SLV 14	-166	25	1778	0	0	0
203	SLV 15	-205	-98	953	0	0	0
203	SLV 16	-169	-88	968	0	0	0
203	SLV FO 1	183	50	1613	0	0	0
203	SLV FO 2	222	61	1629	0	0	0
203	SLV FO 3	180	-74	721	0	0	0
203	SLV FO 4	218	-63	738	0	0	0
203	SLV FO 5	52	186	2725	0	0	0
203	SLV FO 6	78	194	2736	0	0	0
203	SLV FO 7	40	-229	-246	0	0	0
203	SLV FO 8	66	-221	-235	0	0	0
203	SLV FO 9	-69	177	2785	0	0	0
203	SLV FO 10	-43	184	2796	0	0	0
203	SLV FO 11	-81	-238	-186	0	0	0
203	SLV FO 12	-55	-231	-175	0	0	0
203	SLV FO 13	-221	19	1812	0	0	0
203	SLV FO 14	-183	30	1829	0	0	0
203	SLV FO 15	-225	-105	921	0	0	0
203	SLV FO 16	-186	-94	937	0	0	0
203	CRTFP Uy+	0	0	0	0	0	0
203	CRTFP Uy-	0	0	0	0	0	0
204	SLU 1	-1	-22	1176	0	0	0
204	SLU 2	-1	-17	1208	0	0	0
204	SLU 3	-1	-22	1193	0	0	0
204	SLU 4	-1	-19	1212	0	0	0
204	SLU 5	-1	-17	1218	0	0	0
204	SLU 6	-1	-23	1202	0	0	0
204	SLU 7	-1	-20	1222	0	0	0
204	SLU 8	-1	-23	1195	0	0	0
204	SLU 9	-1	-20	1215	0	0	0
204	SLU 10	-2	-20	1365	0	0	0
204	SLU 11	-2	-25	1349	0	0	0
204	SLU 12	-2	-22	1368	0	0	0
204	SLU 13	-2	-20	1374	0	0	0
204	SLU 14	-2	-25	1359	0	0	0
204	SLU 15	-2	-22	1378	0	0	0
204	SLU 16	-2	-25	1352	0	0	0
204	SLU 17	-2	-22	1371	0	0	0
204	SLU 18	-2	-26	1400	0	0	0
204	SLU 19	-2	-23	1419	0	0	0
204	SLU 20	-2	-26	1409	0	0	0
204	SLU 21	-2	-23	1429	0	0	0
204	SLU 22	-1	-25	1331	0	0	0
204	SLU 23	-1	-20	1363	0	0	0
204	SLU 24	-1	-25	1347	0	0	0
204	SLU 25	-1	-22	1366	0	0	0
204	SLU 26	-1	-20	1372	0	0	0
204	SLU 27	-2	-26	1357	0	0	0
204	SLU 28	-2	-23	1376	0	0	0
204	SLU 29	-2	-25	1350	0	0	0
204	SLU 30	-2	-22	1369	0	0	0
204	SLU 31	-2	-22	1519	0	0	0
204	SLU 32	-2	-28	1504	0	0	0
204	SLU 33	-2	-25	1523	0	0	0
204	SLU 34	-2	-23	1529	0	0	0
204	SLU 35	-2	-28	1513	0	0	0
204	SLU 36	-2	-25	1533	0	0	0
204	SLU 37	-2	-28	1506	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLU 38	-2	-25	1526	0	0	0
204	SLU 39	-2	-28	1554	0	0	0
204	SLU 40	-2	-25	1573	0	0	0
204	SLU 41	-3	-29	1564	0	0	0
204	SLU 42	-3	-26	1583	0	0	0
204	SLU 43	-1	-28	1476	0	0	0
204	SLU 44	-1	-23	1508	0	0	0
204	SLU 45	-2	-28	1493	0	0	0
204	SLU 46	-1	-25	1512	0	0	0
204	SLU 47	-1	-23	1518	0	0	0
204	SLU 48	-2	-28	1502	0	0	0
204	SLU 49	-2	-25	1521	0	0	0
204	SLU 50	-2	-28	1495	0	0	0
204	SLU 51	-2	-25	1514	0	0	0
204	SLU 52	-2	-25	1665	0	0	0
204	SLU 53	-2	-31	1649	0	0	0
204	SLU 54	-2	-28	1668	0	0	0
204	SLU 55	-2	-26	1674	0	0	0
204	SLU 56	-3	-31	1659	0	0	0
204	SLU 57	-2	-28	1678	0	0	0
204	SLU 58	-3	-31	1652	0	0	0
204	SLU 59	-3	-28	1671	0	0	0
204	SLU 60	-3	-31	1700	0	0	0
204	SLU 61	-2	-28	1719	0	0	0
204	SLU 62	-3	-32	1709	0	0	0
204	SLU 63	-3	-29	1728	0	0	0
204	SLU 64	-2	-30	1631	0	0	0
204	SLU 65	-1	-25	1662	0	0	0
204	SLU 66	-2	-31	1647	0	0	0
204	SLU 67	-2	-28	1666	0	0	0
204	SLU 68	-2	-26	1672	0	0	0
204	SLU 69	-2	-31	1657	0	0	0
204	SLU 70	-2	-28	1676	0	0	0
204	SLU 71	-2	-31	1650	0	0	0
204	SLU 72	-2	-28	1669	0	0	0
204	SLU 73	-2	-28	1819	0	0	0
204	SLU 74	-3	-33	1804	0	0	0
204	SLU 75	-2	-30	1823	0	0	0
204	SLU 76	-2	-28	1829	0	0	0
204	SLU 77	-3	-34	1813	0	0	0
204	SLU 78	-3	-31	1832	0	0	0
204	SLU 79	-3	-34	1806	0	0	0
204	SLU 80	-3	-31	1825	0	0	0
204	SLU 81	-3	-34	1854	0	0	0
204	SLU 82	-3	-31	1873	0	0	0
204	SLU 83	-3	-34	1864	0	0	0
204	SLU 84	-3	-31	1883	0	0	0
204	SLE RA 1	-1	-23	1220	0	0	0
204	SLE RA 2	-1	-19	1242	0	0	0
204	SLE RA 3	-1	-23	1231	0	0	0
204	SLE RA 4	-1	-21	1244	0	0	0
204	SLE RA 5	-1	-20	1248	0	0	0
204	SLE RA 6	-1	-23	1238	0	0	0
204	SLE RA 7	-1	-21	1251	0	0	0
204	SLE RA 8	-1	-23	1233	0	0	0
204	SLE RA 9	-1	-21	1246	0	0	0
204	SLE RA 10	-2	-21	1346	0	0	0
204	SLE RA 11	-2	-25	1336	0	0	0
204	SLE RA 12	-2	-23	1349	0	0	0
204	SLE RA 13	-2	-21	1352	0	0	0
204	SLE RA 14	-2	-25	1342	0	0	0
204	SLE RA 15	-2	-23	1355	0	0	0
204	SLE RA 16	-2	-25	1337	0	0	0
204	SLE RA 17	-2	-23	1350	0	0	0
204	SLE RA 18	-2	-25	1369	0	0	0
204	SLE RA 19	-2	-23	1382	0	0	0
204	SLE RA 20	-2	-25	1376	0	0	0
204	SLE RA 21	-2	-23	1389	0	0	0
204	SLE FR 1	-1	-23	1220	0	0	0
204	SLE FR 2	-1	-22	1225	0	0	0
204	SLE FR 3	-1	-23	1223	0	0	0
204	SLE FR 4	-1	-23	1269	0	0	0
204	SLE FR 5	-1	-24	1268	0	0	0
204	SLE FR 6	-2	-24	1295	0	0	0
204	SLE QP 1	-1	-23	1220	0	0	0
204	SLE QP 2	-1	-23	1265	0	0	0
204	SLD 1	105	16	1428	0	0	0
204	SLD 2	127	23	1438	0	0	0
204	SLD 3	103	-49	956	0	0	0
204	SLD 4	125	-41	966	0	0	0
204	SLD 5	30	84	2028	0	0	0
204	SLD 6	44	89	2035	0	0	0
204	SLD 7	23	-130	454	0	0	0
204	SLD 8	37	-125	461	0	0	0
204	SLD 9	-40	78	2069	0	0	0
204	SLD 10	-26	83	2076	0	0	0
204	SLD 11	-47	-136	495	0	0	0
204	SLD 12	-33	-131	502	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLD 13	-128	-6	1564	0	0	0
204	SLD 14	-106	2	1574	0	0	0
204	SLD 15	-130	-70	1092	0	0	0
204	SLD 16	-108	-63	1102	0	0	0
204	SLV 1	165	42	1554	0	0	0
204	SLV 2	200	53	1570	0	0	0
204	SLV 3	162	-67	748	0	0	0
204	SLV 4	197	-56	764	0	0	0
204	SLV 5	47	160	2571	0	0	0
204	SLV 6	71	168	2582	0	0	0
204	SLV 7	36	-205	-115	0	0	0
204	SLV 8	59	-197	-104	0	0	0
204	SLV 9	-62	150	2634	0	0	0
204	SLV 10	-39	158	2645	0	0	0
204	SLV 11	-74	-215	-52	0	0	0
204	SLV 12	-50	-207	-41	0	0	0
204	SLV 13	-200	9	1766	0	0	0
204	SLV 14	-165	20	1782	0	0	0
204	SLV 15	-203	-100	960	0	0	0
204	SLV 16	-168	-89	976	0	0	0
204	SLV FO 1	182	49	1583	0	0	0
204	SLV FO 2	220	61	1601	0	0	0
204	SLV FO 3	178	-72	696	0	0	0
204	SLV FO 4	217	-59	714	0	0	0
204	SLV FO 5	52	179	2701	0	0	0
204	SLV FO 6	78	187	2713	0	0	0
204	SLV FO 7	40	-223	-253	0	0	0
204	SLV FO 8	65	-215	-241	0	0	0
204	SLV FO 9	-68	168	2771	0	0	0
204	SLV FO 10	-42	176	2783	0	0	0
204	SLV FO 11	-81	-234	-183	0	0	0
204	SLV FO 12	-55	-226	-171	0	0	0
204	SLV FO 13	-219	12	1816	0	0	0
204	SLV FO 14	-181	25	1834	0	0	0
204	SLV FO 15	-223	-108	929	0	0	0
204	SLV FO 16	-185	-96	947	0	0	0
204	CRTFP Uy+	0	0	0	0	0	0
204	CRTFP Uy-	0	0	0	0	0	0
205	SLU 1	-1	-23	1165	0	0	0
205	SLU 2	-1	-18	1197	0	0	0
205	SLU 3	-1	-24	1181	0	0	0
205	SLU 4	-1	-21	1201	0	0	0
205	SLU 5	-1	-19	1206	0	0	0
205	SLU 6	-1	-24	1191	0	0	0
205	SLU 7	-1	-21	1210	0	0	0
205	SLU 8	-1	-24	1184	0	0	0
205	SLU 9	-1	-21	1203	0	0	0
205	SLU 10	-2	-21	1352	0	0	0
205	SLU 11	-2	-26	1336	0	0	0
205	SLU 12	-2	-23	1355	0	0	0
205	SLU 13	-2	-21	1361	0	0	0
205	SLU 14	-2	-27	1346	0	0	0
205	SLU 15	-2	-24	1365	0	0	0
205	SLU 16	-2	-27	1339	0	0	0
205	SLU 17	-2	-24	1358	0	0	0
205	SLU 18	-2	-27	1386	0	0	0
205	SLU 19	-2	-24	1405	0	0	0
205	SLU 20	-2	-27	1396	0	0	0
205	SLU 21	-2	-24	1415	0	0	0
205	SLU 22	-1	-26	1318	0	0	0
205	SLU 23	-1	-21	1350	0	0	0
205	SLU 24	-1	-27	1335	0	0	0
205	SLU 25	-1	-24	1354	0	0	0
205	SLU 26	-1	-22	1360	0	0	0
205	SLU 27	-1	-27	1344	0	0	0
205	SLU 28	-1	-24	1363	0	0	0
205	SLU 29	-1	-27	1337	0	0	0
205	SLU 30	-1	-24	1356	0	0	0
205	SLU 31	-2	-24	1505	0	0	0
205	SLU 32	-2	-29	1490	0	0	0
205	SLU 33	-2	-26	1509	0	0	0
205	SLU 34	-2	-24	1514	0	0	0
205	SLU 35	-2	-30	1499	0	0	0
205	SLU 36	-2	-27	1518	0	0	0
205	SLU 37	-2	-29	1492	0	0	0
205	SLU 38	-2	-27	1511	0	0	0
205	SLU 39	-2	-30	1539	0	0	0
205	SLU 40	-2	-27	1559	0	0	0
205	SLU 41	-2	-30	1549	0	0	0
205	SLU 42	-2	-27	1568	0	0	0
205	SLU 43	-1	-29	1462	0	0	0
205	SLU 44	-1	-24	1494	0	0	0
205	SLU 45	-1	-30	1478	0	0	0
205	SLU 46	-1	-27	1497	0	0	0
205	SLU 47	-1	-25	1503	0	0	0
205	SLU 48	-2	-30	1488	0	0	0
205	SLU 49	-1	-27	1507	0	0	0
205	SLU 50	-2	-30	1481	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLU 51	-1	-27	1500	0	0	0
205	SLU 52	-2	-27	1649	0	0	0
205	SLU 53	-2	-32	1633	0	0	0
205	SLU 54	-2	-29	1652	0	0	0
205	SLU 55	-2	-27	1658	0	0	0
205	SLU 56	-2	-33	1643	0	0	0
205	SLU 57	-2	-30	1662	0	0	0
205	SLU 58	-2	-32	1636	0	0	0
205	SLU 59	-2	-30	1655	0	0	0
205	SLU 60	-2	-33	1683	0	0	0
205	SLU 61	-2	-30	1702	0	0	0
205	SLU 62	-3	-33	1693	0	0	0
205	SLU 63	-2	-30	1712	0	0	0
205	SLU 64	-1	-32	1615	0	0	0
205	SLU 65	-1	-27	1647	0	0	0
205	SLU 66	-1	-32	1632	0	0	0
205	SLU 67	-1	-30	1651	0	0	0
205	SLU 68	-1	-28	1657	0	0	0
205	SLU 69	-2	-33	1641	0	0	0
205	SLU 70	-2	-30	1660	0	0	0
205	SLU 71	-2	-33	1634	0	0	0
205	SLU 72	-2	-30	1653	0	0	0
205	SLU 73	-2	-30	1802	0	0	0
205	SLU 74	-2	-35	1786	0	0	0
205	SLU 75	-2	-32	1806	0	0	0
205	SLU 76	-2	-30	1811	0	0	0
205	SLU 77	-3	-36	1796	0	0	0
205	SLU 78	-2	-33	1815	0	0	0
205	SLU 79	-3	-35	1789	0	0	0
205	SLU 80	-2	-32	1808	0	0	0
205	SLU 81	-2	-36	1836	0	0	0
205	SLU 82	-2	-33	1856	0	0	0
205	SLU 83	-3	-36	1846	0	0	0
205	SLU 84	-3	-33	1865	0	0	0
205	SLE RA 1	-1	-24	1209	0	0	0
205	SLE RA 2	-1	-21	1230	0	0	0
205	SLE RA 3	-1	-24	1220	0	0	0
205	SLE RA 4	-1	-22	1233	0	0	0
205	SLE RA 5	-1	-21	1236	0	0	0
205	SLE RA 6	-1	-25	1226	0	0	0
205	SLE RA 7	-1	-23	1239	0	0	0
205	SLE RA 8	-1	-24	1221	0	0	0
205	SLE RA 9	-1	-23	1234	0	0	0
205	SLE RA 10	-1	-23	1333	0	0	0
205	SLE RA 11	-2	-26	1323	0	0	0
205	SLE RA 12	-2	-24	1336	0	0	0
205	SLE RA 13	-2	-23	1340	0	0	0
205	SLE RA 14	-2	-26	1329	0	0	0
205	SLE RA 15	-2	-24	1342	0	0	0
205	SLE RA 16	-2	-26	1325	0	0	0
205	SLE RA 17	-2	-24	1337	0	0	0
205	SLE RA 18	-2	-27	1356	0	0	0
205	SLE RA 19	-2	-25	1369	0	0	0
205	SLE RA 20	-2	-27	1363	0	0	0
205	SLE RA 21	-2	-25	1375	0	0	0
205	SLE FR 1	-1	-24	1209	0	0	0
205	SLE FR 2	-1	-23	1213	0	0	0
205	SLE FR 3	-1	-24	1211	0	0	0
205	SLE FR 4	-1	-24	1257	0	0	0
205	SLE FR 5	-1	-25	1256	0	0	0
205	SLE FR 6	-1	-25	1283	0	0	0
205	SLE QP 1	-1	-24	1209	0	0	0
205	SLE QP 2	-1	-25	1253	0	0	0
205	SLD 1	104	14	1405	0	0	0
205	SLD 2	126	22	1416	0	0	0
205	SLD 3	102	-48	936	0	0	0
205	SLD 4	124	-40	947	0	0	0
205	SLD 5	30	79	2008	0	0	0
205	SLD 6	44	85	2015	0	0	0
205	SLD 7	23	-127	445	0	0	0
205	SLD 8	37	-122	452	0	0	0
205	SLD 9	-39	72	2054	0	0	0
205	SLD 10	-25	77	2061	0	0	0
205	SLD 11	-46	-134	491	0	0	0
205	SLD 12	-32	-129	498	0	0	0
205	SLD 13	-126	-10	1559	0	0	0
205	SLD 14	-104	-2	1570	0	0	0
205	SLD 15	-128	-72	1091	0	0	0
205	SLD 16	-106	-64	1102	0	0	0
205	SLV 1	163	40	1524	0	0	0
205	SLV 2	198	53	1541	0	0	0
205	SLV 3	160	-65	724	0	0	0
205	SLV 4	194	-53	741	0	0	0
205	SLV 5	47	153	2544	0	0	0
205	SLV 6	70	161	2556	0	0	0
205	SLV 7	35	-199	-122	0	0	0
205	SLV 8	58	-191	-111	0	0	0
205	SLV 9	-61	141	2617	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLV 10	-38	150	2629	0	0	0
205	SLV 11	-73	-211	-50	0	0	0
205	SLV 12	-50	-202	-38	0	0	0
205	SLV 13	-197	3	1765	0	0	0
205	SLV 14	-162	16	1783	0	0	0
205	SLV 15	-200	-103	965	0	0	0
205	SLV 16	-166	-90	983	0	0	0
205	SLV FO 1	180	47	1551	0	0	0
205	SLV FO 2	218	61	1570	0	0	0
205	SLV FO 3	176	-69	671	0	0	0
205	SLV FO 4	214	-55	690	0	0	0
205	SLV FO 5	52	170	2673	0	0	0
205	SLV FO 6	77	180	2686	0	0	0
205	SLV FO 7	39	-217	-260	0	0	0
205	SLV FO 8	64	-207	-247	0	0	0
205	SLV FO 9	-67	158	2753	0	0	0
205	SLV FO 10	-41	167	2766	0	0	0
205	SLV FO 11	-80	-229	-180	0	0	0
205	SLV FO 12	-54	-220	-167	0	0	0
205	SLV FO 13	-216	6	1816	0	0	0
205	SLV FO 14	-178	20	1836	0	0	0
205	SLV FO 15	-220	-110	936	0	0	0
205	SLV FO 16	-182	-96	956	0	0	0
205	CRTFP Uy+	0	0	0	0	0	0
205	CRTFP Uy-	0	0	0	0	0	0
206	SLU 1	-1	-24	1150	0	0	0
206	SLU 2	-1	-20	1181	0	0	0
206	SLU 3	-1	-25	1166	0	0	0
206	SLU 4	-1	-22	1185	0	0	0
206	SLU 5	-1	-20	1191	0	0	0
206	SLU 6	-1	-25	1175	0	0	0
206	SLU 7	-1	-22	1194	0	0	0
206	SLU 8	-1	-25	1168	0	0	0
206	SLU 9	-1	-22	1187	0	0	0
206	SLU 10	-2	-23	1334	0	0	0
206	SLU 11	-2	-28	1319	0	0	0
206	SLU 12	-2	-25	1337	0	0	0
206	SLU 13	-2	-23	1343	0	0	0
206	SLU 14	-2	-28	1328	0	0	0
206	SLU 15	-2	-25	1347	0	0	0
206	SLU 16	-2	-28	1321	0	0	0
206	SLU 17	-2	-25	1340	0	0	0
206	SLU 18	-2	-28	1368	0	0	0
206	SLU 19	-2	-26	1387	0	0	0
206	SLU 20	-2	-29	1377	0	0	0
206	SLU 21	-2	-26	1396	0	0	0
206	SLU 22	-1	-27	1302	0	0	0
206	SLU 23	-1	-23	1333	0	0	0
206	SLU 24	-1	-28	1318	0	0	0
206	SLU 25	-1	-25	1337	0	0	0
206	SLU 26	-1	-23	1342	0	0	0
206	SLU 27	-1	-28	1327	0	0	0
206	SLU 28	-1	-25	1346	0	0	0
206	SLU 29	-1	-28	1320	0	0	0
206	SLU 30	-1	-25	1339	0	0	0
206	SLU 31	-2	-26	1486	0	0	0
206	SLU 32	-2	-31	1470	0	0	0
206	SLU 33	-2	-28	1489	0	0	0
206	SLU 34	-2	-26	1495	0	0	0
206	SLU 35	-2	-31	1480	0	0	0
206	SLU 36	-2	-28	1498	0	0	0
206	SLU 37	-2	-31	1473	0	0	0
206	SLU 38	-2	-28	1492	0	0	0
206	SLU 39	-2	-31	1520	0	0	0
206	SLU 40	-2	-29	1539	0	0	0
206	SLU 41	-2	-32	1529	0	0	0
206	SLU 42	-2	-29	1548	0	0	0
206	SLU 43	-1	-30	1443	0	0	0
206	SLU 44	-1	-26	1474	0	0	0
206	SLU 45	-1	-31	1459	0	0	0
206	SLU 46	-1	-28	1478	0	0	0
206	SLU 47	-1	-26	1484	0	0	0
206	SLU 48	-1	-31	1468	0	0	0
206	SLU 49	-1	-29	1487	0	0	0
206	SLU 50	-1	-31	1461	0	0	0
206	SLU 51	-1	-28	1480	0	0	0
206	SLU 52	-2	-29	1627	0	0	0
206	SLU 53	-2	-34	1611	0	0	0
206	SLU 54	-2	-31	1630	0	0	0
206	SLU 55	-2	-29	1636	0	0	0
206	SLU 56	-2	-34	1621	0	0	0
206	SLU 57	-2	-31	1640	0	0	0
206	SLU 58	-2	-34	1614	0	0	0
206	SLU 59	-2	-31	1633	0	0	0
206	SLU 60	-2	-35	1661	0	0	0
206	SLU 61	-2	-32	1680	0	0	0
206	SLU 62	-2	-35	1670	0	0	0
206	SLU 63	-2	-32	1689	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
206	SLU 64	-1	-34	1595	0	0	0
206	SLU 65	-1	-29	1626	0	0	0
206	SLU 66	-1	-34	1611	0	0	0
206	SLU 67	-1	-31	1630	0	0	0
206	SLU 68	-1	-29	1635	0	0	0
206	SLU 69	-2	-34	1620	0	0	0
206	SLU 70	-1	-32	1639	0	0	0
206	SLU 71	-2	-34	1613	0	0	0
206	SLU 72	-2	-32	1632	0	0	0
206	SLU 73	-2	-32	1779	0	0	0
206	SLU 74	-2	-37	1763	0	0	0
206	SLU 75	-2	-34	1782	0	0	0
206	SLU 76	-2	-32	1788	0	0	0
206	SLU 77	-2	-37	1772	0	0	0
206	SLU 78	-2	-35	1791	0	0	0
206	SLU 79	-2	-37	1766	0	0	0
206	SLU 80	-2	-34	1785	0	0	0
206	SLU 81	-2	-38	1813	0	0	0
206	SLU 82	-2	-35	1831	0	0	0
206	SLU 83	-3	-38	1822	0	0	0
206	SLU 84	-2	-35	1841	0	0	0
206	SLE RA 1	-1	-25	1193	0	0	0
206	SLE RA 2	-1	-22	1214	0	0	0
206	SLE RA 3	-1	-25	1204	0	0	0
206	SLE RA 4	-1	-24	1217	0	0	0
206	SLE RA 5	-1	-22	1220	0	0	0
206	SLE RA 6	-1	-26	1210	0	0	0
206	SLE RA 7	-1	-24	1223	0	0	0
206	SLE RA 8	-1	-26	1206	0	0	0
206	SLE RA 9	-1	-24	1218	0	0	0
206	SLE RA 10	-1	-24	1316	0	0	0
206	SLE RA 11	-2	-27	1306	0	0	0
206	SLE RA 12	-1	-26	1318	0	0	0
206	SLE RA 13	-1	-24	1322	0	0	0
206	SLE RA 14	-2	-28	1312	0	0	0
206	SLE RA 15	-2	-26	1324	0	0	0
206	SLE RA 16	-2	-27	1307	0	0	0
206	SLE RA 17	-2	-26	1320	0	0	0
206	SLE RA 18	-2	-28	1339	0	0	0
206	SLE RA 19	-2	-26	1351	0	0	0
206	SLE RA 20	-2	-28	1345	0	0	0
206	SLE RA 21	-2	-26	1357	0	0	0
206	SLE FR 1	-1	-25	1193	0	0	0
206	SLE FR 2	-1	-25	1197	0	0	0
206	SLE FR 3	-1	-25	1196	0	0	0
206	SLE FR 4	-1	-25	1241	0	0	0
206	SLE FR 5	-1	-26	1239	0	0	0
206	SLE FR 6	-1	-26	1266	0	0	0
206	SLE QP 1	-1	-25	1193	0	0	0
206	SLE QP 2	-1	-26	1237	0	0	0
206	SLD 1	102	13	1377	0	0	0
206	SLD 2	123	21	1389	0	0	0
206	SLD 3	100	-47	913	0	0	0
206	SLD 4	121	-38	925	0	0	0
206	SLD 5	29	74	1981	0	0	0
206	SLD 6	43	80	1988	0	0	0
206	SLD 7	22	-123	434	0	0	0
206	SLD 8	36	-118	441	0	0	0
206	SLD 9	-38	66	2032	0	0	0
206	SLD 10	-24	72	2040	0	0	0
206	SLD 11	-46	-131	486	0	0	0
206	SLD 12	-32	-126	493	0	0	0
206	SLD 13	-124	-14	1549	0	0	0
206	SLD 14	-102	-5	1561	0	0	0
206	SLD 15	-126	-73	1085	0	0	0
206	SLD 16	-104	-64	1097	0	0	0
206	SLV 1	160	38	1489	0	0	0
206	SLV 2	194	52	1508	0	0	0
206	SLV 3	157	-63	697	0	0	0
206	SLV 4	190	-49	716	0	0	0
206	SLV 5	46	144	2510	0	0	0
206	SLV 6	69	153	2522	0	0	0
206	SLV 7	34	-193	-129	0	0	0
206	SLV 8	57	-183	-117	0	0	0
206	SLV 9	-59	132	2591	0	0	0
206	SLV 10	-37	141	2603	0	0	0
206	SLV 11	-71	-205	-49	0	0	0
206	SLV 12	-49	-196	-36	0	0	0
206	SLV 13	-193	-3	1758	0	0	0
206	SLV 14	-159	11	1776	0	0	0
206	SLV 15	-196	-104	966	0	0	0
206	SLV 16	-162	-90	985	0	0	0
206	SLV FO 1	176	45	1514	0	0	0
206	SLV FO 2	213	60	1535	0	0	0
206	SLV FO 3	172	-66	643	0	0	0
206	SLV FO 4	210	-51	664	0	0	0
206	SLV FO 5	51	161	2637	0	0	0
206	SLV FO 6	76	171	2651	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
206	SLV FO 7	38	-209	-266	0	0	0
206	SLV FO 8	63	-199	-252	0	0	0
206	SLV FO 9	-65	147	2726	0	0	0
206	SLV FO 10	-40	158	2740	0	0	0
206	SLV FO 11	-78	-223	-177	0	0	0
206	SLV FO 12	-53	-213	-163	0	0	0
206	SLV FO 13	-212	-1	1810	0	0	0
206	SLV FO 14	-175	14	1830	0	0	0
206	SLV FO 15	-216	-112	939	0	0	0
206	SLV FO 16	-179	-97	959	0	0	0
206	CRTFP Ux+	0	0	0	0	0	0
206	CRTFP Ux-	0	0	0	0	0	0
206	CRTFP Uy+	0	0	0	0	0	0
206	CRTFP Uy-	0	0	0	0	0	0
207	SLU 1	-1	-26	1137	0	0	0
207	SLU 2	-1	-21	1169	0	0	0
207	SLU 3	-1	-26	1153	0	0	0
207	SLU 4	-1	-24	1172	0	0	0
207	SLU 5	-1	-22	1178	0	0	0
207	SLU 6	-1	-26	1162	0	0	0
207	SLU 7	-1	-24	1181	0	0	0
207	SLU 8	-1	-26	1155	0	0	0
207	SLU 9	-1	-24	1174	0	0	0
207	SLU 10	-1	-24	1319	0	0	0
207	SLU 11	-2	-29	1304	0	0	0
207	SLU 12	-2	-27	1323	0	0	0
207	SLU 13	-2	-25	1328	0	0	0
207	SLU 14	-2	-30	1313	0	0	0
207	SLU 15	-2	-27	1332	0	0	0
207	SLU 16	-2	-29	1306	0	0	0
207	SLU 17	-2	-27	1325	0	0	0
207	SLU 18	-2	-30	1353	0	0	0
207	SLU 19	-2	-27	1371	0	0	0
207	SLU 20	-2	-30	1362	0	0	0
207	SLU 21	-2	-28	1380	0	0	0
207	SLU 22	-1	-29	1288	0	0	0
207	SLU 23	-1	-24	1319	0	0	0
207	SLU 24	-1	-29	1304	0	0	0
207	SLU 25	-1	-27	1323	0	0	0
207	SLU 26	-1	-25	1328	0	0	0
207	SLU 27	-1	-30	1313	0	0	0
207	SLU 28	-1	-27	1332	0	0	0
207	SLU 29	-1	-30	1306	0	0	0
207	SLU 30	-1	-27	1325	0	0	0
207	SLU 31	-2	-27	1470	0	0	0
207	SLU 32	-2	-32	1454	0	0	0
207	SLU 33	-2	-30	1473	0	0	0
207	SLU 34	-2	-28	1479	0	0	0
207	SLU 35	-2	-33	1463	0	0	0
207	SLU 36	-2	-30	1482	0	0	0
207	SLU 37	-2	-33	1457	0	0	0
207	SLU 38	-2	-30	1475	0	0	0
207	SLU 39	-2	-33	1503	0	0	0
207	SLU 40	-2	-31	1522	0	0	0
207	SLU 41	-2	-33	1512	0	0	0
207	SLU 42	-2	-31	1531	0	0	0
207	SLU 43	-1	-32	1427	0	0	0
207	SLU 44	-1	-28	1458	0	0	0
207	SLU 45	-1	-33	1443	0	0	0
207	SLU 46	-1	-30	1461	0	0	0
207	SLU 47	-1	-28	1467	0	0	0
207	SLU 48	-1	-33	1452	0	0	0
207	SLU 49	-1	-30	1470	0	0	0
207	SLU 50	-1	-33	1445	0	0	0
207	SLU 51	-1	-30	1464	0	0	0
207	SLU 52	-2	-31	1609	0	0	0
207	SLU 53	-2	-36	1593	0	0	0
207	SLU 54	-2	-33	1612	0	0	0
207	SLU 55	-2	-31	1618	0	0	0
207	SLU 56	-2	-36	1602	0	0	0
207	SLU 57	-2	-33	1621	0	0	0
207	SLU 58	-2	-36	1595	0	0	0
207	SLU 59	-2	-33	1614	0	0	0
207	SLU 60	-2	-36	1642	0	0	0
207	SLU 61	-2	-34	1661	0	0	0
207	SLU 62	-2	-37	1651	0	0	0
207	SLU 63	-2	-34	1670	0	0	0
207	SLU 64	-1	-35	1577	0	0	0
207	SLU 65	-1	-31	1609	0	0	0
207	SLU 66	-1	-36	1593	0	0	0
207	SLU 67	-1	-33	1612	0	0	0
207	SLU 68	-1	-31	1618	0	0	0
207	SLU 69	-1	-36	1602	0	0	0
207	SLU 70	-1	-34	1621	0	0	0
207	SLU 71	-1	-36	1595	0	0	0
207	SLU 72	-1	-34	1614	0	0	0
207	SLU 73	-2	-34	1759	0	0	0
207	SLU 74	-2	-39	1744	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
207	SLU 75	-2	-36	1763	0	0	0
207	SLU 76	-2	-34	1768	0	0	0
207	SLU 77	-2	-39	1753	0	0	0
207	SLU 78	-2	-37	1772	0	0	0
207	SLU 79	-2	-39	1746	0	0	0
207	SLU 80	-2	-37	1765	0	0	0
207	SLU 81	-2	-40	1793	0	0	0
207	SLU 82	-2	-37	1811	0	0	0
207	SLU 83	-2	-40	1802	0	0	0
207	SLU 84	-2	-37	1821	0	0	0
207	SLE RA 1	-1	-27	1180	0	0	0
207	SLE RA 2	-1	-24	1201	0	0	0
207	SLE RA 3	-1	-27	1191	0	0	0
207	SLE RA 4	-1	-25	1203	0	0	0
207	SLE RA 5	-1	-24	1207	0	0	0
207	SLE RA 6	-1	-27	1197	0	0	0
207	SLE RA 7	-1	-25	1209	0	0	0
207	SLE RA 8	-1	-27	1192	0	0	0
207	SLE RA 9	-1	-25	1205	0	0	0
207	SLE RA 10	-1	-26	1302	0	0	0
207	SLE RA 11	-1	-29	1291	0	0	0
207	SLE RA 12	-1	-27	1304	0	0	0
207	SLE RA 13	-1	-26	1308	0	0	0
207	SLE RA 14	-2	-29	1297	0	0	0
207	SLE RA 15	-2	-27	1310	0	0	0
207	SLE RA 16	-2	-29	1293	0	0	0
207	SLE RA 17	-2	-27	1305	0	0	0
207	SLE RA 18	-2	-29	1324	0	0	0
207	SLE RA 19	-2	-28	1336	0	0	0
207	SLE RA 20	-2	-30	1330	0	0	0
207	SLE RA 21	-2	-28	1342	0	0	0
207	SLE FR 1	-1	-27	1180	0	0	0
207	SLE FR 2	-1	-26	1184	0	0	0
207	SLE FR 3	-1	-27	1183	0	0	0
207	SLE FR 4	-1	-27	1227	0	0	0
207	SLE FR 5	-1	-27	1226	0	0	0
207	SLE FR 6	-1	-28	1252	0	0	0
207	SLE QP 1	-1	-27	1180	0	0	0
207	SLE QP 2	-1	-27	1223	0	0	0
207	SLD 1	100	11	1353	0	0	0
207	SLD 2	121	20	1365	0	0	0
207	SLD 3	98	-46	892	0	0	0
207	SLD 4	119	-36	905	0	0	0
207	SLD 5	29	68	1958	0	0	0
207	SLD 6	43	74	1966	0	0	0
207	SLD 7	22	-120	424	0	0	0
207	SLD 8	35	-114	432	0	0	0
207	SLD 9	-37	60	2015	0	0	0
207	SLD 10	-24	66	2023	0	0	0
207	SLD 11	-45	-129	480	0	0	0
207	SLD 12	-31	-123	488	0	0	0
207	SLD 13	-121	-18	1542	0	0	0
207	SLD 14	-100	-9	1554	0	0	0
207	SLD 15	-123	-75	1081	0	0	0
207	SLD 16	-102	-66	1094	0	0	0
207	SLV 1	157	36	1459	0	0	0
207	SLV 2	190	51	1478	0	0	0
207	SLV 3	153	-60	673	0	0	0
207	SLV 4	187	-45	693	0	0	0
207	SLV 5	46	136	2481	0	0	0
207	SLV 6	68	146	2495	0	0	0
207	SLV 7	34	-187	-136	0	0	0
207	SLV 8	56	-177	-123	0	0	0
207	SLV 9	-58	122	2570	0	0	0
207	SLV 10	-36	132	2583	0	0	0
207	SLV 11	-70	-200	-48	0	0	0
207	SLV 12	-48	-190	-35	0	0	0
207	SLV 13	-189	-10	1754	0	0	0
207	SLV 14	-156	5	1773	0	0	0
207	SLV 15	-192	-106	968	0	0	0
207	SLV 16	-159	-91	988	0	0	0
207	SLV FO 1	173	43	1482	0	0	0
207	SLV FO 2	209	59	1504	0	0	0
207	SLV FO 3	169	-63	619	0	0	0
207	SLV FO 4	205	-47	640	0	0	0
207	SLV FO 5	50	152	2607	0	0	0
207	SLV FO 6	75	163	2622	0	0	0
207	SLV FO 7	37	-202	-272	0	0	0
207	SLV FO 8	62	-191	-258	0	0	0
207	SLV FO 9	-64	137	2704	0	0	0
207	SLV FO 10	-39	148	2719	0	0	0
207	SLV FO 11	-77	-218	-175	0	0	0
207	SLV FO 12	-52	-207	-161	0	0	0
207	SLV FO 13	-207	-8	1807	0	0	0
207	SLV FO 14	-171	9	1828	0	0	0
207	SLV FO 15	-211	-114	943	0	0	0
207	SLV FO 16	-175	-98	964	0	0	0
207	CRTFP Ux+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
207	CRTFP Ux-	0	0	0	0	0	0
207	CRTFP Uy+	0	0	0	0	0	0
207	CRTFP Uy-	0	0	0	0	0	0
218	SLU 1	-5	-46	3919	54.01	1137.7	13.23
218	SLU 2	-5	-26	4021	55.25	1166.98	7.41
218	SLU 3	-5	-47	3977	54.85	1154.75	13.57
218	SLU 4	-5	-36	4038	55.59	1172.31	10.07
218	SLU 5	-5	-27	4055	55.75	1177.12	7.68
218	SLU 6	-6	-48	4012	55.35	1164.89	13.84
218	SLU 7	-6	-36	4073	56.1	1182.46	10.35
218	SLU 8	-6	-48	3988	55.02	1157.99	13.77
218	SLU 9	-6	-36	4049	55.76	1175.56	10.28
218	SLU 10	-7	-31	4553	62.57	1322.15	8.85
218	SLU 11	-8	-52	4510	62.17	1309.92	15.02
218	SLU 12	-8	-40	4571	62.91	1327.49	11.52
218	SLU 13	-8	-32	4588	63.08	1332.3	9.13
218	SLU 14	-9	-53	4544	62.68	1320.07	15.29
218	SLU 15	-9	-41	4605	63.42	1337.63	11.8
218	SLU 16	-9	-53	4521	62.34	1313.17	15.22
218	SLU 17	-9	-41	4582	63.08	1330.73	11.73
218	SLU 18	-9	-53	4680	64.47	1359.38	15.3
218	SLU 19	-9	-41	4741	65.21	1376.94	11.81
218	SLU 20	-9	-54	4714	64.98	1369.52	15.57
218	SLU 21	-9	-42	4775	65.72	1387.09	12.08
218	SLU 22	-6	-52	4435	61.2	1287.69	14.86
218	SLU 23	-6	-32	4537	62.44	1316.96	9.03
218	SLU 24	-6	-53	4494	62.04	1304.73	15.2
218	SLU 25	-6	-41	4555	62.78	1322.3	11.7
218	SLU 26	-6	-33	4572	62.94	1327.11	9.31
218	SLU 27	-7	-54	4528	62.54	1314.88	15.47
218	SLU 28	-7	-42	4589	63.28	1332.45	11.97
218	SLU 29	-7	-54	4504	62.21	1307.98	15.4
218	SLU 30	-7	-42	4565	62.95	1325.55	11.91
218	SLU 31	-8	-37	5069	69.76	1472.14	10.48
218	SLU 32	-9	-58	5026	69.36	1459.91	16.65
218	SLU 33	-9	-46	5087	70.1	1477.47	13.15
218	SLU 34	-9	-38	5104	70.26	1482.28	10.76
218	SLU 35	-10	-59	5060	69.86	1470.05	16.92
218	SLU 36	-10	-47	5121	70.61	1487.62	13.42
218	SLU 37	-10	-59	5037	69.53	1463.15	16.85
218	SLU 38	-10	-47	5098	70.27	1480.72	13.36
218	SLU 39	-10	-59	5196	71.66	1509.36	16.93
218	SLU 40	-9	-47	5257	72.4	1526.93	13.43
218	SLU 41	-10	-60	5230	72.16	1519.51	17.2
218	SLU 42	-10	-48	5291	72.91	1537.08	13.71
218	SLU 43	-6	-58	4918	67.75	1427.58	16.64
218	SLU 44	-6	-38	5020	68.99	1456.86	10.82
218	SLU 45	-6	-59	4976	68.59	1444.63	16.98
218	SLU 46	-6	-47	5037	69.33	1462.2	13.48
218	SLU 47	-6	-39	5054	69.49	1467.01	11.09
218	SLU 48	-7	-60	5011	69.09	1454.78	17.25
218	SLU 49	-7	-48	5072	69.83	1472.34	13.76
218	SLU 50	-7	-60	4987	68.76	1447.88	17.19
218	SLU 51	-7	-48	5048	69.5	1465.45	13.69
218	SLU 52	-8	-43	5552	76.31	1612.04	12.27
218	SLU 53	-9	-64	5509	75.91	1599.81	18.43
218	SLU 54	-9	-52	5570	76.65	1617.37	14.93
218	SLU 55	-9	-44	5587	76.81	1622.18	12.54
218	SLU 56	-10	-65	5543	76.42	1609.95	18.7
218	SLU 57	-10	-53	5604	77.16	1627.52	15.21
218	SLU 58	-10	-65	5519	76.08	1603.05	18.63
218	SLU 59	-10	-53	5580	76.82	1620.62	15.14
218	SLU 60	-10	-65	5679	78.21	1649.26	18.71
218	SLU 61	-10	-53	5740	78.95	1666.83	15.22
218	SLU 62	-10	-66	5713	78.72	1659.41	18.98
218	SLU 63	-10	-54	5774	79.46	1676.98	15.49
218	SLU 64	-7	-64	5434	74.94	1577.57	18.27
218	SLU 65	-7	-44	5536	76.17	1606.85	12.44
218	SLU 66	-7	-65	5492	75.78	1594.62	18.61
218	SLU 67	-7	-53	5553	76.52	1612.18	15.11
218	SLU 68	-7	-45	5570	76.68	1617	12.72
218	SLU 69	-8	-66	5527	76.28	1604.76	18.88
218	SLU 70	-8	-54	5588	77.02	1622.33	15.39
218	SLU 71	-8	-66	5503	75.95	1597.87	18.81
218	SLU 72	-8	-54	5564	76.69	1615.43	15.32
218	SLU 73	-9	-49	6068	83.5	1762.02	13.89
218	SLU 74	-10	-70	6025	83.1	1749.79	20.06
218	SLU 75	-10	-58	6086	83.84	1767.36	16.56
218	SLU 76	-10	-50	6103	84	1772.17	14.17
218	SLU 77	-11	-71	6059	83.6	1759.94	20.33
218	SLU 78	-11	-59	6120	84.35	1777.51	16.83
218	SLU 79	-11	-71	6036	83.27	1753.04	20.26
218	SLU 80	-11	-59	6097	84.01	1770.61	16.77
218	SLU 81	-11	-71	6195	85.4	1799.25	20.34
218	SLU 82	-11	-59	6256	86.14	1816.81	16.84
218	SLU 83	-11	-72	6229	85.9	1809.4	20.61
218	SLU 84	-11	-60	6290	86.65	1826.96	17.12
218	SLE RA 1	-5	-48	4067	56.06	1180.55	13.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
218	SLE RA 2	-5	-35	4135	56.89	1200.07	9.81
218	SLE RA 3	-5	-49	4106	56.62	1191.92	13.92
218	SLE RA 4	-5	-41	4146	57.12	1203.63	11.59
218	SLE RA 5	-5	-35	4158	57.23	1206.83	9.99
218	SLE RA 6	-6	-49	4129	56.96	1198.68	14.1
218	SLE RA 7	-6	-41	4169	57.45	1210.39	11.77
218	SLE RA 8	-6	-49	4113	56.74	1194.08	14.06
218	SLE RA 9	-6	-41	4153	57.23	1205.79	11.73
218	SLE RA 10	-7	-38	4489	61.77	1303.52	10.78
218	SLE RA 11	-7	-52	4460	61.51	1295.37	14.89
218	SLE RA 12	-7	-44	4501	62	1307.08	12.56
218	SLE RA 13	-7	-39	4512	62.11	1310.28	10.96
218	SLE RA 14	-8	-53	4483	61.84	1302.13	15.07
218	SLE RA 15	-8	-45	4524	62.34	1313.84	12.74
218	SLE RA 16	-8	-52	4468	61.62	1297.53	15.02
218	SLE RA 17	-8	-44	4508	62.11	1309.24	12.69
218	SLE RA 18	-8	-53	4574	63.04	1328.34	15.08
218	SLE RA 19	-8	-45	4614	63.53	1340.05	12.75
218	SLE RA 20	-8	-53	4597	63.37	1335.1	15.26
218	SLE RA 21	-8	-45	4637	63.87	1346.81	12.93
218	SLE FR 1	-5	-48	4067	56.06	1180.55	13.7
218	SLE FR 2	-5	-45	4080	56.23	1184.46	12.92
218	SLE FR 3	-5	-48	4076	56.2	1183.26	13.77
218	SLE FR 4	-6	-47	4232	58.32	1228.79	13.33
218	SLE FR 5	-6	-49	4228	58.29	1227.59	14.18
218	SLE FR 6	-6	-50	4320	59.55	1254.44	14.39
218	SLE QP 1	-5	-48	4067	56.06	1180.55	13.7
218	SLE QP 2	-6	-49	4219	58.16	1224.89	14.11
218	SLD 1	349	66	4920	67.11	1433.99	-26.8
218	SLD 2	424	70	4940	67.35	1438.59	-29.04
218	SLD 3	355	-184	3382	48.2	989.45	47.02
218	SLD 4	430	-180	3402	48.44	994.06	44.78
218	SLD 5	78	364	6758	89.48	1961.03	-109.74
218	SLD 6	126	367	6771	89.63	1963.99	-111.19
218	SLD 7	99	-470	1632	26.45	479.26	136.33
218	SLD 8	147	-467	1645	26.6	482.23	134.89
218	SLD 9	-159	368	6793	89.71	1967.55	-106.67
218	SLD 10	-111	371	6806	89.86	1970.51	-108.12
218	SLD 11	-138	-465	1667	26.68	485.78	139.41
218	SLD 12	-90	-462	1679	26.83	488.75	137.96
218	SLD 13	-441	81	5036	67.88	1455.72	-16.56
218	SLD 14	-367	86	5056	68.11	1460.32	-18.8
218	SLD 15	-435	-169	3498	48.97	1011.19	57.26
218	SLD 16	-360	-164	3518	49.2	1015.79	55.02
218	SLV 1	548	148	5424	73.49	1583.21	-55.18
218	SLV 2	666	155	5455	73.86	1590.47	-58.72
218	SLV 3	558	-279	2800	41.22	824.73	70.73
218	SLV 4	676	-271	2831	41.59	831.99	67.2
218	SLV 5	123	656	8554	111.62	2481.39	-196.99
218	SLV 6	203	661	8575	111.87	2486.27	-199.37
218	SLV 7	157	-767	-192	4.08	-46.87	222.73
218	SLV 8	236	-762	-171	4.32	-41.98	220.35
218	SLV 9	-248	663	8609	111.99	2491.76	-192.13
218	SLV 10	-168	668	8630	112.24	2496.65	-194.51
218	SLV 11	-214	-759	-137	4.45	-36.5	227.59
218	SLV 12	-135	-754	-117	4.69	-31.61	225.21
218	SLV 13	-688	173	5606	74.72	1617.79	-38.98
218	SLV 14	-570	180	5637	75.09	1625.04	-42.52
218	SLV 15	-678	-254	2983	42.46	859.31	86.94
218	SLV 16	-560	-246	3013	42.83	866.57	83.4
218	SLV FO 1	604	168	5545	75.02	1619.04	-62.11
218	SLV FO 2	733	176	5579	75.43	1627.02	-66
218	SLV FO 3	615	-302	2659	39.53	784.71	76.4
218	SLV FO 4	744	-293	2692	39.94	792.7	72.51
218	SLV FO 5	136	726	8988	116.97	2607.04	-218.1
218	SLV FO 6	223	732	9011	117.24	2612.41	-220.72
218	SLV FO 7	173	-838	-633	-1.33	-174.05	243.59
218	SLV FO 8	260	-833	-610	-1.06	-168.67	240.98
218	SLV FO 9	-272	734	9048	117.37	2618.45	-212.76
218	SLV FO 10	-184	740	9071	117.65	2623.82	-215.37
218	SLV FO 11	-235	-830	-573	-0.93	-162.64	248.94
218	SLV FO 12	-148	-825	-550	-0.65	-157.26	246.32
218	SLV FO 13	-756	195	5745	76.38	1657.08	-44.29
218	SLV FO 14	-626	203	5779	76.78	1665.06	-48.18
218	SLV FO 15	-745	-274	2859	40.89	822.75	94.22
218	SLV FO 16	-615	-266	2893	41.29	830.74	90.33
218	CRTFP Ux+	0	0	0	0	0	0
218	CRTFP Ux-	0	0	0	0	0	0
218	CRTFP Uy+	0	0	0	0	-0.01	0
218	CRTFP Uy-	0	0	0	0	0.01	0
219	SLU 1	0	-14	568	-31.82	-70.96	-1.73
219	SLU 2	0	-12	583	-32.7	-72.93	-1.47
219	SLU 3	0	-14	576	-32.26	-71.95	-1.77
219	SLU 4	0	-13	585	-32.79	-73.13	-1.61
219	SLU 5	0	-12	588	-32.95	-73.49	-1.5
219	SLU 6	-1	-14	580	-32.51	-72.51	-1.8
219	SLU 7	-1	-13	590	-33.04	-73.69	-1.64
219	SLU 8	-1	-14	577	-32.32	-72.08	-1.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
219	SLU 9	-1	-13	586	-32.85	-73.26	-1.63
219	SLU 10	-1	-13	659	-36.92	-82.33	-1.69
219	SLU 11	-1	-16	651	-36.48	-81.35	-2
219	SLU 12	-1	-14	660	-37.01	-82.53	-1.84
219	SLU 13	-1	-13	663	-37.17	-82.89	-1.72
219	SLU 14	-1	-16	655	-36.73	-81.91	-2.02
219	SLU 15	-1	-15	665	-37.26	-83.09	-1.87
219	SLU 16	-1	-16	652	-36.54	-81.48	-2.01
219	SLU 17	-1	-14	661	-37.07	-82.66	-1.85
219	SLU 18	-1	-16	675	-37.84	-84.39	-2.05
219	SLU 19	-1	-15	685	-38.37	-85.57	-1.89
219	SLU 20	-1	-16	680	-38.09	-84.95	-2.08
219	SLU 21	-1	-15	689	-38.62	-86.13	-1.92
219	SLU 22	0	-15	643	-36.05	-80.39	-1.95
219	SLU 23	0	-13	659	-36.93	-82.37	-1.68
219	SLU 24	-1	-16	651	-36.49	-81.38	-1.99
219	SLU 25	-1	-14	661	-37.02	-82.56	-1.83
219	SLU 26	0	-13	663	-37.18	-82.92	-1.71
219	SLU 27	-1	-16	656	-36.74	-81.94	-2.02
219	SLU 28	-1	-15	665	-37.27	-83.12	-1.86
219	SLU 29	-1	-16	652	-36.55	-81.51	-2.01
219	SLU 30	-1	-15	662	-37.08	-82.7	-1.85
219	SLU 31	-1	-15	734	-41.15	-91.77	-1.91
219	SLU 32	-1	-17	726	-40.71	-90.78	-2.21
219	SLU 33	-1	-16	736	-41.24	-91.97	-2.05
219	SLU 34	-1	-15	739	-41.4	-92.33	-1.94
219	SLU 35	-1	-17	731	-40.96	-91.34	-2.24
219	SLU 36	-1	-16	740	-41.49	-92.53	-2.08
219	SLU 37	-1	-17	727	-40.77	-90.92	-2.23
219	SLU 38	-1	-16	737	-41.3	-92.1	-2.07
219	SLU 39	-1	-18	751	-42.07	-93.83	-2.27
219	SLU 40	-1	-16	760	-42.6	-95.01	-2.11
219	SLU 41	-1	-18	755	-42.32	-94.39	-2.3
219	SLU 42	-1	-17	765	-42.85	-95.57	-2.14
219	SLU 43	-1	-17	712	-39.91	-89.01	-2.18
219	SLU 44	0	-15	728	-40.8	-90.98	-1.91
219	SLU 45	-1	-17	720	-40.36	-90	-2.22
219	SLU 46	-1	-16	729	-40.89	-91.18	-2.06
219	SLU 47	-1	-15	732	-41.05	-91.54	-1.94
219	SLU 48	-1	-18	724	-40.61	-90.56	-2.25
219	SLU 49	-1	-16	734	-41.14	-91.74	-2.09
219	SLU 50	-1	-18	721	-40.42	-90.13	-2.23
219	SLU 51	-1	-16	731	-40.95	-91.31	-2.07
219	SLU 52	-1	-17	803	-45.01	-100.39	-2.14
219	SLU 53	-1	-19	795	-44.57	-99.4	-2.44
219	SLU 54	-1	-18	805	-45.1	-100.58	-2.28
219	SLU 55	-1	-17	808	-45.26	-100.95	-2.17
219	SLU 56	-1	-19	800	-44.82	-99.96	-2.47
219	SLU 57	-1	-18	809	-45.35	-101.14	-2.31
219	SLU 58	-1	-19	796	-44.63	-99.53	-2.46
219	SLU 59	-1	-18	806	-45.16	-100.72	-2.3
219	SLU 60	-1	-19	820	-45.94	-102.45	-2.5
219	SLU 61	-1	-18	829	-46.47	-103.63	-2.34
219	SLU 62	-1	-20	824	-46.19	-103	-2.52
219	SLU 63	-1	-18	833	-46.72	-104.19	-2.37
219	SLU 64	-1	-19	788	-44.14	-98.45	-2.39
219	SLU 65	-1	-17	803	-45.03	-100.42	-2.13
219	SLU 66	-1	-19	795	-44.59	-99.43	-2.43
219	SLU 67	-1	-18	805	-45.12	-100.62	-2.28
219	SLU 68	-1	-17	808	-45.28	-100.98	-2.16
219	SLU 69	-1	-19	800	-44.84	-99.99	-2.46
219	SLU 70	-1	-18	809	-45.37	-101.18	-2.3
219	SLU 71	-1	-19	797	-44.65	-99.57	-2.45
219	SLU 72	-1	-18	806	-45.18	-100.75	-2.29
219	SLU 73	-1	-18	879	-49.24	-109.82	-2.35
219	SLU 74	-1	-21	871	-48.8	-108.84	-2.66
219	SLU 75	-1	-20	880	-49.33	-110.02	-2.5
219	SLU 76	-1	-19	883	-49.49	-110.38	-2.38
219	SLU 77	-1	-21	875	-49.05	-109.4	-2.69
219	SLU 78	-1	-20	885	-49.58	-110.58	-2.53
219	SLU 79	-1	-21	872	-48.86	-108.97	-2.67
219	SLU 80	-1	-20	881	-49.39	-110.15	-2.52
219	SLU 81	-1	-21	895	-50.17	-111.88	-2.71
219	SLU 82	-1	-20	905	-50.7	-113.06	-2.56
219	SLU 83	-1	-21	900	-50.42	-112.44	-2.74
219	SLU 84	-1	-20	909	-50.95	-113.62	-2.58
219	SLE RA 1	0	-14	589	-33.03	-73.66	-1.79
219	SLE RA 2	0	-13	600	-33.62	-74.97	-1.62
219	SLE RA 3	0	-14	595	-33.32	-74.31	-1.82
219	SLE RA 4	0	-14	601	-33.68	-75.1	-1.71
219	SLE RA 5	0	-13	603	-33.78	-75.34	-1.64
219	SLE RA 6	-1	-14	597	-33.49	-74.69	-1.84
219	SLE RA 7	-1	-14	604	-33.84	-75.47	-1.73
219	SLE RA 8	-1	-14	595	-33.36	-74.4	-1.83
219	SLE RA 9	-1	-14	602	-33.72	-75.19	-1.73
219	SLE RA 10	-1	-14	650	-36.43	-81.24	-1.77
219	SLE RA 11	-1	-15	645	-36.13	-80.58	-1.97
219	SLE RA 12	-1	-15	651	-36.49	-81.37	-1.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
219	SLE RA 13	-1	-14	653	-36.59	-81.61	-1.79
219	SLE RA 14	-1	-16	648	-36.3	-80.95	-1.99
219	SLE RA 15	-1	-15	654	-36.65	-81.74	-1.88
219	SLE RA 16	-1	-15	645	-36.17	-80.67	-1.98
219	SLE RA 17	-1	-15	652	-36.53	-81.46	-1.88
219	SLE RA 18	-1	-16	661	-37.04	-82.61	-2.01
219	SLE RA 19	-1	-15	667	-37.4	-83.4	-1.9
219	SLE RA 20	-1	-16	664	-37.21	-82.98	-2.03
219	SLE RA 21	-1	-15	670	-37.56	-83.77	-1.92
219	SLE FR 1	0	-14	589	-33.03	-73.66	-1.79
219	SLE FR 2	0	-14	591	-33.15	-73.92	-1.76
219	SLE FR 3	0	-14	590	-33.09	-73.8	-1.8
219	SLE FR 4	-1	-14	613	-34.35	-76.6	-1.82
219	SLE FR 5	-1	-15	612	-34.3	-76.49	-1.86
219	SLE FR 6	-1	-15	625	-35.03	-78.13	-1.9
219	SLE QP 1	0	-14	589	-33.03	-73.66	-1.79
219	SLE QP 2	-1	-15	611	-34.23	-76.34	-1.86
219	SLD 1	49	5	671	-37.62	-83.89	3.33
219	SLD 2	60	10	678	-37.98	-84.71	4.56
219	SLD 3	48	-23	441	-24.7	-55.08	-0.11
219	SLD 4	59	-17	447	-25.06	-55.9	1.11
219	SLD 5	14	32	977	-54.78	-122.16	4.71
219	SLD 6	21	35	982	-55.02	-122.69	5.5
219	SLD 7	11	-59	209	-11.71	-26.12	-6.77
219	SLD 8	17	-56	213	-11.95	-26.65	-5.98
219	SLD 9	-18	27	1008	-56.51	-126.03	2.27
219	SLD 10	-12	30	1012	-56.75	-126.56	3.06
219	SLD 11	-22	-64	240	-13.45	-29.99	-9.22
219	SLD 12	-15	-61	244	-13.69	-30.52	-8.43
219	SLD 13	-60	-12	774	-43.4	-96.79	-4.83
219	SLD 14	-49	-7	781	-43.77	-97.61	-3.6
219	SLD 15	-61	-39	544	-30.48	-67.97	-8.27
219	SLD 16	-51	-34	550	-30.85	-68.8	-7.05
219	SLV 1	78	17	722	-40.45	-90.21	6.49
219	SLV 2	94	26	732	-41.03	-91.51	8.43
219	SLV 3	76	-29	328	-18.41	-41.06	0.61
219	SLV 4	92	-21	339	-18.99	-42.35	2.55
219	SLV 5	23	64	1239	-69.42	-154.82	9.2
219	SLV 6	34	70	1246	-69.81	-155.69	10.51
219	SLV 7	17	-91	-72	4.05	9.04	-10.39
219	SLV 8	28	-86	-65	3.66	8.17	-9.09
219	SLV 9	-29	56	1287	-72.13	-160.85	5.38
219	SLV 10	-18	62	1294	-72.52	-161.72	6.68
219	SLV 11	-35	-99	-24	1.35	3	-14.22
219	SLV 12	-24	-93	-17	0.96	2.13	-12.92
219	SLV 13	-93	-8	883	-49.47	-110.33	-6.26
219	SLV 14	-77	0	893	-50.05	-111.63	-4.33
219	SLV 15	-95	-55	489	-27.43	-61.18	-12.14
219	SLV 16	-79	-47	500	-28.01	-62.47	-10.21
219	SLV FO 1	85	21	733	-41.07	-91.6	7.33
219	SLV FO 2	103	30	744	-41.71	-93.02	9.45
219	SLV FO 3	83	-31	300	-16.83	-37.53	0.86
219	SLV FO 4	101	-22	312	-17.47	-38.95	2.99
219	SLV FO 5	25	72	1301	-72.94	-162.66	10.31
219	SLV FO 6	37	78	1309	-73.37	-163.62	11.74
219	SLV FO 7	18	-99	-141	7.88	17.58	-11.25
219	SLV FO 8	30	-93	-133	7.45	16.62	-9.82
219	SLV FO 9	-32	63	1354	-75.92	-169.3	6.1
219	SLV FO 10	-19	69	1362	-76.35	-170.26	7.53
219	SLV FO 11	-38	-107	-88	4.9	10.94	-15.46
219	SLV FO 12	-26	-101	-80	4.48	9.98	-14.02
219	SLV FO 13	-103	-8	910	-51	-113.73	-6.7
219	SLV FO 14	-85	1	921	-51.64	-115.16	-4.57
219	SLV FO 15	-105	-59	477	-26.75	-59.66	-13.17
219	SLV FO 16	-86	-50	489	-27.39	-61.08	-11.04
219	CRTFP Ux+	0	0	0	0	0	0
219	CRTFP Ux-	0	0	0	0	0	0
219	CRTFP Uy+	0	0	0	0	0	0
219	CRTFP Uy-	0	0	0	0	0	0
221	SLU 1	-6	-16	877	0	0	0
221	SLU 2	-6	-12	900	0	0	0
221	SLU 3	-6	-16	891	0	0	0
221	SLU 4	-6	-14	905	0	0	0
221	SLU 5	-6	-12	909	0	0	0
221	SLU 6	-6	-16	899	0	0	0
221	SLU 7	-6	-14	913	0	0	0
221	SLU 8	-6	-16	894	0	0	0
221	SLU 9	-6	-14	908	0	0	0
221	SLU 10	-6	-14	1019	0	0	0
221	SLU 11	-6	-18	1009	0	0	0
221	SLU 12	-6	-16	1023	0	0	0
221	SLU 13	-6	-14	1027	0	0	0
221	SLU 14	-6	-18	1018	0	0	0
221	SLU 15	-6	-16	1031	0	0	0
221	SLU 16	-6	-18	1012	0	0	0
221	SLU 17	-6	-16	1026	0	0	0
221	SLU 18	-6	-18	1047	0	0	0
221	SLU 19	-6	-16	1060	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
221	SLU 20	-6	-18	1055	0	0	0
221	SLU 21	-6	-16	1069	0	0	0
221	SLU 22	-7	-17	997	0	0	0
221	SLU 23	-7	-14	1020	0	0	0
221	SLU 24	-7	-18	1010	0	0	0
221	SLU 25	-7	-16	1024	0	0	0
221	SLU 26	-7	-14	1028	0	0	0
221	SLU 27	-7	-18	1019	0	0	0
221	SLU 28	-7	-16	1032	0	0	0
221	SLU 29	-7	-18	1013	0	0	0
221	SLU 30	-7	-16	1027	0	0	0
221	SLU 31	-7	-16	1138	0	0	0
221	SLU 32	-7	-19	1129	0	0	0
221	SLU 33	-7	-17	1143	0	0	0
221	SLU 34	-7	-16	1147	0	0	0
221	SLU 35	-7	-20	1137	0	0	0
221	SLU 36	-7	-18	1151	0	0	0
221	SLU 37	-7	-20	1132	0	0	0
221	SLU 38	-7	-18	1146	0	0	0
221	SLU 39	-7	-20	1166	0	0	0
221	SLU 40	-7	-18	1180	0	0	0
221	SLU 41	-7	-20	1174	0	0	0
221	SLU 42	-7	-18	1188	0	0	0
221	SLU 43	-7	-20	1100	0	0	0
221	SLU 44	-8	-16	1123	0	0	0
221	SLU 45	-7	-20	1113	0	0	0
221	SLU 46	-8	-18	1127	0	0	0
221	SLU 47	-8	-16	1131	0	0	0
221	SLU 48	-7	-20	1121	0	0	0
221	SLU 49	-8	-18	1135	0	0	0
221	SLU 50	-7	-20	1116	0	0	0
221	SLU 51	-8	-18	1130	0	0	0
221	SLU 52	-8	-18	1241	0	0	0
221	SLU 53	-7	-22	1232	0	0	0
221	SLU 54	-8	-20	1245	0	0	0
221	SLU 55	-8	-18	1249	0	0	0
221	SLU 56	-8	-22	1240	0	0	0
221	SLU 57	-8	-20	1254	0	0	0
221	SLU 58	-8	-22	1234	0	0	0
221	SLU 59	-8	-20	1248	0	0	0
221	SLU 60	-7	-22	1269	0	0	0
221	SLU 61	-8	-20	1283	0	0	0
221	SLU 62	-7	-22	1277	0	0	0
221	SLU 63	-8	-20	1291	0	0	0
221	SLU 64	-8	-21	1219	0	0	0
221	SLU 65	-9	-18	1242	0	0	0
221	SLU 66	-8	-22	1233	0	0	0
221	SLU 67	-9	-20	1246	0	0	0
221	SLU 68	-9	-18	1250	0	0	0
221	SLU 69	-8	-22	1241	0	0	0
221	SLU 70	-9	-20	1255	0	0	0
221	SLU 71	-8	-22	1236	0	0	0
221	SLU 72	-9	-20	1249	0	0	0
221	SLU 73	-9	-20	1360	0	0	0
221	SLU 74	-8	-23	1351	0	0	0
221	SLU 75	-9	-21	1365	0	0	0
221	SLU 76	-9	-20	1369	0	0	0
221	SLU 77	-9	-24	1359	0	0	0
221	SLU 78	-9	-22	1373	0	0	0
221	SLU 79	-9	-24	1354	0	0	0
221	SLU 80	-9	-22	1368	0	0	0
221	SLU 81	-8	-24	1388	0	0	0
221	SLU 82	-9	-22	1402	0	0	0
221	SLU 83	-8	-24	1397	0	0	0
221	SLU 84	-9	-22	1410	0	0	0
221	SLE RA 1	-6	-16	911	0	0	0
221	SLE RA 2	-6	-14	927	0	0	0
221	SLE RA 3	-6	-16	920	0	0	0
221	SLE RA 4	-6	-15	930	0	0	0
221	SLE RA 5	-6	-14	932	0	0	0
221	SLE RA 6	-6	-16	926	0	0	0
221	SLE RA 7	-6	-15	935	0	0	0
221	SLE RA 8	-6	-16	922	0	0	0
221	SLE RA 9	-6	-15	932	0	0	0
221	SLE RA 10	-6	-15	1006	0	0	0
221	SLE RA 11	-6	-17	999	0	0	0
221	SLE RA 12	-6	-16	1009	0	0	0
221	SLE RA 13	-7	-15	1011	0	0	0
221	SLE RA 14	-6	-18	1005	0	0	0
221	SLE RA 15	-7	-16	1014	0	0	0
221	SLE RA 16	-6	-17	1001	0	0	0
221	SLE RA 17	-6	-16	1011	0	0	0
221	SLE RA 18	-6	-18	1024	0	0	0
221	SLE RA 19	-6	-16	1033	0	0	0
221	SLE RA 20	-6	-18	1030	0	0	0
221	SLE RA 21	-6	-17	1039	0	0	0
221	SLE FR 1	-6	-16	911	0	0	0
221	SLE FR 2	-6	-16	915	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
221	SLE FR 3	-6	-16	914	0	0	0
221	SLE FR 4	-6	-16	948	0	0	0
221	SLE FR 5	-6	-17	947	0	0	0
221	SLE FR 6	-6	-17	968	0	0	0
221	SLE QP 1	-6	-16	911	0	0	0
221	SLE QP 2	-6	-17	945	0	0	0
221	SLD 1	66	-3	1183	0	0	0
221	SLD 2	82	-10	1174	0	0	0
221	SLD 3	70	-45	844	0	0	0
221	SLD 4	86	-52	834	0	0	0
221	SLD 5	6	52	1533	0	0	0
221	SLD 6	16	48	1527	0	0	0
221	SLD 7	21	-87	401	0	0	0
221	SLD 8	31	-92	395	0	0	0
221	SLD 9	-44	59	1495	0	0	0
221	SLD 10	-33	54	1489	0	0	0
221	SLD 11	-28	-81	363	0	0	0
221	SLD 12	-18	-86	357	0	0	0
221	SLD 13	-98	19	1056	0	0	0
221	SLD 14	-83	11	1047	0	0	0
221	SLD 15	-94	-23	717	0	0	0
221	SLD 16	-78	-30	707	0	0	0
221	SLV 1	106	8	1342	0	0	0
221	SLV 2	131	-4	1327	0	0	0
221	SLV 3	114	-63	762	0	0	0
221	SLV 4	139	-75	748	0	0	0
221	SLV 5	11	102	1946	0	0	0
221	SLV 6	28	93	1936	0	0	0
221	SLV 7	37	-137	14	0	0	0
221	SLV 8	54	-145	5	0	0	0
221	SLV 9	-66	112	1886	0	0	0
221	SLV 10	-49	104	1876	0	0	0
221	SLV 11	-40	-127	-45	0	0	0
221	SLV 12	-23	-135	-55	0	0	0
221	SLV 13	-151	42	1143	0	0	0
221	SLV 14	-126	30	1128	0	0	0
221	SLV 15	-143	-29	564	0	0	0
221	SLV 16	-118	-41	549	0	0	0
221	SLV FO 1	117	11	1381	0	0	0
221	SLV FO 2	145	-2	1365	0	0	0
221	SLV FO 3	126	-68	744	0	0	0
221	SLV FO 4	153	-81	728	0	0	0
221	SLV FO 5	13	113	2046	0	0	0
221	SLV FO 6	31	104	2035	0	0	0
221	SLV FO 7	42	-149	-79	0	0	0
221	SLV FO 8	60	-158	-90	0	0	0
221	SLV FO 9	-72	125	1980	0	0	0
221	SLV FO 10	-54	116	1969	0	0	0
221	SLV FO 11	-43	-138	-144	0	0	0
221	SLV FO 12	-25	-146	-155	0	0	0
221	SLV FO 13	-165	48	1163	0	0	0
221	SLV FO 14	-138	35	1147	0	0	0
221	SLV FO 15	-157	-31	525	0	0	0
221	SLV FO 16	-129	-44	509	0	0	0
221	CRTFP Uy+	0	0	0	0	0	0
221	CRTFP Uy-	0	0	0	0	0	0
222	SLU 1	-6	-14	890	0	0	0
222	SLU 2	-6	-10	913	0	0	0
222	SLU 3	-6	-14	904	0	0	0
222	SLU 4	-6	-12	918	0	0	0
222	SLU 5	-7	-10	921	0	0	0
222	SLU 6	-6	-14	912	0	0	0
222	SLU 7	-6	-12	926	0	0	0
222	SLU 8	-6	-14	907	0	0	0
222	SLU 9	-6	-12	921	0	0	0
222	SLU 10	-6	-12	1033	0	0	0
222	SLU 11	-6	-15	1024	0	0	0
222	SLU 12	-6	-13	1038	0	0	0
222	SLU 13	-7	-12	1042	0	0	0
222	SLU 14	-6	-16	1032	0	0	0
222	SLU 15	-7	-14	1046	0	0	0
222	SLU 16	-6	-16	1027	0	0	0
222	SLU 17	-7	-13	1041	0	0	0
222	SLU 18	-6	-16	1062	0	0	0
222	SLU 19	-6	-14	1076	0	0	0
222	SLU 20	-6	-16	1070	0	0	0
222	SLU 21	-6	-14	1084	0	0	0
222	SLU 22	-7	-15	1011	0	0	0
222	SLU 23	-7	-12	1034	0	0	0
222	SLU 24	-7	-15	1024	0	0	0
222	SLU 25	-7	-13	1038	0	0	0
222	SLU 26	-8	-12	1042	0	0	0
222	SLU 27	-7	-16	1033	0	0	0
222	SLU 28	-8	-14	1047	0	0	0
222	SLU 29	-7	-16	1027	0	0	0
222	SLU 30	-7	-13	1041	0	0	0
222	SLU 31	-7	-13	1154	0	0	0
222	SLU 32	-7	-17	1145	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
222	SLU 33	-7	-15	1159	0	0	0
222	SLU 34	-8	-13	1162	0	0	0
222	SLU 35	-7	-17	1153	0	0	0
222	SLU 36	-8	-15	1167	0	0	0
222	SLU 37	-7	-17	1148	0	0	0
222	SLU 38	-8	-15	1162	0	0	0
222	SLU 39	-7	-17	1182	0	0	0
222	SLU 40	-7	-15	1196	0	0	0
222	SLU 41	-7	-18	1191	0	0	0
222	SLU 42	-7	-16	1205	0	0	0
222	SLU 43	-7	-17	1115	0	0	0
222	SLU 44	-8	-14	1139	0	0	0
222	SLU 45	-7	-17	1129	0	0	0
222	SLU 46	-8	-15	1143	0	0	0
222	SLU 47	-8	-14	1147	0	0	0
222	SLU 48	-8	-18	1138	0	0	0
222	SLU 49	-8	-16	1151	0	0	0
222	SLU 50	-8	-18	1132	0	0	0
222	SLU 51	-8	-15	1146	0	0	0
222	SLU 52	-8	-15	1259	0	0	0
222	SLU 53	-8	-19	1249	0	0	0
222	SLU 54	-8	-17	1263	0	0	0
222	SLU 55	-8	-15	1267	0	0	0
222	SLU 56	-8	-19	1258	0	0	0
222	SLU 57	-8	-17	1272	0	0	0
222	SLU 58	-8	-19	1252	0	0	0
222	SLU 59	-8	-17	1266	0	0	0
222	SLU 60	-7	-19	1287	0	0	0
222	SLU 61	-8	-17	1301	0	0	0
222	SLU 62	-8	-20	1296	0	0	0
222	SLU 63	-8	-17	1309	0	0	0
222	SLU 64	-8	-19	1236	0	0	0
222	SLU 65	-9	-15	1259	0	0	0
222	SLU 66	-8	-19	1250	0	0	0
222	SLU 67	-9	-17	1264	0	0	0
222	SLU 68	-9	-15	1268	0	0	0
222	SLU 69	-9	-19	1258	0	0	0
222	SLU 70	-9	-17	1272	0	0	0
222	SLU 71	-9	-19	1253	0	0	0
222	SLU 72	-9	-17	1267	0	0	0
222	SLU 73	-9	-17	1380	0	0	0
222	SLU 74	-9	-21	1370	0	0	0
222	SLU 75	-9	-18	1384	0	0	0
222	SLU 76	-9	-17	1388	0	0	0
222	SLU 77	-9	-21	1379	0	0	0
222	SLU 78	-9	-19	1392	0	0	0
222	SLU 79	-9	-21	1373	0	0	0
222	SLU 80	-9	-19	1387	0	0	0
222	SLU 81	-8	-21	1408	0	0	0
222	SLU 82	-9	-19	1422	0	0	0
222	SLU 83	-9	-21	1416	0	0	0
222	SLU 84	-9	-19	1430	0	0	0
222	SLE RA 1	-6	-14	924	0	0	0
222	SLE RA 2	-6	-12	940	0	0	0
222	SLE RA 3	-6	-14	934	0	0	0
222	SLE RA 4	-6	-13	943	0	0	0
222	SLE RA 5	-7	-12	945	0	0	0
222	SLE RA 6	-6	-14	939	0	0	0
222	SLE RA 7	-7	-13	948	0	0	0
222	SLE RA 8	-6	-14	936	0	0	0
222	SLE RA 9	-7	-13	945	0	0	0
222	SLE RA 10	-7	-13	1020	0	0	0
222	SLE RA 11	-6	-15	1014	0	0	0
222	SLE RA 12	-7	-14	1023	0	0	0
222	SLE RA 13	-7	-13	1026	0	0	0
222	SLE RA 14	-6	-15	1019	0	0	0
222	SLE RA 15	-7	-14	1029	0	0	0
222	SLE RA 16	-6	-15	1016	0	0	0
222	SLE RA 17	-7	-14	1025	0	0	0
222	SLE RA 18	-6	-16	1039	0	0	0
222	SLE RA 19	-6	-14	1048	0	0	0
222	SLE RA 20	-6	-16	1044	0	0	0
222	SLE RA 21	-7	-14	1054	0	0	0
222	SLE FR 1	-6	-14	924	0	0	0
222	SLE FR 2	-6	-14	927	0	0	0
222	SLE FR 3	-6	-14	927	0	0	0
222	SLE FR 4	-6	-14	962	0	0	0
222	SLE FR 5	-6	-15	961	0	0	0
222	SLE FR 6	-6	-15	982	0	0	0
222	SLE QP 1	-6	-14	924	0	0	0
222	SLE QP 2	-6	-15	959	0	0	0
222	SLD 1	68	1	1192	0	0	0
222	SLD 2	84	-6	1183	0	0	0
222	SLD 3	73	-43	848	0	0	0
222	SLD 4	89	-50	840	0	0	0
222	SLD 5	6	58	1552	0	0	0
222	SLD 6	16	54	1546	0	0	0
222	SLD 7	22	-89	406	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
222	SLD 8	32	-93	400	0	0	0
222	SLD 9	-45	64	1517	0	0	0
222	SLD 10	-34	60	1512	0	0	0
222	SLD 11	-29	-83	371	0	0	0
222	SLD 12	-18	-87	366	0	0	0
222	SLD 13	-101	21	1078	0	0	0
222	SLD 14	-85	14	1069	0	0	0
222	SLD 15	-96	-23	734	0	0	0
222	SLD 16	-80	-30	725	0	0	0
222	SLV 1	109	13	1348	0	0	0
222	SLV 2	135	2	1334	0	0	0
222	SLV 3	117	-62	761	0	0	0
222	SLV 4	143	-73	748	0	0	0
222	SLV 5	11	110	1968	0	0	0
222	SLV 6	29	102	1958	0	0	0
222	SLV 7	38	-141	13	0	0	0
222	SLV 8	55	-148	3	0	0	0
222	SLV 9	-68	119	1914	0	0	0
222	SLV 10	-51	112	1905	0	0	0
222	SLV 11	-41	-131	-41	0	0	0
222	SLV 12	-24	-139	-50	0	0	0
222	SLV 13	-155	44	1170	0	0	0
222	SLV 14	-129	33	1156	0	0	0
222	SLV 15	-147	-31	583	0	0	0
222	SLV 16	-121	-42	569	0	0	0
222	SLV FO 1	121	16	1387	0	0	0
222	SLV FO 2	149	4	1372	0	0	0
222	SLV FO 3	129	-67	742	0	0	0
222	SLV FO 4	158	-79	727	0	0	0
222	SLV FO 5	13	122	2068	0	0	0
222	SLV FO 6	32	114	2058	0	0	0
222	SLV FO 7	43	-153	-82	0	0	0
222	SLV FO 8	62	-162	-92	0	0	0
222	SLV FO 9	-74	133	2010	0	0	0
222	SLV FO 10	-55	124	2000	0	0	0
222	SLV FO 11	-44	-143	-141	0	0	0
222	SLV FO 12	-25	-151	-151	0	0	0
222	SLV FO 13	-170	50	1191	0	0	0
222	SLV FO 14	-142	38	1176	0	0	0
222	SLV FO 15	-161	-33	546	0	0	0
222	SLV FO 16	-133	-45	531	0	0	0
222	CRTFP Uy+	0	0	0	0	0	0
222	CRTFP Uy-	0	0	0	0	0	0
223	SLU 1	-6	-12	909	0	0	0
223	SLU 2	-6	-8	933	0	0	0
223	SLU 3	-6	-12	923	0	0	0
223	SLU 4	-6	-10	938	0	0	0
223	SLU 5	-7	-8	942	0	0	0
223	SLU 6	-6	-12	932	0	0	0
223	SLU 7	-7	-10	946	0	0	0
223	SLU 8	-6	-12	927	0	0	0
223	SLU 9	-6	-10	941	0	0	0
223	SLU 10	-6	-10	1056	0	0	0
223	SLU 11	-6	-14	1047	0	0	0
223	SLU 12	-6	-11	1061	0	0	0
223	SLU 13	-7	-10	1065	0	0	0
223	SLU 14	-6	-14	1055	0	0	0
223	SLU 15	-7	-11	1069	0	0	0
223	SLU 16	-6	-14	1050	0	0	0
223	SLU 17	-7	-11	1064	0	0	0
223	SLU 18	-6	-14	1085	0	0	0
223	SLU 19	-6	-12	1099	0	0	0
223	SLU 20	-6	-14	1094	0	0	0
223	SLU 21	-6	-12	1108	0	0	0
223	SLU 22	-7	-13	1032	0	0	0
223	SLU 23	-7	-10	1056	0	0	0
223	SLU 24	-7	-13	1046	0	0	0
223	SLU 25	-7	-11	1061	0	0	0
223	SLU 26	-8	-10	1065	0	0	0
223	SLU 27	-7	-14	1055	0	0	0
223	SLU 28	-8	-11	1069	0	0	0
223	SLU 29	-7	-14	1050	0	0	0
223	SLU 30	-7	-11	1064	0	0	0
223	SLU 31	-7	-11	1179	0	0	0
223	SLU 32	-7	-15	1170	0	0	0
223	SLU 33	-7	-13	1184	0	0	0
223	SLU 34	-8	-11	1188	0	0	0
223	SLU 35	-7	-15	1178	0	0	0
223	SLU 36	-8	-13	1192	0	0	0
223	SLU 37	-7	-15	1173	0	0	0
223	SLU 38	-8	-13	1187	0	0	0
223	SLU 39	-7	-15	1208	0	0	0
223	SLU 40	-7	-13	1223	0	0	0
223	SLU 41	-7	-15	1217	0	0	0
223	SLU 42	-7	-13	1231	0	0	0
223	SLU 43	-7	-15	1140	0	0	0
223	SLU 44	-8	-11	1164	0	0	0
223	SLU 45	-7	-15	1154	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
223	SLU 46	-8	-13	1168	0	0	0
223	SLU 47	-8	-12	1172	0	0	0
223	SLU 48	-8	-15	1163	0	0	0
223	SLU 49	-8	-13	1177	0	0	0
223	SLU 50	-8	-15	1157	0	0	0
223	SLU 51	-8	-13	1171	0	0	0
223	SLU 52	-8	-13	1287	0	0	0
223	SLU 53	-8	-17	1277	0	0	0
223	SLU 54	-8	-14	1291	0	0	0
223	SLU 55	-8	-13	1295	0	0	0
223	SLU 56	-8	-17	1286	0	0	0
223	SLU 57	-8	-15	1300	0	0	0
223	SLU 58	-8	-17	1280	0	0	0
223	SLU 59	-8	-15	1294	0	0	0
223	SLU 60	-7	-17	1316	0	0	0
223	SLU 61	-8	-15	1330	0	0	0
223	SLU 62	-8	-17	1325	0	0	0
223	SLU 63	-8	-15	1339	0	0	0
223	SLU 64	-8	-16	1263	0	0	0
223	SLU 65	-9	-13	1287	0	0	0
223	SLU 66	-8	-17	1277	0	0	0
223	SLU 67	-9	-14	1291	0	0	0
223	SLU 68	-9	-13	1295	0	0	0
223	SLU 69	-9	-17	1286	0	0	0
223	SLU 70	-9	-15	1300	0	0	0
223	SLU 71	-9	-17	1280	0	0	0
223	SLU 72	-9	-14	1294	0	0	0
223	SLU 73	-9	-14	1410	0	0	0
223	SLU 74	-9	-18	1400	0	0	0
223	SLU 75	-9	-16	1414	0	0	0
223	SLU 76	-9	-14	1418	0	0	0
223	SLU 77	-9	-18	1409	0	0	0
223	SLU 78	-9	-16	1423	0	0	0
223	SLU 79	-9	-18	1403	0	0	0
223	SLU 80	-9	-16	1417	0	0	0
223	SLU 81	-8	-18	1439	0	0	0
223	SLU 82	-9	-16	1453	0	0	0
223	SLU 83	-9	-18	1448	0	0	0
223	SLU 84	-9	-16	1462	0	0	0
223	SLE RA 1	-6	-12	945	0	0	0
223	SLE RA 2	-7	-10	960	0	0	0
223	SLE RA 3	-6	-12	954	0	0	0
223	SLE RA 4	-6	-11	963	0	0	0
223	SLE RA 5	-7	-10	966	0	0	0
223	SLE RA 6	-6	-13	960	0	0	0
223	SLE RA 7	-7	-11	969	0	0	0
223	SLE RA 8	-6	-13	956	0	0	0
223	SLE RA 9	-7	-11	965	0	0	0
223	SLE RA 10	-7	-11	1042	0	0	0
223	SLE RA 11	-6	-13	1036	0	0	0
223	SLE RA 12	-7	-12	1045	0	0	0
223	SLE RA 13	-7	-11	1048	0	0	0
223	SLE RA 14	-6	-13	1042	0	0	0
223	SLE RA 15	-7	-12	1051	0	0	0
223	SLE RA 16	-6	-13	1038	0	0	0
223	SLE RA 17	-7	-12	1048	0	0	0
223	SLE RA 18	-6	-14	1062	0	0	0
223	SLE RA 19	-6	-12	1071	0	0	0
223	SLE RA 20	-6	-14	1068	0	0	0
223	SLE RA 21	-7	-12	1077	0	0	0
223	SLE FR 1	-6	-12	945	0	0	0
223	SLE FR 2	-6	-12	948	0	0	0
223	SLE FR 3	-6	-12	947	0	0	0
223	SLE FR 4	-6	-12	983	0	0	0
223	SLE FR 5	-6	-13	982	0	0	0
223	SLE FR 6	-6	-13	1003	0	0	0
223	SLE QP 1	-6	-12	945	0	0	0
223	SLE QP 2	-6	-13	980	0	0	0
223	SLD 1	70	5	1210	0	0	0
223	SLD 2	87	-2	1201	0	0	0
223	SLD 3	75	-42	859	0	0	0
223	SLD 4	92	-48	851	0	0	0
223	SLD 5	7	64	1582	0	0	0
223	SLD 6	17	60	1577	0	0	0
223	SLD 7	23	-91	413	0	0	0
223	SLD 8	33	-95	408	0	0	0
223	SLD 9	-46	70	1552	0	0	0
223	SLD 10	-35	65	1547	0	0	0
223	SLD 11	-30	-85	383	0	0	0
223	SLD 12	-19	-90	377	0	0	0
223	SLD 13	-104	23	1109	0	0	0
223	SLD 14	-87	16	1101	0	0	0
223	SLD 15	-99	-24	758	0	0	0
223	SLD 16	-83	-30	750	0	0	0
223	SLV 1	113	18	1364	0	0	0
223	SLV 2	139	8	1351	0	0	0
223	SLV 3	121	-61	766	0	0	0
223	SLV 4	147	-72	753	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
223	SLV 5	12	119	2005	0	0	0
223	SLV 6	30	112	1996	0	0	0
223	SLV 7	39	-146	10	0	0	0
223	SLV 8	57	-153	2	0	0	0
223	SLV 9	-69	127	1958	0	0	0
223	SLV 10	-52	120	1949	0	0	0
223	SLV 11	-42	-137	-37	0	0	0
223	SLV 12	-25	-144	-45	0	0	0
223	SLV 13	-160	46	1207	0	0	0
223	SLV 14	-133	36	1194	0	0	0
223	SLV 15	-152	-33	608	0	0	0
223	SLV 16	-125	-44	595	0	0	0
223	SLV FO 1	125	21	1402	0	0	0
223	SLV FO 2	154	10	1388	0	0	0
223	SLV FO 3	134	-66	744	0	0	0
223	SLV FO 4	163	-77	730	0	0	0
223	SLV FO 5	14	132	2107	0	0	0
223	SLV FO 6	34	124	2098	0	0	0
223	SLV FO 7	44	-159	-87	0	0	0
223	SLV FO 8	63	-167	-96	0	0	0
223	SLV FO 9	-76	141	2056	0	0	0
223	SLV FO 10	-56	134	2046	0	0	0
223	SLV FO 11	-46	-150	-139	0	0	0
223	SLV FO 12	-26	-157	-148	0	0	0
223	SLV FO 13	-175	52	1229	0	0	0
223	SLV FO 14	-146	41	1215	0	0	0
223	SLV FO 15	-166	-35	571	0	0	0
223	SLV FO 16	-137	-47	557	0	0	0
223	CRTFP Uy+	0	0	0	0	0	0
223	CRTFP Uy-	0	0	0	0	0	0
224	SLU 1	-6	-10	925	0	0	0
224	SLU 2	-6	-6	949	0	0	0
224	SLU 3	-6	-10	939	0	0	0
224	SLU 4	-6	-8	954	0	0	0
224	SLU 5	-6	-6	958	0	0	0
224	SLU 6	-6	-10	948	0	0	0
224	SLU 7	-6	-8	962	0	0	0
224	SLU 8	-6	-10	942	0	0	0
224	SLU 9	-6	-8	957	0	0	0
224	SLU 10	-6	-7	1075	0	0	0
224	SLU 11	-6	-11	1065	0	0	0
224	SLU 12	-6	-9	1079	0	0	0
224	SLU 13	-7	-7	1083	0	0	0
224	SLU 14	-6	-11	1074	0	0	0
224	SLU 15	-7	-9	1088	0	0	0
224	SLU 16	-6	-11	1068	0	0	0
224	SLU 17	-6	-9	1082	0	0	0
224	SLU 18	-6	-12	1105	0	0	0
224	SLU 19	-6	-9	1119	0	0	0
224	SLU 20	-6	-12	1113	0	0	0
224	SLU 21	-6	-9	1128	0	0	0
224	SLU 22	-7	-11	1050	0	0	0
224	SLU 23	-7	-7	1074	0	0	0
224	SLU 24	-7	-11	1064	0	0	0
224	SLU 25	-7	-9	1079	0	0	0
224	SLU 26	-7	-7	1082	0	0	0
224	SLU 27	-7	-11	1073	0	0	0
224	SLU 28	-7	-9	1087	0	0	0
224	SLU 29	-7	-11	1067	0	0	0
224	SLU 30	-7	-9	1082	0	0	0
224	SLU 31	-7	-8	1199	0	0	0
224	SLU 32	-7	-12	1190	0	0	0
224	SLU 33	-7	-10	1204	0	0	0
224	SLU 34	-8	-8	1208	0	0	0
224	SLU 35	-7	-13	1199	0	0	0
224	SLU 36	-8	-10	1213	0	0	0
224	SLU 37	-7	-12	1193	0	0	0
224	SLU 38	-7	-10	1207	0	0	0
224	SLU 39	-7	-13	1229	0	0	0
224	SLU 40	-7	-10	1244	0	0	0
224	SLU 41	-7	-13	1238	0	0	0
224	SLU 42	-7	-10	1252	0	0	0
224	SLU 43	-7	-13	1160	0	0	0
224	SLU 44	-8	-9	1184	0	0	0
224	SLU 45	-7	-13	1174	0	0	0
224	SLU 46	-8	-10	1188	0	0	0
224	SLU 47	-8	-9	1192	0	0	0
224	SLU 48	-8	-13	1183	0	0	0
224	SLU 49	-8	-11	1197	0	0	0
224	SLU 50	-7	-13	1177	0	0	0
224	SLU 51	-8	-11	1192	0	0	0
224	SLU 52	-8	-10	1309	0	0	0
224	SLU 53	-7	-14	1300	0	0	0
224	SLU 54	-8	-12	1314	0	0	0
224	SLU 55	-8	-10	1318	0	0	0
224	SLU 56	-8	-14	1308	0	0	0
224	SLU 57	-8	-12	1323	0	0	0
224	SLU 58	-8	-14	1303	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
224	SLU 59	-8	-12	1317	0	0	0
224	SLU 60	-7	-14	1339	0	0	0
224	SLU 61	-8	-12	1354	0	0	0
224	SLU 62	-7	-14	1348	0	0	0
224	SLU 63	-8	-12	1362	0	0	0
224	SLU 64	-8	-14	1285	0	0	0
224	SLU 65	-9	-10	1308	0	0	0
224	SLU 66	-8	-14	1299	0	0	0
224	SLU 67	-9	-12	1313	0	0	0
224	SLU 68	-9	-10	1317	0	0	0
224	SLU 69	-9	-14	1308	0	0	0
224	SLU 70	-9	-12	1322	0	0	0
224	SLU 71	-8	-14	1302	0	0	0
224	SLU 72	-9	-12	1316	0	0	0
224	SLU 73	-9	-11	1434	0	0	0
224	SLU 74	-8	-15	1425	0	0	0
224	SLU 75	-9	-13	1439	0	0	0
224	SLU 76	-9	-11	1443	0	0	0
224	SLU 77	-9	-15	1433	0	0	0
224	SLU 78	-9	-13	1448	0	0	0
224	SLU 79	-9	-15	1428	0	0	0
224	SLU 80	-9	-13	1442	0	0	0
224	SLU 81	-8	-15	1464	0	0	0
224	SLU 82	-9	-13	1478	0	0	0
224	SLU 83	-8	-15	1473	0	0	0
224	SLU 84	-9	-13	1487	0	0	0
224	SLE RA 1	-6	-10	961	0	0	0
224	SLE RA 2	-6	-8	977	0	0	0
224	SLE RA 3	-6	-10	970	0	0	0
224	SLE RA 4	-6	-9	980	0	0	0
224	SLE RA 5	-7	-8	982	0	0	0
224	SLE RA 6	-6	-11	976	0	0	0
224	SLE RA 7	-7	-9	986	0	0	0
224	SLE RA 8	-6	-10	972	0	0	0
224	SLE RA 9	-6	-9	982	0	0	0
224	SLE RA 10	-6	-8	1060	0	0	0
224	SLE RA 11	-6	-11	1054	0	0	0
224	SLE RA 12	-6	-10	1064	0	0	0
224	SLE RA 13	-7	-9	1066	0	0	0
224	SLE RA 14	-6	-11	1060	0	0	0
224	SLE RA 15	-7	-10	1069	0	0	0
224	SLE RA 16	-6	-11	1056	0	0	0
224	SLE RA 17	-7	-10	1066	0	0	0
224	SLE RA 18	-6	-11	1080	0	0	0
224	SLE RA 19	-6	-10	1090	0	0	0
224	SLE RA 20	-6	-11	1086	0	0	0
224	SLE RA 21	-6	-10	1096	0	0	0
224	SLE FR 1	-6	-10	961	0	0	0
224	SLE FR 2	-6	-10	964	0	0	0
224	SLE FR 3	-6	-10	963	0	0	0
224	SLE FR 4	-6	-10	1000	0	0	0
224	SLE FR 5	-6	-11	999	0	0	0
224	SLE FR 6	-6	-11	1021	0	0	0
224	SLE QP 1	-6	-10	961	0	0	0
224	SLE QP 2	-6	-11	997	0	0	0
224	SLD 1	72	9	1221	0	0	0
224	SLD 2	89	3	1214	0	0	0
224	SLD 3	77	-40	865	0	0	0
224	SLD 4	94	-46	858	0	0	0
224	SLD 5	7	70	1605	0	0	0
224	SLD 6	18	66	1600	0	0	0
224	SLD 7	23	-92	418	0	0	0
224	SLD 8	34	-96	414	0	0	0
224	SLD 9	-46	75	1580	0	0	0
224	SLD 10	-35	71	1575	0	0	0
224	SLD 11	-30	-87	393	0	0	0
224	SLD 12	-19	-91	388	0	0	0
224	SLD 13	-106	25	1136	0	0	0
224	SLD 14	-89	19	1128	0	0	0
224	SLD 15	-101	-24	780	0	0	0
224	SLD 16	-84	-30	772	0	0	0
224	SLV 1	116	23	1373	0	0	0
224	SLV 2	143	14	1361	0	0	0
224	SLV 3	124	-60	766	0	0	0
224	SLV 4	151	-69	754	0	0	0
224	SLV 5	13	127	2033	0	0	0
224	SLV 6	31	121	2025	0	0	0
224	SLV 7	40	-149	8	0	0	0
224	SLV 8	58	-156	0	0	0	0
224	SLV 9	-70	134	1993	0	0	0
224	SLV 10	-52	128	1985	0	0	0
224	SLV 11	-44	-142	-32	0	0	0
224	SLV 12	-25	-148	-40	0	0	0
224	SLV 13	-163	48	1239	0	0	0
224	SLV 14	-136	38	1228	0	0	0
224	SLV 15	-155	-35	632	0	0	0
224	SLV 16	-128	-45	620	0	0	0
224	SLV FO 1	128	27	1411	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
224	SLV FO 2	158	16	1398	0	0	0
224	SLV FO 3	137	-65	743	0	0	0
224	SLV FO 4	166	-75	729	0	0	0
224	SLV FO 5	15	141	2137	0	0	0
224	SLV FO 6	35	134	2128	0	0	0
224	SLV FO 7	45	-163	-91	0	0	0
224	SLV FO 8	65	-170	-100	0	0	0
224	SLV FO 9	-77	149	2093	0	0	0
224	SLV FO 10	-57	142	2084	0	0	0
224	SLV FO 11	-47	-155	-135	0	0	0
224	SLV FO 12	-27	-162	-144	0	0	0
224	SLV FO 13	-179	54	1264	0	0	0
224	SLV FO 14	-149	43	1251	0	0	0
224	SLV FO 15	-170	-38	595	0	0	0
224	SLV FO 16	-140	-48	582	0	0	0
224	CRTFP Uy+	0	0	0	0	0	0
224	CRTFP Uy-	0	0	0	0	0	0
225	SLU 1	-6	-8	940	0	0	0
225	SLU 2	-6	-4	964	0	0	0
225	SLU 3	-6	-8	955	0	0	0
225	SLU 4	-6	-6	969	0	0	0
225	SLU 5	-6	-4	973	0	0	0
225	SLU 6	-6	-8	964	0	0	0
225	SLU 7	-6	-6	978	0	0	0
225	SLU 8	-6	-8	958	0	0	0
225	SLU 9	-6	-6	972	0	0	0
225	SLU 10	-6	-5	1092	0	0	0
225	SLU 11	-6	-9	1083	0	0	0
225	SLU 12	-6	-6	1097	0	0	0
225	SLU 13	-6	-5	1101	0	0	0
225	SLU 14	-6	-9	1092	0	0	0
225	SLU 15	-6	-7	1106	0	0	0
225	SLU 16	-6	-9	1086	0	0	0
225	SLU 17	-6	-7	1101	0	0	0
225	SLU 18	-6	-9	1123	0	0	0
225	SLU 19	-6	-7	1138	0	0	0
225	SLU 20	-6	-9	1132	0	0	0
225	SLU 21	-6	-7	1147	0	0	0
225	SLU 22	-7	-9	1067	0	0	0
225	SLU 23	-7	-5	1091	0	0	0
225	SLU 24	-7	-9	1081	0	0	0
225	SLU 25	-7	-6	1096	0	0	0
225	SLU 26	-7	-5	1100	0	0	0
225	SLU 27	-7	-9	1090	0	0	0
225	SLU 28	-7	-6	1105	0	0	0
225	SLU 29	-7	-9	1085	0	0	0
225	SLU 30	-7	-6	1099	0	0	0
225	SLU 31	-7	-5	1219	0	0	0
225	SLU 32	-7	-10	1210	0	0	0
225	SLU 33	-7	-7	1224	0	0	0
225	SLU 34	-7	-6	1228	0	0	0
225	SLU 35	-7	-10	1219	0	0	0
225	SLU 36	-7	-7	1233	0	0	0
225	SLU 37	-7	-10	1213	0	0	0
225	SLU 38	-7	-7	1227	0	0	0
225	SLU 39	-7	-10	1250	0	0	0
225	SLU 40	-7	-7	1264	0	0	0
225	SLU 41	-7	-10	1259	0	0	0
225	SLU 42	-7	-8	1273	0	0	0
225	SLU 43	-7	-10	1179	0	0	0
225	SLU 44	-8	-6	1203	0	0	0
225	SLU 45	-7	-10	1193	0	0	0
225	SLU 46	-8	-8	1208	0	0	0
225	SLU 47	-8	-6	1212	0	0	0
225	SLU 48	-7	-10	1202	0	0	0
225	SLU 49	-8	-8	1217	0	0	0
225	SLU 50	-7	-10	1196	0	0	0
225	SLU 51	-8	-8	1211	0	0	0
225	SLU 52	-8	-7	1331	0	0	0
225	SLU 53	-7	-11	1321	0	0	0
225	SLU 54	-8	-9	1336	0	0	0
225	SLU 55	-8	-7	1340	0	0	0
225	SLU 56	-7	-11	1330	0	0	0
225	SLU 57	-8	-9	1345	0	0	0
225	SLU 58	-7	-11	1325	0	0	0
225	SLU 59	-8	-9	1339	0	0	0
225	SLU 60	-7	-11	1362	0	0	0
225	SLU 61	-7	-9	1376	0	0	0
225	SLU 62	-7	-11	1371	0	0	0
225	SLU 63	-8	-9	1385	0	0	0
225	SLU 64	-8	-11	1305	0	0	0
225	SLU 65	-9	-7	1330	0	0	0
225	SLU 66	-8	-11	1320	0	0	0
225	SLU 67	-9	-8	1335	0	0	0
225	SLU 68	-9	-7	1338	0	0	0
225	SLU 69	-8	-11	1329	0	0	0
225	SLU 70	-9	-9	1343	0	0	0
225	SLU 71	-8	-11	1323	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
225	SLU 72	-9	-9	1338	0	0	0
225	SLU 73	-9	-8	1458	0	0	0
225	SLU 74	-8	-12	1448	0	0	0
225	SLU 75	-9	-9	1463	0	0	0
225	SLU 76	-9	-8	1467	0	0	0
225	SLU 77	-8	-12	1457	0	0	0
225	SLU 78	-9	-9	1472	0	0	0
225	SLU 79	-8	-12	1451	0	0	0
225	SLU 80	-9	-9	1466	0	0	0
225	SLU 81	-8	-12	1489	0	0	0
225	SLU 82	-8	-10	1503	0	0	0
225	SLU 83	-8	-12	1497	0	0	0
225	SLU 84	-9	-10	1512	0	0	0
225	SLE RA 1	-6	-8	976	0	0	0
225	SLE RA 2	-6	-5	992	0	0	0
225	SLE RA 3	-6	-8	986	0	0	0
225	SLE RA 4	-6	-7	996	0	0	0
225	SLE RA 5	-6	-5	998	0	0	0
225	SLE RA 6	-6	-8	992	0	0	0
225	SLE RA 7	-6	-7	1002	0	0	0
225	SLE RA 8	-6	-8	988	0	0	0
225	SLE RA 9	-6	-7	998	0	0	0
225	SLE RA 10	-6	-6	1078	0	0	0
225	SLE RA 11	-6	-9	1072	0	0	0
225	SLE RA 12	-6	-7	1081	0	0	0
225	SLE RA 13	-6	-6	1084	0	0	0
225	SLE RA 14	-6	-9	1077	0	0	0
225	SLE RA 15	-6	-7	1087	0	0	0
225	SLE RA 16	-6	-9	1074	0	0	0
225	SLE RA 17	-6	-7	1083	0	0	0
225	SLE RA 18	-6	-9	1098	0	0	0
225	SLE RA 19	-6	-7	1108	0	0	0
225	SLE RA 20	-6	-9	1104	0	0	0
225	SLE RA 21	-6	-7	1114	0	0	0
225	SLE FR 1	-6	-8	976	0	0	0
225	SLE FR 2	-6	-8	980	0	0	0
225	SLE FR 3	-6	-8	979	0	0	0
225	SLE FR 4	-6	-8	1016	0	0	0
225	SLE FR 5	-6	-8	1015	0	0	0
225	SLE FR 6	-6	-8	1037	0	0	0
225	SLE QP 1	-6	-8	976	0	0	0
225	SLE QP 2	-6	-8	1013	0	0	0
225	SLD 1	73	13	1232	0	0	0
225	SLD 2	91	8	1225	0	0	0
225	SLD 3	78	-38	871	0	0	0
225	SLD 4	95	-43	864	0	0	0
225	SLD 5	8	75	1627	0	0	0
225	SLD 6	19	72	1623	0	0	0
225	SLD 7	23	-93	424	0	0	0
225	SLD 8	34	-96	419	0	0	0
225	SLD 9	-47	79	1606	0	0	0
225	SLD 10	-35	76	1602	0	0	0
225	SLD 11	-31	-89	403	0	0	0
225	SLD 12	-20	-92	399	0	0	0
225	SLD 13	-107	26	1162	0	0	0
225	SLD 14	-90	21	1155	0	0	0
225	SLD 15	-103	-24	801	0	0	0
225	SLD 16	-85	-30	794	0	0	0
225	SLV 1	118	28	1381	0	0	0
225	SLV 2	145	20	1370	0	0	0
225	SLV 3	126	-58	765	0	0	0
225	SLV 4	153	-66	754	0	0	0
225	SLV 5	14	135	2059	0	0	0
225	SLV 6	32	129	2052	0	0	0
225	SLV 7	40	-152	6	0	0	0
225	SLV 8	59	-158	-1	0	0	0
225	SLV 9	-71	141	2027	0	0	0
225	SLV 10	-52	135	2020	0	0	0
225	SLV 11	-44	-146	-26	0	0	0
225	SLV 12	-26	-151	-34	0	0	0
225	SLV 13	-165	49	1272	0	0	0
225	SLV 14	-138	41	1261	0	0	0
225	SLV 15	-157	-37	656	0	0	0
225	SLV 16	-130	-45	645	0	0	0
225	SLV FO 1	130	32	1417	0	0	0
225	SLV FO 2	160	23	1405	0	0	0
225	SLV FO 3	139	-62	740	0	0	0
225	SLV FO 4	169	-72	728	0	0	0
225	SLV FO 5	16	149	2164	0	0	0
225	SLV FO 6	36	143	2156	0	0	0
225	SLV FO 7	45	-166	-94	0	0	0
225	SLV FO 8	65	-173	-102	0	0	0
225	SLV FO 9	-77	156	2128	0	0	0
225	SLV FO 10	-57	150	2120	0	0	0
225	SLV FO 11	-48	-160	-130	0	0	0
225	SLV FO 12	-28	-166	-138	0	0	0
225	SLV FO 13	-181	55	1298	0	0	0
225	SLV FO 14	-151	46	1286	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
225	SLV FO 15	-172	-40	621	0	0	0
225	SLV FO 16	-142	-49	608	0	0	0
225	CRTFP Uy+	0	0	0	0	0	0
225	CRTFP Uy-	0	0	0	0	0	0
226	SLU 1	-6	-6	960	0	0	0
226	SLU 2	-6	-1	984	0	0	0
226	SLU 3	-6	-6	975	0	0	0
226	SLU 4	-6	-3	989	0	0	0
226	SLU 5	-6	-2	993	0	0	0
226	SLU 6	-6	-6	984	0	0	0
226	SLU 7	-6	-3	999	0	0	0
226	SLU 8	-6	-6	978	0	0	0
226	SLU 9	-6	-3	993	0	0	0
226	SLU 10	-6	-2	1116	0	0	0
226	SLU 11	-6	-6	1106	0	0	0
226	SLU 12	-6	-4	1121	0	0	0
226	SLU 13	-6	-2	1125	0	0	0
226	SLU 14	-6	-6	1115	0	0	0
226	SLU 15	-6	-4	1130	0	0	0
226	SLU 16	-6	-6	1110	0	0	0
226	SLU 17	-6	-4	1124	0	0	0
226	SLU 18	-6	-7	1148	0	0	0
226	SLU 19	-6	-4	1162	0	0	0
226	SLU 20	-6	-7	1157	0	0	0
226	SLU 21	-6	-4	1172	0	0	0
226	SLU 22	-7	-6	1089	0	0	0
226	SLU 23	-7	-2	1114	0	0	0
226	SLU 24	-7	-6	1104	0	0	0
226	SLU 25	-7	-4	1119	0	0	0
226	SLU 26	-7	-2	1123	0	0	0
226	SLU 27	-7	-6	1113	0	0	0
226	SLU 28	-7	-4	1128	0	0	0
226	SLU 29	-7	-6	1108	0	0	0
226	SLU 30	-7	-4	1122	0	0	0
226	SLU 31	-7	-2	1245	0	0	0
226	SLU 32	-7	-7	1236	0	0	0
226	SLU 33	-7	-4	1251	0	0	0
226	SLU 34	-7	-3	1254	0	0	0
226	SLU 35	-7	-7	1245	0	0	0
226	SLU 36	-7	-4	1260	0	0	0
226	SLU 37	-7	-7	1239	0	0	0
226	SLU 38	-7	-4	1254	0	0	0
226	SLU 39	-7	-7	1277	0	0	0
226	SLU 40	-7	-4	1292	0	0	0
226	SLU 41	-7	-7	1286	0	0	0
226	SLU 42	-7	-4	1301	0	0	0
226	SLU 43	-7	-7	1203	0	0	0
226	SLU 44	-8	-3	1228	0	0	0
226	SLU 45	-7	-7	1218	0	0	0
226	SLU 46	-8	-5	1233	0	0	0
226	SLU 47	-8	-3	1237	0	0	0
226	SLU 48	-7	-7	1227	0	0	0
226	SLU 49	-8	-5	1242	0	0	0
226	SLU 50	-7	-7	1222	0	0	0
226	SLU 51	-8	-5	1236	0	0	0
226	SLU 52	-8	-4	1359	0	0	0
226	SLU 53	-7	-8	1350	0	0	0
226	SLU 54	-8	-5	1365	0	0	0
226	SLU 55	-8	-4	1368	0	0	0
226	SLU 56	-7	-8	1359	0	0	0
226	SLU 57	-8	-5	1374	0	0	0
226	SLU 58	-7	-8	1353	0	0	0
226	SLU 59	-8	-5	1368	0	0	0
226	SLU 60	-7	-8	1391	0	0	0
226	SLU 61	-7	-6	1406	0	0	0
226	SLU 62	-7	-8	1400	0	0	0
226	SLU 63	-8	-6	1415	0	0	0
226	SLU 64	-8	-8	1333	0	0	0
226	SLU 65	-9	-3	1357	0	0	0
226	SLU 66	-8	-8	1348	0	0	0
226	SLU 67	-9	-5	1362	0	0	0
226	SLU 68	-9	-3	1366	0	0	0
226	SLU 69	-8	-8	1357	0	0	0
226	SLU 70	-9	-5	1372	0	0	0
226	SLU 71	-8	-8	1351	0	0	0
226	SLU 72	-9	-5	1366	0	0	0
226	SLU 73	-9	-4	1489	0	0	0
226	SLU 74	-8	-8	1479	0	0	0
226	SLU 75	-9	-6	1494	0	0	0
226	SLU 76	-9	-4	1498	0	0	0
226	SLU 77	-8	-8	1489	0	0	0
226	SLU 78	-9	-6	1503	0	0	0
226	SLU 79	-8	-8	1483	0	0	0
226	SLU 80	-9	-6	1497	0	0	0
226	SLU 81	-8	-8	1521	0	0	0
226	SLU 82	-8	-6	1535	0	0	0
226	SLU 83	-8	-9	1530	0	0	0
226	SLU 84	-9	-6	1545	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
226	SLE RA 1	-6	-6	997	0	0	0
226	SLE RA 2	-6	-3	1013	0	0	0
226	SLE RA 3	-6	-6	1007	0	0	0
226	SLE RA 4	-6	-4	1017	0	0	0
226	SLE RA 5	-6	-3	1019	0	0	0
226	SLE RA 6	-6	-6	1013	0	0	0
226	SLE RA 7	-6	-4	1023	0	0	0
226	SLE RA 8	-6	-6	1009	0	0	0
226	SLE RA 9	-6	-4	1019	0	0	0
226	SLE RA 10	-6	-3	1101	0	0	0
226	SLE RA 11	-6	-6	1095	0	0	0
226	SLE RA 12	-6	-5	1104	0	0	0
226	SLE RA 13	-6	-3	1107	0	0	0
226	SLE RA 14	-6	-6	1101	0	0	0
226	SLE RA 15	-6	-5	1110	0	0	0
226	SLE RA 16	-6	-6	1097	0	0	0
226	SLE RA 17	-6	-5	1106	0	0	0
226	SLE RA 18	-6	-6	1122	0	0	0
226	SLE RA 19	-6	-5	1132	0	0	0
226	SLE RA 20	-6	-6	1128	0	0	0
226	SLE RA 21	-6	-5	1138	0	0	0
226	SLE FR 1	-6	-6	997	0	0	0
226	SLE FR 2	-6	-5	1000	0	0	0
226	SLE FR 3	-6	-6	999	0	0	0
226	SLE FR 4	-6	-5	1038	0	0	0
226	SLE FR 5	-6	-6	1037	0	0	0
226	SLE FR 6	-6	-6	1059	0	0	0
226	SLE QP 1	-6	-6	997	0	0	0
226	SLE QP 2	-6	-6	1034	0	0	0
226	SLD 1	74	17	1248	0	0	0
226	SLD 2	92	13	1241	0	0	0
226	SLD 3	79	-35	881	0	0	0
226	SLD 4	96	-40	874	0	0	0
226	SLD 5	8	81	1657	0	0	0
226	SLD 6	19	78	1652	0	0	0
226	SLD 7	23	-93	432	0	0	0
226	SLD 8	35	-96	428	0	0	0
226	SLD 9	-47	84	1641	0	0	0
226	SLD 10	-35	81	1636	0	0	0
226	SLD 11	-31	-90	416	0	0	0
226	SLD 12	-20	-93	412	0	0	0
226	SLD 13	-108	28	1195	0	0	0
226	SLD 14	-91	23	1188	0	0	0
226	SLD 15	-104	-24	827	0	0	0
226	SLD 16	-86	-29	821	0	0	0
226	SLV 1	119	34	1394	0	0	0
226	SLV 2	147	27	1384	0	0	0
226	SLV 3	127	-55	768	0	0	0
226	SLV 4	155	-62	758	0	0	0
226	SLV 5	15	143	2095	0	0	0
226	SLV 6	33	138	2088	0	0	0
226	SLV 7	41	-154	6	0	0	0
226	SLV 8	59	-159	-1	0	0	0
226	SLV 9	-71	147	2070	0	0	0
226	SLV 10	-53	143	2063	0	0	0
226	SLV 11	-45	-150	-19	0	0	0
226	SLV 12	-27	-154	-26	0	0	0
226	SLV 13	-167	50	1311	0	0	0
226	SLV 14	-139	43	1301	0	0	0
226	SLV 15	-159	-39	684	0	0	0
226	SLV 16	-131	-46	674	0	0	0
226	SLV FO 1	132	38	1430	0	0	0
226	SLV FO 2	162	30	1419	0	0	0
226	SLV FO 3	140	-60	741	0	0	0
226	SLV FO 4	171	-68	730	0	0	0
226	SLV FO 5	17	157	2201	0	0	0
226	SLV FO 6	37	152	2193	0	0	0
226	SLV FO 7	45	-169	-97	0	0	0
226	SLV FO 8	66	-175	-105	0	0	0
226	SLV FO 9	-78	163	2173	0	0	0
226	SLV FO 10	-57	158	2166	0	0	0
226	SLV FO 11	-49	-164	-125	0	0	0
226	SLV FO 12	-29	-169	-132	0	0	0
226	SLV FO 13	-183	56	1339	0	0	0
226	SLV FO 14	-152	48	1328	0	0	0
226	SLV FO 15	-174	-42	649	0	0	0
226	SLV FO 16	-144	-50	638	0	0	0
226	CRTFP Uy+	0	0	0	0	0	0
226	CRTFP Uy-	0	0	0	0	0	0
227	SLU 1	-6	-3	987	0	0	0
227	SLU 2	-6	1	1012	0	0	0
227	SLU 3	-6	-3	1002	0	0	0
227	SLU 4	-6	-1	1017	0	0	0
227	SLU 5	-6	1	1021	0	0	0
227	SLU 6	-6	-3	1012	0	0	0
227	SLU 7	-6	-1	1027	0	0	0
227	SLU 8	-6	-3	1006	0	0	0
227	SLU 9	-6	-1	1021	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
227	SLU 10	-6	1	1148	0	0	0
227	SLU 11	-6	-4	1139	0	0	0
227	SLU 12	-6	-1	1153	0	0	0
227	SLU 13	-6	1	1157	0	0	0
227	SLU 14	-6	-4	1148	0	0	0
227	SLU 15	-6	-1	1163	0	0	0
227	SLU 16	-6	-4	1142	0	0	0
227	SLU 17	-6	-1	1157	0	0	0
227	SLU 18	-6	-4	1181	0	0	0
227	SLU 19	-6	-1	1196	0	0	0
227	SLU 20	-6	-4	1191	0	0	0
227	SLU 21	-6	-1	1206	0	0	0
227	SLU 22	-7	-3	1120	0	0	0
227	SLU 23	-7	1	1145	0	0	0
227	SLU 24	-7	-3	1136	0	0	0
227	SLU 25	-7	-1	1151	0	0	0
227	SLU 26	-7	1	1155	0	0	0
227	SLU 27	-7	-4	1145	0	0	0
227	SLU 28	-7	-1	1160	0	0	0
227	SLU 29	-7	-4	1139	0	0	0
227	SLU 30	-7	-1	1154	0	0	0
227	SLU 31	-7	1	1281	0	0	0
227	SLU 32	-7	-4	1272	0	0	0
227	SLU 33	-7	-1	1287	0	0	0
227	SLU 34	-7	1	1291	0	0	0
227	SLU 35	-7	-4	1281	0	0	0
227	SLU 36	-7	-1	1296	0	0	0
227	SLU 37	-7	-4	1275	0	0	0
227	SLU 38	-7	-1	1290	0	0	0
227	SLU 39	-7	-4	1315	0	0	0
227	SLU 40	-7	-1	1330	0	0	0
227	SLU 41	-7	-4	1324	0	0	0
227	SLU 42	-7	-1	1339	0	0	0
227	SLU 43	-7	-4	1237	0	0	0
227	SLU 44	-8	0	1262	0	0	0
227	SLU 45	-7	-4	1253	0	0	0
227	SLU 46	-8	-2	1268	0	0	0
227	SLU 47	-8	0	1272	0	0	0
227	SLU 48	-7	-4	1262	0	0	0
227	SLU 49	-8	-2	1277	0	0	0
227	SLU 50	-7	-4	1256	0	0	0
227	SLU 51	-8	-2	1271	0	0	0
227	SLU 52	-8	0	1398	0	0	0
227	SLU 53	-7	-5	1389	0	0	0
227	SLU 54	-8	-2	1404	0	0	0
227	SLU 55	-8	0	1408	0	0	0
227	SLU 56	-8	-5	1398	0	0	0
227	SLU 57	-8	-2	1413	0	0	0
227	SLU 58	-7	-5	1392	0	0	0
227	SLU 59	-8	-2	1407	0	0	0
227	SLU 60	-7	-5	1432	0	0	0
227	SLU 61	-7	-2	1447	0	0	0
227	SLU 62	-7	-5	1441	0	0	0
227	SLU 63	-8	-2	1456	0	0	0
227	SLU 64	-8	-4	1371	0	0	0
227	SLU 65	-9	0	1396	0	0	0
227	SLU 66	-8	-4	1386	0	0	0
227	SLU 67	-9	-2	1401	0	0	0
227	SLU 68	-9	0	1405	0	0	0
227	SLU 69	-8	-4	1396	0	0	0
227	SLU 70	-9	-2	1411	0	0	0
227	SLU 71	-8	-5	1390	0	0	0
227	SLU 72	-9	-2	1404	0	0	0
227	SLU 73	-9	0	1532	0	0	0
227	SLU 74	-8	-5	1522	0	0	0
227	SLU 75	-9	-2	1537	0	0	0
227	SLU 76	-9	0	1541	0	0	0
227	SLU 77	-9	-5	1532	0	0	0
227	SLU 78	-9	-2	1547	0	0	0
227	SLU 79	-8	-5	1526	0	0	0
227	SLU 80	-9	-2	1541	0	0	0
227	SLU 81	-8	-5	1565	0	0	0
227	SLU 82	-8	-2	1580	0	0	0
227	SLU 83	-8	-5	1575	0	0	0
227	SLU 84	-9	-2	1589	0	0	0
227	SLE RA 1	-6	-3	1025	0	0	0
227	SLE RA 2	-6	0	1042	0	0	0
227	SLE RA 3	-6	-3	1035	0	0	0
227	SLE RA 4	-6	-2	1045	0	0	0
227	SLE RA 5	-6	0	1048	0	0	0
227	SLE RA 6	-6	-3	1042	0	0	0
227	SLE RA 7	-6	-2	1052	0	0	0
227	SLE RA 8	-6	-3	1038	0	0	0
227	SLE RA 9	-6	-2	1048	0	0	0
227	SLE RA 10	-6	-1	1132	0	0	0
227	SLE RA 11	-6	-4	1126	0	0	0
227	SLE RA 12	-6	-2	1136	0	0	0
227	SLE RA 13	-6	-1	1139	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
227	SLE RA 14	-6	-4	1132	0	0	0
227	SLE RA 15	-6	-2	1142	0	0	0
227	SLE RA 16	-6	-4	1128	0	0	0
227	SLE RA 17	-6	-2	1138	0	0	0
227	SLE RA 18	-6	-4	1155	0	0	0
227	SLE RA 19	-6	-2	1165	0	0	0
227	SLE RA 20	-6	-4	1161	0	0	0
227	SLE RA 21	-6	-2	1171	0	0	0
227	SLE FR 1	-6	-3	1025	0	0	0
227	SLE FR 2	-6	-3	1028	0	0	0
227	SLE FR 3	-6	-3	1028	0	0	0
227	SLE FR 4	-6	-3	1067	0	0	0
227	SLE FR 5	-6	-3	1066	0	0	0
227	SLE FR 6	-6	-4	1090	0	0	0
227	SLE QP 1	-6	-3	1025	0	0	0
227	SLE QP 2	-6	-3	1064	0	0	0
227	SLD 1	75	22	1274	0	0	0
227	SLD 2	93	18	1268	0	0	0
227	SLD 3	80	-33	898	0	0	0
227	SLD 4	98	-36	892	0	0	0
227	SLD 5	8	87	1698	0	0	0
227	SLD 6	20	85	1694	0	0	0
227	SLD 7	24	-94	445	0	0	0
227	SLD 8	35	-96	441	0	0	0
227	SLD 9	-47	89	1687	0	0	0
227	SLD 10	-36	87	1683	0	0	0
227	SLD 11	-32	-91	433	0	0	0
227	SLD 12	-20	-94	430	0	0	0
227	SLD 13	-110	29	1236	0	0	0
227	SLD 14	-92	26	1230	0	0	0
227	SLD 15	-105	-25	860	0	0	0
227	SLD 16	-87	-29	854	0	0	0
227	SLV 1	121	40	1419	0	0	0
227	SLV 2	149	34	1410	0	0	0
227	SLV 3	129	-53	777	0	0	0
227	SLV 4	156	-59	768	0	0	0
227	SLV 5	15	151	2145	0	0	0
227	SLV 6	34	147	2139	0	0	0
227	SLV 7	41	-157	7	0	0	0
227	SLV 8	60	-161	0	0	0	0
227	SLV 9	-72	154	2128	0	0	0
227	SLV 10	-53	151	2121	0	0	0
227	SLV 11	-46	-154	-11	0	0	0
227	SLV 12	-27	-158	-17	0	0	0
227	SLV 13	-168	52	1360	0	0	0
227	SLV 14	-141	46	1351	0	0	0
227	SLV 15	-161	-41	718	0	0	0
227	SLV 16	-133	-46	709	0	0	0
227	SLV FO 1	133	44	1455	0	0	0
227	SLV FO 2	164	37	1444	0	0	0
227	SLV FO 3	142	-58	749	0	0	0
227	SLV FO 4	173	-64	738	0	0	0
227	SLV FO 5	17	166	2253	0	0	0
227	SLV FO 6	38	162	2247	0	0	0
227	SLV FO 7	46	-173	-99	0	0	0
227	SLV FO 8	66	-177	-106	0	0	0
227	SLV FO 9	-78	170	2234	0	0	0
227	SLV FO 10	-58	166	2227	0	0	0
227	SLV FO 11	-50	-169	-119	0	0	0
227	SLV FO 12	-29	-173	-126	0	0	0
227	SLV FO 13	-185	57	1389	0	0	0
227	SLV FO 14	-154	51	1379	0	0	0
227	SLV FO 15	-176	-44	684	0	0	0
227	SLV FO 16	-145	-51	673	0	0	0
227	CRTFP Uy+	0	0	0	0	0	0
227	CRTFP Uy-	0	0	0	0	0	0
228	SLU 1	-6	-1	1026	0	0	0
228	SLU 2	-6	4	1051	0	0	0
228	SLU 3	-6	-1	1042	0	0	0
228	SLU 4	-6	2	1057	0	0	0
228	SLU 5	-6	3	1061	0	0	0
228	SLU 6	-6	-1	1052	0	0	0
228	SLU 7	-6	2	1067	0	0	0
228	SLU 8	-6	-1	1045	0	0	0
228	SLU 9	-6	2	1061	0	0	0
228	SLU 10	-6	3	1194	0	0	0
228	SLU 11	-6	-1	1184	0	0	0
228	SLU 12	-6	1	1200	0	0	0
228	SLU 13	-6	3	1204	0	0	0
228	SLU 14	-6	-1	1194	0	0	0
228	SLU 15	-6	1	1210	0	0	0
228	SLU 16	-6	-1	1188	0	0	0
228	SLU 17	-6	1	1203	0	0	0
228	SLU 18	-6	-1	1229	0	0	0
228	SLU 19	-6	1	1244	0	0	0
228	SLU 20	-6	-1	1239	0	0	0
228	SLU 21	-6	1	1254	0	0	0
228	SLU 22	-7	-1	1165	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
228	SLU 23	-7	4	1190	0	0	0
228	SLU 24	-7	-1	1181	0	0	0
228	SLU 25	-7	2	1196	0	0	0
228	SLU 26	-7	4	1200	0	0	0
228	SLU 27	-7	-1	1191	0	0	0
228	SLU 28	-7	2	1206	0	0	0
228	SLU 29	-7	-1	1184	0	0	0
228	SLU 30	-7	2	1200	0	0	0
228	SLU 31	-7	4	1333	0	0	0
228	SLU 32	-7	-1	1323	0	0	0
228	SLU 33	-7	2	1339	0	0	0
228	SLU 34	-7	4	1343	0	0	0
228	SLU 35	-7	-1	1333	0	0	0
228	SLU 36	-7	2	1349	0	0	0
228	SLU 37	-7	-1	1327	0	0	0
228	SLU 38	-7	2	1342	0	0	0
228	SLU 39	-7	-1	1368	0	0	0
228	SLU 40	-7	2	1383	0	0	0
228	SLU 41	-7	-1	1378	0	0	0
228	SLU 42	-7	2	1393	0	0	0
228	SLU 43	-7	-1	1286	0	0	0
228	SLU 44	-8	3	1311	0	0	0
228	SLU 45	-7	-1	1302	0	0	0
228	SLU 46	-8	1	1317	0	0	0
228	SLU 47	-8	3	1321	0	0	0
228	SLU 48	-7	-2	1312	0	0	0
228	SLU 49	-8	1	1327	0	0	0
228	SLU 50	-7	-2	1306	0	0	0
228	SLU 51	-8	1	1321	0	0	0
228	SLU 52	-8	3	1454	0	0	0
228	SLU 53	-7	-2	1444	0	0	0
228	SLU 54	-8	1	1460	0	0	0
228	SLU 55	-8	3	1464	0	0	0
228	SLU 56	-8	-2	1454	0	0	0
228	SLU 57	-8	1	1470	0	0	0
228	SLU 58	-7	-2	1448	0	0	0
228	SLU 59	-8	1	1463	0	0	0
228	SLU 60	-7	-2	1489	0	0	0
228	SLU 61	-8	1	1504	0	0	0
228	SLU 62	-7	-2	1499	0	0	0
228	SLU 63	-8	1	1514	0	0	0
228	SLU 64	-8	-1	1425	0	0	0
228	SLU 65	-9	3	1450	0	0	0
228	SLU 66	-8	-1	1441	0	0	0
228	SLU 67	-9	2	1456	0	0	0
228	SLU 68	-9	3	1460	0	0	0
228	SLU 69	-8	-1	1451	0	0	0
228	SLU 70	-9	1	1466	0	0	0
228	SLU 71	-8	-1	1445	0	0	0
228	SLU 72	-9	1	1460	0	0	0
228	SLU 73	-9	3	1593	0	0	0
228	SLU 74	-8	-1	1583	0	0	0
228	SLU 75	-9	1	1599	0	0	0
228	SLU 76	-9	3	1603	0	0	0
228	SLU 77	-9	-1	1593	0	0	0
228	SLU 78	-9	1	1609	0	0	0
228	SLU 79	-9	-2	1587	0	0	0
228	SLU 80	-9	1	1602	0	0	0
228	SLU 81	-8	-1	1628	0	0	0
228	SLU 82	-9	1	1643	0	0	0
228	SLU 83	-8	-2	1638	0	0	0
228	SLU 84	-9	1	1653	0	0	0
228	SLE RA 1	-6	-1	1065	0	0	0
228	SLE RA 2	-6	2	1083	0	0	0
228	SLE RA 3	-6	-1	1076	0	0	0
228	SLE RA 4	-6	1	1087	0	0	0
228	SLE RA 5	-6	2	1089	0	0	0
228	SLE RA 6	-6	-1	1083	0	0	0
228	SLE RA 7	-6	1	1093	0	0	0
228	SLE RA 8	-6	-1	1079	0	0	0
228	SLE RA 9	-6	1	1089	0	0	0
228	SLE RA 10	-6	2	1177	0	0	0
228	SLE RA 11	-6	-1	1171	0	0	0
228	SLE RA 12	-6	1	1181	0	0	0
228	SLE RA 13	-7	2	1184	0	0	0
228	SLE RA 14	-6	-1	1178	0	0	0
228	SLE RA 15	-7	1	1188	0	0	0
228	SLE RA 16	-6	-1	1173	0	0	0
228	SLE RA 17	-6	1	1184	0	0	0
228	SLE RA 18	-6	-1	1201	0	0	0
228	SLE RA 19	-6	1	1211	0	0	0
228	SLE RA 20	-6	-1	1208	0	0	0
228	SLE RA 21	-6	1	1218	0	0	0
228	SLE FR 1	-6	-1	1065	0	0	0
228	SLE FR 2	-6	0	1069	0	0	0
228	SLE FR 3	-6	-1	1068	0	0	0
228	SLE FR 4	-6	0	1110	0	0	0
228	SLE FR 5	-6	-1	1109	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
228	SLE FR 6	-6	-1	1133	0	0	0
228	SLE QP 1	-6	-1	1065	0	0	0
228	SLE QP 2	-6	-1	1106	0	0	0
228	SLD 1	77	26	1315	0	0	0
228	SLD 2	95	23	1310	0	0	0
228	SLD 3	82	-31	926	0	0	0
228	SLD 4	100	-33	921	0	0	0
228	SLD 5	9	94	1760	0	0	0
228	SLD 6	20	92	1756	0	0	0
228	SLD 7	24	-96	463	0	0	0
228	SLD 8	36	-97	460	0	0	0
228	SLD 9	-48	95	1753	0	0	0
228	SLD 10	-36	94	1749	0	0	0
228	SLD 11	-32	-94	456	0	0	0
228	SLD 12	-21	-96	452	0	0	0
228	SLD 13	-112	31	1291	0	0	0
228	SLD 14	-94	28	1286	0	0	0
228	SLD 15	-107	-25	902	0	0	0
228	SLD 16	-89	-28	897	0	0	0
228	SLV 1	123	46	1461	0	0	0
228	SLV 2	152	41	1453	0	0	0
228	SLV 3	131	-51	798	0	0	0
228	SLV 4	160	-56	789	0	0	0
228	SLV 5	16	161	2221	0	0	0
228	SLV 6	35	158	2215	0	0	0
228	SLV 7	42	-162	8	0	0	0
228	SLV 8	61	-165	3	0	0	0
228	SLV 9	-73	163	2210	0	0	0
228	SLV 10	-54	160	2204	0	0	0
228	SLV 11	-47	-160	-3	0	0	0
228	SLV 12	-28	-163	-9	0	0	0
228	SLV 13	-172	54	1423	0	0	0
228	SLV 14	-143	49	1415	0	0	0
228	SLV 15	-164	-43	759	0	0	0
228	SLV 16	-135	-48	751	0	0	0
228	SLV FO 1	136	50	1497	0	0	0
228	SLV FO 2	168	45	1487	0	0	0
228	SLV FO 3	145	-56	767	0	0	0
228	SLV FO 4	176	-61	757	0	0	0
228	SLV FO 5	18	177	2332	0	0	0
228	SLV FO 6	39	174	2326	0	0	0
228	SLV FO 7	46	-178	-101	0	0	0
228	SLV FO 8	67	-182	-108	0	0	0
228	SLV FO 9	-80	180	2320	0	0	0
228	SLV FO 10	-59	176	2314	0	0	0
228	SLV FO 11	-51	-176	-114	0	0	0
228	SLV FO 12	-30	-179	-120	0	0	0
228	SLV FO 13	-188	59	1455	0	0	0
228	SLV FO 14	-157	54	1446	0	0	0
228	SLV FO 15	-180	-47	725	0	0	0
228	SLV FO 16	-148	-52	715	0	0	0
228	CRTFP Uy+	0	0	0	0	0	0
228	CRTFP Uy-	0	0	0	0	0	0
230	SLU 1	-3	-9	442	-19.89	55.86	1
230	SLU 2	-3	-7	454	-20.41	57.33	0.79
230	SLU 3	-3	-9	449	-20.2	56.72	1.02
230	SLU 4	-3	-8	456	-20.51	57.6	0.89
230	SLU 5	-3	-7	458	-20.6	57.86	0.8
230	SLU 6	-3	-9	453	-20.39	57.25	1.03
230	SLU 7	-3	-8	460	-20.7	58.13	0.9
230	SLU 8	-3	-9	450	-20.27	56.91	1.03
230	SLU 9	-3	-8	457	-20.58	57.79	0.9
230	SLU 10	-3	-8	513	-23.1	64.86	0.91
230	SLU 11	-3	-10	508	-22.88	64.26	1.15
230	SLU 12	-3	-9	515	-23.2	65.14	1.02
230	SLU 13	-3	-8	517	-23.29	65.39	0.93
230	SLU 14	-3	-10	513	-23.07	64.78	1.16
230	SLU 15	-3	-9	520	-23.38	65.67	1.03
230	SLU 16	-3	-10	510	-22.95	64.45	1.15
230	SLU 17	-3	-9	517	-23.26	65.33	1.02
230	SLU 18	-3	-10	527	-23.72	66.62	1.18
230	SLU 19	-3	-9	534	-24.04	67.5	1.05
230	SLU 20	-3	-11	531	-23.91	67.15	1.19
230	SLU 21	-3	-10	538	-24.23	68.03	1.07
230	SLU 22	-3	-10	502	-22.61	63.49	1.12
230	SLU 23	-4	-8	514	-23.13	64.97	0.9
230	SLU 24	-3	-10	509	-22.92	64.36	1.13
230	SLU 25	-4	-9	516	-23.23	65.24	1.01
230	SLU 26	-4	-9	518	-23.32	65.49	0.91
230	SLU 27	-4	-10	513	-23.11	64.89	1.15
230	SLU 28	-4	-9	520	-23.42	65.77	1.02
230	SLU 29	-3	-10	511	-22.99	64.55	1.14
230	SLU 30	-4	-9	518	-23.3	65.43	1.01
230	SLU 31	-4	-9	574	-25.82	72.5	1.03
230	SLU 32	-3	-11	569	-25.6	71.89	1.26
230	SLU 33	-4	-10	576	-25.92	72.78	1.13
230	SLU 34	-4	-10	578	-26.01	73.03	1.04
230	SLU 35	-4	-11	573	-25.79	72.42	1.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
230	SLU 36	-4	-10	580	-26.1	73.3	1.15
230	SLU 37	-4	-11	570	-25.67	72.08	1.27
230	SLU 38	-4	-10	577	-25.98	72.97	1.14
230	SLU 39	-3	-11	588	-26.44	74.26	1.3
230	SLU 40	-4	-11	595	-26.76	75.14	1.17
230	SLU 41	-3	-12	592	-26.63	74.79	1.31
230	SLU 42	-4	-11	599	-26.95	75.67	1.18
230	SLU 43	-4	-11	554	-24.92	69.99	1.26
230	SLU 44	-4	-10	566	-25.45	71.47	1.05
230	SLU 45	-4	-11	561	-25.23	70.86	1.28
230	SLU 46	-4	-10	568	-25.55	71.74	1.15
230	SLU 47	-4	-10	570	-25.64	71.99	1.06
230	SLU 48	-4	-12	565	-25.42	71.39	1.29
230	SLU 49	-4	-11	572	-25.73	72.27	1.17
230	SLU 50	-4	-12	562	-25.3	71.05	1.29
230	SLU 51	-4	-11	569	-25.61	71.93	1.16
230	SLU 52	-4	-11	625	-28.13	79	1.17
230	SLU 53	-4	-12	620	-27.92	78.39	1.41
230	SLU 54	-4	-11	627	-28.23	79.28	1.28
230	SLU 55	-4	-11	629	-28.32	79.53	1.19
230	SLU 56	-4	-13	625	-28.1	78.92	1.42
230	SLU 57	-4	-12	632	-28.42	79.8	1.29
230	SLU 58	-4	-13	622	-27.98	78.58	1.41
230	SLU 59	-4	-12	629	-28.3	79.47	1.29
230	SLU 60	-4	-13	639	-28.76	80.76	1.44
230	SLU 61	-4	-12	646	-29.07	81.64	1.31
230	SLU 62	-4	-13	643	-28.95	81.29	1.46
230	SLU 63	-4	-12	650	-29.26	82.17	1.33
230	SLU 64	-4	-12	614	-27.64	77.63	1.38
230	SLU 65	-4	-11	626	-28.17	79.1	1.16
230	SLU 66	-4	-13	621	-27.95	78.5	1.4
230	SLU 67	-4	-12	628	-28.27	79.38	1.27
230	SLU 68	-4	-11	630	-28.36	79.63	1.18
230	SLU 69	-4	-13	625	-28.14	79.02	1.41
230	SLU 70	-4	-12	632	-28.45	79.91	1.28
230	SLU 71	-4	-13	623	-28.02	78.69	1.4
230	SLU 72	-4	-12	630	-28.33	79.57	1.27
230	SLU 73	-4	-12	686	-30.85	86.64	1.29
230	SLU 74	-4	-14	681	-30.64	86.03	1.52
230	SLU 75	-4	-13	688	-30.95	86.92	1.39
230	SLU 76	-4	-12	690	-31.04	87.17	1.3
230	SLU 77	-4	-14	685	-30.82	86.56	1.54
230	SLU 78	-4	-13	692	-31.14	87.44	1.41
230	SLU 79	-4	-14	682	-30.7	86.22	1.53
230	SLU 80	-4	-13	689	-31.02	87.1	1.4
230	SLU 81	-4	-14	700	-31.48	88.4	1.56
230	SLU 82	-4	-13	706	-31.79	89.28	1.43
230	SLU 83	-4	-14	704	-31.67	88.92	1.57
230	SLU 84	-4	-13	711	-31.98	89.81	1.44
230	SLE RA 1	-3	-9	459	-20.67	58.04	1.03
230	SLE RA 2	-3	-8	467	-21.02	59.02	0.89
230	SLE RA 3	-3	-9	464	-20.87	58.62	1.05
230	SLE RA 4	-3	-9	468	-21.08	59.2	0.96
230	SLE RA 5	-3	-8	470	-21.14	59.37	0.9
230	SLE RA 6	-3	-9	467	-21	58.97	1.06
230	SLE RA 7	-3	-9	471	-21.21	59.56	0.97
230	SLE RA 8	-3	-9	465	-20.92	58.74	1.05
230	SLE RA 9	-3	-9	469	-21.13	59.33	0.97
230	SLE RA 10	-3	-9	507	-22.81	64.04	0.98
230	SLE RA 11	-3	-10	504	-22.66	63.64	1.13
230	SLE RA 12	-3	-9	508	-22.87	64.23	1.05
230	SLE RA 13	-3	-9	510	-22.93	64.39	0.98
230	SLE RA 14	-3	-10	506	-22.79	63.99	1.14
230	SLE RA 15	-3	-9	511	-23	64.58	1.05
230	SLE RA 16	-3	-10	505	-22.71	63.76	1.14
230	SLE RA 17	-3	-9	509	-22.92	64.35	1.05
230	SLE RA 18	-3	-10	516	-23.22	65.22	1.15
230	SLE RA 19	-3	-10	521	-23.43	65.8	1.07
230	SLE RA 20	-3	-10	519	-23.35	65.57	1.16
230	SLE RA 21	-3	-10	524	-23.56	66.16	1.08
230	SLE FR 1	-3	-9	459	-20.67	58.04	1.03
230	SLE FR 2	-3	-9	461	-20.74	58.23	1.01
230	SLE FR 3	-3	-9	460	-20.72	58.18	1.04
230	SLE FR 4	-3	-9	478	-21.5	60.39	1.04
230	SLE FR 5	-3	-10	477	-21.48	60.33	1.07
230	SLE FR 6	-3	-10	488	-21.95	61.63	1.09
230	SLE QP 1	-3	-9	459	-20.67	58.04	1.03
230	SLE QP 2	-3	-10	476	-21.43	60.19	1.07
230	SLD 1	33	-3	600	-27	75.83	1.9
230	SLD 2	41	-8	595	-26.78	75.2	2.78
230	SLD 3	35	-24	429	-19.29	54.17	4.57
230	SLD 4	43	-28	424	-19.06	53.54	5.44
230	SLD 5	3	24	774	-34.84	97.85	-2.87
230	SLD 6	8	21	771	-34.7	97.44	-2.3
230	SLD 7	11	-44	203	-9.13	25.63	6.01
230	SLD 8	16	-46	200	-8.98	25.23	6.57
230	SLD 9	-22	27	753	-33.88	95.15	-4.43
230	SLD 10	-17	25	750	-33.74	94.75	-3.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
230	SLD 11	-14	-40	182	-8.17	22.94	4.44
230	SLD 12	-9	-43	178	-8.02	22.53	5.01
230	SLD 13	-49	9	529	-23.8	66.85	-3.3
230	SLD 14	-41	5	524	-23.58	66.22	-2.43
230	SLD 15	-47	-11	358	-16.09	45.18	-0.64
230	SLD 16	-39	-16	353	-15.87	44.55	0.24
230	SLV 1	53	1	682	-30.69	86.18	2.17
230	SLV 2	65	-5	674	-30.34	85.19	3.56
230	SLV 3	57	-33	389	-17.53	49.22	6.71
230	SLV 4	69	-40	382	-17.17	48.22	8.1
230	SLV 5	5	47	983	-44.24	124.23	-5.74
230	SLV 6	14	43	978	-44	123.57	-4.81
230	SLV 7	19	-68	8	-0.36	1.02	9.39
230	SLV 8	27	-72	3	-0.13	0.36	10.32
230	SLV 9	-33	53	950	-42.74	120.03	-8.18
230	SLV 10	-25	49	945	-42.5	119.36	-7.25
230	SLV 11	-20	-62	-25	1.13	-3.18	6.95
230	SLV 12	-11	-66	-30	1.37	-3.85	7.88
230	SLV 13	-75	21	571	-25.7	72.16	-5.96
230	SLV 14	-63	14	563	-25.34	71.17	-4.57
230	SLV 15	-71	-14	279	-12.53	35.2	-1.42
230	SLV 16	-59	-21	271	-12.18	34.2	-0.03
230	SLV FO 1	58	3	703	-31.61	88.78	2.29
230	SLV FO 2	72	-5	694	-31.23	87.69	3.8
230	SLV FO 3	63	-36	381	-17.14	48.12	7.28
230	SLV FO 4	76	-43	372	-16.75	47.03	8.8
230	SLV FO 5	6	53	1034	-46.52	130.64	-6.42
230	SLV FO 6	15	48	1028	-46.26	129.9	-5.4
230	SLV FO 7	21	-74	-39	1.74	-4.89	10.22
230	SLV FO 8	30	-78	-45	2	-5.63	11.25
230	SLV FO 9	-36	59	997	-44.87	126.01	-9.11
230	SLV FO 10	-27	55	991	-44.61	125.28	-8.08
230	SLV FO 11	-21	-67	-75	3.39	-9.52	7.54
230	SLV FO 12	-12	-72	-81	3.65	-10.26	8.56
230	SLV FO 13	-82	24	580	-26.12	73.36	-6.66
230	SLV FO 14	-69	16	572	-25.73	72.26	-5.14
230	SLV FO 15	-78	-14	259	-11.64	32.7	-1.66
230	SLV FO 16	-64	-22	250	-11.25	31.6	-0.15
230	CRTFP Ux+	0	0	0	0	0	0
230	CRTFP Ux-	0	0	0	0	0	0
230	CRTFP Uy+	0	0	0	0	0	0
230	CRTFP Uy-	0	0	0	0	0	0
231	SLU 1	-3	1	539	-24.26	0	-0.13
231	SLU 2	-3	3	552	-24.86	0	-0.15
231	SLU 3	-3	1	548	-24.64	0	-0.14
231	SLU 4	-3	2	556	-25	0	-0.15
231	SLU 5	-3	3	558	-25.09	0	-0.15
231	SLU 6	-3	1	553	-24.88	0	-0.14
231	SLU 7	-3	2	561	-25.24	0	-0.15
231	SLU 8	-3	1	549	-24.73	0	-0.14
231	SLU 9	-3	2	557	-25.09	0	-0.15
231	SLU 10	-3	3	628	-28.24	0	-0.15
231	SLU 11	-3	1	623	-28.03	0	-0.14
231	SLU 12	-3	2	631	-28.39	0	-0.15
231	SLU 13	-3	3	633	-28.47	0	-0.15
231	SLU 14	-3	1	628	-28.26	0	-0.14
231	SLU 15	-3	2	636	-28.62	0	-0.15
231	SLU 16	-3	1	625	-28.11	0	-0.14
231	SLU 17	-3	2	633	-28.47	0	-0.15
231	SLU 18	-3	1	646	-29.09	0	-0.14
231	SLU 19	-3	2	654	-29.45	0	-0.14
231	SLU 20	-3	1	652	-29.32	0	-0.14
231	SLU 21	-3	2	660	-29.68	0	-0.15
231	SLU 22	-4	1	612	-27.55	0	-0.16
231	SLU 23	-4	3	626	-28.15	0	-0.17
231	SLU 24	-4	1	621	-27.94	0	-0.16
231	SLU 25	-4	2	629	-28.3	0	-0.17
231	SLU 26	-4	3	631	-28.39	0	-0.17
231	SLU 27	-4	1	626	-28.17	0	-0.17
231	SLU 28	-4	2	634	-28.53	0	-0.17
231	SLU 29	-4	1	623	-28.02	0	-0.16
231	SLU 30	-4	2	631	-28.38	0	-0.17
231	SLU 31	-4	3	701	-31.53	0	-0.17
231	SLU 32	-4	1	696	-31.32	0	-0.16
231	SLU 33	-4	2	704	-31.68	0	-0.17
231	SLU 34	-4	3	706	-31.77	0	-0.17
231	SLU 35	-4	1	701	-31.56	0	-0.17
231	SLU 36	-4	2	709	-31.92	0	-0.17
231	SLU 37	-4	1	698	-31.4	0	-0.17
231	SLU 38	-4	2	706	-31.76	0	-0.17
231	SLU 39	-4	1	720	-32.38	0	-0.16
231	SLU 40	-4	2	728	-32.74	0	-0.17
231	SLU 41	-4	1	725	-32.62	0	-0.16
231	SLU 42	-4	2	733	-32.98	0	-0.17
231	SLU 43	-4	1	676	-30.4	0	-0.17
231	SLU 44	-4	3	689	-31	0	-0.18
231	SLU 45	-4	1	684	-30.79	0	-0.17
231	SLU 46	-4	2	692	-31.15	0	-0.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
231	SLU 47	-4	3	694	-31.24	0	-0.18
231	SLU 48	-4	1	689	-31.02	0	-0.17
231	SLU 49	-4	2	697	-31.38	0	-0.18
231	SLU 50	-4	1	686	-30.87	0	-0.17
231	SLU 51	-4	2	694	-31.23	0	-0.18
231	SLU 52	-4	3	764	-34.39	0	-0.18
231	SLU 53	-4	1	759	-34.17	0	-0.17
231	SLU 54	-4	2	767	-34.53	0	-0.18
231	SLU 55	-4	3	769	-34.62	0	-0.18
231	SLU 56	-4	1	765	-34.41	0	-0.18
231	SLU 57	-4	2	773	-34.77	0	-0.18
231	SLU 58	-4	1	761	-34.26	0	-0.17
231	SLU 59	-4	2	769	-34.62	0	-0.18
231	SLU 60	-4	1	783	-35.24	0	-0.17
231	SLU 61	-4	2	791	-35.6	0	-0.18
231	SLU 62	-4	1	788	-35.47	0	-0.17
231	SLU 63	-4	2	796	-35.83	0	-0.18
231	SLU 64	-4	1	749	-33.7	0	-0.19
231	SLU 65	-4	3	762	-34.3	0	-0.2
231	SLU 66	-4	1	757	-34.08	0	-0.19
231	SLU 67	-4	2	765	-34.44	0	-0.2
231	SLU 68	-5	3	767	-34.53	0	-0.21
231	SLU 69	-4	1	763	-34.32	0	-0.2
231	SLU 70	-5	2	771	-34.68	0	-0.21
231	SLU 71	-4	1	759	-34.17	0	-0.2
231	SLU 72	-5	2	767	-34.53	0	-0.2
231	SLU 73	-5	3	837	-37.68	0	-0.2
231	SLU 74	-4	1	833	-37.47	0	-0.2
231	SLU 75	-5	2	841	-37.83	0	-0.2
231	SLU 76	-5	3	843	-37.92	0	-0.21
231	SLU 77	-4	1	838	-37.7	0	-0.2
231	SLU 78	-5	2	846	-38.06	0	-0.21
231	SLU 79	-4	1	834	-37.55	0	-0.2
231	SLU 80	-5	2	842	-37.91	0	-0.21
231	SLU 81	-4	1	856	-38.53	0	-0.19
231	SLU 82	-4	2	864	-38.89	0	-0.2
231	SLU 83	-4	1	861	-38.77	0	-0.2
231	SLU 84	-4	2	869	-39.13	0	-0.2
231	SLE RA 1	-3	1	560	-25.2	0	-0.14
231	SLE RA 2	-3	2	569	-25.6	0	-0.15
231	SLE RA 3	-3	1	566	-25.45	0	-0.14
231	SLE RA 4	-3	2	571	-25.69	0	-0.15
231	SLE RA 5	-3	2	572	-25.75	0	-0.15
231	SLE RA 6	-3	1	569	-25.61	0	-0.15
231	SLE RA 7	-3	2	574	-25.85	0	-0.15
231	SLE RA 8	-3	1	567	-25.51	0	-0.15
231	SLE RA 9	-3	2	572	-25.75	0	-0.15
231	SLE RA 10	-3	2	619	-27.85	0	-0.15
231	SLE RA 11	-3	1	616	-27.71	0	-0.14
231	SLE RA 12	-3	2	621	-27.95	0	-0.15
231	SLE RA 13	-3	2	622	-28.01	0	-0.15
231	SLE RA 14	-3	1	619	-27.87	0	-0.15
231	SLE RA 15	-3	2	625	-28.11	0	-0.15
231	SLE RA 16	-3	1	617	-27.77	0	-0.15
231	SLE RA 17	-3	2	622	-28.01	0	-0.15
231	SLE RA 18	-3	1	632	-28.42	0	-0.14
231	SLE RA 19	-3	2	637	-28.66	0	-0.15
231	SLE RA 20	-3	1	635	-28.58	0	-0.14
231	SLE RA 21	-3	2	640	-28.82	0	-0.15
231	SLE FR 1	-3	1	560	-25.2	0	-0.14
231	SLE FR 2	-3	1	562	-25.28	0	-0.14
231	SLE FR 3	-3	1	561	-25.26	0	-0.14
231	SLE FR 4	-3	1	583	-26.24	0	-0.14
231	SLE FR 5	-3	1	583	-26.23	0	-0.14
231	SLE FR 6	-3	1	596	-26.81	0	-0.14
231	SLE QP 1	-3	1	560	-25.2	0	-0.14
231	SLE QP 2	-3	1	581	-26.16	0	-0.14
231	SLD 1	40	17	689	-30.98	0	1.78
231	SLD 2	49	16	686	-30.87	0	2.2
231	SLD 3	42	-13	485	-21.83	0	1.89
231	SLD 4	51	-14	483	-21.72	0	2.31
231	SLD 5	4	52	923	-41.52	0	0.2
231	SLD 6	10	51	921	-41.44	0	0.47
231	SLD 7	12	-49	244	-11	0	0.56
231	SLD 8	18	-50	243	-10.92	0	0.83
231	SLD 9	-25	51	920	-41.4	0	-1.11
231	SLD 10	-19	50	918	-41.33	0	-0.84
231	SLD 11	-17	-50	242	-10.88	0	-0.75
231	SLD 12	-11	-50	240	-10.81	0	-0.48
231	SLD 13	-58	15	680	-30.61	0	-2.59
231	SLD 14	-48	14	678	-30.5	0	-2.17
231	SLD 15	-55	-15	477	-21.46	0	-2.48
231	SLD 16	-46	-16	474	-21.34	0	-2.06
231	SLV 1	63	29	764	-34.36	0	2.86
231	SLV 2	78	27	760	-34.19	0	3.51
231	SLV 3	67	-23	416	-18.74	0	3.04
231	SLV 4	82	-24	413	-18.56	0	3.7
231	SLV 5	8	88	1163	-52.35	0	0.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
231	SLV 6	18	86	1161	-52.23	0	0.8
231	SLV 7	21	-84	6	-0.28	0	0.97
231	SLV 8	31	-85	3	-0.16	0	1.41
231	SLV 9	-38	87	1159	-52.17	0	-1.69
231	SLV 10	-28	85	1157	-52.05	0	-1.25
231	SLV 11	-24	-85	2	-0.1	0	-1.09
231	SLV 12	-14	-86	-1	0.02	0	-0.64
231	SLV 13	-88	26	750	-33.76	0	-3.98
231	SLV 14	-74	24	746	-33.59	0	-3.32
231	SLV 15	-84	-26	403	-18.14	0	-3.8
231	SLV 16	-70	-27	399	-17.96	0	-3.14
231	SLV FO 1	70	32	782	-35.18	0	3.16
231	SLV FO 2	86	30	778	-34.99	0	3.88
231	SLV FO 3	75	-25	400	-18	0	3.36
231	SLV FO 4	91	-27	396	-17.8	0	4.08
231	SLV FO 5	9	96	1222	-54.97	0	0.41
231	SLV FO 6	20	95	1219	-54.84	0	0.9
231	SLV FO 7	24	-93	-51	2.31	0	1.08
231	SLV FO 8	35	-94	-54	2.44	0	1.56
231	SLV FO 9	-41	95	1217	-54.77	0	-1.85
231	SLV FO 10	-30	94	1214	-54.64	0	-1.36
231	SLV FO 11	-26	-94	-56	2.51	0	-1.18
231	SLV FO 12	-15	-95	-59	2.64	0	-0.69
231	SLV FO 13	-97	28	767	-34.52	0	-4.36
231	SLV FO 14	-81	26	763	-34.33	0	-3.64
231	SLV FO 15	-93	-28	385	-17.34	0	-4.16
231	SLV FO 16	-76	-30	381	-17.14	0	-3.44
231	CRTFP Ux+	0	0	0	0	0	0
231	CRTFP Ux-	0	0	0	0	0	0
231	CRTFP Uy+	0	0	0	0	0	0
231	CRTFP Uy-	0	0	0	0	0	0
233	SLU 1	0	-18	1213	0	0	0
233	SLU 2	0	-12	1243	0	0	0
233	SLU 3	0	-18	1231	0	0	0
233	SLU 4	0	-15	1249	0	0	0
233	SLU 5	0	-12	1253	0	0	0
233	SLU 6	0	-18	1242	0	0	0
233	SLU 7	0	-15	1260	0	0	0
233	SLU 8	0	-18	1235	0	0	0
233	SLU 9	0	-15	1252	0	0	0
233	SLU 10	0	-14	1406	0	0	0
233	SLU 11	-1	-20	1394	0	0	0
233	SLU 12	-1	-16	1412	0	0	0
233	SLU 13	-1	-14	1417	0	0	0
233	SLU 14	-1	-20	1405	0	0	0
233	SLU 15	-1	-17	1423	0	0	0
233	SLU 16	-1	-20	1398	0	0	0
233	SLU 17	-1	-17	1416	0	0	0
233	SLU 18	-1	-20	1446	0	0	0
233	SLU 19	-1	-17	1464	0	0	0
233	SLU 20	-1	-21	1457	0	0	0
233	SLU 21	-1	-17	1475	0	0	0
233	SLU 22	0	-20	1373	0	0	0
233	SLU 23	0	-14	1403	0	0	0
233	SLU 24	0	-20	1392	0	0	0
233	SLU 25	0	-17	1409	0	0	0
233	SLU 26	0	-14	1414	0	0	0
233	SLU 27	0	-21	1402	0	0	0
233	SLU 28	0	-17	1420	0	0	0
233	SLU 29	0	-21	1395	0	0	0
233	SLU 30	0	-17	1413	0	0	0
233	SLU 31	0	-16	1566	0	0	0
233	SLU 32	-1	-22	1555	0	0	0
233	SLU 33	-1	-19	1573	0	0	0
233	SLU 34	-1	-16	1577	0	0	0
233	SLU 35	-1	-23	1566	0	0	0
233	SLU 36	-1	-19	1583	0	0	0
233	SLU 37	-1	-23	1558	0	0	0
233	SLU 38	-1	-19	1576	0	0	0
233	SLU 39	-1	-23	1607	0	0	0
233	SLU 40	-1	-19	1624	0	0	0
233	SLU 41	-1	-23	1617	0	0	0
233	SLU 42	-1	-19	1635	0	0	0
233	SLU 43	0	-22	1522	0	0	0
233	SLU 44	0	-16	1551	0	0	0
233	SLU 45	0	-23	1540	0	0	0
233	SLU 46	0	-19	1558	0	0	0
233	SLU 47	0	-17	1562	0	0	0
233	SLU 48	0	-23	1551	0	0	0
233	SLU 49	0	-19	1569	0	0	0
233	SLU 50	0	-23	1543	0	0	0
233	SLU 51	0	-19	1561	0	0	0
233	SLU 52	0	-18	1715	0	0	0
233	SLU 53	-1	-25	1703	0	0	0
233	SLU 54	-1	-21	1721	0	0	0
233	SLU 55	0	-19	1725	0	0	0
233	SLU 56	-1	-25	1714	0	0	0
233	SLU 57	-1	-21	1732	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
233	SLU 58	-1	-25	1707	0	0	0
233	SLU 59	-1	-21	1724	0	0	0
233	SLU 60	-1	-25	1755	0	0	0
233	SLU 61	-1	-21	1773	0	0	0
233	SLU 62	-1	-25	1766	0	0	0
233	SLU 63	-1	-22	1784	0	0	0
233	SLU 64	0	-24	1682	0	0	0
233	SLU 65	0	-18	1712	0	0	0
233	SLU 66	0	-25	1701	0	0	0
233	SLU 67	0	-21	1718	0	0	0
233	SLU 68	0	-19	1723	0	0	0
233	SLU 69	0	-25	1711	0	0	0
233	SLU 70	0	-22	1729	0	0	0
233	SLU 71	0	-25	1704	0	0	0
233	SLU 72	0	-22	1722	0	0	0
233	SLU 73	0	-20	1875	0	0	0
233	SLU 74	-1	-27	1864	0	0	0
233	SLU 75	-1	-23	1881	0	0	0
233	SLU 76	-1	-21	1886	0	0	0
233	SLU 77	-1	-27	1875	0	0	0
233	SLU 78	-1	-24	1892	0	0	0
233	SLU 79	-1	-27	1867	0	0	0
233	SLU 80	-1	-23	1885	0	0	0
233	SLU 81	-1	-27	1915	0	0	0
233	SLU 82	-1	-24	1933	0	0	0
233	SLU 83	-1	-28	1926	0	0	0
233	SLU 84	-1	-24	1944	0	0	0
233	SLE RA 1	0	-18	1259	0	0	0
233	SLE RA 2	0	-14	1279	0	0	0
233	SLE RA 3	0	-19	1271	0	0	0
233	SLE RA 4	0	-16	1283	0	0	0
233	SLE RA 5	0	-15	1286	0	0	0
233	SLE RA 6	0	-19	1278	0	0	0
233	SLE RA 7	0	-16	1290	0	0	0
233	SLE RA 8	0	-19	1273	0	0	0
233	SLE RA 9	0	-16	1285	0	0	0
233	SLE RA 10	0	-16	1387	0	0	0
233	SLE RA 11	0	-20	1380	0	0	0
233	SLE RA 12	0	-18	1392	0	0	0
233	SLE RA 13	0	-16	1395	0	0	0
233	SLE RA 14	-1	-20	1387	0	0	0
233	SLE RA 15	0	-18	1399	0	0	0
233	SLE RA 16	-1	-20	1382	0	0	0
233	SLE RA 17	0	-18	1394	0	0	0
233	SLE RA 18	-1	-20	1414	0	0	0
233	SLE RA 19	0	-18	1426	0	0	0
233	SLE RA 20	-1	-20	1421	0	0	0
233	SLE RA 21	-1	-18	1433	0	0	0
233	SLE FR 1	0	-18	1259	0	0	0
233	SLE FR 2	0	-18	1263	0	0	0
233	SLE FR 3	0	-18	1262	0	0	0
233	SLE FR 4	0	-18	1309	0	0	0
233	SLE FR 5	0	-19	1308	0	0	0
233	SLE FR 6	0	-19	1337	0	0	0
233	SLE QP 1	0	-18	1259	0	0	0
233	SLE QP 2	0	-19	1305	0	0	0
233	SLD 1	113	21	1499	0	0	0
233	SLD 2	136	25	1507	0	0	0
233	SLD 3	110	-54	1053	0	0	0
233	SLD 4	133	-51	1061	0	0	0
233	SLD 5	34	108	2039	0	0	0
233	SLD 6	49	110	2044	0	0	0
233	SLD 7	25	-145	552	0	0	0
233	SLD 8	39	-143	557	0	0	0
233	SLD 9	-39	105	2054	0	0	0
233	SLD 10	-25	107	2059	0	0	0
233	SLD 11	-49	-148	567	0	0	0
233	SLD 12	-35	-145	572	0	0	0
233	SLD 13	-133	13	1550	0	0	0
233	SLD 14	-110	17	1558	0	0	0
233	SLD 15	-136	-63	1104	0	0	0
233	SLD 16	-113	-59	1112	0	0	0
233	SLV 1	177	50	1640	0	0	0
233	SLV 2	213	55	1652	0	0	0
233	SLV 3	172	-80	879	0	0	0
233	SLV 4	208	-74	891	0	0	0
233	SLV 5	54	197	2558	0	0	0
233	SLV 6	78	201	2566	0	0	0
233	SLV 7	37	-234	21	0	0	0
233	SLV 8	62	-231	29	0	0	0
233	SLV 9	-62	193	2582	0	0	0
233	SLV 10	-38	197	2590	0	0	0
233	SLV 11	-78	-238	45	0	0	0
233	SLV 12	-54	-235	53	0	0	0
233	SLV 13	-208	36	1720	0	0	0
233	SLV 14	-172	42	1732	0	0	0
233	SLV 15	-213	-93	959	0	0	0
233	SLV 16	-177	-87	971	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
233	SLV FO 1	195	57	1674	0	0	0
233	SLV FO 2	234	63	1687	0	0	0
233	SLV FO 3	189	-86	836	0	0	0
233	SLV FO 4	229	-80	849	0	0	0
233	SLV FO 5	59	219	2684	0	0	0
233	SLV FO 6	86	223	2692	0	0	0
233	SLV FO 7	41	-256	-108	0	0	0
233	SLV FO 8	68	-252	-99	0	0	0
233	SLV FO 9	-68	214	2710	0	0	0
233	SLV FO 10	-41	218	2719	0	0	0
233	SLV FO 11	-86	-260	-81	0	0	0
233	SLV FO 12	-59	-256	-73	0	0	0
233	SLV FO 13	-229	42	1762	0	0	0
233	SLV FO 14	-189	48	1775	0	0	0
233	SLV FO 15	-234	-100	924	0	0	0
233	SLV FO 16	-195	-94	937	0	0	0
233	CRTFP Uy+	0	0	0	0	0	0
233	CRTFP Uy-	0	0	0	0	0	0
234	SLU 1	0	-19	1177	0	0	0
234	SLU 2	0	-13	1206	0	0	0
234	SLU 3	0	-19	1195	0	0	0
234	SLU 4	0	-16	1212	0	0	0
234	SLU 5	0	-13	1217	0	0	0
234	SLU 6	0	-19	1205	0	0	0
234	SLU 7	0	-16	1223	0	0	0
234	SLU 8	0	-19	1198	0	0	0
234	SLU 9	0	-16	1215	0	0	0
234	SLU 10	0	-15	1364	0	0	0
234	SLU 11	-1	-21	1353	0	0	0
234	SLU 12	0	-18	1370	0	0	0
234	SLU 13	0	-15	1374	0	0	0
234	SLU 14	-1	-21	1363	0	0	0
234	SLU 15	-1	-18	1380	0	0	0
234	SLU 16	-1	-21	1356	0	0	0
234	SLU 17	-1	-18	1373	0	0	0
234	SLU 18	-1	-22	1403	0	0	0
234	SLU 19	-1	-18	1420	0	0	0
234	SLU 20	-1	-22	1413	0	0	0
234	SLU 21	-1	-19	1430	0	0	0
234	SLU 22	0	-21	1333	0	0	0
234	SLU 23	0	-15	1362	0	0	0
234	SLU 24	0	-21	1351	0	0	0
234	SLU 25	0	-18	1368	0	0	0
234	SLU 26	0	-16	1372	0	0	0
234	SLU 27	0	-22	1361	0	0	0
234	SLU 28	0	-18	1378	0	0	0
234	SLU 29	0	-22	1354	0	0	0
234	SLU 30	0	-18	1371	0	0	0
234	SLU 31	0	-17	1520	0	0	0
234	SLU 32	-1	-24	1508	0	0	0
234	SLU 33	0	-20	1526	0	0	0
234	SLU 34	0	-18	1530	0	0	0
234	SLU 35	-1	-24	1519	0	0	0
234	SLU 36	-1	-20	1536	0	0	0
234	SLU 37	-1	-24	1511	0	0	0
234	SLU 38	-1	-20	1529	0	0	0
234	SLU 39	-1	-24	1558	0	0	0
234	SLU 40	-1	-21	1576	0	0	0
234	SLU 41	-1	-24	1569	0	0	0
234	SLU 42	-1	-21	1586	0	0	0
234	SLU 43	0	-23	1477	0	0	0
234	SLU 44	1	-18	1506	0	0	0
234	SLU 45	0	-24	1495	0	0	0
234	SLU 46	0	-20	1512	0	0	0
234	SLU 47	0	-18	1517	0	0	0
234	SLU 48	0	-24	1505	0	0	0
234	SLU 49	0	-21	1522	0	0	0
234	SLU 50	0	-24	1498	0	0	0
234	SLU 51	0	-21	1515	0	0	0
234	SLU 52	0	-20	1664	0	0	0
234	SLU 53	-1	-26	1652	0	0	0
234	SLU 54	0	-23	1670	0	0	0
234	SLU 55	0	-20	1674	0	0	0
234	SLU 56	-1	-26	1663	0	0	0
234	SLU 57	-1	-23	1680	0	0	0
234	SLU 58	-1	-26	1656	0	0	0
234	SLU 59	-1	-23	1673	0	0	0
234	SLU 60	-1	-26	1703	0	0	0
234	SLU 61	-1	-23	1720	0	0	0
234	SLU 62	-1	-27	1713	0	0	0
234	SLU 63	-1	-23	1730	0	0	0
234	SLU 64	0	-26	1633	0	0	0
234	SLU 65	1	-20	1662	0	0	0
234	SLU 66	0	-26	1650	0	0	0
234	SLU 67	0	-23	1668	0	0	0
234	SLU 68	0	-20	1672	0	0	0
234	SLU 69	0	-27	1661	0	0	0
234	SLU 70	0	-23	1678	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLU 71	0	-26	1654	0	0	0
234	SLU 72	0	-23	1671	0	0	0
234	SLU 73	0	-22	1819	0	0	0
234	SLU 74	-1	-28	1808	0	0	0
234	SLU 75	0	-25	1825	0	0	0
234	SLU 76	0	-23	1830	0	0	0
234	SLU 77	-1	-29	1818	0	0	0
234	SLU 78	-1	-25	1836	0	0	0
234	SLU 79	-1	-28	1811	0	0	0
234	SLU 80	-1	-25	1829	0	0	0
234	SLU 81	-1	-29	1858	0	0	0
234	SLU 82	-1	-25	1875	0	0	0
234	SLU 83	-1	-29	1868	0	0	0
234	SLU 84	-1	-26	1886	0	0	0
234	SLE RA 1	0	-19	1222	0	0	0
234	SLE RA 2	0	-16	1241	0	0	0
234	SLE RA 3	0	-20	1234	0	0	0
234	SLE RA 4	0	-17	1245	0	0	0
234	SLE RA 5	0	-16	1248	0	0	0
234	SLE RA 6	0	-20	1240	0	0	0
234	SLE RA 7	0	-18	1252	0	0	0
234	SLE RA 8	0	-20	1236	0	0	0
234	SLE RA 9	0	-17	1247	0	0	0
234	SLE RA 10	0	-17	1346	0	0	0
234	SLE RA 11	0	-21	1339	0	0	0
234	SLE RA 12	0	-19	1350	0	0	0
234	SLE RA 13	0	-17	1353	0	0	0
234	SLE RA 14	0	-21	1346	0	0	0
234	SLE RA 15	0	-19	1357	0	0	0
234	SLE RA 16	0	-21	1341	0	0	0
234	SLE RA 17	0	-19	1352	0	0	0
234	SLE RA 18	0	-21	1372	0	0	0
234	SLE RA 19	0	-19	1384	0	0	0
234	SLE RA 20	-1	-22	1379	0	0	0
234	SLE RA 21	0	-19	1390	0	0	0
234	SLE FR 1	0	-19	1222	0	0	0
234	SLE FR 2	0	-19	1226	0	0	0
234	SLE FR 3	0	-19	1225	0	0	0
234	SLE FR 4	0	-19	1271	0	0	0
234	SLE FR 5	0	-20	1270	0	0	0
234	SLE FR 6	0	-20	1297	0	0	0
234	SLE QP 1	0	-19	1222	0	0	0
234	SLE QP 2	0	-20	1267	0	0	0
234	SLD 1	110	20	1447	0	0	0
234	SLD 2	132	24	1455	0	0	0
234	SLD 3	107	-52	1013	0	0	0
234	SLD 4	129	-48	1021	0	0	0
234	SLD 5	34	100	1977	0	0	0
234	SLD 6	48	103	1983	0	0	0
234	SLD 7	24	-140	532	0	0	0
234	SLD 8	38	-137	537	0	0	0
234	SLD 9	-38	97	1997	0	0	0
234	SLD 10	-24	100	2002	0	0	0
234	SLD 11	-48	-143	551	0	0	0
234	SLD 12	-34	-140	557	0	0	0
234	SLD 13	-129	8	1513	0	0	0
234	SLD 14	-107	12	1521	0	0	0
234	SLD 15	-132	-64	1079	0	0	0
234	SLD 16	-110	-60	1087	0	0	0
234	SLV 1	172	47	1579	0	0	0
234	SLV 2	207	54	1592	0	0	0
234	SLV 3	167	-76	839	0	0	0
234	SLV 4	202	-68	852	0	0	0
234	SLV 5	53	185	2481	0	0	0
234	SLV 6	76	190	2489	0	0	0
234	SLV 7	36	-224	14	0	0	0
234	SLV 8	59	-219	22	0	0	0
234	SLV 9	-59	180	2512	0	0	0
234	SLV 10	-36	185	2520	0	0	0
234	SLV 11	-76	-230	45	0	0	0
234	SLV 12	-53	-225	53	0	0	0
234	SLV 13	-202	29	1682	0	0	0
234	SLV 14	-167	36	1695	0	0	0
234	SLV 15	-207	-94	942	0	0	0
234	SLV 16	-172	-87	955	0	0	0
234	SLV FO 1	190	54	1610	0	0	0
234	SLV FO 2	228	62	1624	0	0	0
234	SLV FO 3	184	-81	796	0	0	0
234	SLV FO 4	222	-73	810	0	0	0
234	SLV FO 5	58	206	2602	0	0	0
234	SLV FO 6	84	211	2611	0	0	0
234	SLV FO 7	40	-245	-112	0	0	0
234	SLV FO 8	65	-239	-102	0	0	0
234	SLV FO 9	-65	200	2636	0	0	0
234	SLV FO 10	-40	205	2645	0	0	0
234	SLV FO 11	-84	-251	-78	0	0	0
234	SLV FO 12	-58	-246	-68	0	0	0
234	SLV FO 13	-222	33	1724	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLV FO 14	-184	41	1738	0	0	0
234	SLV FO 15	-228	-102	910	0	0	0
234	SLV FO 16	-190	-94	924	0	0	0
234	CRTFP Uy+	0	0	0	0	0	0
234	CRTFP Uy-	0	0	0	0	0	0
235	SLU 1	0	-20	1156	0	0	0
235	SLU 2	1	-14	1184	0	0	0
235	SLU 3	0	-20	1173	0	0	0
235	SLU 4	0	-17	1190	0	0	0
235	SLU 5	0	-15	1194	0	0	0
235	SLU 6	0	-21	1183	0	0	0
235	SLU 7	0	-17	1200	0	0	0
235	SLU 8	0	-20	1176	0	0	0
235	SLU 9	0	-17	1193	0	0	0
235	SLU 10	0	-17	1339	0	0	0
235	SLU 11	0	-23	1327	0	0	0
235	SLU 12	0	-19	1344	0	0	0
235	SLU 13	0	-17	1349	0	0	0
235	SLU 14	-1	-23	1337	0	0	0
235	SLU 15	0	-20	1354	0	0	0
235	SLU 16	-1	-23	1330	0	0	0
235	SLU 17	-1	-19	1347	0	0	0
235	SLU 18	-1	-23	1376	0	0	0
235	SLU 19	0	-20	1393	0	0	0
235	SLU 20	-1	-23	1386	0	0	0
235	SLU 21	-1	-20	1403	0	0	0
235	SLU 22	0	-22	1309	0	0	0
235	SLU 23	1	-17	1337	0	0	0
235	SLU 24	0	-23	1326	0	0	0
235	SLU 25	0	-20	1343	0	0	0
235	SLU 26	0	-17	1347	0	0	0
235	SLU 27	0	-23	1336	0	0	0
235	SLU 28	0	-20	1353	0	0	0
235	SLU 29	0	-23	1329	0	0	0
235	SLU 30	0	-20	1346	0	0	0
235	SLU 31	0	-19	1491	0	0	0
235	SLU 32	0	-25	1480	0	0	0
235	SLU 33	0	-22	1497	0	0	0
235	SLU 34	0	-20	1501	0	0	0
235	SLU 35	-1	-25	1490	0	0	0
235	SLU 36	0	-22	1507	0	0	0
235	SLU 37	-1	-25	1483	0	0	0
235	SLU 38	-1	-22	1500	0	0	0
235	SLU 39	-1	-26	1529	0	0	0
235	SLU 40	0	-22	1546	0	0	0
235	SLU 41	-1	-26	1539	0	0	0
235	SLU 42	-1	-23	1556	0	0	0
235	SLU 43	0	-25	1450	0	0	0
235	SLU 44	1	-20	1479	0	0	0
235	SLU 45	0	-25	1467	0	0	0
235	SLU 46	0	-22	1485	0	0	0
235	SLU 47	1	-20	1489	0	0	0
235	SLU 48	0	-26	1477	0	0	0
235	SLU 49	0	-22	1495	0	0	0
235	SLU 50	0	-26	1470	0	0	0
235	SLU 51	0	-22	1488	0	0	0
235	SLU 52	0	-22	1633	0	0	0
235	SLU 53	0	-28	1622	0	0	0
235	SLU 54	0	-24	1639	0	0	0
235	SLU 55	0	-22	1643	0	0	0
235	SLU 56	-1	-28	1632	0	0	0
235	SLU 57	0	-25	1649	0	0	0
235	SLU 58	-1	-28	1625	0	0	0
235	SLU 59	0	-25	1642	0	0	0
235	SLU 60	0	-28	1671	0	0	0
235	SLU 61	0	-25	1688	0	0	0
235	SLU 62	-1	-28	1681	0	0	0
235	SLU 63	0	-25	1698	0	0	0
235	SLU 64	0	-27	1603	0	0	0
235	SLU 65	1	-22	1632	0	0	0
235	SLU 66	0	-28	1620	0	0	0
235	SLU 67	0	-25	1637	0	0	0
235	SLU 68	1	-22	1642	0	0	0
235	SLU 69	0	-28	1630	0	0	0
235	SLU 70	0	-25	1647	0	0	0
235	SLU 71	0	-28	1623	0	0	0
235	SLU 72	0	-25	1640	0	0	0
235	SLU 73	0	-24	1786	0	0	0
235	SLU 74	0	-30	1774	0	0	0
235	SLU 75	0	-27	1791	0	0	0
235	SLU 76	0	-25	1796	0	0	0
235	SLU 77	-1	-30	1784	0	0	0
235	SLU 78	0	-27	1801	0	0	0
235	SLU 79	-1	-30	1777	0	0	0
235	SLU 80	0	-27	1794	0	0	0
235	SLU 81	0	-31	1823	0	0	0
235	SLU 82	0	-27	1840	0	0	0
235	SLU 83	-1	-31	1833	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLU 84	0	-28	1850	0	0	0
235	SLE RA 1	0	-21	1200	0	0	0
235	SLE RA 2	1	-17	1219	0	0	0
235	SLE RA 3	0	-21	1211	0	0	0
235	SLE RA 4	0	-19	1222	0	0	0
235	SLE RA 5	0	-17	1225	0	0	0
235	SLE RA 6	0	-21	1218	0	0	0
235	SLE RA 7	0	-19	1229	0	0	0
235	SLE RA 8	0	-21	1213	0	0	0
235	SLE RA 9	0	-19	1224	0	0	0
235	SLE RA 10	0	-18	1321	0	0	0
235	SLE RA 11	0	-22	1314	0	0	0
235	SLE RA 12	0	-20	1325	0	0	0
235	SLE RA 13	0	-19	1328	0	0	0
235	SLE RA 14	0	-23	1320	0	0	0
235	SLE RA 15	0	-20	1332	0	0	0
235	SLE RA 16	0	-22	1316	0	0	0
235	SLE RA 17	0	-20	1327	0	0	0
235	SLE RA 18	0	-23	1346	0	0	0
235	SLE RA 19	0	-21	1358	0	0	0
235	SLE RA 20	0	-23	1353	0	0	0
235	SLE RA 21	0	-21	1364	0	0	0
235	SLE FR 1	0	-21	1200	0	0	0
235	SLE FR 2	0	-20	1203	0	0	0
235	SLE FR 3	0	-21	1202	0	0	0
235	SLE FR 4	0	-20	1247	0	0	0
235	SLE FR 5	0	-21	1246	0	0	0
235	SLE FR 6	0	-22	1273	0	0	0
235	SLE QP 1	0	-21	1200	0	0	0
235	SLE QP 2	0	-21	1244	0	0	0
235	SLD 1	109	18	1411	0	0	0
235	SLD 2	131	24	1420	0	0	0
235	SLD 3	106	-51	985	0	0	0
235	SLD 4	128	-45	993	0	0	0
235	SLD 5	34	95	1939	0	0	0
235	SLD 6	48	98	1945	0	0	0
235	SLD 7	23	-136	518	0	0	0
235	SLD 8	37	-133	523	0	0	0
235	SLD 9	-37	90	1964	0	0	0
235	SLD 10	-23	94	1970	0	0	0
235	SLD 11	-47	-141	542	0	0	0
235	SLD 12	-33	-137	548	0	0	0
235	SLD 13	-127	3	1494	0	0	0
235	SLD 14	-105	9	1503	0	0	0
235	SLD 15	-130	-66	1067	0	0	0
235	SLD 16	-109	-61	1076	0	0	0
235	SLV 1	170	46	1536	0	0	0
235	SLV 2	205	54	1550	0	0	0
235	SLV 3	165	-73	808	0	0	0
235	SLV 4	199	-64	822	0	0	0
235	SLV 5	53	176	2432	0	0	0
235	SLV 6	76	182	2442	0	0	0
235	SLV 7	35	-217	7	0	0	0
235	SLV 8	58	-211	16	0	0	0
235	SLV 9	-58	169	2471	0	0	0
235	SLV 10	-35	175	2480	0	0	0
235	SLV 11	-76	-225	46	0	0	0
235	SLV 12	-52	-219	55	0	0	0
235	SLV 13	-199	21	1665	0	0	0
235	SLV 14	-165	30	1679	0	0	0
235	SLV 15	-204	-97	938	0	0	0
235	SLV 16	-170	-88	951	0	0	0
235	SLV FO 1	187	52	1565	0	0	0
235	SLV FO 2	225	62	1580	0	0	0
235	SLV FO 3	181	-78	765	0	0	0
235	SLV FO 4	219	-68	780	0	0	0
235	SLV FO 5	58	196	2551	0	0	0
235	SLV FO 6	84	203	2561	0	0	0
235	SLV FO 7	39	-237	-117	0	0	0
235	SLV FO 8	64	-231	-107	0	0	0
235	SLV FO 9	-64	188	2594	0	0	0
235	SLV FO 10	-38	195	2604	0	0	0
235	SLV FO 11	-83	-245	-74	0	0	0
235	SLV FO 12	-58	-238	-64	0	0	0
235	SLV FO 13	-219	26	1707	0	0	0
235	SLV FO 14	-181	35	1722	0	0	0
235	SLV FO 15	-225	-104	907	0	0	0
235	SLV FO 16	-187	-95	922	0	0	0
235	CRTFP Uy+	0	0	0	0	0	0
235	CRTFP Uy-	0	0	0	0	0	0
236	SLU 1	1	-21	1142	0	0	0
236	SLU 2	1	-16	1170	0	0	0
236	SLU 3	0	-22	1159	0	0	0
236	SLU 4	1	-18	1176	0	0	0
236	SLU 5	1	-16	1180	0	0	0
236	SLU 6	0	-22	1168	0	0	0
236	SLU 7	0	-19	1185	0	0	0
236	SLU 8	0	-22	1161	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLU 9	0	-19	1178	0	0	0
236	SLU 10	0	-18	1322	0	0	0
236	SLU 11	0	-24	1310	0	0	0
236	SLU 12	0	-21	1327	0	0	0
236	SLU 13	0	-19	1332	0	0	0
236	SLU 14	0	-24	1320	0	0	0
236	SLU 15	0	-21	1337	0	0	0
236	SLU 16	0	-24	1313	0	0	0
236	SLU 17	0	-21	1330	0	0	0
236	SLU 18	0	-25	1359	0	0	0
236	SLU 19	0	-21	1375	0	0	0
236	SLU 20	-1	-25	1368	0	0	0
236	SLU 21	0	-22	1385	0	0	0
236	SLU 22	1	-24	1293	0	0	0
236	SLU 23	1	-19	1321	0	0	0
236	SLU 24	0	-24	1309	0	0	0
236	SLU 25	1	-21	1326	0	0	0
236	SLU 26	1	-19	1331	0	0	0
236	SLU 27	0	-25	1319	0	0	0
236	SLU 28	0	-21	1336	0	0	0
236	SLU 29	0	-24	1312	0	0	0
236	SLU 30	0	-21	1329	0	0	0
236	SLU 31	0	-21	1473	0	0	0
236	SLU 32	0	-27	1461	0	0	0
236	SLU 33	0	-24	1478	0	0	0
236	SLU 34	0	-21	1483	0	0	0
236	SLU 35	0	-27	1471	0	0	0
236	SLU 36	0	-24	1488	0	0	0
236	SLU 37	0	-27	1464	0	0	0
236	SLU 38	0	-24	1481	0	0	0
236	SLU 39	0	-27	1509	0	0	0
236	SLU 40	0	-24	1526	0	0	0
236	SLU 41	0	-28	1519	0	0	0
236	SLU 42	0	-24	1536	0	0	0
236	SLU 43	1	-27	1433	0	0	0
236	SLU 44	1	-21	1461	0	0	0
236	SLU 45	1	-27	1449	0	0	0
236	SLU 46	1	-24	1466	0	0	0
236	SLU 47	1	-22	1471	0	0	0
236	SLU 48	0	-27	1459	0	0	0
236	SLU 49	1	-24	1476	0	0	0
236	SLU 50	0	-27	1452	0	0	0
236	SLU 51	1	-24	1469	0	0	0
236	SLU 52	0	-24	1613	0	0	0
236	SLU 53	0	-29	1601	0	0	0
236	SLU 54	0	-26	1618	0	0	0
236	SLU 55	0	-24	1622	0	0	0
236	SLU 56	0	-30	1611	0	0	0
236	SLU 57	0	-27	1628	0	0	0
236	SLU 58	0	-30	1604	0	0	0
236	SLU 59	0	-27	1621	0	0	0
236	SLU 60	0	-30	1649	0	0	0
236	SLU 61	0	-27	1666	0	0	0
236	SLU 62	0	-30	1659	0	0	0
236	SLU 63	0	-27	1676	0	0	0
236	SLU 64	1	-29	1584	0	0	0
236	SLU 65	1	-24	1612	0	0	0
236	SLU 66	1	-30	1600	0	0	0
236	SLU 67	1	-27	1617	0	0	0
236	SLU 68	1	-24	1622	0	0	0
236	SLU 69	0	-30	1610	0	0	0
236	SLU 70	1	-27	1627	0	0	0
236	SLU 71	0	-30	1603	0	0	0
236	SLU 72	1	-27	1620	0	0	0
236	SLU 73	0	-26	1764	0	0	0
236	SLU 74	0	-32	1752	0	0	0
236	SLU 75	0	-29	1769	0	0	0
236	SLU 76	0	-27	1773	0	0	0
236	SLU 77	0	-32	1762	0	0	0
236	SLU 78	0	-29	1779	0	0	0
236	SLU 79	0	-32	1755	0	0	0
236	SLU 80	0	-29	1772	0	0	0
236	SLU 81	0	-33	1800	0	0	0
236	SLU 82	0	-30	1817	0	0	0
236	SLU 83	0	-33	1810	0	0	0
236	SLU 84	0	-30	1827	0	0	0
236	SLE RA 1	1	-22	1185	0	0	0
236	SLE RA 2	1	-18	1204	0	0	0
236	SLE RA 3	0	-22	1196	0	0	0
236	SLE RA 4	1	-20	1207	0	0	0
236	SLE RA 5	1	-19	1210	0	0	0
236	SLE RA 6	0	-22	1203	0	0	0
236	SLE RA 7	0	-20	1214	0	0	0
236	SLE RA 8	0	-22	1198	0	0	0
236	SLE RA 9	0	-20	1209	0	0	0
236	SLE RA 10	0	-20	1305	0	0	0
236	SLE RA 11	0	-24	1297	0	0	0
236	SLE RA 12	0	-22	1309	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLE RA 13	0	-20	1311	0	0	0
236	SLE RA 14	0	-24	1304	0	0	0
236	SLE RA 15	0	-22	1315	0	0	0
236	SLE RA 16	0	-24	1299	0	0	0
236	SLE RA 17	0	-22	1310	0	0	0
236	SLE RA 18	0	-24	1329	0	0	0
236	SLE RA 19	0	-22	1341	0	0	0
236	SLE RA 20	0	-24	1336	0	0	0
236	SLE RA 21	0	-22	1347	0	0	0
236	SLE FR 1	1	-22	1185	0	0	0
236	SLE FR 2	1	-21	1189	0	0	0
236	SLE FR 3	1	-22	1188	0	0	0
236	SLE FR 4	0	-22	1232	0	0	0
236	SLE FR 5	0	-23	1231	0	0	0
236	SLE FR 6	0	-23	1257	0	0	0
236	SLE QP 1	1	-22	1185	0	0	0
236	SLE QP 2	0	-23	1228	0	0	0
236	SLD 1	108	17	1384	0	0	0
236	SLD 2	130	23	1394	0	0	0
236	SLD 3	105	-50	962	0	0	0
236	SLD 4	126	-43	972	0	0	0
236	SLD 5	34	90	1913	0	0	0
236	SLD 6	48	94	1919	0	0	0
236	SLD 7	23	-133	507	0	0	0
236	SLD 8	37	-129	513	0	0	0
236	SLD 9	-36	84	1944	0	0	0
236	SLD 10	-22	88	1950	0	0	0
236	SLD 11	-47	-139	537	0	0	0
236	SLD 12	-33	-135	543	0	0	0
236	SLD 13	-126	-2	1485	0	0	0
236	SLD 14	-104	5	1494	0	0	0
236	SLD 15	-129	-69	1063	0	0	0
236	SLD 16	-107	-62	1072	0	0	0
236	SLV 1	169	44	1502	0	0	0
236	SLV 2	203	54	1517	0	0	0
236	SLV 3	163	-70	783	0	0	0
236	SLV 4	197	-60	797	0	0	0
236	SLV 5	53	168	2400	0	0	0
236	SLV 6	76	175	2409	0	0	0
236	SLV 7	35	-212	0	0	0	0
236	SLV 8	58	-205	10	0	0	0
236	SLV 9	-57	160	2447	0	0	0
236	SLV 10	-34	167	2456	0	0	0
236	SLV 11	-75	-220	47	0	0	0
236	SLV 12	-52	-214	57	0	0	0
236	SLV 13	-197	15	1659	0	0	0
236	SLV 14	-163	25	1674	0	0	0
236	SLV 15	-202	-99	940	0	0	0
236	SLV 16	-168	-89	954	0	0	0
236	SLV FO 1	186	51	1530	0	0	0
236	SLV FO 2	223	62	1546	0	0	0
236	SLV FO 3	180	-75	738	0	0	0
236	SLV FO 4	217	-64	754	0	0	0
236	SLV FO 5	58	188	2517	0	0	0
236	SLV FO 6	83	195	2527	0	0	0
236	SLV FO 7	38	-231	-123	0	0	0
236	SLV FO 8	63	-223	-112	0	0	0
236	SLV FO 9	-62	178	2569	0	0	0
236	SLV FO 10	-37	185	2579	0	0	0
236	SLV FO 11	-83	-240	-71	0	0	0
236	SLV FO 12	-57	-233	-60	0	0	0
236	SLV FO 13	-216	18	1703	0	0	0
236	SLV FO 14	-179	30	1719	0	0	0
236	SLV FO 15	-222	-107	911	0	0	0
236	SLV FO 16	-185	-96	927	0	0	0
236	CRTFP Uy+	0	0	0	0	0	0
236	CRTFP Uy-	0	0	0	0	0	0
237	SLU 1	1	-22	1130	0	0	0
237	SLU 2	1	-17	1158	0	0	0
237	SLU 3	1	-23	1146	0	0	0
237	SLU 4	1	-20	1163	0	0	0
237	SLU 5	1	-18	1168	0	0	0
237	SLU 6	0	-23	1156	0	0	0
237	SLU 7	1	-20	1173	0	0	0
237	SLU 8	0	-23	1149	0	0	0
237	SLU 9	1	-20	1166	0	0	0
237	SLU 10	0	-20	1308	0	0	0
237	SLU 11	0	-25	1296	0	0	0
237	SLU 12	0	-22	1313	0	0	0
237	SLU 13	0	-20	1317	0	0	0
237	SLU 14	0	-26	1306	0	0	0
237	SLU 15	0	-23	1322	0	0	0
237	SLU 16	0	-26	1299	0	0	0
237	SLU 17	0	-23	1316	0	0	0
237	SLU 18	0	-26	1344	0	0	0
237	SLU 19	0	-23	1361	0	0	0
237	SLU 20	0	-26	1353	0	0	0
237	SLU 21	0	-23	1370	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLU 22	1	-25	1280	0	0	0
237	SLU 23	1	-20	1308	0	0	0
237	SLU 24	1	-26	1296	0	0	0
237	SLU 25	1	-23	1313	0	0	0
237	SLU 26	1	-21	1317	0	0	0
237	SLU 27	1	-26	1306	0	0	0
237	SLU 28	1	-23	1322	0	0	0
237	SLU 29	1	-26	1299	0	0	0
237	SLU 30	1	-23	1316	0	0	0
237	SLU 31	1	-23	1457	0	0	0
237	SLU 32	0	-28	1446	0	0	0
237	SLU 33	0	-25	1463	0	0	0
237	SLU 34	0	-23	1467	0	0	0
237	SLU 35	0	-29	1455	0	0	0
237	SLU 36	0	-26	1472	0	0	0
237	SLU 37	0	-28	1448	0	0	0
237	SLU 38	0	-25	1465	0	0	0
237	SLU 39	0	-29	1493	0	0	0
237	SLU 40	0	-26	1510	0	0	0
237	SLU 41	0	-29	1503	0	0	0
237	SLU 42	0	-26	1520	0	0	0
237	SLU 43	1	-28	1418	0	0	0
237	SLU 44	1	-23	1446	0	0	0
237	SLU 45	1	-29	1434	0	0	0
237	SLU 46	1	-26	1451	0	0	0
237	SLU 47	1	-23	1455	0	0	0
237	SLU 48	1	-29	1444	0	0	0
237	SLU 49	1	-26	1460	0	0	0
237	SLU 50	1	-29	1437	0	0	0
237	SLU 51	1	-26	1454	0	0	0
237	SLU 52	1	-26	1595	0	0	0
237	SLU 53	0	-31	1584	0	0	0
237	SLU 54	0	-28	1601	0	0	0
237	SLU 55	1	-26	1605	0	0	0
237	SLU 56	0	-31	1593	0	0	0
237	SLU 57	0	-28	1610	0	0	0
237	SLU 58	0	-31	1586	0	0	0
237	SLU 59	0	-28	1603	0	0	0
237	SLU 60	0	-32	1631	0	0	0
237	SLU 61	0	-29	1648	0	0	0
237	SLU 62	0	-32	1641	0	0	0
237	SLU 63	0	-29	1658	0	0	0
237	SLU 64	1	-31	1567	0	0	0
237	SLU 65	1	-26	1595	0	0	0
237	SLU 66	1	-31	1584	0	0	0
237	SLU 67	1	-28	1600	0	0	0
237	SLU 68	1	-26	1605	0	0	0
237	SLU 69	1	-32	1593	0	0	0
237	SLU 70	1	-29	1610	0	0	0
237	SLU 71	1	-32	1586	0	0	0
237	SLU 72	1	-29	1603	0	0	0
237	SLU 73	1	-28	1745	0	0	0
237	SLU 74	0	-34	1733	0	0	0
237	SLU 75	1	-31	1750	0	0	0
237	SLU 76	1	-29	1755	0	0	0
237	SLU 77	0	-34	1743	0	0	0
237	SLU 78	0	-31	1760	0	0	0
237	SLU 79	0	-34	1736	0	0	0
237	SLU 80	0	-31	1753	0	0	0
237	SLU 81	0	-35	1781	0	0	0
237	SLU 82	0	-32	1798	0	0	0
237	SLU 83	0	-35	1791	0	0	0
237	SLU 84	0	-32	1807	0	0	0
237	SLE RA 1	1	-23	1173	0	0	0
237	SLE RA 2	1	-20	1191	0	0	0
237	SLE RA 3	1	-23	1184	0	0	0
237	SLE RA 4	1	-21	1195	0	0	0
237	SLE RA 5	1	-20	1198	0	0	0
237	SLE RA 6	1	-24	1190	0	0	0
237	SLE RA 7	1	-22	1201	0	0	0
237	SLE RA 8	1	-24	1185	0	0	0
237	SLE RA 9	1	-22	1197	0	0	0
237	SLE RA 10	1	-22	1291	0	0	0
237	SLE RA 11	0	-25	1283	0	0	0
237	SLE RA 12	0	-23	1295	0	0	0
237	SLE RA 13	0	-22	1298	0	0	0
237	SLE RA 14	0	-25	1290	0	0	0
237	SLE RA 15	0	-23	1301	0	0	0
237	SLE RA 16	0	-25	1285	0	0	0
237	SLE RA 17	0	-23	1296	0	0	0
237	SLE RA 18	0	-26	1315	0	0	0
237	SLE RA 19	0	-24	1326	0	0	0
237	SLE RA 20	0	-26	1322	0	0	0
237	SLE RA 21	0	-24	1333	0	0	0
237	SLE FR 1	1	-23	1173	0	0	0
237	SLE FR 2	1	-22	1176	0	0	0
237	SLE FR 3	1	-23	1175	0	0	0
237	SLE FR 4	1	-23	1219	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLE FR 5	1	-24	1218	0	0	0
237	SLE FR 6	1	-24	1244	0	0	0
237	SLE QP 1	1	-23	1173	0	0	0
237	SLE QP 2	1	-24	1215	0	0	0
237	SLD 1	107	16	1360	0	0	0
237	SLD 2	128	23	1370	0	0	0
237	SLD 3	104	-49	942	0	0	0
237	SLD 4	125	-42	952	0	0	0
237	SLD 5	34	84	1891	0	0	0
237	SLD 6	48	89	1898	0	0	0
237	SLD 7	23	-130	497	0	0	0
237	SLD 8	36	-126	504	0	0	0
237	SLD 9	-35	78	1927	0	0	0
237	SLD 10	-21	83	1933	0	0	0
237	SLD 11	-46	-137	533	0	0	0
237	SLD 12	-33	-132	539	0	0	0
237	SLD 13	-124	-6	1479	0	0	0
237	SLD 14	-102	1	1489	0	0	0
237	SLD 15	-127	-71	1061	0	0	0
237	SLD 16	-106	-63	1071	0	0	0
237	SLV 1	167	42	1472	0	0	0
237	SLV 2	201	54	1487	0	0	0
237	SLV 3	161	-68	758	0	0	0
237	SLV 4	195	-56	774	0	0	0
237	SLV 5	53	160	2372	0	0	0
237	SLV 6	76	168	2382	0	0	0
237	SLV 7	34	-206	-7	0	0	0
237	SLV 8	57	-198	4	0	0	0
237	SLV 9	-55	150	2427	0	0	0
237	SLV 10	-33	158	2438	0	0	0
237	SLV 11	-74	-216	49	0	0	0
237	SLV 12	-52	-208	59	0	0	0
237	SLV 13	-194	8	1657	0	0	0
237	SLV 14	-160	20	1672	0	0	0
237	SLV 15	-199	-102	943	0	0	0
237	SLV 16	-166	-90	959	0	0	0
237	SLV FO 1	184	49	1497	0	0	0
237	SLV FO 2	221	62	1515	0	0	0
237	SLV FO 3	178	-72	713	0	0	0
237	SLV FO 4	214	-59	730	0	0	0
237	SLV FO 5	58	179	2487	0	0	0
237	SLV FO 6	83	188	2499	0	0	0
237	SLV FO 7	37	-224	-129	0	0	0
237	SLV FO 8	62	-215	-118	0	0	0
237	SLV FO 9	-61	168	2548	0	0	0
237	SLV FO 10	-36	176	2560	0	0	0
237	SLV FO 11	-82	-235	-68	0	0	0
237	SLV FO 12	-57	-227	-56	0	0	0
237	SLV FO 13	-213	11	1701	0	0	0
237	SLV FO 14	-176	24	1718	0	0	0
237	SLV FO 15	-219	-109	916	0	0	0
237	SLV FO 16	-182	-97	933	0	0	0
237	CRTFP Uy+	0	0	0	0	0	0
237	CRTFP Uy-	0	0	0	0	0	0
238	SLU 1	1	-23	1112	0	0	0
238	SLU 2	1	-19	1140	0	0	0
238	SLU 3	1	-24	1128	0	0	0
238	SLU 4	1	-21	1145	0	0	0
238	SLU 5	1	-19	1150	0	0	0
238	SLU 6	1	-24	1138	0	0	0
238	SLU 7	1	-21	1155	0	0	0
238	SLU 8	1	-24	1131	0	0	0
238	SLU 9	1	-21	1148	0	0	0
238	SLU 10	1	-21	1287	0	0	0
238	SLU 11	0	-27	1276	0	0	0
238	SLU 12	1	-24	1292	0	0	0
238	SLU 13	1	-22	1297	0	0	0
238	SLU 14	0	-27	1285	0	0	0
238	SLU 15	0	-24	1302	0	0	0
238	SLU 16	0	-27	1278	0	0	0
238	SLU 17	0	-24	1295	0	0	0
238	SLU 18	0	-27	1323	0	0	0
238	SLU 19	0	-24	1339	0	0	0
238	SLU 20	0	-28	1332	0	0	0
238	SLU 21	0	-25	1349	0	0	0
238	SLU 22	1	-26	1260	0	0	0
238	SLU 23	1	-21	1288	0	0	0
238	SLU 24	1	-27	1276	0	0	0
238	SLU 25	1	-24	1293	0	0	0
238	SLU 26	1	-22	1297	0	0	0
238	SLU 27	1	-27	1286	0	0	0
238	SLU 28	1	-24	1302	0	0	0
238	SLU 29	1	-27	1279	0	0	0
238	SLU 30	1	-24	1295	0	0	0
238	SLU 31	1	-24	1435	0	0	0
238	SLU 32	1	-29	1423	0	0	0
238	SLU 33	1	-27	1440	0	0	0
238	SLU 34	1	-25	1444	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLU 35	0	-30	1433	0	0	0
238	SLU 36	1	-27	1449	0	0	0
238	SLU 37	0	-30	1426	0	0	0
238	SLU 38	0	-27	1443	0	0	0
238	SLU 39	0	-30	1470	0	0	0
238	SLU 40	1	-27	1487	0	0	0
238	SLU 41	0	-30	1480	0	0	0
238	SLU 42	0	-28	1496	0	0	0
238	SLU 43	1	-29	1395	0	0	0
238	SLU 44	2	-25	1423	0	0	0
238	SLU 45	1	-30	1411	0	0	0
238	SLU 46	1	-27	1428	0	0	0
238	SLU 47	1	-25	1433	0	0	0
238	SLU 48	1	-30	1421	0	0	0
238	SLU 49	1	-27	1438	0	0	0
238	SLU 50	1	-30	1414	0	0	0
238	SLU 51	1	-27	1431	0	0	0
238	SLU 52	1	-27	1570	0	0	0
238	SLU 53	1	-32	1559	0	0	0
238	SLU 54	1	-30	1575	0	0	0
238	SLU 55	1	-28	1580	0	0	0
238	SLU 56	0	-33	1568	0	0	0
238	SLU 57	1	-30	1585	0	0	0
238	SLU 58	0	-33	1561	0	0	0
238	SLU 59	1	-30	1578	0	0	0
238	SLU 60	1	-33	1606	0	0	0
238	SLU 61	1	-30	1622	0	0	0
238	SLU 62	0	-33	1615	0	0	0
238	SLU 63	1	-31	1632	0	0	0
238	SLU 64	1	-32	1543	0	0	0
238	SLU 65	2	-27	1571	0	0	0
238	SLU 66	1	-33	1559	0	0	0
238	SLU 67	2	-30	1576	0	0	0
238	SLU 68	2	-28	1580	0	0	0
238	SLU 69	1	-33	1569	0	0	0
238	SLU 70	1	-30	1585	0	0	0
238	SLU 71	1	-33	1562	0	0	0
238	SLU 72	1	-30	1579	0	0	0
238	SLU 73	1	-30	1718	0	0	0
238	SLU 74	1	-35	1706	0	0	0
238	SLU 75	1	-33	1723	0	0	0
238	SLU 76	1	-31	1727	0	0	0
238	SLU 77	1	-36	1716	0	0	0
238	SLU 78	1	-33	1732	0	0	0
238	SLU 79	1	-36	1709	0	0	0
238	SLU 80	1	-33	1726	0	0	0
238	SLU 81	1	-36	1753	0	0	0
238	SLU 82	1	-33	1770	0	0	0
238	SLU 83	1	-36	1763	0	0	0
238	SLU 84	1	-34	1779	0	0	0
238	SLE RA 1	1	-24	1155	0	0	0
238	SLE RA 2	1	-21	1173	0	0	0
238	SLE RA 3	1	-24	1165	0	0	0
238	SLE RA 4	1	-23	1176	0	0	0
238	SLE RA 5	1	-21	1179	0	0	0
238	SLE RA 6	1	-25	1172	0	0	0
238	SLE RA 7	1	-23	1183	0	0	0
238	SLE RA 8	1	-25	1167	0	0	0
238	SLE RA 9	1	-23	1178	0	0	0
238	SLE RA 10	1	-23	1271	0	0	0
238	SLE RA 11	1	-26	1263	0	0	0
238	SLE RA 12	1	-24	1275	0	0	0
238	SLE RA 13	1	-23	1277	0	0	0
238	SLE RA 14	1	-27	1270	0	0	0
238	SLE RA 15	1	-25	1281	0	0	0
238	SLE RA 16	1	-26	1265	0	0	0
238	SLE RA 17	1	-24	1276	0	0	0
238	SLE RA 18	1	-27	1295	0	0	0
238	SLE RA 19	1	-25	1306	0	0	0
238	SLE RA 20	0	-27	1301	0	0	0
238	SLE RA 21	1	-25	1312	0	0	0
238	SLE FR 1	1	-24	1155	0	0	0
238	SLE FR 2	1	-23	1158	0	0	0
238	SLE FR 3	1	-24	1157	0	0	0
238	SLE FR 4	1	-24	1200	0	0	0
238	SLE FR 5	1	-25	1199	0	0	0
238	SLE FR 6	1	-25	1225	0	0	0
238	SLE QP 1	1	-24	1155	0	0	0
238	SLE QP 2	1	-25	1197	0	0	0
238	SLD 1	105	14	1330	0	0	0
238	SLD 2	126	22	1340	0	0	0
238	SLD 3	102	-48	917	0	0	0
238	SLD 4	122	-39	928	0	0	0
238	SLD 5	34	79	1860	0	0	0
238	SLD 6	47	84	1867	0	0	0
238	SLD 7	22	-126	485	0	0	0
238	SLD 8	36	-121	492	0	0	0
238	SLD 9	-34	71	1901	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLD 10	-20	77	1908	0	0	0
238	SLD 11	-45	-134	526	0	0	0
238	SLD 12	-32	-128	533	0	0	0
238	SLD 13	-120	-10	1465	0	0	0
238	SLD 14	-100	-2	1476	0	0	0
238	SLD 15	-124	-72	1053	0	0	0
238	SLD 16	-103	-64	1063	0	0	0
238	SLV 1	164	40	1435	0	0	0
238	SLV 2	197	53	1451	0	0	0
238	SLV 3	158	-65	731	0	0	0
238	SLV 4	191	-52	747	0	0	0
238	SLV 5	53	151	2332	0	0	0
238	SLV 6	75	160	2343	0	0	0
238	SLV 7	33	-198	-14	0	0	0
238	SLV 8	55	-190	-3	0	0	0
238	SLV 9	-53	140	2396	0	0	0
238	SLV 10	-31	149	2407	0	0	0
238	SLV 11	-73	-210	50	0	0	0
238	SLV 12	-51	-201	61	0	0	0
238	SLV 13	-189	2	1646	0	0	0
238	SLV 14	-156	15	1662	0	0	0
238	SLV 15	-195	-103	942	0	0	0
238	SLV 16	-162	-90	959	0	0	0
238	SLV FO 1	180	47	1458	0	0	0
238	SLV FO 2	216	61	1476	0	0	0
238	SLV FO 3	174	-69	684	0	0	0
238	SLV FO 4	210	-55	702	0	0	0
238	SLV FO 5	58	169	2446	0	0	0
238	SLV FO 6	82	178	2458	0	0	0
238	SLV FO 7	36	-216	-135	0	0	0
238	SLV FO 8	61	-206	-123	0	0	0
238	SLV FO 9	-59	157	2516	0	0	0
238	SLV FO 10	-34	166	2528	0	0	0
238	SLV FO 11	-80	-228	-65	0	0	0
238	SLV FO 12	-56	-219	-53	0	0	0
238	SLV FO 13	-208	5	1691	0	0	0
238	SLV FO 14	-172	19	1709	0	0	0
238	SLV FO 15	-214	-110	917	0	0	0
238	SLV FO 16	-178	-96	935	0	0	0
238	CRTFP Uy+	0	0	0	0	0	0
238	CRTFP Uy-	0	0	0	0	0	0
239	SLU 1	1	-24	1077	0	0	0
239	SLU 2	2	-19	1104	0	0	0
239	SLU 3	1	-24	1093	0	0	0
239	SLU 4	1	-22	1109	0	0	0
239	SLU 5	1	-20	1113	0	0	0
239	SLU 6	1	-25	1102	0	0	0
239	SLU 7	1	-22	1118	0	0	0
239	SLU 8	1	-24	1095	0	0	0
239	SLU 9	1	-22	1111	0	0	0
239	SLU 10	1	-22	1247	0	0	0
239	SLU 11	1	-27	1235	0	0	0
239	SLU 12	1	-24	1251	0	0	0
239	SLU 13	1	-22	1256	0	0	0
239	SLU 14	1	-27	1244	0	0	0
239	SLU 15	1	-25	1260	0	0	0
239	SLU 16	0	-27	1237	0	0	0
239	SLU 17	1	-24	1254	0	0	0
239	SLU 18	1	-28	1281	0	0	0
239	SLU 19	1	-25	1297	0	0	0
239	SLU 20	0	-28	1289	0	0	0
239	SLU 21	1	-25	1306	0	0	0
239	SLU 22	1	-27	1221	0	0	0
239	SLU 23	2	-22	1248	0	0	0
239	SLU 24	1	-27	1236	0	0	0
239	SLU 25	1	-25	1253	0	0	0
239	SLU 26	2	-23	1257	0	0	0
239	SLU 27	1	-28	1245	0	0	0
239	SLU 28	1	-25	1262	0	0	0
239	SLU 29	1	-27	1239	0	0	0
239	SLU 30	1	-25	1255	0	0	0
239	SLU 31	1	-25	1390	0	0	0
239	SLU 32	1	-30	1379	0	0	0
239	SLU 33	1	-27	1395	0	0	0
239	SLU 34	1	-25	1399	0	0	0
239	SLU 35	1	-30	1388	0	0	0
239	SLU 36	1	-28	1404	0	0	0
239	SLU 37	1	-30	1381	0	0	0
239	SLU 38	1	-27	1397	0	0	0
239	SLU 39	1	-31	1424	0	0	0
239	SLU 40	1	-28	1440	0	0	0
239	SLU 41	1	-31	1433	0	0	0
239	SLU 42	1	-28	1449	0	0	0
239	SLU 43	2	-30	1351	0	0	0
239	SLU 44	2	-25	1378	0	0	0
239	SLU 45	2	-30	1367	0	0	0
239	SLU 46	2	-28	1383	0	0	0
239	SLU 47	2	-26	1387	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLU 48	1	-31	1376	0	0	0
239	SLU 49	2	-28	1392	0	0	0
239	SLU 50	1	-30	1369	0	0	0
239	SLU 51	1	-28	1385	0	0	0
239	SLU 52	1	-28	1521	0	0	0
239	SLU 53	1	-33	1509	0	0	0
239	SLU 54	1	-30	1525	0	0	0
239	SLU 55	1	-28	1530	0	0	0
239	SLU 56	1	-33	1518	0	0	0
239	SLU 57	1	-31	1534	0	0	0
239	SLU 58	1	-33	1511	0	0	0
239	SLU 59	1	-31	1528	0	0	0
239	SLU 60	1	-34	1554	0	0	0
239	SLU 61	1	-31	1571	0	0	0
239	SLU 62	1	-34	1563	0	0	0
239	SLU 63	1	-31	1580	0	0	0
239	SLU 64	2	-33	1495	0	0	0
239	SLU 65	2	-28	1522	0	0	0
239	SLU 66	2	-33	1510	0	0	0
239	SLU 67	2	-31	1527	0	0	0
239	SLU 68	2	-29	1531	0	0	0
239	SLU 69	2	-34	1519	0	0	0
239	SLU 70	2	-31	1536	0	0	0
239	SLU 71	1	-33	1513	0	0	0
239	SLU 72	2	-31	1529	0	0	0
239	SLU 73	2	-31	1664	0	0	0
239	SLU 74	1	-36	1653	0	0	0
239	SLU 75	1	-33	1669	0	0	0
239	SLU 76	1	-31	1673	0	0	0
239	SLU 77	1	-36	1662	0	0	0
239	SLU 78	1	-34	1678	0	0	0
239	SLU 79	1	-36	1655	0	0	0
239	SLU 80	1	-34	1671	0	0	0
239	SLU 81	1	-37	1698	0	0	0
239	SLU 82	1	-34	1714	0	0	0
239	SLU 83	1	-37	1707	0	0	0
239	SLU 84	1	-34	1723	0	0	0
239	SLE RA 1	1	-25	1118	0	0	0
239	SLE RA 2	2	-22	1136	0	0	0
239	SLE RA 3	1	-25	1129	0	0	0
239	SLE RA 4	1	-23	1139	0	0	0
239	SLE RA 5	1	-22	1142	0	0	0
239	SLE RA 6	1	-25	1135	0	0	0
239	SLE RA 7	1	-23	1145	0	0	0
239	SLE RA 8	1	-25	1130	0	0	0
239	SLE RA 9	1	-23	1141	0	0	0
239	SLE RA 10	1	-23	1231	0	0	0
239	SLE RA 11	1	-27	1223	0	0	0
239	SLE RA 12	1	-25	1234	0	0	0
239	SLE RA 13	1	-24	1237	0	0	0
239	SLE RA 14	1	-27	1229	0	0	0
239	SLE RA 15	1	-25	1240	0	0	0
239	SLE RA 16	1	-27	1225	0	0	0
239	SLE RA 17	1	-25	1236	0	0	0
239	SLE RA 18	1	-27	1254	0	0	0
239	SLE RA 19	1	-25	1265	0	0	0
239	SLE RA 20	1	-27	1260	0	0	0
239	SLE RA 21	1	-26	1271	0	0	0
239	SLE FR 1	1	-25	1118	0	0	0
239	SLE FR 2	1	-24	1122	0	0	0
239	SLE FR 3	1	-25	1121	0	0	0
239	SLE FR 4	1	-25	1163	0	0	0
239	SLE FR 5	1	-25	1161	0	0	0
239	SLE FR 6	1	-26	1186	0	0	0
239	SLE QP 1	1	-25	1118	0	0	0
239	SLE QP 2	1	-25	1159	0	0	0
239	SLD 1	101	12	1279	0	0	0
239	SLD 2	121	21	1290	0	0	0
239	SLD 3	97	-45	879	0	0	0
239	SLD 4	117	-37	890	0	0	0
239	SLD 5	33	72	1801	0	0	0
239	SLD 6	46	77	1808	0	0	0
239	SLD 7	21	-120	466	0	0	0
239	SLD 8	34	-115	472	0	0	0
239	SLD 9	-32	64	1845	0	0	0
239	SLD 10	-19	70	1852	0	0	0
239	SLD 11	-43	-128	510	0	0	0
239	SLD 12	-31	-122	517	0	0	0
239	SLD 13	-115	-14	1428	0	0	0
239	SLD 14	-95	-5	1439	0	0	0
239	SLD 15	-118	-71	1028	0	0	0
239	SLD 16	-98	-63	1038	0	0	0
239	SLV 1	157	37	1376	0	0	0
239	SLV 2	188	51	1393	0	0	0
239	SLV 3	151	-61	693	0	0	0
239	SLV 4	183	-47	710	0	0	0
239	SLV 5	51	140	2257	0	0	0
239	SLV 6	72	149	2269	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLV 7	31	-188	-21	0	0	0
239	SLV 8	53	-178	-9	0	0	0
239	SLV 9	-50	128	2327	0	0	0
239	SLV 10	-29	137	2338	0	0	0
239	SLV 11	-70	-200	49	0	0	0
239	SLV 12	-49	-191	60	0	0	0
239	SLV 13	-180	-3	1608	0	0	0
239	SLV 14	-149	10	1625	0	0	0
239	SLV 15	-186	-102	925	0	0	0
239	SLV 16	-155	-88	942	0	0	0
239	SLV FO 1	173	44	1398	0	0	0
239	SLV FO 2	207	59	1417	0	0	0
239	SLV FO 3	166	-64	646	0	0	0
239	SLV FO 4	201	-50	665	0	0	0
239	SLV FO 5	56	157	2367	0	0	0
239	SLV FO 6	79	167	2380	0	0	0
239	SLV FO 7	34	-204	-139	0	0	0
239	SLV FO 8	58	-194	-126	0	0	0
239	SLV FO 9	-55	143	2444	0	0	0
239	SLV FO 10	-32	153	2456	0	0	0
239	SLV FO 11	-77	-217	-62	0	0	0
239	SLV FO 12	-54	-207	-49	0	0	0
239	SLV FO 13	-198	-1	1653	0	0	0
239	SLV FO 14	-164	14	1672	0	0	0
239	SLV FO 15	-205	-109	901	0	0	0
239	SLV FO 16	-170	-94	920	0	0	0
239	CRTFP Uy+	0	0	0	0	0	0
239	CRTFP Uy-	0	0	0	0	0	0
240	SLU 1	1	-24	1037	0	0	0
240	SLU 2	2	-20	1063	0	0	0
240	SLU 3	1	-25	1052	0	0	0
240	SLU 4	1	-22	1067	0	0	0
240	SLU 5	1	-20	1072	0	0	0
240	SLU 6	1	-25	1060	0	0	0
240	SLU 7	1	-22	1076	0	0	0
240	SLU 8	1	-25	1054	0	0	0
240	SLU 9	1	-22	1070	0	0	0
240	SLU 10	1	-23	1200	0	0	0
240	SLU 11	1	-27	1189	0	0	0
240	SLU 12	1	-25	1204	0	0	0
240	SLU 13	1	-23	1208	0	0	0
240	SLU 14	1	-28	1197	0	0	0
240	SLU 15	1	-25	1213	0	0	0
240	SLU 16	1	-28	1191	0	0	0
240	SLU 17	1	-25	1207	0	0	0
240	SLU 18	1	-28	1232	0	0	0
240	SLU 19	1	-26	1248	0	0	0
240	SLU 20	0	-28	1241	0	0	0
240	SLU 21	1	-26	1257	0	0	0
240	SLU 22	1	-27	1175	0	0	0
240	SLU 23	2	-23	1202	0	0	0
240	SLU 24	1	-28	1190	0	0	0
240	SLU 25	1	-25	1206	0	0	0
240	SLU 26	2	-23	1210	0	0	0
240	SLU 27	1	-28	1199	0	0	0
240	SLU 28	1	-25	1215	0	0	0
240	SLU 29	1	-28	1193	0	0	0
240	SLU 30	1	-25	1208	0	0	0
240	SLU 31	1	-26	1339	0	0	0
240	SLU 32	1	-30	1327	0	0	0
240	SLU 33	1	-28	1343	0	0	0
240	SLU 34	1	-26	1347	0	0	0
240	SLU 35	1	-31	1336	0	0	0
240	SLU 36	1	-28	1352	0	0	0
240	SLU 37	1	-31	1329	0	0	0
240	SLU 38	1	-28	1345	0	0	0
240	SLU 39	1	-31	1371	0	0	0
240	SLU 40	1	-29	1387	0	0	0
240	SLU 41	1	-31	1380	0	0	0
240	SLU 42	1	-29	1395	0	0	0
240	SLU 43	2	-30	1300	0	0	0
240	SLU 44	2	-26	1326	0	0	0
240	SLU 45	2	-31	1315	0	0	0
240	SLU 46	2	-28	1331	0	0	0
240	SLU 47	2	-26	1335	0	0	0
240	SLU 48	1	-31	1324	0	0	0
240	SLU 49	2	-29	1339	0	0	0
240	SLU 50	1	-31	1317	0	0	0
240	SLU 51	1	-28	1333	0	0	0
240	SLU 52	1	-29	1463	0	0	0
240	SLU 53	1	-34	1452	0	0	0
240	SLU 54	1	-31	1468	0	0	0
240	SLU 55	1	-29	1472	0	0	0
240	SLU 56	1	-34	1460	0	0	0
240	SLU 57	1	-31	1476	0	0	0
240	SLU 58	1	-34	1454	0	0	0
240	SLU 59	1	-31	1470	0	0	0
240	SLU 60	1	-34	1496	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLU 61	1	-32	1512	0	0	0
240	SLU 62	1	-35	1504	0	0	0
240	SLU 63	1	-32	1520	0	0	0
240	SLU 64	2	-33	1439	0	0	0
240	SLU 65	2	-29	1465	0	0	0
240	SLU 66	2	-34	1454	0	0	0
240	SLU 67	2	-31	1470	0	0	0
240	SLU 68	2	-30	1474	0	0	0
240	SLU 69	2	-34	1462	0	0	0
240	SLU 70	2	-32	1478	0	0	0
240	SLU 71	1	-34	1456	0	0	0
240	SLU 72	2	-31	1472	0	0	0
240	SLU 73	2	-32	1602	0	0	0
240	SLU 74	1	-37	1591	0	0	0
240	SLU 75	1	-34	1606	0	0	0
240	SLU 76	1	-32	1611	0	0	0
240	SLU 77	1	-37	1599	0	0	0
240	SLU 78	1	-35	1615	0	0	0
240	SLU 79	1	-37	1593	0	0	0
240	SLU 80	1	-34	1609	0	0	0
240	SLU 81	1	-37	1634	0	0	0
240	SLU 82	1	-35	1650	0	0	0
240	SLU 83	1	-38	1643	0	0	0
240	SLU 84	1	-35	1659	0	0	0
240	SLE RA 1	1	-25	1076	0	0	0
240	SLE RA 2	2	-22	1094	0	0	0
240	SLE RA 3	1	-25	1086	0	0	0
240	SLE RA 4	1	-24	1097	0	0	0
240	SLE RA 5	1	-22	1100	0	0	0
240	SLE RA 6	1	-25	1092	0	0	0
240	SLE RA 7	1	-24	1102	0	0	0
240	SLE RA 8	1	-25	1088	0	0	0
240	SLE RA 9	1	-24	1098	0	0	0
240	SLE RA 10	1	-24	1185	0	0	0
240	SLE RA 11	1	-27	1178	0	0	0
240	SLE RA 12	1	-26	1188	0	0	0
240	SLE RA 13	1	-24	1191	0	0	0
240	SLE RA 14	1	-27	1183	0	0	0
240	SLE RA 15	1	-26	1194	0	0	0
240	SLE RA 16	1	-27	1179	0	0	0
240	SLE RA 17	1	-26	1190	0	0	0
240	SLE RA 18	1	-28	1207	0	0	0
240	SLE RA 19	1	-26	1217	0	0	0
240	SLE RA 20	1	-28	1212	0	0	0
240	SLE RA 21	1	-26	1223	0	0	0
240	SLE FR 1	1	-25	1076	0	0	0
240	SLE FR 2	1	-24	1080	0	0	0
240	SLE FR 3	1	-25	1079	0	0	0
240	SLE FR 4	1	-25	1119	0	0	0
240	SLE FR 5	1	-26	1118	0	0	0
240	SLE FR 6	1	-26	1142	0	0	0
240	SLE QP 1	1	-25	1076	0	0	0
240	SLE QP 2	1	-26	1115	0	0	0
240	SLD 1	96	10	1224	0	0	0
240	SLD 2	115	19	1235	0	0	0
240	SLD 3	92	-43	837	0	0	0
240	SLD 4	111	-34	848	0	0	0
240	SLD 5	31	65	1733	0	0	0
240	SLD 6	44	70	1740	0	0	0
240	SLD 7	20	-114	443	0	0	0
240	SLD 8	32	-108	451	0	0	0
240	SLD 9	-30	56	1780	0	0	0
240	SLD 10	-18	62	1787	0	0	0
240	SLD 11	-41	-122	491	0	0	0
240	SLD 12	-29	-116	498	0	0	0
240	SLD 13	-109	-17	1383	0	0	0
240	SLD 14	-90	-8	1394	0	0	0
240	SLD 15	-112	-71	996	0	0	0
240	SLD 16	-93	-62	1007	0	0	0
240	SLV 1	149	34	1313	0	0	0
240	SLV 2	179	48	1330	0	0	0
240	SLV 3	144	-57	653	0	0	0
240	SLV 4	173	-43	670	0	0	0
240	SLV 5	49	128	2172	0	0	0
240	SLV 6	69	138	2184	0	0	0
240	SLV 7	30	-176	-27	0	0	0
240	SLV 8	50	-167	-16	0	0	0
240	SLV 9	-48	115	2246	0	0	0
240	SLV 10	-27	125	2258	0	0	0
240	SLV 11	-66	-189	47	0	0	0
240	SLV 12	-46	-180	59	0	0	0
240	SLV 13	-171	-9	1560	0	0	0
240	SLV 14	-141	5	1578	0	0	0
240	SLV 15	-177	-100	901	0	0	0
240	SLV 16	-147	-86	918	0	0	0
240	SLV FO 1	164	40	1332	0	0	0
240	SLV FO 2	197	56	1352	0	0	0
240	SLV FO 3	158	-60	607	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLV FO 4	191	-44	626	0	0	0
240	SLV FO 5	53	143	2278	0	0	0
240	SLV FO 6	75	154	2291	0	0	0
240	SLV FO 7	33	-191	-142	0	0	0
240	SLV FO 8	55	-181	-129	0	0	0
240	SLV FO 9	-52	129	2359	0	0	0
240	SLV FO 10	-30	140	2372	0	0	0
240	SLV FO 11	-73	-205	-60	0	0	0
240	SLV FO 12	-51	-195	-47	0	0	0
240	SLV FO 13	-188	-7	1605	0	0	0
240	SLV FO 14	-155	8	1624	0	0	0
240	SLV FO 15	-194	-107	879	0	0	0
240	SLV FO 16	-162	-92	898	0	0	0
240	CRTFP Uy+	0	0	0	0	0	0
240	CRTFP Uy-	0	0	0	0	0	0
243	SLU 1	1	-54	4404	-3.62	1314.6	15.67
243	SLU 2	2	-31	4510	-3.94	1345.92	8.73
243	SLU 3	1	-55	4471	-3.63	1334.83	16.07
243	SLU 4	1	-41	4535	-3.82	1353.62	11.9
243	SLU 5	1	-32	4550	-3.94	1358.05	9.04
243	SLU 6	0	-56	4511	-3.62	1346.96	16.38
243	SLU 7	0	-42	4575	-3.81	1365.75	12.21
243	SLU 8	0	-56	4484	-3.61	1338.86	16.3
243	SLU 9	0	-42	4548	-3.8	1357.65	12.13
243	SLU 10	0	-37	5106	-4.48	1524.76	10.42
243	SLU 11	-2	-61	5068	-4.16	1513.67	17.76
243	SLU 12	-1	-47	5131	-4.35	1532.46	13.59
243	SLU 13	-1	-38	5146	-4.47	1536.89	10.74
243	SLU 14	-2	-62	5108	-4.16	1525.8	18.07
243	SLU 15	-2	-48	5171	-4.35	1544.59	13.91
243	SLU 16	-3	-62	5081	-4.15	1517.7	17.99
243	SLU 17	-2	-48	5144	-4.34	1536.49	13.83
243	SLU 18	-2	-62	5256	-4.39	1570.09	18.09
243	SLU 19	-2	-48	5320	-4.58	1588.88	13.93
243	SLU 20	-3	-63	5296	-4.38	1582.22	18.4
243	SLU 21	-2	-49	5360	-4.57	1601.01	14.24
243	SLU 22	1	-60	4988	-3.99	1489.06	17.6
243	SLU 23	2	-37	5094	-4.31	1520.38	10.65
243	SLU 24	0	-62	5055	-4	1509.29	17.99
243	SLU 25	1	-48	5119	-4.19	1528.08	13.82
243	SLU 26	1	-38	5134	-4.31	1532.51	10.97
243	SLU 27	0	-63	5096	-3.99	1521.42	18.3
243	SLU 28	0	-49	5159	-4.19	1540.21	14.14
243	SLU 29	0	-62	5068	-3.98	1513.33	18.22
243	SLU 30	0	-49	5132	-4.18	1532.12	14.06
243	SLU 31	-1	-43	5690	-4.85	1699.22	12.35
243	SLU 32	-2	-67	5652	-4.53	1688.13	19.68
243	SLU 33	-1	-54	5715	-4.73	1706.92	15.52
243	SLU 34	-1	-44	5730	-4.84	1711.35	12.66
243	SLU 35	-3	-68	5692	-4.53	1700.26	20
243	SLU 36	-2	-55	5755	-4.72	1719.05	15.83
243	SLU 37	-3	-68	5665	-4.52	1692.17	19.92
243	SLU 38	-2	-54	5728	-4.71	1710.96	15.75
243	SLU 39	-2	-69	5840	-4.76	1744.55	20.01
243	SLU 40	-2	-55	5904	-4.95	1763.34	15.85
243	SLU 41	-3	-70	5880	-4.75	1756.68	20.33
243	SLU 42	-3	-56	5944	-4.94	1775.47	16.16
243	SLU 43	2	-67	5525	-4.58	1649.16	19.71
243	SLU 44	2	-45	5631	-4.9	1680.48	12.77
243	SLU 45	1	-69	5592	-4.59	1669.39	20.11
243	SLU 46	1	-55	5656	-4.78	1688.18	15.94
243	SLU 47	2	-46	5671	-4.89	1692.61	13.09
243	SLU 48	0	-70	5633	-4.58	1681.52	20.42
243	SLU 49	1	-56	5696	-4.77	1700.31	16.26
243	SLU 50	0	-70	5605	-4.57	1673.42	20.34
243	SLU 51	1	-56	5669	-4.76	1692.21	16.18
243	SLU 52	0	-50	6227	-5.43	1859.32	14.46
243	SLU 53	-1	-75	6189	-5.12	1848.23	21.8
243	SLU 54	-1	-61	6252	-5.31	1867.02	17.64
243	SLU 55	-1	-51	6267	-5.43	1871.45	14.78
243	SLU 56	-2	-76	6229	-5.12	1860.36	22.12
243	SLU 57	-2	-62	6292	-5.31	1879.15	17.95
243	SLU 58	-2	-75	6202	-5.11	1852.26	22.03
243	SLU 59	-2	-62	6265	-5.3	1871.05	17.87
243	SLU 60	-2	-76	6377	-5.35	1904.65	22.13
243	SLU 61	-1	-62	6441	-5.54	1923.44	17.97
243	SLU 62	-2	-77	6417	-5.34	1916.78	22.45
243	SLU 63	-2	-63	6481	-5.53	1935.57	18.28
243	SLU 64	1	-74	6109	-4.95	1823.63	21.64
243	SLU 65	2	-51	6215	-5.27	1854.94	14.7
243	SLU 66	1	-75	6176	-4.96	1843.86	22.03
243	SLU 67	1	-62	6240	-5.15	1862.65	17.87
243	SLU 68	1	-52	6255	-5.27	1867.08	15.01
243	SLU 69	0	-77	6217	-4.95	1855.99	22.35
243	SLU 70	1	-63	6280	-5.14	1874.78	18.18
243	SLU 71	0	-76	6189	-4.94	1847.89	22.27
243	SLU 72	0	-62	6253	-5.13	1866.68	18.1
243	SLU 73	0	-57	6811	-5.81	2033.78	16.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLU 74	-2	-81	6773	-5.49	2022.7	23.73
243	SLU 75	-1	-67	6836	-5.68	2041.49	19.56
243	SLU 76	-1	-58	6851	-5.8	2045.92	16.7
243	SLU 77	-2	-82	6813	-5.49	2034.83	24.04
243	SLU 78	-2	-69	6876	-5.68	2053.62	19.87
243	SLU 79	-2	-82	6786	-5.48	2026.73	23.96
243	SLU 80	-2	-68	6849	-5.67	2045.52	19.79
243	SLU 81	-2	-82	6961	-5.72	2079.11	24.06
243	SLU 82	-1	-69	7025	-5.91	2097.9	19.89
243	SLU 83	-3	-83	7001	-5.71	2091.24	24.37
243	SLU 84	-2	-70	7065	-5.9	2110.03	20.21
243	SLE RA 1	1	-56	4571	-3.73	1364.45	16.22
243	SLE RA 2	2	-40	4641	-3.94	1385.32	11.59
243	SLE RA 3	1	-56	4616	-3.73	1377.93	16.48
243	SLE RA 4	1	-47	4658	-3.86	1390.46	13.71
243	SLE RA 5	1	-41	4668	-3.94	1393.41	11.8
243	SLE RA 6	0	-57	4643	-3.73	1386.02	16.69
243	SLE RA 7	1	-48	4685	-3.86	1398.55	13.92
243	SLE RA 8	0	-57	4625	-3.72	1380.62	16.64
243	SLE RA 9	0	-48	4667	-3.85	1393.15	13.86
243	SLE RA 10	0	-44	5039	-4.3	1504.55	12.72
243	SLE RA 11	-1	-60	5013	-4.09	1497.16	17.61
243	SLE RA 12	-1	-51	5056	-4.22	1509.69	14.84
243	SLE RA 13	0	-45	5066	-4.29	1512.64	12.93
243	SLE RA 14	-1	-61	5040	-4.09	1505.25	17.82
243	SLE RA 15	-1	-52	5082	-4.21	1517.77	15.05
243	SLE RA 16	-1	-61	5022	-4.08	1499.85	17.77
243	SLE RA 17	-1	-52	5064	-4.21	1512.37	14.99
243	SLE RA 18	-1	-61	5139	-4.24	1534.77	17.83
243	SLE RA 19	-1	-52	5181	-4.36	1547.3	15.06
243	SLE RA 20	-2	-62	5166	-4.23	1542.86	18.04
243	SLE RA 21	-1	-53	5208	-4.36	1555.38	15.27
243	SLE FR 1	1	-56	4571	-3.73	1364.45	16.22
243	SLE FR 2	1	-52	4585	-3.77	1368.62	15.3
243	SLE FR 3	1	-56	4582	-3.73	1367.68	16.3
243	SLE FR 4	1	-54	4756	-3.92	1419.72	15.78
243	SLE FR 5	0	-58	4752	-3.88	1418.78	16.79
243	SLE FR 6	0	-58	4855	-3.98	1449.61	17.03
243	SLE QP 1	1	-56	4571	-3.73	1364.45	16.22
243	SLE QP 2	0	-57	4741	-3.88	1415.54	16.7
243	SLD 1	415	77	5485	-5.63	1642.27	-23.66
243	SLD 2	498	82	5506	-5.66	1647.66	-24.97
243	SLD 3	404	-215	3882	-1	1164.42	64.31
243	SLD 4	487	-209	3904	-1.02	1169.81	62.99
243	SLD 5	127	424	7392	-11.43	2207.38	-128.59
243	SLD 6	180	427	7406	-11.44	2210.85	-129.44
243	SLD 7	91	-547	2049	4.02	614.54	164.63
243	SLD 8	145	-544	2063	4	618.01	163.78
243	SLD 9	-144	429	7420	-11.76	2213.08	-130.37
243	SLD 10	-90	433	7434	-11.78	2216.55	-131.22
243	SLD 11	-179	-542	2077	3.68	620.24	162.85
243	SLD 12	-126	-538	2091	3.67	623.71	162
243	SLD 13	-486	95	5579	-6.74	1661.28	-29.58
243	SLD 14	-403	100	5601	-6.76	1666.67	-30.9
243	SLD 15	-497	-196	3977	-2.1	1183.42	58.38
243	SLD 16	-414	-191	3998	-2.13	1188.81	57.06
243	SLV 1	649	172	6017	-6.95	1803.65	-52.52
243	SLV 2	779	181	6051	-6.99	1812.15	-54.59
243	SLV 3	631	-324	3282	0.95	988.31	97.52
243	SLV 4	762	-316	3316	0.92	996.81	95.45
243	SLV 5	197	764	9265	-16.78	2766.99	-231.23
243	SLV 6	286	769	9288	-16.81	2772.71	-232.63
243	SLV 7	138	-893	150	9.57	49.19	268.9
243	SLV 8	226	-887	173	9.54	54.91	267.5
243	SLV 9	-225	773	9310	-17.3	2776.18	-234.09
243	SLV 10	-137	778	9333	-17.33	2781.9	-235.49
243	SLV 11	-285	-884	195	9.05	58.38	266.04
243	SLV 12	-197	-878	218	9.02	64.09	264.64
243	SLV 13	-761	202	6167	-8.68	1834.28	-62.04
243	SLV 14	-630	210	6201	-8.71	1842.78	-64.11
243	SLV 15	-778	-295	3432	-0.77	1018.94	88
243	SLV 16	-648	-287	3466	-0.81	1027.43	85.93
243	SLV FO 1	713	195	6144	-7.26	1842.46	-59.44
243	SLV FO 2	857	205	6182	-7.3	1851.81	-61.72
243	SLV FO 3	694	-351	3136	1.44	945.59	105.6
243	SLV FO 4	838	-342	3174	1.4	954.93	103.32
243	SLV FO 5	217	846	9718	-18.07	2902.14	-256.03
243	SLV FO 6	314	852	9743	-18.1	2908.43	-257.56
243	SLV FO 7	152	-976	-310	10.91	-87.45	294.11
243	SLV FO 8	249	-970	-284	10.88	-81.16	292.58
243	SLV FO 9	-248	856	9767	-18.64	2912.25	-259.17
243	SLV FO 10	-151	862	9793	-18.67	2918.54	-260.7
243	SLV FO 11	-313	-967	-260	10.34	-77.34	290.97
243	SLV FO 12	-216	-960	-235	10.31	-71.05	289.44
243	SLV FO 13	-837	228	6309	-9.16	1876.15	-69.91
243	SLV FO 14	-693	237	6347	-9.2	1885.5	-72.19
243	SLV FO 15	-856	-319	3301	-0.46	979.28	95.13
243	SLV FO 16	-712	-310	3339	-0.5	988.62	92.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	CRTFP Ux+	0	0	0	0	0	0
243	CRTFP Ux-	0	0	0	0	0	0
243	CRTFP Uy+	0	0	0	0	-0.01	0
243	CRTFP Uy-	0	0	0	0	0.01	0
244	SLU 1	1	-13	514	-19.17	-64.25	-1.56
244	SLU 2	1	-11	527	-19.66	-65.89	-1.31
244	SLU 3	1	-13	521	-19.45	-65.17	-1.6
244	SLU 4	1	-12	529	-19.74	-66.15	-1.45
244	SLU 5	1	-11	531	-19.82	-66.42	-1.34
244	SLU 6	1	-13	526	-19.6	-65.7	-1.62
244	SLU 7	1	-12	533	-19.9	-66.68	-1.47
244	SLU 8	0	-13	522	-19.49	-65.3	-1.61
244	SLU 9	1	-12	530	-19.78	-66.29	-1.46
244	SLU 10	1	-12	595	-22.19	-74.38	-1.51
244	SLU 11	0	-14	589	-21.98	-73.66	-1.79
244	SLU 12	0	-13	597	-22.27	-74.64	-1.64
244	SLU 13	0	-12	599	-22.35	-74.91	-1.53
244	SLU 14	0	-15	593	-22.14	-74.18	-1.82
244	SLU 15	0	-13	601	-22.43	-75.17	-1.67
244	SLU 16	0	-15	590	-22.02	-73.79	-1.81
244	SLU 17	0	-13	598	-22.31	-74.78	-1.66
244	SLU 18	0	-15	611	-22.79	-76.37	-1.84
244	SLU 19	0	-14	619	-23.08	-77.36	-1.69
244	SLU 20	0	-15	615	-22.95	-76.9	-1.87
244	SLU 21	0	-14	623	-23.24	-77.89	-1.72
244	SLU 22	1	-14	583	-21.75	-72.88	-1.76
244	SLU 23	1	-12	596	-22.24	-74.53	-1.51
244	SLU 24	1	-15	590	-22.02	-73.8	-1.79
244	SLU 25	1	-13	598	-22.32	-74.79	-1.64
244	SLU 26	1	-13	600	-22.4	-75.05	-1.53
244	SLU 27	1	-15	595	-22.18	-74.33	-1.82
244	SLU 28	1	-14	603	-22.47	-75.32	-1.67
244	SLU 29	1	-15	591	-22.06	-73.94	-1.81
244	SLU 30	1	-13	599	-22.36	-74.92	-1.66
244	SLU 31	1	-14	664	-24.77	-83.01	-1.71
244	SLU 32	0	-16	658	-24.56	-82.29	-1.99
244	SLU 33	1	-15	666	-24.85	-83.28	-1.84
244	SLU 34	1	-14	668	-24.93	-83.54	-1.73
244	SLU 35	0	-16	663	-24.71	-82.82	-2.01
244	SLU 36	0	-15	670	-25.01	-83.81	-1.87
244	SLU 37	0	-16	659	-24.6	-82.43	-2
244	SLU 38	0	-15	667	-24.89	-83.41	-1.85
244	SLU 39	0	-16	680	-25.37	-85.01	-2.04
244	SLU 40	0	-15	688	-25.66	-86	-1.89
244	SLU 41	0	-17	684	-25.52	-85.54	-2.06
244	SLU 42	0	-15	692	-25.82	-86.52	-1.91
244	SLU 43	1	-16	644	-24.04	-80.56	-1.96
244	SLU 44	1	-14	658	-24.53	-82.2	-1.71
244	SLU 45	1	-16	652	-24.31	-81.48	-2
244	SLU 46	1	-15	660	-24.61	-82.47	-1.85
244	SLU 47	1	-14	662	-24.69	-82.73	-1.74
244	SLU 48	1	-16	656	-24.47	-82.01	-2.02
244	SLU 49	1	-15	664	-24.77	-82.99	-1.87
244	SLU 50	1	-16	653	-24.35	-81.61	-2.01
244	SLU 51	1	-15	661	-24.65	-82.6	-1.86
244	SLU 52	1	-15	726	-27.06	-90.69	-1.91
244	SLU 53	1	-18	720	-26.85	-89.97	-2.19
244	SLU 54	1	-17	728	-27.14	-90.96	-2.04
244	SLU 55	1	-16	730	-27.22	-91.22	-1.93
244	SLU 56	0	-18	724	-27	-90.5	-2.22
244	SLU 57	1	-17	732	-27.3	-91.48	-2.07
244	SLU 58	0	-18	721	-26.89	-90.1	-2.21
244	SLU 59	1	-17	729	-27.18	-91.09	-2.06
244	SLU 60	0	-18	742	-27.66	-92.69	-2.24
244	SLU 61	1	-17	749	-27.95	-93.67	-2.09
244	SLU 62	0	-18	746	-27.82	-93.21	-2.27
244	SLU 63	0	-17	754	-28.11	-94.2	-2.12
244	SLU 64	1	-18	714	-26.62	-89.2	-2.16
244	SLU 65	1	-16	727	-27.11	-90.84	-1.91
244	SLU 66	1	-18	721	-26.89	-90.12	-2.19
244	SLU 67	1	-17	729	-27.19	-91.1	-2.04
244	SLU 68	1	-16	731	-27.26	-91.37	-1.93
244	SLU 69	1	-18	725	-27.05	-90.65	-2.22
244	SLU 70	1	-17	733	-27.34	-91.63	-2.07
244	SLU 71	1	-18	722	-26.93	-90.25	-2.21
244	SLU 72	1	-17	730	-27.22	-91.24	-2.06
244	SLU 73	1	-17	795	-29.64	-99.33	-2.11
244	SLU 74	1	-19	789	-29.42	-98.61	-2.39
244	SLU 75	1	-18	797	-29.72	-99.59	-2.24
244	SLU 76	1	-17	799	-29.8	-99.85	-2.13
244	SLU 77	1	-19	793	-29.58	-99.13	-2.41
244	SLU 78	1	-18	801	-29.88	-100.12	-2.27
244	SLU 79	1	-19	790	-29.46	-98.74	-2.4
244	SLU 80	1	-18	798	-29.76	-99.72	-2.25
244	SLU 81	1	-20	811	-30.24	-101.32	-2.44
244	SLU 82	1	-19	818	-30.53	-102.31	-2.29
244	SLU 83	0	-20	815	-30.39	-101.85	-2.46
244	SLU 84	1	-19	823	-30.69	-102.84	-2.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLE RA 1	1	-13	534	-19.91	-66.72	-1.62
244	SLE RA 2	1	-12	542	-20.23	-67.81	-1.45
244	SLE RA 3	1	-13	539	-20.09	-67.33	-1.64
244	SLE RA 4	1	-13	544	-20.29	-67.99	-1.54
244	SLE RA 5	1	-12	545	-20.34	-68.16	-1.47
244	SLE RA 6	1	-13	541	-20.2	-67.68	-1.66
244	SLE RA 7	1	-13	547	-20.39	-68.34	-1.56
244	SLE RA 8	1	-13	539	-20.12	-67.42	-1.65
244	SLE RA 9	1	-13	545	-20.31	-68.07	-1.55
244	SLE RA 10	1	-13	588	-21.92	-73.47	-1.58
244	SLE RA 11	0	-14	584	-21.78	-72.99	-1.77
244	SLE RA 12	1	-14	589	-21.98	-73.65	-1.67
244	SLE RA 13	1	-13	591	-22.03	-73.82	-1.6
244	SLE RA 14	0	-14	587	-21.88	-73.34	-1.79
244	SLE RA 15	0	-14	592	-22.08	-74	-1.69
244	SLE RA 16	0	-14	585	-21.81	-73.08	-1.78
244	SLE RA 17	0	-14	590	-22	-73.73	-1.68
244	SLE RA 18	0	-15	598	-22.32	-74.8	-1.8
244	SLE RA 19	0	-14	604	-22.52	-75.46	-1.7
244	SLE RA 20	0	-15	601	-22.43	-75.15	-1.82
244	SLE RA 21	0	-14	606	-22.62	-75.81	-1.72
244	SLE FR 1	1	-13	534	-19.91	-66.72	-1.62
244	SLE FR 2	1	-13	535	-19.97	-66.93	-1.58
244	SLE FR 3	1	-13	535	-19.95	-66.86	-1.62
244	SLE FR 4	1	-13	555	-20.7	-69.36	-1.64
244	SLE FR 5	1	-14	554	-20.67	-69.28	-1.68
244	SLE FR 6	1	-14	566	-21.11	-70.76	-1.71
244	SLE QP 1	1	-13	534	-19.91	-66.72	-1.62
244	SLE QP 2	1	-14	553	-20.63	-69.14	-1.67
244	SLD 1	47	4	603	-22.5	-75.41	2.28
244	SLD 2	56	9	609	-22.72	-76.14	3.22
244	SLD 3	45	-21	411	-15.33	-51.36	-0.96
244	SLD 4	55	-16	417	-15.54	-52.09	-0.02
244	SLD 5	15	30	859	-32.04	-107.38	4.27
244	SLD 6	21	33	863	-32.18	-107.85	4.87
244	SLD 7	10	-55	218	-8.12	-27.2	-6.54
244	SLD 8	16	-52	221	-8.26	-27.67	-5.93
244	SLD 9	-15	25	885	-33.01	-110.61	2.58
244	SLD 10	-9	28	889	-33.15	-111.08	3.19
244	SLD 11	-20	-60	243	-9.08	-30.43	-8.22
244	SLD 12	-14	-57	247	-9.22	-30.9	-7.61
244	SLD 13	-53	-11	690	-25.72	-86.19	-3.33
244	SLD 14	-44	-6	695	-25.94	-86.92	-2.38
244	SLD 15	-55	-36	497	-18.54	-62.14	-6.57
244	SLD 16	-46	-31	503	-18.76	-62.87	-5.63
244	SLV 1	73	16	645	-24.07	-80.68	4.73
244	SLV 2	88	24	655	-24.42	-81.83	6.22
244	SLV 3	70	-27	317	-11.83	-39.64	-0.8
244	SLV 4	85	-20	326	-12.17	-40.79	0.69
244	SLV 5	24	60	1077	-40.17	-134.63	8.36
244	SLV 6	34	65	1083	-40.4	-135.4	9.36
244	SLV 7	15	-85	-17	0.65	2.17	-10.07
244	SLV 8	24	-80	-11	0.42	1.39	-9.07
244	SLV 9	-23	53	1117	-41.68	-139.67	5.73
244	SLV 10	-13	58	1124	-41.91	-140.45	6.73
244	SLV 11	-32	-92	23	-0.86	-2.88	-12.7
244	SLV 12	-23	-87	29	-1.09	-3.65	-11.7
244	SLV 13	-84	-7	780	-29.09	-97.49	-4.03
244	SLV 14	-69	0	789	-29.44	-98.64	-2.55
244	SLV 15	-86	-51	452	-16.85	-56.45	-9.56
244	SLV 16	-72	-43	461	-17.19	-57.61	-8.08
244	SLV FO 1	80	19	655	-24.42	-81.83	5.37
244	SLV FO 2	96	28	665	-24.8	-83.1	7.01
244	SLV FO 3	77	-29	293	-10.95	-36.69	-0.71
244	SLV FO 4	93	-20	304	-11.33	-37.95	0.93
244	SLV FO 5	26	67	1129	-42.13	-141.18	9.36
244	SLV FO 6	37	73	1136	-42.38	-142.03	10.46
244	SLV FO 7	16	-92	-74	2.77	9.3	-10.91
244	SLV FO 8	27	-87	-68	2.52	8.45	-9.81
244	SLV FO 9	-26	60	1174	-43.78	-146.73	6.47
244	SLV FO 10	-15	65	1181	-44.04	-147.58	7.57
244	SLV FO 11	-36	-100	-30	1.12	3.75	-13.81
244	SLV FO 12	-25	-94	-23	0.86	2.9	-12.7
244	SLV FO 13	-92	-7	803	-29.94	-100.33	-4.27
244	SLV FO 14	-76	2	813	-30.32	-101.59	-2.64
244	SLV FO 15	-95	-55	441	-16.47	-55.19	-10.35
244	SLV FO 16	-79	-46	452	-16.85	-56.45	-8.72
244	CRTFP Ux+	0	0	0	0	0	0
244	CRTFP Ux-	0	0	0	0	0	0
244	CRTFP Uy+	0	0	0	0	0	0
244	CRTFP Uy-	0	0	0	0	0	0
246	SLU 1	-8	-15	808	0	0	0
246	SLU 2	-8	-11	828	0	0	0
246	SLU 3	-8	-15	821	0	0	0
246	SLU 4	-8	-13	832	0	0	0
246	SLU 5	-8	-12	835	0	0	0
246	SLU 6	-8	-15	828	0	0	0
246	SLU 7	-8	-13	840	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLU 8	-8	-15	823	0	0	0
246	SLU 9	-8	-13	835	0	0	0
246	SLU 10	-9	-13	936	0	0	0
246	SLU 11	-8	-17	929	0	0	0
246	SLU 12	-9	-15	941	0	0	0
246	SLU 13	-9	-13	944	0	0	0
246	SLU 14	-8	-17	937	0	0	0
246	SLU 15	-9	-15	949	0	0	0
246	SLU 16	-8	-17	932	0	0	0
246	SLU 17	-9	-15	944	0	0	0
246	SLU 18	-8	-17	963	0	0	0
246	SLU 19	-8	-15	975	0	0	0
246	SLU 20	-8	-17	971	0	0	0
246	SLU 21	-9	-15	983	0	0	0
246	SLU 22	-9	-16	919	0	0	0
246	SLU 23	-9	-13	938	0	0	0
246	SLU 24	-9	-17	931	0	0	0
246	SLU 25	-9	-15	943	0	0	0
246	SLU 26	-10	-13	946	0	0	0
246	SLU 27	-9	-17	939	0	0	0
246	SLU 28	-10	-15	951	0	0	0
246	SLU 29	-9	-17	934	0	0	0
246	SLU 30	-10	-15	946	0	0	0
246	SLU 31	-10	-15	1047	0	0	0
246	SLU 32	-9	-18	1040	0	0	0
246	SLU 33	-10	-16	1052	0	0	0
246	SLU 34	-10	-15	1055	0	0	0
246	SLU 35	-10	-18	1048	0	0	0
246	SLU 36	-10	-17	1060	0	0	0
246	SLU 37	-10	-18	1043	0	0	0
246	SLU 38	-10	-16	1055	0	0	0
246	SLU 39	-9	-19	1074	0	0	0
246	SLU 40	-10	-17	1086	0	0	0
246	SLU 41	-9	-19	1082	0	0	0
246	SLU 42	-10	-17	1094	0	0	0
246	SLU 43	-9	-18	1012	0	0	0
246	SLU 44	-10	-15	1032	0	0	0
246	SLU 45	-10	-19	1025	0	0	0
246	SLU 46	-10	-17	1037	0	0	0
246	SLU 47	-10	-15	1040	0	0	0
246	SLU 48	-10	-19	1033	0	0	0
246	SLU 49	-10	-17	1044	0	0	0
246	SLU 50	-10	-19	1028	0	0	0
246	SLU 51	-10	-17	1040	0	0	0
246	SLU 52	-10	-17	1141	0	0	0
246	SLU 53	-10	-20	1134	0	0	0
246	SLU 54	-10	-18	1145	0	0	0
246	SLU 55	-11	-17	1148	0	0	0
246	SLU 56	-10	-21	1141	0	0	0
246	SLU 57	-11	-19	1153	0	0	0
246	SLU 58	-10	-20	1136	0	0	0
246	SLU 59	-10	-19	1148	0	0	0
246	SLU 60	-10	-21	1167	0	0	0
246	SLU 61	-10	-19	1179	0	0	0
246	SLU 62	-10	-21	1175	0	0	0
246	SLU 63	-10	-19	1187	0	0	0
246	SLU 64	-11	-20	1123	0	0	0
246	SLU 65	-11	-17	1143	0	0	0
246	SLU 66	-11	-20	1136	0	0	0
246	SLU 67	-11	-19	1148	0	0	0
246	SLU 68	-11	-17	1151	0	0	0
246	SLU 69	-11	-21	1144	0	0	0
246	SLU 70	-11	-19	1155	0	0	0
246	SLU 71	-11	-21	1139	0	0	0
246	SLU 72	-11	-19	1150	0	0	0
246	SLU 73	-12	-19	1251	0	0	0
246	SLU 74	-11	-22	1245	0	0	0
246	SLU 75	-12	-20	1256	0	0	0
246	SLU 76	-12	-19	1259	0	0	0
246	SLU 77	-11	-22	1252	0	0	0
246	SLU 78	-12	-20	1264	0	0	0
246	SLU 79	-11	-22	1247	0	0	0
246	SLU 80	-12	-20	1259	0	0	0
246	SLU 81	-11	-22	1278	0	0	0
246	SLU 82	-12	-21	1290	0	0	0
246	SLU 83	-11	-23	1286	0	0	0
246	SLU 84	-12	-21	1298	0	0	0
246	SLE RA 1	-8	-15	839	0	0	0
246	SLE RA 2	-8	-13	853	0	0	0
246	SLE RA 3	-8	-15	848	0	0	0
246	SLE RA 4	-8	-14	856	0	0	0
246	SLE RA 5	-8	-13	858	0	0	0
246	SLE RA 6	-8	-15	853	0	0	0
246	SLE RA 7	-8	-14	861	0	0	0
246	SLE RA 8	-8	-15	850	0	0	0
246	SLE RA 9	-8	-14	858	0	0	0
246	SLE RA 10	-9	-14	925	0	0	0
246	SLE RA 11	-8	-16	920	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLE RA 12	-9	-15	928	0	0	0
246	SLE RA 13	-9	-14	930	0	0	0
246	SLE RA 14	-8	-17	926	0	0	0
246	SLE RA 15	-9	-15	934	0	0	0
246	SLE RA 16	-8	-16	922	0	0	0
246	SLE RA 17	-9	-15	930	0	0	0
246	SLE RA 18	-8	-17	943	0	0	0
246	SLE RA 19	-9	-15	951	0	0	0
246	SLE RA 20	-8	-17	948	0	0	0
246	SLE RA 21	-9	-16	956	0	0	0
246	SLE FR 1	-8	-15	839	0	0	0
246	SLE FR 2	-8	-15	842	0	0	0
246	SLE FR 3	-8	-15	842	0	0	0
246	SLE FR 4	-8	-15	873	0	0	0
246	SLE FR 5	-8	-16	873	0	0	0
246	SLE FR 6	-8	-16	891	0	0	0
246	SLE QP 1	-8	-15	839	0	0	0
246	SLE QP 2	-8	-16	871	0	0	0
246	SLD 1	59	-2	1076	0	0	0
246	SLD 2	73	-9	1068	0	0	0
246	SLD 3	64	-42	784	0	0	0
246	SLD 4	79	-49	776	0	0	0
246	SLD 5	1	50	1376	0	0	0
246	SLD 6	10	46	1371	0	0	0
246	SLD 7	20	-83	404	0	0	0
246	SLD 8	29	-88	398	0	0	0
246	SLD 9	-45	56	1343	0	0	0
246	SLD 10	-36	52	1337	0	0	0
246	SLD 11	-27	-77	370	0	0	0
246	SLD 12	-17	-81	365	0	0	0
246	SLD 13	-95	18	965	0	0	0
246	SLD 14	-81	11	957	0	0	0
246	SLD 15	-90	-22	674	0	0	0
246	SLD 16	-75	-29	665	0	0	0
246	SLV 1	96	8	1212	0	0	0
246	SLV 2	119	-3	1199	0	0	0
246	SLV 3	106	-60	715	0	0	0
246	SLV 4	128	-71	701	0	0	0
246	SLV 5	5	97	1730	0	0	0
246	SLV 6	20	89	1722	0	0	0
246	SLV 7	36	-130	71	0	0	0
246	SLV 8	51	-138	62	0	0	0
246	SLV 9	-67	107	1679	0	0	0
246	SLV 10	-52	99	1670	0	0	0
246	SLV 11	-36	-121	20	0	0	0
246	SLV 12	-21	-128	11	0	0	0
246	SLV 13	-145	40	1040	0	0	0
246	SLV 14	-122	29	1026	0	0	0
246	SLV 15	-135	-28	542	0	0	0
246	SLV 16	-112	-39	529	0	0	0
246	SLV FO 1	107	11	1247	0	0	0
246	SLV FO 2	132	-2	1232	0	0	0
246	SLV FO 3	117	-64	699	0	0	0
246	SLV FO 4	142	-77	685	0	0	0
246	SLV FO 5	6	108	1816	0	0	0
246	SLV FO 6	23	100	1807	0	0	0
246	SLV FO 7	40	-142	-9	0	0	0
246	SLV FO 8	57	-150	-18	0	0	0
246	SLV FO 9	-73	119	1759	0	0	0
246	SLV FO 10	-57	111	1750	0	0	0
246	SLV FO 11	-39	-131	-66	0	0	0
246	SLV FO 12	-22	-140	-75	0	0	0
246	SLV FO 13	-158	46	1057	0	0	0
246	SLV FO 14	-133	33	1042	0	0	0
246	SLV FO 15	-148	-29	509	0	0	0
246	SLV FO 16	-123	-42	494	0	0	0
246	CRTFP Uy+	0	0	0	0	0	0
246	CRTFP Uy-	0	0	0	0	0	0
247	SLU 1	-8	-13	834	0	0	0
247	SLU 2	-8	-10	854	0	0	0
247	SLU 3	-8	-14	847	0	0	0
247	SLU 4	-8	-12	859	0	0	0
247	SLU 5	-9	-10	862	0	0	0
247	SLU 6	-8	-14	855	0	0	0
247	SLU 7	-9	-12	867	0	0	0
247	SLU 8	-8	-14	850	0	0	0
247	SLU 9	-9	-12	862	0	0	0
247	SLU 10	-9	-11	966	0	0	0
247	SLU 11	-8	-15	959	0	0	0
247	SLU 12	-9	-13	971	0	0	0
247	SLU 13	-9	-12	974	0	0	0
247	SLU 14	-9	-15	967	0	0	0
247	SLU 15	-9	-13	979	0	0	0
247	SLU 16	-9	-15	962	0	0	0
247	SLU 17	-9	-13	974	0	0	0
247	SLU 18	-8	-16	994	0	0	0
247	SLU 19	-9	-13	1006	0	0	0
247	SLU 20	-8	-16	1002	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLU 21	-9	-14	1014	0	0	0
247	SLU 22	-9	-15	948	0	0	0
247	SLU 23	-10	-12	968	0	0	0
247	SLU 24	-9	-15	961	0	0	0
247	SLU 25	-10	-13	973	0	0	0
247	SLU 26	-10	-12	976	0	0	0
247	SLU 27	-10	-15	969	0	0	0
247	SLU 28	-10	-13	981	0	0	0
247	SLU 29	-9	-15	964	0	0	0
247	SLU 30	-10	-13	976	0	0	0
247	SLU 31	-10	-13	1080	0	0	0
247	SLU 32	-10	-17	1073	0	0	0
247	SLU 33	-10	-15	1085	0	0	0
247	SLU 34	-10	-13	1088	0	0	0
247	SLU 35	-10	-17	1081	0	0	0
247	SLU 36	-10	-15	1093	0	0	0
247	SLU 37	-10	-17	1076	0	0	0
247	SLU 38	-10	-15	1088	0	0	0
247	SLU 39	-10	-17	1108	0	0	0
247	SLU 40	-10	-15	1120	0	0	0
247	SLU 41	-10	-17	1116	0	0	0
247	SLU 42	-10	-15	1128	0	0	0
247	SLU 43	-10	-17	1045	0	0	0
247	SLU 44	-10	-13	1065	0	0	0
247	SLU 45	-10	-17	1058	0	0	0
247	SLU 46	-10	-15	1070	0	0	0
247	SLU 47	-11	-14	1073	0	0	0
247	SLU 48	-10	-17	1066	0	0	0
247	SLU 49	-11	-15	1078	0	0	0
247	SLU 50	-10	-17	1061	0	0	0
247	SLU 51	-10	-15	1073	0	0	0
247	SLU 52	-11	-15	1177	0	0	0
247	SLU 53	-10	-19	1170	0	0	0
247	SLU 54	-11	-17	1182	0	0	0
247	SLU 55	-11	-15	1185	0	0	0
247	SLU 56	-10	-19	1178	0	0	0
247	SLU 57	-11	-17	1190	0	0	0
247	SLU 58	-10	-19	1173	0	0	0
247	SLU 59	-11	-17	1185	0	0	0
247	SLU 60	-10	-19	1205	0	0	0
247	SLU 61	-11	-17	1217	0	0	0
247	SLU 62	-10	-19	1213	0	0	0
247	SLU 63	-11	-17	1225	0	0	0
247	SLU 64	-11	-18	1159	0	0	0
247	SLU 65	-12	-15	1179	0	0	0
247	SLU 66	-11	-19	1172	0	0	0
247	SLU 67	-12	-17	1184	0	0	0
247	SLU 68	-12	-15	1187	0	0	0
247	SLU 69	-11	-19	1180	0	0	0
247	SLU 70	-12	-17	1192	0	0	0
247	SLU 71	-11	-19	1175	0	0	0
247	SLU 72	-12	-17	1187	0	0	0
247	SLU 73	-12	-16	1291	0	0	0
247	SLU 74	-12	-20	1284	0	0	0
247	SLU 75	-12	-18	1296	0	0	0
247	SLU 76	-12	-17	1299	0	0	0
247	SLU 77	-12	-20	1292	0	0	0
247	SLU 78	-12	-18	1304	0	0	0
247	SLU 79	-12	-20	1287	0	0	0
247	SLU 80	-12	-18	1299	0	0	0
247	SLU 81	-12	-21	1319	0	0	0
247	SLU 82	-12	-19	1331	0	0	0
247	SLU 83	-12	-21	1327	0	0	0
247	SLU 84	-12	-19	1339	0	0	0
247	SLE RA 1	-8	-14	866	0	0	0
247	SLE RA 2	-9	-12	880	0	0	0
247	SLE RA 3	-8	-14	875	0	0	0
247	SLE RA 4	-9	-13	883	0	0	0
247	SLE RA 5	-9	-12	885	0	0	0
247	SLE RA 6	-8	-14	880	0	0	0
247	SLE RA 7	-9	-13	888	0	0	0
247	SLE RA 8	-8	-14	877	0	0	0
247	SLE RA 9	-9	-13	885	0	0	0
247	SLE RA 10	-9	-13	955	0	0	0
247	SLE RA 11	-9	-15	950	0	0	0
247	SLE RA 12	-9	-14	958	0	0	0
247	SLE RA 13	-9	-13	960	0	0	0
247	SLE RA 14	-9	-15	955	0	0	0
247	SLE RA 15	-9	-14	963	0	0	0
247	SLE RA 16	-9	-15	952	0	0	0
247	SLE RA 17	-9	-14	960	0	0	0
247	SLE RA 18	-9	-15	973	0	0	0
247	SLE RA 19	-9	-14	981	0	0	0
247	SLE RA 20	-9	-15	978	0	0	0
247	SLE RA 21	-9	-14	987	0	0	0
247	SLE FR 1	-8	-14	866	0	0	0
247	SLE FR 2	-8	-13	869	0	0	0
247	SLE FR 3	-8	-14	868	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLE FR 4	-8	-14	901	0	0	0
247	SLE FR 5	-8	-14	900	0	0	0
247	SLE FR 6	-8	-15	920	0	0	0
247	SLE QP 1	-8	-14	866	0	0	0
247	SLE QP 2	-8	-14	898	0	0	0
247	SLD 1	62	1	1103	0	0	0
247	SLD 2	77	-6	1095	0	0	0
247	SLD 3	68	-42	803	0	0	0
247	SLD 4	83	-49	795	0	0	0
247	SLD 5	2	57	1417	0	0	0
247	SLD 6	11	52	1411	0	0	0
247	SLD 7	21	-86	415	0	0	0
247	SLD 8	30	-91	410	0	0	0
247	SLD 9	-47	62	1386	0	0	0
247	SLD 10	-37	58	1381	0	0	0
247	SLD 11	-28	-81	385	0	0	0
247	SLD 12	-18	-85	380	0	0	0
247	SLD 13	-100	20	1002	0	0	0
247	SLD 14	-84	13	994	0	0	0
247	SLD 15	-94	-23	702	0	0	0
247	SLD 16	-79	-30	693	0	0	0
247	SLV 1	101	13	1240	0	0	0
247	SLV 2	125	2	1227	0	0	0
247	SLV 3	111	-60	727	0	0	0
247	SLV 4	135	-71	715	0	0	0
247	SLV 5	5	107	1780	0	0	0
247	SLV 6	22	99	1772	0	0	0
247	SLV 7	38	-137	72	0	0	0
247	SLV 8	54	-144	63	0	0	0
247	SLV 9	-70	116	1733	0	0	0
247	SLV 10	-54	108	1724	0	0	0
247	SLV 11	-38	-128	25	0	0	0
247	SLV 12	-22	-135	16	0	0	0
247	SLV 13	-152	43	1082	0	0	0
247	SLV 14	-128	32	1069	0	0	0
247	SLV 15	-142	-30	569	0	0	0
247	SLV 16	-118	-41	557	0	0	0
247	SLV FO 1	112	15	1274	0	0	0
247	SLV FO 2	139	3	1260	0	0	0
247	SLV FO 3	123	-65	710	0	0	0
247	SLV FO 4	149	-77	696	0	0	0
247	SLV FO 5	7	119	1869	0	0	0
247	SLV FO 6	25	111	1859	0	0	0
247	SLV FO 7	42	-149	-11	0	0	0
247	SLV FO 8	60	-157	-20	0	0	0
247	SLV FO 9	-77	129	1817	0	0	0
247	SLV FO 10	-59	121	1807	0	0	0
247	SLV FO 11	-41	-139	-63	0	0	0
247	SLV FO 12	-23	-147	-72	0	0	0
247	SLV FO 13	-166	49	1100	0	0	0
247	SLV FO 14	-140	36	1086	0	0	0
247	SLV FO 15	-155	-32	536	0	0	0
247	SLV FO 16	-129	-44	523	0	0	0
247	CRTFP Uy+	0	0	0	0	0	0
247	CRTFP Uy-	0	0	0	0	0	0
248	SLU 1	-8	-12	871	0	0	0
248	SLU 2	-9	-8	892	0	0	0
248	SLU 3	-8	-12	885	0	0	0
248	SLU 4	-9	-10	897	0	0	0
248	SLU 5	-9	-9	900	0	0	0
248	SLU 6	-8	-13	893	0	0	0
248	SLU 7	-9	-10	906	0	0	0
248	SLU 8	-8	-13	888	0	0	0
248	SLU 9	-9	-10	900	0	0	0
248	SLU 10	-9	-10	1010	0	0	0
248	SLU 11	-9	-14	1002	0	0	0
248	SLU 12	-9	-12	1015	0	0	0
248	SLU 13	-9	-10	1018	0	0	0
248	SLU 14	-9	-14	1011	0	0	0
248	SLU 15	-9	-12	1023	0	0	0
248	SLU 16	-9	-14	1005	0	0	0
248	SLU 17	-9	-12	1018	0	0	0
248	SLU 18	-8	-14	1039	0	0	0
248	SLU 19	-9	-12	1051	0	0	0
248	SLU 20	-9	-14	1047	0	0	0
248	SLU 21	-9	-12	1060	0	0	0
248	SLU 22	-9	-14	990	0	0	0
248	SLU 23	-10	-10	1011	0	0	0
248	SLU 24	-10	-14	1003	0	0	0
248	SLU 25	-10	-12	1016	0	0	0
248	SLU 26	-10	-10	1019	0	0	0
248	SLU 27	-10	-14	1012	0	0	0
248	SLU 28	-10	-12	1024	0	0	0
248	SLU 29	-10	-14	1006	0	0	0
248	SLU 30	-10	-12	1019	0	0	0
248	SLU 31	-10	-11	1128	0	0	0
248	SLU 32	-10	-15	1121	0	0	0
248	SLU 33	-10	-13	1133	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLU 34	-10	-11	1137	0	0	0
248	SLU 35	-10	-15	1129	0	0	0
248	SLU 36	-10	-13	1142	0	0	0
248	SLU 37	-10	-15	1124	0	0	0
248	SLU 38	-10	-13	1137	0	0	0
248	SLU 39	-10	-16	1157	0	0	0
248	SLU 40	-10	-13	1170	0	0	0
248	SLU 41	-10	-16	1166	0	0	0
248	SLU 42	-10	-13	1179	0	0	0
248	SLU 43	-10	-15	1092	0	0	0
248	SLU 44	-11	-12	1113	0	0	0
248	SLU 45	-10	-16	1105	0	0	0
248	SLU 46	-11	-13	1118	0	0	0
248	SLU 47	-11	-12	1121	0	0	0
248	SLU 48	-10	-16	1114	0	0	0
248	SLU 49	-11	-14	1126	0	0	0
248	SLU 50	-10	-16	1108	0	0	0
248	SLU 51	-11	-14	1121	0	0	0
248	SLU 52	-11	-13	1230	0	0	0
248	SLU 53	-10	-17	1223	0	0	0
248	SLU 54	-11	-15	1235	0	0	0
248	SLU 55	-11	-13	1239	0	0	0
248	SLU 56	-11	-17	1231	0	0	0
248	SLU 57	-11	-15	1244	0	0	0
248	SLU 58	-11	-17	1226	0	0	0
248	SLU 59	-11	-15	1239	0	0	0
248	SLU 60	-10	-17	1259	0	0	0
248	SLU 61	-11	-15	1272	0	0	0
248	SLU 62	-11	-18	1268	0	0	0
248	SLU 63	-11	-15	1280	0	0	0
248	SLU 64	-11	-17	1210	0	0	0
248	SLU 65	-12	-13	1231	0	0	0
248	SLU 66	-11	-17	1224	0	0	0
248	SLU 67	-12	-15	1237	0	0	0
248	SLU 68	-12	-13	1240	0	0	0
248	SLU 69	-12	-17	1232	0	0	0
248	SLU 70	-12	-15	1245	0	0	0
248	SLU 71	-12	-17	1227	0	0	0
248	SLU 72	-12	-15	1240	0	0	0
248	SLU 73	-12	-14	1349	0	0	0
248	SLU 74	-12	-18	1341	0	0	0
248	SLU 75	-12	-16	1354	0	0	0
248	SLU 76	-12	-15	1357	0	0	0
248	SLU 77	-12	-19	1350	0	0	0
248	SLU 78	-12	-16	1363	0	0	0
248	SLU 79	-12	-18	1345	0	0	0
248	SLU 80	-12	-16	1357	0	0	0
248	SLU 81	-12	-19	1378	0	0	0
248	SLU 82	-12	-16	1391	0	0	0
248	SLU 83	-12	-19	1387	0	0	0
248	SLU 84	-12	-17	1399	0	0	0
248	SLE RA 1	-8	-13	905	0	0	0
248	SLE RA 2	-9	-10	919	0	0	0
248	SLE RA 3	-9	-13	914	0	0	0
248	SLE RA 4	-9	-11	922	0	0	0
248	SLE RA 5	-9	-10	924	0	0	0
248	SLE RA 6	-9	-13	920	0	0	0
248	SLE RA 7	-9	-11	928	0	0	0
248	SLE RA 8	-9	-13	916	0	0	0
248	SLE RA 9	-9	-11	924	0	0	0
248	SLE RA 10	-9	-11	997	0	0	0
248	SLE RA 11	-9	-14	992	0	0	0
248	SLE RA 12	-9	-12	1001	0	0	0
248	SLE RA 13	-9	-11	1003	0	0	0
248	SLE RA 14	-9	-14	998	0	0	0
248	SLE RA 15	-9	-12	1006	0	0	0
248	SLE RA 16	-9	-14	994	0	0	0
248	SLE RA 17	-9	-12	1003	0	0	0
248	SLE RA 18	-9	-14	1017	0	0	0
248	SLE RA 19	-9	-12	1025	0	0	0
248	SLE RA 20	-9	-14	1022	0	0	0
248	SLE RA 21	-9	-13	1031	0	0	0
248	SLE FR 1	-8	-13	905	0	0	0
248	SLE FR 2	-8	-12	908	0	0	0
248	SLE FR 3	-8	-13	907	0	0	0
248	SLE FR 4	-9	-12	941	0	0	0
248	SLE FR 5	-8	-13	941	0	0	0
248	SLE FR 6	-8	-13	961	0	0	0
248	SLE QP 1	-8	-13	905	0	0	0
248	SLE QP 2	-8	-13	938	0	0	0
248	SLD 1	66	4	1144	0	0	0
248	SLD 2	83	-2	1137	0	0	0
248	SLD 3	72	-42	831	0	0	0
248	SLD 4	88	-49	823	0	0	0
248	SLD 5	2	64	1477	0	0	0
248	SLD 6	13	60	1472	0	0	0
248	SLD 7	22	-91	432	0	0	0
248	SLD 8	32	-95	427	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLD 9	-49	69	1450	0	0	0
248	SLD 10	-39	65	1445	0	0	0
248	SLD 11	-30	-85	405	0	0	0
248	SLD 12	-19	-90	400	0	0	0
248	SLD 13	-105	23	1054	0	0	0
248	SLD 14	-89	16	1046	0	0	0
248	SLD 15	-99	-24	740	0	0	0
248	SLD 16	-83	-30	732	0	0	0
248	SLV 1	108	18	1283	0	0	0
248	SLV 2	134	7	1271	0	0	0
248	SLV 3	118	-62	748	0	0	0
248	SLV 4	144	-72	736	0	0	0
248	SLV 5	7	118	1855	0	0	0
248	SLV 6	24	111	1847	0	0	0
248	SLV 7	40	-146	73	0	0	0
248	SLV 8	57	-153	64	0	0	0
248	SLV 9	-74	127	1812	0	0	0
248	SLV 10	-57	120	1804	0	0	0
248	SLV 11	-41	-137	30	0	0	0
248	SLV 12	-24	-144	22	0	0	0
248	SLV 13	-160	46	1141	0	0	0
248	SLV 14	-135	36	1129	0	0	0
248	SLV 15	-150	-33	606	0	0	0
248	SLV 16	-125	-44	594	0	0	0
248	SLV FO 1	120	21	1317	0	0	0
248	SLV FO 2	148	9	1304	0	0	0
248	SLV FO 3	131	-66	729	0	0	0
248	SLV FO 4	159	-78	716	0	0	0
248	SLV FO 5	8	131	1947	0	0	0
248	SLV FO 6	27	124	1938	0	0	0
248	SLV FO 7	45	-159	-14	0	0	0
248	SLV FO 8	64	-167	-23	0	0	0
248	SLV FO 9	-80	141	1900	0	0	0
248	SLV FO 10	-62	133	1891	0	0	0
248	SLV FO 11	-44	-150	-61	0	0	0
248	SLV FO 12	-25	-157	-70	0	0	0
248	SLV FO 13	-176	52	1161	0	0	0
248	SLV FO 14	-148	40	1148	0	0	0
248	SLV FO 15	-165	-35	573	0	0	0
248	SLV FO 16	-137	-47	560	0	0	0
248	CRTFP Uy+	0	0	0	0	0	0
248	CRTFP Uy-	0	0	0	0	0	0
249	SLU 1	-8	-10	889	0	0	0
249	SLU 2	-9	-6	910	0	0	0
249	SLU 3	-8	-11	903	0	0	0
249	SLU 4	-9	-8	915	0	0	0
249	SLU 5	-9	-7	919	0	0	0
249	SLU 6	-8	-11	911	0	0	0
249	SLU 7	-9	-8	924	0	0	0
249	SLU 8	-8	-11	906	0	0	0
249	SLU 9	-9	-8	919	0	0	0
249	SLU 10	-9	-8	1030	0	0	0
249	SLU 11	-8	-12	1023	0	0	0
249	SLU 12	-9	-9	1036	0	0	0
249	SLU 13	-9	-8	1039	0	0	0
249	SLU 14	-9	-12	1031	0	0	0
249	SLU 15	-9	-10	1044	0	0	0
249	SLU 16	-9	-12	1026	0	0	0
249	SLU 17	-9	-10	1039	0	0	0
249	SLU 18	-8	-12	1060	0	0	0
249	SLU 19	-9	-10	1073	0	0	0
249	SLU 20	-8	-12	1069	0	0	0
249	SLU 21	-9	-10	1082	0	0	0
249	SLU 22	-9	-11	1009	0	0	0
249	SLU 23	-10	-8	1031	0	0	0
249	SLU 24	-9	-12	1023	0	0	0
249	SLU 25	-10	-9	1036	0	0	0
249	SLU 26	-10	-8	1039	0	0	0
249	SLU 27	-10	-12	1032	0	0	0
249	SLU 28	-10	-9	1045	0	0	0
249	SLU 29	-10	-12	1026	0	0	0
249	SLU 30	-10	-9	1039	0	0	0
249	SLU 31	-10	-9	1151	0	0	0
249	SLU 32	-10	-13	1144	0	0	0
249	SLU 33	-10	-10	1156	0	0	0
249	SLU 34	-10	-9	1159	0	0	0
249	SLU 35	-10	-13	1152	0	0	0
249	SLU 36	-10	-11	1165	0	0	0
249	SLU 37	-10	-13	1147	0	0	0
249	SLU 38	-10	-11	1159	0	0	0
249	SLU 39	-10	-13	1181	0	0	0
249	SLU 40	-10	-11	1194	0	0	0
249	SLU 41	-10	-13	1190	0	0	0
249	SLU 42	-10	-11	1202	0	0	0
249	SLU 43	-10	-13	1114	0	0	0
249	SLU 44	-10	-9	1135	0	0	0
249	SLU 45	-10	-13	1128	0	0	0
249	SLU 46	-10	-11	1141	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLU 47	-11	-9	1144	0	0	0
249	SLU 48	-10	-13	1136	0	0	0
249	SLU 49	-11	-11	1149	0	0	0
249	SLU 50	-10	-13	1131	0	0	0
249	SLU 51	-11	-11	1144	0	0	0
249	SLU 52	-11	-10	1255	0	0	0
249	SLU 53	-10	-14	1248	0	0	0
249	SLU 54	-11	-12	1261	0	0	0
249	SLU 55	-11	-11	1264	0	0	0
249	SLU 56	-10	-15	1257	0	0	0
249	SLU 57	-11	-12	1269	0	0	0
249	SLU 58	-10	-15	1251	0	0	0
249	SLU 59	-11	-12	1264	0	0	0
249	SLU 60	-10	-15	1286	0	0	0
249	SLU 61	-11	-12	1298	0	0	0
249	SLU 62	-10	-15	1294	0	0	0
249	SLU 63	-11	-13	1307	0	0	0
249	SLU 64	-11	-14	1234	0	0	0
249	SLU 65	-12	-10	1256	0	0	0
249	SLU 66	-11	-14	1248	0	0	0
249	SLU 67	-12	-12	1261	0	0	0
249	SLU 68	-12	-10	1264	0	0	0
249	SLU 69	-12	-15	1257	0	0	0
249	SLU 70	-12	-12	1270	0	0	0
249	SLU 71	-11	-15	1252	0	0	0
249	SLU 72	-12	-12	1264	0	0	0
249	SLU 73	-12	-11	1376	0	0	0
249	SLU 74	-12	-16	1369	0	0	0
249	SLU 75	-12	-13	1382	0	0	0
249	SLU 76	-12	-12	1385	0	0	0
249	SLU 77	-12	-16	1377	0	0	0
249	SLU 78	-12	-13	1390	0	0	0
249	SLU 79	-12	-16	1372	0	0	0
249	SLU 80	-12	-13	1385	0	0	0
249	SLU 81	-12	-16	1406	0	0	0
249	SLU 82	-12	-14	1419	0	0	0
249	SLU 83	-12	-16	1415	0	0	0
249	SLU 84	-12	-14	1428	0	0	0
249	SLE RA 1	-8	-11	923	0	0	0
249	SLE RA 2	-9	-8	937	0	0	0
249	SLE RA 3	-8	-11	932	0	0	0
249	SLE RA 4	-9	-9	941	0	0	0
249	SLE RA 5	-9	-8	943	0	0	0
249	SLE RA 6	-9	-11	938	0	0	0
249	SLE RA 7	-9	-9	947	0	0	0
249	SLE RA 8	-8	-11	934	0	0	0
249	SLE RA 9	-9	-9	943	0	0	0
249	SLE RA 10	-9	-9	1017	0	0	0
249	SLE RA 11	-9	-12	1013	0	0	0
249	SLE RA 12	-9	-10	1021	0	0	0
249	SLE RA 13	-9	-9	1023	0	0	0
249	SLE RA 14	-9	-12	1018	0	0	0
249	SLE RA 15	-9	-10	1027	0	0	0
249	SLE RA 16	-9	-12	1015	0	0	0
249	SLE RA 17	-9	-10	1023	0	0	0
249	SLE RA 18	-9	-12	1038	0	0	0
249	SLE RA 19	-9	-10	1046	0	0	0
249	SLE RA 20	-9	-12	1043	0	0	0
249	SLE RA 21	-9	-10	1052	0	0	0
249	SLE FR 1	-8	-11	923	0	0	0
249	SLE FR 2	-8	-10	926	0	0	0
249	SLE FR 3	-8	-11	925	0	0	0
249	SLE FR 4	-8	-10	960	0	0	0
249	SLE FR 5	-8	-11	960	0	0	0
249	SLE FR 6	-8	-11	980	0	0	0
249	SLE QP 1	-8	-11	923	0	0	0
249	SLE QP 2	-8	-11	957	0	0	0
249	SLD 1	69	8	1159	0	0	0
249	SLD 2	85	2	1152	0	0	0
249	SLD 3	75	-40	840	0	0	0
249	SLD 4	91	-47	833	0	0	0
249	SLD 5	3	70	1503	0	0	0
249	SLD 6	14	66	1499	0	0	0
249	SLD 7	23	-93	439	0	0	0
249	SLD 8	33	-97	434	0	0	0
249	SLD 9	-50	75	1480	0	0	0
249	SLD 10	-39	71	1476	0	0	0
249	SLD 11	-30	-88	416	0	0	0
249	SLD 12	-20	-92	411	0	0	0
249	SLD 13	-108	25	1082	0	0	0
249	SLD 14	-91	18	1075	0	0	0
249	SLD 15	-102	-24	763	0	0	0
249	SLD 16	-86	-30	756	0	0	0
249	SLV 1	112	23	1295	0	0	0
249	SLV 2	138	13	1284	0	0	0
249	SLV 3	122	-61	751	0	0	0
249	SLV 4	148	-70	739	0	0	0
249	SLV 5	8	127	1887	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLV 6	25	121	1880	0	0	0
249	SLV 7	41	-150	71	0	0	0
249	SLV 8	59	-157	63	0	0	0
249	SLV 9	-75	135	1851	0	0	0
249	SLV 10	-58	128	1844	0	0	0
249	SLV 11	-42	-143	35	0	0	0
249	SLV 12	-24	-149	28	0	0	0
249	SLV 13	-165	48	1176	0	0	0
249	SLV 14	-139	39	1164	0	0	0
249	SLV 15	-155	-35	631	0	0	0
249	SLV 16	-129	-45	619	0	0	0
249	SLV FO 1	124	26	1329	0	0	0
249	SLV FO 2	153	16	1317	0	0	0
249	SLV FO 3	135	-65	730	0	0	0
249	SLV FO 4	164	-76	717	0	0	0
249	SLV FO 5	9	141	1980	0	0	0
249	SLV FO 6	29	134	1972	0	0	0
249	SLV FO 7	46	-164	-18	0	0	0
249	SLV FO 8	65	-172	-26	0	0	0
249	SLV FO 9	-82	150	1941	0	0	0
249	SLV FO 10	-63	142	1932	0	0	0
249	SLV FO 11	-45	-156	-57	0	0	0
249	SLV FO 12	-26	-163	-65	0	0	0
249	SLV FO 13	-180	54	1197	0	0	0
249	SLV FO 14	-152	43	1185	0	0	0
249	SLV FO 15	-169	-38	598	0	0	0
249	SLV FO 16	-141	-48	586	0	0	0
249	CRTFP Uy+	0	0	0	0	0	0
249	CRTFP Uy-	0	0	0	0	0	0
250	SLU 1	-8	-8	903	0	0	0
250	SLU 2	-8	-4	925	0	0	0
250	SLU 3	-8	-8	918	0	0	0
250	SLU 4	-8	-6	931	0	0	0
250	SLU 5	-9	-4	934	0	0	0
250	SLU 6	-8	-8	927	0	0	0
250	SLU 7	-9	-6	939	0	0	0
250	SLU 8	-8	-8	921	0	0	0
250	SLU 9	-8	-6	934	0	0	0
250	SLU 10	-9	-5	1048	0	0	0
250	SLU 11	-8	-9	1041	0	0	0
250	SLU 12	-9	-7	1053	0	0	0
250	SLU 13	-9	-5	1057	0	0	0
250	SLU 14	-8	-9	1049	0	0	0
250	SLU 15	-9	-7	1062	0	0	0
250	SLU 16	-8	-9	1044	0	0	0
250	SLU 17	-9	-7	1057	0	0	0
250	SLU 18	-8	-10	1079	0	0	0
250	SLU 19	-9	-7	1092	0	0	0
250	SLU 20	-8	-10	1088	0	0	0
250	SLU 21	-9	-7	1100	0	0	0
250	SLU 22	-9	-9	1026	0	0	0
250	SLU 23	-10	-5	1048	0	0	0
250	SLU 24	-9	-9	1040	0	0	0
250	SLU 25	-10	-7	1053	0	0	0
250	SLU 26	-10	-5	1056	0	0	0
250	SLU 27	-9	-9	1049	0	0	0
250	SLU 28	-10	-7	1062	0	0	0
250	SLU 29	-9	-9	1043	0	0	0
250	SLU 30	-10	-7	1056	0	0	0
250	SLU 31	-10	-6	1170	0	0	0
250	SLU 32	-10	-10	1163	0	0	0
250	SLU 33	-10	-8	1176	0	0	0
250	SLU 34	-10	-6	1179	0	0	0
250	SLU 35	-10	-10	1172	0	0	0
250	SLU 36	-10	-8	1185	0	0	0
250	SLU 37	-10	-10	1166	0	0	0
250	SLU 38	-10	-8	1179	0	0	0
250	SLU 39	-9	-10	1201	0	0	0
250	SLU 40	-10	-8	1214	0	0	0
250	SLU 41	-10	-10	1210	0	0	0
250	SLU 42	-10	-8	1223	0	0	0
250	SLU 43	-10	-10	1132	0	0	0
250	SLU 44	-10	-6	1154	0	0	0
250	SLU 45	-10	-11	1147	0	0	0
250	SLU 46	-10	-8	1160	0	0	0
250	SLU 47	-10	-6	1163	0	0	0
250	SLU 48	-10	-11	1156	0	0	0
250	SLU 49	-10	-8	1168	0	0	0
250	SLU 50	-10	-11	1150	0	0	0
250	SLU 51	-10	-8	1163	0	0	0
250	SLU 52	-11	-7	1277	0	0	0
250	SLU 53	-10	-11	1270	0	0	0
250	SLU 54	-11	-9	1282	0	0	0
250	SLU 55	-11	-7	1286	0	0	0
250	SLU 56	-10	-12	1278	0	0	0
250	SLU 57	-11	-9	1291	0	0	0
250	SLU 58	-10	-12	1273	0	0	0
250	SLU 59	-11	-9	1286	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
250	SLU 60	-10	-12	1308	0	0	0
250	SLU 61	-10	-9	1321	0	0	0
250	SLU 62	-10	-12	1317	0	0	0
250	SLU 63	-11	-9	1330	0	0	0
250	SLU 64	-11	-11	1255	0	0	0
250	SLU 65	-12	-7	1277	0	0	0
250	SLU 66	-11	-11	1269	0	0	0
250	SLU 67	-12	-9	1282	0	0	0
250	SLU 68	-12	-7	1285	0	0	0
250	SLU 69	-11	-11	1278	0	0	0
250	SLU 70	-12	-9	1291	0	0	0
250	SLU 71	-11	-11	1272	0	0	0
250	SLU 72	-12	-9	1285	0	0	0
250	SLU 73	-12	-8	1399	0	0	0
250	SLU 74	-11	-12	1392	0	0	0
250	SLU 75	-12	-10	1405	0	0	0
250	SLU 76	-12	-8	1408	0	0	0
250	SLU 77	-12	-12	1401	0	0	0
250	SLU 78	-12	-10	1414	0	0	0
250	SLU 79	-12	-12	1395	0	0	0
250	SLU 80	-12	-10	1408	0	0	0
250	SLU 81	-11	-12	1430	0	0	0
250	SLU 82	-12	-10	1443	0	0	0
250	SLU 83	-12	-13	1439	0	0	0
250	SLU 84	-12	-10	1452	0	0	0
250	SLE RA 1	-8	-8	938	0	0	0
250	SLE RA 2	-9	-6	953	0	0	0
250	SLE RA 3	-8	-9	948	0	0	0
250	SLE RA 4	-9	-7	957	0	0	0
250	SLE RA 5	-9	-6	959	0	0	0
250	SLE RA 6	-8	-9	954	0	0	0
250	SLE RA 7	-9	-7	962	0	0	0
250	SLE RA 8	-8	-9	950	0	0	0
250	SLE RA 9	-9	-7	959	0	0	0
250	SLE RA 10	-9	-6	1035	0	0	0
250	SLE RA 11	-8	-9	1030	0	0	0
250	SLE RA 12	-9	-8	1038	0	0	0
250	SLE RA 13	-9	-6	1040	0	0	0
250	SLE RA 14	-9	-9	1036	0	0	0
250	SLE RA 15	-9	-8	1044	0	0	0
250	SLE RA 16	-9	-9	1032	0	0	0
250	SLE RA 17	-9	-8	1041	0	0	0
250	SLE RA 18	-8	-9	1055	0	0	0
250	SLE RA 19	-9	-8	1064	0	0	0
250	SLE RA 20	-9	-9	1061	0	0	0
250	SLE RA 21	-9	-8	1070	0	0	0
250	SLE FR 1	-8	-8	938	0	0	0
250	SLE FR 2	-8	-8	941	0	0	0
250	SLE FR 3	-8	-8	941	0	0	0
250	SLE FR 4	-8	-8	976	0	0	0
250	SLE FR 5	-8	-9	976	0	0	0
250	SLE FR 6	-8	-9	997	0	0	0
250	SLE QP 1	-8	-8	938	0	0	0
250	SLE QP 2	-8	-9	974	0	0	0
250	SLD 1	70	13	1169	0	0	0
250	SLD 2	87	7	1163	0	0	0
250	SLD 3	76	-38	845	0	0	0
250	SLD 4	93	-44	839	0	0	0
250	SLD 5	4	76	1525	0	0	0
250	SLD 6	14	72	1521	0	0	0
250	SLD 7	23	-94	445	0	0	0
250	SLD 8	34	-97	440	0	0	0
250	SLD 9	-50	80	1507	0	0	0
250	SLD 10	-39	76	1502	0	0	0
250	SLD 11	-31	-90	426	0	0	0
250	SLD 12	-20	-93	422	0	0	0
250	SLD 13	-109	26	1108	0	0	0
250	SLD 14	-93	21	1102	0	0	0
250	SLD 15	-104	-25	784	0	0	0
250	SLD 16	-87	-30	778	0	0	0
250	SLV 1	114	28	1303	0	0	0
250	SLV 2	141	20	1293	0	0	0
250	SLV 3	124	-58	750	0	0	0
250	SLV 4	151	-67	740	0	0	0
250	SLV 5	9	135	1913	0	0	0
250	SLV 6	26	130	1906	0	0	0
250	SLV 7	41	-154	70	0	0	0
250	SLV 8	59	-159	63	0	0	0
250	SLV 9	-76	142	1884	0	0	0
250	SLV 10	-58	136	1877	0	0	0
250	SLV 11	-43	-147	41	0	0	0
250	SLV 12	-25	-153	34	0	0	0
250	SLV 13	-167	50	1207	0	0	0
250	SLV 14	-140	41	1197	0	0	0
250	SLV 15	-157	-37	654	0	0	0
250	SLV 16	-131	-46	644	0	0	0
250	SLV FO 1	126	32	1336	0	0	0
250	SLV FO 2	156	23	1325	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
250	SLV FO 3	137	-63	728	0	0	0
250	SLV FO 4	166	-73	716	0	0	0
250	SLV FO 5	10	150	2007	0	0	0
250	SLV FO 6	30	144	1999	0	0	0
250	SLV FO 7	46	-168	-21	0	0	0
250	SLV FO 8	66	-174	-28	0	0	0
250	SLV FO 9	-82	157	1975	0	0	0
250	SLV FO 10	-63	151	1968	0	0	0
250	SLV FO 11	-46	-161	-52	0	0	0
250	SLV FO 12	-27	-167	-60	0	0	0
250	SLV FO 13	-183	55	1231	0	0	0
250	SLV FO 14	-154	46	1219	0	0	0
250	SLV FO 15	-172	-40	622	0	0	0
250	SLV FO 16	-143	-49	611	0	0	0
250	CRTFP Uy+	0	0	0	0	0	0
250	CRTFP Uy-	0	0	0	0	0	0
251	SLU 1	-8	-6	925	0	0	0
251	SLU 2	-8	-2	947	0	0	0
251	SLU 3	-8	-6	940	0	0	0
251	SLU 4	-8	-3	953	0	0	0
251	SLU 5	-9	-2	956	0	0	0
251	SLU 6	-8	-6	949	0	0	0
251	SLU 7	-9	-4	962	0	0	0
251	SLU 8	-8	-6	943	0	0	0
251	SLU 9	-8	-4	956	0	0	0
251	SLU 10	-9	-2	1073	0	0	0
251	SLU 11	-8	-7	1066	0	0	0
251	SLU 12	-9	-4	1079	0	0	0
251	SLU 13	-9	-2	1082	0	0	0
251	SLU 14	-8	-7	1075	0	0	0
251	SLU 15	-9	-4	1088	0	0	0
251	SLU 16	-8	-7	1070	0	0	0
251	SLU 17	-9	-4	1083	0	0	0
251	SLU 18	-8	-7	1106	0	0	0
251	SLU 19	-8	-4	1119	0	0	0
251	SLU 20	-8	-7	1115	0	0	0
251	SLU 21	-9	-4	1128	0	0	0
251	SLU 22	-9	-6	1051	0	0	0
251	SLU 23	-10	-2	1073	0	0	0
251	SLU 24	-9	-6	1065	0	0	0
251	SLU 25	-10	-4	1079	0	0	0
251	SLU 26	-10	-2	1082	0	0	0
251	SLU 27	-9	-7	1074	0	0	0
251	SLU 28	-10	-4	1088	0	0	0
251	SLU 29	-9	-7	1069	0	0	0
251	SLU 30	-10	-4	1082	0	0	0
251	SLU 31	-10	-3	1199	0	0	0
251	SLU 32	-10	-7	1192	0	0	0
251	SLU 33	-10	-5	1205	0	0	0
251	SLU 34	-10	-3	1208	0	0	0
251	SLU 35	-10	-7	1201	0	0	0
251	SLU 36	-10	-5	1214	0	0	0
251	SLU 37	-10	-7	1195	0	0	0
251	SLU 38	-10	-5	1208	0	0	0
251	SLU 39	-9	-7	1231	0	0	0
251	SLU 40	-10	-5	1244	0	0	0
251	SLU 41	-10	-7	1240	0	0	0
251	SLU 42	-10	-5	1253	0	0	0
251	SLU 43	-10	-8	1160	0	0	0
251	SLU 44	-10	-3	1182	0	0	0
251	SLU 45	-10	-8	1174	0	0	0
251	SLU 46	-10	-5	1188	0	0	0
251	SLU 47	-10	-3	1191	0	0	0
251	SLU 48	-10	-8	1183	0	0	0
251	SLU 49	-10	-5	1197	0	0	0
251	SLU 50	-10	-8	1178	0	0	0
251	SLU 51	-10	-5	1191	0	0	0
251	SLU 52	-10	-4	1308	0	0	0
251	SLU 53	-10	-8	1301	0	0	0
251	SLU 54	-10	-6	1314	0	0	0
251	SLU 55	-11	-4	1317	0	0	0
251	SLU 56	-10	-8	1310	0	0	0
251	SLU 57	-11	-6	1323	0	0	0
251	SLU 58	-10	-8	1304	0	0	0
251	SLU 59	-11	-6	1317	0	0	0
251	SLU 60	-10	-8	1340	0	0	0
251	SLU 61	-10	-6	1353	0	0	0
251	SLU 62	-10	-9	1349	0	0	0
251	SLU 63	-11	-6	1362	0	0	0
251	SLU 64	-11	-8	1285	0	0	0
251	SLU 65	-12	-4	1307	0	0	0
251	SLU 66	-11	-8	1300	0	0	0
251	SLU 67	-12	-6	1313	0	0	0
251	SLU 68	-12	-4	1316	0	0	0
251	SLU 69	-11	-8	1309	0	0	0
251	SLU 70	-12	-6	1322	0	0	0
251	SLU 71	-11	-8	1303	0	0	0
251	SLU 72	-12	-6	1316	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLU 73	-12	-4	1433	0	0	0
251	SLU 74	-11	-9	1426	0	0	0
251	SLU 75	-12	-6	1439	0	0	0
251	SLU 76	-12	-4	1442	0	0	0
251	SLU 77	-12	-9	1435	0	0	0
251	SLU 78	-12	-6	1448	0	0	0
251	SLU 79	-11	-9	1430	0	0	0
251	SLU 80	-12	-6	1443	0	0	0
251	SLU 81	-11	-9	1466	0	0	0
251	SLU 82	-12	-6	1479	0	0	0
251	SLU 83	-11	-9	1475	0	0	0
251	SLU 84	-12	-6	1488	0	0	0
251	SLE RA 1	-8	-6	961	0	0	0
251	SLE RA 2	-9	-3	976	0	0	0
251	SLE RA 3	-8	-6	971	0	0	0
251	SLE RA 4	-9	-4	980	0	0	0
251	SLE RA 5	-9	-3	982	0	0	0
251	SLE RA 6	-8	-6	977	0	0	0
251	SLE RA 7	-9	-4	986	0	0	0
251	SLE RA 8	-8	-6	973	0	0	0
251	SLE RA 9	-9	-4	982	0	0	0
251	SLE RA 10	-9	-4	1060	0	0	0
251	SLE RA 11	-8	-7	1055	0	0	0
251	SLE RA 12	-9	-5	1064	0	0	0
251	SLE RA 13	-9	-4	1066	0	0	0
251	SLE RA 14	-9	-7	1061	0	0	0
251	SLE RA 15	-9	-5	1070	0	0	0
251	SLE RA 16	-8	-7	1057	0	0	0
251	SLE RA 17	-9	-5	1066	0	0	0
251	SLE RA 18	-8	-7	1081	0	0	0
251	SLE RA 19	-9	-5	1090	0	0	0
251	SLE RA 20	-8	-7	1087	0	0	0
251	SLE RA 21	-9	-5	1096	0	0	0
251	SLE FR 1	-8	-6	961	0	0	0
251	SLE FR 2	-8	-5	964	0	0	0
251	SLE FR 3	-8	-6	963	0	0	0
251	SLE FR 4	-8	-6	1000	0	0	0
251	SLE FR 5	-8	-6	1000	0	0	0
251	SLE FR 6	-8	-6	1021	0	0	0
251	SLE QP 1	-8	-6	961	0	0	0
251	SLE QP 2	-8	-6	997	0	0	0
251	SLD 1	71	17	1189	0	0	0
251	SLD 2	88	12	1183	0	0	0
251	SLD 3	77	-36	858	0	0	0
251	SLD 4	94	-40	852	0	0	0
251	SLD 5	4	82	1558	0	0	0
251	SLD 6	15	79	1554	0	0	0
251	SLD 7	23	-94	454	0	0	0
251	SLD 8	34	-97	450	0	0	0
251	SLD 9	-51	85	1544	0	0	0
251	SLD 10	-40	82	1540	0	0	0
251	SLD 11	-31	-91	441	0	0	0
251	SLD 12	-20	-94	437	0	0	0
251	SLD 13	-111	28	1143	0	0	0
251	SLD 14	-94	23	1137	0	0	0
251	SLD 15	-105	-25	812	0	0	0
251	SLD 16	-88	-29	806	0	0	0
251	SLV 1	116	34	1320	0	0	0
251	SLV 2	143	27	1311	0	0	0
251	SLV 3	126	-56	755	0	0	0
251	SLV 4	152	-63	746	0	0	0
251	SLV 5	9	144	1952	0	0	0
251	SLV 6	27	139	1946	0	0	0
251	SLV 7	42	-156	70	0	0	0
251	SLV 8	60	-161	64	0	0	0
251	SLV 9	-76	149	1931	0	0	0
251	SLV 10	-58	144	1924	0	0	0
251	SLV 11	-43	-151	48	0	0	0
251	SLV 12	-25	-156	42	0	0	0
251	SLV 13	-169	51	1248	0	0	0
251	SLV 14	-142	44	1239	0	0	0
251	SLV 15	-159	-39	684	0	0	0
251	SLV 16	-132	-46	674	0	0	0
251	SLV FO 1	128	38	1352	0	0	0
251	SLV FO 2	158	30	1342	0	0	0
251	SLV FO 3	139	-61	731	0	0	0
251	SLV FO 4	169	-69	721	0	0	0
251	SLV FO 5	11	159	2048	0	0	0
251	SLV FO 6	31	153	2041	0	0	0
251	SLV FO 7	47	-171	-23	0	0	0
251	SLV FO 8	67	-177	-30	0	0	0
251	SLV FO 9	-83	164	2024	0	0	0
251	SLV FO 10	-63	159	2017	0	0	0
251	SLV FO 11	-47	-166	-47	0	0	0
251	SLV FO 12	-27	-171	-54	0	0	0
251	SLV FO 13	-185	57	1273	0	0	0
251	SLV FO 14	-155	49	1263	0	0	0
251	SLV FO 15	-174	-42	652	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLV FO 16	-145	-50	642	0	0	0
251	CRTFP Uy+	0	0	0	0	0	0
251	CRTFP Uy-	0	0	0	0	0	0
252	SLU 1	-8	-4	960	0	0	0
252	SLU 2	-8	1	982	0	0	0
252	SLU 3	-8	-4	975	0	0	0
252	SLU 4	-8	-1	989	0	0	0
252	SLU 5	-8	1	992	0	0	0
252	SLU 6	-8	-4	985	0	0	0
252	SLU 7	-8	-1	998	0	0	0
252	SLU 8	-8	-4	979	0	0	0
252	SLU 9	-8	-1	992	0	0	0
252	SLU 10	-9	0	1114	0	0	0
252	SLU 11	-8	-4	1107	0	0	0
252	SLU 12	-9	-1	1121	0	0	0
252	SLU 13	-9	0	1124	0	0	0
252	SLU 14	-8	-4	1117	0	0	0
252	SLU 15	-9	-1	1130	0	0	0
252	SLU 16	-8	-4	1111	0	0	0
252	SLU 17	-9	-1	1124	0	0	0
252	SLU 18	-8	-4	1148	0	0	0
252	SLU 19	-8	-1	1162	0	0	0
252	SLU 20	-8	-4	1158	0	0	0
252	SLU 21	-9	-2	1171	0	0	0
252	SLU 22	-9	-4	1090	0	0	0
252	SLU 23	-10	1	1113	0	0	0
252	SLU 24	-9	-4	1106	0	0	0
252	SLU 25	-10	-1	1119	0	0	0
252	SLU 26	-10	1	1122	0	0	0
252	SLU 27	-9	-4	1115	0	0	0
252	SLU 28	-10	-1	1129	0	0	0
252	SLU 29	-9	-4	1109	0	0	0
252	SLU 30	-10	-1	1123	0	0	0
252	SLU 31	-10	0	1245	0	0	0
252	SLU 32	-9	-4	1238	0	0	0
252	SLU 33	-10	-1	1251	0	0	0
252	SLU 34	-10	0	1254	0	0	0
252	SLU 35	-10	-4	1247	0	0	0
252	SLU 36	-10	-2	1261	0	0	0
252	SLU 37	-10	-4	1241	0	0	0
252	SLU 38	-10	-2	1255	0	0	0
252	SLU 39	-9	-4	1279	0	0	0
252	SLU 40	-10	-2	1292	0	0	0
252	SLU 41	-10	-4	1288	0	0	0
252	SLU 42	-10	-2	1302	0	0	0
252	SLU 43	-10	-5	1203	0	0	0
252	SLU 44	-10	0	1225	0	0	0
252	SLU 45	-10	-5	1218	0	0	0
252	SLU 46	-10	-2	1232	0	0	0
252	SLU 47	-10	0	1235	0	0	0
252	SLU 48	-10	-5	1228	0	0	0
252	SLU 49	-10	-2	1241	0	0	0
252	SLU 50	-10	-5	1222	0	0	0
252	SLU 51	-10	-2	1235	0	0	0
252	SLU 52	-10	-1	1357	0	0	0
252	SLU 53	-10	-5	1350	0	0	0
252	SLU 54	-10	-2	1364	0	0	0
252	SLU 55	-11	-1	1367	0	0	0
252	SLU 56	-10	-5	1360	0	0	0
252	SLU 57	-11	-2	1373	0	0	0
252	SLU 58	-10	-5	1354	0	0	0
252	SLU 59	-11	-2	1367	0	0	0
252	SLU 60	-10	-5	1391	0	0	0
252	SLU 61	-10	-2	1405	0	0	0
252	SLU 62	-10	-5	1401	0	0	0
252	SLU 63	-10	-3	1414	0	0	0
252	SLU 64	-11	-5	1333	0	0	0
252	SLU 65	-11	0	1356	0	0	0
252	SLU 66	-11	-5	1349	0	0	0
252	SLU 67	-11	-2	1362	0	0	0
252	SLU 68	-12	0	1365	0	0	0
252	SLU 69	-11	-5	1358	0	0	0
252	SLU 70	-12	-2	1372	0	0	0
252	SLU 71	-11	-5	1352	0	0	0
252	SLU 72	-12	-2	1366	0	0	0
252	SLU 73	-12	-1	1488	0	0	0
252	SLU 74	-11	-5	1481	0	0	0
252	SLU 75	-12	-2	1494	0	0	0
252	SLU 76	-12	-1	1497	0	0	0
252	SLU 77	-12	-5	1490	0	0	0
252	SLU 78	-12	-3	1504	0	0	0
252	SLU 79	-11	-5	1484	0	0	0
252	SLU 80	-12	-3	1498	0	0	0
252	SLU 81	-11	-5	1522	0	0	0
252	SLU 82	-12	-3	1535	0	0	0
252	SLU 83	-11	-5	1531	0	0	0
252	SLU 84	-12	-3	1545	0	0	0
252	SLE RA 1	-8	-4	997	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLE RA 2	-8	-1	1012	0	0	0
252	SLE RA 3	-8	-4	1007	0	0	0
252	SLE RA 4	-8	-2	1016	0	0	0
252	SLE RA 5	-9	-1	1018	0	0	0
252	SLE RA 6	-8	-4	1014	0	0	0
252	SLE RA 7	-9	-2	1023	0	0	0
252	SLE RA 8	-8	-4	1010	0	0	0
252	SLE RA 9	-9	-2	1019	0	0	0
252	SLE RA 10	-9	-1	1100	0	0	0
252	SLE RA 11	-8	-4	1095	0	0	0
252	SLE RA 12	-9	-2	1104	0	0	0
252	SLE RA 13	-9	-1	1106	0	0	0
252	SLE RA 14	-9	-4	1102	0	0	0
252	SLE RA 15	-9	-2	1111	0	0	0
252	SLE RA 16	-8	-4	1098	0	0	0
252	SLE RA 17	-9	-2	1107	0	0	0
252	SLE RA 18	-8	-4	1123	0	0	0
252	SLE RA 19	-9	-2	1132	0	0	0
252	SLE RA 20	-8	-4	1129	0	0	0
252	SLE RA 21	-9	-2	1138	0	0	0
252	SLE FR 1	-8	-4	997	0	0	0
252	SLE FR 2	-8	-3	1000	0	0	0
252	SLE FR 3	-8	-4	999	0	0	0
252	SLE FR 4	-8	-3	1038	0	0	0
252	SLE FR 5	-8	-4	1037	0	0	0
252	SLE FR 6	-8	-4	1060	0	0	0
252	SLE QP 1	-8	-4	997	0	0	0
252	SLE QP 2	-8	-4	1035	0	0	0
252	SLD 1	73	22	1224	0	0	0
252	SLD 2	90	18	1218	0	0	0
252	SLD 3	79	-33	882	0	0	0
252	SLD 4	96	-37	877	0	0	0
252	SLD 5	4	88	1611	0	0	0
252	SLD 6	15	86	1607	0	0	0
252	SLD 7	24	-95	471	0	0	0
252	SLD 8	35	-98	468	0	0	0
252	SLD 9	-51	90	1602	0	0	0
252	SLD 10	-40	88	1598	0	0	0
252	SLD 11	-32	-93	462	0	0	0
252	SLD 12	-21	-95	458	0	0	0
252	SLD 13	-112	30	1193	0	0	0
252	SLD 14	-95	26	1187	0	0	0
252	SLD 15	-106	-25	851	0	0	0
252	SLD 16	-89	-29	845	0	0	0
252	SLV 1	118	40	1355	0	0	0
252	SLV 2	145	34	1346	0	0	0
252	SLV 3	128	-54	772	0	0	0
252	SLV 4	155	-60	763	0	0	0
252	SLV 5	10	153	2017	0	0	0
252	SLV 6	28	149	2011	0	0	0
252	SLV 7	42	-160	73	0	0	0
252	SLV 8	61	-164	67	0	0	0
252	SLV 9	-77	156	2002	0	0	0
252	SLV 10	-59	152	1997	0	0	0
252	SLV 11	-44	-156	58	0	0	0
252	SLV 12	-26	-160	52	0	0	0
252	SLV 13	-171	53	1306	0	0	0
252	SLV 14	-144	46	1297	0	0	0
252	SLV 15	-161	-41	723	0	0	0
252	SLV 16	-134	-47	714	0	0	0
252	SLV FO 1	130	44	1387	0	0	0
252	SLV FO 2	160	38	1378	0	0	0
252	SLV FO 3	141	-59	746	0	0	0
252	SLV FO 4	171	-65	736	0	0	0
252	SLV FO 5	11	168	2115	0	0	0
252	SLV FO 6	32	164	2109	0	0	0
252	SLV FO 7	48	-175	-23	0	0	0
252	SLV FO 8	68	-180	-30	0	0	0
252	SLV FO 9	-84	173	2099	0	0	0
252	SLV FO 10	-64	168	2093	0	0	0
252	SLV FO 11	-48	-171	-40	0	0	0
252	SLV FO 12	-28	-176	-46	0	0	0
252	SLV FO 13	-188	58	1333	0	0	0
252	SLV FO 14	-158	51	1324	0	0	0
252	SLV FO 15	-177	-45	692	0	0	0
252	SLV FO 16	-147	-52	682	0	0	0
252	CRTFP Uy+	0	0	0	0	0	0
252	CRTFP Uy-	0	0	0	0	0	0
253	SLU 1	-8	-1	1015	0	0	0
253	SLU 2	-9	4	1038	0	0	0
253	SLU 3	-8	-1	1031	0	0	0
253	SLU 4	-9	2	1045	0	0	0
253	SLU 5	-9	3	1048	0	0	0
253	SLU 6	-8	-1	1041	0	0	0
253	SLU 7	-9	2	1055	0	0	0
253	SLU 8	-8	-1	1035	0	0	0
253	SLU 9	-9	2	1049	0	0	0
253	SLU 10	-9	3	1179	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
253	SLU 11	-8	-1	1172	0	0	0
253	SLU 12	-9	1	1186	0	0	0
253	SLU 13	-9	3	1189	0	0	0
253	SLU 14	-9	-1	1182	0	0	0
253	SLU 15	-9	1	1196	0	0	0
253	SLU 16	-8	-1	1175	0	0	0
253	SLU 17	-9	1	1189	0	0	0
253	SLU 18	-8	-1	1215	0	0	0
253	SLU 19	-9	1	1230	0	0	0
253	SLU 20	-8	-1	1225	0	0	0
253	SLU 21	-9	1	1240	0	0	0
253	SLU 22	-9	-1	1153	0	0	0
253	SLU 23	-10	4	1177	0	0	0
253	SLU 24	-9	-1	1169	0	0	0
253	SLU 25	-10	2	1184	0	0	0
253	SLU 26	-10	4	1187	0	0	0
253	SLU 27	-10	-1	1179	0	0	0
253	SLU 28	-10	2	1194	0	0	0
253	SLU 29	-10	-1	1173	0	0	0
253	SLU 30	-10	2	1187	0	0	0
253	SLU 31	-10	4	1317	0	0	0
253	SLU 32	-10	-1	1310	0	0	0
253	SLU 33	-10	2	1324	0	0	0
253	SLU 34	-10	4	1327	0	0	0
253	SLU 35	-10	-1	1320	0	0	0
253	SLU 36	-10	2	1334	0	0	0
253	SLU 37	-10	-1	1314	0	0	0
253	SLU 38	-10	2	1328	0	0	0
253	SLU 39	-10	-1	1354	0	0	0
253	SLU 40	-10	2	1368	0	0	0
253	SLU 41	-10	-1	1364	0	0	0
253	SLU 42	-10	2	1378	0	0	0
253	SLU 43	-10	-2	1271	0	0	0
253	SLU 44	-10	3	1295	0	0	0
253	SLU 45	-10	-2	1288	0	0	0
253	SLU 46	-10	1	1302	0	0	0
253	SLU 47	-11	3	1305	0	0	0
253	SLU 48	-10	-2	1298	0	0	0
253	SLU 49	-11	1	1312	0	0	0
253	SLU 50	-10	-2	1292	0	0	0
253	SLU 51	-11	1	1306	0	0	0
253	SLU 52	-11	3	1436	0	0	0
253	SLU 53	-10	-2	1428	0	0	0
253	SLU 54	-11	1	1443	0	0	0
253	SLU 55	-11	3	1446	0	0	0
253	SLU 56	-10	-2	1438	0	0	0
253	SLU 57	-11	1	1453	0	0	0
253	SLU 58	-10	-2	1432	0	0	0
253	SLU 59	-11	1	1446	0	0	0
253	SLU 60	-10	-2	1472	0	0	0
253	SLU 61	-11	1	1486	0	0	0
253	SLU 62	-10	-2	1482	0	0	0
253	SLU 63	-11	1	1496	0	0	0
253	SLU 64	-11	-1	1410	0	0	0
253	SLU 65	-12	3	1433	0	0	0
253	SLU 66	-11	-1	1426	0	0	0
253	SLU 67	-12	1	1440	0	0	0
253	SLU 68	-12	3	1443	0	0	0
253	SLU 69	-12	-1	1436	0	0	0
253	SLU 70	-12	1	1451	0	0	0
253	SLU 71	-11	-1	1430	0	0	0
253	SLU 72	-12	1	1444	0	0	0
253	SLU 73	-12	3	1574	0	0	0
253	SLU 74	-12	-2	1567	0	0	0
253	SLU 75	-12	1	1581	0	0	0
253	SLU 76	-12	3	1584	0	0	0
253	SLU 77	-12	-2	1577	0	0	0
253	SLU 78	-12	1	1591	0	0	0
253	SLU 79	-12	-2	1571	0	0	0
253	SLU 80	-12	1	1585	0	0	0
253	SLU 81	-11	-2	1611	0	0	0
253	SLU 82	-12	1	1625	0	0	0
253	SLU 83	-12	-2	1621	0	0	0
253	SLU 84	-12	1	1635	0	0	0
253	SLE RA 1	-8	-1	1054	0	0	0
253	SLE RA 2	-9	2	1070	0	0	0
253	SLE RA 3	-8	-1	1065	0	0	0
253	SLE RA 4	-9	1	1074	0	0	0
253	SLE RA 5	-9	2	1076	0	0	0
253	SLE RA 6	-9	-1	1072	0	0	0
253	SLE RA 7	-9	1	1081	0	0	0
253	SLE RA 8	-8	-1	1067	0	0	0
253	SLE RA 9	-9	1	1077	0	0	0
253	SLE RA 10	-9	2	1164	0	0	0
253	SLE RA 11	-9	-1	1159	0	0	0
253	SLE RA 12	-9	1	1168	0	0	0
253	SLE RA 13	-9	2	1170	0	0	0
253	SLE RA 14	-9	-1	1165	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
253	SLE RA 15	-9	1	1175	0	0	0
253	SLE RA 16	-9	-1	1161	0	0	0
253	SLE RA 17	-9	1	1171	0	0	0
253	SLE RA 18	-8	-1	1188	0	0	0
253	SLE RA 19	-9	1	1197	0	0	0
253	SLE RA 20	-9	-1	1195	0	0	0
253	SLE RA 21	-9	1	1204	0	0	0
253	SLE FR 1	-8	-1	1054	0	0	0
253	SLE FR 2	-8	0	1057	0	0	0
253	SLE FR 3	-8	-1	1057	0	0	0
253	SLE FR 4	-8	-1	1097	0	0	0
253	SLE FR 5	-8	-1	1097	0	0	0
253	SLE FR 6	-8	-1	1121	0	0	0
253	SLE QP 1	-8	-1	1054	0	0	0
253	SLE QP 2	-8	-1	1094	0	0	0
253	SLD 1	75	27	1286	0	0	0
253	SLD 2	92	24	1281	0	0	0
253	SLD 3	81	-31	926	0	0	0
253	SLD 4	98	-34	921	0	0	0
253	SLD 5	4	96	1698	0	0	0
253	SLD 6	16	94	1695	0	0	0
253	SLD 7	24	-98	499	0	0	0
253	SLD 8	36	-100	496	0	0	0
253	SLD 9	-52	97	1692	0	0	0
253	SLD 10	-41	95	1689	0	0	0
253	SLD 11	-33	-96	494	0	0	0
253	SLD 12	-21	-98	491	0	0	0
253	SLD 13	-115	32	1267	0	0	0
253	SLD 14	-97	29	1262	0	0	0
253	SLD 15	-109	-26	908	0	0	0
253	SLD 16	-91	-29	903	0	0	0
253	SLV 1	121	47	1420	0	0	0
253	SLV 2	149	42	1412	0	0	0
253	SLV 3	131	-52	806	0	0	0
253	SLV 4	159	-57	798	0	0	0
253	SLV 5	10	164	2124	0	0	0
253	SLV 6	29	161	2118	0	0	0
253	SLV 7	44	-166	79	0	0	0
253	SLV 8	63	-169	73	0	0	0
253	SLV 9	-79	167	2115	0	0	0
253	SLV 10	-60	163	2110	0	0	0
253	SLV 11	-45	-163	70	0	0	0
253	SLV 12	-27	-166	65	0	0	0
253	SLV 13	-176	55	1390	0	0	0
253	SLV 14	-148	50	1382	0	0	0
253	SLV 15	-166	-44	777	0	0	0
253	SLV 16	-138	-49	769	0	0	0
253	SLV FO 1	134	51	1452	0	0	0
253	SLV FO 2	165	46	1444	0	0	0
253	SLV FO 3	145	-58	778	0	0	0
253	SLV FO 4	176	-63	769	0	0	0
253	SLV FO 5	12	181	2227	0	0	0
253	SLV FO 6	32	177	2221	0	0	0
253	SLV FO 7	49	-182	-23	0	0	0
253	SLV FO 8	70	-186	-29	0	0	0
253	SLV FO 9	-86	183	2217	0	0	0
253	SLV FO 10	-66	180	2211	0	0	0
253	SLV FO 11	-49	-179	-32	0	0	0
253	SLV FO 12	-28	-183	-38	0	0	0
253	SLV FO 13	-193	61	1420	0	0	0
253	SLV FO 14	-162	55	1411	0	0	0
253	SLV FO 15	-181	-48	745	0	0	0
253	SLV FO 16	-151	-54	736	0	0	0
253	CRTFP Uy+	0	0	0	0	0	0
253	CRTFP Uy-	0	0	0	0	0	0
254	SLU 1	-4	-8	407	-12.2	51.61	0.95
254	SLU 2	-4	-7	417	-12.5	52.88	0.74
254	SLU 3	-4	-9	413	-12.4	52.43	0.96
254	SLU 4	-4	-8	419	-12.58	53.19	0.84
254	SLU 5	-4	-7	421	-12.62	53.38	0.76
254	SLU 6	-4	-9	417	-12.52	52.93	0.98
254	SLU 7	-4	-8	423	-12.7	53.69	0.85
254	SLU 8	-4	-9	415	-12.44	52.61	0.97
254	SLU 9	-4	-8	421	-12.62	53.37	0.85
254	SLU 10	-4	-8	472	-14.15	59.83	0.86
254	SLU 11	-4	-9	468	-14.04	59.38	1.08
254	SLU 12	-4	-9	474	-14.22	60.14	0.96
254	SLU 13	-4	-8	476	-14.27	60.33	0.87
254	SLU 14	-4	-10	472	-14.16	59.88	1.09
254	SLU 15	-4	-9	478	-14.34	60.64	0.97
254	SLU 16	-4	-10	469	-14.08	59.56	1.09
254	SLU 17	-4	-9	475	-14.26	60.32	0.96
254	SLU 18	-4	-10	485	-14.55	61.54	1.11
254	SLU 19	-4	-9	491	-14.73	62.3	0.99
254	SLU 20	-4	-10	489	-14.67	62.04	1.12
254	SLU 21	-4	-9	495	-14.85	62.8	1
254	SLU 22	-4	-9	463	-13.89	58.73	1.06
254	SLU 23	-5	-8	473	-14.19	60	0.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
254	SLU 24	-5	-10	469	-14.08	59.55	1.07
254	SLU 25	-5	-9	475	-14.26	60.31	0.95
254	SLU 26	-5	-8	477	-14.31	60.5	0.87
254	SLU 27	-5	-10	473	-14.2	60.05	1.09
254	SLU 28	-5	-9	479	-14.38	60.81	0.97
254	SLU 29	-5	-10	471	-14.12	59.73	1.08
254	SLU 30	-5	-9	477	-14.3	60.49	0.96
254	SLU 31	-5	-9	528	-15.83	66.94	0.97
254	SLU 32	-5	-10	524	-15.72	66.49	1.19
254	SLU 33	-5	-10	530	-15.9	67.25	1.07
254	SLU 34	-5	-9	532	-15.95	67.44	0.98
254	SLU 35	-5	-11	528	-15.84	66.99	1.2
254	SLU 36	-5	-10	534	-16.02	67.75	1.08
254	SLU 37	-5	-11	526	-15.77	66.67	1.2
254	SLU 38	-5	-10	532	-15.95	67.44	1.07
254	SLU 39	-5	-11	541	-16.23	68.65	1.22
254	SLU 40	-5	-10	547	-16.41	69.41	1.1
254	SLU 41	-5	-11	545	-16.35	69.15	1.23
254	SLU 42	-5	-10	551	-16.53	69.91	1.11
254	SLU 43	-5	-11	510	-15.29	64.66	1.19
254	SLU 44	-5	-9	520	-15.59	65.93	0.99
254	SLU 45	-5	-11	516	-15.48	65.48	1.21
254	SLU 46	-5	-10	522	-15.66	66.24	1.09
254	SLU 47	-5	-9	524	-15.71	66.43	1
254	SLU 48	-5	-11	520	-15.6	65.98	1.22
254	SLU 49	-5	-10	526	-15.78	66.74	1.1
254	SLU 50	-5	-11	518	-15.53	65.66	1.22
254	SLU 51	-5	-10	524	-15.71	66.42	1.09
254	SLU 52	-5	-10	574	-17.23	72.87	1.1
254	SLU 53	-5	-12	571	-17.13	72.42	1.32
254	SLU 54	-5	-11	577	-17.31	73.18	1.2
254	SLU 55	-5	-10	578	-17.35	73.37	1.12
254	SLU 56	-5	-12	575	-17.24	72.92	1.34
254	SLU 57	-5	-11	581	-17.42	73.68	1.22
254	SLU 58	-5	-12	572	-17.17	72.6	1.33
254	SLU 59	-5	-11	578	-17.35	73.36	1.21
254	SLU 60	-5	-12	588	-17.64	74.58	1.36
254	SLU 61	-5	-11	594	-17.82	75.34	1.23
254	SLU 62	-5	-12	592	-17.75	75.08	1.37
254	SLU 63	-5	-11	598	-17.93	75.84	1.25
254	SLU 64	-5	-12	566	-16.97	71.77	1.3
254	SLU 65	-6	-10	576	-17.27	73.04	1.1
254	SLU 66	-5	-12	572	-17.17	72.59	1.32
254	SLU 67	-6	-11	578	-17.35	73.35	1.2
254	SLU 68	-6	-10	580	-17.39	73.54	1.11
254	SLU 69	-6	-12	576	-17.28	73.09	1.33
254	SLU 70	-6	-11	582	-17.46	73.85	1.21
254	SLU 71	-5	-12	574	-17.21	72.77	1.33
254	SLU 72	-6	-11	580	-17.39	73.53	1.2
254	SLU 73	-6	-11	630	-18.91	79.99	1.21
254	SLU 74	-6	-13	627	-18.81	79.54	1.43
254	SLU 75	-6	-12	633	-18.99	80.3	1.31
254	SLU 76	-6	-11	634	-19.03	80.49	1.23
254	SLU 77	-6	-13	631	-18.93	80.04	1.45
254	SLU 78	-6	-12	637	-19.11	80.8	1.33
254	SLU 79	-6	-13	628	-18.85	79.72	1.44
254	SLU 80	-6	-12	634	-19.03	80.48	1.32
254	SLU 81	-6	-13	644	-19.32	81.7	1.47
254	SLU 82	-6	-12	650	-19.5	82.46	1.34
254	SLU 83	-6	-13	648	-19.44	82.2	1.48
254	SLU 84	-6	-12	654	-19.62	82.96	1.36
254	SLE RA 1	-4	-9	423	-12.69	53.65	0.98
254	SLE RA 2	-4	-8	430	-12.89	54.49	0.84
254	SLE RA 3	-4	-9	427	-12.81	54.19	0.99
254	SLE RA 4	-4	-8	431	-12.93	54.7	0.91
254	SLE RA 5	-4	-8	432	-12.96	54.83	0.85
254	SLE RA 6	-4	-9	430	-12.89	54.52	1
254	SLE RA 7	-4	-8	434	-13.01	55.03	0.92
254	SLE RA 8	-4	-9	428	-12.84	54.31	0.99
254	SLE RA 9	-4	-8	432	-12.96	54.82	0.91
254	SLE RA 10	-4	-8	466	-13.98	59.12	0.92
254	SLE RA 11	-4	-9	464	-13.91	58.82	1.07
254	SLE RA 12	-4	-9	468	-14.03	59.33	0.98
254	SLE RA 13	-4	-8	469	-14.06	59.46	0.93
254	SLE RA 14	-4	-9	466	-13.99	59.16	1.07
254	SLE RA 15	-4	-9	470	-14.11	59.66	0.99
254	SLE RA 16	-4	-9	465	-13.94	58.94	1.07
254	SLE RA 17	-4	-9	469	-14.06	59.45	0.99
254	SLE RA 18	-4	-10	475	-14.25	60.26	1.09
254	SLE RA 19	-4	-9	479	-14.37	60.77	1.01
254	SLE RA 20	-4	-10	478	-14.33	60.59	1.09
254	SLE RA 21	-4	-9	482	-14.45	61.1	1.01
254	SLE FR 1	-4	-9	423	-12.69	53.65	0.98
254	SLE FR 2	-4	-8	424	-12.73	53.82	0.95
254	SLE FR 3	-4	-9	424	-12.72	53.78	0.98
254	SLE FR 4	-4	-9	440	-13.19	55.8	0.98
254	SLE FR 5	-4	-9	440	-13.19	55.76	1.01
254	SLE FR 6	-4	-9	449	-13.47	56.95	1.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
254	SLE QP 1	-4	-9	423	-12.69	53.65	0.98
254	SLE QP 2	-4	-9	438	-13.15	55.63	1.01
254	SLD 1	29	-3	545	-16.36	69.18	1.25
254	SLD 2	36	-7	541	-16.22	68.61	1.96
254	SLD 3	32	-22	398	-11.94	50.49	3.77
254	SLD 4	39	-26	393	-11.8	49.92	4.48
254	SLD 5	1	23	695	-20.84	88.14	-2.87
254	SLD 6	5	20	692	-20.75	87.77	-2.41
254	SLD 7	10	-41	204	-6.11	25.85	5.55
254	SLD 8	14	-44	201	-6.02	25.47	6
254	SLD 9	-22	26	676	-20.29	85.79	-3.99
254	SLD 10	-18	24	673	-20.2	85.42	-3.53
254	SLD 11	-13	-38	185	-5.56	23.49	4.43
254	SLD 12	-9	-41	182	-5.47	23.12	4.89
254	SLD 13	-47	8	484	-14.51	61.34	-2.47
254	SLD 14	-40	4	479	-14.37	60.77	-1.76
254	SLD 15	-44	-11	336	-10.09	42.66	0.06
254	SLD 16	-37	-15	332	-9.95	42.08	0.77
254	SLV 1	48	2	616	-18.48	78.15	1.2
254	SLV 2	59	-4	609	-18.26	77.24	2.32
254	SLV 3	52	-31	365	-10.94	46.26	5.5
254	SLV 4	64	-37	357	-10.72	45.35	6.62
254	SLV 5	2	45	874	-26.23	110.92	-5.68
254	SLV 6	10	41	869	-26.08	110.31	-4.92
254	SLV 7	18	-64	36	-1.09	4.63	8.68
254	SLV 8	25	-68	32	-0.95	4.02	9.43
254	SLV 9	-33	51	845	-25.36	107.25	-7.42
254	SLV 10	-26	46	841	-25.22	106.63	-6.66
254	SLV 11	-18	-59	8	-0.23	0.96	6.94
254	SLV 12	-10	-63	3	-0.08	0.35	7.69
254	SLV 13	-72	19	520	-15.59	65.91	-4.6
254	SLV 14	-60	13	512	-15.37	65	-3.49
254	SLV 15	-67	-13	268	-8.05	34.02	-0.3
254	SLV 16	-56	-20	261	-7.83	33.11	0.82
254	SLV FO 1	53	3	634	-19.01	80.4	1.22
254	SLV FO 2	65	-4	626	-18.78	79.4	2.45
254	SLV FO 3	58	-33	357	-10.72	45.32	5.95
254	SLV FO 4	70	-40	349	-10.48	44.33	7.18
254	SLV FO 5	3	51	918	-27.54	116.45	-6.34
254	SLV FO 6	11	46	913	-27.38	115.77	-5.52
254	SLV FO 7	20	-70	-4	0.11	-0.47	9.45
254	SLV FO 8	28	-74	-9	0.27	-1.14	10.28
254	SLV FO 9	-36	57	886	-26.58	112.41	-8.26
254	SLV FO 10	-28	52	881	-26.42	111.73	-7.43
254	SLV FO 11	-19	-64	-36	1.07	-4.51	7.53
254	SLV FO 12	-11	-69	-41	1.23	-5.18	8.36
254	SLV FO 13	-78	22	528	-15.83	66.94	-5.17
254	SLV FO 14	-66	16	520	-15.59	65.94	-3.93
254	SLV FO 15	-73	-14	251	-7.53	31.86	-0.43
254	SLV FO 16	-61	-21	243	-7.3	30.86	0.8
254	CRTFP Ux+	0	0	0	0	0	0
254	CRTFP Ux-	0	0	0	0	0	0
254	CRTFP Uy+	0	0	0	0	0	0
254	CRTFP Uy-	0	0	0	0	0	0
255	SLU 1	-4	1	546	0	0	0
255	SLU 2	-5	3	558	0	0	0
255	SLU 3	-4	1	555	0	0	0
255	SLU 4	-5	2	562	0	0	0
255	SLU 5	-5	3	564	0	0	0
255	SLU 6	-4	1	560	0	0	0
255	SLU 7	-5	2	567	0	0	0
255	SLU 8	-4	1	557	0	0	0
255	SLU 9	-5	2	564	0	0	0
255	SLU 10	-5	3	634	0	0	0
255	SLU 11	-4	1	631	0	0	0
255	SLU 12	-5	2	638	0	0	0
255	SLU 13	-5	3	640	0	0	0
255	SLU 14	-5	1	636	0	0	0
255	SLU 15	-5	2	644	0	0	0
255	SLU 16	-5	1	633	0	0	0
255	SLU 17	-5	2	640	0	0	0
255	SLU 18	-4	1	654	0	0	0
255	SLU 19	-5	2	662	0	0	0
255	SLU 20	-4	1	660	0	0	0
255	SLU 21	-5	2	667	0	0	0
255	SLU 22	-5	1	620	0	0	0
255	SLU 23	-5	3	633	0	0	0
255	SLU 24	-5	1	629	0	0	0
255	SLU 25	-5	2	637	0	0	0
255	SLU 26	-5	3	638	0	0	0
255	SLU 27	-5	1	635	0	0	0
255	SLU 28	-5	2	642	0	0	0
255	SLU 29	-5	1	631	0	0	0
255	SLU 30	-5	2	639	0	0	0
255	SLU 31	-5	3	709	0	0	0
255	SLU 32	-5	1	705	0	0	0
255	SLU 33	-5	3	713	0	0	0
255	SLU 34	-5	3	714	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLU 35	-5	1	711	0	0	0
255	SLU 36	-5	2	718	0	0	0
255	SLU 37	-5	1	707	0	0	0
255	SLU 38	-5	2	715	0	0	0
255	SLU 39	-5	1	729	0	0	0
255	SLU 40	-5	2	737	0	0	0
255	SLU 41	-5	1	735	0	0	0
255	SLU 42	-5	2	742	0	0	0
255	SLU 43	-5	1	684	0	0	0
255	SLU 44	-6	3	696	0	0	0
255	SLU 45	-5	1	693	0	0	0
255	SLU 46	-6	2	700	0	0	0
255	SLU 47	-6	3	702	0	0	0
255	SLU 48	-5	1	698	0	0	0
255	SLU 49	-6	2	706	0	0	0
255	SLU 50	-5	1	695	0	0	0
255	SLU 51	-6	2	702	0	0	0
255	SLU 52	-6	3	772	0	0	0
255	SLU 53	-5	1	769	0	0	0
255	SLU 54	-6	2	776	0	0	0
255	SLU 55	-6	3	778	0	0	0
255	SLU 56	-6	1	774	0	0	0
255	SLU 57	-6	2	782	0	0	0
255	SLU 58	-6	1	771	0	0	0
255	SLU 59	-6	2	778	0	0	0
255	SLU 60	-5	1	792	0	0	0
255	SLU 61	-6	2	800	0	0	0
255	SLU 62	-5	1	798	0	0	0
255	SLU 63	-6	2	805	0	0	0
255	SLU 64	-6	1	758	0	0	0
255	SLU 65	-6	4	771	0	0	0
255	SLU 66	-6	1	767	0	0	0
255	SLU 67	-6	3	775	0	0	0
255	SLU 68	-6	4	776	0	0	0
255	SLU 69	-6	1	773	0	0	0
255	SLU 70	-6	3	780	0	0	0
255	SLU 71	-6	1	769	0	0	0
255	SLU 72	-6	3	777	0	0	0
255	SLU 73	-6	4	847	0	0	0
255	SLU 74	-6	1	844	0	0	0
255	SLU 75	-6	3	851	0	0	0
255	SLU 76	-6	4	853	0	0	0
255	SLU 77	-6	1	849	0	0	0
255	SLU 78	-6	3	856	0	0	0
255	SLU 79	-6	1	846	0	0	0
255	SLU 80	-6	3	853	0	0	0
255	SLU 81	-6	1	867	0	0	0
255	SLU 82	-6	3	875	0	0	0
255	SLU 83	-6	1	873	0	0	0
255	SLU 84	-6	3	880	0	0	0
255	SLE RA 1	-4	1	567	0	0	0
255	SLE RA 2	-5	2	575	0	0	0
255	SLE RA 3	-4	1	573	0	0	0
255	SLE RA 4	-5	2	578	0	0	0
255	SLE RA 5	-5	2	579	0	0	0
255	SLE RA 6	-5	1	577	0	0	0
255	SLE RA 7	-5	2	582	0	0	0
255	SLE RA 8	-5	1	574	0	0	0
255	SLE RA 9	-5	2	579	0	0	0
255	SLE RA 10	-5	2	626	0	0	0
255	SLE RA 11	-5	1	624	0	0	0
255	SLE RA 12	-5	2	629	0	0	0
255	SLE RA 13	-5	2	630	0	0	0
255	SLE RA 14	-5	1	627	0	0	0
255	SLE RA 15	-5	2	632	0	0	0
255	SLE RA 16	-5	1	625	0	0	0
255	SLE RA 17	-5	2	630	0	0	0
255	SLE RA 18	-5	1	639	0	0	0
255	SLE RA 19	-5	2	644	0	0	0
255	SLE RA 20	-5	1	643	0	0	0
255	SLE RA 21	-5	2	648	0	0	0
255	SLE FR 1	-4	1	567	0	0	0
255	SLE FR 2	-4	1	569	0	0	0
255	SLE FR 3	-4	1	568	0	0	0
255	SLE FR 4	-4	1	590	0	0	0
255	SLE FR 5	-4	1	590	0	0	0
255	SLE FR 6	-4	1	603	0	0	0
255	SLE QP 1	-4	1	567	0	0	0
255	SLE QP 2	-4	1	589	0	0	0
255	SLD 1	39	18	681	0	0	0
255	SLD 2	48	17	679	0	0	0
255	SLD 3	42	-13	490	0	0	0
255	SLD 4	51	-14	488	0	0	0
255	SLD 5	2	53	907	0	0	0
255	SLD 6	8	53	905	0	0	0
255	SLD 7	13	-51	270	0	0	0
255	SLD 8	19	-51	268	0	0	0
255	SLD 9	-27	53	909	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLD 10	-22	52	908	0	0	0
255	SLD 11	-17	-51	272	0	0	0
255	SLD 12	-11	-52	271	0	0	0
255	SLD 13	-60	16	690	0	0	0
255	SLD 14	-51	15	687	0	0	0
255	SLD 15	-57	-15	499	0	0	0
255	SLD 16	-48	-16	496	0	0	0
255	SLV 1	63	30	747	0	0	0
255	SLV 2	78	28	743	0	0	0
255	SLV 3	68	-23	421	0	0	0
255	SLV 4	83	-25	417	0	0	0
255	SLV 5	5	90	1131	0	0	0
255	SLV 6	15	89	1129	0	0	0
255	SLV 7	23	-87	45	0	0	0
255	SLV 8	33	-88	42	0	0	0
255	SLV 9	-41	89	1135	0	0	0
255	SLV 10	-32	88	1133	0	0	0
255	SLV 11	-24	-88	49	0	0	0
255	SLV 12	-14	-89	46	0	0	0
255	SLV 13	-92	27	760	0	0	0
255	SLV 14	-77	25	756	0	0	0
255	SLV 15	-86	-27	434	0	0	0
255	SLV 16	-72	-28	431	0	0	0
255	SLV FO 1	70	33	763	0	0	0
255	SLV FO 2	86	31	759	0	0	0
255	SLV FO 3	76	-26	404	0	0	0
255	SLV FO 4	92	-28	400	0	0	0
255	SLV FO 5	6	99	1185	0	0	0
255	SLV FO 6	17	98	1183	0	0	0
255	SLV FO 7	26	-96	-10	0	0	0
255	SLV FO 8	36	-97	-12	0	0	0
255	SLV FO 9	-45	98	1190	0	0	0
255	SLV FO 10	-34	97	1187	0	0	0
255	SLV FO 11	-26	-97	-5	0	0	0
255	SLV FO 12	-15	-98	-8	0	0	0
255	SLV FO 13	-100	29	777	0	0	0
255	SLV FO 14	-84	27	773	0	0	0
255	SLV FO 15	-95	-29	419	0	0	0
255	SLV FO 16	-79	-31	415	0	0	0
255	CRTFP Uy+	0	0	0	0	0	0
255	CRTFP Uy-	0	0	0	0	0	0
256	SLU 1	2	-18	1205	0	0	0
256	SLU 2	2	-12	1231	0	0	0
256	SLU 3	2	-19	1223	0	0	0
256	SLU 4	2	-15	1239	0	0	0
256	SLU 5	2	-12	1243	0	0	0
256	SLU 6	2	-19	1235	0	0	0
256	SLU 7	2	-15	1251	0	0	0
256	SLU 8	2	-19	1227	0	0	0
256	SLU 9	2	-15	1243	0	0	0
256	SLU 10	2	-14	1393	0	0	0
256	SLU 11	1	-21	1385	0	0	0
256	SLU 12	2	-17	1401	0	0	0
256	SLU 13	2	-14	1404	0	0	0
256	SLU 14	1	-21	1396	0	0	0
256	SLU 15	1	-17	1412	0	0	0
256	SLU 16	1	-21	1389	0	0	0
256	SLU 17	1	-17	1404	0	0	0
256	SLU 18	1	-21	1435	0	0	0
256	SLU 19	2	-17	1451	0	0	0
256	SLU 20	1	-21	1447	0	0	0
256	SLU 21	1	-18	1463	0	0	0
256	SLU 22	2	-21	1366	0	0	0
256	SLU 23	3	-14	1392	0	0	0
256	SLU 24	2	-21	1384	0	0	0
256	SLU 25	2	-17	1400	0	0	0
256	SLU 26	2	-15	1403	0	0	0
256	SLU 27	2	-21	1395	0	0	0
256	SLU 28	2	-18	1411	0	0	0
256	SLU 29	2	-21	1388	0	0	0
256	SLU 30	2	-18	1404	0	0	0
256	SLU 31	2	-16	1554	0	0	0
256	SLU 32	2	-23	1546	0	0	0
256	SLU 33	2	-19	1561	0	0	0
256	SLU 34	2	-17	1565	0	0	0
256	SLU 35	1	-23	1557	0	0	0
256	SLU 36	2	-20	1573	0	0	0
256	SLU 37	1	-23	1549	0	0	0
256	SLU 38	2	-20	1565	0	0	0
256	SLU 39	1	-23	1596	0	0	0
256	SLU 40	2	-20	1612	0	0	0
256	SLU 41	1	-24	1607	0	0	0
256	SLU 42	2	-20	1623	0	0	0
256	SLU 43	2	-23	1511	0	0	0
256	SLU 44	3	-17	1538	0	0	0
256	SLU 45	2	-23	1530	0	0	0
256	SLU 46	3	-20	1546	0	0	0
256	SLU 47	3	-17	1549	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLU 48	2	-24	1541	0	0	0
256	SLU 49	2	-20	1557	0	0	0
256	SLU 50	2	-24	1533	0	0	0
256	SLU 51	2	-20	1549	0	0	0
256	SLU 52	2	-19	1699	0	0	0
256	SLU 53	2	-25	1691	0	0	0
256	SLU 54	2	-22	1707	0	0	0
256	SLU 55	2	-19	1710	0	0	0
256	SLU 56	2	-26	1702	0	0	0
256	SLU 57	2	-22	1718	0	0	0
256	SLU 58	2	-26	1695	0	0	0
256	SLU 59	2	-22	1711	0	0	0
256	SLU 60	2	-26	1742	0	0	0
256	SLU 61	2	-22	1758	0	0	0
256	SLU 62	2	-26	1753	0	0	0
256	SLU 63	2	-22	1769	0	0	0
256	SLU 64	3	-25	1672	0	0	0
256	SLU 65	3	-19	1698	0	0	0
256	SLU 66	3	-26	1690	0	0	0
256	SLU 67	3	-22	1706	0	0	0
256	SLU 68	3	-19	1710	0	0	0
256	SLU 69	2	-26	1702	0	0	0
256	SLU 70	3	-22	1718	0	0	0
256	SLU 71	2	-26	1694	0	0	0
256	SLU 72	3	-22	1710	0	0	0
256	SLU 73	3	-21	1860	0	0	0
256	SLU 74	2	-28	1852	0	0	0
256	SLU 75	2	-24	1868	0	0	0
256	SLU 76	2	-21	1871	0	0	0
256	SLU 77	2	-28	1863	0	0	0
256	SLU 78	2	-24	1879	0	0	0
256	SLU 79	2	-28	1856	0	0	0
256	SLU 80	2	-24	1872	0	0	0
256	SLU 81	2	-28	1902	0	0	0
256	SLU 82	2	-24	1918	0	0	0
256	SLU 83	2	-28	1914	0	0	0
256	SLU 84	2	-25	1930	0	0	0
256	SLE RA 1	2	-19	1251	0	0	0
256	SLE RA 2	2	-15	1268	0	0	0
256	SLE RA 3	2	-19	1263	0	0	0
256	SLE RA 4	2	-17	1274	0	0	0
256	SLE RA 5	2	-15	1276	0	0	0
256	SLE RA 6	2	-19	1271	0	0	0
256	SLE RA 7	2	-17	1281	0	0	0
256	SLE RA 8	2	-19	1266	0	0	0
256	SLE RA 9	2	-17	1276	0	0	0
256	SLE RA 10	2	-16	1376	0	0	0
256	SLE RA 11	2	-21	1371	0	0	0
256	SLE RA 12	2	-18	1381	0	0	0
256	SLE RA 13	2	-16	1384	0	0	0
256	SLE RA 14	1	-21	1378	0	0	0
256	SLE RA 15	2	-18	1389	0	0	0
256	SLE RA 16	1	-21	1373	0	0	0
256	SLE RA 17	2	-18	1384	0	0	0
256	SLE RA 18	2	-21	1404	0	0	0
256	SLE RA 19	2	-18	1415	0	0	0
256	SLE RA 20	1	-21	1412	0	0	0
256	SLE RA 21	2	-19	1423	0	0	0
256	SLE FR 1	2	-19	1251	0	0	0
256	SLE FR 2	2	-18	1254	0	0	0
256	SLE FR 3	2	-19	1254	0	0	0
256	SLE FR 4	2	-19	1300	0	0	0
256	SLE FR 5	2	-20	1300	0	0	0
256	SLE FR 6	2	-20	1328	0	0	0
256	SLE QP 1	2	-19	1251	0	0	0
256	SLE QP 2	2	-19	1297	0	0	0
256	SLD 1	118	22	1475	0	0	0
256	SLD 2	140	26	1482	0	0	0
256	SLD 3	113	-56	1071	0	0	0
256	SLD 4	136	-52	1079	0	0	0
256	SLD 5	40	111	1961	0	0	0
256	SLD 6	55	114	1966	0	0	0
256	SLD 7	24	-150	616	0	0	0
256	SLD 8	39	-148	620	0	0	0
256	SLD 9	-35	109	1973	0	0	0
256	SLD 10	-20	111	1978	0	0	0
256	SLD 11	-51	-153	628	0	0	0
256	SLD 12	-36	-150	632	0	0	0
256	SLD 13	-132	13	1515	0	0	0
256	SLD 14	-110	17	1522	0	0	0
256	SLD 15	-137	-65	1111	0	0	0
256	SLD 16	-114	-61	1119	0	0	0
256	SLV 1	184	52	1604	0	0	0
256	SLV 2	219	58	1616	0	0	0
256	SLV 3	176	-82	915	0	0	0
256	SLV 4	211	-76	927	0	0	0
256	SLV 5	62	204	2432	0	0	0
256	SLV 6	86	208	2439	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLV 7	35	-242	136	0	0	0
256	SLV 8	59	-239	143	0	0	0
256	SLV 9	-55	200	2450	0	0	0
256	SLV 10	-31	204	2458	0	0	0
256	SLV 11	-82	-247	154	0	0	0
256	SLV 12	-59	-243	162	0	0	0
256	SLV 13	-207	37	1667	0	0	0
256	SLV 14	-172	43	1678	0	0	0
256	SLV 15	-215	-96	978	0	0	0
256	SLV 16	-180	-91	990	0	0	0
256	SLV FO 1	202	59	1635	0	0	0
256	SLV FO 2	241	65	1648	0	0	0
256	SLV FO 3	193	-89	877	0	0	0
256	SLV FO 4	232	-82	890	0	0	0
256	SLV FO 5	68	226	2545	0	0	0
256	SLV FO 6	94	230	2554	0	0	0
256	SLV FO 7	38	-265	19	0	0	0
256	SLV FO 8	64	-260	28	0	0	0
256	SLV FO 9	-61	221	2566	0	0	0
256	SLV FO 10	-35	226	2574	0	0	0
256	SLV FO 11	-91	-269	40	0	0	0
256	SLV FO 12	-65	-265	49	0	0	0
256	SLV FO 13	-228	43	1704	0	0	0
256	SLV FO 14	-189	50	1716	0	0	0
256	SLV FO 15	-237	-104	946	0	0	0
256	SLV FO 16	-198	-98	959	0	0	0
256	CRTFP Uy+	0	0	0	0	0	0
256	CRTFP Uy-	0	0	0	0	0	0
257	SLU 1	2	-19	1130	0	0	0
257	SLU 2	2	-13	1155	0	0	0
257	SLU 3	2	-19	1148	0	0	0
257	SLU 4	2	-16	1163	0	0	0
257	SLU 5	2	-13	1166	0	0	0
257	SLU 6	2	-20	1158	0	0	0
257	SLU 7	2	-16	1173	0	0	0
257	SLU 8	2	-19	1151	0	0	0
257	SLU 9	2	-16	1166	0	0	0
257	SLU 10	2	-15	1306	0	0	0
257	SLU 11	1	-21	1298	0	0	0
257	SLU 12	2	-18	1313	0	0	0
257	SLU 13	2	-16	1316	0	0	0
257	SLU 14	1	-22	1308	0	0	0
257	SLU 15	1	-18	1324	0	0	0
257	SLU 16	1	-22	1301	0	0	0
257	SLU 17	1	-18	1317	0	0	0
257	SLU 18	1	-22	1345	0	0	0
257	SLU 19	2	-18	1360	0	0	0
257	SLU 20	1	-22	1356	0	0	0
257	SLU 21	1	-19	1371	0	0	0
257	SLU 22	2	-21	1281	0	0	0
257	SLU 23	3	-15	1306	0	0	0
257	SLU 24	2	-22	1298	0	0	0
257	SLU 25	2	-18	1313	0	0	0
257	SLU 26	2	-16	1316	0	0	0
257	SLU 27	2	-22	1308	0	0	0
257	SLU 28	2	-19	1323	0	0	0
257	SLU 29	2	-22	1301	0	0	0
257	SLU 30	2	-18	1316	0	0	0
257	SLU 31	2	-18	1457	0	0	0
257	SLU 32	2	-24	1449	0	0	0
257	SLU 33	2	-20	1464	0	0	0
257	SLU 34	2	-18	1467	0	0	0
257	SLU 35	1	-24	1459	0	0	0
257	SLU 36	2	-21	1474	0	0	0
257	SLU 37	1	-24	1452	0	0	0
257	SLU 38	2	-21	1467	0	0	0
257	SLU 39	1	-24	1496	0	0	0
257	SLU 40	2	-21	1511	0	0	0
257	SLU 41	1	-24	1506	0	0	0
257	SLU 42	2	-21	1521	0	0	0
257	SLU 43	2	-24	1418	0	0	0
257	SLU 44	3	-18	1443	0	0	0
257	SLU 45	2	-24	1435	0	0	0
257	SLU 46	3	-21	1450	0	0	0
257	SLU 47	3	-18	1453	0	0	0
257	SLU 48	2	-24	1445	0	0	0
257	SLU 49	2	-21	1460	0	0	0
257	SLU 50	2	-24	1438	0	0	0
257	SLU 51	2	-21	1453	0	0	0
257	SLU 52	2	-20	1593	0	0	0
257	SLU 53	2	-26	1586	0	0	0
257	SLU 54	2	-23	1601	0	0	0
257	SLU 55	2	-20	1604	0	0	0
257	SLU 56	2	-26	1596	0	0	0
257	SLU 57	2	-23	1611	0	0	0
257	SLU 58	2	-26	1589	0	0	0
257	SLU 59	2	-23	1604	0	0	0
257	SLU 60	2	-27	1633	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLU 61	2	-23	1648	0	0	0
257	SLU 62	2	-27	1643	0	0	0
257	SLU 63	2	-24	1658	0	0	0
257	SLU 64	3	-26	1568	0	0	0
257	SLU 65	3	-20	1593	0	0	0
257	SLU 66	3	-26	1586	0	0	0
257	SLU 67	3	-23	1601	0	0	0
257	SLU 68	3	-21	1604	0	0	0
257	SLU 69	2	-27	1596	0	0	0
257	SLU 70	3	-23	1611	0	0	0
257	SLU 71	2	-27	1589	0	0	0
257	SLU 72	3	-23	1604	0	0	0
257	SLU 73	3	-22	1744	0	0	0
257	SLU 74	2	-29	1736	0	0	0
257	SLU 75	2	-25	1751	0	0	0
257	SLU 76	2	-23	1754	0	0	0
257	SLU 77	2	-29	1746	0	0	0
257	SLU 78	2	-25	1762	0	0	0
257	SLU 79	2	-29	1739	0	0	0
257	SLU 80	2	-25	1755	0	0	0
257	SLU 81	2	-29	1783	0	0	0
257	SLU 82	2	-26	1798	0	0	0
257	SLU 83	2	-29	1794	0	0	0
257	SLU 84	2	-26	1809	0	0	0
257	SLE RA 1	2	-19	1173	0	0	0
257	SLE RA 2	2	-16	1190	0	0	0
257	SLE RA 3	2	-20	1185	0	0	0
257	SLE RA 4	2	-17	1195	0	0	0
257	SLE RA 5	2	-16	1197	0	0	0
257	SLE RA 6	2	-20	1192	0	0	0
257	SLE RA 7	2	-18	1202	0	0	0
257	SLE RA 8	2	-20	1187	0	0	0
257	SLE RA 9	2	-18	1197	0	0	0
257	SLE RA 10	2	-17	1290	0	0	0
257	SLE RA 11	2	-21	1285	0	0	0
257	SLE RA 12	2	-19	1295	0	0	0
257	SLE RA 13	2	-17	1297	0	0	0
257	SLE RA 14	1	-21	1292	0	0	0
257	SLE RA 15	2	-19	1302	0	0	0
257	SLE RA 16	1	-21	1287	0	0	0
257	SLE RA 17	2	-19	1297	0	0	0
257	SLE RA 18	2	-21	1317	0	0	0
257	SLE RA 19	2	-19	1327	0	0	0
257	SLE RA 20	1	-22	1324	0	0	0
257	SLE RA 21	2	-19	1334	0	0	0
257	SLE FR 1	2	-19	1173	0	0	0
257	SLE FR 2	2	-19	1177	0	0	0
257	SLE FR 3	2	-20	1176	0	0	0
257	SLE FR 4	2	-19	1220	0	0	0
257	SLE FR 5	2	-20	1219	0	0	0
257	SLE FR 6	2	-20	1245	0	0	0
257	SLE QP 1	2	-19	1173	0	0	0
257	SLE QP 2	2	-20	1216	0	0	0
257	SLD 1	112	20	1376	0	0	0
257	SLD 2	133	25	1383	0	0	0
257	SLD 3	107	-52	997	0	0	0
257	SLD 4	128	-48	1004	0	0	0
257	SLD 5	38	101	1838	0	0	0
257	SLD 6	52	104	1842	0	0	0
257	SLD 7	23	-140	574	0	0	0
257	SLD 8	36	-137	579	0	0	0
257	SLD 9	-33	97	1853	0	0	0
257	SLD 10	-19	100	1858	0	0	0
257	SLD 11	-48	-144	590	0	0	0
257	SLD 12	-35	-141	595	0	0	0
257	SLD 13	-124	8	1428	0	0	0
257	SLD 14	-103	12	1436	0	0	0
257	SLD 15	-129	-65	1049	0	0	0
257	SLD 16	-108	-60	1057	0	0	0
257	SLV 1	174	48	1492	0	0	0
257	SLV 2	207	55	1504	0	0	0
257	SLV 3	166	-76	846	0	0	0
257	SLV 4	199	-68	858	0	0	0
257	SLV 5	59	186	2278	0	0	0
257	SLV 6	82	191	2286	0	0	0
257	SLV 7	33	-225	122	0	0	0
257	SLV 8	55	-220	130	0	0	0
257	SLV 9	-51	180	2302	0	0	0
257	SLV 10	-29	185	2311	0	0	0
257	SLV 11	-78	-231	147	0	0	0
257	SLV 12	-56	-226	155	0	0	0
257	SLV 13	-196	28	1575	0	0	0
257	SLV 14	-162	36	1587	0	0	0
257	SLV 15	-204	-95	928	0	0	0
257	SLV 16	-170	-88	940	0	0	0
257	SLV FO 1	191	54	1520	0	0	0
257	SLV FO 2	228	62	1533	0	0	0
257	SLV FO 3	182	-81	809	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLV FO 4	219	-73	822	0	0	0
257	SLV FO 5	65	206	2384	0	0	0
257	SLV FO 6	90	212	2393	0	0	0
257	SLV FO 7	36	-246	13	0	0	0
257	SLV FO 8	61	-240	21	0	0	0
257	SLV FO 9	-57	200	2411	0	0	0
257	SLV FO 10	-32	205	2420	0	0	0
257	SLV FO 11	-86	-252	40	0	0	0
257	SLV FO 12	-61	-246	49	0	0	0
257	SLV FO 13	-215	33	1611	0	0	0
257	SLV FO 14	-179	41	1624	0	0	0
257	SLV FO 15	-224	-103	899	0	0	0
257	SLV FO 16	-187	-94	913	0	0	0
257	CRTFP Uy+	0	0	0	0	0	0
257	CRTFP Uy-	0	0	0	0	0	0
258	SLU 1	2	-20	1111	0	0	0
258	SLU 2	3	-15	1136	0	0	0
258	SLU 3	2	-21	1128	0	0	0
258	SLU 4	2	-17	1143	0	0	0
258	SLU 5	2	-15	1146	0	0	0
258	SLU 6	2	-21	1138	0	0	0
258	SLU 7	2	-18	1153	0	0	0
258	SLU 8	2	-21	1131	0	0	0
258	SLU 9	2	-18	1146	0	0	0
258	SLU 10	2	-17	1283	0	0	0
258	SLU 11	2	-23	1275	0	0	0
258	SLU 12	2	-20	1290	0	0	0
258	SLU 13	2	-17	1293	0	0	0
258	SLU 14	1	-23	1285	0	0	0
258	SLU 15	2	-20	1300	0	0	0
258	SLU 16	1	-23	1278	0	0	0
258	SLU 17	2	-20	1293	0	0	0
258	SLU 18	1	-23	1321	0	0	0
258	SLU 19	2	-20	1336	0	0	0
258	SLU 20	1	-24	1331	0	0	0
258	SLU 21	2	-21	1346	0	0	0
258	SLU 22	2	-23	1259	0	0	0
258	SLU 23	3	-17	1283	0	0	0
258	SLU 24	2	-23	1276	0	0	0
258	SLU 25	2	-20	1290	0	0	0
258	SLU 26	3	-18	1293	0	0	0
258	SLU 27	2	-24	1286	0	0	0
258	SLU 28	2	-20	1300	0	0	0
258	SLU 29	2	-23	1279	0	0	0
258	SLU 30	2	-20	1294	0	0	0
258	SLU 31	2	-20	1431	0	0	0
258	SLU 32	2	-25	1423	0	0	0
258	SLU 33	2	-22	1438	0	0	0
258	SLU 34	2	-20	1441	0	0	0
258	SLU 35	2	-26	1433	0	0	0
258	SLU 36	2	-23	1448	0	0	0
258	SLU 37	2	-26	1426	0	0	0
258	SLU 38	2	-22	1441	0	0	0
258	SLU 39	2	-26	1469	0	0	0
258	SLU 40	2	-23	1484	0	0	0
258	SLU 41	2	-26	1479	0	0	0
258	SLU 42	2	-23	1494	0	0	0
258	SLU 43	3	-25	1393	0	0	0
258	SLU 44	3	-20	1418	0	0	0
258	SLU 45	3	-26	1410	0	0	0
258	SLU 46	3	-23	1425	0	0	0
258	SLU 47	3	-20	1428	0	0	0
258	SLU 48	2	-26	1420	0	0	0
258	SLU 49	3	-23	1435	0	0	0
258	SLU 50	2	-26	1413	0	0	0
258	SLU 51	3	-23	1428	0	0	0
258	SLU 52	3	-22	1565	0	0	0
258	SLU 53	2	-28	1558	0	0	0
258	SLU 54	2	-25	1572	0	0	0
258	SLU 55	2	-23	1575	0	0	0
258	SLU 56	2	-28	1568	0	0	0
258	SLU 57	2	-25	1582	0	0	0
258	SLU 58	2	-28	1561	0	0	0
258	SLU 59	2	-25	1576	0	0	0
258	SLU 60	2	-29	1604	0	0	0
258	SLU 61	2	-25	1619	0	0	0
258	SLU 62	2	-29	1614	0	0	0
258	SLU 63	2	-26	1629	0	0	0
258	SLU 64	3	-28	1541	0	0	0
258	SLU 65	3	-22	1566	0	0	0
258	SLU 66	3	-28	1558	0	0	0
258	SLU 67	3	-25	1573	0	0	0
258	SLU 68	3	-23	1576	0	0	0
258	SLU 69	3	-29	1568	0	0	0
258	SLU 70	3	-25	1583	0	0	0
258	SLU 71	3	-29	1561	0	0	0
258	SLU 72	3	-25	1576	0	0	0
258	SLU 73	3	-25	1713	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
258	SLU 74	2	-31	1705	0	0	0
258	SLU 75	3	-27	1720	0	0	0
258	SLU 76	3	-25	1723	0	0	0
258	SLU 77	2	-31	1715	0	0	0
258	SLU 78	2	-28	1730	0	0	0
258	SLU 79	2	-31	1709	0	0	0
258	SLU 80	2	-28	1723	0	0	0
258	SLU 81	2	-31	1752	0	0	0
258	SLU 82	2	-28	1767	0	0	0
258	SLU 83	2	-32	1762	0	0	0
258	SLU 84	2	-28	1777	0	0	0
258	SLE RA 1	2	-21	1153	0	0	0
258	SLE RA 2	2	-17	1170	0	0	0
258	SLE RA 3	2	-21	1164	0	0	0
258	SLE RA 4	2	-19	1174	0	0	0
258	SLE RA 5	2	-18	1176	0	0	0
258	SLE RA 6	2	-21	1171	0	0	0
258	SLE RA 7	2	-19	1181	0	0	0
258	SLE RA 8	2	-21	1166	0	0	0
258	SLE RA 9	2	-19	1176	0	0	0
258	SLE RA 10	2	-19	1268	0	0	0
258	SLE RA 11	2	-23	1263	0	0	0
258	SLE RA 12	2	-21	1272	0	0	0
258	SLE RA 13	2	-19	1274	0	0	0
258	SLE RA 14	2	-23	1269	0	0	0
258	SLE RA 15	2	-21	1279	0	0	0
258	SLE RA 16	2	-23	1265	0	0	0
258	SLE RA 17	2	-21	1275	0	0	0
258	SLE RA 18	2	-23	1293	0	0	0
258	SLE RA 19	2	-21	1303	0	0	0
258	SLE RA 20	2	-23	1300	0	0	0
258	SLE RA 21	2	-21	1310	0	0	0
258	SLE FR 1	2	-21	1153	0	0	0
258	SLE FR 2	2	-20	1156	0	0	0
258	SLE FR 3	2	-21	1156	0	0	0
258	SLE FR 4	2	-21	1198	0	0	0
258	SLE FR 5	2	-22	1198	0	0	0
258	SLE FR 6	2	-22	1223	0	0	0
258	SLE QP 1	2	-21	1153	0	0	0
258	SLE QP 2	2	-22	1195	0	0	0
258	SLD 1	111	18	1343	0	0	0
258	SLD 2	132	24	1351	0	0	0
258	SLD 3	106	-51	970	0	0	0
258	SLD 4	127	-46	979	0	0	0
258	SLD 5	38	95	1804	0	0	0
258	SLD 6	52	99	1809	0	0	0
258	SLD 7	22	-137	561	0	0	0
258	SLD 8	36	-133	566	0	0	0
258	SLD 9	-32	90	1824	0	0	0
258	SLD 10	-18	94	1829	0	0	0
258	SLD 11	-48	-142	582	0	0	0
258	SLD 12	-34	-138	587	0	0	0
258	SLD 13	-123	2	1412	0	0	0
258	SLD 14	-102	8	1420	0	0	0
258	SLD 15	-128	-67	1039	0	0	0
258	SLD 16	-107	-62	1047	0	0	0
258	SLV 1	173	46	1453	0	0	0
258	SLV 2	206	55	1466	0	0	0
258	SLV 3	165	-73	817	0	0	0
258	SLV 4	198	-64	830	0	0	0
258	SLV 5	60	177	2235	0	0	0
258	SLV 6	82	183	2243	0	0	0
258	SLV 7	32	-219	115	0	0	0
258	SLV 8	54	-213	123	0	0	0
258	SLV 9	-50	170	2267	0	0	0
258	SLV 10	-28	176	2275	0	0	0
258	SLV 11	-78	-226	147	0	0	0
258	SLV 12	-55	-220	155	0	0	0
258	SLV 13	-193	21	1560	0	0	0
258	SLV 14	-160	30	1573	0	0	0
258	SLV 15	-202	-98	924	0	0	0
258	SLV 16	-169	-89	937	0	0	0
258	SLV FO 1	190	53	1479	0	0	0
258	SLV FO 2	226	63	1493	0	0	0
258	SLV FO 3	181	-78	780	0	0	0
258	SLV FO 4	217	-68	794	0	0	0
258	SLV FO 5	65	197	2339	0	0	0
258	SLV FO 6	90	204	2348	0	0	0
258	SLV FO 7	35	-239	7	0	0	0
258	SLV FO 8	60	-232	16	0	0	0
258	SLV FO 9	-56	189	2374	0	0	0
258	SLV FO 10	-31	196	2384	0	0	0
258	SLV FO 11	-86	-247	42	0	0	0
258	SLV FO 12	-61	-240	51	0	0	0
258	SLV FO 13	-213	25	1597	0	0	0
258	SLV FO 14	-177	35	1611	0	0	0
258	SLV FO 15	-222	-106	897	0	0	0
258	SLV FO 16	-186	-96	911	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
258	CRTFP Uy+	0	0	0	0	0	0
258	CRTFP Uy-	0	0	0	0	0	0
259	SLU 1	2	-22	1099	0	0	0
259	SLU 2	3	-16	1124	0	0	0
259	SLU 3	2	-22	1115	0	0	0
259	SLU 4	2	-19	1130	0	0	0
259	SLU 5	3	-17	1133	0	0	0
259	SLU 6	2	-22	1125	0	0	0
259	SLU 7	2	-19	1140	0	0	0
259	SLU 8	2	-22	1118	0	0	0
259	SLU 9	2	-19	1133	0	0	0
259	SLU 10	2	-19	1269	0	0	0
259	SLU 11	2	-25	1261	0	0	0
259	SLU 12	2	-21	1275	0	0	0
259	SLU 13	2	-19	1279	0	0	0
259	SLU 14	2	-25	1270	0	0	0
259	SLU 15	2	-22	1285	0	0	0
259	SLU 16	2	-25	1264	0	0	0
259	SLU 17	2	-22	1278	0	0	0
259	SLU 18	2	-25	1306	0	0	0
259	SLU 19	2	-22	1321	0	0	0
259	SLU 20	2	-26	1316	0	0	0
259	SLU 21	2	-22	1331	0	0	0
259	SLU 22	3	-24	1245	0	0	0
259	SLU 23	3	-19	1270	0	0	0
259	SLU 24	2	-25	1262	0	0	0
259	SLU 25	3	-22	1277	0	0	0
259	SLU 26	3	-19	1280	0	0	0
259	SLU 27	2	-25	1272	0	0	0
259	SLU 28	3	-22	1286	0	0	0
259	SLU 29	2	-25	1265	0	0	0
259	SLU 30	3	-22	1280	0	0	0
259	SLU 31	3	-22	1415	0	0	0
259	SLU 32	2	-27	1407	0	0	0
259	SLU 33	2	-24	1422	0	0	0
259	SLU 34	2	-22	1425	0	0	0
259	SLU 35	2	-28	1417	0	0	0
259	SLU 36	2	-25	1432	0	0	0
259	SLU 37	2	-28	1410	0	0	0
259	SLU 38	2	-24	1425	0	0	0
259	SLU 39	2	-28	1453	0	0	0
259	SLU 40	2	-25	1468	0	0	0
259	SLU 41	2	-28	1463	0	0	0
259	SLU 42	2	-25	1477	0	0	0
259	SLU 43	3	-27	1378	0	0	0
259	SLU 44	3	-22	1403	0	0	0
259	SLU 45	3	-28	1395	0	0	0
259	SLU 46	3	-25	1410	0	0	0
259	SLU 47	3	-22	1413	0	0	0
259	SLU 48	3	-28	1405	0	0	0
259	SLU 49	3	-25	1419	0	0	0
259	SLU 50	3	-28	1398	0	0	0
259	SLU 51	3	-25	1413	0	0	0
259	SLU 52	3	-24	1548	0	0	0
259	SLU 53	2	-30	1540	0	0	0
259	SLU 54	3	-27	1555	0	0	0
259	SLU 55	3	-25	1558	0	0	0
259	SLU 56	2	-30	1550	0	0	0
259	SLU 57	2	-27	1565	0	0	0
259	SLU 58	2	-30	1543	0	0	0
259	SLU 59	2	-27	1558	0	0	0
259	SLU 60	2	-31	1586	0	0	0
259	SLU 61	3	-28	1601	0	0	0
259	SLU 62	2	-31	1596	0	0	0
259	SLU 63	2	-28	1610	0	0	0
259	SLU 64	3	-30	1525	0	0	0
259	SLU 65	4	-25	1549	0	0	0
259	SLU 66	3	-30	1541	0	0	0
259	SLU 67	3	-27	1556	0	0	0
259	SLU 68	3	-25	1559	0	0	0
259	SLU 69	3	-31	1551	0	0	0
259	SLU 70	3	-28	1566	0	0	0
259	SLU 71	3	-31	1544	0	0	0
259	SLU 72	3	-27	1559	0	0	0
259	SLU 73	3	-27	1695	0	0	0
259	SLU 74	3	-33	1687	0	0	0
259	SLU 75	3	-30	1701	0	0	0
259	SLU 76	3	-27	1704	0	0	0
259	SLU 77	3	-33	1696	0	0	0
259	SLU 78	3	-30	1711	0	0	0
259	SLU 79	2	-33	1690	0	0	0
259	SLU 80	3	-30	1704	0	0	0
259	SLU 81	3	-33	1732	0	0	0
259	SLU 82	3	-30	1747	0	0	0
259	SLU 83	2	-34	1742	0	0	0
259	SLU 84	3	-31	1757	0	0	0
259	SLE RA 1	2	-22	1141	0	0	0
259	SLE RA 2	3	-19	1157	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
259	SLE RA 3	2	-23	1152	0	0	0
259	SLE RA 4	3	-21	1162	0	0	0
259	SLE RA 5	3	-19	1164	0	0	0
259	SLE RA 6	2	-23	1158	0	0	0
259	SLE RA 7	2	-21	1168	0	0	0
259	SLE RA 8	2	-23	1154	0	0	0
259	SLE RA 9	2	-21	1164	0	0	0
259	SLE RA 10	2	-21	1254	0	0	0
259	SLE RA 11	2	-24	1249	0	0	0
259	SLE RA 12	2	-22	1258	0	0	0
259	SLE RA 13	2	-21	1261	0	0	0
259	SLE RA 14	2	-25	1255	0	0	0
259	SLE RA 15	2	-23	1265	0	0	0
259	SLE RA 16	2	-25	1251	0	0	0
259	SLE RA 17	2	-22	1260	0	0	0
259	SLE RA 18	2	-25	1279	0	0	0
259	SLE RA 19	2	-23	1289	0	0	0
259	SLE RA 20	2	-25	1286	0	0	0
259	SLE RA 21	2	-23	1295	0	0	0
259	SLE FR 1	2	-22	1141	0	0	0
259	SLE FR 2	2	-22	1144	0	0	0
259	SLE FR 3	2	-22	1143	0	0	0
259	SLE FR 4	2	-22	1186	0	0	0
259	SLE FR 5	2	-23	1185	0	0	0
259	SLE FR 6	2	-24	1210	0	0	0
259	SLE QP 1	2	-22	1141	0	0	0
259	SLE QP 2	2	-23	1182	0	0	0
259	SLD 1	111	17	1320	0	0	0
259	SLD 2	131	24	1329	0	0	0
259	SLD 3	106	-50	951	0	0	0
259	SLD 4	126	-44	959	0	0	0
259	SLD 5	39	90	1782	0	0	0
259	SLD 6	52	94	1787	0	0	0
259	SLD 7	22	-135	552	0	0	0
259	SLD 8	36	-130	557	0	0	0
259	SLD 9	-31	84	1807	0	0	0
259	SLD 10	-18	88	1813	0	0	0
259	SLD 11	-48	-141	577	0	0	0
259	SLD 12	-34	-136	583	0	0	0
259	SLD 13	-122	-2	1405	0	0	0
259	SLD 14	-101	4	1414	0	0	0
259	SLD 15	-127	-70	1036	0	0	0
259	SLD 16	-106	-63	1045	0	0	0
259	SLV 1	172	44	1424	0	0	0
259	SLV 2	205	55	1438	0	0	0
259	SLV 3	164	-71	794	0	0	0
259	SLV 4	196	-60	808	0	0	0
259	SLV 5	60	170	2207	0	0	0
259	SLV 6	82	177	2217	0	0	0
259	SLV 7	32	-214	108	0	0	0
259	SLV 8	54	-207	117	0	0	0
259	SLV 9	-49	160	2247	0	0	0
259	SLV 10	-27	168	2256	0	0	0
259	SLV 11	-77	-223	148	0	0	0
259	SLV 12	-55	-216	157	0	0	0
259	SLV 13	-192	14	1557	0	0	0
259	SLV 14	-159	24	1570	0	0	0
259	SLV 15	-200	-101	927	0	0	0
259	SLV 16	-167	-91	941	0	0	0
259	SLV FO 1	189	51	1448	0	0	0
259	SLV FO 2	225	63	1463	0	0	0
259	SLV FO 3	180	-75	755	0	0	0
259	SLV FO 4	216	-64	770	0	0	0
259	SLV FO 5	66	189	2310	0	0	0
259	SLV FO 6	90	197	2320	0	0	0
259	SLV FO 7	35	-233	1	0	0	0
259	SLV FO 8	59	-225	11	0	0	0
259	SLV FO 9	-54	179	2354	0	0	0
259	SLV FO 10	-30	187	2364	0	0	0
259	SLV FO 11	-85	-243	45	0	0	0
259	SLV FO 12	-61	-235	55	0	0	0
259	SLV FO 13	-211	18	1594	0	0	0
259	SLV FO 14	-175	29	1609	0	0	0
259	SLV FO 15	-220	-109	901	0	0	0
259	SLV FO 16	-184	-97	916	0	0	0
259	CRTFP Uy+	0	0	0	0	0	0
259	CRTFP Uy-	0	0	0	0	0	0
260	SLU 1	3	-23	1091	0	0	0
260	SLU 2	3	-18	1116	0	0	0
260	SLU 3	3	-23	1108	0	0	0
260	SLU 4	3	-20	1122	0	0	0
260	SLU 5	3	-18	1126	0	0	0
260	SLU 6	2	-24	1117	0	0	0
260	SLU 7	3	-21	1132	0	0	0
260	SLU 8	2	-24	1111	0	0	0
260	SLU 9	3	-21	1125	0	0	0
260	SLU 10	3	-21	1260	0	0	0
260	SLU 11	2	-26	1252	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
260	SLU 12	2	-23	1266	0	0	0
260	SLU 13	3	-21	1269	0	0	0
260	SLU 14	2	-27	1261	0	0	0
260	SLU 15	2	-23	1276	0	0	0
260	SLU 16	2	-26	1254	0	0	0
260	SLU 17	2	-23	1269	0	0	0
260	SLU 18	2	-27	1297	0	0	0
260	SLU 19	2	-24	1312	0	0	0
260	SLU 20	2	-27	1306	0	0	0
260	SLU 21	2	-24	1321	0	0	0
260	SLU 22	3	-26	1237	0	0	0
260	SLU 23	3	-21	1262	0	0	0
260	SLU 24	3	-26	1254	0	0	0
260	SLU 25	3	-23	1268	0	0	0
260	SLU 26	3	-21	1271	0	0	0
260	SLU 27	3	-27	1263	0	0	0
260	SLU 28	3	-24	1278	0	0	0
260	SLU 29	3	-27	1256	0	0	0
260	SLU 30	3	-24	1271	0	0	0
260	SLU 31	3	-24	1406	0	0	0
260	SLU 32	2	-29	1397	0	0	0
260	SLU 33	3	-26	1412	0	0	0
260	SLU 34	3	-24	1415	0	0	0
260	SLU 35	2	-29	1407	0	0	0
260	SLU 36	3	-26	1422	0	0	0
260	SLU 37	2	-29	1400	0	0	0
260	SLU 38	2	-26	1415	0	0	0
260	SLU 39	2	-30	1443	0	0	0
260	SLU 40	3	-27	1457	0	0	0
260	SLU 41	2	-30	1452	0	0	0
260	SLU 42	3	-27	1467	0	0	0
260	SLU 43	3	-29	1369	0	0	0
260	SLU 44	4	-24	1393	0	0	0
260	SLU 45	3	-29	1385	0	0	0
260	SLU 46	3	-26	1400	0	0	0
260	SLU 47	4	-24	1403	0	0	0
260	SLU 48	3	-30	1395	0	0	0
260	SLU 49	3	-27	1409	0	0	0
260	SLU 50	3	-30	1388	0	0	0
260	SLU 51	3	-27	1403	0	0	0
260	SLU 52	3	-27	1537	0	0	0
260	SLU 53	3	-32	1529	0	0	0
260	SLU 54	3	-29	1544	0	0	0
260	SLU 55	3	-27	1547	0	0	0
260	SLU 56	3	-32	1539	0	0	0
260	SLU 57	3	-29	1553	0	0	0
260	SLU 58	3	-32	1532	0	0	0
260	SLU 59	3	-29	1547	0	0	0
260	SLU 60	3	-33	1574	0	0	0
260	SLU 61	3	-30	1589	0	0	0
260	SLU 62	3	-33	1584	0	0	0
260	SLU 63	3	-30	1599	0	0	0
260	SLU 64	4	-32	1515	0	0	0
260	SLU 65	4	-27	1539	0	0	0
260	SLU 66	4	-32	1531	0	0	0
260	SLU 67	4	-29	1546	0	0	0
260	SLU 68	4	-27	1549	0	0	0
260	SLU 69	3	-33	1541	0	0	0
260	SLU 70	4	-30	1555	0	0	0
260	SLU 71	3	-32	1534	0	0	0
260	SLU 72	4	-29	1549	0	0	0
260	SLU 73	4	-29	1683	0	0	0
260	SLU 74	3	-35	1675	0	0	0
260	SLU 75	3	-32	1690	0	0	0
260	SLU 76	4	-30	1693	0	0	0
260	SLU 77	3	-35	1684	0	0	0
260	SLU 78	3	-32	1699	0	0	0
260	SLU 79	3	-35	1678	0	0	0
260	SLU 80	3	-32	1692	0	0	0
260	SLU 81	3	-36	1720	0	0	0
260	SLU 82	3	-33	1735	0	0	0
260	SLU 83	3	-36	1730	0	0	0
260	SLU 84	3	-33	1744	0	0	0
260	SLE RA 1	3	-24	1133	0	0	0
260	SLE RA 2	3	-20	1149	0	0	0
260	SLE RA 3	3	-24	1144	0	0	0
260	SLE RA 4	3	-22	1154	0	0	0
260	SLE RA 5	3	-21	1156	0	0	0
260	SLE RA 6	3	-24	1150	0	0	0
260	SLE RA 7	3	-22	1160	0	0	0
260	SLE RA 8	3	-24	1146	0	0	0
260	SLE RA 9	3	-22	1156	0	0	0
260	SLE RA 10	3	-22	1245	0	0	0
260	SLE RA 11	2	-26	1240	0	0	0
260	SLE RA 12	3	-24	1250	0	0	0
260	SLE RA 13	3	-22	1252	0	0	0
260	SLE RA 14	2	-26	1246	0	0	0
260	SLE RA 15	2	-24	1256	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
260	SLE RA 16	2	-26	1242	0	0	0
260	SLE RA 17	2	-24	1252	0	0	0
260	SLE RA 18	2	-26	1270	0	0	0
260	SLE RA 19	3	-24	1280	0	0	0
260	SLE RA 20	2	-27	1276	0	0	0
260	SLE RA 21	2	-25	1286	0	0	0
260	SLE FR 1	3	-24	1133	0	0	0
260	SLE FR 2	3	-23	1136	0	0	0
260	SLE FR 3	3	-24	1136	0	0	0
260	SLE FR 4	3	-24	1177	0	0	0
260	SLE FR 5	3	-25	1177	0	0	0
260	SLE FR 6	3	-25	1202	0	0	0
260	SLE QP 1	3	-24	1133	0	0	0
260	SLE QP 2	3	-25	1174	0	0	0
260	SLD 1	110	15	1302	0	0	0
260	SLD 2	131	23	1311	0	0	0
260	SLD 3	105	-50	935	0	0	0
260	SLD 4	125	-42	944	0	0	0
260	SLD 5	39	85	1768	0	0	0
260	SLD 6	52	90	1774	0	0	0
260	SLD 7	22	-132	544	0	0	0
260	SLD 8	35	-127	550	0	0	0
260	SLD 9	-30	78	1798	0	0	0
260	SLD 10	-17	83	1804	0	0	0
260	SLD 11	-47	-139	575	0	0	0
260	SLD 12	-34	-134	581	0	0	0
260	SLD 13	-120	-7	1404	0	0	0
260	SLD 14	-100	0	1414	0	0	0
260	SLD 15	-125	-72	1037	0	0	0
260	SLD 16	-105	-65	1046	0	0	0
260	SLV 1	171	43	1400	0	0	0
260	SLV 2	203	55	1415	0	0	0
260	SLV 3	162	-68	774	0	0	0
260	SLV 4	195	-56	788	0	0	0
260	SLV 5	60	162	2189	0	0	0
260	SLV 6	82	170	2199	0	0	0
260	SLV 7	31	-208	101	0	0	0
260	SLV 8	53	-200	111	0	0	0
260	SLV 9	-48	151	2237	0	0	0
260	SLV 10	-26	159	2247	0	0	0
260	SLV 11	-77	-219	149	0	0	0
260	SLV 12	-55	-211	159	0	0	0
260	SLV 13	-189	7	1560	0	0	0
260	SLV 14	-157	19	1575	0	0	0
260	SLV 15	-198	-104	933	0	0	0
260	SLV 16	-165	-92	948	0	0	0
260	SLV FO 1	187	49	1423	0	0	0
260	SLV FO 2	223	63	1439	0	0	0
260	SLV FO 3	178	-73	734	0	0	0
260	SLV FO 4	214	-60	750	0	0	0
260	SLV FO 5	66	180	2291	0	0	0
260	SLV FO 6	90	189	2302	0	0	0
260	SLV FO 7	34	-227	-6	0	0	0
260	SLV FO 8	58	-218	5	0	0	0
260	SLV FO 9	-53	169	2343	0	0	0
260	SLV FO 10	-29	178	2354	0	0	0
260	SLV FO 11	-85	-238	47	0	0	0
260	SLV FO 12	-61	-230	58	0	0	0
260	SLV FO 13	-208	10	1598	0	0	0
260	SLV FO 14	-173	24	1615	0	0	0
260	SLV FO 15	-218	-112	909	0	0	0
260	SLV FO 16	-182	-99	926	0	0	0
260	CRTFP Uy+	0	0	0	0	0	0
260	CRTFP Uy-	0	0	0	0	0	0
261	SLU 1	3	-24	1079	0	0	0
261	SLU 2	3	-19	1104	0	0	0
261	SLU 3	3	-24	1095	0	0	0
261	SLU 4	3	-22	1110	0	0	0
261	SLU 5	3	-20	1113	0	0	0
261	SLU 6	3	-25	1105	0	0	0
261	SLU 7	3	-22	1119	0	0	0
261	SLU 8	3	-25	1098	0	0	0
261	SLU 9	3	-22	1113	0	0	0
261	SLU 10	3	-22	1246	0	0	0
261	SLU 11	3	-27	1237	0	0	0
261	SLU 12	3	-24	1252	0	0	0
261	SLU 13	3	-22	1255	0	0	0
261	SLU 14	2	-28	1247	0	0	0
261	SLU 15	3	-25	1261	0	0	0
261	SLU 16	2	-27	1240	0	0	0
261	SLU 17	3	-25	1255	0	0	0
261	SLU 18	3	-28	1282	0	0	0
261	SLU 19	3	-25	1297	0	0	0
261	SLU 20	2	-28	1292	0	0	0
261	SLU 21	3	-25	1306	0	0	0
261	SLU 22	3	-27	1224	0	0	0
261	SLU 23	4	-22	1249	0	0	0
261	SLU 24	3	-28	1240	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLU 25	4	-25	1255	0	0	0
261	SLU 26	4	-23	1258	0	0	0
261	SLU 27	3	-28	1249	0	0	0
261	SLU 28	3	-25	1264	0	0	0
261	SLU 29	3	-28	1243	0	0	0
261	SLU 30	3	-25	1258	0	0	0
261	SLU 31	4	-25	1391	0	0	0
261	SLU 32	3	-30	1382	0	0	0
261	SLU 33	3	-27	1397	0	0	0
261	SLU 34	3	-25	1400	0	0	0
261	SLU 35	3	-31	1392	0	0	0
261	SLU 36	3	-28	1406	0	0	0
261	SLU 37	3	-30	1385	0	0	0
261	SLU 38	3	-28	1400	0	0	0
261	SLU 39	3	-31	1427	0	0	0
261	SLU 40	3	-28	1442	0	0	0
261	SLU 41	3	-31	1436	0	0	0
261	SLU 42	3	-28	1451	0	0	0
261	SLU 43	4	-30	1353	0	0	0
261	SLU 44	4	-25	1378	0	0	0
261	SLU 45	4	-31	1369	0	0	0
261	SLU 46	4	-28	1384	0	0	0
261	SLU 47	4	-26	1387	0	0	0
261	SLU 48	4	-31	1379	0	0	0
261	SLU 49	4	-28	1394	0	0	0
261	SLU 50	3	-31	1372	0	0	0
261	SLU 51	4	-28	1387	0	0	0
261	SLU 52	4	-28	1520	0	0	0
261	SLU 53	3	-33	1512	0	0	0
261	SLU 54	4	-31	1526	0	0	0
261	SLU 55	4	-28	1529	0	0	0
261	SLU 56	3	-34	1521	0	0	0
261	SLU 57	3	-31	1536	0	0	0
261	SLU 58	3	-34	1514	0	0	0
261	SLU 59	3	-31	1529	0	0	0
261	SLU 60	3	-34	1556	0	0	0
261	SLU 61	4	-31	1571	0	0	0
261	SLU 62	3	-34	1566	0	0	0
261	SLU 63	3	-32	1580	0	0	0
261	SLU 64	4	-33	1498	0	0	0
261	SLU 65	5	-28	1523	0	0	0
261	SLU 66	4	-34	1514	0	0	0
261	SLU 67	4	-31	1529	0	0	0
261	SLU 68	4	-29	1532	0	0	0
261	SLU 69	4	-34	1524	0	0	0
261	SLU 70	4	-31	1538	0	0	0
261	SLU 71	4	-34	1517	0	0	0
261	SLU 72	4	-31	1532	0	0	0
261	SLU 73	4	-31	1665	0	0	0
261	SLU 74	4	-36	1656	0	0	0
261	SLU 75	4	-34	1671	0	0	0
261	SLU 76	4	-32	1674	0	0	0
261	SLU 77	4	-37	1666	0	0	0
261	SLU 78	4	-34	1680	0	0	0
261	SLU 79	4	-37	1659	0	0	0
261	SLU 80	4	-34	1674	0	0	0
261	SLU 81	4	-37	1701	0	0	0
261	SLU 82	4	-34	1716	0	0	0
261	SLU 83	4	-38	1711	0	0	0
261	SLU 84	4	-35	1725	0	0	0
261	SLE RA 1	3	-25	1121	0	0	0
261	SLE RA 2	3	-22	1137	0	0	0
261	SLE RA 3	3	-25	1131	0	0	0
261	SLE RA 4	3	-23	1141	0	0	0
261	SLE RA 5	3	-22	1143	0	0	0
261	SLE RA 6	3	-25	1138	0	0	0
261	SLE RA 7	3	-24	1147	0	0	0
261	SLE RA 8	3	-25	1133	0	0	0
261	SLE RA 9	3	-23	1143	0	0	0
261	SLE RA 10	3	-24	1232	0	0	0
261	SLE RA 11	3	-27	1226	0	0	0
261	SLE RA 12	3	-25	1236	0	0	0
261	SLE RA 13	3	-24	1238	0	0	0
261	SLE RA 14	3	-27	1232	0	0	0
261	SLE RA 15	3	-25	1242	0	0	0
261	SLE RA 16	3	-27	1228	0	0	0
261	SLE RA 17	3	-25	1238	0	0	0
261	SLE RA 18	3	-28	1256	0	0	0
261	SLE RA 19	3	-26	1266	0	0	0
261	SLE RA 20	3	-28	1262	0	0	0
261	SLE RA 21	3	-26	1272	0	0	0
261	SLE FR 1	3	-25	1121	0	0	0
261	SLE FR 2	3	-24	1124	0	0	0
261	SLE FR 3	3	-25	1123	0	0	0
261	SLE FR 4	3	-25	1164	0	0	0
261	SLE FR 5	3	-26	1164	0	0	0
261	SLE FR 6	3	-26	1188	0	0	0
261	SLE QP 1	3	-25	1121	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLE QP 2	3	-26	1161	0	0	0
261	SLD 1	108	14	1279	0	0	0
261	SLD 2	128	22	1289	0	0	0
261	SLD 3	103	-48	915	0	0	0
261	SLD 4	123	-40	925	0	0	0
261	SLD 5	39	79	1747	0	0	0
261	SLD 6	52	84	1753	0	0	0
261	SLD 7	22	-128	534	0	0	0
261	SLD 8	35	-123	540	0	0	0
261	SLD 9	-29	72	1782	0	0	0
261	SLD 10	-16	77	1789	0	0	0
261	SLD 11	-46	-136	569	0	0	0
261	SLD 12	-33	-130	576	0	0	0
261	SLD 13	-117	-11	1398	0	0	0
261	SLD 14	-97	-3	1408	0	0	0
261	SLD 15	-122	-74	1034	0	0	0
261	SLD 16	-102	-65	1044	0	0	0
261	SLV 1	168	41	1371	0	0	0
261	SLV 2	199	54	1387	0	0	0
261	SLV 3	159	-66	750	0	0	0
261	SLV 4	190	-52	766	0	0	0
261	SLV 5	60	153	2163	0	0	0
261	SLV 6	81	162	2173	0	0	0
261	SLV 7	30	-201	93	0	0	0
261	SLV 8	52	-192	104	0	0	0
261	SLV 9	-46	141	2219	0	0	0
261	SLV 10	-24	150	2229	0	0	0
261	SLV 11	-75	-213	149	0	0	0
261	SLV 12	-54	-204	160	0	0	0
261	SLV 13	-184	1	1557	0	0	0
261	SLV 14	-153	14	1572	0	0	0
261	SLV 15	-193	-105	936	0	0	0
261	SLV 16	-161	-92	952	0	0	0
261	SLV FO 1	184	47	1392	0	0	0
261	SLV FO 2	219	62	1409	0	0	0
261	SLV FO 3	174	-70	709	0	0	0
261	SLV FO 4	209	-55	726	0	0	0
261	SLV FO 5	66	171	2263	0	0	0
261	SLV FO 6	89	180	2275	0	0	0
261	SLV FO 7	33	-219	-14	0	0	0
261	SLV FO 8	57	-209	-2	0	0	0
261	SLV FO 9	-51	158	2324	0	0	0
261	SLV FO 10	-27	167	2336	0	0	0
261	SLV FO 11	-83	-232	48	0	0	0
261	SLV FO 12	-59	-222	59	0	0	0
261	SLV FO 13	-203	4	1596	0	0	0
261	SLV FO 14	-168	18	1614	0	0	0
261	SLV FO 15	-213	-113	913	0	0	0
261	SLV FO 16	-178	-98	931	0	0	0
261	CRTFP Uy+	0	0	0	0	0	0
261	CRTFP Uy-	0	0	0	0	0	0
262	SLU 1	3	-23	1015	0	0	0
262	SLU 2	4	-19	1038	0	0	0
262	SLU 3	3	-24	1030	0	0	0
262	SLU 4	3	-21	1044	0	0	0
262	SLU 5	4	-19	1047	0	0	0
262	SLU 6	3	-24	1039	0	0	0
262	SLU 7	3	-22	1053	0	0	0
262	SLU 8	3	-24	1032	0	0	0
262	SLU 9	3	-21	1046	0	0	0
262	SLU 10	4	-22	1172	0	0	0
262	SLU 11	3	-27	1164	0	0	0
262	SLU 12	3	-24	1178	0	0	0
262	SLU 13	3	-22	1181	0	0	0
262	SLU 14	3	-27	1172	0	0	0
262	SLU 15	3	-24	1186	0	0	0
262	SLU 16	3	-27	1166	0	0	0
262	SLU 17	3	-24	1180	0	0	0
262	SLU 18	3	-27	1206	0	0	0
262	SLU 19	3	-25	1220	0	0	0
262	SLU 20	3	-28	1215	0	0	0
262	SLU 21	3	-25	1228	0	0	0
262	SLU 22	4	-26	1152	0	0	0
262	SLU 23	4	-22	1175	0	0	0
262	SLU 24	4	-27	1167	0	0	0
262	SLU 25	4	-24	1181	0	0	0
262	SLU 26	4	-22	1184	0	0	0
262	SLU 27	4	-27	1176	0	0	0
262	SLU 28	4	-25	1190	0	0	0
262	SLU 29	3	-27	1169	0	0	0
262	SLU 30	4	-24	1183	0	0	0
262	SLU 31	4	-25	1309	0	0	0
262	SLU 32	3	-30	1300	0	0	0
262	SLU 33	4	-27	1314	0	0	0
262	SLU 34	4	-25	1317	0	0	0
262	SLU 35	3	-30	1309	0	0	0
262	SLU 36	4	-27	1323	0	0	0
262	SLU 37	3	-30	1303	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLU 38	3	-27	1317	0	0	0
262	SLU 39	3	-30	1343	0	0	0
262	SLU 40	4	-28	1356	0	0	0
262	SLU 41	3	-31	1351	0	0	0
262	SLU 42	4	-28	1365	0	0	0
262	SLU 43	4	-29	1272	0	0	0
262	SLU 44	5	-25	1296	0	0	0
262	SLU 45	4	-30	1288	0	0	0
262	SLU 46	4	-27	1302	0	0	0
262	SLU 47	4	-25	1304	0	0	0
262	SLU 48	4	-30	1296	0	0	0
262	SLU 49	4	-28	1310	0	0	0
262	SLU 50	4	-30	1290	0	0	0
262	SLU 51	4	-27	1304	0	0	0
262	SLU 52	4	-28	1429	0	0	0
262	SLU 53	4	-33	1421	0	0	0
262	SLU 54	4	-30	1435	0	0	0
262	SLU 55	4	-28	1438	0	0	0
262	SLU 56	4	-33	1430	0	0	0
262	SLU 57	4	-30	1444	0	0	0
262	SLU 58	4	-33	1424	0	0	0
262	SLU 59	4	-30	1438	0	0	0
262	SLU 60	4	-33	1463	0	0	0
262	SLU 61	4	-31	1477	0	0	0
262	SLU 62	4	-34	1472	0	0	0
262	SLU 63	4	-31	1486	0	0	0
262	SLU 64	5	-32	1409	0	0	0
262	SLU 65	5	-28	1433	0	0	0
262	SLU 66	5	-33	1424	0	0	0
262	SLU 67	5	-30	1438	0	0	0
262	SLU 68	5	-28	1441	0	0	0
262	SLU 69	4	-33	1433	0	0	0
262	SLU 70	5	-31	1447	0	0	0
262	SLU 71	4	-33	1427	0	0	0
262	SLU 72	5	-30	1441	0	0	0
262	SLU 73	5	-31	1566	0	0	0
262	SLU 74	4	-36	1558	0	0	0
262	SLU 75	5	-33	1572	0	0	0
262	SLU 76	5	-31	1575	0	0	0
262	SLU 77	4	-36	1567	0	0	0
262	SLU 78	4	-33	1581	0	0	0
262	SLU 79	4	-36	1560	0	0	0
262	SLU 80	4	-33	1574	0	0	0
262	SLU 81	4	-36	1600	0	0	0
262	SLU 82	5	-34	1614	0	0	0
262	SLU 83	4	-37	1609	0	0	0
262	SLU 84	4	-34	1623	0	0	0
262	SLE RA 1	3	-24	1054	0	0	0
262	SLE RA 2	4	-21	1069	0	0	0
262	SLE RA 3	3	-25	1064	0	0	0
262	SLE RA 4	4	-23	1073	0	0	0
262	SLE RA 5	4	-22	1075	0	0	0
262	SLE RA 6	3	-25	1070	0	0	0
262	SLE RA 7	3	-23	1079	0	0	0
262	SLE RA 8	3	-25	1066	0	0	0
262	SLE RA 9	3	-23	1075	0	0	0
262	SLE RA 10	4	-23	1159	0	0	0
262	SLE RA 11	3	-26	1153	0	0	0
262	SLE RA 12	3	-25	1162	0	0	0
262	SLE RA 13	3	-23	1164	0	0	0
262	SLE RA 14	3	-27	1159	0	0	0
262	SLE RA 15	3	-25	1168	0	0	0
262	SLE RA 16	3	-26	1155	0	0	0
262	SLE RA 17	3	-25	1164	0	0	0
262	SLE RA 18	3	-27	1181	0	0	0
262	SLE RA 19	3	-25	1191	0	0	0
262	SLE RA 20	3	-27	1187	0	0	0
262	SLE RA 21	3	-25	1196	0	0	0
262	SLE FR 1	3	-24	1054	0	0	0
262	SLE FR 2	4	-24	1057	0	0	0
262	SLE FR 3	3	-24	1056	0	0	0
262	SLE FR 4	3	-24	1095	0	0	0
262	SLE FR 5	3	-25	1095	0	0	0
262	SLE FR 6	3	-26	1118	0	0	0
262	SLE QP 1	3	-24	1054	0	0	0
262	SLE QP 2	3	-25	1092	0	0	0
262	SLD 1	101	12	1195	0	0	0
262	SLD 2	119	20	1205	0	0	0
262	SLD 3	96	-45	851	0	0	0
262	SLD 4	114	-36	861	0	0	0
262	SLD 5	37	70	1642	0	0	0
262	SLD 6	49	76	1649	0	0	0
262	SLD 7	20	-118	497	0	0	0
262	SLD 8	32	-112	504	0	0	0
262	SLD 9	-25	62	1681	0	0	0
262	SLD 10	-13	68	1687	0	0	0
262	SLD 11	-42	-126	536	0	0	0
262	SLD 12	-30	-120	542	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLD 13	-107	-14	1323	0	0	0
262	SLD 14	-89	-5	1333	0	0	0
262	SLD 15	-112	-70	979	0	0	0
262	SLD 16	-94	-62	990	0	0	0
262	SLV 1	156	36	1277	0	0	0
262	SLV 2	185	50	1293	0	0	0
262	SLV 3	147	-60	691	0	0	0
262	SLV 4	176	-46	707	0	0	0
262	SLV 5	57	137	2034	0	0	0
262	SLV 6	76	146	2044	0	0	0
262	SLV 7	28	-184	80	0	0	0
262	SLV 8	48	-175	91	0	0	0
262	SLV 9	-41	125	2093	0	0	0
262	SLV 10	-21	134	2104	0	0	0
262	SLV 11	-70	-196	140	0	0	0
262	SLV 12	-50	-187	151	0	0	0
262	SLV 13	-170	-4	1477	0	0	0
262	SLV 14	-140	10	1493	0	0	0
262	SLV 15	-178	-100	891	0	0	0
262	SLV 16	-149	-86	907	0	0	0
262	SLV FO 1	171	43	1296	0	0	0
262	SLV FO 2	203	57	1313	0	0	0
262	SLV FO 3	161	-63	651	0	0	0
262	SLV FO 4	194	-48	669	0	0	0
262	SLV FO 5	62	153	2128	0	0	0
262	SLV FO 6	84	163	2139	0	0	0
262	SLV FO 7	30	-200	-21	0	0	0
262	SLV FO 8	52	-190	-9	0	0	0
262	SLV FO 9	-45	140	2194	0	0	0
262	SLV FO 10	-24	150	2205	0	0	0
262	SLV FO 11	-77	-213	45	0	0	0
262	SLV FO 12	-55	-203	57	0	0	0
262	SLV FO 13	-187	-2	1516	0	0	0
262	SLV FO 14	-155	13	1533	0	0	0
262	SLV FO 15	-196	-107	871	0	0	0
262	SLV FO 16	-164	-93	889	0	0	0
262	CRTFP Uy+	0	0	0	0	0	0
262	CRTFP Uy-	0	0	0	0	0	0
263	SLU 1	3	-21	907	0	0	0
263	SLU 2	4	-18	928	0	0	0
263	SLU 3	3	-22	920	0	0	0
263	SLU 4	4	-20	933	0	0	0
263	SLU 5	4	-18	936	0	0	0
263	SLU 6	3	-22	928	0	0	0
263	SLU 7	3	-20	941	0	0	0
263	SLU 8	3	-22	922	0	0	0
263	SLU 9	3	-20	935	0	0	0
263	SLU 10	4	-20	1047	0	0	0
263	SLU 11	3	-24	1040	0	0	0
263	SLU 12	3	-22	1052	0	0	0
263	SLU 13	3	-21	1055	0	0	0
263	SLU 14	3	-25	1048	0	0	0
263	SLU 15	3	-23	1060	0	0	0
263	SLU 16	3	-25	1042	0	0	0
263	SLU 17	3	-22	1054	0	0	0
263	SLU 18	3	-25	1077	0	0	0
263	SLU 19	3	-23	1090	0	0	0
263	SLU 20	3	-25	1085	0	0	0
263	SLU 21	3	-23	1098	0	0	0
263	SLU 22	4	-24	1030	0	0	0
263	SLU 23	4	-20	1051	0	0	0
263	SLU 24	4	-25	1043	0	0	0
263	SLU 25	4	-22	1056	0	0	0
263	SLU 26	4	-21	1058	0	0	0
263	SLU 27	4	-25	1051	0	0	0
263	SLU 28	4	-23	1063	0	0	0
263	SLU 29	4	-25	1045	0	0	0
263	SLU 30	4	-23	1058	0	0	0
263	SLU 31	4	-23	1170	0	0	0
263	SLU 32	4	-27	1163	0	0	0
263	SLU 33	4	-25	1175	0	0	0
263	SLU 34	4	-23	1178	0	0	0
263	SLU 35	3	-27	1170	0	0	0
263	SLU 36	4	-25	1183	0	0	0
263	SLU 37	3	-27	1165	0	0	0
263	SLU 38	4	-25	1177	0	0	0
263	SLU 39	4	-28	1200	0	0	0
263	SLU 40	4	-26	1213	0	0	0
263	SLU 41	3	-28	1208	0	0	0
263	SLU 42	4	-26	1221	0	0	0
263	SLU 43	4	-27	1137	0	0	0
263	SLU 44	5	-23	1158	0	0	0
263	SLU 45	4	-27	1150	0	0	0
263	SLU 46	4	-25	1163	0	0	0
263	SLU 47	4	-24	1166	0	0	0
263	SLU 48	4	-28	1158	0	0	0
263	SLU 49	4	-26	1171	0	0	0
263	SLU 50	4	-28	1152	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
263	SLU 51	4	-25	1165	0	0	0
263	SLU 52	4	-26	1277	0	0	0
263	SLU 53	4	-30	1270	0	0	0
263	SLU 54	4	-28	1282	0	0	0
263	SLU 55	4	-26	1285	0	0	0
263	SLU 56	4	-30	1278	0	0	0
263	SLU 57	4	-28	1290	0	0	0
263	SLU 58	4	-30	1272	0	0	0
263	SLU 59	4	-28	1284	0	0	0
263	SLU 60	4	-31	1307	0	0	0
263	SLU 61	4	-28	1320	0	0	0
263	SLU 62	4	-31	1315	0	0	0
263	SLU 63	4	-29	1328	0	0	0
263	SLU 64	5	-30	1260	0	0	0
263	SLU 65	5	-26	1281	0	0	0
263	SLU 66	5	-30	1273	0	0	0
263	SLU 67	5	-28	1286	0	0	0
263	SLU 68	5	-26	1288	0	0	0
263	SLU 69	4	-30	1281	0	0	0
263	SLU 70	5	-28	1293	0	0	0
263	SLU 71	4	-30	1275	0	0	0
263	SLU 72	5	-28	1288	0	0	0
263	SLU 73	5	-28	1400	0	0	0
263	SLU 74	4	-33	1393	0	0	0
263	SLU 75	5	-30	1405	0	0	0
263	SLU 76	5	-29	1408	0	0	0
263	SLU 77	4	-33	1400	0	0	0
263	SLU 78	5	-31	1413	0	0	0
263	SLU 79	4	-33	1395	0	0	0
263	SLU 80	4	-31	1407	0	0	0
263	SLU 81	4	-33	1430	0	0	0
263	SLU 82	5	-31	1443	0	0	0
263	SLU 83	4	-34	1438	0	0	0
263	SLU 84	5	-31	1451	0	0	0
263	SLE RA 1	3	-22	942	0	0	0
263	SLE RA 2	4	-20	956	0	0	0
263	SLE RA 3	3	-23	951	0	0	0
263	SLE RA 4	4	-21	959	0	0	0
263	SLE RA 5	4	-20	961	0	0	0
263	SLE RA 6	3	-23	956	0	0	0
263	SLE RA 7	4	-21	965	0	0	0
263	SLE RA 8	3	-23	952	0	0	0
263	SLE RA 9	3	-21	961	0	0	0
263	SLE RA 10	4	-21	1036	0	0	0
263	SLE RA 11	3	-24	1031	0	0	0
263	SLE RA 12	3	-23	1039	0	0	0
263	SLE RA 13	4	-22	1041	0	0	0
263	SLE RA 14	3	-24	1036	0	0	0
263	SLE RA 15	3	-23	1044	0	0	0
263	SLE RA 16	3	-24	1032	0	0	0
263	SLE RA 17	3	-23	1040	0	0	0
263	SLE RA 18	3	-25	1056	0	0	0
263	SLE RA 19	3	-23	1064	0	0	0
263	SLE RA 20	3	-25	1061	0	0	0
263	SLE RA 21	3	-23	1069	0	0	0
263	SLE FR 1	3	-22	942	0	0	0
263	SLE FR 2	4	-22	945	0	0	0
263	SLE FR 3	3	-22	944	0	0	0
263	SLE FR 4	3	-22	979	0	0	0
263	SLE FR 5	3	-23	978	0	0	0
263	SLE FR 6	3	-23	999	0	0	0
263	SLE QP 1	3	-22	942	0	0	0
263	SLE QP 2	3	-23	976	0	0	0
263	SLD 1	89	10	1062	0	0	0
263	SLD 2	105	18	1071	0	0	0
263	SLD 3	84	-39	754	0	0	0
263	SLD 4	101	-31	763	0	0	0
263	SLD 5	33	59	1468	0	0	0
263	SLD 6	44	64	1474	0	0	0
263	SLD 7	18	-103	440	0	0	0
263	SLD 8	28	-98	446	0	0	0
263	SLD 9	-22	52	1506	0	0	0
263	SLD 10	-11	57	1512	0	0	0
263	SLD 11	-37	-110	478	0	0	0
263	SLD 12	-26	-105	484	0	0	0
263	SLD 13	-94	-15	1189	0	0	0
263	SLD 14	-77	-7	1199	0	0	0
263	SLD 15	-98	-64	881	0	0	0
263	SLD 16	-82	-55	890	0	0	0
263	SLV 1	137	31	1132	0	0	0
263	SLV 2	163	44	1148	0	0	0
263	SLV 3	129	-52	606	0	0	0
263	SLV 4	155	-39	621	0	0	0
263	SLV 5	51	117	1818	0	0	0
263	SLV 6	68	125	1828	0	0	0
263	SLV 7	24	-160	64	0	0	0
263	SLV 8	42	-151	75	0	0	0
263	SLV 9	-35	105	1878	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
263	SLV 10	-18	114	1888	0	0	0
263	SLV 11	-61	-171	124	0	0	0
263	SLV 12	-44	-163	134	0	0	0
263	SLV 13	-148	-7	1331	0	0	0
263	SLV 14	-123	6	1346	0	0	0
263	SLV 15	-156	-90	805	0	0	0
263	SLV 16	-130	-77	820	0	0	0
263	SLV FO 1	151	37	1148	0	0	0
263	SLV FO 2	179	51	1165	0	0	0
263	SLV FO 3	142	-55	569	0	0	0
263	SLV FO 4	170	-41	586	0	0	0
263	SLV FO 5	55	131	1902	0	0	0
263	SLV FO 6	74	140	1913	0	0	0
263	SLV FO 7	27	-174	-27	0	0	0
263	SLV FO 8	46	-164	-16	0	0	0
263	SLV FO 9	-39	118	1968	0	0	0
263	SLV FO 10	-20	128	1979	0	0	0
263	SLV FO 11	-68	-186	39	0	0	0
263	SLV FO 12	-49	-177	50	0	0	0
263	SLV FO 13	-163	-5	1366	0	0	0
263	SLV FO 14	-135	9	1383	0	0	0
263	SLV FO 15	-172	-97	788	0	0	0
263	SLV FO 16	-144	-83	804	0	0	0
263	CRTFP Uy+	0	0	0	0	0	0
263	CRTFP Uy-	0	0	0	0	0	0
266	SLU 1	6	-47	3689	-88.47	1076.7	13.47
266	SLU 2	7	-27	3770	-90.55	1100.27	7.64
266	SLU 3	6	-48	3747	-89.83	1093.72	13.8
266	SLU 4	6	-36	3796	-91.08	1107.86	10.3
266	SLU 5	7	-28	3805	-91.37	1110.54	7.9
266	SLU 6	5	-49	3782	-90.65	1104	14.05
266	SLU 7	6	-37	3831	-91.89	1118.13	10.56
266	SLU 8	5	-49	3759	-90.1	1097.26	13.98
266	SLU 9	6	-37	3808	-91.35	1111.4	10.48
266	SLU 10	6	-32	4269	-102.54	1246.36	9.06
266	SLU 11	4	-53	4245	-101.81	1239.81	15.22
266	SLU 12	5	-41	4294	-103.06	1253.95	11.72
266	SLU 13	5	-33	4303	-103.35	1256.64	9.31
266	SLU 14	4	-54	4280	-102.63	1250.09	15.47
266	SLU 15	4	-42	4329	-103.88	1264.23	11.97
266	SLU 16	4	-54	4257	-102.08	1243.35	15.4
266	SLU 17	4	-42	4306	-103.33	1257.49	11.9
266	SLU 18	4	-54	4401	-105.59	1285.41	15.5
266	SLU 19	5	-42	4450	-106.84	1299.55	12
266	SLU 20	4	-55	4436	-106.4	1295.68	15.75
266	SLU 21	4	-43	4485	-107.65	1309.82	12.25
266	SLU 22	7	-52	4182	-100.22	1220.58	15.13
266	SLU 23	8	-33	4263	-102.3	1244.14	9.3
266	SLU 24	6	-54	4240	-101.58	1237.6	15.46
266	SLU 25	7	-42	4289	-102.83	1251.73	11.96
266	SLU 26	7	-33	4298	-103.12	1254.42	9.55
266	SLU 27	6	-55	4275	-102.4	1247.87	15.71
266	SLU 28	6	-43	4323	-103.64	1262.01	12.21
266	SLU 29	6	-54	4252	-101.85	1241.14	15.64
266	SLU 30	6	-42	4300	-103.1	1255.27	12.14
266	SLU 31	7	-38	4761	-114.29	1390.24	10.72
266	SLU 32	5	-59	4738	-113.57	1383.69	16.87
266	SLU 33	6	-47	4787	-114.81	1397.83	13.38
266	SLU 34	6	-39	4796	-115.1	1400.51	10.97
266	SLU 35	4	-60	4773	-114.38	1393.97	17.13
266	SLU 36	5	-48	4822	-115.63	1408.1	13.63
266	SLU 37	4	-59	4750	-113.83	1387.23	17.05
266	SLU 38	5	-47	4799	-115.08	1401.37	13.56
266	SLU 39	5	-60	4894	-117.34	1429.29	17.15
266	SLU 40	5	-48	4942	-118.59	1443.42	13.66
266	SLU 41	4	-61	4929	-118.15	1439.56	17.41
266	SLU 42	5	-49	4977	-119.4	1453.7	13.91
266	SLU 43	8	-59	4627	-110.99	1350.39	16.95
266	SLU 44	9	-39	4708	-113.07	1373.95	11.12
266	SLU 45	7	-60	4685	-112.35	1367.4	17.28
266	SLU 46	8	-48	4734	-113.59	1381.54	13.78
266	SLU 47	8	-40	4743	-113.88	1384.22	11.37
266	SLU 48	7	-61	4720	-113.16	1377.68	17.53
266	SLU 49	7	-49	4769	-114.41	1391.81	14.03
266	SLU 50	7	-61	4697	-112.61	1370.94	17.46
266	SLU 51	7	-49	4746	-113.86	1385.08	13.96
266	SLU 52	8	-44	5207	-125.05	1520.04	12.53
266	SLU 53	6	-65	5183	-124.33	1513.49	18.69
266	SLU 54	7	-53	5232	-125.58	1527.63	15.19
266	SLU 55	7	-45	5241	-125.86	1530.32	12.79
266	SLU 56	5	-66	5218	-125.14	1523.77	18.95
266	SLU 57	6	-54	5267	-126.39	1537.91	15.45
266	SLU 58	5	-66	5195	-124.6	1517.03	18.87
266	SLU 59	6	-54	5244	-125.84	1531.17	15.37
266	SLU 60	6	-66	5339	-128.1	1559.09	18.97
266	SLU 61	6	-54	5388	-129.35	1573.23	15.47
266	SLU 62	5	-67	5374	-128.92	1569.37	19.23
266	SLU 63	6	-55	5422	-130.17	1583.5	15.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
266	SLU 64	8	-65	5120	-122.74	1494.26	18.61
266	SLU 65	10	-45	5201	-124.82	1517.83	12.77
266	SLU 66	8	-66	5178	-124.1	1511.28	18.93
266	SLU 67	9	-54	5226	-125.34	1525.41	15.43
266	SLU 68	9	-46	5236	-125.63	1528.1	13.03
266	SLU 69	7	-67	5213	-124.91	1521.55	19.19
266	SLU 70	8	-55	5261	-126.16	1535.69	15.69
266	SLU 71	7	-66	5190	-124.36	1514.82	19.11
266	SLU 72	8	-54	5238	-125.61	1528.95	15.61
266	SLU 73	8	-50	5699	-136.8	1663.92	14.19
266	SLU 74	7	-71	5676	-136.08	1657.37	20.35
266	SLU 75	7	-59	5725	-137.33	1671.51	16.85
266	SLU 76	8	-51	5734	-137.61	1674.2	14.44
266	SLU 77	6	-72	5711	-136.89	1667.65	20.6
266	SLU 78	7	-60	5759	-138.14	1681.78	17.1
266	SLU 79	6	-71	5688	-136.35	1660.91	20.53
266	SLU 80	7	-60	5736	-137.59	1675.05	17.03
266	SLU 81	6	-72	5832	-139.85	1702.97	20.63
266	SLU 82	7	-60	5880	-141.1	1717.1	17.13
266	SLU 83	6	-73	5867	-140.67	1713.24	20.88
266	SLU 84	7	-61	5915	-141.92	1727.38	17.38
266	SLE RA 1	6	-48	3830	-91.83	1117.81	13.95
266	SLE RA 2	7	-35	3884	-93.22	1133.52	10.06
266	SLE RA 3	6	-49	3869	-92.74	1129.15	14.17
266	SLE RA 4	7	-41	3901	-93.57	1138.58	11.83
266	SLE RA 5	7	-36	3907	-93.76	1140.37	10.23
266	SLE RA 6	6	-50	3892	-93.28	1136.01	14.33
266	SLE RA 7	6	-42	3924	-94.11	1145.43	12
266	SLE RA 8	6	-50	3877	-92.92	1131.51	14.29
266	SLE RA 9	6	-42	3909	-93.75	1140.94	11.95
266	SLE RA 10	6	-38	4216	-101.21	1230.92	11.01
266	SLE RA 11	5	-53	4201	-100.72	1226.55	15.11
266	SLE RA 12	6	-45	4233	-101.56	1235.97	12.78
266	SLE RA 13	6	-39	4240	-101.75	1237.77	11.17
266	SLE RA 14	5	-53	4224	-101.27	1233.4	15.28
266	SLE RA 15	5	-45	4256	-102.1	1242.83	12.95
266	SLE RA 16	5	-53	4209	-100.9	1228.91	15.23
266	SLE RA 17	5	-45	4241	-101.74	1238.33	12.9
266	SLE RA 18	5	-53	4305	-103.24	1256.95	15.3
266	SLE RA 19	5	-45	4337	-104.07	1266.37	12.96
266	SLE RA 20	5	-54	4328	-103.78	1263.8	15.47
266	SLE RA 21	5	-46	4360	-104.62	1273.22	13.13
266	SLE FR 1	6	-48	3830	-91.83	1117.81	13.95
266	SLE FR 2	6	-46	3841	-92.11	1120.95	13.17
266	SLE FR 3	6	-49	3839	-92.05	1120.55	14.02
266	SLE FR 4	6	-47	3983	-95.53	1162.69	13.57
266	SLE FR 5	6	-50	3982	-95.47	1162.29	14.42
266	SLE FR 6	6	-51	4067	-97.54	1187.38	14.62
266	SLE QP 1	6	-48	3830	-91.83	1117.81	13.95
266	SLE QP 2	6	-50	3973	-95.25	1159.55	14.35
266	SLD 1	361	66	4554	-110.04	1345.9	-12.43
266	SLD 2	430	71	4572	-110.47	1350.31	-11.94
266	SLD 3	347	-186	3317	-78.37	984.43	61.49
266	SLD 4	415	-182	3335	-78.8	988.83	61.98
266	SLD 5	123	367	6020	-147.64	1762.94	-105.88
266	SLD 6	167	370	6032	-147.92	1765.78	-105.56
266	SLD 7	75	-474	1897	-42.09	558.02	140.52
266	SLD 8	119	-471	1908	-42.36	560.85	140.83
266	SLD 9	-107	372	6037	-148.14	1758.25	-112.13
266	SLD 10	-63	375	6049	-148.42	1761.09	-111.81
266	SLD 11	-155	-470	1913	-42.59	553.33	134.26
266	SLD 12	-111	-467	1925	-42.86	556.17	134.58
266	SLD 13	-404	82	4610	-111.71	1330.27	-33.28
266	SLD 14	-335	87	4628	-112.13	1334.68	-32.79
266	SLD 15	-418	-170	3373	-80.04	968.8	40.64
266	SLD 16	-349	-166	3391	-80.47	973.2	41.13
266	SLV 1	562	149	4969	-120.61	1477.04	-32.78
266	SLV 2	670	156	4997	-121.28	1483.99	-32
266	SLV 3	538	-281	2858	-66.58	860.26	93.3
266	SLV 4	646	-274	2886	-67.25	867.21	94.07
266	SLV 5	190	661	7467	-184.68	2188.96	-191.15
266	SLV 6	262	666	7487	-185.14	2193.63	-190.63
266	SLV 7	108	-774	432	-4.58	133.02	229.11
266	SLV 8	181	-769	451	-5.03	137.69	229.63
266	SLV 9	-169	669	7495	-185.48	2181.41	-200.92
266	SLV 10	-97	674	7514	-185.93	2186.09	-200.4
266	SLV 11	-250	-766	459	-5.37	125.47	219.33
266	SLV 12	-178	-761	478	-5.83	130.15	219.85
266	SLV 13	-634	175	5059	-123.26	1451.9	-65.37
266	SLV 14	-526	182	5087	-123.93	1458.84	-64.59
266	SLV 15	-658	-256	2948	-69.23	835.12	60.71
266	SLV 16	-550	-249	2976	-69.9	842.06	61.48
266	SLV FO 1	618	169	5068	-123.14	1508.79	-37.49
266	SLV FO 2	737	177	5099	-123.89	1516.43	-36.64
266	SLV FO 3	591	-305	2746	-63.71	830.33	101.19
266	SLV FO 4	710	-297	2778	-64.45	837.97	102.04
266	SLV FO 5	208	733	7817	-193.63	2291.9	-211.7
266	SLV FO 6	288	738	7838	-194.12	2297.04	-211.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
266	SLV FO 7	119	-846	77	4.49	30.36	250.58
266	SLV FO 8	199	-841	98	3.99	35.51	251.16
266	SLV FO 9	-187	741	7847	-194.5	2283.6	-222.45
266	SLV FO 10	-107	746	7868	-195	2288.74	-221.88
266	SLV FO 11	-276	-837	107	3.62	22.07	239.83
266	SLV FO 12	-196	-832	128	3.12	27.21	240.4
266	SLV FO 13	-698	197	5168	-126.06	1481.13	-73.34
266	SLV FO 14	-579	205	5199	-126.8	1488.77	-72.49
266	SLV FO 15	-725	-277	2846	-66.62	802.67	65.34
266	SLV FO 16	-606	-269	2877	-67.36	810.31	66.19
266	CRTFP Ux+	0	0	0	0	0	0
266	CRTFP Ux-	0	0	0	0	0	0
266	CRTFP Uy+	0	0	0	0	0	0
266	CRTFP Uy-	0	0	0	0	0	0
267	SLU 1	2	-11	451	-8.36	-56.35	-1.38
267	SLU 2	2	-10	461	-8.56	-57.66	-1.16
267	SLU 3	2	-12	457	-8.49	-57.18	-1.41
267	SLU 4	2	-10	464	-8.6	-57.97	-1.28
267	SLU 5	2	-10	465	-8.63	-58.14	-1.18
267	SLU 6	2	-12	461	-8.56	-57.66	-1.43
267	SLU 7	2	-11	468	-8.67	-58.45	-1.3
267	SLU 8	2	-12	458	-8.5	-57.31	-1.42
267	SLU 9	2	-11	465	-8.62	-58.1	-1.29
267	SLU 10	2	-11	521	-9.66	-65.08	-1.33
267	SLU 11	2	-13	517	-9.59	-64.61	-1.58
267	SLU 12	2	-12	523	-9.7	-65.39	-1.45
267	SLU 13	2	-11	525	-9.73	-65.56	-1.35
267	SLU 14	1	-13	521	-9.66	-65.09	-1.6
267	SLU 15	2	-12	527	-9.78	-65.87	-1.47
267	SLU 16	1	-13	518	-9.61	-64.73	-1.59
267	SLU 17	2	-12	524	-9.72	-65.52	-1.46
267	SLU 18	2	-13	536	-9.94	-66.95	-1.62
267	SLU 19	2	-12	542	-10.05	-67.74	-1.49
267	SLU 20	1	-13	539	-10.01	-67.43	-1.65
267	SLU 21	2	-12	546	-10.12	-68.22	-1.51
267	SLU 22	2	-13	512	-9.5	-64.01	-1.56
267	SLU 23	2	-11	523	-9.69	-65.32	-1.33
267	SLU 24	2	-13	519	-9.62	-64.84	-1.59
267	SLU 25	2	-12	525	-9.74	-65.63	-1.45
267	SLU 26	2	-11	526	-9.76	-65.8	-1.35
267	SLU 27	2	-13	523	-9.69	-65.32	-1.61
267	SLU 28	2	-12	529	-9.81	-66.11	-1.48
267	SLU 29	2	-13	520	-9.64	-64.97	-1.6
267	SLU 30	2	-12	526	-9.76	-65.76	-1.47
267	SLU 31	2	-12	582	-10.8	-72.74	-1.5
267	SLU 32	2	-14	578	-10.72	-72.26	-1.76
267	SLU 33	2	-13	584	-10.84	-73.05	-1.62
267	SLU 34	2	-12	586	-10.87	-73.22	-1.52
267	SLU 35	2	-14	582	-10.8	-72.74	-1.78
267	SLU 36	2	-13	588	-10.91	-73.53	-1.64
267	SLU 37	2	-14	579	-10.74	-72.39	-1.77
267	SLU 38	2	-13	585	-10.86	-73.18	-1.63
267	SLU 39	2	-15	597	-11.07	-74.61	-1.8
267	SLU 40	2	-14	603	-11.19	-75.4	-1.67
267	SLU 41	2	-15	601	-11.14	-75.09	-1.82
267	SLU 42	2	-14	607	-11.26	-75.88	-1.69
267	SLU 43	2	-14	565	-10.48	-70.63	-1.74
267	SLU 44	2	-12	576	-10.68	-71.94	-1.51
267	SLU 45	2	-14	572	-10.61	-71.46	-1.77
267	SLU 46	2	-13	578	-10.72	-72.25	-1.63
267	SLU 47	2	-13	579	-10.75	-72.42	-1.54
267	SLU 48	2	-15	576	-10.68	-71.94	-1.79
267	SLU 49	2	-14	582	-10.79	-72.73	-1.66
267	SLU 50	2	-15	573	-10.62	-71.59	-1.78
267	SLU 51	2	-13	579	-10.74	-72.38	-1.65
267	SLU 52	2	-14	635	-11.78	-79.36	-1.68
267	SLU 53	2	-16	631	-11.71	-78.88	-1.94
267	SLU 54	2	-15	637	-11.82	-79.67	-1.8
267	SLU 55	2	-14	639	-11.85	-79.84	-1.7
267	SLU 56	2	-16	635	-11.78	-79.36	-1.96
267	SLU 57	2	-15	641	-11.89	-80.15	-1.82
267	SLU 58	2	-16	632	-11.73	-79.01	-1.95
267	SLU 59	2	-15	638	-11.84	-79.8	-1.81
267	SLU 60	2	-16	650	-12.05	-81.23	-1.98
267	SLU 61	2	-15	656	-12.17	-82.02	-1.85
267	SLU 62	2	-16	654	-12.13	-81.71	-2
267	SLU 63	2	-15	660	-12.24	-82.5	-1.87
267	SLU 64	2	-16	626	-11.62	-78.29	-1.91
267	SLU 65	2	-14	637	-11.81	-79.6	-1.69
267	SLU 66	2	-16	633	-11.74	-79.12	-1.94
267	SLU 67	2	-15	639	-11.86	-79.91	-1.81
267	SLU 68	2	-14	641	-11.88	-80.08	-1.71
267	SLU 69	2	-16	637	-11.81	-79.6	-1.97
267	SLU 70	2	-15	643	-11.93	-80.39	-1.83
267	SLU 71	2	-16	634	-11.76	-79.25	-1.96
267	SLU 72	2	-15	640	-11.88	-80.04	-1.82
267	SLU 73	2	-15	696	-12.91	-87.02	-1.86
267	SLU 74	2	-17	692	-12.84	-86.54	-2.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLU 75	2	-16	699	-12.96	-87.33	-1.98
267	SLU 76	2	-15	700	-12.99	-87.5	-1.88
267	SLU 77	2	-17	696	-12.91	-87.02	-2.13
267	SLU 78	2	-16	702	-13.03	-87.81	-2
267	SLU 79	2	-17	693	-12.86	-86.67	-2.12
267	SLU 80	2	-16	700	-12.98	-87.46	-1.99
267	SLU 81	2	-18	711	-13.19	-88.89	-2.16
267	SLU 82	2	-16	717	-13.31	-89.68	-2.02
267	SLU 83	2	-18	715	-13.26	-89.37	-2.18
267	SLU 84	2	-17	721	-13.38	-90.16	-2.04
267	SLE RA 1	2	-12	468	-8.69	-58.54	-1.43
267	SLE RA 2	2	-11	475	-8.82	-59.41	-1.28
267	SLE RA 3	2	-12	473	-8.77	-59.09	-1.45
267	SLE RA 4	2	-11	477	-8.85	-59.62	-1.36
267	SLE RA 5	2	-11	478	-8.86	-59.73	-1.3
267	SLE RA 6	2	-12	475	-8.82	-59.41	-1.47
267	SLE RA 7	2	-11	480	-8.89	-59.94	-1.38
267	SLE RA 8	2	-12	473	-8.78	-59.18	-1.46
267	SLE RA 9	2	-11	478	-8.86	-59.7	-1.37
267	SLE RA 10	2	-11	515	-9.55	-64.36	-1.4
267	SLE RA 11	2	-13	512	-9.5	-64.04	-1.57
267	SLE RA 12	2	-12	517	-9.58	-64.57	-1.48
267	SLE RA 13	2	-12	517	-9.6	-64.68	-1.41
267	SLE RA 14	2	-13	515	-9.55	-64.36	-1.58
267	SLE RA 15	2	-12	519	-9.63	-64.89	-1.49
267	SLE RA 16	2	-13	513	-9.52	-64.13	-1.57
267	SLE RA 17	2	-12	517	-9.59	-64.65	-1.48
267	SLE RA 18	2	-13	525	-9.74	-65.61	-1.59
267	SLE RA 19	2	-12	529	-9.81	-66.13	-1.5
267	SLE RA 20	2	-13	527	-9.78	-65.93	-1.61
267	SLE RA 21	2	-12	532	-9.86	-66.45	-1.52
267	SLE FR 1	2	-12	468	-8.69	-58.54	-1.43
267	SLE FR 2	2	-11	470	-8.71	-58.71	-1.4
267	SLE FR 3	2	-12	469	-8.71	-58.67	-1.44
267	SLE FR 4	2	-12	487	-9.03	-60.83	-1.45
267	SLE FR 5	2	-12	486	-9.02	-60.79	-1.49
267	SLE FR 6	2	-12	497	-9.21	-62.07	-1.51
267	SLE QP 1	2	-12	468	-8.69	-58.54	-1.43
267	SLE QP 2	2	-12	485	-9	-60.66	-1.48
267	SLD 1	44	4	525	-9.74	-65.65	1.3
267	SLD 2	52	8	530	-9.84	-66.28	1.98
267	SLD 3	41	-19	371	-6.88	-46.38	-1.65
267	SLD 4	49	-15	376	-6.98	-47.01	-0.96
267	SLD 5	16	27	730	-13.54	-91.26	3.69
267	SLD 6	21	30	733	-13.6	-91.67	4.14
267	SLD 7	9	-50	216	-4.01	-27.05	-6.11
267	SLD 8	14	-47	220	-4.07	-27.46	-5.67
267	SLD 9	-11	23	751	-13.93	-93.86	2.7
267	SLD 10	-5	26	754	-13.99	-94.27	3.15
267	SLD 11	-18	-54	237	-4.4	-29.65	-7.1
267	SLD 12	-13	-51	240	-4.46	-30.05	-6.66
267	SLD 13	-46	-9	594	-11.03	-74.3	-2.01
267	SLD 14	-38	-5	599	-11.12	-74.94	-1.32
267	SLD 15	-48	-32	440	-8.17	-55.04	-4.95
267	SLD 16	-40	-28	445	-8.26	-55.67	-4.26
267	SLV 1	67	15	559	-10.36	-69.84	3.07
267	SLV 2	80	21	567	-10.51	-70.84	4.15
267	SLV 3	63	-25	296	-5.49	-36.97	-1.95
267	SLV 4	76	-18	304	-5.63	-37.97	-0.87
267	SLV 5	25	55	905	-16.78	-113.08	7.29
267	SLV 6	33	59	910	-16.88	-113.75	8.02
267	SLV 7	12	-77	28	-0.52	-3.52	-9.44
267	SLV 8	20	-73	34	-0.62	-4.19	-8.71
267	SLV 9	-17	49	937	-17.38	-117.13	5.74
267	SLV 10	-9	53	942	-17.48	-117.8	6.47
267	SLV 11	-30	-84	61	-1.12	-7.57	-10.98
267	SLV 12	-21	-79	66	-1.22	-8.24	-10.26
267	SLV 13	-73	-6	667	-12.37	-83.34	-2.09
267	SLV 14	-60	1	675	-12.52	-84.34	-1.01
267	SLV 15	-77	-46	404	-7.49	-50.48	-7.11
267	SLV 16	-64	-39	412	-7.64	-51.47	-6.03
267	SLV FO 1	74	17	566	-10.5	-70.76	3.52
267	SLV FO 2	88	25	575	-10.66	-71.86	4.71
267	SLV FO 3	70	-26	277	-5.14	-34.6	-2
267	SLV FO 4	83	-19	286	-5.3	-35.7	-0.81
267	SLV FO 5	27	61	947	-17.56	-118.32	8.17
267	SLV FO 6	36	66	952	-17.67	-119.06	8.97
267	SLV FO 7	13	-84	-18	0.33	2.2	-10.23
267	SLV FO 8	22	-79	-12	0.22	1.46	-9.43
267	SLV FO 9	-19	55	982	-18.22	-122.78	6.47
267	SLV FO 10	-10	60	988	-18.33	-123.51	7.27
267	SLV FO 11	-33	-91	18	-0.34	-2.26	-11.93
267	SLV FO 12	-24	-86	24	-0.44	-3	-11.13
267	SLV FO 13	-80	-5	685	-12.71	-85.61	-2.16
267	SLV FO 14	-66	2	694	-12.87	-86.71	-0.97
267	SLV FO 15	-84	-49	396	-7.34	-49.46	-7.68
267	SLV FO 16	-70	-42	404	-7.5	-50.56	-6.49
267	CRTFP Ux+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	CRTFP Ux-	0	0	0	0	0	0
267	CRTFP Uy+	0	0	0	0	0	0
267	CRTFP Uy-	0	0	0	0	0	0
270	SLU 1	-9	-13	721	0	0	0
270	SLU 2	-10	-10	737	0	0	0
270	SLU 3	-10	-13	732	0	0	0
270	SLU 4	-10	-12	742	0	0	0
270	SLU 5	-10	-10	744	0	0	0
270	SLU 6	-10	-14	739	0	0	0
270	SLU 7	-10	-12	749	0	0	0
270	SLU 8	-10	-14	735	0	0	0
270	SLU 9	-10	-12	745	0	0	0
270	SLU 10	-10	-12	834	0	0	0
270	SLU 11	-10	-15	829	0	0	0
270	SLU 12	-10	-13	839	0	0	0
270	SLU 13	-11	-12	841	0	0	0
270	SLU 14	-10	-15	836	0	0	0
270	SLU 15	-11	-13	846	0	0	0
270	SLU 16	-10	-15	832	0	0	0
270	SLU 17	-11	-13	841	0	0	0
270	SLU 18	-10	-15	859	0	0	0
270	SLU 19	-10	-14	869	0	0	0
270	SLU 20	-10	-16	866	0	0	0
270	SLU 21	-11	-14	876	0	0	0
270	SLU 22	-11	-15	820	0	0	0
270	SLU 23	-11	-12	837	0	0	0
270	SLU 24	-11	-15	832	0	0	0
270	SLU 25	-11	-13	842	0	0	0
270	SLU 26	-12	-12	844	0	0	0
270	SLU 27	-11	-15	839	0	0	0
270	SLU 28	-12	-13	849	0	0	0
270	SLU 29	-11	-15	835	0	0	0
270	SLU 30	-11	-13	844	0	0	0
270	SLU 31	-12	-13	933	0	0	0
270	SLU 32	-12	-17	929	0	0	0
270	SLU 33	-12	-15	938	0	0	0
270	SLU 34	-12	-14	941	0	0	0
270	SLU 35	-12	-17	936	0	0	0
270	SLU 36	-12	-15	946	0	0	0
270	SLU 37	-12	-17	931	0	0	0
270	SLU 38	-12	-15	941	0	0	0
270	SLU 39	-11	-17	959	0	0	0
270	SLU 40	-12	-15	968	0	0	0
270	SLU 41	-12	-17	966	0	0	0
270	SLU 42	-12	-15	975	0	0	0
270	SLU 43	-12	-17	903	0	0	0
270	SLU 44	-12	-14	919	0	0	0
270	SLU 45	-12	-17	914	0	0	0
270	SLU 46	-12	-15	924	0	0	0
270	SLU 47	-12	-14	926	0	0	0
270	SLU 48	-12	-17	921	0	0	0
270	SLU 49	-12	-15	931	0	0	0
270	SLU 50	-12	-17	917	0	0	0
270	SLU 51	-12	-15	927	0	0	0
270	SLU 52	-13	-15	1016	0	0	0
270	SLU 53	-12	-18	1011	0	0	0
270	SLU 54	-13	-17	1021	0	0	0
270	SLU 55	-13	-15	1023	0	0	0
270	SLU 56	-13	-19	1018	0	0	0
270	SLU 57	-13	-17	1028	0	0	0
270	SLU 58	-12	-18	1014	0	0	0
270	SLU 59	-13	-17	1023	0	0	0
270	SLU 60	-12	-19	1041	0	0	0
270	SLU 61	-13	-17	1050	0	0	0
270	SLU 62	-12	-19	1048	0	0	0
270	SLU 63	-13	-17	1058	0	0	0
270	SLU 64	-13	-18	1002	0	0	0
270	SLU 65	-14	-15	1019	0	0	0
270	SLU 66	-13	-18	1014	0	0	0
270	SLU 67	-14	-17	1024	0	0	0
270	SLU 68	-14	-15	1026	0	0	0
270	SLU 69	-13	-19	1021	0	0	0
270	SLU 70	-14	-17	1031	0	0	0
270	SLU 71	-13	-19	1017	0	0	0
270	SLU 72	-14	-17	1026	0	0	0
270	SLU 73	-14	-17	1115	0	0	0
270	SLU 74	-14	-20	1111	0	0	0
270	SLU 75	-14	-18	1120	0	0	0
270	SLU 76	-14	-17	1122	0	0	0
270	SLU 77	-14	-20	1118	0	0	0
270	SLU 78	-14	-18	1128	0	0	0
270	SLU 79	-14	-20	1113	0	0	0
270	SLU 80	-14	-18	1123	0	0	0
270	SLU 81	-14	-20	1140	0	0	0
270	SLU 82	-14	-19	1150	0	0	0
270	SLU 83	-14	-21	1148	0	0	0
270	SLU 84	-14	-19	1157	0	0	0
270	SLE RA 1	-10	-14	749	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
270	SLE RA 2	-10	-12	760	0	0	0
270	SLE RA 3	-10	-14	757	0	0	0
270	SLE RA 4	-10	-13	763	0	0	0
270	SLE RA 5	-10	-12	765	0	0	0
270	SLE RA 6	-10	-14	762	0	0	0
270	SLE RA 7	-10	-13	768	0	0	0
270	SLE RA 8	-10	-14	759	0	0	0
270	SLE RA 9	-10	-13	765	0	0	0
270	SLE RA 10	-10	-13	824	0	0	0
270	SLE RA 11	-10	-15	821	0	0	0
270	SLE RA 12	-10	-14	828	0	0	0
270	SLE RA 13	-11	-13	829	0	0	0
270	SLE RA 14	-10	-15	826	0	0	0
270	SLE RA 15	-11	-14	833	0	0	0
270	SLE RA 16	-10	-15	823	0	0	0
270	SLE RA 17	-11	-14	830	0	0	0
270	SLE RA 18	-10	-15	841	0	0	0
270	SLE RA 19	-10	-14	848	0	0	0
270	SLE RA 20	-10	-15	846	0	0	0
270	SLE RA 21	-11	-14	852	0	0	0
270	SLE FR 1	-10	-14	749	0	0	0
270	SLE FR 2	-10	-13	751	0	0	0
270	SLE FR 3	-10	-14	751	0	0	0
270	SLE FR 4	-10	-14	779	0	0	0
270	SLE FR 5	-10	-14	779	0	0	0
270	SLE FR 6	-10	-14	795	0	0	0
270	SLE QP 1	-10	-14	749	0	0	0
270	SLE QP 2	-10	-14	777	0	0	0
270	SLD 1	51	-1	947	0	0	0
270	SLD 2	64	-8	940	0	0	0
270	SLD 3	57	-39	707	0	0	0
270	SLD 4	70	-45	699	0	0	0
270	SLD 5	-3	47	1195	0	0	0
270	SLD 6	5	43	1190	0	0	0
270	SLD 7	17	-77	392	0	0	0
270	SLD 8	26	-81	387	0	0	0
270	SLD 9	-45	53	1167	0	0	0
270	SLD 10	-37	48	1162	0	0	0
270	SLD 11	-25	-71	364	0	0	0
270	SLD 12	-16	-75	359	0	0	0
270	SLD 13	-90	17	854	0	0	0
270	SLD 14	-77	10	847	0	0	0
270	SLD 15	-83	-20	614	0	0	0
270	SLD 16	-70	-27	606	0	0	0
270	SLV 1	85	8	1061	0	0	0
270	SLV 2	105	-2	1049	0	0	0
270	SLV 3	95	-55	650	0	0	0
270	SLV 4	115	-65	638	0	0	0
270	SLV 5	-1	91	1488	0	0	0
270	SLV 6	12	84	1480	0	0	0
270	SLV 7	34	-120	118	0	0	0
270	SLV 8	48	-128	110	0	0	0
270	SLV 9	-67	99	1444	0	0	0
270	SLV 10	-54	92	1436	0	0	0
270	SLV 11	-32	-112	74	0	0	0
270	SLV 12	-18	-119	66	0	0	0
270	SLV 13	-135	37	915	0	0	0
270	SLV 14	-115	27	904	0	0	0
270	SLV 15	-124	-26	504	0	0	0
270	SLV 16	-104	-37	493	0	0	0
270	SLV FO 1	94	11	1089	0	0	0
270	SLV FO 2	116	-1	1076	0	0	0
270	SLV FO 3	106	-59	637	0	0	0
270	SLV FO 4	128	-71	624	0	0	0
270	SLV FO 5	0	101	1559	0	0	0
270	SLV FO 6	15	93	1550	0	0	0
270	SLV FO 7	38	-131	52	0	0	0
270	SLV FO 8	53	-139	43	0	0	0
270	SLV FO 9	-73	111	1511	0	0	0
270	SLV FO 10	-58	103	1502	0	0	0
270	SLV FO 11	-34	-122	4	0	0	0
270	SLV FO 12	-19	-129	-5	0	0	0
270	SLV FO 13	-148	42	929	0	0	0
270	SLV FO 14	-125	31	916	0	0	0
270	SLV FO 15	-136	-27	477	0	0	0
270	SLV FO 16	-114	-39	464	0	0	0
270	CRTFP Uy+	0	0	0	0	0	0
270	CRTFP Uy-	0	0	0	0	0	0
271	SLU 1	-10	-13	770	0	0	0
271	SLU 2	-10	-10	787	0	0	0
271	SLU 3	-10	-13	783	0	0	0
271	SLU 4	-10	-11	793	0	0	0
271	SLU 5	-10	-10	795	0	0	0
271	SLU 6	-10	-14	790	0	0	0
271	SLU 7	-10	-12	801	0	0	0
271	SLU 8	-10	-13	785	0	0	0
271	SLU 9	-10	-12	796	0	0	0
271	SLU 10	-11	-11	891	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLU 11	-10	-15	886	0	0	0
271	SLU 12	-11	-13	896	0	0	0
271	SLU 13	-11	-11	898	0	0	0
271	SLU 14	-11	-15	894	0	0	0
271	SLU 15	-11	-13	904	0	0	0
271	SLU 16	-10	-15	889	0	0	0
271	SLU 17	-11	-13	899	0	0	0
271	SLU 18	-10	-15	918	0	0	0
271	SLU 19	-11	-13	928	0	0	0
271	SLU 20	-10	-15	926	0	0	0
271	SLU 21	-11	-13	936	0	0	0
271	SLU 22	-11	-15	876	0	0	0
271	SLU 23	-12	-11	894	0	0	0
271	SLU 24	-11	-15	889	0	0	0
271	SLU 25	-12	-13	899	0	0	0
271	SLU 26	-12	-12	901	0	0	0
271	SLU 27	-12	-15	896	0	0	0
271	SLU 28	-12	-13	907	0	0	0
271	SLU 29	-11	-15	892	0	0	0
271	SLU 30	-12	-13	902	0	0	0
271	SLU 31	-12	-13	997	0	0	0
271	SLU 32	-12	-16	992	0	0	0
271	SLU 33	-12	-14	1003	0	0	0
271	SLU 34	-12	-13	1005	0	0	0
271	SLU 35	-12	-17	1000	0	0	0
271	SLU 36	-12	-15	1010	0	0	0
271	SLU 37	-12	-16	995	0	0	0
271	SLU 38	-12	-15	1005	0	0	0
271	SLU 39	-12	-17	1024	0	0	0
271	SLU 40	-12	-15	1034	0	0	0
271	SLU 41	-12	-17	1032	0	0	0
271	SLU 42	-12	-15	1042	0	0	0
271	SLU 43	-12	-17	965	0	0	0
271	SLU 44	-13	-13	982	0	0	0
271	SLU 45	-12	-17	977	0	0	0
271	SLU 46	-13	-15	988	0	0	0
271	SLU 47	-13	-13	990	0	0	0
271	SLU 48	-12	-17	985	0	0	0
271	SLU 49	-13	-15	995	0	0	0
271	SLU 50	-12	-17	980	0	0	0
271	SLU 51	-13	-15	990	0	0	0
271	SLU 52	-13	-15	1086	0	0	0
271	SLU 53	-13	-18	1081	0	0	0
271	SLU 54	-13	-16	1091	0	0	0
271	SLU 55	-13	-15	1093	0	0	0
271	SLU 56	-13	-18	1088	0	0	0
271	SLU 57	-13	-16	1099	0	0	0
271	SLU 58	-13	-18	1083	0	0	0
271	SLU 59	-13	-16	1094	0	0	0
271	SLU 60	-13	-19	1113	0	0	0
271	SLU 61	-13	-17	1123	0	0	0
271	SLU 62	-13	-19	1120	0	0	0
271	SLU 63	-13	-17	1131	0	0	0
271	SLU 64	-13	-18	1071	0	0	0
271	SLU 65	-14	-15	1088	0	0	0
271	SLU 66	-14	-18	1083	0	0	0
271	SLU 67	-14	-16	1094	0	0	0
271	SLU 68	-14	-15	1096	0	0	0
271	SLU 69	-14	-18	1091	0	0	0
271	SLU 70	-14	-17	1101	0	0	0
271	SLU 71	-14	-18	1086	0	0	0
271	SLU 72	-14	-16	1097	0	0	0
271	SLU 73	-15	-16	1192	0	0	0
271	SLU 74	-14	-20	1187	0	0	0
271	SLU 75	-15	-18	1197	0	0	0
271	SLU 76	-15	-16	1199	0	0	0
271	SLU 77	-14	-20	1194	0	0	0
271	SLU 78	-15	-18	1205	0	0	0
271	SLU 79	-14	-20	1190	0	0	0
271	SLU 80	-15	-18	1200	0	0	0
271	SLU 81	-14	-20	1219	0	0	0
271	SLU 82	-15	-18	1229	0	0	0
271	SLU 83	-14	-20	1226	0	0	0
271	SLU 84	-15	-18	1237	0	0	0
271	SLE RA 1	-10	-14	801	0	0	0
271	SLE RA 2	-10	-11	812	0	0	0
271	SLE RA 3	-10	-14	809	0	0	0
271	SLE RA 4	-10	-12	816	0	0	0
271	SLE RA 5	-11	-11	817	0	0	0
271	SLE RA 6	-10	-14	814	0	0	0
271	SLE RA 7	-11	-13	821	0	0	0
271	SLE RA 8	-10	-14	811	0	0	0
271	SLE RA 9	-10	-12	818	0	0	0
271	SLE RA 10	-11	-12	881	0	0	0
271	SLE RA 11	-11	-15	878	0	0	0
271	SLE RA 12	-11	-13	885	0	0	0
271	SLE RA 13	-11	-12	886	0	0	0
271	SLE RA 14	-11	-15	883	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLE RA 15	-11	-14	890	0	0	0
271	SLE RA 16	-11	-15	880	0	0	0
271	SLE RA 17	-11	-13	887	0	0	0
271	SLE RA 18	-10	-15	899	0	0	0
271	SLE RA 19	-11	-14	906	0	0	0
271	SLE RA 20	-11	-15	904	0	0	0
271	SLE RA 21	-11	-14	911	0	0	0
271	SLE FR 1	-10	-14	801	0	0	0
271	SLE FR 2	-10	-13	803	0	0	0
271	SLE FR 3	-10	-14	803	0	0	0
271	SLE FR 4	-10	-14	832	0	0	0
271	SLE FR 5	-10	-14	832	0	0	0
271	SLE FR 6	-10	-14	850	0	0	0
271	SLE QP 1	-10	-14	801	0	0	0
271	SLE QP 2	-10	-14	830	0	0	0
271	SLD 1	56	1	1006	0	0	0
271	SLD 2	70	-6	999	0	0	0
271	SLD 3	63	-41	750	0	0	0
271	SLD 4	77	-47	742	0	0	0
271	SLD 5	-2	54	1273	0	0	0
271	SLD 6	7	50	1268	0	0	0
271	SLD 7	19	-83	418	0	0	0
271	SLD 8	28	-88	413	0	0	0
271	SLD 9	-49	60	1247	0	0	0
271	SLD 10	-40	55	1242	0	0	0
271	SLD 11	-27	-78	392	0	0	0
271	SLD 12	-18	-82	387	0	0	0
271	SLD 13	-97	19	918	0	0	0
271	SLD 14	-83	13	911	0	0	0
271	SLD 15	-91	-22	661	0	0	0
271	SLD 16	-77	-29	654	0	0	0
271	SLV 1	93	12	1124	0	0	0
271	SLV 2	115	1	1112	0	0	0
271	SLV 3	104	-58	686	0	0	0
271	SLV 4	127	-69	674	0	0	0
271	SLV 5	0	102	1584	0	0	0
271	SLV 6	15	95	1576	0	0	0
271	SLV 7	37	-132	125	0	0	0
271	SLV 8	52	-139	117	0	0	0
271	SLV 9	-72	111	1543	0	0	0
271	SLV 10	-57	104	1535	0	0	0
271	SLV 11	-35	-123	84	0	0	0
271	SLV 12	-20	-130	76	0	0	0
271	SLV 13	-147	41	986	0	0	0
271	SLV 14	-125	30	974	0	0	0
271	SLV 15	-136	-29	548	0	0	0
271	SLV 16	-114	-40	537	0	0	0
271	SLV FO 1	104	14	1153	0	0	0
271	SLV FO 2	128	3	1140	0	0	0
271	SLV FO 3	116	-63	671	0	0	0
271	SLV FO 4	140	-75	659	0	0	0
271	SLV FO 5	1	114	1660	0	0	0
271	SLV FO 6	17	106	1651	0	0	0
271	SLV FO 7	42	-144	55	0	0	0
271	SLV FO 8	58	-151	46	0	0	0
271	SLV FO 9	-78	124	1614	0	0	0
271	SLV FO 10	-62	116	1606	0	0	0
271	SLV FO 11	-38	-134	9	0	0	0
271	SLV FO 12	-21	-142	1	0	0	0
271	SLV FO 13	-160	47	1002	0	0	0
271	SLV FO 14	-136	35	989	0	0	0
271	SLV FO 15	-148	-31	520	0	0	0
271	SLV FO 16	-124	-42	507	0	0	0
271	CRTFP Uy+	0	0	0	0	0	0
271	CRTFP Uy-	0	0	0	0	0	0
272	SLU 1	-10	-13	853	0	0	0
272	SLU 2	-11	-9	872	0	0	0
272	SLU 3	-10	-13	867	0	0	0
272	SLU 4	-11	-11	878	0	0	0
272	SLU 5	-11	-9	881	0	0	0
272	SLU 6	-11	-13	875	0	0	0
272	SLU 7	-11	-11	887	0	0	0
272	SLU 8	-11	-13	870	0	0	0
272	SLU 9	-11	-11	881	0	0	0
272	SLU 10	-11	-11	987	0	0	0
272	SLU 11	-11	-15	981	0	0	0
272	SLU 12	-11	-12	993	0	0	0
272	SLU 13	-12	-11	995	0	0	0
272	SLU 14	-11	-15	990	0	0	0
272	SLU 15	-12	-13	1001	0	0	0
272	SLU 16	-11	-15	985	0	0	0
272	SLU 17	-12	-12	996	0	0	0
272	SLU 18	-11	-15	1017	0	0	0
272	SLU 19	-11	-13	1028	0	0	0
272	SLU 20	-11	-15	1025	0	0	0
272	SLU 21	-12	-13	1037	0	0	0
272	SLU 22	-12	-14	970	0	0	0
272	SLU 23	-13	-11	989	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
272	SLU 24	-12	-15	984	0	0	0
272	SLU 25	-13	-12	995	0	0	0
272	SLU 26	-13	-11	998	0	0	0
272	SLU 27	-12	-15	992	0	0	0
272	SLU 28	-13	-13	1004	0	0	0
272	SLU 29	-12	-15	987	0	0	0
272	SLU 30	-13	-12	998	0	0	0
272	SLU 31	-13	-12	1104	0	0	0
272	SLU 32	-13	-16	1098	0	0	0
272	SLU 33	-13	-14	1110	0	0	0
272	SLU 34	-13	-12	1112	0	0	0
272	SLU 35	-13	-16	1107	0	0	0
272	SLU 36	-13	-14	1118	0	0	0
272	SLU 37	-13	-16	1102	0	0	0
272	SLU 38	-13	-14	1113	0	0	0
272	SLU 39	-13	-16	1134	0	0	0
272	SLU 40	-13	-14	1145	0	0	0
272	SLU 41	-13	-17	1142	0	0	0
272	SLU 42	-13	-14	1154	0	0	0
272	SLU 43	-13	-16	1069	0	0	0
272	SLU 44	-13	-13	1088	0	0	0
272	SLU 45	-13	-17	1083	0	0	0
272	SLU 46	-13	-14	1094	0	0	0
272	SLU 47	-14	-13	1096	0	0	0
272	SLU 48	-13	-17	1091	0	0	0
272	SLU 49	-14	-14	1102	0	0	0
272	SLU 50	-13	-17	1086	0	0	0
272	SLU 51	-14	-14	1097	0	0	0
272	SLU 52	-14	-14	1202	0	0	0
272	SLU 53	-13	-18	1197	0	0	0
272	SLU 54	-14	-16	1209	0	0	0
272	SLU 55	-14	-14	1211	0	0	0
272	SLU 56	-14	-18	1206	0	0	0
272	SLU 57	-14	-16	1217	0	0	0
272	SLU 58	-14	-18	1200	0	0	0
272	SLU 59	-14	-16	1212	0	0	0
272	SLU 60	-13	-18	1233	0	0	0
272	SLU 61	-14	-16	1244	0	0	0
272	SLU 62	-14	-19	1241	0	0	0
272	SLU 63	-14	-16	1252	0	0	0
272	SLU 64	-14	-18	1186	0	0	0
272	SLU 65	-15	-14	1205	0	0	0
272	SLU 66	-15	-18	1200	0	0	0
272	SLU 67	-15	-16	1211	0	0	0
272	SLU 68	-15	-14	1213	0	0	0
272	SLU 69	-15	-18	1208	0	0	0
272	SLU 70	-15	-16	1219	0	0	0
272	SLU 71	-15	-18	1203	0	0	0
272	SLU 72	-15	-16	1214	0	0	0
272	SLU 73	-16	-15	1320	0	0	0
272	SLU 74	-15	-19	1314	0	0	0
272	SLU 75	-16	-17	1326	0	0	0
272	SLU 76	-16	-16	1328	0	0	0
272	SLU 77	-15	-20	1323	0	0	0
272	SLU 78	-16	-17	1334	0	0	0
272	SLU 79	-15	-20	1317	0	0	0
272	SLU 80	-16	-17	1329	0	0	0
272	SLU 81	-15	-20	1350	0	0	0
272	SLU 82	-16	-18	1361	0	0	0
272	SLU 83	-15	-20	1358	0	0	0
272	SLU 84	-16	-18	1369	0	0	0
272	SLE RA 1	-11	-13	887	0	0	0
272	SLE RA 2	-11	-11	899	0	0	0
272	SLE RA 3	-11	-14	896	0	0	0
272	SLE RA 4	-11	-12	903	0	0	0
272	SLE RA 5	-11	-11	905	0	0	0
272	SLE RA 6	-11	-14	901	0	0	0
272	SLE RA 7	-11	-12	909	0	0	0
272	SLE RA 8	-11	-14	898	0	0	0
272	SLE RA 9	-11	-12	905	0	0	0
272	SLE RA 10	-11	-12	976	0	0	0
272	SLE RA 11	-11	-14	972	0	0	0
272	SLE RA 12	-11	-13	980	0	0	0
272	SLE RA 13	-12	-12	981	0	0	0
272	SLE RA 14	-11	-15	978	0	0	0
272	SLE RA 15	-12	-13	985	0	0	0
272	SLE RA 16	-11	-15	974	0	0	0
272	SLE RA 17	-12	-13	982	0	0	0
272	SLE RA 18	-11	-15	996	0	0	0
272	SLE RA 19	-11	-13	1003	0	0	0
272	SLE RA 20	-11	-15	1001	0	0	0
272	SLE RA 21	-12	-13	1009	0	0	0
272	SLE FR 1	-11	-13	887	0	0	0
272	SLE FR 2	-11	-13	889	0	0	0
272	SLE FR 3	-11	-13	889	0	0	0
272	SLE FR 4	-11	-13	922	0	0	0
272	SLE FR 5	-11	-14	922	0	0	0
272	SLE FR 6	-11	-14	941	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
272	SLE QP 1	-11	-13	887	0	0	0
272	SLE QP 2	-11	-14	919	0	0	0
272	SLD 1	65	4	1106	0	0	0
272	SLD 2	80	-3	1099	0	0	0
272	SLD 3	72	-44	823	0	0	0
272	SLD 4	88	-51	815	0	0	0
272	SLD 5	-2	65	1407	0	0	0
272	SLD 6	9	60	1402	0	0	0
272	SLD 7	22	-93	462	0	0	0
272	SLD 8	32	-98	457	0	0	0
272	SLD 9	-54	70	1382	0	0	0
272	SLD 10	-44	66	1377	0	0	0
272	SLD 11	-30	-88	437	0	0	0
272	SLD 12	-20	-92	432	0	0	0
272	SLD 13	-109	23	1023	0	0	0
272	SLD 14	-93	16	1016	0	0	0
272	SLD 15	-102	-24	740	0	0	0
272	SLD 16	-86	-31	732	0	0	0
272	SLV 1	107	17	1232	0	0	0
272	SLV 2	132	6	1220	0	0	0
272	SLV 3	119	-64	748	0	0	0
272	SLV 4	144	-75	737	0	0	0
272	SLV 5	1	120	1749	0	0	0
272	SLV 6	18	113	1741	0	0	0
272	SLV 7	42	-149	136	0	0	0
272	SLV 8	59	-157	128	0	0	0
272	SLV 9	-80	129	1710	0	0	0
272	SLV 10	-63	122	1702	0	0	0
272	SLV 11	-40	-141	97	0	0	0
272	SLV 12	-23	-148	89	0	0	0
272	SLV 13	-165	47	1102	0	0	0
272	SLV 14	-140	36	1090	0	0	0
272	SLV 15	-153	-34	618	0	0	0
272	SLV 16	-128	-45	606	0	0	0
272	SLV FO 1	118	20	1263	0	0	0
272	SLV FO 2	146	8	1250	0	0	0
272	SLV FO 3	132	-69	731	0	0	0
272	SLV FO 4	159	-81	718	0	0	0
272	SLV FO 5	3	134	1832	0	0	0
272	SLV FO 6	21	126	1823	0	0	0
272	SLV FO 7	47	-163	58	0	0	0
272	SLV FO 8	65	-171	49	0	0	0
272	SLV FO 9	-87	144	1789	0	0	0
272	SLV FO 10	-69	136	1780	0	0	0
272	SLV FO 11	-43	-153	15	0	0	0
272	SLV FO 12	-24	-161	6	0	0	0
272	SLV FO 13	-181	53	1120	0	0	0
272	SLV FO 14	-153	41	1107	0	0	0
272	SLV FO 15	-167	-36	588	0	0	0
272	SLV FO 16	-140	-48	575	0	0	0
272	CRTFP Uy+	0	0	0	0	0	0
272	CRTFP Uy-	0	0	0	0	0	0
273	SLU 1	-10	-11	858	0	0	0
273	SLU 2	-11	-7	877	0	0	0
273	SLU 3	-10	-11	872	0	0	0
273	SLU 4	-11	-9	883	0	0	0
273	SLU 5	-11	-7	885	0	0	0
273	SLU 6	-10	-11	880	0	0	0
273	SLU 7	-11	-9	891	0	0	0
273	SLU 8	-10	-11	875	0	0	0
273	SLU 9	-11	-9	886	0	0	0
273	SLU 10	-11	-8	992	0	0	0
273	SLU 11	-11	-12	987	0	0	0
273	SLU 12	-11	-10	999	0	0	0
273	SLU 13	-11	-8	1001	0	0	0
273	SLU 14	-11	-12	996	0	0	0
273	SLU 15	-11	-10	1007	0	0	0
273	SLU 16	-11	-12	990	0	0	0
273	SLU 17	-11	-10	1002	0	0	0
273	SLU 18	-11	-13	1023	0	0	0
273	SLU 19	-11	-10	1034	0	0	0
273	SLU 20	-11	-13	1031	0	0	0
273	SLU 21	-11	-10	1043	0	0	0
273	SLU 22	-12	-12	975	0	0	0
273	SLU 23	-12	-8	994	0	0	0
273	SLU 24	-12	-12	989	0	0	0
273	SLU 25	-12	-10	1000	0	0	0
273	SLU 26	-13	-8	1003	0	0	0
273	SLU 27	-12	-12	997	0	0	0
273	SLU 28	-13	-10	1009	0	0	0
273	SLU 29	-12	-12	992	0	0	0
273	SLU 30	-12	-10	1003	0	0	0
273	SLU 31	-13	-9	1110	0	0	0
273	SLU 32	-12	-13	1104	0	0	0
273	SLU 33	-13	-11	1116	0	0	0
273	SLU 34	-13	-9	1118	0	0	0
273	SLU 35	-13	-14	1113	0	0	0
273	SLU 36	-13	-11	1124	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
273	SLU 37	-12	-14	1108	0	0	0
273	SLU 38	-13	-11	1119	0	0	0
273	SLU 39	-12	-14	1140	0	0	0
273	SLU 40	-13	-11	1151	0	0	0
273	SLU 41	-12	-14	1149	0	0	0
273	SLU 42	-13	-12	1160	0	0	0
273	SLU 43	-12	-14	1075	0	0	0
273	SLU 44	-13	-10	1094	0	0	0
273	SLU 45	-13	-14	1089	0	0	0
273	SLU 46	-13	-12	1100	0	0	0
273	SLU 47	-13	-10	1102	0	0	0
273	SLU 48	-13	-14	1097	0	0	0
273	SLU 49	-13	-12	1109	0	0	0
273	SLU 50	-13	-14	1092	0	0	0
273	SLU 51	-13	-12	1103	0	0	0
273	SLU 52	-14	-11	1209	0	0	0
273	SLU 53	-13	-15	1204	0	0	0
273	SLU 54	-14	-13	1216	0	0	0
273	SLU 55	-14	-11	1218	0	0	0
273	SLU 56	-13	-15	1213	0	0	0
273	SLU 57	-14	-13	1224	0	0	0
273	SLU 58	-13	-15	1207	0	0	0
273	SLU 59	-14	-13	1219	0	0	0
273	SLU 60	-13	-16	1240	0	0	0
273	SLU 61	-14	-13	1251	0	0	0
273	SLU 62	-13	-16	1248	0	0	0
273	SLU 63	-14	-13	1260	0	0	0
273	SLU 64	-14	-15	1192	0	0	0
273	SLU 65	-15	-11	1211	0	0	0
273	SLU 66	-14	-15	1206	0	0	0
273	SLU 67	-15	-13	1217	0	0	0
273	SLU 68	-15	-11	1220	0	0	0
273	SLU 69	-15	-15	1214	0	0	0
273	SLU 70	-15	-13	1226	0	0	0
273	SLU 71	-14	-15	1209	0	0	0
273	SLU 72	-15	-13	1221	0	0	0
273	SLU 73	-15	-12	1327	0	0	0
273	SLU 74	-15	-16	1322	0	0	0
273	SLU 75	-15	-14	1333	0	0	0
273	SLU 76	-15	-12	1335	0	0	0
273	SLU 77	-15	-17	1330	0	0	0
273	SLU 78	-15	-14	1341	0	0	0
273	SLU 79	-15	-16	1325	0	0	0
273	SLU 80	-15	-14	1336	0	0	0
273	SLU 81	-15	-17	1357	0	0	0
273	SLU 82	-15	-14	1369	0	0	0
273	SLU 83	-15	-17	1366	0	0	0
273	SLU 84	-15	-14	1377	0	0	0
273	SLE RA 1	-10	-11	891	0	0	0
273	SLE RA 2	-11	-9	904	0	0	0
273	SLE RA 3	-11	-11	900	0	0	0
273	SLE RA 4	-11	-10	908	0	0	0
273	SLE RA 5	-11	-9	910	0	0	0
273	SLE RA 6	-11	-11	906	0	0	0
273	SLE RA 7	-11	-10	914	0	0	0
273	SLE RA 8	-11	-11	903	0	0	0
273	SLE RA 9	-11	-10	910	0	0	0
273	SLE RA 10	-11	-9	981	0	0	0
273	SLE RA 11	-11	-12	978	0	0	0
273	SLE RA 12	-11	-11	985	0	0	0
273	SLE RA 13	-11	-10	987	0	0	0
273	SLE RA 14	-11	-12	983	0	0	0
273	SLE RA 15	-11	-11	991	0	0	0
273	SLE RA 16	-11	-12	980	0	0	0
273	SLE RA 17	-11	-11	987	0	0	0
273	SLE RA 18	-11	-12	1001	0	0	0
273	SLE RA 19	-11	-11	1009	0	0	0
273	SLE RA 20	-11	-12	1007	0	0	0
273	SLE RA 21	-11	-11	1015	0	0	0
273	SLE FR 1	-10	-11	891	0	0	0
273	SLE FR 2	-11	-11	894	0	0	0
273	SLE FR 3	-10	-11	894	0	0	0
273	SLE FR 4	-11	-11	927	0	0	0
273	SLE FR 5	-11	-12	927	0	0	0
273	SLE FR 6	-11	-12	946	0	0	0
273	SLE QP 1	-10	-11	891	0	0	0
273	SLE QP 2	-11	-12	924	0	0	0
273	SLD 1	66	8	1104	0	0	0
273	SLD 2	83	2	1097	0	0	0
273	SLD 3	73	-42	820	0	0	0
273	SLD 4	90	-48	813	0	0	0
273	SLD 5	-1	70	1411	0	0	0
273	SLD 6	10	66	1407	0	0	0
273	SLD 7	23	-95	462	0	0	0
273	SLD 8	33	-99	458	0	0	0
273	SLD 9	-54	75	1391	0	0	0
273	SLD 10	-44	71	1386	0	0	0
273	SLD 11	-31	-89	442	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
273	SLD 12	-20	-94	437	0	0	0
273	SLD 13	-111	25	1036	0	0	0
273	SLD 14	-95	18	1029	0	0	0
273	SLD 15	-104	-25	751	0	0	0
273	SLD 16	-88	-31	744	0	0	0
273	SLV 1	109	22	1226	0	0	0
273	SLV 2	135	13	1215	0	0	0
273	SLV 3	121	-62	740	0	0	0
273	SLV 4	147	-72	729	0	0	0
273	SLV 5	3	129	1754	0	0	0
273	SLV 6	20	122	1747	0	0	0
273	SLV 7	42	-153	134	0	0	0
273	SLV 8	59	-160	127	0	0	0
273	SLV 9	-81	136	1722	0	0	0
273	SLV 10	-63	130	1714	0	0	0
273	SLV 11	-41	-145	102	0	0	0
273	SLV 12	-24	-152	95	0	0	0
273	SLV 13	-168	49	1119	0	0	0
273	SLV 14	-142	39	1108	0	0	0
273	SLV 15	-156	-36	633	0	0	0
273	SLV 16	-130	-46	623	0	0	0
273	SLV FO 1	121	26	1256	0	0	0
273	SLV FO 2	149	15	1244	0	0	0
273	SLV FO 3	134	-67	722	0	0	0
273	SLV FO 4	162	-78	710	0	0	0
273	SLV FO 5	4	143	1837	0	0	0
273	SLV FO 6	23	135	1829	0	0	0
273	SLV FO 7	48	-167	55	0	0	0
273	SLV FO 8	66	-174	47	0	0	0
273	SLV FO 9	-88	151	1801	0	0	0
273	SLV FO 10	-69	144	1793	0	0	0
273	SLV FO 11	-44	-158	20	0	0	0
273	SLV FO 12	-25	-166	12	0	0	0
273	SLV FO 13	-184	55	1139	0	0	0
273	SLV FO 14	-156	44	1127	0	0	0
273	SLV FO 15	-170	-38	604	0	0	0
273	SLV FO 16	-142	-49	592	0	0	0
273	CRTFP Uy+	0	0	0	0	0	0
273	CRTFP Uy-	0	0	0	0	0	0
274	SLU 1	-10	-9	866	0	0	0
274	SLU 2	-11	-4	885	0	0	0
274	SLU 3	-10	-9	880	0	0	0
274	SLU 4	-11	-6	891	0	0	0
274	SLU 5	-11	-5	893	0	0	0
274	SLU 6	-10	-9	888	0	0	0
274	SLU 7	-11	-6	900	0	0	0
274	SLU 8	-10	-9	883	0	0	0
274	SLU 9	-11	-6	894	0	0	0
274	SLU 10	-11	-5	1002	0	0	0
274	SLU 11	-11	-10	997	0	0	0
274	SLU 12	-11	-7	1008	0	0	0
274	SLU 13	-11	-6	1010	0	0	0
274	SLU 14	-11	-10	1005	0	0	0
274	SLU 15	-11	-7	1017	0	0	0
274	SLU 16	-11	-10	1000	0	0	0
274	SLU 17	-11	-7	1011	0	0	0
274	SLU 18	-11	-10	1033	0	0	0
274	SLU 19	-11	-7	1044	0	0	0
274	SLU 20	-11	-10	1041	0	0	0
274	SLU 21	-11	-8	1053	0	0	0
274	SLU 22	-11	-9	984	0	0	0
274	SLU 23	-12	-5	1003	0	0	0
274	SLU 24	-12	-10	998	0	0	0
274	SLU 25	-12	-7	1009	0	0	0
274	SLU 26	-12	-5	1011	0	0	0
274	SLU 27	-12	-10	1006	0	0	0
274	SLU 28	-12	-7	1018	0	0	0
274	SLU 29	-12	-10	1001	0	0	0
274	SLU 30	-12	-7	1012	0	0	0
274	SLU 31	-13	-6	1120	0	0	0
274	SLU 32	-12	-11	1115	0	0	0
274	SLU 33	-13	-8	1126	0	0	0
274	SLU 34	-13	-6	1128	0	0	0
274	SLU 35	-12	-11	1123	0	0	0
274	SLU 36	-13	-8	1135	0	0	0
274	SLU 37	-12	-11	1118	0	0	0
274	SLU 38	-13	-8	1129	0	0	0
274	SLU 39	-12	-11	1151	0	0	0
274	SLU 40	-13	-8	1162	0	0	0
274	SLU 41	-12	-11	1159	0	0	0
274	SLU 42	-13	-8	1171	0	0	0
274	SLU 43	-12	-11	1085	0	0	0
274	SLU 44	-13	-7	1104	0	0	0
274	SLU 45	-13	-11	1099	0	0	0
274	SLU 46	-13	-9	1110	0	0	0
274	SLU 47	-13	-7	1112	0	0	0
274	SLU 48	-13	-11	1107	0	0	0
274	SLU 49	-13	-9	1119	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLU 50	-13	-11	1102	0	0	0
274	SLU 51	-13	-9	1113	0	0	0
274	SLU 52	-13	-8	1221	0	0	0
274	SLU 53	-13	-12	1216	0	0	0
274	SLU 54	-13	-10	1227	0	0	0
274	SLU 55	-14	-8	1229	0	0	0
274	SLU 56	-13	-12	1224	0	0	0
274	SLU 57	-14	-10	1236	0	0	0
274	SLU 58	-13	-12	1219	0	0	0
274	SLU 59	-14	-10	1230	0	0	0
274	SLU 60	-13	-12	1252	0	0	0
274	SLU 61	-13	-10	1263	0	0	0
274	SLU 62	-13	-12	1261	0	0	0
274	SLU 63	-14	-10	1272	0	0	0
274	SLU 64	-14	-12	1203	0	0	0
274	SLU 65	-15	-8	1222	0	0	0
274	SLU 66	-14	-12	1217	0	0	0
274	SLU 67	-15	-9	1228	0	0	0
274	SLU 68	-15	-8	1230	0	0	0
274	SLU 69	-14	-12	1225	0	0	0
274	SLU 70	-15	-10	1237	0	0	0
274	SLU 71	-14	-12	1220	0	0	0
274	SLU 72	-15	-9	1231	0	0	0
274	SLU 73	-15	-9	1339	0	0	0
274	SLU 74	-15	-13	1334	0	0	0
274	SLU 75	-15	-10	1345	0	0	0
274	SLU 76	-15	-9	1347	0	0	0
274	SLU 77	-15	-13	1342	0	0	0
274	SLU 78	-15	-10	1354	0	0	0
274	SLU 79	-15	-13	1337	0	0	0
274	SLU 80	-15	-10	1348	0	0	0
274	SLU 81	-15	-13	1370	0	0	0
274	SLU 82	-15	-11	1381	0	0	0
274	SLU 83	-15	-13	1379	0	0	0
274	SLU 84	-15	-11	1390	0	0	0
274	SLE RA 1	-10	-9	899	0	0	0
274	SLE RA 2	-11	-6	912	0	0	0
274	SLE RA 3	-10	-9	909	0	0	0
274	SLE RA 4	-11	-7	916	0	0	0
274	SLE RA 5	-11	-6	918	0	0	0
274	SLE RA 6	-11	-9	914	0	0	0
274	SLE RA 7	-11	-7	922	0	0	0
274	SLE RA 8	-11	-9	911	0	0	0
274	SLE RA 9	-11	-7	918	0	0	0
274	SLE RA 10	-11	-7	990	0	0	0
274	SLE RA 11	-11	-10	987	0	0	0
274	SLE RA 12	-11	-8	994	0	0	0
274	SLE RA 13	-11	-7	996	0	0	0
274	SLE RA 14	-11	-10	992	0	0	0
274	SLE RA 15	-11	-8	1000	0	0	0
274	SLE RA 16	-11	-10	989	0	0	0
274	SLE RA 17	-11	-8	996	0	0	0
274	SLE RA 18	-11	-10	1011	0	0	0
274	SLE RA 19	-11	-8	1018	0	0	0
274	SLE RA 20	-11	-10	1017	0	0	0
274	SLE RA 21	-11	-8	1024	0	0	0
274	SLE FR 1	-10	-9	899	0	0	0
274	SLE FR 2	-10	-8	902	0	0	0
274	SLE FR 3	-10	-9	902	0	0	0
274	SLE FR 4	-11	-9	935	0	0	0
274	SLE FR 5	-10	-9	935	0	0	0
274	SLE FR 6	-11	-9	955	0	0	0
274	SLE QP 1	-10	-9	899	0	0	0
274	SLE QP 2	-10	-9	933	0	0	0
274	SLD 1	67	12	1106	0	0	0
274	SLD 2	84	7	1100	0	0	0
274	SLD 3	74	-39	819	0	0	0
274	SLD 4	91	-45	813	0	0	0
274	SLD 5	0	76	1421	0	0	0
274	SLD 6	10	72	1417	0	0	0
274	SLD 7	23	-95	464	0	0	0
274	SLD 8	33	-98	460	0	0	0
274	SLD 9	-54	80	1405	0	0	0
274	SLD 10	-44	77	1401	0	0	0
274	SLD 11	-31	-91	448	0	0	0
274	SLD 12	-20	-94	444	0	0	0
274	SLD 13	-112	26	1053	0	0	0
274	SLD 14	-95	21	1047	0	0	0
274	SLD 15	-105	-25	766	0	0	0
274	SLD 16	-88	-30	759	0	0	0
274	SLV 1	111	28	1224	0	0	0
274	SLV 2	136	19	1214	0	0	0
274	SLV 3	123	-60	734	0	0	0
274	SLV 4	148	-68	724	0	0	0
274	SLV 5	3	136	1765	0	0	0
274	SLV 6	21	130	1758	0	0	0
274	SLV 7	43	-155	132	0	0	0
274	SLV 8	60	-161	125	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLV 9	-81	143	1740	0	0	0
274	SLV 10	-63	137	1733	0	0	0
274	SLV 11	-41	-148	107	0	0	0
274	SLV 12	-24	-154	100	0	0	0
274	SLV 13	-169	50	1141	0	0	0
274	SLV 14	-143	41	1131	0	0	0
274	SLV 15	-157	-37	651	0	0	0
274	SLV 16	-132	-46	641	0	0	0
274	SLV FO 1	123	32	1253	0	0	0
274	SLV FO 2	151	22	1243	0	0	0
274	SLV FO 3	136	-65	714	0	0	0
274	SLV FO 4	164	-74	704	0	0	0
274	SLV FO 5	5	151	1848	0	0	0
274	SLV FO 6	24	144	1841	0	0	0
274	SLV FO 7	48	-170	52	0	0	0
274	SLV FO 8	67	-176	45	0	0	0
274	SLV FO 9	-88	158	1821	0	0	0
274	SLV FO 10	-69	152	1814	0	0	0
274	SLV FO 11	-44	-162	24	0	0	0
274	SLV FO 12	-25	-169	17	0	0	0
274	SLV FO 13	-185	56	1162	0	0	0
274	SLV FO 14	-157	46	1151	0	0	0
274	SLV FO 15	-172	-40	623	0	0	0
274	SLV FO 16	-144	-50	612	0	0	0
274	CRTFP Uy+	0	0	0	0	0	0
274	CRTFP Uy-	0	0	0	0	0	0
275	SLU 1	-10	-6	884	0	0	0
275	SLU 2	-10	-2	903	0	0	0
275	SLU 3	-10	-6	898	0	0	0
275	SLU 4	-10	-4	910	0	0	0
275	SLU 5	-11	-2	912	0	0	0
275	SLU 6	-10	-6	907	0	0	0
275	SLU 7	-11	-4	918	0	0	0
275	SLU 8	-10	-6	901	0	0	0
275	SLU 9	-11	-4	913	0	0	0
275	SLU 10	-11	-3	1023	0	0	0
275	SLU 11	-10	-7	1018	0	0	0
275	SLU 12	-11	-4	1030	0	0	0
275	SLU 13	-11	-3	1032	0	0	0
275	SLU 14	-11	-7	1027	0	0	0
275	SLU 15	-11	-5	1039	0	0	0
275	SLU 16	-11	-7	1022	0	0	0
275	SLU 17	-11	-5	1033	0	0	0
275	SLU 18	-10	-7	1056	0	0	0
275	SLU 19	-11	-5	1067	0	0	0
275	SLU 20	-11	-7	1064	0	0	0
275	SLU 21	-11	-5	1076	0	0	0
275	SLU 22	-11	-7	1004	0	0	0
275	SLU 23	-12	-2	1024	0	0	0
275	SLU 24	-12	-7	1019	0	0	0
275	SLU 25	-12	-4	1030	0	0	0
275	SLU 26	-12	-2	1032	0	0	0
275	SLU 27	-12	-7	1028	0	0	0
275	SLU 28	-12	-4	1039	0	0	0
275	SLU 29	-12	-7	1022	0	0	0
275	SLU 30	-12	-4	1034	0	0	0
275	SLU 31	-13	-3	1144	0	0	0
275	SLU 32	-12	-7	1139	0	0	0
275	SLU 33	-13	-5	1151	0	0	0
275	SLU 34	-13	-3	1153	0	0	0
275	SLU 35	-12	-8	1148	0	0	0
275	SLU 36	-13	-5	1159	0	0	0
275	SLU 37	-12	-8	1142	0	0	0
275	SLU 38	-13	-5	1154	0	0	0
275	SLU 39	-12	-8	1176	0	0	0
275	SLU 40	-12	-5	1188	0	0	0
275	SLU 41	-12	-8	1185	0	0	0
275	SLU 42	-13	-5	1197	0	0	0
275	SLU 43	-12	-8	1107	0	0	0
275	SLU 44	-13	-4	1127	0	0	0
275	SLU 45	-12	-8	1122	0	0	0
275	SLU 46	-13	-5	1133	0	0	0
275	SLU 47	-13	-4	1136	0	0	0
275	SLU 48	-13	-8	1131	0	0	0
275	SLU 49	-13	-6	1142	0	0	0
275	SLU 50	-13	-8	1125	0	0	0
275	SLU 51	-13	-6	1137	0	0	0
275	SLU 52	-13	-4	1247	0	0	0
275	SLU 53	-13	-9	1242	0	0	0
275	SLU 54	-13	-6	1254	0	0	0
275	SLU 55	-14	-4	1256	0	0	0
275	SLU 56	-13	-9	1251	0	0	0
275	SLU 57	-14	-6	1263	0	0	0
275	SLU 58	-13	-9	1245	0	0	0
275	SLU 59	-13	-6	1257	0	0	0
275	SLU 60	-13	-9	1279	0	0	0
275	SLU 61	-13	-6	1291	0	0	0
275	SLU 62	-13	-9	1288	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLU 63	-13	-6	1300	0	0	0
275	SLU 64	-14	-8	1228	0	0	0
275	SLU 65	-14	-4	1247	0	0	0
275	SLU 66	-14	-8	1242	0	0	0
275	SLU 67	-14	-6	1254	0	0	0
275	SLU 68	-15	-4	1256	0	0	0
275	SLU 69	-14	-9	1251	0	0	0
275	SLU 70	-15	-6	1263	0	0	0
275	SLU 71	-14	-9	1246	0	0	0
275	SLU 72	-15	-6	1257	0	0	0
275	SLU 73	-15	-5	1368	0	0	0
275	SLU 74	-14	-9	1363	0	0	0
275	SLU 75	-15	-7	1374	0	0	0
275	SLU 76	-15	-5	1376	0	0	0
275	SLU 77	-15	-9	1372	0	0	0
275	SLU 78	-15	-7	1383	0	0	0
275	SLU 79	-15	-9	1366	0	0	0
275	SLU 80	-15	-7	1378	0	0	0
275	SLU 81	-14	-9	1400	0	0	0
275	SLU 82	-15	-7	1411	0	0	0
275	SLU 83	-15	-9	1409	0	0	0
275	SLU 84	-15	-7	1420	0	0	0
275	SLE RA 1	-10	-6	918	0	0	0
275	SLE RA 2	-11	-3	931	0	0	0
275	SLE RA 3	-10	-6	928	0	0	0
275	SLE RA 4	-11	-5	935	0	0	0
275	SLE RA 5	-11	-4	937	0	0	0
275	SLE RA 6	-11	-6	934	0	0	0
275	SLE RA 7	-11	-5	941	0	0	0
275	SLE RA 8	-10	-6	930	0	0	0
275	SLE RA 9	-11	-5	938	0	0	0
275	SLE RA 10	-11	-4	1011	0	0	0
275	SLE RA 11	-11	-7	1008	0	0	0
275	SLE RA 12	-11	-5	1016	0	0	0
275	SLE RA 13	-11	-4	1017	0	0	0
275	SLE RA 14	-11	-7	1014	0	0	0
275	SLE RA 15	-11	-5	1022	0	0	0
275	SLE RA 16	-11	-7	1010	0	0	0
275	SLE RA 17	-11	-5	1018	0	0	0
275	SLE RA 18	-11	-7	1033	0	0	0
275	SLE RA 19	-11	-5	1040	0	0	0
275	SLE RA 20	-11	-7	1039	0	0	0
275	SLE RA 21	-11	-5	1046	0	0	0
275	SLE FR 1	-10	-6	918	0	0	0
275	SLE FR 2	-10	-6	921	0	0	0
275	SLE FR 3	-10	-6	920	0	0	0
275	SLE FR 4	-10	-6	955	0	0	0
275	SLE FR 5	-10	-7	955	0	0	0
275	SLE FR 6	-10	-7	975	0	0	0
275	SLE QP 1	-10	-6	918	0	0	0
275	SLE QP 2	-10	-7	953	0	0	0
275	SLD 1	68	17	1121	0	0	0
275	SLD 2	85	12	1115	0	0	0
275	SLD 3	75	-36	828	0	0	0
275	SLD 4	92	-41	823	0	0	0
275	SLD 5	0	82	1448	0	0	0
275	SLD 6	10	79	1444	0	0	0
275	SLD 7	23	-95	472	0	0	0
275	SLD 8	34	-98	468	0	0	0
275	SLD 9	-54	85	1437	0	0	0
275	SLD 10	-44	82	1433	0	0	0
275	SLD 11	-31	-92	461	0	0	0
275	SLD 12	-21	-95	457	0	0	0
275	SLD 13	-112	28	1082	0	0	0
275	SLD 14	-96	23	1077	0	0	0
275	SLD 15	-105	-25	790	0	0	0
275	SLD 16	-89	-30	784	0	0	0
275	SLV 1	112	34	1237	0	0	0
275	SLV 2	138	26	1228	0	0	0
275	SLV 3	124	-57	737	0	0	0
275	SLV 4	150	-64	728	0	0	0
275	SLV 5	4	144	1797	0	0	0
275	SLV 6	21	139	1791	0	0	0
275	SLV 7	43	-157	132	0	0	0
275	SLV 8	60	-162	126	0	0	0
275	SLV 9	-81	149	1779	0	0	0
275	SLV 10	-64	144	1773	0	0	0
275	SLV 11	-42	-152	114	0	0	0
275	SLV 12	-24	-157	108	0	0	0
275	SLV 13	-170	51	1177	0	0	0
275	SLV 14	-144	44	1168	0	0	0
275	SLV 15	-159	-39	677	0	0	0
275	SLV 16	-133	-47	668	0	0	0
275	SLV FO 1	124	38	1265	0	0	0
275	SLV FO 2	153	29	1256	0	0	0
275	SLV FO 3	137	-62	716	0	0	0
275	SLV FO 4	166	-70	706	0	0	0
275	SLV FO 5	5	159	1882	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLV FO 6	24	154	1875	0	0	0
275	SLV FO 7	48	-173	50	0	0	0
275	SLV FO 8	67	-178	43	0	0	0
275	SLV FO 9	-88	165	1862	0	0	0
275	SLV FO 10	-69	160	1855	0	0	0
275	SLV FO 11	-45	-167	30	0	0	0
275	SLV FO 12	-26	-172	23	0	0	0
275	SLV FO 13	-186	57	1199	0	0	0
275	SLV FO 14	-158	49	1189	0	0	0
275	SLV FO 15	-173	-42	649	0	0	0
275	SLV FO 16	-145	-51	640	0	0	0
275	CRTFP Uy+	0	0	0	0	0	0
275	CRTFP Uy-	0	0	0	0	0	0
276	SLU 1	-10	-4	919	0	0	0
276	SLU 2	-10	1	939	0	0	0
276	SLU 3	-10	-4	934	0	0	0
276	SLU 4	-10	-1	946	0	0	0
276	SLU 5	-11	1	948	0	0	0
276	SLU 6	-10	-4	943	0	0	0
276	SLU 7	-11	-1	955	0	0	0
276	SLU 8	-10	-4	937	0	0	0
276	SLU 9	-11	-1	949	0	0	0
276	SLU 10	-11	0	1065	0	0	0
276	SLU 11	-10	-4	1060	0	0	0
276	SLU 12	-11	-2	1072	0	0	0
276	SLU 13	-11	0	1074	0	0	0
276	SLU 14	-11	-4	1069	0	0	0
276	SLU 15	-11	-2	1081	0	0	0
276	SLU 16	-11	-4	1063	0	0	0
276	SLU 17	-11	-2	1075	0	0	0
276	SLU 18	-10	-4	1099	0	0	0
276	SLU 19	-11	-2	1111	0	0	0
276	SLU 20	-11	-4	1108	0	0	0
276	SLU 21	-11	-2	1120	0	0	0
276	SLU 22	-11	-4	1044	0	0	0
276	SLU 23	-12	1	1064	0	0	0
276	SLU 24	-12	-4	1060	0	0	0
276	SLU 25	-12	-1	1071	0	0	0
276	SLU 26	-12	0	1074	0	0	0
276	SLU 27	-12	-4	1069	0	0	0
276	SLU 28	-12	-1	1081	0	0	0
276	SLU 29	-12	-4	1063	0	0	0
276	SLU 30	-12	-1	1075	0	0	0
276	SLU 31	-12	0	1190	0	0	0
276	SLU 32	-12	-4	1186	0	0	0
276	SLU 33	-12	-2	1197	0	0	0
276	SLU 34	-13	0	1200	0	0	0
276	SLU 35	-12	-4	1195	0	0	0
276	SLU 36	-13	-2	1207	0	0	0
276	SLU 37	-12	-5	1189	0	0	0
276	SLU 38	-13	-2	1201	0	0	0
276	SLU 39	-12	-5	1224	0	0	0
276	SLU 40	-12	-2	1236	0	0	0
276	SLU 41	-12	-5	1234	0	0	0
276	SLU 42	-13	-2	1246	0	0	0
276	SLU 43	-12	-5	1151	0	0	0
276	SLU 44	-13	0	1171	0	0	0
276	SLU 45	-12	-5	1166	0	0	0
276	SLU 46	-13	-2	1178	0	0	0
276	SLU 47	-13	0	1180	0	0	0
276	SLU 48	-13	-5	1176	0	0	0
276	SLU 49	-13	-2	1188	0	0	0
276	SLU 50	-12	-5	1170	0	0	0
276	SLU 51	-13	-2	1182	0	0	0
276	SLU 52	-13	-1	1297	0	0	0
276	SLU 53	-13	-5	1292	0	0	0
276	SLU 54	-13	-3	1304	0	0	0
276	SLU 55	-13	-1	1306	0	0	0
276	SLU 56	-13	-5	1302	0	0	0
276	SLU 57	-13	-3	1314	0	0	0
276	SLU 58	-13	-5	1296	0	0	0
276	SLU 59	-13	-3	1308	0	0	0
276	SLU 60	-13	-5	1331	0	0	0
276	SLU 61	-13	-3	1343	0	0	0
276	SLU 62	-13	-6	1341	0	0	0
276	SLU 63	-13	-3	1353	0	0	0
276	SLU 64	-14	-5	1277	0	0	0
276	SLU 65	-14	-1	1297	0	0	0
276	SLU 66	-14	-5	1292	0	0	0
276	SLU 67	-14	-2	1304	0	0	0
276	SLU 68	-15	-1	1306	0	0	0
276	SLU 69	-14	-5	1301	0	0	0
276	SLU 70	-15	-2	1313	0	0	0
276	SLU 71	-14	-5	1296	0	0	0
276	SLU 72	-15	-2	1307	0	0	0
276	SLU 73	-15	-1	1423	0	0	0
276	SLU 74	-14	-5	1418	0	0	0
276	SLU 75	-15	-3	1430	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
276	SLU 76	-15	-1	1432	0	0	0
276	SLU 77	-15	-6	1427	0	0	0
276	SLU 78	-15	-3	1439	0	0	0
276	SLU 79	-15	-6	1422	0	0	0
276	SLU 80	-15	-3	1433	0	0	0
276	SLU 81	-14	-6	1457	0	0	0
276	SLU 82	-15	-3	1469	0	0	0
276	SLU 83	-15	-6	1466	0	0	0
276	SLU 84	-15	-3	1478	0	0	0
276	SLE RA 1	-10	-4	955	0	0	0
276	SLE RA 2	-11	-1	968	0	0	0
276	SLE RA 3	-10	-4	965	0	0	0
276	SLE RA 4	-11	-2	973	0	0	0
276	SLE RA 5	-11	-1	974	0	0	0
276	SLE RA 6	-11	-4	971	0	0	0
276	SLE RA 7	-11	-2	979	0	0	0
276	SLE RA 8	-10	-4	967	0	0	0
276	SLE RA 9	-11	-2	975	0	0	0
276	SLE RA 10	-11	-1	1052	0	0	0
276	SLE RA 11	-11	-4	1049	0	0	0
276	SLE RA 12	-11	-2	1057	0	0	0
276	SLE RA 13	-11	-1	1058	0	0	0
276	SLE RA 14	-11	-4	1055	0	0	0
276	SLE RA 15	-11	-2	1063	0	0	0
276	SLE RA 16	-11	-4	1051	0	0	0
276	SLE RA 17	-11	-2	1059	0	0	0
276	SLE RA 18	-11	-4	1075	0	0	0
276	SLE RA 19	-11	-2	1083	0	0	0
276	SLE RA 20	-11	-4	1081	0	0	0
276	SLE RA 21	-11	-2	1089	0	0	0
276	SLE FR 1	-10	-4	955	0	0	0
276	SLE FR 2	-10	-3	957	0	0	0
276	SLE FR 3	-10	-4	957	0	0	0
276	SLE FR 4	-10	-3	993	0	0	0
276	SLE FR 5	-10	-4	993	0	0	0
276	SLE FR 6	-10	-4	1015	0	0	0
276	SLE QP 1	-10	-4	955	0	0	0
276	SLE QP 2	-10	-4	991	0	0	0
276	SLD 1	69	22	1157	0	0	0
276	SLD 2	86	18	1152	0	0	0
276	SLD 3	76	-34	854	0	0	0
276	SLD 4	93	-38	849	0	0	0
276	SLD 5	0	88	1502	0	0	0
276	SLD 6	11	86	1499	0	0	0
276	SLD 7	23	-96	490	0	0	0
276	SLD 8	34	-98	487	0	0	0
276	SLD 9	-55	91	1495	0	0	0
276	SLD 10	-44	88	1491	0	0	0
276	SLD 11	-31	-93	483	0	0	0
276	SLD 12	-21	-96	479	0	0	0
276	SLD 13	-114	30	1133	0	0	0
276	SLD 14	-97	26	1128	0	0	0
276	SLD 15	-107	-25	829	0	0	0
276	SLD 16	-90	-29	824	0	0	0
276	SLV 1	114	40	1273	0	0	0
276	SLV 2	140	34	1265	0	0	0
276	SLV 3	126	-54	755	0	0	0
276	SLV 4	152	-61	747	0	0	0
276	SLV 5	4	153	1863	0	0	0
276	SLV 6	22	149	1857	0	0	0
276	SLV 7	44	-161	136	0	0	0
276	SLV 8	61	-165	130	0	0	0
276	SLV 9	-82	157	1851	0	0	0
276	SLV 10	-64	153	1846	0	0	0
276	SLV 11	-42	-157	124	0	0	0
276	SLV 12	-25	-161	119	0	0	0
276	SLV 13	-172	53	1234	0	0	0
276	SLV 14	-146	47	1226	0	0	0
276	SLV 15	-161	-41	716	0	0	0
276	SLV 16	-134	-48	708	0	0	0
276	SLV FO 1	126	44	1301	0	0	0
276	SLV FO 2	155	37	1292	0	0	0
276	SLV FO 3	139	-59	731	0	0	0
276	SLV FO 4	168	-66	723	0	0	0
276	SLV FO 5	5	169	1950	0	0	0
276	SLV FO 6	25	164	1944	0	0	0
276	SLV FO 7	49	-176	50	0	0	0
276	SLV FO 8	68	-181	44	0	0	0
276	SLV FO 9	-89	173	1937	0	0	0
276	SLV FO 10	-70	168	1931	0	0	0
276	SLV FO 11	-45	-172	37	0	0	0
276	SLV FO 12	-26	-177	31	0	0	0
276	SLV FO 13	-189	58	1259	0	0	0
276	SLV FO 14	-160	52	1250	0	0	0
276	SLV FO 15	-176	-45	689	0	0	0
276	SLV FO 16	-147	-52	680	0	0	0
276	CRTFP Uy+	0	0	0	0	0	0
276	CRTFP Uy-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
277	SLU 1	-10	-1	988	0	0	0
277	SLU 2	-11	4	1010	0	0	0
277	SLU 3	-10	-1	1005	0	0	0
277	SLU 4	-11	2	1018	0	0	0
277	SLU 5	-11	3	1020	0	0	0
277	SLU 6	-10	-1	1015	0	0	0
277	SLU 7	-11	2	1028	0	0	0
277	SLU 8	-10	-1	1009	0	0	0
277	SLU 9	-11	1	1021	0	0	0
277	SLU 10	-11	3	1146	0	0	0
277	SLU 11	-11	-1	1142	0	0	0
277	SLU 12	-11	1	1154	0	0	0
277	SLU 13	-11	3	1156	0	0	0
277	SLU 14	-11	-1	1152	0	0	0
277	SLU 15	-11	1	1164	0	0	0
277	SLU 16	-11	-2	1145	0	0	0
277	SLU 17	-11	1	1158	0	0	0
277	SLU 18	-11	-2	1184	0	0	0
277	SLU 19	-11	1	1196	0	0	0
277	SLU 20	-11	-2	1194	0	0	0
277	SLU 21	-11	1	1206	0	0	0
277	SLU 22	-12	-1	1124	0	0	0
277	SLU 23	-12	4	1145	0	0	0
277	SLU 24	-12	-1	1141	0	0	0
277	SLU 25	-12	2	1153	0	0	0
277	SLU 26	-12	4	1155	0	0	0
277	SLU 27	-12	-1	1151	0	0	0
277	SLU 28	-12	2	1163	0	0	0
277	SLU 29	-12	-1	1144	0	0	0
277	SLU 30	-12	2	1157	0	0	0
277	SLU 31	-13	4	1282	0	0	0
277	SLU 32	-12	-1	1277	0	0	0
277	SLU 33	-13	2	1290	0	0	0
277	SLU 34	-13	4	1292	0	0	0
277	SLU 35	-12	-1	1287	0	0	0
277	SLU 36	-13	2	1300	0	0	0
277	SLU 37	-12	-1	1281	0	0	0
277	SLU 38	-13	2	1294	0	0	0
277	SLU 39	-12	-1	1319	0	0	0
277	SLU 40	-13	2	1332	0	0	0
277	SLU 41	-12	-1	1330	0	0	0
277	SLU 42	-13	2	1342	0	0	0
277	SLU 43	-12	-2	1238	0	0	0
277	SLU 44	-13	3	1260	0	0	0
277	SLU 45	-13	-2	1255	0	0	0
277	SLU 46	-13	1	1267	0	0	0
277	SLU 47	-13	3	1270	0	0	0
277	SLU 48	-13	-2	1265	0	0	0
277	SLU 49	-13	1	1278	0	0	0
277	SLU 50	-13	-2	1258	0	0	0
277	SLU 51	-13	1	1271	0	0	0
277	SLU 52	-14	3	1396	0	0	0
277	SLU 53	-13	-2	1391	0	0	0
277	SLU 54	-14	1	1404	0	0	0
277	SLU 55	-14	3	1406	0	0	0
277	SLU 56	-13	-2	1402	0	0	0
277	SLU 57	-14	1	1414	0	0	0
277	SLU 58	-13	-2	1395	0	0	0
277	SLU 59	-14	1	1408	0	0	0
277	SLU 60	-13	-2	1434	0	0	0
277	SLU 61	-13	1	1446	0	0	0
277	SLU 62	-13	-2	1444	0	0	0
277	SLU 63	-14	1	1456	0	0	0
277	SLU 64	-14	-1	1374	0	0	0
277	SLU 65	-15	3	1395	0	0	0
277	SLU 66	-14	-1	1391	0	0	0
277	SLU 67	-15	1	1403	0	0	0
277	SLU 68	-15	3	1405	0	0	0
277	SLU 69	-14	-1	1401	0	0	0
277	SLU 70	-15	1	1413	0	0	0
277	SLU 71	-14	-2	1394	0	0	0
277	SLU 72	-15	1	1407	0	0	0
277	SLU 73	-15	3	1532	0	0	0
277	SLU 74	-15	-2	1527	0	0	0
277	SLU 75	-15	1	1540	0	0	0
277	SLU 76	-15	3	1542	0	0	0
277	SLU 77	-15	-2	1537	0	0	0
277	SLU 78	-15	1	1550	0	0	0
277	SLU 79	-15	-2	1531	0	0	0
277	SLU 80	-15	1	1544	0	0	0
277	SLU 81	-15	-2	1569	0	0	0
277	SLU 82	-15	1	1582	0	0	0
277	SLU 83	-15	-2	1580	0	0	0
277	SLU 84	-15	1	1592	0	0	0
277	SLE RA 1	-10	-1	1027	0	0	0
277	SLE RA 2	-11	2	1041	0	0	0
277	SLE RA 3	-11	-1	1038	0	0	0
277	SLE RA 4	-11	1	1047	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
277	SLE RA 5	-11	2	1048	0	0	0
277	SLE RA 6	-11	-1	1045	0	0	0
277	SLE RA 7	-11	1	1053	0	0	0
277	SLE RA 8	-11	-1	1041	0	0	0
277	SLE RA 9	-11	1	1049	0	0	0
277	SLE RA 10	-11	2	1132	0	0	0
277	SLE RA 11	-11	-1	1129	0	0	0
277	SLE RA 12	-11	1	1138	0	0	0
277	SLE RA 13	-11	2	1139	0	0	0
277	SLE RA 14	-11	-1	1136	0	0	0
277	SLE RA 15	-11	1	1144	0	0	0
277	SLE RA 16	-11	-1	1132	0	0	0
277	SLE RA 17	-11	1	1140	0	0	0
277	SLE RA 18	-11	-1	1157	0	0	0
277	SLE RA 19	-11	1	1166	0	0	0
277	SLE RA 20	-11	-1	1164	0	0	0
277	SLE RA 21	-11	1	1173	0	0	0
277	SLE FR 1	-10	-1	1027	0	0	0
277	SLE FR 2	-10	-1	1030	0	0	0
277	SLE FR 3	-10	-1	1030	0	0	0
277	SLE FR 4	-11	-1	1069	0	0	0
277	SLE FR 5	-11	-1	1069	0	0	0
277	SLE FR 6	-11	-1	1092	0	0	0
277	SLE QP 1	-10	-1	1027	0	0	0
277	SLE QP 2	-11	-1	1066	0	0	0
277	SLD 1	72	27	1238	0	0	0
277	SLD 2	89	24	1234	0	0	0
277	SLD 3	79	-32	913	0	0	0
277	SLD 4	97	-35	908	0	0	0
277	SLD 5	0	97	1612	0	0	0
277	SLD 6	11	95	1609	0	0	0
277	SLD 7	24	-99	528	0	0	0
277	SLD 8	36	-101	525	0	0	0
277	SLD 9	-57	99	1608	0	0	0
277	SLD 10	-45	97	1605	0	0	0
277	SLD 11	-32	-97	524	0	0	0
277	SLD 12	-21	-99	520	0	0	0
277	SLD 13	-118	32	1224	0	0	0
277	SLD 14	-100	29	1219	0	0	0
277	SLD 15	-110	-26	899	0	0	0
277	SLD 16	-93	-29	894	0	0	0
277	SLV 1	118	47	1359	0	0	0
277	SLV 2	145	42	1351	0	0	0
277	SLV 3	130	-53	804	0	0	0
277	SLV 4	158	-58	796	0	0	0
277	SLV 5	4	166	1997	0	0	0
277	SLV 6	23	163	1992	0	0	0
277	SLV 7	45	-168	147	0	0	0
277	SLV 8	64	-171	142	0	0	0
277	SLV 9	-85	169	1991	0	0	0
277	SLV 10	-66	165	1985	0	0	0
277	SLV 11	-44	-165	140	0	0	0
277	SLV 12	-25	-169	135	0	0	0
277	SLV 13	-179	56	1336	0	0	0
277	SLV 14	-151	51	1329	0	0	0
277	SLV 15	-166	-45	781	0	0	0
277	SLV 16	-139	-49	774	0	0	0
277	SLV FO 1	131	52	1388	0	0	0
277	SLV FO 2	161	47	1380	0	0	0
277	SLV FO 3	144	-58	778	0	0	0
277	SLV FO 4	174	-64	769	0	0	0
277	SLV FO 5	6	183	2090	0	0	0
277	SLV FO 6	26	179	2085	0	0	0
277	SLV FO 7	51	-185	55	0	0	0
277	SLV FO 8	71	-188	50	0	0	0
277	SLV FO 9	-92	186	2083	0	0	0
277	SLV FO 10	-72	182	2077	0	0	0
277	SLV FO 11	-47	-182	48	0	0	0
277	SLV FO 12	-27	-185	42	0	0	0
277	SLV FO 13	-195	61	1363	0	0	0
277	SLV FO 14	-165	56	1355	0	0	0
277	SLV FO 15	-182	-49	753	0	0	0
277	SLV FO 16	-152	-54	744	0	0	0
277	CRTFP Uy+	0	0	0	0	0	0
277	CRTFP Uy-	0	0	0	0	0	0
278	SLU 1	-5	-7	364	-5.46	46.38	0.88
278	SLU 2	-5	-6	372	-5.59	47.44	0.69
278	SLU 3	-5	-8	370	-5.55	47.14	0.9
278	SLU 4	-5	-7	375	-5.63	47.77	0.79
278	SLU 5	-5	-6	376	-5.64	47.9	0.71
278	SLU 6	-5	-8	374	-5.61	47.6	0.91
278	SLU 7	-5	-7	379	-5.68	48.23	0.8
278	SLU 8	-5	-8	371	-5.57	47.31	0.9
278	SLU 9	-5	-7	376	-5.65	47.94	0.79
278	SLU 10	-5	-7	421	-6.32	53.67	0.8
278	SLU 11	-5	-8	419	-6.28	53.36	1
278	SLU 12	-5	-8	424	-6.36	53.99	0.89
278	SLU 13	-5	-7	425	-6.37	54.13	0.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLU 14	-5	-9	423	-6.34	53.82	1.01
278	SLU 15	-5	-8	428	-6.41	54.45	0.9
278	SLU 16	-5	-9	420	-6.3	53.53	1.01
278	SLU 17	-5	-8	425	-6.38	54.16	0.9
278	SLU 18	-5	-9	434	-6.51	55.28	1.03
278	SLU 19	-5	-8	439	-6.58	55.91	0.92
278	SLU 20	-5	-9	438	-6.56	55.74	1.04
278	SLU 21	-5	-8	443	-6.64	56.37	0.93
278	SLU 22	-5	-8	415	-6.22	52.83	0.98
278	SLU 23	-6	-7	423	-6.35	53.89	0.8
278	SLU 24	-5	-9	421	-6.31	53.58	1
278	SLU 25	-6	-8	426	-6.39	54.22	0.89
278	SLU 26	-6	-7	427	-6.4	54.35	0.81
278	SLU 27	-6	-9	424	-6.36	54.04	1.01
278	SLU 28	-6	-8	429	-6.44	54.68	0.9
278	SLU 29	-6	-9	422	-6.33	53.75	1.01
278	SLU 30	-6	-8	427	-6.41	54.39	0.9
278	SLU 31	-6	-8	472	-7.08	60.11	0.9
278	SLU 32	-6	-9	470	-7.04	59.81	1.11
278	SLU 33	-6	-9	475	-7.12	60.44	0.99
278	SLU 34	-6	-8	476	-7.13	60.57	0.91
278	SLU 35	-6	-9	473	-7.1	60.27	1.12
278	SLU 36	-6	-9	478	-7.17	60.9	1.01
278	SLU 37	-6	-9	471	-7.06	59.98	1.11
278	SLU 38	-6	-9	476	-7.14	60.61	1
278	SLU 39	-6	-10	485	-7.27	61.72	1.13
278	SLU 40	-6	-9	490	-7.34	62.36	1.02
278	SLU 41	-6	-10	488	-7.32	62.18	1.14
278	SLU 42	-6	-9	493	-7.4	62.82	1.03
278	SLU 43	-6	-9	456	-6.84	58.09	1.11
278	SLU 44	-6	-8	464	-6.97	59.15	0.92
278	SLU 45	-6	-10	462	-6.93	58.84	1.13
278	SLU 46	-6	-9	467	-7	59.47	1.01
278	SLU 47	-6	-8	468	-7.02	59.61	0.93
278	SLU 48	-6	-10	466	-6.98	59.3	1.14
278	SLU 49	-6	-9	471	-7.06	59.94	1.03
278	SLU 50	-6	-10	463	-6.95	59.01	1.13
278	SLU 51	-6	-9	468	-7.02	59.65	1.02
278	SLU 52	-6	-9	513	-7.7	65.37	1.03
278	SLU 53	-6	-10	511	-7.66	65.06	1.23
278	SLU 54	-6	-10	516	-7.74	65.7	1.12
278	SLU 55	-6	-9	517	-7.75	65.83	1.04
278	SLU 56	-6	-10	514	-7.72	65.53	1.24
278	SLU 57	-6	-10	519	-7.79	66.16	1.13
278	SLU 58	-6	-10	512	-7.68	65.23	1.23
278	SLU 59	-6	-10	517	-7.76	65.87	1.12
278	SLU 60	-6	-11	526	-7.89	66.98	1.25
278	SLU 61	-6	-10	531	-7.96	67.62	1.14
278	SLU 62	-6	-11	530	-7.94	67.44	1.27
278	SLU 63	-6	-10	534	-8.02	68.08	1.16
278	SLU 64	-6	-10	507	-7.6	64.54	1.21
278	SLU 65	-7	-9	515	-7.73	65.59	1.03
278	SLU 66	-7	-10	513	-7.69	65.29	1.23
278	SLU 67	-7	-10	518	-7.76	65.92	1.12
278	SLU 68	-7	-9	519	-7.78	66.06	1.04
278	SLU 69	-7	-11	516	-7.74	65.75	1.24
278	SLU 70	-7	-10	521	-7.82	66.38	1.13
278	SLU 71	-7	-10	514	-7.71	65.46	1.24
278	SLU 72	-7	-10	519	-7.78	66.09	1.13
278	SLU 73	-7	-10	564	-8.46	71.82	1.13
278	SLU 74	-7	-11	561	-8.42	71.51	1.33
278	SLU 75	-7	-10	566	-8.5	72.15	1.22
278	SLU 76	-7	-10	567	-8.51	72.28	1.14
278	SLU 77	-7	-11	565	-8.48	71.97	1.35
278	SLU 78	-7	-11	570	-8.55	72.61	1.23
278	SLU 79	-7	-11	563	-8.44	71.68	1.34
278	SLU 80	-7	-10	568	-8.52	72.32	1.23
278	SLU 81	-7	-11	577	-8.65	73.43	1.36
278	SLU 82	-7	-11	581	-8.72	74.06	1.25
278	SLU 83	-7	-12	580	-8.7	73.89	1.37
278	SLU 84	-7	-11	585	-8.78	74.52	1.26
278	SLE RA 1	-5	-8	379	-5.68	48.23	0.91
278	SLE RA 2	-5	-7	384	-5.76	48.93	0.79
278	SLE RA 3	-5	-8	383	-5.74	48.73	0.92
278	SLE RA 4	-5	-7	386	-5.79	49.15	0.85
278	SLE RA 5	-5	-7	387	-5.8	49.24	0.79
278	SLE RA 6	-5	-8	385	-5.77	49.03	0.93
278	SLE RA 7	-5	-7	388	-5.82	49.46	0.86
278	SLE RA 8	-5	-8	383	-5.75	48.84	0.93
278	SLE RA 9	-5	-7	387	-5.8	49.26	0.85
278	SLE RA 10	-5	-7	417	-6.25	53.08	0.85
278	SLE RA 11	-5	-8	415	-6.23	52.88	0.99
278	SLE RA 12	-5	-8	418	-6.28	53.3	0.92
278	SLE RA 13	-5	-7	419	-6.29	53.39	0.86
278	SLE RA 14	-5	-8	418	-6.26	53.18	1
278	SLE RA 15	-5	-8	421	-6.31	53.61	0.92
278	SLE RA 16	-5	-8	416	-6.24	52.99	0.99
278	SLE RA 17	-5	-8	419	-6.29	53.41	0.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLE RA 18	-5	-9	425	-6.38	54.15	1.01
278	SLE RA 19	-5	-8	429	-6.43	54.58	0.93
278	SLE RA 20	-5	-9	428	-6.41	54.46	1.02
278	SLE RA 21	-5	-8	431	-6.46	54.88	0.94
278	SLE FR 1	-5	-8	379	-5.68	48.23	0.91
278	SLE FR 2	-5	-8	380	-5.7	48.37	0.89
278	SLE FR 3	-5	-8	380	-5.69	48.35	0.91
278	SLE FR 4	-5	-8	394	-5.91	50.15	0.91
278	SLE FR 5	-5	-8	394	-5.9	50.13	0.94
278	SLE FR 6	-5	-8	402	-6.03	51.19	0.96
278	SLE QP 1	-5	-8	379	-5.68	48.23	0.91
278	SLE QP 2	-5	-8	393	-5.89	50.01	0.94
278	SLD 1	25	-2	482	-7.23	61.37	0.66
278	SLD 2	32	-6	478	-7.17	60.85	1.21
278	SLD 3	28	-20	360	-5.39	45.79	2.99
278	SLD 4	35	-24	355	-5.33	45.28	3.54
278	SLD 5	-2	22	606	-9.08	77.13	-2.78
278	SLD 6	2	19	603	-9.04	76.8	-2.43
278	SLD 7	9	-38	198	-2.97	25.21	5
278	SLD 8	13	-41	195	-2.93	24.87	5.36
278	SLD 9	-23	25	590	-8.85	75.14	-3.48
278	SLD 10	-18	22	587	-8.81	74.8	-3.12
278	SLD 11	-12	-35	182	-2.73	23.21	4.31
278	SLD 12	-8	-38	180	-2.69	22.88	4.66
278	SLD 13	-44	8	430	-6.45	54.73	-1.66
278	SLD 14	-38	4	426	-6.39	54.22	-1.11
278	SLD 15	-41	-10	307	-4.61	39.16	0.67
278	SLD 16	-35	-14	303	-4.55	38.64	1.22
278	SLV 1	42	2	541	-8.11	68.88	0.32
278	SLV 2	52	-3	534	-8.02	68.07	1.19
278	SLV 3	47	-28	332	-4.98	42.3	4.31
278	SLV 4	57	-34	326	-4.89	41.49	5.18
278	SLV 5	-1	43	755	-11.32	96.13	-5.45
278	SLV 6	6	39	750	-11.26	95.58	-4.86
278	SLV 7	17	-60	59	-0.89	7.54	7.83
278	SLV 8	24	-63	55	-0.82	6.99	8.41
278	SLV 9	-33	47	730	-10.95	93.02	-6.53
278	SLV 10	-27	44	726	-10.89	92.47	-5.95
278	SLV 11	-16	-55	35	-0.52	4.43	6.74
278	SLV 12	-9	-59	30	-0.46	3.88	7.33
278	SLV 13	-67	18	459	-6.89	58.52	-3.3
278	SLV 14	-57	12	453	-6.8	57.71	-2.43
278	SLV 15	-62	-13	251	-3.76	31.94	0.68
278	SLV 16	-52	-18	244	-3.67	31.13	1.55
278	SLV FO 1	47	3	556	-8.33	70.77	0.26
278	SLV FO 2	58	-3	549	-8.23	69.87	1.22
278	SLV FO 3	52	-30	326	-4.89	41.53	4.64
278	SLV FO 4	63	-37	319	-4.79	40.64	5.6
278	SLV FO 5	0	48	791	-11.86	100.74	-6.09
278	SLV FO 6	7	44	786	-11.79	100.14	-5.44
278	SLV FO 7	19	-65	26	-0.39	3.29	8.52
278	SLV FO 8	26	-69	21	-0.32	2.69	9.16
278	SLV FO 9	-36	53	764	-11.46	97.32	-7.28
278	SLV FO 10	-29	49	759	-11.39	96.72	-6.64
278	SLV FO 11	-17	-59	-1	0.02	-0.13	7.32
278	SLV FO 12	-9	-64	-6	0.09	-0.73	7.97
278	SLV FO 13	-73	21	466	-6.99	59.37	-3.72
278	SLV FO 14	-62	14	459	-6.89	58.48	-2.77
278	SLV FO 15	-67	-13	237	-3.55	30.14	0.66
278	SLV FO 16	-56	-19	230	-3.44	29.24	1.62
278	CRTFP Ux+	0	0	0	0	0	0
278	CRTFP Ux-	0	0	0	0	0	0
278	CRTFP Uy+	0	0	0	0	0	0
278	CRTFP Uy-	0	0	0	0	0	0
279	SLU 1	-5	1	538	0	0	0
279	SLU 2	-6	3	549	0	0	0
279	SLU 3	-5	1	547	0	0	0
279	SLU 4	-6	2	553	0	0	0
279	SLU 5	-6	3	555	0	0	0
279	SLU 6	-5	1	552	0	0	0
279	SLU 7	-6	2	559	0	0	0
279	SLU 8	-5	1	549	0	0	0
279	SLU 9	-6	2	556	0	0	0
279	SLU 10	-6	3	624	0	0	0
279	SLU 11	-6	1	622	0	0	0
279	SLU 12	-6	2	629	0	0	0
279	SLU 13	-6	3	630	0	0	0
279	SLU 14	-6	1	627	0	0	0
279	SLU 15	-6	2	634	0	0	0
279	SLU 16	-6	1	624	0	0	0
279	SLU 17	-6	2	631	0	0	0
279	SLU 18	-6	1	645	0	0	0
279	SLU 19	-6	2	652	0	0	0
279	SLU 20	-6	1	650	0	0	0
279	SLU 21	-6	2	657	0	0	0
279	SLU 22	-6	1	612	0	0	0
279	SLU 23	-6	4	623	0	0	0
279	SLU 24	-6	1	621	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLU 25	-6	3	628	0	0	0
279	SLU 26	-7	4	629	0	0	0
279	SLU 27	-6	1	626	0	0	0
279	SLU 28	-7	3	633	0	0	0
279	SLU 29	-6	1	623	0	0	0
279	SLU 30	-6	3	630	0	0	0
279	SLU 31	-7	4	698	0	0	0
279	SLU 32	-6	1	696	0	0	0
279	SLU 33	-7	3	703	0	0	0
279	SLU 34	-7	4	704	0	0	0
279	SLU 35	-7	1	701	0	0	0
279	SLU 36	-7	3	708	0	0	0
279	SLU 37	-6	1	698	0	0	0
279	SLU 38	-7	3	705	0	0	0
279	SLU 39	-6	1	719	0	0	0
279	SLU 40	-7	3	726	0	0	0
279	SLU 41	-6	1	725	0	0	0
279	SLU 42	-7	3	731	0	0	0
279	SLU 43	-6	1	673	0	0	0
279	SLU 44	-7	3	685	0	0	0
279	SLU 45	-7	1	682	0	0	0
279	SLU 46	-7	2	689	0	0	0
279	SLU 47	-7	3	690	0	0	0
279	SLU 48	-7	1	688	0	0	0
279	SLU 49	-7	2	695	0	0	0
279	SLU 50	-7	1	685	0	0	0
279	SLU 51	-7	2	691	0	0	0
279	SLU 52	-7	3	760	0	0	0
279	SLU 53	-7	1	758	0	0	0
279	SLU 54	-7	2	764	0	0	0
279	SLU 55	-7	3	765	0	0	0
279	SLU 56	-7	1	763	0	0	0
279	SLU 57	-7	2	770	0	0	0
279	SLU 58	-7	1	760	0	0	0
279	SLU 59	-7	2	766	0	0	0
279	SLU 60	-7	1	781	0	0	0
279	SLU 61	-7	2	788	0	0	0
279	SLU 62	-7	1	786	0	0	0
279	SLU 63	-7	2	793	0	0	0
279	SLU 64	-7	1	748	0	0	0
279	SLU 65	-8	4	759	0	0	0
279	SLU 66	-7	1	757	0	0	0
279	SLU 67	-8	3	764	0	0	0
279	SLU 68	-8	4	765	0	0	0
279	SLU 69	-8	1	762	0	0	0
279	SLU 70	-8	3	769	0	0	0
279	SLU 71	-8	1	759	0	0	0
279	SLU 72	-8	3	766	0	0	0
279	SLU 73	-8	4	834	0	0	0
279	SLU 74	-8	1	832	0	0	0
279	SLU 75	-8	3	839	0	0	0
279	SLU 76	-8	4	840	0	0	0
279	SLU 77	-8	1	837	0	0	0
279	SLU 78	-8	3	844	0	0	0
279	SLU 79	-8	1	834	0	0	0
279	SLU 80	-8	3	841	0	0	0
279	SLU 81	-8	1	855	0	0	0
279	SLU 82	-8	3	862	0	0	0
279	SLU 83	-8	1	860	0	0	0
279	SLU 84	-8	3	867	0	0	0
279	SLE RA 1	-5	1	559	0	0	0
279	SLE RA 2	-6	2	566	0	0	0
279	SLE RA 3	-6	1	565	0	0	0
279	SLE RA 4	-6	2	569	0	0	0
279	SLE RA 5	-6	2	570	0	0	0
279	SLE RA 6	-6	1	569	0	0	0
279	SLE RA 7	-6	2	573	0	0	0
279	SLE RA 8	-6	1	566	0	0	0
279	SLE RA 9	-6	2	571	0	0	0
279	SLE RA 10	-6	3	616	0	0	0
279	SLE RA 11	-6	1	615	0	0	0
279	SLE RA 12	-6	2	619	0	0	0
279	SLE RA 13	-6	2	620	0	0	0
279	SLE RA 14	-6	1	619	0	0	0
279	SLE RA 15	-6	2	623	0	0	0
279	SLE RA 16	-6	1	616	0	0	0
279	SLE RA 17	-6	2	621	0	0	0
279	SLE RA 18	-6	1	630	0	0	0
279	SLE RA 19	-6	2	635	0	0	0
279	SLE RA 20	-6	1	634	0	0	0
279	SLE RA 21	-6	2	639	0	0	0
279	SLE FR 1	-5	1	559	0	0	0
279	SLE FR 2	-5	1	560	0	0	0
279	SLE FR 3	-5	1	560	0	0	0
279	SLE FR 4	-6	1	582	0	0	0
279	SLE FR 5	-6	1	582	0	0	0
279	SLE FR 6	-6	1	595	0	0	0
279	SLE QP 1	-5	1	559	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLE QP 2	-6	1	580	0	0	0
279	SLD 1	37	18	664	0	0	0
279	SLD 2	46	17	662	0	0	0
279	SLD 3	41	-13	489	0	0	0
279	SLD 4	50	-14	487	0	0	0
279	SLD 5	0	54	872	0	0	0
279	SLD 6	6	53	871	0	0	0
279	SLD 7	13	-51	287	0	0	0
279	SLD 8	18	-52	286	0	0	0
279	SLD 9	-30	53	875	0	0	0
279	SLD 10	-24	53	874	0	0	0
279	SLD 11	-17	-52	290	0	0	0
279	SLD 12	-11	-52	288	0	0	0
279	SLD 13	-61	16	674	0	0	0
279	SLD 14	-52	15	672	0	0	0
279	SLD 15	-57	-15	498	0	0	0
279	SLD 16	-48	-16	496	0	0	0
279	SLV 1	61	30	724	0	0	0
279	SLV 2	76	28	721	0	0	0
279	SLV 3	68	-24	425	0	0	0
279	SLV 4	82	-25	421	0	0	0
279	SLV 5	2	91	1079	0	0	0
279	SLV 6	12	90	1076	0	0	0
279	SLV 7	24	-88	80	0	0	0
279	SLV 8	33	-89	78	0	0	0
279	SLV 9	-44	90	1083	0	0	0
279	SLV 10	-35	89	1081	0	0	0
279	SLV 11	-23	-89	84	0	0	0
279	SLV 12	-13	-90	82	0	0	0
279	SLV 13	-93	27	739	0	0	0
279	SLV 14	-79	25	736	0	0	0
279	SLV 15	-87	-27	440	0	0	0
279	SLV 16	-72	-29	436	0	0	0
279	SLV FO 1	68	33	739	0	0	0
279	SLV FO 2	84	31	735	0	0	0
279	SLV FO 3	75	-26	409	0	0	0
279	SLV FO 4	91	-28	405	0	0	0
279	SLV FO 5	3	100	1128	0	0	0
279	SLV FO 6	13	99	1126	0	0	0
279	SLV FO 7	27	-96	30	0	0	0
279	SLV FO 8	37	-98	27	0	0	0
279	SLV FO 9	-48	99	1133	0	0	0
279	SLV FO 10	-38	98	1131	0	0	0
279	SLV FO 11	-24	-98	35	0	0	0
279	SLV FO 12	-14	-99	32	0	0	0
279	SLV FO 13	-102	29	755	0	0	0
279	SLV FO 14	-86	28	751	0	0	0
279	SLV FO 15	-95	-30	426	0	0	0
279	SLV FO 16	-79	-31	422	0	0	0
279	CRTFP Uy+	0	0	0	0	0	0
279	CRTFP Uy-	0	0	0	0	0	0
280	SLU 1	-121	35	5311	1211.36	-893.19	35.8
280	SLU 2	-127	61	5442	1238.42	-915.64	41.95
280	SLU 3	-125	36	5408	1234.08	-909.27	36.71
280	SLU 4	-128	51	5487	1250.31	-922.74	40.4
280	SLU 5	-129	62	5502	1252.54	-925.56	42.56
280	SLU 6	-127	36	5468	1248.19	-919.18	37.32
280	SLU 7	-130	52	5547	1264.43	-932.66	41.01
280	SLU 8	-126	36	5431	1239.6	-913.02	37.02
280	SLU 9	-129	52	5510	1255.83	-926.49	40.71
280	SLU 10	-137	67	6111	1390.09	-1027.72	45.33
280	SLU 11	-134	41	6077	1385.74	-1021.35	40.08
280	SLU 12	-138	57	6156	1401.98	-1034.82	43.77
280	SLU 13	-139	68	6171	1404.21	-1037.64	45.94
280	SLU 14	-137	42	6137	1399.86	-1031.26	40.69
280	SLU 15	-140	58	6216	1416.1	-1044.74	44.38
280	SLU 16	-135	42	6100	1391.26	-1025.1	40.39
280	SLU 17	-139	58	6179	1407.5	-1038.57	44.08
280	SLU 18	-135	43	6267	1428.03	-1053.3	40.62
280	SLU 19	-139	59	6345	1444.26	-1066.77	44.31
280	SLU 20	-137	44	6327	1442.15	-1063.22	41.23
280	SLU 21	-141	60	6405	1458.38	-1076.69	44.92
280	SLU 22	-139	38	6071	1385.35	-1020.06	40.65
280	SLU 23	-145	64	6202	1412.41	-1042.52	46.8
280	SLU 24	-143	38	6169	1408.06	-1036.14	41.56
280	SLU 25	-146	54	6247	1424.3	-1049.62	45.25
280	SLU 26	-147	65	6262	1426.52	-1052.43	47.41
280	SLU 27	-145	39	6229	1422.18	-1046.06	42.16
280	SLU 28	-148	54	6307	1438.41	-1059.53	45.85
280	SLU 29	-144	39	6192	1413.58	-1039.89	41.87
280	SLU 30	-147	55	6270	1429.82	-1053.37	45.56
280	SLU 31	-155	70	6871	1564.07	-1154.6	50.17
280	SLU 32	-153	44	6838	1559.73	-1148.22	44.93
280	SLU 33	-156	60	6916	1575.96	-1161.7	48.62
280	SLU 34	-157	70	6932	1578.19	-1164.51	50.78
280	SLU 35	-155	44	6898	1573.84	-1158.14	45.54
280	SLU 36	-158	60	6977	1590.08	-1171.61	49.23
280	SLU 37	-153	45	6861	1565.25	-1151.97	45.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLU 38	-157	60	6939	1581.48	-1165.44	48.93
280	SLU 39	-153	46	7027	1602.01	-1180.17	45.47
280	SLU 40	-157	62	7106	1618.25	-1193.65	49.16
280	SLU 41	-155	46	7088	1616.13	-1190.09	46.08
280	SLU 42	-159	62	7166	1632.36	-1203.56	49.77
280	SLU 43	-152	45	6643	1515.12	-1117.64	44.88
280	SLU 44	-157	71	6774	1542.18	-1140.1	51.03
280	SLU 45	-155	45	6741	1537.84	-1133.72	45.79
280	SLU 46	-158	61	6819	1554.07	-1147.2	49.48
280	SLU 47	-159	72	6834	1556.3	-1150.01	51.64
280	SLU 48	-157	46	6801	1551.95	-1143.64	46.4
280	SLU 49	-161	62	6879	1568.19	-1157.11	50.09
280	SLU 50	-156	46	6764	1543.36	-1137.47	46.1
280	SLU 51	-159	62	6842	1559.59	-1150.95	49.79
280	SLU 52	-167	77	7443	1693.85	-1252.18	54.41
280	SLU 53	-165	51	7410	1689.5	-1245.8	49.16
280	SLU 54	-168	67	7488	1705.74	-1259.28	52.85
280	SLU 55	-169	77	7504	1707.96	-1262.09	55.02
280	SLU 56	-167	52	7470	1703.62	-1255.72	49.77
280	SLU 57	-170	67	7548	1719.85	-1269.19	53.46
280	SLU 58	-166	52	7433	1695.02	-1249.55	49.47
280	SLU 59	-169	67	7511	1711.26	-1263.03	53.16
280	SLU 60	-165	53	7599	1731.79	-1277.76	49.7
280	SLU 61	-169	69	7678	1748.02	-1291.23	53.39
280	SLU 62	-168	54	7659	1745.9	-1287.67	50.31
280	SLU 63	-171	69	7738	1762.14	-1301.15	54
280	SLU 64	-170	47	7404	1689.1	-1244.52	49.73
280	SLU 65	-175	74	7535	1716.16	-1266.97	55.88
280	SLU 66	-173	48	7501	1711.82	-1260.6	50.63
280	SLU 67	-176	64	7580	1728.05	-1274.07	54.33
280	SLU 68	-177	74	7595	1730.28	-1276.89	56.49
280	SLU 69	-175	48	7561	1725.94	-1270.51	51.24
280	SLU 70	-179	64	7640	1742.17	-1283.99	54.93
280	SLU 71	-174	49	7524	1717.34	-1264.35	50.95
280	SLU 72	-177	64	7603	1733.58	-1277.82	54.64
280	SLU 73	-185	79	8204	1867.83	-1379.05	59.25
280	SLU 74	-183	54	8170	1863.48	-1372.68	54.01
280	SLU 75	-186	69	8249	1879.72	-1386.15	57.7
280	SLU 76	-187	80	8264	1881.95	-1388.97	59.86
280	SLU 77	-185	54	8231	1877.6	-1382.59	54.62
280	SLU 78	-188	70	8309	1893.84	-1396.07	58.31
280	SLU 79	-184	54	8193	1869	-1376.43	54.32
280	SLU 80	-187	70	8272	1885.24	-1389.9	58.01
280	SLU 81	-184	56	8360	1905.77	-1404.63	54.55
280	SLU 82	-187	71	8438	1922.01	-1418.1	58.24
280	SLU 83	-186	56	8420	1919.89	-1414.55	55.16
280	SLU 84	-189	72	8499	1936.12	-1428.02	58.85
280	SLE RA 1	-127	36	5528	1261.07	-929.44	37.19
280	SLE RA 2	-130	53	5615	1279.11	-944.41	41.29
280	SLE RA 3	-129	36	5593	1276.22	-940.16	37.79
280	SLE RA 4	-131	47	5645	1287.04	-949.14	40.25
280	SLE RA 5	-132	54	5655	1288.52	-951.02	41.69
280	SLE RA 6	-130	37	5633	1285.63	-946.77	38.2
280	SLE RA 7	-133	47	5685	1296.45	-955.75	40.66
280	SLE RA 8	-129	37	5608	1279.9	-942.66	38
280	SLE RA 9	-132	47	5661	1290.72	-951.64	40.46
280	SLE RA 10	-137	57	6062	1380.22	-1019.13	43.54
280	SLE RA 11	-135	40	6039	1377.33	-1014.88	40.04
280	SLE RA 12	-138	51	6092	1388.15	-1023.86	42.5
280	SLE RA 13	-138	58	6102	1389.63	-1025.74	43.94
280	SLE RA 14	-137	40	6079	1386.74	-1021.49	40.45
280	SLE RA 15	-139	51	6132	1397.56	-1030.47	42.91
280	SLE RA 16	-136	40	6054	1381.01	-1017.38	40.25
280	SLE RA 17	-138	51	6107	1391.83	-1026.36	42.71
280	SLE RA 18	-136	41	6165	1405.52	-1036.18	40.4
280	SLE RA 19	-138	52	6218	1416.34	-1045.16	42.86
280	SLE RA 20	-137	42	6206	1414.93	-1042.79	40.81
280	SLE RA 21	-139	52	6258	1425.75	-1051.77	43.27
280	SLE FR 1	-127	36	5528	1261.07	-929.44	37.19
280	SLE FR 2	-127	39	5546	1264.68	-932.43	38.01
280	SLE FR 3	-127	36	5544	1264.84	-932.08	37.35
280	SLE FR 4	-130	41	5737	1308.01	-964.45	38.97
280	SLE FR 5	-130	38	5735	1308.17	-964.1	38.31
280	SLE FR 6	-131	39	5847	1333.29	-982.81	38.79
280	SLE QP 1	-127	36	5528	1261.07	-929.44	37.19
280	SLE QP 2	-129	38	5719	1304.41	-961.46	38.15
280	SLD 1	239	332	8336	1883.75	-1395.88	-14.06
280	SLD 2	323	189	8182	1851.65	-1369.87	-60.36
280	SLD 3	318	-7	6494	1498.78	-1083.12	-94.29
280	SLD 4	403	-150	6339	1466.68	-1057.12	-140.59
280	SLD 5	-154	664	9325	2067.59	-1570.6	152.13
280	SLD 6	-100	572	9226	2046.92	-1553.86	122.32
280	SLD 7	111	-464	3184	784.38	-528.09	-115.3
280	SLD 8	166	-556	3084	763.71	-511.34	-145.11
280	SLD 9	-424	632	8354	1845.1	-1411.58	221.41
280	SLD 10	-370	540	8255	1824.43	-1394.83	191.6
280	SLD 11	-159	-496	2213	561.89	-369.06	-46.01
280	SLD 12	-104	-588	2113	541.22	-352.32	-75.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLD 13	-661	225	5099	1142.13	-865.8	216.89
280	SLD 14	-577	82	4945	1110.03	-839.79	170.59
280	SLD 15	-582	-114	3257	757.17	-553.04	136.66
280	SLD 16	-497	-257	3102	725.07	-527.04	90.37
280	SLV 1	441	522	9938	2236.71	-1662.32	-37.63
280	SLV 2	574	297	9694	2186.12	-1621.33	-110.61
280	SLV 3	576	-55	6795	1579.91	-1128.74	-174.43
280	SLV 4	709	-280	6551	1529.31	-1087.75	-247.4
280	SLV 5	-189	1100	11798	2589.69	-1988.63	236.5
280	SLV 6	-100	949	11634	2555.63	-1961.04	187.38
280	SLV 7	264	-823	1320	400.34	-210.02	-219.48
280	SLV 8	353	-975	1156	366.28	-182.43	-268.6
280	SLV 9	-612	1050	10283	2242.53	-1740.49	344.9
280	SLV 10	-522	899	10119	2208.47	-1712.89	295.78
280	SLV 11	-159	-874	-195	53.18	38.12	-111.07
280	SLV 12	-69	-1025	-359	19.12	65.71	-160.2
280	SLV 13	-968	355	4888	1079.5	-835.17	323.71
280	SLV 14	-835	130	4644	1028.9	-794.18	250.73
280	SLV 15	-832	-222	1744	422.7	-301.59	186.91
280	SLV 16	-699	-447	1500	372.1	-260.6	113.94
280	SLV FO 1	498	571	10360	2329.95	-1732.41	-45.21
280	SLV FO 2	644	323	10092	2274.29	-1687.32	-125.49
280	SLV FO 3	647	-64	6902	1607.46	-1145.47	-195.68
280	SLV FO 4	793	-312	6634	1551.8	-1100.38	-275.96
280	SLV FO 5	-195	1207	12406	2718.22	-2091.35	256.34
280	SLV FO 6	-97	1040	12225	2680.76	-2061	202.3
280	SLV FO 7	303	-910	880	309.94	-134.88	-245.24
280	SLV FO 8	401	-1076	700	272.47	-104.53	-299.28
280	SLV FO 9	-660	1152	10739	2336.34	-1818.39	375.58
280	SLV FO 10	-562	985	10559	2298.88	-1788.04	321.54
280	SLV FO 11	-162	-965	-787	-71.94	138.08	-126
280	SLV FO 12	-63	-1132	-967	-109.41	168.43	-180.03
280	SLV FO 13	-1052	387	4804	1057.01	-822.54	352.26
280	SLV FO 14	-906	139	4536	1001.35	-777.45	271.99
280	SLV FO 15	-902	-248	1347	334.53	-235.6	201.79
280	SLV FO 16	-756	-496	1078	278.87	-190.51	121.51
280	CRTFP Ux+	0	0	0	0	0	0
280	CRTFP Ux-	0	0	0	0	0	0
280	CRTFP Uy+	0	0	0	0	0	0
280	CRTFP Uy-	0	0	0	0	0	0
282	SLU 1	-84	21	3459	954.23	-88.88	29.77
282	SLU 2	-88	39	3543	974.41	-91.03	31.6
282	SLU 3	-86	21	3522	971.95	-90.48	30.59
282	SLU 4	-88	32	3572	984.06	-91.77	31.69
282	SLU 5	-89	40	3582	985.45	-92.02	32.11
282	SLU 6	-88	22	3561	982.99	-91.46	31.1
282	SLU 7	-90	33	3612	995.1	-92.76	32.2
282	SLU 8	-87	22	3537	976.31	-90.85	30.8
282	SLU 9	-89	33	3587	988.42	-92.15	31.9
282	SLU 10	-94	43	3977	1091.22	-102.13	34.01
282	SLU 11	-93	25	3956	1088.75	-101.58	33
282	SLU 12	-95	36	4006	1100.86	-102.87	34.1
282	SLU 13	-96	43	4016	1102.26	-103.12	34.53
282	SLU 14	-94	25	3995	1099.8	-102.56	33.51
282	SLU 15	-96	36	4045	1111.91	-103.86	34.61
282	SLU 16	-93	25	3971	1093.12	-101.95	33.21
282	SLU 17	-96	36	4021	1105.23	-103.25	34.31
282	SLU 18	-93	26	4079	1121.09	-104.73	33.21
282	SLU 19	-96	37	4129	1133.21	-106.03	34.31
282	SLU 20	-95	27	4118	1132.14	-105.72	33.73
282	SLU 21	-97	38	4168	1144.25	-107.01	34.83
282	SLU 22	-96	23	3953	1088.81	-101.46	34.17
282	SLU 23	-100	41	4036	1109	-103.62	36
282	SLU 24	-99	23	4016	1106.53	-103.06	34.99
282	SLU 25	-101	34	4066	1118.64	-104.35	36.09
282	SLU 26	-102	41	4075	1120.04	-104.6	36.51
282	SLU 27	-100	23	4055	1117.58	-104.05	35.5
282	SLU 28	-102	34	4105	1129.69	-105.34	36.6
282	SLU 29	-99	23	4031	1110.9	-103.44	35.2
282	SLU 30	-101	34	4081	1123.01	-104.73	36.3
282	SLU 31	-107	44	4470	1225.8	-114.71	38.41
282	SLU 32	-105	26	4450	1223.34	-114.16	37.4
282	SLU 33	-108	37	4500	1235.45	-115.45	38.5
282	SLU 34	-108	45	4509	1236.85	-115.7	38.93
282	SLU 35	-107	27	4489	1234.38	-115.15	37.91
282	SLU 36	-109	38	4539	1246.49	-116.44	39.01
282	SLU 37	-106	27	4465	1227.71	-114.53	37.61
282	SLU 38	-108	38	4515	1239.82	-115.83	38.71
282	SLU 39	-106	28	4573	1255.68	-117.32	37.61
282	SLU 40	-108	39	4623	1267.79	-118.61	38.71
282	SLU 41	-107	28	4612	1266.72	-118.3	38.13
282	SLU 42	-109	39	4662	1278.83	-119.6	39.23
282	SLU 43	-105	27	4328	1194.35	-111.23	37.19
282	SLU 44	-108	45	4411	1214.53	-113.38	39.02
282	SLU 45	-107	27	4391	1212.07	-112.83	38.01
282	SLU 46	-109	38	4441	1224.18	-114.12	39.11
282	SLU 47	-110	45	4450	1225.58	-114.37	39.53
282	SLU 48	-108	28	4430	1223.11	-113.81	38.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
282	SLU 49	-111	38	4480	1235.22	-115.11	39.62
282	SLU 50	-107	28	4406	1216.44	-113.2	38.22
282	SLU 51	-110	39	4456	1228.55	-114.5	39.32
282	SLU 52	-115	49	4845	1331.34	-124.48	41.43
282	SLU 53	-114	31	4825	1328.88	-123.93	40.42
282	SLU 54	-116	42	4875	1340.99	-125.22	41.52
282	SLU 55	-116	49	4884	1342.39	-125.47	41.95
282	SLU 56	-115	31	4864	1339.92	-124.91	40.93
282	SLU 57	-117	42	4914	1352.03	-126.21	42.03
282	SLU 58	-114	31	4840	1333.25	-124.3	40.63
282	SLU 59	-116	42	4890	1345.36	-125.6	41.73
282	SLU 60	-114	32	4948	1361.22	-127.08	40.63
282	SLU 61	-116	43	4998	1373.33	-128.38	41.73
282	SLU 62	-115	33	4987	1372.26	-128.07	41.15
282	SLU 63	-118	43	5037	1384.37	-129.36	42.25
282	SLU 64	-117	29	4821	1328.93	-123.81	41.59
282	SLU 65	-121	47	4905	1349.12	-125.97	43.42
282	SLU 66	-119	29	4884	1346.66	-125.41	42.41
282	SLU 67	-122	40	4934	1358.77	-126.7	43.51
282	SLU 68	-122	47	4944	1360.16	-126.95	43.94
282	SLU 69	-121	29	4924	1357.7	-126.4	42.92
282	SLU 70	-123	40	4974	1369.81	-127.69	44.02
282	SLU 71	-120	29	4899	1351.02	-125.79	42.62
282	SLU 72	-122	40	4949	1363.13	-127.08	43.72
282	SLU 73	-128	50	5339	1465.93	-137.06	45.83
282	SLU 74	-126	32	5318	1463.46	-136.51	44.82
282	SLU 75	-128	43	5368	1475.57	-137.8	45.92
282	SLU 76	-129	50	5378	1476.97	-138.05	46.35
282	SLU 77	-128	33	5357	1474.51	-137.5	45.33
282	SLU 78	-130	43	5407	1486.62	-138.79	46.43
282	SLU 79	-127	33	5333	1467.83	-136.88	45.03
282	SLU 80	-129	44	5383	1479.94	-138.18	46.13
282	SLU 81	-127	34	5441	1495.8	-139.67	45.03
282	SLU 82	-129	45	5491	1507.91	-140.96	46.13
282	SLU 83	-128	34	5480	1506.85	-140.65	45.55
282	SLU 84	-130	45	5530	1518.96	-141.95	46.65
282	SLE RA 1	-87	22	3600	992.68	-92.47	31.02
282	SLE RA 2	-90	34	3656	1006.13	-93.91	32.25
282	SLE RA 3	-89	22	3642	1004.49	-93.54	31.57
282	SLE RA 4	-90	29	3676	1012.57	-94.4	32.3
282	SLE RA 5	-91	34	3682	1013.5	-94.57	32.59
282	SLE RA 6	-90	22	3668	1011.85	-94.2	31.91
282	SLE RA 7	-91	29	3702	1019.93	-95.06	32.65
282	SLE RA 8	-89	22	3652	1007.4	-93.79	31.71
282	SLE RA 9	-91	29	3686	1015.48	-94.65	32.44
282	SLE RA 10	-94	36	3945	1084.01	-101.31	33.85
282	SLE RA 11	-93	24	3932	1082.36	-100.94	33.18
282	SLE RA 12	-95	31	3965	1090.44	-101.8	33.91
282	SLE RA 13	-95	36	3971	1091.37	-101.97	34.2
282	SLE RA 14	-94	24	3958	1089.73	-101.6	33.52
282	SLE RA 15	-96	32	3991	1097.8	-102.46	34.25
282	SLE RA 16	-94	24	3942	1085.28	-101.19	33.32
282	SLE RA 17	-95	32	3975	1093.35	-102.05	34.05
282	SLE RA 18	-94	25	4013	1103.92	-103.04	33.32
282	SLE RA 19	-95	32	4047	1112	-103.91	34.05
282	SLE RA 20	-95	25	4040	1111.29	-103.7	33.66
282	SLE RA 21	-96	32	4073	1119.36	-104.56	34.4
282	SLE FR 1	-87	22	3600	992.68	-92.47	31.02
282	SLE FR 2	-88	24	3611	995.37	-92.76	31.27
282	SLE FR 3	-88	22	3611	995.62	-92.74	31.16
282	SLE FR 4	-90	25	3735	1028.74	-95.93	31.96
282	SLE FR 5	-90	23	3735	1029	-95.91	31.85
282	SLE FR 6	-90	23	3807	1048.3	-97.76	32.17
282	SLE QP 1	-87	22	3600	992.68	-92.47	31.02
282	SLE QP 2	-89	23	3724	1026.05	-95.64	31.71
282	SLD 1	172	221	5390	1471.15	-137.48	-55.94
282	SLD 2	230	125	5293	1447.18	-135.04	-78.46
282	SLD 3	225	-9	4222	1184.27	-107.62	-80.23
282	SLD 4	282	-105	4125	1160.3	-105.19	-102.75
282	SLD 5	-100	447	6013	1598.81	-153.9	46.14
282	SLD 6	-63	385	5950	1583.37	-152.33	31.64
282	SLD 7	74	-318	2118	642.54	-54.37	-34.85
282	SLD 8	111	-380	2056	627.11	-52.8	-49.35
282	SLD 9	-290	425	5393	1425	-138.49	112.77
282	SLD 10	-253	364	5330	1409.56	-136.92	98.27
282	SLD 11	-115	-340	1498	468.73	-38.96	31.79
282	SLD 12	-79	-401	1436	453.3	-37.39	17.29
282	SLD 13	-460	150	3324	891.8	-86.1	166.18
282	SLD 14	-403	54	3227	867.83	-83.66	143.66
282	SLD 15	-408	-80	2155	604.92	-56.24	141.88
282	SLD 16	-351	-175	2058	580.95	-53.81	119.36
282	SLV 1	316	349	6409	1741.68	-163.12	-103.66
282	SLV 2	406	198	6257	1703.9	-159.28	-139.16
282	SLV 3	405	-42	4416	1252.22	-112.18	-145.06
282	SLV 4	495	-193	4263	1214.44	-108.34	-180.56
282	SLV 5	-119	743	7582	1990.14	-193.86	60.51
282	SLV 6	-59	641	7479	1964.71	-191.28	36.61
282	SLV 7	177	-562	937	358.6	-24.06	-77.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
282	SLV 8	238	-664	834	333.17	-21.48	-101.38
282	SLV 9	-416	709	6614	1718.94	-169.81	164.81
282	SLV 10	-356	608	6511	1693.5	-167.22	140.91
282	SLV 11	-120	-596	-30	87.4	-0.01	26.81
282	SLV 12	-59	-697	-133	61.96	2.57	2.91
282	SLV 13	-674	238	3185	837.67	-82.95	243.99
282	SLV 14	-584	87	3032	799.89	-79.11	208.49
282	SLV 15	-585	-153	1192	348.21	-32.01	202.59
282	SLV 16	-495	-304	1039	310.42	-28.17	167.09
282	SLV FO 1	357	382	6678	1813.24	-169.87	-117.2
282	SLV FO 2	456	216	6510	1771.68	-165.64	-156.25
282	SLV FO 3	455	-49	4485	1274.84	-113.84	-162.74
282	SLV FO 4	554	-215	4317	1233.27	-109.61	-201.79
282	SLV FO 5	-122	815	7967	2086.55	-203.68	63.39
282	SLV FO 6	-56	703	7854	2058.57	-200.84	37.1
282	SLV FO 7	204	-621	658	291.85	-16.91	-88.41
282	SLV FO 8	271	-733	545	263.88	-14.06	-114.69
282	SLV FO 9	-449	778	6903	1788.23	-177.23	178.12
282	SLV FO 10	-382	666	6790	1760.25	-174.38	151.83
282	SLV FO 11	-123	-657	-406	-6.47	9.55	26.32
282	SLV FO 12	-56	-769	-519	-34.45	12.4	0.03
282	SLV FO 13	-732	260	3131	818.83	-81.68	265.21
282	SLV FO 14	-633	94	2963	777.27	-77.45	226.17
282	SLV FO 15	-634	-171	939	280.42	-25.64	219.68
282	SLV FO 16	-535	-337	771	238.86	-21.42	180.63
282	CRTFP Ux+	0	0	0	0	0	0
282	CRTFP Ux-	0	0	0	0	0	0
282	CRTFP Uy+	0	0	0	0	0	0
282	CRTFP Uy-	0	0	0	0	0	0
283	SLU 1	-98	19	3708	872.78	10.87	34.19
283	SLU 2	-103	40	3798	890.99	11.11	35.75
283	SLU 3	-101	19	3774	888.48	11.1	35.14
283	SLU 4	-104	32	3828	899.41	11.25	36.08
283	SLU 5	-104	40	3839	900.78	11.26	36.34
283	SLU 6	-103	20	3816	898.27	11.25	35.74
283	SLU 7	-105	32	3870	909.2	11.39	36.67
283	SLU 8	-102	20	3790	892.36	11.16	35.38
283	SLU 9	-104	32	3844	903.28	11.3	36.31
283	SLU 10	-110	43	4261	994.7	12.54	38.46
283	SLU 11	-109	23	4237	992.19	12.53	37.86
283	SLU 12	-111	35	4291	1003.12	12.68	38.79
283	SLU 13	-112	44	4302	1004.49	12.69	39.05
283	SLU 14	-110	23	4279	1001.98	12.68	38.45
283	SLU 15	-113	35	4333	1012.91	12.82	39.38
283	SLU 16	-109	23	4253	996.07	12.59	38.09
283	SLU 17	-112	36	4307	1006.99	12.73	39.02
283	SLU 18	-109	25	4369	1020.94	12.91	38.06
283	SLU 19	-112	37	4423	1031.86	13.05	39
283	SLU 20	-111	25	4410	1030.73	13.05	38.66
283	SLU 21	-114	37	4464	1041.65	13.2	39.59
283	SLU 22	-113	20	4232	992.25	12.55	39.31
283	SLU 23	-117	41	4322	1010.46	12.79	40.87
283	SLU 24	-116	20	4299	1007.95	12.78	40.26
283	SLU 25	-118	33	4353	1018.87	12.93	41.2
283	SLU 26	-119	41	4364	1020.25	12.94	41.46
283	SLU 27	-117	21	4340	1017.74	12.93	40.86
283	SLU 28	-120	33	4394	1028.66	13.08	41.79
283	SLU 29	-116	21	4315	1011.82	12.84	40.5
283	SLU 30	-119	33	4369	1022.75	12.99	41.43
283	SLU 31	-125	44	4785	1114.17	14.22	43.58
283	SLU 32	-123	24	4762	1111.66	14.21	42.98
283	SLU 33	-126	36	4816	1122.58	14.36	43.91
283	SLU 34	-127	44	4827	1123.95	14.37	44.17
283	SLU 35	-125	24	4803	1121.45	14.36	43.57
283	SLU 36	-128	36	4857	1132.37	14.51	44.5
283	SLU 37	-124	24	4778	1115.53	14.27	43.21
283	SLU 38	-127	37	4832	1126.46	14.42	44.14
283	SLU 39	-124	25	4894	1140.4	14.59	43.18
283	SLU 40	-127	38	4948	1151.33	14.74	44.12
283	SLU 41	-126	26	4935	1150.19	14.74	43.78
283	SLU 42	-128	38	4989	1161.12	14.89	44.71
283	SLU 43	-123	25	4640	1093.66	13.55	42.69
283	SLU 44	-127	45	4730	1111.87	13.79	44.25
283	SLU 45	-125	25	4707	1109.36	13.78	43.65
283	SLU 46	-128	37	4761	1120.28	13.93	44.58
283	SLU 47	-129	45	4771	1121.65	13.94	44.84
283	SLU 48	-127	25	4748	1119.15	13.93	44.24
283	SLU 49	-130	37	4802	1130.07	14.07	45.17
283	SLU 50	-126	25	4723	1113.23	13.84	43.88
283	SLU 51	-129	37	4777	1124.16	13.99	44.81
283	SLU 52	-135	49	5193	1215.58	15.22	46.96
283	SLU 53	-133	28	5170	1213.07	15.21	46.36
283	SLU 54	-136	41	5224	1223.99	15.36	47.29
283	SLU 55	-137	49	5234	1225.36	15.37	47.55
283	SLU 56	-135	29	5211	1222.86	15.36	46.95
283	SLU 57	-138	41	5265	1233.78	15.5	47.88
283	SLU 58	-134	29	5186	1216.94	15.27	46.59
283	SLU 59	-137	41	5240	1227.87	15.42	47.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLU 60	-134	30	5302	1241.81	15.59	46.56
283	SLU 61	-136	42	5356	1252.74	15.74	47.5
283	SLU 62	-135	30	5343	1251.6	15.74	47.16
283	SLU 63	-138	42	5397	1262.53	15.88	48.09
283	SLU 64	-137	26	5165	1213.12	15.23	47.81
283	SLU 65	-142	46	5255	1231.33	15.48	49.37
283	SLU 66	-140	26	5232	1228.82	15.47	48.77
283	SLU 67	-143	38	5286	1239.75	15.61	49.7
283	SLU 68	-143	46	5296	1241.12	15.62	49.96
283	SLU 69	-142	26	5273	1238.61	15.61	49.36
283	SLU 70	-144	38	5327	1249.54	15.76	50.29
283	SLU 71	-141	26	5247	1232.7	15.53	49
283	SLU 72	-143	38	5301	1243.62	15.67	49.93
283	SLU 73	-150	50	5718	1335.04	16.91	52.08
283	SLU 74	-148	29	5695	1332.53	16.9	51.48
283	SLU 75	-151	42	5748	1343.46	17.04	52.41
283	SLU 76	-151	50	5759	1344.83	17.05	52.67
283	SLU 77	-150	30	5736	1342.32	17.04	52.07
283	SLU 78	-152	42	5790	1353.25	17.19	53
283	SLU 79	-148	30	5710	1336.41	16.95	51.71
283	SLU 80	-151	42	5764	1347.33	17.1	52.64
283	SLU 81	-148	31	5826	1361.28	17.27	51.68
283	SLU 82	-151	43	5880	1372.2	17.42	52.62
283	SLU 83	-150	31	5867	1371.07	17.42	52.28
283	SLU 84	-153	43	5921	1381.99	17.57	53.21
283	SLE RA 1	-102	20	3858	906.91	11.35	35.65
283	SLE RA 2	-105	33	3918	919.05	11.51	36.69
283	SLE RA 3	-104	20	3902	917.38	11.5	36.29
283	SLE RA 4	-106	28	3938	924.67	11.6	36.91
283	SLE RA 5	-107	33	3945	925.58	11.61	37.08
283	SLE RA 6	-105	20	3930	923.91	11.6	36.68
283	SLE RA 7	-107	28	3966	931.19	11.7	37.31
283	SLE RA 8	-105	20	3913	919.97	11.54	36.44
283	SLE RA 9	-106	28	3949	927.25	11.64	37.07
283	SLE RA 10	-111	36	4226	988.19	12.46	38.5
283	SLE RA 11	-109	22	4211	986.52	12.46	38.1
283	SLE RA 12	-111	30	4247	993.81	12.55	38.72
283	SLE RA 13	-112	36	4254	994.72	12.56	38.89
283	SLE RA 14	-111	22	4238	993.05	12.55	38.49
283	SLE RA 15	-112	30	4274	1000.33	12.65	39.11
283	SLE RA 16	-110	22	4221	989.1	12.5	38.25
283	SLE RA 17	-112	30	4257	996.39	12.59	38.87
283	SLE RA 18	-110	23	4299	1005.68	12.71	38.24
283	SLE RA 19	-112	31	4335	1012.97	12.81	38.86
283	SLE RA 20	-111	23	4326	1012.21	12.81	38.63
283	SLE RA 21	-113	31	4362	1019.49	12.9	39.25
283	SLE FR 1	-102	20	3858	906.91	11.35	35.65
283	SLE FR 2	-103	22	3870	909.34	11.38	35.86
283	SLE FR 3	-103	20	3869	909.52	11.39	35.81
283	SLE FR 4	-105	23	4002	938.97	11.79	36.64
283	SLE FR 5	-105	21	4001	939.16	11.79	36.59
283	SLE FR 6	-106	21	4078	956.3	12.03	36.94
283	SLE QP 1	-102	20	3858	906.91	11.35	35.65
283	SLE QP 2	-105	21	3990	936.54	11.76	36.43
283	SLD 1	202	237	5730	1334.34	18.5	-71.34
283	SLD 2	269	133	5629	1312.98	18.11	-94.52
283	SLD 3	263	-16	4486	1078.75	14.56	-92.18
283	SLD 4	330	-119	4384	1057.39	14.17	-115.36
283	SLD 5	-117	487	6417	1447.2	19.81	39.68
283	SLD 6	-73	420	6352	1433.44	19.57	24.76
283	SLD 7	87	-356	2269	595.24	6.69	-29.77
283	SLD 8	130	-423	2203	581.48	6.44	-44.69
283	SLD 9	-339	464	5777	1291.61	17.07	117.55
283	SLD 10	-296	397	5711	1277.85	16.82	102.63
283	SLD 11	-136	-379	1628	439.65	3.94	48.1
283	SLD 12	-93	-446	1563	425.89	3.7	33.17
283	SLD 13	-540	161	3596	815.7	9.34	188.21
283	SLD 14	-472	57	3494	794.34	8.95	165.03
283	SLD 15	-479	-92	2351	560.11	5.4	167.37
283	SLD 16	-411	-196	2250	538.75	5.01	144.2
283	SLV 1	371	378	6797	1576.04	22.57	-130.69
283	SLV 2	477	214	6637	1542.37	21.96	-167.23
283	SLV 3	475	-54	4674	1139.98	15.85	-166.19
283	SLV 4	581	-217	4514	1106.31	15.24	-202.72
283	SLV 5	-139	813	8082	1796.04	25.3	46.94
283	SLV 6	-68	703	7975	1773.37	24.89	22.35
283	SLV 7	207	-626	1005	342.49	2.91	-71.38
283	SLV 8	278	-735	897	319.83	2.5	-95.97
283	SLV 9	-488	777	7083	1553.26	21.01	168.83
283	SLV 10	-416	667	6975	1530.6	20.6	144.23
283	SLV 11	-141	-661	5	99.72	-1.38	50.5
283	SLV 12	-70	-771	-102	77.05	-1.79	25.91
283	SLV 13	-790	258	3466	766.78	8.27	275.58
283	SLV 14	-684	95	3306	733.11	7.66	239.04
283	SLV 15	-686	-173	1343	330.72	1.55	240.08
283	SLV 16	-580	-336	1183	297.05	0.94	203.55
283	SLV FO 1	419	413	7078	1639.99	23.65	-147.4
283	SLV FO 2	535	234	6902	1602.96	22.98	-187.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLV FO 3	533	-61	4742	1160.32	16.26	-186.45
283	SLV FO 4	649	-241	4566	1123.29	15.59	-226.64
283	SLV FO 5	-143	892	8491	1881.99	26.65	48
283	SLV FO 6	-64	771	8373	1857.06	26.2	20.94
283	SLV FO 7	238	-690	706	283.09	2.03	-82.16
283	SLV FO 8	317	-811	588	258.16	1.57	-109.21
283	SLV FO 9	-526	852	7392	1614.93	21.94	182.07
283	SLV FO 10	-448	731	7274	1590	21.48	155.01
283	SLV FO 11	-145	-730	-393	16.03	-2.69	51.91
283	SLV FO 12	-66	-850	-511	-8.9	-3.14	24.86
283	SLV FO 13	-859	282	3414	749.8	7.92	299.49
283	SLV FO 14	-742	103	3238	712.77	7.25	259.3
283	SLV FO 15	-744	-192	1078	270.13	0.53	260.45
283	SLV FO 16	-628	-372	902	233.1	-0.14	220.26
283	CRTFP Ux+	0	0	0	0	0	0
283	CRTFP Ux-	0	0	0	0	0	0
283	CRTFP Uy+	0	0	0	0	0	0
283	CRTFP Uy-	0	0	0	0	0	0
284	SLU 1	-98	15	3390	659.09	8.99	34.17
284	SLU 2	-103	34	3473	672.53	9.2	35.74
284	SLU 3	-101	14	3450	670.37	9.19	35.12
284	SLU 4	-103	26	3500	678.44	9.31	36.06
284	SLU 5	-104	34	3510	679.57	9.32	36.33
284	SLU 6	-102	15	3487	677.4	9.31	35.71
284	SLU 7	-105	26	3537	685.47	9.43	36.65
284	SLU 8	-101	15	3464	673.16	9.24	35.35
284	SLU 9	-104	26	3514	681.23	9.36	36.29
284	SLU 10	-110	37	3895	747.38	10.37	38.45
284	SLU 11	-109	18	3871	745.22	10.37	37.83
284	SLU 12	-111	29	3921	753.28	10.49	38.77
284	SLU 13	-112	37	3931	754.42	10.49	39.04
284	SLU 14	-110	18	3908	752.25	10.49	38.43
284	SLU 15	-113	29	3958	760.32	10.61	39.36
284	SLU 16	-109	18	3885	748.01	10.42	38.06
284	SLU 17	-112	30	3935	756.08	10.54	39
284	SLU 18	-109	19	3992	766.02	10.67	38.05
284	SLU 19	-112	31	4042	774.08	10.8	38.98
284	SLU 20	-111	19	4029	773.05	10.8	38.64
284	SLU 21	-114	31	4079	781.12	10.92	39.57
284	SLU 22	-113	15	3866	745.24	10.39	39.29
284	SLU 23	-117	35	3949	758.69	10.59	40.86
284	SLU 24	-115	15	3926	756.52	10.58	40.25
284	SLU 25	-118	27	3975	764.59	10.71	41.18
284	SLU 26	-119	35	3986	765.72	10.71	41.45
284	SLU 27	-117	15	3962	763.55	10.71	40.84
284	SLU 28	-120	27	4012	771.62	10.83	41.77
284	SLU 29	-116	15	3940	759.31	10.63	40.48
284	SLU 30	-119	27	3989	767.38	10.75	41.41
284	SLU 31	-125	38	4370	833.54	11.77	43.57
284	SLU 32	-123	18	4347	831.37	11.76	42.96
284	SLU 33	-126	30	4397	839.44	11.88	43.9
284	SLU 34	-127	38	4407	840.57	11.89	44.16
284	SLU 35	-125	18	4384	838.4	11.88	43.55
284	SLU 36	-128	30	4433	846.47	12	44.49
284	SLU 37	-124	18	4361	834.16	11.81	43.19
284	SLU 38	-127	30	4411	842.23	11.93	44.13
284	SLU 39	-124	19	4468	852.17	12.07	43.17
284	SLU 40	-127	31	4517	860.24	12.19	44.11
284	SLU 41	-126	20	4505	859.2	12.19	43.76
284	SLU 42	-128	31	4554	867.27	12.31	44.7
284	SLU 43	-122	19	4245	827.28	11.22	42.67
284	SLU 44	-127	38	4327	840.72	11.42	44.23
284	SLU 45	-125	19	4304	838.56	11.41	43.62
284	SLU 46	-128	30	4354	846.62	11.53	44.56
284	SLU 47	-129	38	4364	847.76	11.54	44.82
284	SLU 48	-127	19	4341	845.59	11.53	44.21
284	SLU 49	-130	30	4391	853.66	11.65	45.15
284	SLU 50	-126	19	4318	841.35	11.46	43.85
284	SLU 51	-128	31	4368	849.41	11.58	44.79
284	SLU 52	-135	41	4749	915.57	12.59	46.94
284	SLU 53	-133	22	4726	913.41	12.59	46.33
284	SLU 54	-136	33	4775	921.47	12.71	47.27
284	SLU 55	-136	41	4786	922.61	12.72	47.53
284	SLU 56	-135	22	4762	920.44	12.71	46.92
284	SLU 57	-137	34	4812	928.51	12.83	47.86
284	SLU 58	-134	22	4740	916.2	12.64	46.56
284	SLU 59	-136	34	4789	924.26	12.76	47.5
284	SLU 60	-134	23	4846	934.2	12.89	46.54
284	SLU 61	-136	35	4896	942.27	13.02	47.48
284	SLU 62	-135	23	4883	941.24	13.02	47.13
284	SLU 63	-138	35	4933	949.31	13.14	48.07
284	SLU 64	-137	19	4720	913.43	12.61	47.79
284	SLU 65	-142	39	4803	926.88	12.81	49.35
284	SLU 66	-140	19	4780	924.71	12.8	48.74
284	SLU 67	-143	31	4829	932.78	12.93	49.68
284	SLU 68	-143	39	4840	933.91	12.93	49.94
284	SLU 69	-141	19	4817	931.74	12.93	49.33
284	SLU 70	-144	31	4866	939.81	13.05	50.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
284	SLU 71	-140	19	4794	927.5	12.85	48.97
284	SLU 72	-143	31	4843	935.57	12.97	49.91
284	SLU 73	-149	42	5224	1001.72	13.99	52.07
284	SLU 74	-148	22	5201	999.56	13.98	51.45
284	SLU 75	-150	34	5251	1007.63	14.1	52.39
284	SLU 76	-151	42	5261	1008.76	14.11	52.66
284	SLU 77	-149	22	5238	1006.59	14.1	52.04
284	SLU 78	-152	34	5288	1014.66	14.22	52.98
284	SLU 79	-148	22	5215	1002.35	14.03	51.68
284	SLU 80	-151	34	5265	1010.42	14.15	52.62
284	SLU 81	-148	24	5322	1020.36	14.29	51.66
284	SLU 82	-151	35	5372	1028.42	14.41	52.6
284	SLU 83	-150	24	5359	1027.39	14.41	52.25
284	SLU 84	-153	35	5408	1035.46	14.53	53.19
284	SLE RA 1	-102	15	3526	683.7	9.39	35.64
284	SLE RA 2	-105	28	3582	692.67	9.53	36.68
284	SLE RA 3	-104	15	3566	691.22	9.52	36.27
284	SLE RA 4	-106	22	3599	696.6	9.6	36.9
284	SLE RA 5	-106	28	3606	697.36	9.61	37.07
284	SLE RA 6	-105	15	3591	695.91	9.6	36.66
284	SLE RA 7	-107	23	3624	701.29	9.69	37.29
284	SLE RA 8	-104	15	3575	693.08	9.56	36.42
284	SLE RA 9	-106	23	3609	698.46	9.64	37.05
284	SLE RA 10	-110	30	3862	742.57	10.31	38.49
284	SLE RA 11	-109	17	3847	741.12	10.31	38.08
284	SLE RA 12	-111	25	3880	746.5	10.39	38.7
284	SLE RA 13	-112	30	3887	747.26	10.39	38.88
284	SLE RA 14	-110	17	3872	745.81	10.39	38.47
284	SLE RA 15	-112	25	3905	751.19	10.47	39.1
284	SLE RA 16	-110	17	3856	742.98	10.34	38.23
284	SLE RA 17	-111	25	3889	748.36	10.42	38.86
284	SLE RA 18	-110	18	3928	754.99	10.51	38.22
284	SLE RA 19	-111	25	3961	760.37	10.59	38.84
284	SLE RA 20	-111	18	3952	759.68	10.59	38.61
284	SLE RA 21	-113	26	3985	765.06	10.67	39.24
284	SLE FR 1	-102	15	3526	683.7	9.39	35.64
284	SLE FR 2	-103	17	3537	685.5	9.42	35.84
284	SLE FR 3	-103	15	3536	685.58	9.43	35.79
284	SLE FR 4	-105	18	3658	706.88	9.76	36.62
284	SLE FR 5	-105	16	3656	706.96	9.76	36.57
284	SLE FR 6	-106	16	3727	719.35	9.95	36.93
284	SLE QP 1	-102	15	3526	683.7	9.39	35.64
284	SLE QP 2	-104	16	3647	705.09	9.73	36.41
284	SLD 1	203	216	5187	993.78	15.53	-71.65
284	SLD 2	270	122	5097	978.42	15.2	-94.86
284	SLD 3	264	-20	4058	808.82	12.23	-92.43
284	SLD 4	331	-115	3968	793.46	11.9	-115.63
284	SLD 5	-116	451	5836	1074.87	16.53	39.49
284	SLD 6	-73	390	5778	1064.98	16.32	24.55
284	SLD 7	87	-338	2073	458.32	5.53	-29.76
284	SLD 8	130	-399	2015	448.43	5.32	-44.7
284	SLD 9	-339	430	5278	961.75	14.14	117.53
284	SLD 10	-296	369	5220	951.86	13.93	102.58
284	SLD 11	-136	-359	1515	345.2	3.14	48.27
284	SLD 12	-93	-420	1457	335.31	2.92	33.33
284	SLD 13	-540	146	3326	616.72	7.56	188.46
284	SLD 14	-473	51	3236	601.36	7.23	165.25
284	SLD 15	-479	-91	2197	431.75	4.26	167.68
284	SLD 16	-412	-185	2107	416.4	3.93	144.48
284	SLV 1	373	347	6132	1169.14	19.03	-131.18
284	SLV 2	478	198	5991	1144.94	18.5	-167.75
284	SLV 3	476	-57	4206	853.59	13.39	-166.57
284	SLV 4	582	-206	4065	829.38	12.87	-203.14
284	SLV 5	-138	755	7340	1327.42	21.16	46.64
284	SLV 6	-67	655	7244	1311.13	20.8	22.02
284	SLV 7	207	-590	920	275.56	2.38	-71.34
284	SLV 8	278	-691	825	259.26	2.03	-95.96
284	SLV 9	-487	722	6469	1150.92	17.43	168.78
284	SLV 10	-416	622	6373	1134.62	17.07	144.16
284	SLV 11	-142	-624	49	99.05	-1.35	50.8
284	SLV 12	-71	-724	-47	82.76	-1.7	26.18
284	SLV 13	-791	237	3229	580.8	6.59	275.96
284	SLV 14	-685	88	3087	556.59	6.06	239.39
284	SLV 15	-687	-167	1303	265.24	0.96	240.57
284	SLV 16	-581	-316	1161	241.03	0.43	204
284	SLV FO 1	420	380	6381	1215.55	19.96	-147.93
284	SLV FO 2	537	216	6225	1188.92	19.38	-188.17
284	SLV FO 3	534	-64	4262	868.43	13.76	-186.87
284	SLV FO 4	650	-228	4107	841.81	13.18	-227.1
284	SLV FO 5	-141	829	7709	1389.65	22.3	47.66
284	SLV FO 6	-63	719	7604	1371.73	21.91	20.58
284	SLV FO 7	238	-651	647	232.6	1.65	-82.11
284	SLV FO 8	316	-761	542	214.68	1.26	-109.2
284	SLV FO 9	-525	793	6751	1195.5	18.2	182.02
284	SLV FO 10	-447	682	6646	1177.58	17.81	154.93
284	SLV FO 11	-146	-687	-311	38.45	-2.45	52.24
284	SLV FO 12	-68	-798	-416	20.52	-2.84	25.16
284	SLV FO 13	-859	259	3187	568.37	6.28	299.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
284	SLV FO 14	-743	95	3031	541.74	5.7	259.69
284	SLV FO 15	-745	-185	1068	221.25	0.08	260.99
284	SLV FO 16	-629	-349	912	194.63	-0.5	220.76
284	CRTFP Ux+	0	0	0	0	0	0
284	CRTFP Ux-	0	0	0	0	0	0
284	CRTFP Uy+	0	0	0	0	0	0
284	CRTFP Uy-	0	0	0	0	0	0
285	SLU 1	-97	11	3135	493.68	7.03	34.03
285	SLU 2	-102	30	3212	503.45	7.19	35.6
285	SLU 3	-100	11	3189	501.52	7.18	34.97
285	SLU 4	-103	22	3235	507.38	7.28	35.92
285	SLU 5	-104	30	3245	508.34	7.28	36.19
285	SLU 6	-102	11	3222	506.41	7.28	35.56
285	SLU 7	-105	22	3268	512.27	7.38	36.5
285	SLU 8	-101	11	3201	503.46	7.22	35.2
285	SLU 9	-104	22	3248	509.33	7.32	36.15
285	SLU 10	-110	32	3600	556	8.1	38.3
285	SLU 11	-108	13	3577	554.07	8.09	37.67
285	SLU 12	-111	25	3623	559.93	8.19	38.62
285	SLU 13	-111	32	3633	560.9	8.19	38.89
285	SLU 14	-110	13	3610	558.96	8.19	38.26
285	SLU 15	-112	25	3656	564.83	8.28	39.2
285	SLU 16	-109	14	3589	556.02	8.13	37.9
285	SLU 17	-111	25	3636	561.88	8.23	38.84
285	SLU 18	-109	15	3689	568.76	8.33	37.88
285	SLU 19	-111	26	3735	574.62	8.42	38.83
285	SLU 20	-110	15	3722	573.65	8.42	38.47
285	SLU 21	-113	26	3769	579.51	8.52	39.41
285	SLU 22	-112	11	3570	554.04	8.12	39.13
285	SLU 23	-117	30	3648	563.81	8.27	40.71
285	SLU 24	-115	11	3625	561.88	8.27	40.08
285	SLU 25	-118	22	3671	567.74	8.37	41.02
285	SLU 26	-118	30	3681	568.7	8.37	41.3
285	SLU 27	-116	11	3658	566.77	8.37	40.66
285	SLU 28	-119	22	3704	572.64	8.46	41.61
285	SLU 29	-115	11	3637	563.83	8.31	40.31
285	SLU 30	-118	23	3683	569.69	8.4	41.25
285	SLU 31	-124	33	4036	616.37	9.18	43.41
285	SLU 32	-123	14	4013	614.44	9.18	42.78
285	SLU 33	-125	25	4059	620.3	9.27	43.72
285	SLU 34	-126	33	4069	621.26	9.28	44
285	SLU 35	-124	14	4046	619.33	9.28	43.36
285	SLU 36	-127	25	4092	625.19	9.37	44.31
285	SLU 37	-123	14	4025	616.38	9.22	43.01
285	SLU 38	-126	25	4071	622.24	9.31	43.95
285	SLU 39	-123	15	4125	629.12	9.41	42.99
285	SLU 40	-126	26	4171	634.98	9.51	43.93
285	SLU 41	-125	15	4158	634.01	9.51	43.58
285	SLU 42	-128	26	4204	639.87	9.61	44.52
285	SLU 43	-122	14	3926	621.09	8.76	42.48
285	SLU 44	-126	33	4003	630.86	8.92	44.06
285	SLU 45	-124	14	3980	628.93	8.92	43.43
285	SLU 46	-127	25	4026	634.79	9.01	44.37
285	SLU 47	-128	33	4036	635.75	9.02	44.65
285	SLU 48	-126	14	4013	633.82	9.02	44.01
285	SLU 49	-129	25	4059	639.68	9.11	44.96
285	SLU 50	-125	14	3992	630.87	8.96	43.66
285	SLU 51	-128	25	4039	636.73	9.05	44.6
285	SLU 52	-134	36	4391	683.41	9.83	46.76
285	SLU 53	-132	17	4368	681.48	9.83	46.13
285	SLU 54	-135	28	4414	687.34	9.92	47.07
285	SLU 55	-136	36	4424	688.3	9.93	47.34
285	SLU 56	-134	17	4401	686.37	9.92	46.71
285	SLU 57	-137	28	4447	692.23	10.02	47.66
285	SLU 58	-133	17	4380	683.43	9.87	46.35
285	SLU 59	-136	28	4427	689.29	9.96	47.3
285	SLU 60	-133	18	4480	696.17	10.06	46.34
285	SLU 61	-136	29	4526	702.03	10.16	47.28
285	SLU 62	-134	18	4513	701.06	10.16	46.92
285	SLU 63	-137	29	4560	706.92	10.25	47.87
285	SLU 64	-136	14	4361	681.45	9.85	47.59
285	SLU 65	-141	33	4438	691.22	10.01	49.17
285	SLU 66	-139	14	4416	689.29	10.01	48.54
285	SLU 67	-142	26	4462	695.15	10.1	49.48
285	SLU 68	-143	33	4472	696.11	10.11	49.75
285	SLU 69	-141	14	4449	694.18	10.1	49.12
285	SLU 70	-143	26	4495	700.04	10.2	50.07
285	SLU 71	-140	14	4428	691.23	10.05	48.76
285	SLU 72	-142	26	4474	697.1	10.14	49.71
285	SLU 73	-149	36	4827	743.77	10.92	51.87
285	SLU 74	-147	17	4804	741.84	10.91	51.23
285	SLU 75	-150	28	4850	747.71	11.01	52.18
285	SLU 76	-150	36	4860	748.67	11.02	52.45
285	SLU 77	-148	17	4837	746.74	11.01	51.82
285	SLU 78	-151	28	4883	752.6	11.11	52.77
285	SLU 79	-147	17	4816	743.79	10.95	51.46
285	SLU 80	-150	28	4862	749.65	11.05	52.41
285	SLU 81	-147	18	4916	756.53	11.15	51.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLU 82	-150	29	4962	762.39	11.24	52.39
285	SLU 83	-149	18	4949	761.42	11.25	52.03
285	SLU 84	-152	29	4995	767.28	11.34	52.98
285	SLE RA 1	-102	11	3259	510.93	7.34	35.49
285	SLE RA 2	-105	24	3311	517.44	7.44	36.54
285	SLE RA 3	-103	11	3295	516.15	7.44	36.12
285	SLE RA 4	-105	18	3326	520.06	7.51	36.75
285	SLE RA 5	-106	24	3333	520.7	7.51	36.93
285	SLE RA 6	-105	11	3317	519.41	7.51	36.51
285	SLE RA 7	-106	18	3348	523.32	7.57	37.14
285	SLE RA 8	-104	11	3304	517.45	7.47	36.27
285	SLE RA 9	-106	19	3334	521.36	7.53	36.9
285	SLE RA 10	-110	25	3569	552.48	8.05	38.34
285	SLE RA 11	-109	13	3554	551.19	8.05	37.91
285	SLE RA 12	-110	20	3585	555.1	8.11	38.55
285	SLE RA 13	-111	25	3591	555.74	8.12	38.73
285	SLE RA 14	-110	13	3576	554.45	8.11	38.31
285	SLE RA 15	-112	20	3607	558.36	8.18	38.94
285	SLE RA 16	-109	13	3562	552.48	8.07	38.07
285	SLE RA 17	-111	20	3593	556.39	8.14	38.7
285	SLE RA 18	-109	14	3629	560.98	8.2	38.06
285	SLE RA 19	-111	21	3660	564.89	8.27	38.69
285	SLE RA 20	-110	14	3651	564.24	8.27	38.45
285	SLE RA 21	-112	21	3682	568.15	8.33	39.08
285	SLE FR 1	-102	11	3259	510.93	7.34	35.49
285	SLE FR 2	-102	14	3269	512.23	7.36	35.7
285	SLE FR 3	-102	11	3268	512.23	7.37	35.64
285	SLE FR 4	-104	14	3380	527.24	7.62	36.47
285	SLE FR 5	-104	12	3379	527.25	7.62	36.41
285	SLE FR 6	-105	12	3444	535.95	7.77	36.77
285	SLE QP 1	-102	11	3259	510.93	7.34	35.49
285	SLE QP 2	-104	12	3370	525.94	7.6	36.26
285	SLD 1	205	199	4740	728.61	12.42	-72.13
285	SLD 2	272	113	4660	717.96	12.14	-95.37
285	SLD 3	265	-23	3706	598.26	9.8	-92.82
285	SLD 4	332	-110	3626	587.6	9.52	-116.06
285	SLD 5	-114	420	5364	786.28	13.07	39.12
285	SLD 6	-71	364	5312	779.42	12.89	24.16
285	SLD 7	87	-321	1916	351.76	4.33	-29.85
285	SLD 8	130	-377	1864	344.9	4.15	-44.82
285	SLD 9	-338	400	4876	706.98	11.05	117.33
285	SLD 10	-294	345	4824	700.12	10.87	102.37
285	SLD 11	-137	-341	1428	272.46	2.3	48.36
285	SLD 12	-94	-396	1376	265.6	2.13	33.4
285	SLD 13	-540	133	3114	464.28	5.68	188.57
285	SLD 14	-473	47	3034	453.63	5.4	165.34
285	SLD 15	-480	-89	2080	333.93	3.05	167.88
285	SLD 16	-413	-175	2000	323.27	2.78	144.65
285	SLV 1	375	321	5584	851.75	15.32	-131.84
285	SLV 2	480	185	5458	834.95	14.88	-168.47
285	SLV 3	477	-58	3820	629.37	10.84	-167.09
285	SLV 4	583	-194	3693	612.57	10.4	-203.71
285	SLV 5	-136	705	6734	964.1	16.79	46.12
285	SLV 6	-65	613	6649	952.79	16.49	21.46
285	SLV 7	207	-559	852	222.83	1.86	-71.37
285	SLV 8	278	-650	767	211.52	1.57	-96.03
285	SLV 9	-485	674	5973	840.37	13.63	168.54
285	SLV 10	-414	582	5888	829.06	13.34	143.88
285	SLV 11	-143	-590	91	99.09	-1.29	51.05
285	SLV 12	-72	-681	6	87.78	-1.59	26.39
285	SLV 13	-791	218	3047	439.31	4.79	276.23
285	SLV 14	-685	82	2920	422.51	4.36	239.6
285	SLV 15	-688	-161	1282	216.93	0.32	240.98
285	SLV 16	-582	-297	1156	200.13	-0.12	204.35
285	SLV FO 1	423	352	5806	884.33	16.09	-148.65
285	SLV FO 2	539	202	5667	865.85	15.61	-188.94
285	SLV FO 3	536	-65	3865	639.71	11.16	-187.42
285	SLV FO 4	652	-215	3726	621.23	10.68	-227.71
285	SLV FO 5	-139	774	7070	1007.91	17.7	47.11
285	SLV FO 6	-61	673	6977	995.47	17.38	19.99
285	SLV FO 7	238	-616	600	192.51	1.29	-82.13
285	SLV FO 8	316	-716	507	180.07	0.97	-109.25
285	SLV FO 9	-524	740	6233	871.81	14.23	181.77
285	SLV FO 10	-445	639	6140	859.37	13.91	154.65
285	SLV FO 11	-147	-650	-237	56.41	-2.18	52.53
285	SLV FO 12	-69	-751	-330	43.97	-2.51	25.41
285	SLV FO 13	-860	238	3014	430.65	4.51	300.22
285	SLV FO 14	-743	89	2875	412.17	4.03	259.94
285	SLV FO 15	-747	-179	1073	186.03	-0.41	261.45
285	SLV FO 16	-630	-328	934	167.55	-0.89	221.16
285	CRTFP Ux+	0	0	0	0	0	0
285	CRTFP Ux-	0	0	0	0	0	0
285	CRTFP Uy+	0	0	0	0	0	0
285	CRTFP Uy-	0	0	0	0	0	0
286	SLU 1	-97	9	2941	375.2	5.08	33.75
286	SLU 2	-101	27	3014	382.35	5.2	35.34
286	SLU 3	-99	8	2991	380.55	5.2	34.68
286	SLU 4	-102	19	3035	384.84	5.27	35.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLU 5	-103	27	3045	385.69	5.27	35.92
286	SLU 6	-101	8	3022	383.89	5.27	35.26
286	SLU 7	-104	19	3065	388.18	5.34	36.22
286	SLU 8	-100	8	3003	381.88	5.23	34.91
286	SLU 9	-103	19	3046	386.17	5.3	35.86
286	SLU 10	-109	29	3377	419	5.84	38.01
286	SLU 11	-107	11	3354	417.2	5.84	37.36
286	SLU 12	-110	22	3398	421.49	5.91	38.31
286	SLU 13	-111	29	3408	422.34	5.92	38.59
286	SLU 14	-109	10	3385	420.55	5.91	37.94
286	SLU 15	-111	21	3429	424.84	5.98	38.89
286	SLU 16	-108	11	3366	418.53	5.87	37.58
286	SLU 17	-110	22	3410	422.82	5.94	38.54
286	SLU 18	-108	12	3460	427.56	6	37.57
286	SLU 19	-110	23	3504	431.85	6.07	38.52
286	SLU 20	-109	12	3491	430.9	6.08	38.15
286	SLU 21	-112	23	3535	435.19	6.15	39.1
286	SLU 22	-111	9	3347	417.09	5.87	38.82
286	SLU 23	-116	27	3420	424.24	5.98	40.41
286	SLU 24	-114	8	3397	422.44	5.98	39.76
286	SLU 25	-117	19	3441	426.73	6.05	40.71
286	SLU 26	-117	27	3451	427.58	6.06	40.99
286	SLU 27	-115	8	3428	425.79	6.05	40.34
286	SLU 28	-118	19	3471	430.08	6.12	41.29
286	SLU 29	-114	9	3409	423.77	6.01	39.98
286	SLU 30	-117	20	3452	428.06	6.08	40.94
286	SLU 31	-123	29	3783	460.89	6.63	43.08
286	SLU 32	-121	11	3760	459.1	6.63	42.43
286	SLU 33	-124	22	3804	463.39	6.7	43.38
286	SLU 34	-125	29	3814	464.23	6.7	43.66
286	SLU 35	-123	11	3791	462.44	6.7	43.01
286	SLU 36	-126	22	3835	466.73	6.77	43.96
286	SLU 37	-122	11	3772	460.43	6.66	42.65
286	SLU 38	-125	22	3816	464.72	6.73	43.61
286	SLU 39	-122	12	3866	469.45	6.79	42.64
286	SLU 40	-125	23	3910	473.74	6.86	43.59
286	SLU 41	-124	12	3897	472.79	6.86	43.22
286	SLU 42	-126	23	3941	477.08	6.93	44.17
286	SLU 43	-121	11	3685	473.39	6.34	42.14
286	SLU 44	-125	29	3757	480.54	6.46	43.73
286	SLU 45	-123	11	3734	478.75	6.46	43.07
286	SLU 46	-126	22	3778	483.04	6.53	44.02
286	SLU 47	-127	29	3788	483.88	6.53	44.31
286	SLU 48	-125	11	3765	482.09	6.53	43.65
286	SLU 49	-128	22	3809	486.38	6.6	44.6
286	SLU 50	-124	11	3746	480.08	6.48	43.3
286	SLU 51	-127	22	3790	484.37	6.55	44.25
286	SLU 52	-133	32	4121	517.19	7.1	46.4
286	SLU 53	-131	13	4098	515.4	7.1	45.74
286	SLU 54	-134	24	4141	519.69	7.17	46.7
286	SLU 55	-135	32	4151	520.54	7.17	46.98
286	SLU 56	-133	13	4128	518.74	7.17	46.32
286	SLU 57	-135	24	4172	523.03	7.24	47.28
286	SLU 58	-132	13	4109	516.73	7.13	45.97
286	SLU 59	-134	24	4153	521.02	7.2	46.92
286	SLU 60	-132	14	4204	525.75	7.26	45.95
286	SLU 61	-134	25	4247	530.04	7.33	46.91
286	SLU 62	-133	14	4234	529.1	7.33	46.53
286	SLU 63	-136	25	4278	533.39	7.4	47.49
286	SLU 64	-135	11	4091	515.28	7.12	47.21
286	SLU 65	-140	30	4163	522.43	7.24	48.8
286	SLU 66	-138	11	4140	520.64	7.24	48.14
286	SLU 67	-141	22	4184	524.93	7.31	49.1
286	SLU 68	-141	29	4194	525.78	7.31	49.38
286	SLU 69	-139	11	4171	523.98	7.31	48.72
286	SLU 70	-142	22	4215	528.27	7.38	49.68
286	SLU 71	-138	11	4152	521.97	7.27	48.37
286	SLU 72	-141	22	4195	526.26	7.34	49.32
286	SLU 73	-147	32	4527	559.09	7.88	51.47
286	SLU 74	-145	13	4504	557.29	7.88	50.81
286	SLU 75	-148	24	4547	561.58	7.95	51.77
286	SLU 76	-149	32	4557	562.43	7.96	52.05
286	SLU 77	-147	13	4534	560.63	7.95	51.39
286	SLU 78	-150	24	4578	564.92	8.02	52.35
286	SLU 79	-146	13	4515	558.62	7.91	51.04
286	SLU 80	-149	24	4559	562.91	7.98	51.99
286	SLU 81	-146	15	4610	567.64	8.04	51.02
286	SLU 82	-149	25	4653	571.93	8.11	51.98
286	SLU 83	-148	14	4640	570.99	8.12	51.6
286	SLU 84	-150	25	4684	575.28	8.19	52.56
286	SLE RA 1	-101	9	3057	387.16	5.31	35.2
286	SLE RA 2	-104	21	3106	391.93	5.39	36.26
286	SLE RA 3	-103	8	3091	390.74	5.38	35.82
286	SLE RA 4	-104	16	3120	393.6	5.43	36.46
286	SLE RA 5	-105	21	3126	394.16	5.43	36.65
286	SLE RA 6	-104	8	3111	392.96	5.43	36.21
286	SLE RA 7	-105	16	3140	395.82	5.48	36.85
286	SLE RA 8	-103	9	3098	391.62	5.4	35.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLE RA 9	-105	16	3127	394.48	5.45	36.61
286	SLE RA 10	-109	22	3348	416.37	5.81	38.04
286	SLE RA 11	-108	10	3333	415.17	5.81	37.6
286	SLE RA 12	-109	17	3362	418.03	5.86	38.24
286	SLE RA 13	-110	22	3368	418.6	5.86	38.43
286	SLE RA 14	-109	10	3353	417.4	5.86	37.99
286	SLE RA 15	-111	17	3382	420.26	5.91	38.63
286	SLE RA 16	-108	10	3340	416.06	5.83	37.75
286	SLE RA 17	-110	17	3370	418.92	5.88	38.39
286	SLE RA 18	-108	11	3403	422.07	5.92	37.74
286	SLE RA 19	-110	18	3432	424.93	5.97	38.38
286	SLE RA 20	-109	11	3424	424.3	5.97	38.13
286	SLE RA 21	-111	18	3453	427.16	6.02	38.77
286	SLE FR 1	-101	9	3057	387.16	5.31	35.2
286	SLE FR 2	-101	11	3067	388.12	5.32	35.41
286	SLE FR 3	-101	9	3066	388.06	5.33	35.35
286	SLE FR 4	-104	12	3171	398.59	5.51	36.17
286	SLE FR 5	-103	9	3169	398.53	5.51	36.12
286	SLE FR 6	-104	10	3230	404.62	5.61	36.47
286	SLE QP 1	-101	9	3057	387.16	5.31	35.2
286	SLE QP 2	-103	9	3161	397.64	5.49	35.96
286	SLD 1	207	123	4393	536.2	9.36	-72.78
286	SLD 2	274	44	4321	528.94	9.14	-96.05
286	SLD 3	267	-88	3432	444.79	7.41	-93.35
286	SLD 4	334	-167	3359	437.53	7.19	-116.62
286	SLD 5	-112	376	5001	579.08	9.64	38.54
286	SLD 6	-69	325	4955	574.41	9.5	23.56
286	SLD 7	87	-325	1797	274.4	3.15	-30.03
286	SLD 8	130	-376	1750	269.73	3.01	-45.01
286	SLD 9	-336	395	4572	525.55	7.97	116.94
286	SLD 10	-293	344	4526	520.87	7.83	101.96
286	SLD 11	-137	-307	1368	220.86	1.48	48.37
286	SLD 12	-94	-357	1321	216.19	1.34	33.38
286	SLD 13	-540	185	2963	357.74	3.79	188.54
286	SLD 14	-472	107	2891	350.48	3.57	165.27
286	SLD 15	-480	-25	2002	266.34	1.84	167.97
286	SLD 16	-413	-104	1929	259.08	1.62	144.7
286	SLV 1	377	202	5154	620.54	11.67	-132.69
286	SLV 2	483	77	5040	609.1	11.32	-169.37
286	SLV 3	479	-157	3514	464.62	8.35	-167.73
286	SLV 4	585	-282	3400	453.18	8	-204.41
286	SLV 5	-133	635	6268	703.12	12.45	45.36
286	SLV 6	-62	551	6191	695.42	12.22	20.67
286	SLV 7	206	-562	801	183.39	1.37	-71.45
286	SLV 8	277	-645	724	175.69	1.14	-96.14
286	SLV 9	-483	664	5598	619.59	9.84	168.06
286	SLV 10	-412	580	5522	611.88	9.61	143.37
286	SLV 11	-144	-532	131	99.86	-1.23	51.26
286	SLV 12	-73	-616	55	92.15	-1.47	26.57
286	SLV 13	-791	300	2922	342.09	2.98	276.34
286	SLV 14	-685	176	2809	330.65	2.64	239.66
286	SLV 15	-689	-59	1282	186.17	-0.34	241.29
286	SLV 16	-583	-183	1169	174.73	-0.69	204.61
286	SLV FO 1	426	221	5353	642.83	12.29	-149.55
286	SLV FO 2	542	84	5228	630.25	11.91	-189.9
286	SLV FO 3	537	-174	3549	471.32	8.63	-188.1
286	SLV FO 4	654	-311	3424	458.73	8.25	-228.45
286	SLV FO 5	-136	697	6578	733.67	13.15	46.3
286	SLV FO 6	-57	605	6494	725.2	12.89	19.14
286	SLV FO 7	237	-619	565	161.97	0.96	-82.19
286	SLV FO 8	315	-711	480	153.49	0.71	-109.35
286	SLV FO 9	-521	730	5842	641.78	10.28	181.28
286	SLV FO 10	-443	637	5758	633.31	10.02	154.12
286	SLV FO 11	-148	-586	-172	70.08	-1.9	52.79
286	SLV FO 12	-70	-678	-256	61.6	-2.16	25.63
286	SLV FO 13	-860	329	2899	336.54	2.73	300.37
286	SLV FO 14	-743	192	2773	323.95	2.35	260.03
286	SLV FO 15	-748	-65	1094	165.03	-0.92	261.83
286	SLV FO 16	-631	-202	969	152.44	-1.31	221.48
286	CRTFP Ux+	0	0	0	0	0	0
286	CRTFP Ux-	0	0	0	0	0	0
286	CRTFP Uy+	0	0	0	0	0	0
286	CRTFP Uy-	0	0	0	0	0	0
287	SLU 1	-95	7	2809	301.09	3.22	33.34
287	SLU 2	-100	25	2879	306.61	3.3	34.95
287	SLU 3	-98	7	2856	304.87	3.3	34.26
287	SLU 4	-101	18	2898	308.18	3.34	35.23
287	SLU 5	-102	25	2907	308.96	3.35	35.52
287	SLU 6	-100	7	2885	307.22	3.34	34.84
287	SLU 7	-102	18	2926	310.53	3.39	35.8
287	SLU 8	-99	7	2866	305.8	3.32	34.49
287	SLU 9	-101	18	2908	309.11	3.36	35.45
287	SLU 10	-107	27	3226	333.42	3.69	37.58
287	SLU 11	-105	9	3203	331.68	3.69	36.89
287	SLU 12	-108	20	3244	334.99	3.73	37.86
287	SLU 13	-109	27	3254	335.77	3.73	38.15
287	SLU 14	-107	9	3231	334.03	3.73	37.46
287	SLU 15	-110	20	3273	337.34	3.78	38.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLU 16	-106	9	3213	332.61	3.71	37.12
287	SLU 17	-109	20	3255	335.92	3.75	38.08
287	SLU 18	-106	10	3304	339.39	3.78	37.1
287	SLU 19	-109	21	3346	342.7	3.82	38.06
287	SLU 20	-108	10	3333	341.75	3.82	37.67
287	SLU 21	-110	21	3375	345.06	3.87	38.63
287	SLU 22	-110	8	3195	331.43	3.71	38.36
287	SLU 23	-114	25	3264	336.95	3.79	39.97
287	SLU 24	-112	7	3241	335.2	3.79	39.28
287	SLU 25	-115	18	3283	338.52	3.84	40.25
287	SLU 26	-116	25	3293	339.3	3.84	40.54
287	SLU 27	-114	7	3270	337.56	3.84	39.85
287	SLU 28	-117	18	3312	340.87	3.88	40.82
287	SLU 29	-113	7	3252	336.14	3.81	39.51
287	SLU 30	-116	18	3294	339.45	3.86	40.47
287	SLU 31	-122	28	3611	363.76	4.18	42.6
287	SLU 32	-120	9	3588	362.02	4.18	41.91
287	SLU 33	-123	20	3630	365.33	4.23	42.88
287	SLU 34	-123	27	3640	366.11	4.23	43.17
287	SLU 35	-121	9	3617	364.37	4.23	42.48
287	SLU 36	-124	20	3659	367.68	4.27	43.45
287	SLU 37	-120	9	3599	362.95	4.2	42.13
287	SLU 38	-123	20	3641	366.26	4.25	43.1
287	SLU 39	-120	11	3690	369.73	4.27	42.12
287	SLU 40	-123	21	3732	373.04	4.32	43.08
287	SLU 41	-122	10	3719	372.09	4.32	42.69
287	SLU 42	-125	21	3761	375.4	4.36	43.65
287	SLU 43	-119	9	3520	381.02	4.02	41.63
287	SLU 44	-124	27	3589	386.53	4.1	43.23
287	SLU 45	-122	9	3566	384.79	4.09	42.55
287	SLU 46	-124	20	3608	388.1	4.14	43.51
287	SLU 47	-125	27	3618	388.89	4.14	43.8
287	SLU 48	-123	9	3595	387.15	4.14	43.12
287	SLU 49	-126	20	3637	390.46	4.19	44.08
287	SLU 50	-122	9	3577	385.73	4.11	42.77
287	SLU 51	-125	20	3619	389.04	4.16	43.73
287	SLU 52	-131	29	3936	413.34	4.48	45.86
287	SLU 53	-129	11	3913	411.6	4.48	45.18
287	SLU 54	-132	22	3955	414.91	4.53	46.14
287	SLU 55	-133	29	3965	415.7	4.53	46.43
287	SLU 56	-131	11	3942	413.96	4.53	45.75
287	SLU 57	-134	22	3984	417.27	4.58	46.71
287	SLU 58	-130	11	3924	412.54	4.5	45.4
287	SLU 59	-133	22	3966	415.85	4.55	46.36
287	SLU 60	-130	12	4015	419.32	4.57	45.38
287	SLU 61	-133	23	4057	422.63	4.62	46.35
287	SLU 62	-131	12	4044	421.67	4.62	45.95
287	SLU 63	-134	23	4086	424.98	4.67	46.92
287	SLU 64	-133	10	3905	411.35	4.51	46.65
287	SLU 65	-138	28	3975	416.87	4.59	48.25
287	SLU 66	-136	9	3952	415.13	4.59	47.57
287	SLU 67	-139	20	3994	418.44	4.63	48.53
287	SLU 68	-140	27	4004	419.23	4.64	48.82
287	SLU 69	-138	9	3981	417.49	4.64	48.14
287	SLU 70	-140	20	4022	420.8	4.68	49.1
287	SLU 71	-137	10	3963	416.06	4.61	47.79
287	SLU 72	-139	20	4004	419.38	4.65	48.75
287	SLU 73	-145	30	4322	443.68	4.98	50.88
287	SLU 74	-143	12	4299	441.94	4.98	50.19
287	SLU 75	-146	22	4341	445.25	5.02	51.16
287	SLU 76	-147	30	4350	446.04	5.03	51.45
287	SLU 77	-145	11	4327	444.3	5.02	50.77
287	SLU 78	-148	22	4369	447.61	5.07	51.73
287	SLU 79	-144	12	4309	442.88	5	50.42
287	SLU 80	-147	22	4351	446.19	5.04	51.38
287	SLU 81	-144	13	4401	449.66	5.07	50.4
287	SLU 82	-147	23	4442	452.97	5.11	51.36
287	SLU 83	-146	13	4429	452.01	5.11	50.97
287	SLU 84	-148	23	4471	455.32	5.16	51.94
287	SLE RA 1	-99	7	2919	309.76	3.36	34.78
287	SLE RA 2	-103	19	2966	313.44	3.41	35.85
287	SLE RA 3	-101	7	2950	312.28	3.41	35.39
287	SLE RA 4	-103	14	2978	314.48	3.44	36.03
287	SLE RA 5	-104	19	2985	315.01	3.45	36.23
287	SLE RA 6	-102	7	2970	313.85	3.44	35.77
287	SLE RA 7	-104	14	2997	316.05	3.48	36.41
287	SLE RA 8	-102	7	2957	312.9	3.43	35.54
287	SLE RA 9	-103	14	2985	315.11	3.46	36.18
287	SLE RA 10	-108	21	3197	331.31	3.67	37.6
287	SLE RA 11	-106	9	3182	330.15	3.67	37.14
287	SLE RA 12	-108	16	3209	332.36	3.7	37.79
287	SLE RA 13	-109	21	3216	332.88	3.7	37.98
287	SLE RA 14	-107	9	3201	331.72	3.7	37.52
287	SLE RA 15	-109	16	3229	333.93	3.73	38.17
287	SLE RA 16	-107	9	3189	330.77	3.69	37.29
287	SLE RA 17	-108	16	3217	332.98	3.72	37.93
287	SLE RA 18	-107	9	3250	335.29	3.73	37.28
287	SLE RA 19	-108	17	3277	337.5	3.76	37.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLE RA 20	-108	9	3269	336.86	3.76	37.66
287	SLE RA 21	-110	16	3297	339.07	3.79	38.3
287	SLE FR 1	-99	7	2919	309.76	3.36	34.78
287	SLE FR 2	-100	10	2928	310.49	3.37	34.99
287	SLE FR 3	-100	7	2927	310.39	3.38	34.93
287	SLE FR 4	-102	10	3028	318.15	3.48	35.74
287	SLE FR 5	-102	8	3026	318.05	3.49	35.68
287	SLE FR 6	-103	8	3084	322.53	3.55	36.03
287	SLE QP 1	-99	7	2919	309.76	3.36	34.78
287	SLE QP 2	-102	8	3018	317.42	3.47	35.53
287	SLD 1	209	115	4141	412.08	6.45	-73.58
287	SLD 2	277	42	4075	407	6.29	-96.88
287	SLD 3	268	-87	3231	344.81	5.16	-93.99
287	SLD 4	335	-160	3165	339.73	4.99	-117.3
287	SLD 5	-109	358	4746	448.72	6.36	37.76
287	SLD 6	-66	312	4704	445.45	6.25	22.76
287	SLD 7	87	-314	1714	224.48	2.04	-30.28
287	SLD 8	130	-361	1671	221.21	1.94	-45.28
287	SLD 9	-334	377	4365	413.63	5.01	116.34
287	SLD 10	-290	330	4323	410.36	4.9	101.34
287	SLD 11	-137	-296	1333	189.39	0.69	48.3
287	SLD 12	-94	-342	1290	186.12	0.59	33.3
287	SLD 13	-539	176	2871	295.11	1.95	188.35
287	SLD 14	-472	103	2805	290.03	1.79	165.05
287	SLD 15	-480	-26	1962	227.84	0.66	167.94
287	SLD 16	-413	-98	1896	222.76	0.49	144.64
287	SLV 1	381	189	4837	470.04	8.22	-133.71
287	SLV 2	487	75	4733	462.03	7.96	-170.44
287	SLV 3	481	-155	3285	355.3	6.01	-168.48
287	SLV 4	587	-269	3181	347.29	5.75	-205.21
287	SLV 5	-129	605	5937	538.72	8.3	44.34
287	SLV 6	-58	528	5867	533.33	8.12	19.61
287	SLV 7	206	-541	764	156.26	0.93	-71.55
287	SLV 8	277	-618	694	150.87	0.76	-96.27
287	SLV 9	-480	634	5343	483.97	6.19	167.33
287	SLV 10	-409	557	5273	478.58	6.01	142.61
287	SLV 11	-145	-512	170	101.51	-1.17	51.45
287	SLV 12	-74	-589	100	96.12	-1.35	26.72
287	SLV 13	-790	285	2856	287.54	1.2	276.27
287	SLV 14	-684	171	2752	279.54	0.94	239.54
287	SLV 15	-690	-59	1304	172.8	-1.01	241.5
287	SLV 16	-584	-173	1200	164.8	-1.27	204.77
287	SLV FO 1	429	207	5019	485.3	8.69	-150.64
287	SLV FO 2	545	81	4904	476.49	8.41	-191.04
287	SLV FO 3	539	-171	3312	359.09	6.26	-188.88
287	SLV FO 4	656	-297	3197	350.28	5.98	-229.28
287	SLV FO 5	-132	665	6229	560.85	8.78	45.22
287	SLV FO 6	-53	580	6152	554.92	8.59	18.02
287	SLV FO 7	237	-596	538	140.14	0.68	-82.26
287	SLV FO 8	315	-681	461	134.21	0.48	-109.45
287	SLV FO 9	-518	697	5575	500.63	6.46	180.51
287	SLV FO 10	-440	612	5498	494.7	6.27	153.31
287	SLV FO 11	-150	-564	-115	79.92	-1.64	53.04
287	SLV FO 12	-72	-649	-192	73.99	-1.83	25.84
287	SLV FO 13	-859	313	2839	284.56	0.97	300.34
287	SLV FO 14	-743	187	2725	275.75	0.68	259.94
287	SLV FO 15	-749	-65	1132	158.34	-1.46	262.1
287	SLV FO 16	-632	-191	1018	149.54	-1.75	221.7
287	CRTFP Ux+	0	0	0	0	0	0
287	CRTFP Ux-	0	0	0	0	0	0
287	CRTFP Uy+	0	0	0	0	0	0
287	CRTFP Uy-	0	0	0	0	0	0
288	SLU 1	-94	7	2735	268.25	1.46	32.82
288	SLU 2	-98	25	2802	273.04	1.5	34.44
288	SLU 3	-96	7	2779	271.29	1.5	33.72
288	SLU 4	-99	17	2820	274.16	1.53	34.69
288	SLU 5	-100	25	2830	274.93	1.53	35
288	SLU 6	-98	7	2807	273.17	1.53	34.28
288	SLU 7	-101	17	2848	276.05	1.55	35.25
288	SLU 8	-97	7	2790	272.03	1.51	33.94
288	SLU 9	-100	17	2830	274.9	1.54	34.91
288	SLU 10	-106	27	3141	295.66	1.65	37.01
288	SLU 11	-104	9	3118	293.91	1.65	36.29
288	SLU 12	-106	19	3158	296.78	1.67	37.26
288	SLU 13	-107	27	3168	297.55	1.67	37.57
288	SLU 14	-105	9	3145	295.8	1.67	36.85
288	SLU 15	-108	19	3186	298.67	1.7	37.82
288	SLU 16	-104	9	3128	294.65	1.66	36.51
288	SLU 17	-107	19	3169	297.52	1.68	37.48
288	SLU 18	-104	10	3218	300.57	1.67	36.49
288	SLU 19	-107	21	3258	303.44	1.7	37.46
288	SLU 20	-106	10	3245	302.46	1.7	37.05
288	SLU 21	-109	20	3286	305.33	1.72	38.02
288	SLU 22	-108	8	3109	293.47	1.68	37.76
288	SLU 23	-112	25	3177	298.26	1.72	39.38
288	SLU 24	-110	7	3154	296.5	1.72	38.67
288	SLU 25	-113	18	3194	299.37	1.74	39.64
288	SLU 26	-114	25	3204	300.14	1.75	39.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLU 27	-112	7	3181	298.39	1.74	39.23
288	SLU 28	-115	18	3222	301.26	1.77	40.2
288	SLU 29	-111	8	3164	297.24	1.73	38.88
288	SLU 30	-114	18	3205	300.12	1.76	39.86
288	SLU 31	-120	27	3515	320.88	1.87	41.96
288	SLU 32	-118	9	3492	319.12	1.87	41.24
288	SLU 33	-121	20	3533	322	1.89	42.21
288	SLU 34	-121	27	3542	322.77	1.89	42.52
288	SLU 35	-119	9	3520	321.01	1.89	41.8
288	SLU 36	-122	20	3560	323.88	1.92	42.77
288	SLU 37	-118	10	3502	319.87	1.88	41.46
288	SLU 38	-121	20	3543	322.74	1.9	42.43
288	SLU 39	-118	11	3592	325.79	1.89	41.44
288	SLU 40	-121	21	3633	328.66	1.91	42.41
288	SLU 41	-120	11	3620	327.67	1.92	42
288	SLU 42	-123	21	3660	330.55	1.94	42.97
288	SLU 43	-117	9	3427	340.08	1.83	40.96
288	SLU 44	-122	27	3494	344.87	1.87	42.58
288	SLU 45	-120	9	3472	343.12	1.86	41.87
288	SLU 46	-122	19	3512	345.99	1.89	42.84
288	SLU 47	-123	27	3522	346.76	1.89	43.15
288	SLU 48	-121	9	3499	345	1.89	42.43
288	SLU 49	-124	19	3540	347.88	1.91	43.4
288	SLU 50	-120	9	3482	343.86	1.88	42.09
288	SLU 51	-123	19	3522	346.73	1.9	43.06
288	SLU 52	-129	29	3833	367.49	2.01	45.16
288	SLU 53	-127	11	3810	365.74	2.01	44.44
288	SLU 54	-130	21	3850	368.61	2.04	45.41
288	SLU 55	-131	29	3860	369.38	2.04	45.72
288	SLU 56	-129	11	3837	367.63	2.04	45
288	SLU 57	-131	21	3878	370.5	2.06	45.97
288	SLU 58	-128	11	3820	366.48	2.02	44.66
288	SLU 59	-130	21	3861	369.35	2.05	45.63
288	SLU 60	-128	12	3910	372.4	2.03	44.64
288	SLU 61	-130	23	3951	375.27	2.06	45.61
288	SLU 62	-129	12	3937	374.29	2.06	45.2
288	SLU 63	-132	22	3978	377.16	2.08	46.17
288	SLU 64	-131	10	3801	365.3	2.04	45.91
288	SLU 65	-136	27	3869	370.08	2.08	47.53
288	SLU 66	-134	9	3846	368.33	2.08	46.81
288	SLU 67	-136	20	3886	371.2	2.11	47.79
288	SLU 68	-137	27	3896	371.97	2.11	48.09
288	SLU 69	-135	9	3873	370.22	2.11	47.38
288	SLU 70	-138	20	3914	373.09	2.13	48.35
288	SLU 71	-134	10	3856	369.07	2.09	47.03
288	SLU 72	-137	20	3897	371.95	2.12	48.01
288	SLU 73	-143	29	4207	392.71	2.23	50.11
288	SLU 74	-141	11	4184	390.95	2.23	49.39
288	SLU 75	-144	22	4225	393.83	2.25	50.36
288	SLU 76	-145	29	4234	394.6	2.26	50.67
288	SLU 77	-143	11	4212	392.84	2.26	49.95
288	SLU 78	-145	22	4252	395.71	2.28	50.92
288	SLU 79	-142	12	4194	391.7	2.24	49.61
288	SLU 80	-144	22	4235	394.57	2.27	50.58
288	SLU 81	-142	13	4284	397.62	2.25	49.59
288	SLU 82	-144	23	4325	400.49	2.28	50.56
288	SLU 83	-143	13	4312	399.5	2.28	50.15
288	SLU 84	-146	23	4352	402.38	2.3	51.12
288	SLE RA 1	-98	7	2841	275.46	1.52	34.23
288	SLE RA 2	-101	19	2887	278.65	1.55	35.31
288	SLE RA 3	-99	7	2871	277.48	1.55	34.83
288	SLE RA 4	-101	14	2899	279.39	1.57	35.48
288	SLE RA 5	-102	19	2905	279.91	1.57	35.68
288	SLE RA 6	-101	7	2890	278.74	1.57	35.21
288	SLE RA 7	-102	14	2917	280.65	1.58	35.85
288	SLE RA 8	-100	7	2878	277.97	1.56	34.98
288	SLE RA 9	-102	14	2905	279.89	1.57	35.63
288	SLE RA 10	-106	20	3112	293.73	1.65	37.03
288	SLE RA 11	-104	9	3097	292.56	1.65	36.55
288	SLE RA 12	-106	16	3124	294.48	1.66	37.19
288	SLE RA 13	-107	20	3131	294.99	1.67	37.4
288	SLE RA 14	-105	8	3115	293.82	1.66	36.92
288	SLE RA 15	-107	15	3142	295.73	1.68	37.57
288	SLE RA 16	-105	9	3104	293.05	1.66	36.69
288	SLE RA 17	-107	16	3131	294.97	1.67	37.34
288	SLE RA 18	-105	9	3164	297	1.66	36.68
288	SLE RA 19	-107	16	3191	298.92	1.68	37.33
288	SLE RA 20	-106	9	3182	298.26	1.68	37.05
288	SLE RA 21	-108	16	3209	300.18	1.7	37.7
288	SLE FR 1	-98	7	2841	275.46	1.52	34.23
288	SLE FR 2	-98	10	2850	276.09	1.53	34.45
288	SLE FR 3	-98	7	2849	275.96	1.53	34.38
288	SLE FR 4	-100	10	2947	282.56	1.57	35.18
288	SLE FR 5	-100	8	2945	282.42	1.57	35.11
288	SLE FR 6	-101	8	3003	286.23	1.59	35.45
288	SLE QP 1	-98	7	2841	275.46	1.52	34.23
288	SLE QP 2	-100	8	2938	281.92	1.57	34.96
288	SLD 1	212	109	3979	350.91	3.74	-74.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLD 2	280	42	3917	346.93	3.63	-97.87
288	SLD 3	271	-87	3100	294.09	3.06	-94.74
288	SLD 4	338	-154	3039	290.11	2.95	-118.07
288	SLD 5	-106	348	4593	389.47	3.27	36.77
288	SLD 6	-63	304	4553	386.91	3.19	21.75
288	SLD 7	88	-307	1665	200.08	1.01	-30.58
288	SLD 8	131	-350	1626	197.52	0.93	-45.6
288	SLD 9	-331	366	4251	366.32	2.2	115.53
288	SLD 10	-287	323	4211	363.76	2.13	100.51
288	SLD 11	-137	-288	1323	176.93	-0.06	48.18
288	SLD 12	-94	-332	1283	174.37	-0.14	33.16
288	SLD 13	-537	170	2837	273.72	0.19	188
288	SLD 14	-470	103	2776	269.75	0.07	164.67
288	SLD 15	-479	-26	1959	216.91	-0.49	167.8
288	SLD 16	-412	-93	1897	212.93	-0.61	144.47
288	SLV 1	385	181	4626	393.72	5.01	-134.9
288	SLV 2	490	75	4529	387.45	4.83	-171.67
288	SLV 3	483	-154	3128	296.82	3.85	-169.31
288	SLV 4	589	-260	3031	290.55	3.67	-206.08
288	SLV 5	-124	587	5735	463.6	4.39	43.05
288	SLV 6	-53	516	5670	459.38	4.27	18.3
288	SLV 7	205	-528	741	140.59	0.53	-71.65
288	SLV 8	277	-600	675	136.37	0.41	-96.4
288	SLV 9	-476	616	5201	427.47	2.72	166.33
288	SLV 10	-405	544	5136	423.25	2.6	141.58
288	SLV 11	-147	-500	206	104.46	-1.13	51.63
288	SLV 12	-76	-571	141	100.24	-1.26	26.87
288	SLV 13	-789	276	2845	273.29	-0.54	276.01
288	SLV 14	-683	170	2748	267.02	-0.72	239.24
288	SLV 15	-690	-59	1347	176.39	-1.7	241.6
288	SLV 16	-584	-165	1250	170.12	-1.88	204.83
288	SLV FO 1	433	198	4795	404.9	5.36	-151.89
288	SLV FO 2	549	81	4688	398.01	5.15	-192.34
288	SLV FO 3	542	-170	3147	298.31	4.08	-189.74
288	SLV FO 4	658	-287	3040	291.41	3.88	-230.19
288	SLV FO 5	-127	645	6015	481.77	4.67	43.86
288	SLV FO 6	-48	567	5943	477.12	4.54	16.63
288	SLV FO 7	236	-582	521	126.46	0.43	-82.31
288	SLV FO 8	314	-661	449	121.82	0.29	-109.54
288	SLV FO 9	-514	677	5427	442.02	2.84	179.47
288	SLV FO 10	-436	598	5355	437.38	2.71	152.24
288	SLV FO 11	-151	-551	-67	86.72	-1.4	53.29
288	SLV FO 12	-73	-629	-139	82.07	-1.54	26.07
288	SLV FO 13	-858	303	2836	272.43	-0.75	300.12
288	SLV FO 14	-742	186	2729	265.53	-0.95	259.67
288	SLV FO 15	-749	-65	1188	165.83	-2.02	262.27
288	SLV FO 16	-633	-182	1081	158.94	-2.22	221.82
288	CRTFP Ux+	0	0	0	0	0	0
288	CRTFP Ux-	0	0	0	0	0	0
288	CRTFP Uy+	0	0	0	0	0	0
288	CRTFP Uy-	0	0	0	0	0	0
289	SLU 1	-92	8	2714	273.54	-0.19	32.18
289	SLU 2	-97	25	2781	278.42	-0.18	33.81
289	SLU 3	-94	8	2759	276.61	-0.18	33.06
289	SLU 4	-97	18	2799	279.53	-0.18	34.04
289	SLU 5	-98	25	2809	280.32	-0.18	34.36
289	SLU 6	-96	8	2786	278.5	-0.18	33.61
289	SLU 7	-99	18	2826	281.43	-0.18	34.59
289	SLU 8	-95	8	2769	277.34	-0.18	33.27
289	SLU 9	-98	18	2809	280.26	-0.18	34.25
289	SLU 10	-104	27	3119	302.11	-0.26	36.32
289	SLU 11	-102	10	3096	300.3	-0.26	35.56
289	SLU 12	-104	20	3136	303.23	-0.26	36.54
289	SLU 13	-105	27	3146	304.01	-0.26	36.86
289	SLU 14	-103	10	3123	302.2	-0.26	36.11
289	SLU 15	-106	20	3163	305.13	-0.26	37.09
289	SLU 16	-102	10	3106	301.04	-0.26	35.78
289	SLU 17	-105	20	3146	303.96	-0.26	36.76
289	SLU 18	-102	11	3196	307.4	-0.3	35.76
289	SLU 19	-105	21	3236	310.32	-0.3	36.74
289	SLU 20	-104	11	3223	309.29	-0.3	36.3
289	SLU 21	-106	21	3264	312.22	-0.3	37.28
289	SLU 22	-106	9	3086	299.59	-0.23	37.04
289	SLU 23	-110	26	3153	304.46	-0.22	38.67
289	SLU 24	-108	9	3130	302.65	-0.22	37.92
289	SLU 25	-111	19	3170	305.57	-0.22	38.9
289	SLU 26	-112	26	3180	306.36	-0.22	39.22
289	SLU 27	-110	9	3157	304.55	-0.22	38.47
289	SLU 28	-113	19	3197	307.47	-0.21	39.45
289	SLU 29	-109	9	3140	303.38	-0.22	38.13
289	SLU 30	-112	19	3180	306.31	-0.21	39.11
289	SLU 31	-118	28	3490	328.16	-0.3	41.18
289	SLU 32	-115	11	3467	326.35	-0.3	40.42
289	SLU 33	-118	21	3508	329.27	-0.3	41.4
289	SLU 34	-119	28	3517	330.06	-0.3	41.72
289	SLU 35	-117	11	3495	328.24	-0.3	40.97
289	SLU 36	-120	21	3535	331.17	-0.29	41.95
289	SLU 37	-116	11	3477	327.08	-0.3	40.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	SLU 38	-119	21	3518	330	-0.3	41.62
289	SLU 39	-116	12	3568	333.44	-0.34	40.62
289	SLU 40	-119	22	3608	336.36	-0.34	41.6
289	SLU 41	-117	12	3595	335.34	-0.34	41.16
289	SLU 42	-120	22	3635	338.26	-0.33	42.14
289	SLU 43	-115	10	3401	346.68	-0.23	40.16
289	SLU 44	-119	27	3468	351.55	-0.22	41.8
289	SLU 45	-117	10	3446	349.74	-0.23	41.05
289	SLU 46	-120	20	3486	352.67	-0.22	42.03
289	SLU 47	-121	27	3496	353.45	-0.22	42.35
289	SLU 48	-119	10	3473	351.64	-0.22	41.59
289	SLU 49	-122	20	3513	354.56	-0.22	42.57
289	SLU 50	-118	10	3456	350.47	-0.22	41.26
289	SLU 51	-121	20	3496	353.4	-0.22	42.24
289	SLU 52	-126	29	3806	375.25	-0.3	44.3
289	SLU 53	-124	12	3783	373.44	-0.31	43.55
289	SLU 54	-127	22	3823	376.36	-0.3	44.53
289	SLU 55	-128	29	3833	377.15	-0.3	44.85
289	SLU 56	-126	12	3810	375.33	-0.3	44.1
289	SLU 57	-129	22	3850	378.26	-0.3	45.08
289	SLU 58	-125	12	3793	374.17	-0.31	43.77
289	SLU 59	-128	22	3833	377.09	-0.3	44.75
289	SLU 60	-125	13	3883	380.53	-0.35	43.74
289	SLU 61	-128	23	3923	383.45	-0.34	44.72
289	SLU 62	-126	13	3910	382.43	-0.34	44.29
289	SLU 63	-129	23	3951	385.35	-0.34	45.27
289	SLU 64	-128	11	3773	372.72	-0.27	45.02
289	SLU 65	-133	28	3840	377.6	-0.26	46.66
289	SLU 66	-131	11	3817	375.78	-0.27	45.91
289	SLU 67	-134	21	3857	378.71	-0.26	46.89
289	SLU 68	-135	28	3867	379.49	-0.26	47.21
289	SLU 69	-133	11	3844	377.68	-0.26	46.45
289	SLU 70	-135	21	3884	380.61	-0.26	47.43
289	SLU 71	-132	11	3827	376.52	-0.26	46.12
289	SLU 72	-134	21	3867	379.44	-0.26	47.1
289	SLU 73	-140	30	4177	401.29	-0.34	49.16
289	SLU 74	-138	13	4154	399.48	-0.35	48.41
289	SLU 75	-141	23	4195	402.41	-0.34	49.39
289	SLU 76	-142	30	4204	403.19	-0.34	49.71
289	SLU 77	-140	13	4182	401.38	-0.34	48.96
289	SLU 78	-143	23	4222	404.3	-0.34	49.94
289	SLU 79	-139	13	4164	400.21	-0.34	48.63
289	SLU 80	-142	23	4205	403.14	-0.34	49.61
289	SLU 81	-139	14	4255	406.57	-0.39	48.6
289	SLU 82	-142	24	4295	409.5	-0.38	49.58
289	SLU 83	-140	14	4282	408.47	-0.38	49.15
289	SLU 84	-143	24	4322	411.4	-0.38	50.13
289	SLE RA 1	-96	8	2821	280.99	-0.2	33.57
289	SLE RA 2	-99	20	2865	284.23	-0.19	34.65
289	SLE RA 3	-97	8	2850	283.03	-0.2	34.15
289	SLE RA 4	-99	15	2877	284.98	-0.19	34.81
289	SLE RA 5	-100	20	2883	285.5	-0.19	35.02
289	SLE RA 6	-99	8	2868	284.29	-0.19	34.52
289	SLE RA 7	-100	15	2895	286.24	-0.19	35.17
289	SLE RA 8	-98	8	2857	283.52	-0.19	34.3
289	SLE RA 9	-100	15	2884	285.47	-0.19	34.95
289	SLE RA 10	-104	21	3090	300.03	-0.25	36.32
289	SLE RA 11	-102	9	3075	298.82	-0.25	35.82
289	SLE RA 12	-104	16	3102	300.77	-0.25	36.48
289	SLE RA 13	-105	21	3108	301.3	-0.25	36.69
289	SLE RA 14	-103	9	3093	300.09	-0.25	36.19
289	SLE RA 15	-105	16	3120	302.04	-0.24	36.84
289	SLE RA 16	-103	9	3082	299.31	-0.25	35.97
289	SLE RA 17	-105	16	3108	301.26	-0.25	36.62
289	SLE RA 18	-103	10	3142	303.55	-0.28	35.95
289	SLE RA 19	-104	17	3169	305.5	-0.27	36.6
289	SLE RA 20	-104	10	3160	304.82	-0.27	36.32
289	SLE RA 21	-106	17	3187	306.77	-0.27	36.97
289	SLE FR 1	-96	8	2821	280.99	-0.2	33.57
289	SLE FR 2	-96	11	2830	281.64	-0.2	33.78
289	SLE FR 3	-96	8	2828	281.49	-0.2	33.71
289	SLE FR 4	-98	11	2926	288.41	-0.22	34.5
289	SLE FR 5	-98	9	2924	288.26	-0.22	34.43
289	SLE FR 6	-99	9	2981	292.27	-0.24	34.76
289	SLE QP 1	-96	8	2821	280.99	-0.2	33.57
289	SLE QP 2	-98	9	2917	287.76	-0.22	34.28
289	SLD 1	216	107	3900	347.3	1.24	-75.63
289	SLD 2	283	44	3841	343.52	1.17	-98.97
289	SLD 3	273	-88	3034	288.51	1.13	-95.58
289	SLD 4	340	-151	2975	284.72	1.06	-118.92
289	SLD 5	-102	344	4535	395.45	0.39	35.58
289	SLD 6	-59	303	4498	393.01	0.34	20.55
289	SLD 7	88	-304	1649	199.46	0.04	-30.92
289	SLD 8	131	-345	1611	197.02	-0.01	-45.95
289	SLD 9	-327	363	4223	378.49	-0.44	114.51
289	SLD 10	-284	322	4185	376.05	-0.48	99.48
289	SLD 11	-137	-286	1336	182.5	-0.79	48.02
289	SLD 12	-94	-326	1299	180.07	-0.83	32.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	SLD 13	-536	169	2859	290.79	-1.51	187.49
289	SLD 14	-469	105	2800	287	-1.58	164.14
289	SLD 15	-479	-26	1993	231.99	-1.61	167.54
289	SLD 16	-412	-89	1934	228.21	-1.68	144.19
289	SLV 1	389	176	4514	384.98	2.06	-136.24
289	SLV 2	494	77	4422	379.01	1.95	-173.04
289	SLV 3	486	-155	3037	284.7	1.88	-170.21
289	SLV 4	592	-255	2945	278.73	1.77	-207.01
289	SLV 5	-119	580	5654	470.12	0.76	41.52
289	SLV 6	-48	513	5592	466.11	0.68	16.74
289	SLV 7	205	-525	730	135.86	0.16	-71.72
289	SLV 8	276	-592	668	131.85	0.08	-96.5
289	SLV 9	-472	609	5166	443.67	-0.53	165.06
289	SLV 10	-400	542	5104	439.65	-0.6	140.29
289	SLV 11	-148	-496	242	109.4	-1.13	51.82
289	SLV 12	-77	-563	180	105.39	-1.2	27.05
289	SLV 13	-787	273	2889	296.78	-2.22	275.57
289	SLV 14	-682	173	2797	290.82	-2.33	238.77
289	SLV 15	-690	-59	1412	196.5	-2.4	241.6
289	SLV 16	-584	-159	1320	190.54	-2.51	204.8
289	SLV FO 1	437	193	4674	394.7	2.29	-153.29
289	SLV FO 2	554	83	4572	388.13	2.17	-193.77
289	SLV FO 3	544	-172	3049	284.39	2.09	-190.66
289	SLV FO 4	660	-281	2947	277.83	1.97	-231.14
289	SLV FO 5	-121	638	5927	488.36	0.85	42.24
289	SLV FO 6	-43	564	5859	483.94	0.77	14.99
289	SLV FO 7	235	-578	511	120.67	0.2	-82.32
289	SLV FO 8	313	-652	443	116.26	0.11	-109.57
289	SLV FO 9	-509	669	5391	459.26	-0.56	178.14
289	SLV FO 10	-431	596	5323	454.84	-0.64	150.89
289	SLV FO 11	-153	-546	-25	91.57	-1.22	53.57
289	SLV FO 12	-75	-620	-94	87.15	-1.3	26.32
289	SLV FO 13	-856	299	2887	297.68	-2.42	299.7
289	SLV FO 14	-740	189	2785	291.12	-2.54	259.22
289	SLV FO 15	-749	-66	1262	187.38	-2.61	262.33
289	SLV FO 16	-633	-175	1160	180.81	-2.74	221.85
289	CRTFP Ux+	0	0	0	0	0	0
289	CRTFP Ux-	0	0	0	0	0	0
289	CRTFP Uy+	0	0	0	0	0	0
289	CRTFP Uy-	0	0	0	0	0	0
290	SLU 1	-90	9	2745	314.26	-1.72	31.44
290	SLU 2	-94	27	2812	319.96	-1.74	33.09
290	SLU 3	-92	9	2790	318.06	-1.75	32.3
290	SLU 4	-95	20	2830	321.48	-1.76	33.29
290	SLU 5	-96	27	2840	322.31	-1.76	33.62
290	SLU 6	-94	9	2817	320.41	-1.77	32.84
290	SLU 7	-96	20	2857	323.83	-1.78	33.82
290	SLU 8	-93	9	2800	318.96	-1.76	32.51
290	SLU 9	-96	20	2840	322.38	-1.77	33.5
290	SLU 10	-101	29	3156	349.67	-2.04	35.51
290	SLU 11	-99	11	3133	347.76	-2.04	34.73
290	SLU 12	-102	22	3173	351.19	-2.06	35.72
290	SLU 13	-103	29	3183	352.02	-2.05	36.05
290	SLU 14	-101	11	3160	350.11	-2.06	35.26
290	SLU 15	-103	22	3201	353.54	-2.07	36.25
290	SLU 16	-100	11	3143	348.66	-2.05	34.94
290	SLU 17	-102	22	3183	352.08	-2.06	35.92
290	SLU 18	-100	12	3236	356.69	-2.14	34.91
290	SLU 19	-102	23	3276	360.11	-2.15	35.9
290	SLU 20	-101	12	3263	359.04	-2.16	35.44
290	SLU 21	-104	23	3303	362.46	-2.17	36.43
290	SLU 22	-103	11	3122	346.67	-2	36.2
290	SLU 23	-108	28	3189	352.38	-2.02	37.85
290	SLU 24	-106	11	3166	350.47	-2.03	37.06
290	SLU 25	-109	21	3207	353.9	-2.04	38.05
290	SLU 26	-109	28	3216	354.73	-2.04	38.38
290	SLU 27	-107	10	3194	352.82	-2.04	37.6
290	SLU 28	-110	21	3234	356.25	-2.06	38.58
290	SLU 29	-106	11	3176	351.37	-2.03	37.27
290	SLU 30	-109	21	3217	354.79	-2.05	38.26
290	SLU 31	-115	30	3532	382.08	-2.32	40.27
290	SLU 32	-113	13	3510	380.18	-2.32	39.49
290	SLU 33	-115	23	3550	383.6	-2.33	40.48
290	SLU 34	-116	30	3560	384.43	-2.33	40.81
290	SLU 35	-114	13	3537	382.53	-2.34	40.02
290	SLU 36	-117	23	3577	385.95	-2.35	41.01
290	SLU 37	-113	13	3520	381.07	-2.33	39.7
290	SLU 38	-116	23	3560	384.5	-2.34	40.68
290	SLU 39	-113	14	3612	389.11	-2.42	39.67
290	SLU 40	-116	24	3653	392.53	-2.43	40.66
290	SLU 41	-115	14	3639	391.45	-2.44	40.2
290	SLU 42	-117	24	3680	394.88	-2.45	41.19
290	SLU 43	-112	12	3440	397.42	-2.14	39.24
290	SLU 44	-117	29	3507	403.13	-2.17	40.89
290	SLU 45	-114	11	3484	401.22	-2.17	40.1
290	SLU 46	-117	22	3525	404.65	-2.18	41.09
290	SLU 47	-118	29	3534	405.48	-2.18	41.42
290	SLU 48	-116	11	3512	403.57	-2.19	40.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLU 49	-119	22	3552	407	-2.2	41.62
290	SLU 50	-115	11	3494	402.12	-2.18	40.31
290	SLU 51	-118	22	3535	405.54	-2.19	41.3
290	SLU 52	-124	31	3850	432.83	-2.46	43.31
290	SLU 53	-121	14	3828	430.93	-2.47	42.53
290	SLU 54	-124	24	3868	434.35	-2.48	43.52
290	SLU 55	-125	31	3878	435.18	-2.47	43.85
290	SLU 56	-123	14	3855	433.28	-2.48	43.06
290	SLU 57	-126	24	3895	436.7	-2.49	44.05
290	SLU 58	-122	14	3838	431.82	-2.47	42.74
290	SLU 59	-125	24	3878	435.25	-2.48	43.73
290	SLU 60	-122	15	3930	439.86	-2.56	42.71
290	SLU 61	-125	25	3970	443.28	-2.58	43.7
290	SLU 62	-123	15	3957	442.2	-2.58	43.25
290	SLU 63	-126	25	3998	445.63	-2.59	44.23
290	SLU 64	-126	13	3816	429.84	-2.42	44
290	SLU 65	-130	30	3883	435.54	-2.44	45.65
290	SLU 66	-128	13	3861	433.64	-2.45	44.86
290	SLU 67	-131	23	3901	437.06	-2.46	45.85
290	SLU 68	-132	30	3911	437.89	-2.46	46.18
290	SLU 69	-130	13	3888	435.99	-2.47	45.4
290	SLU 70	-132	23	3928	439.41	-2.48	46.38
290	SLU 71	-129	13	3871	434.53	-2.45	45.07
290	SLU 72	-131	23	3911	437.96	-2.47	46.06
290	SLU 73	-137	33	4227	465.25	-2.74	48.07
290	SLU 74	-135	15	4204	463.34	-2.74	47.29
290	SLU 75	-138	25	4244	466.77	-2.76	48.28
290	SLU 76	-139	32	4254	467.59	-2.75	48.61
290	SLU 77	-136	15	4231	465.69	-2.76	47.82
290	SLU 78	-139	25	4272	469.11	-2.77	48.81
290	SLU 79	-136	15	4214	464.24	-2.75	47.5
290	SLU 80	-138	25	4254	467.66	-2.76	48.48
290	SLU 81	-135	16	4307	472.27	-2.84	47.47
290	SLU 82	-138	26	4347	475.69	-2.85	48.46
290	SLU 83	-137	16	4334	474.62	-2.86	48
290	SLU 84	-140	26	4374	478.04	-2.87	48.99
290	SLE RA 1	-94	10	2853	323.52	-1.8	32.8
290	SLE RA 2	-97	21	2898	327.32	-1.82	33.9
290	SLE RA 3	-95	10	2883	326.05	-1.82	33.37
290	SLE RA 4	-97	17	2909	328.34	-1.83	34.03
290	SLE RA 5	-98	21	2916	328.89	-1.83	34.25
290	SLE RA 6	-96	10	2901	327.62	-1.83	33.73
290	SLE RA 7	-98	16	2928	329.9	-1.84	34.39
290	SLE RA 8	-96	10	2889	326.65	-1.82	33.51
290	SLE RA 9	-97	17	2916	328.93	-1.83	34.17
290	SLE RA 10	-101	23	3126	347.13	-2.01	35.52
290	SLE RA 11	-100	11	3111	345.86	-2.02	34.99
290	SLE RA 12	-102	18	3138	348.14	-2.02	35.65
290	SLE RA 13	-102	23	3145	348.69	-2.02	35.87
290	SLE RA 14	-101	11	3130	347.42	-2.03	35.35
290	SLE RA 15	-103	18	3157	349.7	-2.04	36.01
290	SLE RA 16	-100	11	3118	346.45	-2.02	35.13
290	SLE RA 17	-102	18	3145	348.74	-2.03	35.79
290	SLE RA 18	-100	12	3180	351.81	-2.08	35.11
290	SLE RA 19	-102	19	3207	354.09	-2.09	35.77
290	SLE RA 20	-101	12	3198	353.37	-2.09	35.47
290	SLE RA 21	-103	19	3225	355.66	-2.1	36.13
290	SLE FR 1	-94	10	2853	323.52	-1.8	32.8
290	SLE FR 2	-94	12	2862	324.28	-1.81	33.02
290	SLE FR 3	-94	10	2860	324.15	-1.81	32.94
290	SLE FR 4	-96	13	2960	332.77	-1.89	33.71
290	SLE FR 5	-96	10	2958	332.63	-1.89	33.64
290	SLE FR 6	-97	11	3016	337.66	-1.94	33.96
290	SLE QP 1	-94	10	2853	323.52	-1.8	32.8
290	SLE QP 2	-96	10	2951	332.01	-1.89	33.5
290	SLD 1	219	107	3897	396.39	-1.05	-76.83
290	SLD 2	286	46	3840	392.05	-1.08	-100.19
290	SLD 3	275	-89	3026	324.37	-0.63	-96.48
290	SLD 4	342	-149	2969	320.03	-0.66	-119.83
290	SLD 5	-97	346	4566	461.3	-2.27	34.2
290	SLD 6	-54	308	4529	458.51	-2.29	19.17
290	SLD 7	89	-306	1662	221.23	-0.87	-31.27
290	SLD 8	132	-345	1625	218.43	-0.89	-46.31
290	SLD 9	-323	365	4276	445.58	-2.89	113.3
290	SLD 10	-280	327	4240	442.79	-2.91	98.26
290	SLD 11	-137	-287	1373	205.51	-1.48	47.82
290	SLD 12	-94	-326	1336	202.71	-1.5	32.79
290	SLD 13	-533	170	2932	343.99	-3.11	186.82
290	SLD 14	-466	110	2875	339.64	-3.14	163.47
290	SLD 15	-478	-26	2061	271.96	-2.69	167.18
290	SLD 16	-411	-86	2004	267.62	-2.72	143.82
290	SLV 1	393	175	4492	437.74	-0.62	-137.7
290	SLV 2	499	80	4402	430.9	-0.66	-174.51
290	SLV 3	488	-159	3006	314.9	0.1	-171.14
290	SLV 4	594	-253	2916	308.05	0.05	-207.96
290	SLV 5	-113	584	5684	551.32	-2.59	39.74
290	SLV 6	-42	520	5623	546.72	-2.62	14.96
290	SLV 7	204	-529	730	141.83	-0.19	-71.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLV 8	275	-593	670	137.23	-0.22	-96.54
290	SLV 9	-466	613	5232	526.79	-3.55	163.53
290	SLV 10	-395	549	5172	522.18	-3.58	138.75
290	SLV 11	-149	-499	278	117.3	-1.15	52.03
290	SLV 12	-78	-563	218	112.69	-1.19	27.25
290	SLV 13	-785	274	2986	355.96	-3.83	274.95
290	SLV 14	-680	179	2896	349.12	-3.87	238.13
290	SLV 15	-690	-60	1500	233.11	-3.11	241.5
290	SLV 16	-584	-155	1410	226.27	-3.16	204.69
290	SLV FO 1	442	192	4646	448.32	-0.49	-154.81
290	SLV FO 2	558	87	4547	440.79	-0.54	-195.31
290	SLV FO 3	547	-175	3011	313.19	0.3	-191.61
290	SLV FO 4	663	-280	2912	305.66	0.25	-232.1
290	SLV FO 5	-115	641	5957	573.25	-2.66	40.36
290	SLV FO 6	-36	571	5891	568.19	-2.69	13.1
290	SLV FO 7	234	-583	508	122.81	-0.02	-82.28
290	SLV FO 8	312	-653	442	117.75	-0.06	-109.54
290	SLV FO 9	-503	674	5460	546.27	-3.71	176.53
290	SLV FO 10	-425	603	5394	541.2	-3.75	149.27
290	SLV FO 11	-155	-550	11	95.83	-1.08	53.89
290	SLV FO 12	-77	-620	-55	90.76	-1.12	26.63
290	SLV FO 13	-854	300	2989	358.35	-4.02	299.09
290	SLV FO 14	-738	196	2891	350.83	-4.07	258.6
290	SLV FO 15	-749	-67	1355	223.22	-3.23	262.3
290	SLV FO 16	-633	-171	1256	215.7	-3.28	221.8
290	CRTFP Ux+	0	0	0	0	0	0
290	CRTFP Ux-	0	0	0	0	0	0
290	CRTFP Uy+	0	0	0	0	0	0
290	CRTFP Uy-	0	0	0	0	0	0
291	SLU 1	-87	11	2823	387.85	-3.12	30.62
291	SLU 2	-92	28	2891	395.07	-3.16	32.28
291	SLU 3	-90	10	2869	393.05	-3.17	31.46
291	SLU 4	-93	21	2910	397.38	-3.2	32.45
291	SLU 5	-94	28	2919	398.27	-3.2	32.79
291	SLU 6	-91	10	2897	396.26	-3.21	31.98
291	SLU 7	-94	21	2938	400.59	-3.24	32.97
291	SLU 8	-90	11	2879	394.27	-3.19	31.66
291	SLU 9	-93	21	2920	398.6	-3.21	32.65
291	SLU 10	-99	30	3247	435.4	-3.65	34.62
291	SLU 11	-96	13	3225	433.38	-3.66	33.8
291	SLU 12	-99	23	3266	437.71	-3.69	34.79
291	SLU 13	-100	30	3275	438.61	-3.69	35.14
291	SLU 14	-98	13	3253	436.59	-3.7	34.32
291	SLU 15	-101	23	3294	440.92	-3.72	35.31
291	SLU 16	-97	13	3235	434.6	-3.67	34
291	SLU 17	-100	23	3276	438.93	-3.7	35
291	SLU 18	-97	14	3331	445.47	-3.81	33.97
291	SLU 19	-100	24	3372	449.8	-3.84	34.96
291	SLU 20	-98	14	3359	448.68	-3.85	34.49
291	SLU 21	-101	24	3400	453.01	-3.88	35.48
291	SLU 22	-101	12	3212	431.8	-3.61	35.27
291	SLU 23	-105	30	3280	439.02	-3.66	36.92
291	SLU 24	-103	12	3258	437	-3.67	36.11
291	SLU 25	-106	23	3299	441.33	-3.7	37.1
291	SLU 26	-107	30	3308	442.22	-3.69	37.44
291	SLU 27	-105	12	3286	440.21	-3.7	36.63
291	SLU 28	-107	23	3327	444.53	-3.73	37.62
291	SLU 29	-104	12	3268	438.22	-3.68	36.31
291	SLU 30	-106	23	3309	442.54	-3.71	37.3
291	SLU 31	-112	32	3636	479.35	-4.15	39.27
291	SLU 32	-110	15	3614	477.33	-4.16	38.45
291	SLU 33	-113	25	3655	481.66	-4.18	39.44
291	SLU 34	-114	32	3664	482.56	-4.18	39.78
291	SLU 35	-111	15	3642	480.54	-4.19	38.97
291	SLU 36	-114	25	3683	484.87	-4.22	39.96
291	SLU 37	-110	15	3624	478.55	-4.17	38.65
291	SLU 38	-113	25	3665	482.88	-4.2	39.64
291	SLU 39	-110	16	3720	489.42	-4.31	38.62
291	SLU 40	-113	26	3761	493.75	-4.34	39.61
291	SLU 41	-112	16	3748	492.63	-4.34	39.14
291	SLU 42	-115	26	3789	496.96	-4.37	40.13
291	SLU 43	-109	13	3536	489.14	-3.88	38.22
291	SLU 44	-114	31	3605	496.35	-3.93	39.87
291	SLU 45	-111	13	3582	494.34	-3.94	39.05
291	SLU 46	-114	24	3623	498.67	-3.97	40.04
291	SLU 47	-115	31	3633	499.56	-3.96	40.39
291	SLU 48	-113	13	3610	497.54	-3.97	39.57
291	SLU 49	-116	24	3651	501.87	-4	40.56
291	SLU 50	-112	13	3593	495.55	-3.95	39.26
291	SLU 51	-115	24	3634	499.88	-3.98	40.25
291	SLU 52	-120	33	3960	536.69	-4.42	42.21
291	SLU 53	-118	15	3938	534.67	-4.43	41.4
291	SLU 54	-121	26	3979	539	-4.45	42.39
291	SLU 55	-122	33	3989	539.9	-4.45	42.73
291	SLU 56	-120	15	3966	537.88	-4.46	41.91
291	SLU 57	-122	26	4007	542.21	-4.49	42.91
291	SLU 58	-119	15	3948	535.89	-4.44	41.6
291	SLU 59	-122	26	3989	540.22	-4.47	42.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLU 60	-119	16	4045	546.76	-4.58	41.56
291	SLU 61	-121	27	4086	551.09	-4.61	42.56
291	SLU 62	-120	16	4073	549.97	-4.61	42.08
291	SLU 63	-123	27	4114	554.3	-4.64	43.07
291	SLU 64	-122	15	3925	533.09	-4.38	42.87
291	SLU 65	-127	32	3994	540.3	-4.42	44.52
291	SLU 66	-125	15	3971	538.29	-4.43	43.7
291	SLU 67	-128	25	4012	542.61	-4.46	44.69
291	SLU 68	-129	32	4022	543.51	-4.46	45.04
291	SLU 69	-126	15	3999	541.49	-4.47	44.22
291	SLU 70	-129	25	4040	545.82	-4.5	45.21
291	SLU 71	-125	15	3982	539.5	-4.45	43.9
291	SLU 72	-128	25	4022	543.83	-4.47	44.89
291	SLU 73	-134	35	4349	580.64	-4.91	46.86
291	SLU 74	-131	17	4327	578.62	-4.92	46.04
291	SLU 75	-134	28	4368	582.95	-4.95	47.03
291	SLU 76	-135	35	4378	583.84	-4.95	47.38
291	SLU 77	-133	17	4355	581.83	-4.96	46.56
291	SLU 78	-136	28	4396	586.16	-4.98	47.55
291	SLU 79	-132	17	4337	579.84	-4.93	46.25
291	SLU 80	-135	28	4378	584.17	-4.96	47.24
291	SLU 81	-132	18	4434	590.71	-5.08	46.21
291	SLU 82	-135	29	4475	595.04	-5.1	47.2
291	SLU 83	-133	18	4462	593.92	-5.11	46.73
291	SLU 84	-136	29	4503	598.25	-5.14	47.72
291	SLE RA 1	-91	11	2934	400.41	-3.26	31.95
291	SLE RA 2	-94	23	2980	405.22	-3.29	33.05
291	SLE RA 3	-93	11	2965	403.87	-3.3	32.51
291	SLE RA 4	-95	18	2992	406.76	-3.31	33.17
291	SLE RA 5	-95	23	2998	407.36	-3.31	33.4
291	SLE RA 6	-94	11	2983	406.01	-3.32	32.86
291	SLE RA 7	-96	18	3011	408.9	-3.34	33.52
291	SLE RA 8	-93	11	2971	404.69	-3.3	32.64
291	SLE RA 9	-95	18	2999	407.57	-3.32	33.3
291	SLE RA 10	-99	24	3217	432.11	-3.61	34.61
291	SLE RA 11	-97	13	3202	430.76	-3.62	34.07
291	SLE RA 12	-99	20	3229	433.65	-3.64	34.73
291	SLE RA 13	-100	24	3235	434.25	-3.64	34.96
291	SLE RA 14	-98	13	3221	432.9	-3.64	34.42
291	SLE RA 15	-100	20	3248	435.79	-3.66	35.08
291	SLE RA 16	-98	13	3209	431.58	-3.63	34.21
291	SLE RA 17	-99	20	3236	434.46	-3.65	34.87
291	SLE RA 18	-98	13	3273	438.82	-3.72	34.18
291	SLE RA 19	-99	20	3300	441.71	-3.74	34.84
291	SLE RA 20	-99	13	3292	440.96	-3.75	34.53
291	SLE RA 21	-100	20	3319	443.85	-3.76	35.19
291	SLE FR 1	-91	11	2934	400.41	-3.26	31.95
291	SLE FR 2	-92	13	2943	401.37	-3.27	32.17
291	SLE FR 3	-92	11	2941	401.26	-3.27	32.09
291	SLE FR 4	-94	14	3045	412.9	-3.4	32.84
291	SLE FR 5	-93	12	3043	412.79	-3.41	32.76
291	SLE FR 6	-94	12	3103	419.62	-3.49	33.07
291	SLE QP 1	-91	11	2934	400.41	-3.26	31.95
291	SLE QP 2	-93	12	3036	411.93	-3.4	32.62
291	SLD 1	223	108	3964	493.46	-3.09	-78.14
291	SLD 2	290	50	3908	487.95	-3.09	-101.48
291	SLD 3	278	-92	3072	398.15	-2.21	-97.42
291	SLD 4	345	-150	3016	392.63	-2.21	-120.77
291	SLD 5	-93	354	4677	581.9	-4.65	32.66
291	SLD 6	-49	316	4641	578.35	-4.64	17.63
291	SLD 7	90	-313	1703	264.19	-1.71	-31.63
291	SLD 8	133	-350	1667	260.64	-1.7	-46.66
291	SLD 9	-319	373	4404	563.23	-5.09	111.91
291	SLD 10	-276	336	4368	559.68	-5.09	96.87
291	SLD 11	-137	-293	1431	245.52	-2.15	47.62
291	SLD 12	-94	-330	1394	241.97	-2.15	32.58
291	SLD 13	-531	173	3056	431.23	-4.59	186.02
291	SLD 14	-464	115	2999	425.72	-4.58	162.67
291	SLD 15	-476	-27	2164	335.92	-3.71	166.73
291	SLD 16	-410	-84	2107	330.41	-3.7	143.38
291	SLV 1	398	177	4550	546.13	-2.99	-139.26
291	SLV 2	503	85	4461	537.44	-2.98	-176.07
291	SLV 3	491	-164	3028	383.54	-1.48	-172.1
291	SLV 4	596	-255	2939	374.85	-1.48	-208.91
291	SLV 5	-107	595	5815	700.4	-5.56	37.73
291	SLV 6	-36	534	5755	694.55	-5.56	12.95
291	SLV 7	204	-541	742	158.45	-0.54	-71.73
291	SLV 8	274	-602	682	152.6	-0.54	-96.51
291	SLV 9	-461	626	5389	671.27	-6.26	161.75
291	SLV 10	-390	564	5329	665.42	-6.25	136.98
291	SLV 11	-151	-510	317	129.31	-1.24	52.29
291	SLV 12	-80	-572	257	123.46	-1.24	27.51
291	SLV 13	-783	279	3132	449.01	-5.32	274.15
291	SLV 14	-677	188	3043	440.32	-5.31	237.35
291	SLV 15	-690	-62	1610	286.43	-3.81	241.31
291	SLV 16	-584	-153	1521	277.74	-3.81	204.51
291	SLV FO 1	447	193	4702	559.55	-2.95	-156.45
291	SLV FO 2	563	93	4604	549.99	-2.94	-196.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLV FO 3	549	-182	3028	380.7	-1.29	-192.57
291	SLV FO 4	665	-282	2930	371.14	-1.29	-233.06
291	SLV FO 5	-108	653	6093	729.25	-5.78	38.24
291	SLV FO 6	-30	586	6027	722.82	-5.77	10.99
291	SLV FO 7	233	-596	513	133.1	-0.26	-82.17
291	SLV FO 8	311	-664	447	126.66	-0.25	-109.42
291	SLV FO 9	-497	687	5625	697.2	-6.54	174.67
291	SLV FO 10	-419	620	5559	690.77	-6.54	147.41
291	SLV FO 11	-156	-562	45	101.05	-1.03	54.26
291	SLV FO 12	-78	-630	-21	94.62	-1.02	27
291	SLV FO 13	-852	306	3142	452.72	-5.51	298.3
291	SLV FO 14	-736	205	3044	443.16	-5.5	257.82
291	SLV FO 15	-749	-69	1468	273.88	-3.86	262.18
291	SLV FO 16	-633	-170	1370	264.32	-3.85	221.7
291	CRTFP Ux+	0	0	0	0	0	0
291	CRTFP Ux-	0	0	0	0	0	0
291	CRTFP Uy+	0	0	0	0	0	0
291	CRTFP Uy-	0	0	0	0	0	0
292	SLU 1	-85	11	2942	491.43	-4.32	29.74
292	SLU 2	-90	29	3012	500.75	-4.38	31.39
292	SLU 3	-87	11	2990	498.62	-4.4	30.55
292	SLU 4	-90	22	3032	504.21	-4.44	31.54
292	SLU 5	-91	29	3042	505.18	-4.43	31.89
292	SLU 6	-89	11	3020	503.06	-4.45	31.05
292	SLU 7	-92	22	3062	508.65	-4.49	32.04
292	SLU 8	-88	11	3001	500.31	-4.42	30.74
292	SLU 9	-91	22	3043	505.89	-4.46	31.74
292	SLU 10	-96	31	3386	555.97	-5.04	33.64
292	SLU 11	-94	13	3364	553.84	-5.05	32.8
292	SLU 12	-97	24	3406	559.43	-5.09	33.79
292	SLU 13	-98	31	3416	560.4	-5.09	34.14
292	SLU 14	-95	13	3394	558.28	-5.1	33.3
292	SLU 15	-98	24	3436	563.87	-5.14	34.29
292	SLU 16	-94	13	3375	555.52	-5.07	32.99
292	SLU 17	-97	24	3417	561.11	-5.11	33.98
292	SLU 18	-94	14	3477	570.32	-5.25	32.95
292	SLU 19	-97	25	3519	575.91	-5.29	33.94
292	SLU 20	-96	14	3506	574.75	-5.3	33.45
292	SLU 21	-98	25	3548	580.34	-5.34	34.45
292	SLU 22	-98	13	3350	551.64	-5	34.26
292	SLU 23	-103	31	3420	560.96	-5.06	35.92
292	SLU 24	-100	13	3398	558.83	-5.08	35.07
292	SLU 25	-103	24	3440	564.42	-5.12	36.06
292	SLU 26	-104	31	3449	565.39	-5.11	36.42
292	SLU 27	-102	13	3427	563.27	-5.13	35.57
292	SLU 28	-104	24	3470	568.86	-5.17	36.57
292	SLU 29	-101	13	3409	560.52	-5.1	35.27
292	SLU 30	-104	24	3451	566.1	-5.14	36.26
292	SLU 31	-109	33	3794	616.18	-5.72	38.17
292	SLU 32	-107	15	3772	614.05	-5.74	37.32
292	SLU 33	-109	26	3814	619.64	-5.78	38.31
292	SLU 34	-110	33	3824	620.61	-5.77	38.67
292	SLU 35	-108	15	3802	618.49	-5.79	37.82
292	SLU 36	-111	26	3844	624.08	-5.82	38.82
292	SLU 37	-107	15	3783	615.74	-5.75	37.52
292	SLU 38	-110	26	3825	621.32	-5.79	38.51
292	SLU 39	-107	16	3884	630.53	-5.94	37.48
292	SLU 40	-110	27	3926	636.12	-5.98	38.47
292	SLU 41	-109	16	3914	634.96	-5.99	37.98
292	SLU 42	-111	27	3956	640.55	-6.02	38.97
292	SLU 43	-106	14	3685	618.22	-5.38	37.11
292	SLU 44	-111	31	3755	627.53	-5.44	38.76
292	SLU 45	-108	14	3733	625.41	-5.46	37.92
292	SLU 46	-111	24	3775	631	-5.5	38.91
292	SLU 47	-112	31	3784	631.97	-5.49	39.26
292	SLU 48	-110	14	3763	629.85	-5.51	38.42
292	SLU 49	-113	24	3805	635.44	-5.55	39.41
292	SLU 50	-109	14	3744	627.09	-5.48	38.11
292	SLU 51	-112	24	3786	632.68	-5.52	39.1
292	SLU 52	-117	34	4129	682.75	-6.1	41.01
292	SLU 53	-115	16	4107	680.63	-6.12	40.17
292	SLU 54	-118	27	4149	686.22	-6.15	41.16
292	SLU 55	-119	34	4159	687.19	-6.15	41.51
292	SLU 56	-116	16	4137	685.07	-6.17	40.67
292	SLU 57	-119	27	4179	690.66	-6.2	41.66
292	SLU 58	-115	16	4118	682.31	-6.13	40.36
292	SLU 59	-118	27	4160	687.9	-6.17	41.35
292	SLU 60	-115	17	4219	697.1	-6.32	40.32
292	SLU 61	-118	28	4261	702.69	-6.35	41.31
292	SLU 62	-117	17	4249	701.54	-6.37	40.82
292	SLU 63	-119	28	4291	707.13	-6.4	41.82
292	SLU 64	-119	16	4093	678.43	-6.06	41.63
292	SLU 65	-124	33	4163	687.74	-6.13	43.29
292	SLU 66	-121	16	4141	685.62	-6.14	42.44
292	SLU 67	-124	26	4183	691.21	-6.18	43.43
292	SLU 68	-125	34	4192	692.18	-6.18	43.79
292	SLU 69	-123	16	4170	690.06	-6.19	42.94
292	SLU 70	-126	26	4212	695.65	-6.23	43.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLU 71	-122	16	4152	687.3	-6.16	42.64
292	SLU 72	-125	26	4194	692.89	-6.2	43.63
292	SLU 73	-130	36	4537	742.96	-6.78	45.54
292	SLU 74	-128	18	4515	740.84	-6.8	44.69
292	SLU 75	-131	29	4557	746.43	-6.84	45.68
292	SLU 76	-132	36	4566	747.4	-6.83	46.04
292	SLU 77	-129	18	4544	745.28	-6.85	45.19
292	SLU 78	-132	29	4586	750.87	-6.89	46.19
292	SLU 79	-128	18	4526	742.52	-6.82	44.89
292	SLU 80	-131	29	4568	748.11	-6.85	45.88
292	SLU 81	-128	19	4627	757.31	-7	44.85
292	SLU 82	-131	30	4669	762.9	-7.04	45.84
292	SLU 83	-130	19	4657	761.75	-7.05	45.35
292	SLU 84	-132	30	4699	767.34	-7.09	46.34
292	SLE RA 1	-89	12	3059	508.63	-4.51	31.03
292	SLE RA 2	-92	23	3105	514.84	-4.56	32.13
292	SLE RA 3	-90	12	3091	513.43	-4.57	31.57
292	SLE RA 4	-92	19	3119	517.16	-4.59	32.23
292	SLE RA 5	-93	23	3125	517.8	-4.59	32.47
292	SLE RA 6	-91	12	3110	516.39	-4.6	31.91
292	SLE RA 7	-93	19	3138	520.11	-4.63	32.57
292	SLE RA 8	-91	12	3098	514.55	-4.58	31.7
292	SLE RA 9	-92	19	3126	518.28	-4.6	32.36
292	SLE RA 10	-96	25	3355	551.66	-4.99	33.63
292	SLE RA 11	-94	13	3340	550.24	-5	33.07
292	SLE RA 12	-96	20	3368	553.97	-5.03	33.73
292	SLE RA 13	-97	25	3374	554.62	-5.03	33.97
292	SLE RA 14	-95	13	3360	553.2	-5.04	33.4
292	SLE RA 15	-97	20	3388	556.93	-5.06	34.07
292	SLE RA 16	-95	13	3347	551.36	-5.02	33.2
292	SLE RA 17	-97	20	3375	555.09	-5.04	33.86
292	SLE RA 18	-95	14	3415	561.22	-5.14	33.17
292	SLE RA 19	-97	21	3443	564.95	-5.16	33.83
292	SLE RA 20	-96	14	3435	564.18	-5.17	33.51
292	SLE RA 21	-98	21	3463	567.91	-5.2	34.17
292	SLE FR 1	-89	12	3059	508.63	-4.51	31.03
292	SLE FR 2	-89	14	3068	509.88	-4.52	31.25
292	SLE FR 3	-89	12	3066	509.82	-4.53	31.16
292	SLE FR 4	-91	15	3175	525.65	-4.71	31.89
292	SLE FR 5	-91	12	3173	525.59	-4.71	31.81
292	SLE FR 6	-92	13	3237	534.93	-4.82	32.1
292	SLE QP 1	-89	12	3059	508.63	-4.51	31.03
292	SLE QP 2	-91	12	3165	524.41	-4.7	31.67
292	SLD 1	227	110	4092	633.29	-4.81	-79.53
292	SLD 2	294	53	4034	626.11	-4.79	-102.85
292	SLD 3	281	-96	3165	505.99	-3.56	-98.41
292	SLD 4	347	-153	3108	498.81	-3.53	-121.74
292	SLD 5	-88	364	4858	751.38	-6.64	30.96
292	SLD 6	-45	327	4821	746.76	-6.62	15.94
292	SLD 7	90	-323	1770	327.05	-2.46	-31.98
292	SLD 8	133	-359	1733	322.43	-2.44	-47
292	SLD 9	-314	384	4598	726.4	-6.96	110.34
292	SLD 10	-271	348	4561	721.77	-6.94	95.32
292	SLD 11	-136	-303	1510	302.06	-2.77	47.41
292	SLD 12	-93	-339	1473	297.44	-2.76	32.39
292	SLD 13	-528	177	3223	550.01	-5.87	185.08
292	SLD 14	-462	121	3166	542.83	-5.84	161.75
292	SLD 15	-475	-29	2297	422.71	-4.61	166.2
292	SLD 16	-408	-85	2239	415.53	-4.58	142.87
292	SLV 1	403	179	4678	703.64	-4.97	-140.93
292	SLV 2	508	90	4588	692.32	-4.92	-177.7
292	SLV 3	494	-172	3098	486.47	-2.83	-173.07
292	SLV 4	599	-261	3008	475.15	-2.78	-209.84
292	SLV 5	-100	612	6033	909.66	-8.04	35.5
292	SLV 6	-29	552	5972	902.04	-8.01	10.75
292	SLV 7	203	-559	765	185.77	-0.9	-71.64
292	SLV 8	274	-619	705	178.15	-0.87	-96.39
292	SLV 9	-455	644	5626	870.67	-8.53	159.74
292	SLV 10	-384	584	5566	863.05	-8.5	134.99
292	SLV 11	-152	-527	358	146.78	-1.39	52.6
292	SLV 12	-81	-587	298	139.16	-1.36	27.84
292	SLV 13	-780	285	3323	573.67	-6.62	273.19
292	SLV 14	-675	197	3233	562.35	-6.57	236.42
292	SLV 15	-689	-66	1743	356.5	-4.47	241.05
292	SLV 16	-584	-155	1653	345.18	-4.43	204.27
292	SLV FO 1	452	196	4830	721.56	-5	-158.19
292	SLV FO 2	568	98	4731	709.11	-4.95	-198.64
292	SLV FO 3	552	-190	3091	482.68	-2.64	-193.54
292	SLV FO 4	668	-288	2992	470.23	-2.59	-233.99
292	SLV FO 5	-101	672	6320	948.19	-8.37	35.89
292	SLV FO 6	-23	606	6253	939.81	-8.34	8.66
292	SLV FO 7	232	-616	525	151.91	-0.52	-81.97
292	SLV FO 8	310	-682	458	143.53	-0.48	-109.2
292	SLV FO 9	-491	707	5873	905.3	-8.92	172.55
292	SLV FO 10	-413	641	5806	896.92	-8.88	145.32
292	SLV FO 11	-158	-581	78	109.02	-1.06	54.69
292	SLV FO 12	-80	-647	11	100.64	-1.03	27.46
292	SLV FO 13	-849	313	3339	578.6	-6.81	297.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLV FO 14	-733	215	3240	566.15	-6.76	256.89
292	SLV FO 15	-749	-74	1600	339.71	-4.45	261.98
292	SLV FO 16	-633	-171	1501	327.26	-4.4	221.53
292	CRTFP Ux+	0	0	0	0	0	0
292	CRTFP Ux-	0	0	0	0	0	0
292	CRTFP Uy+	0	0	0	0	0	0
292	CRTFP Uy-	0	0	0	0	0	0
293	SLU 1	-82	10	3095	620.63	-5.22	28.79
293	SLU 2	-87	28	3167	632.52	-5.3	30.44
293	SLU 3	-85	10	3146	630.33	-5.32	29.57
293	SLU 4	-87	21	3190	637.46	-5.36	30.56
293	SLU 5	-89	28	3199	638.5	-5.36	30.92
293	SLU 6	-86	10	3177	636.32	-5.38	30.05
293	SLU 7	-89	21	3221	643.45	-5.43	31.04
293	SLU 8	-85	10	3158	632.6	-5.34	29.76
293	SLU 9	-88	21	3201	639.73	-5.39	30.75
293	SLU 10	-93	30	3565	706.28	-6.08	32.59
293	SLU 11	-91	12	3543	704.09	-6.1	31.72
293	SLU 12	-94	23	3587	711.23	-6.15	32.71
293	SLU 13	-95	30	3596	712.27	-6.14	33.07
293	SLU 14	-92	12	3575	710.08	-6.16	32.2
293	SLU 15	-95	23	3618	717.21	-6.21	33.19
293	SLU 16	-91	12	3555	706.37	-6.12	31.91
293	SLU 17	-94	23	3598	713.5	-6.17	32.9
293	SLU 18	-91	13	3663	726.01	-6.34	31.86
293	SLU 19	-94	24	3706	733.14	-6.38	32.85
293	SLU 20	-93	13	3694	731.99	-6.4	32.34
293	SLU 21	-95	24	3737	739.13	-6.44	33.33
293	SLU 22	-95	12	3527	701.16	-6.04	33.18
293	SLU 23	-100	30	3599	713.04	-6.12	34.83
293	SLU 24	-97	12	3578	710.85	-6.14	33.96
293	SLU 25	-100	23	3622	717.98	-6.19	34.95
293	SLU 26	-101	30	3631	719.03	-6.18	35.32
293	SLU 27	-99	12	3609	716.84	-6.2	34.45
293	SLU 28	-101	23	3653	723.97	-6.25	35.44
293	SLU 29	-98	12	3590	713.13	-6.16	34.15
293	SLU 30	-101	23	3633	720.26	-6.21	35.14
293	SLU 31	-106	32	3997	786.8	-6.9	36.98
293	SLU 32	-103	14	3975	784.62	-6.92	36.11
293	SLU 33	-106	25	4019	791.75	-6.97	37.1
293	SLU 34	-107	32	4028	792.79	-6.96	37.47
293	SLU 35	-105	14	4007	790.6	-6.98	36.6
293	SLU 36	-108	25	4050	797.73	-7.03	37.59
293	SLU 37	-104	14	3987	786.89	-6.94	36.3
293	SLU 38	-107	25	4030	794.02	-6.99	37.29
293	SLU 39	-104	15	4094	806.53	-7.16	36.25
293	SLU 40	-107	26	4138	813.66	-7.2	37.24
293	SLU 41	-105	15	4126	812.52	-7.22	36.74
293	SLU 42	-108	26	4169	819.65	-7.26	37.73
293	SLU 43	-103	12	3876	779.22	-6.5	35.92
293	SLU 44	-108	30	3948	791.1	-6.58	37.56
293	SLU 45	-105	12	3927	788.91	-6.6	36.7
293	SLU 46	-108	23	3970	796.04	-6.65	37.69
293	SLU 47	-109	30	3979	797.09	-6.64	38.05
293	SLU 48	-106	13	3958	794.9	-6.66	37.18
293	SLU 49	-109	23	4001	802.03	-6.71	38.17
293	SLU 50	-106	12	3938	791.18	-6.63	36.89
293	SLU 51	-108	23	3981	798.32	-6.67	37.88
293	SLU 52	-114	32	4345	864.86	-7.36	39.71
293	SLU 53	-111	15	4324	862.68	-7.38	38.85
293	SLU 54	-114	25	4367	869.81	-7.43	39.84
293	SLU 55	-115	32	4376	870.85	-7.42	40.2
293	SLU 56	-113	15	4355	868.66	-7.45	39.33
293	SLU 57	-115	25	4398	875.79	-7.49	40.32
293	SLU 58	-112	15	4335	864.95	-7.41	39.04
293	SLU 59	-115	25	4379	872.08	-7.45	40.03
293	SLU 60	-112	15	4443	884.59	-7.62	38.99
293	SLU 61	-114	26	4486	891.72	-7.67	39.98
293	SLU 62	-113	15	4474	890.58	-7.68	39.47
293	SLU 63	-116	26	4518	897.71	-7.73	40.46
293	SLU 64	-115	14	4307	859.74	-7.32	40.31
293	SLU 65	-120	32	4380	871.62	-7.4	41.96
293	SLU 66	-118	15	4359	869.44	-7.42	41.09
293	SLU 67	-120	25	4402	876.57	-7.47	42.08
293	SLU 68	-121	32	4411	877.61	-7.46	42.45
293	SLU 69	-119	15	4390	875.42	-7.49	41.58
293	SLU 70	-122	25	4433	882.55	-7.53	42.57
293	SLU 71	-118	15	4370	871.71	-7.45	41.28
293	SLU 72	-121	25	4413	878.84	-7.49	42.27
293	SLU 73	-126	34	4777	945.39	-8.18	44.11
293	SLU 74	-124	17	4756	943.2	-8.21	43.24
293	SLU 75	-127	27	4799	950.33	-8.25	44.23
293	SLU 76	-128	35	4808	951.37	-8.24	44.59
293	SLU 77	-125	17	4787	949.18	-8.27	43.73
293	SLU 78	-128	27	4830	956.32	-8.31	44.72
293	SLU 79	-124	17	4767	945.47	-8.23	43.43
293	SLU 80	-127	27	4811	952.6	-8.28	44.42
293	SLU 81	-124	17	4875	965.11	-8.44	43.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLU 82	-127	28	4918	972.25	-8.49	44.37
293	SLU 83	-126	17	4906	971.1	-8.5	43.87
293	SLU 84	-128	28	4950	978.23	-8.55	44.86
293	SLE RA 1	-86	11	3219	643.64	-5.45	30.04
293	SLE RA 2	-89	23	3267	651.56	-5.5	31.14
293	SLE RA 3	-88	11	3253	650.1	-5.52	30.56
293	SLE RA 4	-89	18	3282	654.86	-5.55	31.22
293	SLE RA 5	-90	23	3288	655.55	-5.55	31.47
293	SLE RA 6	-88	11	3273	654.09	-5.56	30.89
293	SLE RA 7	-90	18	3302	658.85	-5.59	31.55
293	SLE RA 8	-88	11	3260	651.62	-5.54	30.69
293	SLE RA 9	-90	18	3289	656.37	-5.57	31.35
293	SLE RA 10	-93	24	3532	700.74	-6.03	32.57
293	SLE RA 11	-92	12	3517	699.28	-6.04	32
293	SLE RA 12	-93	19	3546	704.03	-6.07	32.66
293	SLE RA 13	-94	24	3552	704.73	-6.07	32.9
293	SLE RA 14	-93	12	3538	703.27	-6.08	32.32
293	SLE RA 15	-94	19	3567	708.02	-6.11	32.98
293	SLE RA 16	-92	12	3525	700.79	-6.06	32.12
293	SLE RA 17	-94	19	3554	705.55	-6.09	32.78
293	SLE RA 18	-92	13	3597	713.89	-6.2	32.09
293	SLE RA 19	-94	20	3626	718.64	-6.23	32.75
293	SLE RA 20	-93	13	3618	717.88	-6.24	32.41
293	SLE RA 21	-95	20	3647	722.63	-6.27	33.07
293	SLE FR 1	-86	11	3219	643.64	-5.45	30.04
293	SLE FR 2	-87	13	3228	645.22	-5.46	30.26
293	SLE FR 3	-86	11	3227	645.24	-5.47	30.17
293	SLE FR 4	-88	14	3342	666.3	-5.69	30.88
293	SLE FR 5	-88	11	3340	666.31	-5.69	30.79
293	SLE FR 6	-89	12	3408	678.77	-5.83	31.07
293	SLE QP 1	-86	11	3219	643.64	-5.45	30.04
293	SLE QP 2	-88	11	3332	664.71	-5.68	30.66
293	SLD 1	231	110	4267	808.61	-6.07	-81
293	SLD 2	298	55	4208	799.4	-6.03	-104.29
293	SLD 3	283	-103	3296	642.53	-4.57	-99.42
293	SLD 4	350	-158	3238	633.32	-4.53	-122.71
293	SLD 5	-82	374	5095	961.35	-8.08	29.1
293	SLD 6	-39	338	5057	955.42	-8.05	14.11
293	SLD 7	91	-337	1859	407.76	-3.07	-32.3
293	SLD 8	134	-372	1821	401.83	-3.05	-47.3
293	SLD 9	-309	395	4843	927.6	-8.31	108.61
293	SLD 10	-267	359	4805	921.67	-8.28	93.61
293	SLD 11	-136	-316	1607	374.01	-3.3	47.21
293	SLD 12	-93	-351	1569	368.08	-3.27	32.21
293	SLD 13	-526	181	3426	696.11	-6.83	184.02
293	SLD 14	-459	125	3368	686.9	-6.78	160.73
293	SLD 15	-474	-32	2456	530.03	-5.33	165.6
293	SLD 16	-407	-88	2397	520.82	-5.28	142.31
293	SLV 1	408	181	4862	901.42	-6.4	-142.68
293	SLV 2	513	94	4770	886.9	-6.33	-179.4
293	SLV 3	496	-182	3206	618.09	-3.84	-174.04
293	SLV 4	601	-269	3114	603.57	-3.77	-210.75
293	SLV 5	-93	630	6320	1168.15	-9.79	33.06
293	SLV 6	-22	571	6258	1158.38	-9.75	8.35
293	SLV 7	202	-582	800	223.72	-1.25	-71.46
293	SLV 8	273	-640	738	213.94	-1.2	-96.17
293	SLV 9	-448	663	5926	1115.49	-10.15	157.48
293	SLV 10	-378	604	5864	1105.71	-10.1	132.77
293	SLV 11	-153	-549	406	171.05	-1.61	52.97
293	SLV 12	-83	-607	344	161.28	-1.56	28.25
293	SLV 13	-777	292	3550	725.86	-7.58	272.06
293	SLV 14	-672	204	3458	711.34	-7.51	235.35
293	SLV 15	-688	-72	1894	442.53	-5.02	240.71
293	SLV 16	-583	-159	1802	428.01	-4.95	203.99
293	SLV FO 1	457	199	5015	925.09	-6.47	-160.02
293	SLV FO 2	573	103	4913	909.12	-6.4	-200.4
293	SLV FO 3	555	-201	3193	613.43	-3.65	-194.51
293	SLV FO 4	670	-297	3092	597.45	-3.58	-234.89
293	SLV FO 5	-93	692	6618	1218.5	-10.21	33.3
293	SLV FO 6	-16	627	6550	1207.75	-10.15	6.12
293	SLV FO 7	231	-641	546	179.62	-0.81	-81.67
293	SLV FO 8	309	-705	478	168.87	-0.76	-108.85
293	SLV FO 9	-484	728	6186	1160.56	-10.6	170.17
293	SLV FO 10	-407	663	6118	1149.81	-10.54	142.98
293	SLV FO 11	-160	-605	114	121.68	-1.2	55.2
293	SLV FO 12	-82	-669	46	110.93	-1.15	28.01
293	SLV FO 13	-846	320	3572	731.98	-7.77	296.21
293	SLV FO 14	-730	224	3471	716	-7.7	255.82
293	SLV FO 15	-748	-80	1751	420.31	-4.95	261.71
293	SLV FO 16	-633	-176	1649	404.34	-4.88	221.33
293	CRTFP Ux+	0	0	0	0	0	0
293	CRTFP Ux-	0	0	0	0	0	0
293	CRTFP Uy+	0	0	0	0	0	0
293	CRTFP Uy-	0	0	0	0	0	0
294	SLU 1	-80	7	3270	768.71	-5.66	27.77
294	SLU 2	-84	25	3345	783.45	-5.73	29.41
294	SLU 3	-82	7	3324	781.29	-5.76	28.52
294	SLU 4	-85	18	3369	790.14	-5.81	29.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
294	SLU 5	-86	25	3378	791.22	-5.8	29.88
294	SLU 6	-83	7	3358	789.06	-5.83	28.99
294	SLU 7	-86	18	3403	797.91	-5.88	29.97
294	SLU 8	-82	7	3337	784.25	-5.79	28.71
294	SLU 9	-85	18	3381	793.09	-5.84	29.69
294	SLU 10	-90	26	3768	878.48	-6.58	31.45
294	SLU 11	-88	8	3748	876.32	-6.61	30.57
294	SLU 12	-91	19	3793	885.16	-6.66	31.55
294	SLU 13	-92	27	3801	886.25	-6.65	31.92
294	SLU 14	-89	8	3781	884.09	-6.68	31.03
294	SLU 15	-92	19	3826	892.93	-6.72	32.02
294	SLU 16	-88	8	3760	879.27	-6.63	30.75
294	SLU 17	-91	19	3805	888.12	-6.68	31.73
294	SLU 18	-88	9	3875	904.46	-6.86	30.69
294	SLU 19	-91	20	3920	913.3	-6.91	31.67
294	SLU 20	-90	9	3908	912.23	-6.93	31.16
294	SLU 21	-92	20	3953	921.07	-6.98	32.14
294	SLU 22	-92	8	3729	872.54	-6.54	32.03
294	SLU 23	-97	27	3804	887.29	-6.62	33.66
294	SLU 24	-94	8	3784	885.13	-6.65	32.78
294	SLU 25	-97	19	3829	893.97	-6.7	33.76
294	SLU 26	-98	27	3838	895.06	-6.69	34.13
294	SLU 27	-95	9	3817	892.9	-6.72	33.25
294	SLU 28	-98	19	3862	901.74	-6.77	34.23
294	SLU 29	-95	8	3796	888.08	-6.68	32.96
294	SLU 30	-97	19	3841	896.93	-6.73	33.94
294	SLU 31	-103	28	4228	982.31	-7.47	35.71
294	SLU 32	-100	10	4207	980.15	-7.5	34.82
294	SLU 33	-103	21	4252	989	-7.54	35.8
294	SLU 34	-104	28	4261	990.08	-7.53	36.17
294	SLU 35	-101	10	4240	987.92	-7.57	35.29
294	SLU 36	-104	21	4285	996.77	-7.61	36.27
294	SLU 37	-101	10	4219	983.11	-7.52	35
294	SLU 38	-103	21	4264	991.95	-7.57	35.99
294	SLU 39	-100	11	4334	1008.29	-7.75	34.94
294	SLU 40	-103	22	4379	1017.14	-7.8	35.93
294	SLU 41	-102	11	4367	1016.06	-7.82	35.41
294	SLU 42	-105	22	4412	1024.91	-7.86	36.4
294	SLU 43	-100	8	4093	963.72	-7.05	34.64
294	SLU 44	-104	26	4168	978.46	-7.13	36.28
294	SLU 45	-102	8	4148	976.3	-7.16	35.39
294	SLU 46	-104	19	4193	985.15	-7.2	36.38
294	SLU 47	-106	26	4202	986.23	-7.19	36.75
294	SLU 48	-103	8	4181	984.07	-7.22	35.86
294	SLU 49	-106	19	4226	992.92	-7.27	36.84
294	SLU 50	-102	8	4160	979.26	-7.18	35.58
294	SLU 51	-105	19	4205	988.11	-7.23	36.56
294	SLU 52	-110	28	4592	1073.49	-7.97	38.32
294	SLU 53	-108	10	4571	1071.33	-8	37.44
294	SLU 54	-110	21	4616	1080.17	-8.05	38.42
294	SLU 55	-111	28	4625	1081.26	-8.04	38.79
294	SLU 56	-109	10	4604	1079.1	-8.07	37.91
294	SLU 57	-112	21	4649	1087.94	-8.12	38.89
294	SLU 58	-108	10	4583	1074.28	-8.03	37.62
294	SLU 59	-111	21	4628	1083.13	-8.07	38.6
294	SLU 60	-108	10	4698	1099.47	-8.25	37.56
294	SLU 61	-111	21	4743	1108.32	-8.3	38.54
294	SLU 62	-109	10	4731	1107.24	-8.32	38.03
294	SLU 63	-112	21	4776	1116.09	-8.37	39.01
294	SLU 64	-112	10	4553	1067.55	-7.94	38.9
294	SLU 65	-116	28	4628	1082.3	-8.01	40.54
294	SLU 66	-114	10	4607	1080.14	-8.05	39.65
294	SLU 67	-117	21	4652	1088.98	-8.09	40.63
294	SLU 68	-118	28	4661	1090.07	-8.08	41
294	SLU 69	-115	10	4641	1087.91	-8.11	40.12
294	SLU 70	-118	21	4685	1096.76	-8.16	41.1
294	SLU 71	-114	10	4619	1083.1	-8.07	39.83
294	SLU 72	-117	21	4664	1091.94	-8.12	40.82
294	SLU 73	-122	30	5051	1177.32	-8.86	42.58
294	SLU 74	-120	12	5031	1175.16	-8.89	41.69
294	SLU 75	-123	22	5075	1184.01	-8.94	42.68
294	SLU 76	-124	30	5084	1185.09	-8.93	43.05
294	SLU 77	-121	12	5064	1182.93	-8.96	42.16
294	SLU 78	-124	22	5109	1191.78	-9	43.14
294	SLU 79	-120	12	5043	1178.12	-8.92	41.88
294	SLU 80	-123	22	5088	1186.97	-8.96	42.86
294	SLU 81	-120	12	5158	1203.3	-9.14	41.82
294	SLU 82	-123	23	5202	1212.15	-9.19	42.8
294	SLU 83	-121	12	5191	1211.07	-9.21	42.28
294	SLU 84	-124	23	5236	1219.92	-9.26	43.27
294	SLE RA 1	-83	7	3401	798.37	-5.91	28.99
294	SLE RA 2	-86	19	3451	808.2	-5.96	30.08
294	SLE RA 3	-85	7	3437	806.76	-5.98	29.49
294	SLE RA 4	-87	15	3467	812.66	-6.01	30.14
294	SLE RA 5	-87	19	3473	813.38	-6.01	30.39
294	SLE RA 6	-86	7	3460	811.94	-6.03	29.8
294	SLE RA 7	-87	15	3490	817.84	-6.06	30.45
294	SLE RA 8	-85	7	3446	808.74	-6	29.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
294	SLE RA 9	-87	15	3476	814.63	-6.03	30.27
294	SLE RA 10	-90	20	3733	871.55	-6.52	31.44
294	SLE RA 11	-89	8	3720	870.11	-6.54	30.85
294	SLE RA 12	-90	16	3750	876.01	-6.58	31.5
294	SLE RA 13	-91	20	3756	876.73	-6.57	31.75
294	SLE RA 14	-90	8	3742	875.29	-6.59	31.16
294	SLE RA 15	-91	16	3772	881.19	-6.62	31.82
294	SLE RA 16	-89	8	3728	872.09	-6.56	30.97
294	SLE RA 17	-91	16	3758	877.98	-6.59	31.63
294	SLE RA 18	-89	9	3804	888.87	-6.71	30.93
294	SLE RA 19	-91	16	3834	894.77	-6.74	31.59
294	SLE RA 20	-90	9	3827	894.05	-6.76	31.24
294	SLE RA 21	-92	16	3857	899.95	-6.79	31.9
294	SLE FR 1	-83	7	3401	798.37	-5.91	28.99
294	SLE FR 2	-84	10	3411	800.34	-5.92	29.2
294	SLE FR 3	-84	7	3410	800.45	-5.93	29.11
294	SLE FR 4	-86	10	3532	827.49	-6.16	29.79
294	SLE FR 5	-85	8	3531	827.6	-6.17	29.69
294	SLE FR 6	-86	8	3603	843.62	-6.31	29.96
294	SLE QP 1	-83	7	3401	798.37	-5.91	28.99
294	SLE QP 2	-85	8	3522	825.52	-6.15	29.57
294	SLD 1	236	108	4471	1008.85	-6.64	-82.55
294	SLD 2	302	54	4412	997.41	-6.59	-105.79
294	SLD 3	286	-112	3451	799.97	-5.08	-100.45
294	SLD 4	353	-166	3392	788.53	-5.03	-123.69
294	SLD 5	-77	381	5364	1199.3	-8.67	27.08
294	SLD 6	-34	346	5326	1191.94	-8.64	12.12
294	SLD 7	92	-353	1964	503.01	-3.47	-32.59
294	SLD 8	134	-387	1926	495.65	-3.44	-47.56
294	SLD 9	-304	403	5119	1155.4	-8.86	106.7
294	SLD 10	-262	368	5080	1148.04	-8.83	91.73
294	SLD 11	-136	-331	1718	459.11	-3.66	47.02
294	SLD 12	-93	-366	1680	451.75	-3.63	32.06
294	SLD 13	-522	181	3653	862.52	-7.27	182.83
294	SLD 14	-456	127	3593	851.08	-7.22	159.59
294	SLD 15	-472	-39	2633	653.63	-5.71	164.93
294	SLD 16	-405	-93	2573	642.2	-5.66	141.69
294	SLV 1	413	181	5078	1126.9	-7.03	-144.53
294	SLV 2	518	96	4984	1108.87	-6.96	-181.16
294	SLV 3	499	-194	3338	770.52	-4.36	-175
294	SLV 4	604	-279	3244	752.49	-4.29	-211.63
294	SLV 5	-86	645	6646	1459.8	-10.47	30.38
294	SLV 6	-15	587	6583	1447.67	-10.42	5.73
294	SLV 7	201	-606	845	271.89	-1.59	-71.18
294	SLV 8	272	-664	782	259.75	-1.54	-95.83
294	SLV 9	-442	679	6263	1391.3	-10.76	154.97
294	SLV 10	-371	621	6199	1379.16	-10.71	130.32
294	SLV 11	-155	-572	462	203.38	-1.88	53.41
294	SLV 12	-84	-630	398	191.25	-1.83	28.76
294	SLV 13	-774	295	3800	898.55	-8.01	270.77
294	SLV 14	-669	209	3706	880.52	-7.94	234.14
294	SLV 15	-687	-81	2060	542.18	-5.34	240.3
294	SLV 16	-583	-166	1966	524.15	-5.27	203.67
294	SLV FO 1	462	199	5234	1157.04	-7.11	-161.94
294	SLV FO 2	578	105	5130	1137.2	-7.04	-202.23
294	SLV FO 3	557	-214	3320	765.02	-4.18	-195.46
294	SLV FO 4	672	-308	3216	745.19	-4.11	-235.75
294	SLV FO 5	-86	708	6958	1523.23	-10.9	30.47
294	SLV FO 6	-8	645	6889	1509.88	-10.85	3.34
294	SLV FO 7	230	-667	577	216.52	-1.13	-81.25
294	SLV FO 8	307	-731	508	203.17	-1.08	-108.37
294	SLV FO 9	-477	746	6537	1447.88	-11.22	167.51
294	SLV FO 10	-400	683	6467	1434.53	-11.17	140.39
294	SLV FO 11	-162	-630	156	141.17	-1.45	55.8
294	SLV FO 12	-84	-693	86	127.82	-1.4	28.67
294	SLV FO 13	-842	323	3828	905.86	-8.19	294.89
294	SLV FO 14	-727	229	3725	886.03	-8.12	254.6
294	SLV FO 15	-748	-89	1914	513.85	-5.26	261.37
294	SLV FO 16	-632	-183	1810	494.01	-5.19	221.08
294	CRTFP Ux+	0	0	0	0	0	0
294	CRTFP Ux-	0	0	0	0	0	0
294	CRTFP Uy+	0	0	0	0	0	0
294	CRTFP Uy-	0	0	0	0	0	0
295	SLU 1	-77	0	3448	925.31	-5.39	26.68
295	SLU 2	-82	18	3525	942.95	-5.45	28.29
295	SLU 3	-79	0	3506	940.96	-5.49	27.4
295	SLU 4	-82	11	3552	951.55	-5.53	28.37
295	SLU 5	-83	18	3561	952.62	-5.52	28.74
295	SLU 6	-80	0	3541	950.63	-5.56	27.85
295	SLU 7	-83	11	3588	961.22	-5.6	28.82
295	SLU 8	-80	0	3519	944.66	-5.52	27.57
295	SLU 9	-82	11	3565	955.24	-5.56	28.54
295	SLU 10	-87	19	3975	1060.5	-6.25	30.22
295	SLU 11	-85	1	3956	1058.51	-6.3	29.33
295	SLU 12	-87	12	4002	1069.1	-6.34	30.3
295	SLU 13	-88	19	4011	1070.17	-6.32	30.67
295	SLU 14	-86	1	3991	1068.18	-6.36	29.77
295	SLU 15	-89	12	4038	1078.77	-6.4	30.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLU 16	-85	1	3969	1062.21	-6.32	29.5
295	SLU 17	-88	12	4015	1072.79	-6.36	30.47
295	SLU 18	-85	1	4091	1093.24	-6.54	29.43
295	SLU 19	-88	12	4137	1103.83	-6.57	30.4
295	SLU 20	-86	1	4126	1102.91	-6.6	29.88
295	SLU 21	-89	12	4173	1113.5	-6.64	30.85
295	SLU 22	-89	1	3935	1053.85	-6.23	30.78
295	SLU 23	-93	19	4013	1071.49	-6.29	32.4
295	SLU 24	-91	1	3993	1069.5	-6.34	31.5
295	SLU 25	-94	12	4040	1080.08	-6.37	32.47
295	SLU 26	-95	19	4048	1081.16	-6.36	32.85
295	SLU 27	-92	1	4029	1079.17	-6.4	31.95
295	SLU 28	-95	12	4075	1089.75	-6.44	32.92
295	SLU 29	-91	1	4006	1073.19	-6.36	31.68
295	SLU 30	-94	12	4053	1083.77	-6.4	32.65
295	SLU 31	-99	20	4462	1189.04	-7.1	34.33
295	SLU 32	-96	2	4443	1187.05	-7.14	33.43
295	SLU 33	-99	13	4490	1197.63	-7.18	34.4
295	SLU 34	-100	20	4498	1198.71	-7.17	34.77
295	SLU 35	-98	2	4479	1196.72	-7.21	33.88
295	SLU 36	-101	13	4525	1207.3	-7.25	34.85
295	SLU 37	-97	2	4456	1190.74	-7.17	33.61
295	SLU 38	-100	13	4503	1201.32	-7.21	34.58
295	SLU 39	-97	2	4578	1221.78	-7.38	33.53
295	SLU 40	-100	13	4624	1232.36	-7.42	34.51
295	SLU 41	-98	2	4614	1231.45	-7.45	33.98
295	SLU 42	-101	13	4660	1242.03	-7.49	34.95
295	SLU 43	-96	0	4315	1158.84	-6.71	33.27
295	SLU 44	-101	18	4392	1176.48	-6.78	34.89
295	SLU 45	-98	0	4373	1174.49	-6.82	33.99
295	SLU 46	-101	11	4420	1185.07	-6.86	34.96
295	SLU 47	-102	18	4428	1186.15	-6.84	35.34
295	SLU 48	-99	0	4409	1184.16	-6.88	34.44
295	SLU 49	-102	11	4455	1194.74	-6.92	35.41
295	SLU 50	-99	0	4386	1178.18	-6.84	34.17
295	SLU 51	-101	11	4433	1188.76	-6.88	35.14
295	SLU 52	-106	19	4842	1294.03	-7.58	36.82
295	SLU 53	-104	1	4823	1292.04	-7.62	35.92
295	SLU 54	-106	12	4869	1302.62	-7.66	36.89
295	SLU 55	-107	19	4878	1303.7	-7.65	37.27
295	SLU 56	-105	1	4859	1301.71	-7.69	36.37
295	SLU 57	-108	12	4905	1312.29	-7.73	37.34
295	SLU 58	-104	1	4836	1295.73	-7.65	36.1
295	SLU 59	-107	12	4882	1306.31	-7.69	37.07
295	SLU 60	-104	1	4958	1326.77	-7.86	36.03
295	SLU 61	-107	12	5004	1337.35	-7.9	37
295	SLU 62	-105	1	4993	1336.44	-7.93	36.47
295	SLU 63	-108	12	5040	1347.02	-7.97	37.45
295	SLU 64	-108	1	4803	1287.37	-7.56	37.38
295	SLU 65	-112	19	4880	1305.01	-7.62	38.99
295	SLU 66	-110	1	4861	1303.02	-7.66	38.1
295	SLU 67	-113	12	4907	1313.61	-7.7	39.07
295	SLU 68	-114	19	4915	1314.68	-7.69	39.44
295	SLU 69	-111	1	4896	1312.7	-7.73	38.55
295	SLU 70	-114	12	4942	1323.28	-7.77	39.52
295	SLU 71	-110	1	4874	1306.72	-7.69	38.27
295	SLU 72	-113	12	4920	1317.3	-7.73	39.24
295	SLU 73	-118	20	5330	1422.56	-8.43	40.92
295	SLU 74	-115	2	5311	1420.57	-8.47	40.02
295	SLU 75	-118	13	5357	1431.16	-8.51	41
295	SLU 76	-119	20	5365	1432.23	-8.49	41.37
295	SLU 77	-117	2	5346	1430.25	-8.53	40.47
295	SLU 78	-120	13	5392	1440.83	-8.57	41.44
295	SLU 79	-116	2	5324	1424.27	-8.49	40.2
295	SLU 80	-119	13	5370	1434.85	-8.53	41.17
295	SLU 81	-116	2	5445	1455.3	-8.71	40.13
295	SLU 82	-119	13	5492	1465.89	-8.75	41.1
295	SLU 83	-117	2	5481	1464.97	-8.77	40.58
295	SLU 84	-120	13	5527	1475.56	-8.81	41.55
295	SLE RA 1	-80	0	3587	962.04	-5.63	27.85
295	SLE RA 2	-83	13	3639	973.8	-5.67	28.93
295	SLE RA 3	-82	1	3626	972.47	-5.7	28.33
295	SLE RA 4	-84	8	3657	979.53	-5.72	28.98
295	SLE RA 5	-84	13	3662	980.24	-5.71	29.23
295	SLE RA 6	-83	1	3650	978.92	-5.74	28.63
295	SLE RA 7	-84	8	3680	985.97	-5.77	29.28
295	SLE RA 8	-82	0	3635	974.93	-5.72	28.45
295	SLE RA 9	-84	8	3665	981.99	-5.74	29.09
295	SLE RA 10	-87	13	3939	1052.16	-6.21	30.21
295	SLE RA 11	-85	1	3926	1050.84	-6.23	29.61
295	SLE RA 12	-87	8	3957	1057.89	-6.26	30.26
295	SLE RA 13	-88	13	3962	1058.61	-6.25	30.51
295	SLE RA 14	-86	1	3949	1057.29	-6.28	29.91
295	SLE RA 15	-88	8	3980	1064.34	-6.3	30.56
295	SLE RA 16	-86	1	3935	1053.3	-6.25	29.73
295	SLE RA 17	-88	8	3965	1060.35	-6.28	30.38
295	SLE RA 18	-86	1	4016	1073.99	-6.39	29.68
295	SLE RA 19	-88	9	4047	1081.05	-6.42	30.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLE RA 20	-87	1	4039	1080.44	-6.44	29.98
295	SLE RA 21	-88	9	4070	1087.49	-6.46	30.63
295	SLE FR 1	-80	0	3587	962.04	-5.63	27.85
295	SLE FR 2	-81	3	3598	964.39	-5.64	28.06
295	SLE FR 3	-81	0	3597	964.62	-5.65	27.97
295	SLE FR 4	-83	3	3726	997.98	-5.87	28.61
295	SLE FR 5	-82	1	3725	998.2	-5.88	28.52
295	SLE FR 6	-83	1	3801	1018.01	-6.01	28.77
295	SLE QP 1	-80	0	3587	962.04	-5.63	27.85
295	SLE QP 2	-82	1	3716	995.62	-5.86	28.4
295	SLD 1	240	103	4679	1218.53	-6.18	-84.21
295	SLD 2	306	50	4618	1204.88	-6.16	-107.37
295	SLD 3	289	-122	3612	966.71	-4.83	-101.52
295	SLD 4	355	-175	3551	953.06	-4.81	-124.69
295	SLD 5	-71	382	5634	1446.77	-8.01	24.86
295	SLD 6	-29	348	5595	1437.98	-7.99	9.95
295	SLD 7	92	-369	2076	607.37	-3.51	-32.86
295	SLD 8	135	-403	2037	598.58	-3.49	-47.77
295	SLD 9	-299	404	5394	1392.67	-8.23	104.57
295	SLD 10	-256	370	5355	1383.88	-8.21	89.66
295	SLD 11	-135	-347	1837	553.26	-3.72	46.85
295	SLD 12	-93	-381	1798	544.48	-3.71	31.93
295	SLD 13	-519	177	3881	1038.18	-6.91	181.48
295	SLD 14	-453	124	3820	1024.54	-6.88	158.32
295	SLD 15	-470	-48	2814	786.36	-5.56	164.17
295	SLD 16	-404	-101	2753	772.72	-5.53	141
295	SLV 1	418	177	5297	1361.91	-6.46	-146.5
295	SLV 2	522	93	5201	1340.4	-6.42	-183.01
295	SLV 3	501	-207	3476	932.27	-4.16	-175.96
295	SLV 4	606	-291	3380	910.76	-4.12	-212.47
295	SLV 5	-78	652	6970	1761.13	-9.54	27.43
295	SLV 6	-8	596	6905	1746.65	-9.52	2.86
295	SLV 7	200	-629	900	329.02	-1.86	-70.79
295	SLV 8	271	-685	836	314.54	-1.83	-95.37
295	SLV 9	-435	686	6596	1676.7	-9.89	152.16
295	SLV 10	-364	630	6531	1662.22	-9.86	127.59
295	SLV 11	-156	-594	527	244.6	-2.2	53.94
295	SLV 12	-86	-650	462	230.12	-2.17	29.36
295	SLV 13	-770	292	4051	1080.48	-7.6	269.27
295	SLV 14	-665	209	3955	1058.97	-7.56	232.76
295	SLV 15	-686	-92	2231	650.85	-5.29	239.81
295	SLV 16	-582	-175	2135	629.34	-5.25	203.29
295	SLV FO 1	468	194	5455	1398.54	-6.52	-163.98
295	SLV FO 2	583	103	5349	1374.87	-6.48	-204.15
295	SLV FO 3	560	-228	3452	925.94	-3.99	-196.4
295	SLV FO 4	675	-320	3347	902.28	-3.94	-236.56
295	SLV FO 5	-78	717	7295	1837.68	-9.91	27.34
295	SLV FO 6	-1	655	7224	1821.76	-9.88	0.3
295	SLV FO 7	229	-692	619	262.36	-1.46	-80.71
295	SLV FO 8	306	-753	548	246.43	-1.43	-107.74
295	SLV FO 9	-470	755	6884	1744.81	-10.29	164.54
295	SLV FO 10	-392	693	6813	1728.89	-10.26	137.51
295	SLV FO 11	-163	-654	208	169.49	-1.83	56.5
295	SLV FO 12	-86	-715	137	153.56	-1.8	29.46
295	SLV FO 13	-839	321	4085	1088.97	-7.77	293.36
295	SLV FO 14	-724	230	3979	1065.31	-7.73	253.2
295	SLV FO 15	-747	-101	2082	616.37	-5.24	260.95
295	SLV FO 16	-632	-193	1977	592.71	-5.19	220.78
295	CRTFP Ux+	0	0	0	0	0	0
295	CRTFP Ux-	0	0	0	0	0	0
295	CRTFP Uy+	0	0	0	0	0	0
295	CRTFP Uy-	0	0	0	0	0	0
296	SLU 1	-67	-8	3245	968.47	57.32	23.25
296	SLU 2	-71	8	3316	986.71	58.62	24.39
296	SLU 3	-69	-8	3300	985.23	58.28	23.88
296	SLU 4	-71	2	3343	996.17	59.06	24.56
296	SLU 5	-72	8	3350	997.07	59.21	24.78
296	SLU 6	-70	-8	3334	995.59	58.87	24.27
296	SLU 7	-72	1	3377	1006.53	59.65	24.95
296	SLU 8	-69	-8	3313	989.2	58.49	24.04
296	SLU 9	-71	1	3355	1000.14	59.27	24.71
296	SLU 10	-76	8	3743	1112.04	66.08	26.03
296	SLU 11	-73	-9	3726	1110.56	65.74	25.52
296	SLU 12	-76	1	3769	1121.5	66.52	26.2
296	SLU 13	-77	8	3776	1122.41	66.67	26.42
296	SLU 14	-74	-9	3760	1120.92	66.33	25.91
296	SLU 15	-77	1	3803	1131.86	67.11	26.59
296	SLU 16	-74	-9	3739	1114.53	65.96	25.68
296	SLU 17	-76	1	3781	1125.47	66.74	26.36
296	SLU 18	-74	-9	3854	1147.52	67.98	25.6
296	SLU 19	-76	1	3897	1158.46	68.76	26.28
296	SLU 20	-75	-9	3888	1157.88	68.57	25.99
296	SLU 21	-77	1	3930	1168.82	69.35	26.67
296	SLU 22	-77	-9	3706	1105.59	65.41	26.83
296	SLU 23	-81	8	3777	1123.82	66.71	27.96
296	SLU 24	-79	-9	3761	1122.34	66.37	27.46
296	SLU 25	-81	1	3804	1133.28	67.15	28.14
296	SLU 26	-82	8	3811	1134.19	67.3	28.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
296	SLU 27	-80	-9	3795	1132.7	66.96	27.85
296	SLU 28	-82	1	3837	1143.65	67.74	28.53
296	SLU 29	-79	-9	3774	1126.31	66.59	27.61
296	SLU 30	-82	1	3816	1137.25	67.37	28.29
296	SLU 31	-86	7	4203	1249.16	74.17	29.61
296	SLU 32	-84	-9	4187	1247.67	73.84	29.1
296	SLU 33	-86	1	4230	1258.61	74.62	29.78
296	SLU 34	-87	7	4237	1259.52	74.76	30
296	SLU 35	-85	-9	4221	1258.03	74.42	29.49
296	SLU 36	-87	1	4264	1268.98	75.2	30.17
296	SLU 37	-84	-9	4200	1251.64	74.05	29.26
296	SLU 38	-87	1	4242	1262.59	74.83	29.93
296	SLU 39	-84	-9	4315	1284.63	76.07	29.18
296	SLU 40	-86	1	4358	1295.57	76.85	29.86
296	SLU 41	-85	-9	4349	1294.99	76.66	29.57
296	SLU 42	-87	1	4391	1305.94	77.44	30.25
296	SLU 43	-83	-10	4061	1212.01	71.74	29
296	SLU 44	-87	6	4132	1230.25	73.04	30.14
296	SLU 45	-85	-11	4116	1228.76	72.7	29.63
296	SLU 46	-88	-1	4159	1239.7	73.48	30.31
296	SLU 47	-88	6	4166	1240.61	73.63	30.53
296	SLU 48	-86	-11	4150	1239.12	73.29	30.02
296	SLU 49	-89	-1	4192	1250.07	74.07	30.7
296	SLU 50	-85	-11	4128	1232.73	72.91	29.79
296	SLU 51	-88	-1	4171	1243.67	73.69	30.46
296	SLU 52	-92	6	4558	1355.58	80.5	31.78
296	SLU 53	-90	-11	4542	1354.09	80.16	31.27
296	SLU 54	-92	-1	4585	1365.04	80.94	31.95
296	SLU 55	-93	5	4592	1365.94	81.09	32.17
296	SLU 56	-91	-11	4576	1364.45	80.75	31.67
296	SLU 57	-93	-1	4618	1375.4	81.53	32.34
296	SLU 58	-90	-11	4555	1358.06	80.38	31.43
296	SLU 59	-93	-1	4597	1369.01	81.16	32.11
296	SLU 60	-90	-11	4670	1391.05	82.4	31.35
296	SLU 61	-93	-1	4712	1401.99	83.18	32.03
296	SLU 62	-91	-11	4703	1401.41	82.99	31.74
296	SLU 63	-94	-1	4746	1412.36	83.77	32.42
296	SLU 64	-94	-11	4522	1349.12	79.83	32.58
296	SLU 65	-98	5	4593	1367.36	81.13	33.71
296	SLU 66	-95	-11	4577	1365.87	80.79	33.21
296	SLU 67	-98	-1	4619	1376.82	81.57	33.89
296	SLU 68	-99	5	4627	1377.72	81.72	34.1
296	SLU 69	-96	-11	4610	1376.23	81.38	33.6
296	SLU 70	-99	-1	4653	1387.18	82.16	34.28
296	SLU 71	-96	-11	4589	1369.84	81.01	33.36
296	SLU 72	-98	-1	4632	1380.79	81.79	34.04
296	SLU 73	-102	5	5019	1492.69	88.6	35.36
296	SLU 74	-100	-11	5003	1491.2	88.26	34.85
296	SLU 75	-103	-2	5046	1502.15	89.04	35.53
296	SLU 76	-104	5	5053	1503.05	89.18	35.75
296	SLU 77	-101	-11	5037	1501.57	88.84	35.24
296	SLU 78	-104	-2	5079	1512.51	89.62	35.92
296	SLU 79	-101	-11	5015	1495.17	88.47	35.01
296	SLU 80	-103	-2	5058	1506.12	89.25	35.68
296	SLU 81	-100	-11	5131	1528.16	90.49	34.93
296	SLU 82	-103	-2	5173	1539.11	91.27	35.61
296	SLU 83	-101	-12	5164	1538.53	91.08	35.32
296	SLU 84	-104	-2	5207	1549.47	91.86	36
296	SLE RA 1	-70	-8	3377	1007.65	59.63	24.28
296	SLE RA 2	-72	3	3424	1019.81	60.5	25.03
296	SLE RA 3	-71	-8	3414	1018.82	60.27	24.69
296	SLE RA 4	-73	-2	3442	1026.11	60.79	25.15
296	SLE RA 5	-73	3	3447	1026.72	60.89	25.29
296	SLE RA 6	-72	-8	3436	1025.73	60.66	24.95
296	SLE RA 7	-73	-2	3465	1033.02	61.18	25.41
296	SLE RA 8	-71	-8	3422	1021.46	60.41	24.8
296	SLE RA 9	-73	-2	3450	1028.76	60.93	25.25
296	SLE RA 10	-76	2	3708	1103.36	65.47	26.13
296	SLE RA 11	-74	-9	3698	1102.37	65.25	25.79
296	SLE RA 12	-76	-2	3726	1109.67	65.77	26.24
296	SLE RA 13	-76	2	3731	1110.27	65.86	26.39
296	SLE RA 14	-75	-9	3720	1109.28	65.64	26.05
296	SLE RA 15	-76	-2	3749	1116.58	66.16	26.5
296	SLE RA 16	-74	-9	3706	1105.02	65.39	25.89
296	SLE RA 17	-76	-2	3734	1112.31	65.91	26.35
296	SLE RA 18	-74	-9	3783	1127.01	66.74	25.84
296	SLE RA 19	-76	-2	3811	1134.31	67.26	26.29
296	SLE RA 20	-75	-9	3805	1133.92	67.13	26.1
296	SLE RA 21	-77	-2	3834	1141.22	67.65	26.55
296	SLE FR 1	-70	-8	3377	1007.65	59.63	24.28
296	SLE FR 2	-70	-6	3387	1010.08	59.8	24.43
296	SLE FR 3	-70	-8	3386	1010.41	59.79	24.38
296	SLE FR 4	-72	-6	3508	1045.89	61.94	24.9
296	SLE FR 5	-71	-8	3508	1046.22	61.92	24.85
296	SLE FR 6	-72	-8	3580	1067.33	63.18	25.06
296	SLE QP 1	-70	-8	3377	1007.65	59.63	24.28
296	SLE QP 2	-71	-8	3499	1043.46	61.76	24.75
296	SLD 1	220	84	4371	1275.44	78.11	-79.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
296	SLD 2	280	38	4316	1261.38	77.07	-99.04
296	SLD 3	263	-121	3378	1014.48	60.21	-90.37
296	SLD 4	323	-167	3323	1000.42	59.17	-110.35
296	SLD 5	-59	338	5277	1511.27	93.99	14.18
296	SLD 6	-21	308	5242	1502.22	93.32	1.32
296	SLD 7	84	-345	1965	641.38	34.33	-23.5
296	SLD 8	123	-375	1929	632.33	33.66	-36.36
296	SLD 9	-265	358	5068	1454.58	89.87	85.86
296	SLD 10	-226	329	5033	1445.53	89.2	72.99
296	SLD 11	-121	-325	1756	584.7	30.2	48.17
296	SLD 12	-83	-355	1721	575.65	29.53	35.31
296	SLD 13	-465	151	3675	1086.5	64.35	159.84
296	SLD 14	-406	105	3620	1072.44	63.31	139.86
296	SLD 15	-422	-54	2682	825.53	46.45	148.53
296	SLD 16	-363	-100	2626	811.48	45.42	128.55
296	SLV 1	382	150	4933	1424.58	88.58	-136.82
296	SLV 2	476	78	4846	1402.42	86.95	-168.32
296	SLV 3	455	-199	3238	979.34	58.05	-156.04
296	SLV 4	549	-272	3151	957.18	56.41	-187.53
296	SLV 5	-64	583	6516	1837.21	116.43	11.3
296	SLV 6	0	534	6458	1822.29	115.33	-9.91
296	SLV 7	180	-582	866	353.08	14.64	-52.76
296	SLV 8	244	-631	807	338.16	13.54	-73.96
296	SLV 9	-386	614	6190	1748.76	109.99	123.45
296	SLV 10	-322	566	6132	1733.84	108.88	102.25
296	SLV 11	-142	-551	540	264.62	8.2	59.4
296	SLV 12	-78	-600	481	249.71	7.1	38.19
296	SLV 13	-691	255	3847	1129.74	67.11	237.03
296	SLV 14	-597	182	3760	1107.58	65.48	205.53
296	SLV 15	-618	-95	2152	684.5	36.58	217.81
296	SLV 16	-524	-167	2065	662.34	34.94	186.31
296	SLV FO 1	427	166	5077	1462.69	91.27	-152.98
296	SLV FO 2	531	87	4981	1438.31	89.47	-187.62
296	SLV FO 3	508	-218	3212	972.93	57.68	-174.12
296	SLV FO 4	611	-298	3116	948.55	55.88	-208.76
296	SLV FO 5	-63	642	6818	1916.58	121.89	9.95
296	SLV FO 6	7	589	6754	1900.17	120.68	-13.37
296	SLV FO 7	205	-640	602	284.04	9.93	-60.51
296	SLV FO 8	275	-694	538	267.63	8.72	-83.83
296	SLV FO 9	-417	677	6460	1819.29	114.81	133.32
296	SLV FO 10	-348	623	6395	1802.88	113.6	110
296	SLV FO 11	-149	-605	244	186.74	2.84	62.86
296	SLV FO 12	-79	-659	180	170.33	1.63	39.54
296	SLV FO 13	-753	281	3882	1138.37	67.65	258.25
296	SLV FO 14	-650	202	3786	1113.99	65.85	223.61
296	SLV FO 15	-673	-103	2017	648.6	34.06	237.12
296	SLV FO 16	-569	-183	1921	624.23	32.26	202.47
296	CRTFP Ux+	0	0	0	0	0	0
296	CRTFP Ux-	0	0	0	0	0	0
296	CRTFP Uy+	0	0	0	0	0	0
296	CRTFP Uy-	0	0	0	0	0	0
298	SLU 1	-170	-50	8538	1948.49	3.65	36.79
298	SLU 2	-181	-10	8726	1986.77	4.92	38.98
298	SLU 3	-175	-51	8682	1982.33	3.58	37.79
298	SLU 4	-181	-27	8794	2005.3	4.34	39.11
298	SLU 5	-184	-11	8814	2007.66	4.85	39.6
298	SLU 6	-178	-52	8770	2003.22	3.5	38.42
298	SLU 7	-184	-28	8883	2026.19	4.27	39.73
298	SLU 8	-176	-52	8715	1990.27	3.5	38.04
298	SLU 9	-182	-28	8827	2013.23	4.26	39.35
298	SLU 10	-193	-14	9853	2243.09	4.36	41.44
298	SLU 11	-187	-56	9810	2238.66	3.01	40.26
298	SLU 12	-194	-32	9922	2261.63	3.78	41.57
298	SLU 13	-196	-15	9942	2263.98	4.28	42.07
298	SLU 14	-190	-56	9898	2259.55	2.94	40.88
298	SLU 15	-196	-32	10011	2282.52	3.7	42.19
298	SLU 16	-188	-56	9842	2246.6	2.93	40.5
298	SLU 17	-195	-32	9955	2269.56	3.7	41.82
298	SLU 18	-188	-57	10149	2314.67	2.84	40.31
298	SLU 19	-194	-33	10262	2337.64	3.61	41.62
298	SLU 20	-191	-57	10238	2335.56	2.77	40.94
298	SLU 21	-197	-33	10350	2358.53	3.53	42.25
298	SLU 22	-197	-56	9751	2227.39	3.69	42.5
298	SLU 23	-207	-15	9938	2265.66	4.96	44.69
298	SLU 24	-201	-57	9895	2261.23	3.62	43.51
298	SLU 25	-208	-32	10007	2284.19	4.38	44.82
298	SLU 26	-210	-16	10026	2286.55	4.89	45.31
298	SLU 27	-204	-57	9983	2282.12	3.54	44.13
298	SLU 28	-210	-33	10095	2305.08	4.31	45.44
298	SLU 29	-202	-57	9927	2269.16	3.54	43.75
298	SLU 30	-209	-33	10040	2292.13	4.3	45.06
298	SLU 31	-220	-20	11066	2521.99	4.4	47.15
298	SLU 32	-214	-61	11023	2517.56	3.05	45.97
298	SLU 33	-220	-37	11135	2540.52	3.82	47.28
298	SLU 34	-222	-20	11154	2542.88	4.32	47.78
298	SLU 35	-216	-62	11111	2538.44	2.98	46.59
298	SLU 36	-223	-38	11223	2561.41	3.74	47.9
298	SLU 37	-215	-62	11055	2525.49	2.97	46.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
298	SLU 38	-221	-37	11167	2548.46	3.74	47.53
298	SLU 39	-214	-62	11362	2593.57	2.88	46.02
298	SLU 40	-221	-38	11474	2616.53	3.65	47.33
298	SLU 41	-217	-63	11450	2614.46	2.81	46.65
298	SLU 42	-223	-39	11563	2637.42	3.57	47.96
298	SLU 43	-213	-64	10684	2437.41	4.73	45.87
298	SLU 44	-223	-23	10871	2475.69	6.01	48.06
298	SLU 45	-217	-65	10828	2471.26	4.66	46.88
298	SLU 46	-223	-40	10940	2494.22	5.43	48.19
298	SLU 47	-226	-24	10959	2496.58	5.93	48.68
298	SLU 48	-220	-65	10916	2492.15	4.59	47.5
298	SLU 49	-226	-41	11028	2515.11	5.35	48.81
298	SLU 50	-218	-65	10860	2479.19	4.58	47.12
298	SLU 51	-225	-41	10973	2502.16	5.35	48.43
298	SLU 52	-235	-28	11999	2732.02	5.44	50.52
298	SLU 53	-229	-69	11956	2727.59	4.1	49.34
298	SLU 54	-236	-45	12068	2750.55	4.86	50.65
298	SLU 55	-238	-28	12087	2752.91	5.36	51.15
298	SLU 56	-232	-70	12044	2748.47	4.02	49.96
298	SLU 57	-239	-46	12156	2771.44	4.79	51.27
298	SLU 58	-231	-70	11988	2735.52	4.02	49.58
298	SLU 59	-237	-45	12101	2758.49	4.78	50.9
298	SLU 60	-230	-70	12295	2803.6	3.92	49.39
298	SLU 61	-236	-46	12408	2826.56	4.69	50.7
298	SLU 62	-233	-71	12383	2824.49	3.85	50.02
298	SLU 63	-239	-47	12496	2847.45	4.61	51.33
298	SLU 64	-239	-69	11897	2716.31	4.77	51.58
298	SLU 65	-249	-29	12084	2754.59	6.05	53.77
298	SLU 66	-243	-70	12040	2750.15	4.7	52.59
298	SLU 67	-250	-46	12153	2773.12	5.47	53.9
298	SLU 68	-252	-29	12172	2775.48	5.97	54.39
298	SLU 69	-246	-71	12129	2771.04	4.63	53.21
298	SLU 70	-253	-46	12241	2794.01	5.39	54.52
298	SLU 71	-245	-70	12073	2758.09	4.62	52.83
298	SLU 72	-251	-46	12185	2781.05	5.38	54.14
298	SLU 73	-262	-33	13212	3010.92	5.48	56.23
298	SLU 74	-256	-74	13168	3006.48	4.14	55.05
298	SLU 75	-262	-50	13281	3029.45	4.9	56.36
298	SLU 76	-265	-34	13300	3031.8	5.4	56.86
298	SLU 77	-259	-75	13256	3027.37	4.06	55.67
298	SLU 78	-265	-51	13369	3050.34	4.82	56.98
298	SLU 79	-257	-75	13201	3014.42	4.05	55.29
298	SLU 80	-263	-51	13313	3037.38	4.82	56.61
298	SLU 81	-256	-75	13508	3082.49	3.96	55.1
298	SLU 82	-263	-51	13620	3105.46	4.73	56.41
298	SLU 83	-259	-76	13596	3103.38	3.89	55.73
298	SLU 84	-266	-52	13708	3126.35	4.65	57.04
298	SLE RA 1	-178	-52	8885	2028.17	3.66	38.42
298	SLE RA 2	-185	-25	9010	2053.69	4.51	39.88
298	SLE RA 3	-181	-53	8981	2050.74	3.62	39.09
298	SLE RA 4	-185	-36	9056	2066.05	4.12	39.97
298	SLE RA 5	-187	-25	9068	2067.62	4.46	40.3
298	SLE RA 6	-183	-53	9039	2064.66	3.56	39.51
298	SLE RA 7	-187	-37	9114	2079.97	4.07	40.38
298	SLE RA 8	-182	-53	9002	2056.03	3.56	39.26
298	SLE RA 9	-186	-37	9077	2071.34	4.07	40.13
298	SLE RA 10	-193	-28	9761	2224.58	4.13	41.52
298	SLE RA 11	-189	-56	9733	2221.62	3.24	40.73
298	SLE RA 12	-193	-39	9807	2236.93	3.75	41.61
298	SLE RA 13	-195	-28	9820	2238.5	4.08	41.94
298	SLE RA 14	-191	-56	9791	2235.55	3.19	41.15
298	SLE RA 15	-195	-40	9866	2250.86	3.7	42.02
298	SLE RA 16	-190	-56	9754	2226.91	3.18	40.9
298	SLE RA 17	-194	-40	9829	2242.22	3.69	41.77
298	SLE RA 18	-190	-56	9959	2272.3	3.12	40.77
298	SLE RA 19	-194	-40	10034	2287.61	3.63	41.64
298	SLE RA 20	-192	-57	10018	2286.22	3.07	41.19
298	SLE RA 21	-196	-40	10093	2301.53	3.58	42.06
298	SLE FR 1	-178	-52	8885	2028.17	3.66	38.42
298	SLE FR 2	-179	-47	8910	2033.28	3.83	38.72
298	SLE FR 3	-179	-52	8908	2033.74	3.64	38.59
298	SLE FR 4	-183	-48	9232	2106.51	3.67	39.42
298	SLE FR 5	-182	-53	9230	2106.98	3.48	39.29
298	SLE FR 6	-184	-54	9422	2150.23	3.39	39.6
298	SLE QP 1	-178	-52	8885	2028.17	3.66	38.42
298	SLE QP 2	-181	-53	9207	2101.41	3.5	39.13
298	SLD 1	555	175	11443	2575.88	28.81	-139.73
298	SLD 2	708	66	11301	2546.52	26.98	-174.69
298	SLD 3	664	-337	8795	2030.99	16.43	-161.92
298	SLD 4	817	-446	8654	2001.63	14.59	-196.88
298	SLD 5	-151	810	13917	3075.23	30.19	25.14
298	SLD 6	-53	740	13826	3056.32	29.01	2.63
298	SLD 7	211	-896	5093	1258.91	-11.09	-48.83
298	SLD 8	309	-966	5002	1240	-12.27	-71.34
298	SLD 9	-672	860	13412	2962.82	19.27	149.6
298	SLD 10	-573	790	13321	2943.91	18.09	127.09
298	SLD 11	-310	-846	4588	1146.5	-22.01	75.63
298	SLD 12	-211	-916	4497	1127.59	-23.19	53.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
298	SLD 13	-1179	340	9760	2201.19	-7.59	275.13
298	SLD 14	-1027	231	9619	2171.83	-9.43	240.18
298	SLD 15	-1071	-172	7113	1656.3	-19.98	252.94
298	SLD 16	-918	-281	6971	1626.94	-21.81	217.99
298	SLV 1	963	340	12890	2881.74	43.9	-239.04
298	SLV 2	1204	169	12666	2835.46	41.01	-294.14
298	SLV 3	1148	-533	8373	1952.09	22.79	-276.77
298	SLV 4	1389	-704	8150	1905.81	19.9	-331.87
298	SLV 5	-163	1421	17203	3754.12	48.17	23.19
298	SLV 6	-1	1305	17053	3722.97	46.22	-13.9
298	SLV 7	453	-1489	2149	655.27	-22.18	-102.59
298	SLV 8	615	-1604	1998	624.12	-24.13	-139.68
298	SLV 9	-978	1498	16416	3578.7	31.13	217.94
298	SLV 10	-815	1383	16265	3547.55	29.18	180.85
298	SLV 11	-362	-1412	1361	479.85	-39.22	92.16
298	SLV 12	-200	-1527	1211	448.7	-41.17	55.07
298	SLV 13	-1751	598	10264	2297.01	-12.9	410.13
298	SLV 14	-1511	426	10041	2250.73	-15.79	355.03
298	SLV 15	-1567	-275	5747	1367.36	-34.01	372.4
298	SLV 16	-1326	-446	5524	1321.08	-36.9	317.3
298	SLV FO 1	1077	379	13258	2959.78	47.94	-266.86
298	SLV FO 2	1342	191	13012	2908.87	44.76	-327.47
298	SLV FO 3	1281	-581	8290	1937.16	24.72	-308.36
298	SLV FO 4	1546	-769	8044	1886.25	21.54	-368.97
298	SLV FO 5	-161	1568	18003	3919.39	52.64	21.59
298	SLV FO 6	17	1441	17838	3885.13	50.5	-19.21
298	SLV FO 7	516	-1633	1443	510.66	-24.75	-116.76
298	SLV FO 8	694	-1760	1277	476.39	-26.9	-157.56
298	SLV FO 9	-1057	1653	17136	3726.43	33.9	235.82
298	SLV FO 10	-879	1526	16971	3692.16	31.75	195.02
298	SLV FO 11	-380	-1547	576	317.69	-43.5	97.46
298	SLV FO 12	-201	-1674	411	283.43	-45.64	56.66
298	SLV FO 13	-1908	663	10370	2316.57	-14.54	447.23
298	SLV FO 14	-1643	474	10124	2265.67	-17.72	386.62
298	SLV FO 15	-1705	-297	5402	1293.95	-37.76	405.72
298	SLV FO 16	-1440	-486	5156	1243.04	-40.94	345.11
298	CRTFP Ux+	0	0	0	0	0	0
298	CRTFP Ux-	0	0	0	0	0	0
298	CRTFP Uy+	0	0	0	-0.01	0	0
298	CRTFP Uy-	0	0	0	0.01	0	0
300	SLU 1	-55	-30	3020	973.31	-56.48	18.4
300	SLU 2	-59	-16	3083	990.77	-57.6	19.9
300	SLU 3	-56	-31	3072	990.48	-57.45	18.9
300	SLU 4	-59	-22	3109	1000.95	-58.12	19.8
300	SLU 5	-59	-17	3114	1001.41	-58.2	20.21
300	SLU 6	-57	-31	3104	1001.12	-58.04	19.22
300	SLU 7	-60	-23	3141	1011.59	-58.72	20.12
300	SLU 8	-57	-31	3084	994.59	-57.67	19.03
300	SLU 9	-59	-22	3121	1005.07	-58.35	19.93
300	SLU 10	-62	-19	3482	1118.56	-65.1	21.12
300	SLU 11	-60	-34	3472	1118.26	-64.95	20.12
300	SLU 12	-62	-25	3509	1128.74	-65.62	21.02
300	SLU 13	-63	-20	3514	1129.2	-65.7	21.43
300	SLU 14	-61	-34	3503	1128.91	-65.54	20.44
300	SLU 15	-63	-26	3541	1139.38	-66.22	21.34
300	SLU 16	-61	-34	3484	1122.38	-65.17	20.25
300	SLU 17	-63	-26	3521	1132.86	-65.85	21.15
300	SLU 18	-60	-34	3592	1155.86	-67.2	20.14
300	SLU 19	-62	-26	3629	1166.34	-67.87	21.04
300	SLU 20	-61	-35	3623	1166.51	-67.79	20.45
300	SLU 21	-63	-26	3661	1176.98	-68.47	21.35
300	SLU 22	-64	-34	3451	1113.13	-64.53	21.29
300	SLU 23	-67	-20	3513	1130.59	-65.65	22.79
300	SLU 24	-65	-34	3502	1130.29	-65.49	21.79
300	SLU 25	-67	-26	3540	1140.77	-66.17	22.69
300	SLU 26	-68	-20	3545	1141.23	-66.24	23.1
300	SLU 27	-66	-35	3534	1140.93	-66.09	22.11
300	SLU 28	-68	-26	3571	1151.41	-66.76	23.01
300	SLU 29	-65	-34	3514	1134.41	-65.72	21.92
300	SLU 30	-68	-26	3551	1144.88	-66.39	22.82
300	SLU 31	-71	-23	3913	1258.37	-73.15	24.01
300	SLU 32	-69	-37	3902	1258.08	-72.99	23.01
300	SLU 33	-71	-29	3939	1268.56	-73.67	23.91
300	SLU 34	-72	-23	3945	1269.02	-73.74	24.32
300	SLU 35	-70	-38	3934	1268.72	-73.59	23.33
300	SLU 36	-72	-29	3971	1279.2	-74.26	24.23
300	SLU 37	-69	-37	3914	1262.2	-73.22	23.14
300	SLU 38	-71	-29	3951	1272.67	-73.89	24.04
300	SLU 39	-69	-38	4022	1295.68	-75.24	23.03
300	SLU 40	-71	-30	4059	1306.16	-75.92	23.93
300	SLU 41	-70	-38	4054	1306.32	-75.84	23.35
300	SLU 42	-72	-30	4091	1316.8	-76.51	24.25
300	SLU 43	-69	-38	3779	1217.36	-70.67	22.93
300	SLU 44	-72	-24	3841	1234.82	-71.79	24.43
300	SLU 45	-70	-38	3830	1234.53	-71.64	23.43
300	SLU 46	-72	-30	3868	1245.01	-72.31	24.33
300	SLU 47	-73	-24	3873	1245.47	-72.39	24.74
300	SLU 48	-71	-39	3862	1245.17	-72.23	23.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	SLU 49	-73	-30	3899	1255.65	-72.9	24.65
300	SLU 50	-70	-39	3842	1238.65	-71.86	23.56
300	SLU 51	-73	-30	3880	1249.12	-72.53	24.46
300	SLU 52	-76	-27	4241	1362.61	-79.29	25.64
300	SLU 53	-74	-41	4230	1362.32	-79.14	24.65
300	SLU 54	-76	-33	4268	1372.8	-79.81	25.55
300	SLU 55	-77	-27	4273	1373.25	-79.89	25.96
300	SLU 56	-75	-42	4262	1372.96	-79.73	24.97
300	SLU 57	-77	-33	4299	1383.44	-80.4	25.86
300	SLU 58	-74	-42	4242	1366.44	-79.36	24.78
300	SLU 59	-76	-33	4279	1376.91	-80.03	25.67
300	SLU 60	-74	-42	4350	1399.92	-81.39	24.67
300	SLU 61	-76	-34	4387	1410.4	-82.06	25.57
300	SLU 62	-75	-42	4382	1410.56	-81.98	24.98
300	SLU 63	-77	-34	4419	1421.04	-82.65	25.88
300	SLU 64	-77	-41	4209	1357.18	-78.72	25.82
300	SLU 65	-81	-27	4271	1374.64	-79.84	27.32
300	SLU 66	-79	-42	4261	1374.35	-79.68	26.32
300	SLU 67	-81	-34	4298	1384.82	-80.35	27.22
300	SLU 68	-82	-28	4303	1385.28	-80.43	27.63
300	SLU 69	-80	-42	4292	1384.99	-80.28	26.64
300	SLU 70	-82	-34	4330	1395.46	-80.95	27.54
300	SLU 71	-79	-42	4273	1378.46	-79.91	26.45
300	SLU 72	-81	-34	4310	1388.94	-80.58	27.35
300	SLU 73	-84	-30	4671	1502.43	-87.34	28.54
300	SLU 74	-82	-45	4661	1502.14	-87.18	27.54
300	SLU 75	-84	-37	4698	1512.61	-87.85	28.44
300	SLU 76	-85	-31	4703	1513.07	-87.93	28.85
300	SLU 77	-83	-45	4692	1512.78	-87.78	27.86
300	SLU 78	-85	-37	4730	1523.25	-88.45	28.76
300	SLU 79	-83	-45	4673	1506.25	-87.41	27.67
300	SLU 80	-85	-37	4710	1516.73	-88.08	28.57
300	SLU 81	-82	-46	4781	1539.74	-89.43	27.56
300	SLU 82	-85	-37	4818	1550.21	-90.1	28.46
300	SLU 83	-83	-46	4812	1550.38	-90.03	27.87
300	SLU 84	-86	-38	4850	1560.85	-90.7	28.77
300	SLE RA 1	-57	-31	3143	1013.26	-58.78	19.22
300	SLE RA 2	-60	-22	3185	1024.9	-59.53	20.22
300	SLE RA 3	-58	-31	3178	1024.7	-59.43	19.56
300	SLE RA 4	-60	-26	3203	1031.68	-59.87	20.16
300	SLE RA 5	-60	-22	3206	1031.99	-59.93	20.43
300	SLE RA 6	-59	-32	3199	1031.79	-59.82	19.77
300	SLE RA 7	-60	-26	3224	1038.78	-60.27	20.37
300	SLE RA 8	-59	-32	3186	1027.45	-59.58	19.64
300	SLE RA 9	-60	-26	3210	1034.43	-60.02	20.24
300	SLE RA 10	-62	-24	3451	1110.09	-64.53	21.04
300	SLE RA 11	-61	-33	3444	1109.89	-64.43	20.37
300	SLE RA 12	-62	-28	3469	1116.88	-64.87	20.97
300	SLE RA 13	-63	-24	3472	1117.18	-64.93	21.25
300	SLE RA 14	-62	-34	3465	1116.99	-64.82	20.58
300	SLE RA 15	-63	-28	3490	1123.97	-65.27	21.18
300	SLE RA 16	-61	-34	3452	1112.64	-64.58	20.46
300	SLE RA 17	-63	-28	3477	1119.62	-65.02	21.06
300	SLE RA 18	-61	-34	3524	1134.96	-65.93	20.39
300	SLE RA 19	-62	-28	3549	1141.94	-66.37	20.99
300	SLE RA 20	-62	-34	3545	1142.05	-66.32	20.6
300	SLE RA 21	-63	-29	3570	1149.04	-66.77	21.19
300	SLE FR 1	-57	-31	3143	1013.26	-58.78	19.22
300	SLE FR 2	-58	-29	3152	1015.58	-58.93	19.42
300	SLE FR 3	-58	-31	3152	1016.09	-58.94	19.31
300	SLE FR 4	-59	-30	3266	1052.1	-61.07	19.77
300	SLE FR 5	-59	-32	3266	1052.61	-61.08	19.66
300	SLE FR 6	-59	-32	3334	1074.11	-62.35	19.81
300	SLE QP 1	-57	-31	3143	1013.26	-58.78	19.22
300	SLE QP 2	-58	-32	3258	1049.77	-60.93	19.57
300	SLD 1	205	44	3994	1265.91	-73.86	-71.23
300	SLD 2	258	8	3948	1252.21	-73.08	-90.53
300	SLD 3	241	-132	3104	1015.27	-57.66	-87.12
300	SLD 4	294	-168	3058	1001.56	-56.88	-106.41
300	SLD 5	-44	265	4836	1497.12	-89.51	19.75
300	SLD 6	-10	242	4807	1488.29	-89.01	7.32
300	SLD 7	77	-324	1869	661.63	-35.51	-33.22
300	SLD 8	112	-347	1840	652.8	-35.01	-45.64
300	SLD 9	-229	283	4675	1446.74	-86.84	84.79
300	SLD 10	-194	260	4646	1437.91	-86.34	72.36
300	SLD 11	-107	-306	1708	611.24	-32.85	31.82
300	SLD 12	-73	-329	1679	602.42	-32.34	19.4
300	SLD 13	-411	105	3457	1097.98	-64.97	145.56
300	SLD 14	-358	69	3411	1084.27	-64.19	126.27
300	SLD 15	-375	-72	2567	847.33	-48.77	129.67
300	SLD 16	-322	-108	2521	833.62	-47.99	110.38
300	SLV 1	350	100	4472	1405.43	-82.29	-121.3
300	SLV 2	435	43	4400	1383.83	-81.06	-151.72
300	SLV 3	412	-201	2954	977.79	-54.66	-148.35
300	SLV 4	496	-258	2882	956.18	-53.43	-178.76
300	SLV 5	-45	475	5938	1809.09	-109.48	24
300	SLV 6	11	437	5890	1794.55	-108.66	3.52
300	SLV 7	161	-529	877	383.61	-17.36	-66.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	SLV 8	218	-567	828	369.07	-16.53	-86.61
300	SLV 9	-335	504	5687	1730.47	-105.32	125.76
300	SLV 10	-278	465	5638	1715.92	-104.49	105.29
300	SLV 11	-128	-501	625	304.99	-13.2	35.62
300	SLV 12	-71	-539	577	290.45	-12.37	15.15
300	SLV 13	-613	194	3633	1143.35	-68.42	217.9
300	SLV 14	-529	137	3561	1121.75	-67.2	187.49
300	SLV 15	-551	-107	2115	715.71	-40.79	190.86
300	SLV 16	-467	-164	2043	694.1	-39.56	160.45
300	SLV FO 1	391	113	4594	1441	-84.43	-135.39
300	SLV FO 2	484	51	4515	1417.23	-83.08	-168.85
300	SLV FO 3	460	-218	2923	970.59	-54.03	-165.14
300	SLV FO 4	552	-281	2844	946.82	-52.68	-198.59
300	SLV FO 5	-44	526	6207	1885.02	-114.34	24.44
300	SLV FO 6	18	484	6153	1869.02	-113.43	1.92
300	SLV FO 7	183	-579	639	317	-13	-74.71
300	SLV FO 8	245	-621	585	301	-12.09	-97.23
300	SLV FO 9	-362	557	5930	1798.54	-109.76	136.38
300	SLV FO 10	-300	515	5876	1782.54	-108.85	113.86
300	SLV FO 11	-135	-548	362	230.51	-8.42	37.23
300	SLV FO 12	-73	-590	309	214.51	-7.51	14.71
300	SLV FO 13	-669	217	3671	1152.71	-69.17	237.74
300	SLV FO 14	-576	154	3592	1128.95	-67.82	204.28
300	SLV FO 15	-601	-115	2001	682.3	-38.77	207.99
300	SLV FO 16	-508	-177	1921	658.54	-37.42	174.54
300	CRTFP Ux+	0	0	0	0	0	0
300	CRTFP Ux-	0	0	0	0	0	0
300	CRTFP Uy+	0	0	0	0	0	0
300	CRTFP Uy-	0	0	0	0	0	0
301	SLU 1	-59	-47	3381	1077.22	0.55	20.42
301	SLU 2	-63	-32	3449	1095.85	0.63	21.79
301	SLU 3	-61	-48	3439	1096.21	0.56	20.98
301	SLU 4	-63	-39	3480	1107.39	0.61	21.8
301	SLU 5	-64	-33	3484	1107.64	0.63	22.14
301	SLU 6	-62	-49	3475	1108	0.56	21.33
301	SLU 7	-64	-40	3515	1119.18	0.61	22.15
301	SLU 8	-62	-49	3453	1100.79	0.56	21.12
301	SLU 9	-64	-40	3493	1111.98	0.6	21.94
301	SLU 10	-67	-37	3897	1237.24	0.68	23.13
301	SLU 11	-65	-53	3888	1237.6	0.61	22.32
301	SLU 12	-67	-44	3928	1248.78	0.66	23.14
301	SLU 13	-68	-38	3933	1249.03	0.68	23.48
301	SLU 14	-66	-54	3923	1249.38	0.62	22.67
301	SLU 15	-68	-45	3964	1260.57	0.66	23.49
301	SLU 16	-66	-54	3901	1242.18	0.61	22.46
301	SLU 17	-68	-45	3942	1253.36	0.66	23.28
301	SLU 18	-65	-54	4022	1279.19	0.63	22.34
301	SLU 19	-68	-45	4063	1290.38	0.67	23.16
301	SLU 20	-66	-55	4058	1290.98	0.63	22.69
301	SLU 21	-69	-46	4098	1302.17	0.68	23.51
301	SLU 22	-69	-53	3863	1231.75	0.65	23.63
301	SLU 23	-73	-38	3930	1250.39	0.73	24.99
301	SLU 24	-70	-54	3920	1250.74	0.66	24.19
301	SLU 25	-73	-45	3961	1261.93	0.71	25.01
301	SLU 26	-74	-39	3966	1262.18	0.74	25.34
301	SLU 27	-71	-55	3956	1262.53	0.67	24.54
301	SLU 28	-74	-46	3996	1273.71	0.72	25.36
301	SLU 29	-71	-54	3934	1255.32	0.66	24.33
301	SLU 30	-73	-45	3974	1266.51	0.71	25.15
301	SLU 31	-77	-43	4379	1391.77	0.79	26.34
301	SLU 32	-74	-59	4369	1392.13	0.72	25.53
301	SLU 33	-77	-50	4409	1403.31	0.76	26.35
301	SLU 34	-78	-44	4414	1403.56	0.79	26.69
301	SLU 35	-75	-60	4404	1403.92	0.72	25.88
301	SLU 36	-78	-51	4445	1415.1	0.77	26.7
301	SLU 37	-75	-59	4382	1396.71	0.72	25.67
301	SLU 38	-77	-50	4423	1407.89	0.76	26.49
301	SLU 39	-74	-60	4503	1433.73	0.73	25.55
301	SLU 40	-77	-51	4544	1444.91	0.78	26.37
301	SLU 41	-75	-61	4539	1445.51	0.74	25.9
301	SLU 42	-78	-52	4580	1456.7	0.78	26.72
301	SLU 43	-74	-60	4231	1347.4	0.68	25.45
301	SLU 44	-78	-44	4298	1366.04	0.75	26.81
301	SLU 45	-76	-61	4289	1366.39	0.69	26.01
301	SLU 46	-78	-51	4329	1377.58	0.73	26.83
301	SLU 47	-79	-45	4334	1377.83	0.76	27.16
301	SLU 48	-77	-61	4324	1378.18	0.69	26.36
301	SLU 49	-79	-52	4365	1389.37	0.74	27.18
301	SLU 50	-76	-61	4302	1370.97	0.69	26.15
301	SLU 51	-79	-52	4342	1382.16	0.73	26.97
301	SLU 52	-82	-49	4747	1507.42	0.81	28.16
301	SLU 53	-80	-66	4737	1507.78	0.74	27.35
301	SLU 54	-82	-56	4778	1518.96	0.79	28.17
301	SLU 55	-83	-50	4782	1519.21	0.81	28.51
301	SLU 56	-81	-66	4773	1519.57	0.75	27.7
301	SLU 57	-83	-57	4813	1530.75	0.79	28.52
301	SLU 58	-80	-66	4751	1512.36	0.74	27.49
301	SLU 59	-83	-57	4791	1523.54	0.79	28.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
301	SLU 60	-80	-67	4872	1549.38	0.75	27.37
301	SLU 61	-82	-58	4912	1560.56	0.8	28.19
301	SLU 62	-81	-67	4907	1561.17	0.76	27.72
301	SLU 63	-83	-58	4948	1572.35	0.81	28.54
301	SLU 64	-83	-65	4712	1501.93	0.78	28.65
301	SLU 65	-87	-50	4780	1520.57	0.86	30.02
301	SLU 66	-85	-66	4770	1520.92	0.79	29.21
301	SLU 67	-87	-57	4810	1532.11	0.84	30.03
301	SLU 68	-88	-51	4815	1532.36	0.86	30.37
301	SLU 69	-86	-67	4805	1532.71	0.8	29.56
301	SLU 70	-88	-58	4846	1543.9	0.84	30.38
301	SLU 71	-85	-67	4783	1525.51	0.79	29.36
301	SLU 72	-88	-58	4824	1536.69	0.84	30.18
301	SLU 73	-91	-55	5228	1661.95	0.91	31.36
301	SLU 74	-89	-71	5218	1662.31	0.85	30.56
301	SLU 75	-91	-62	5259	1673.49	0.89	31.38
301	SLU 76	-92	-56	5264	1673.74	0.92	31.71
301	SLU 77	-90	-72	5254	1674.1	0.85	30.91
301	SLU 78	-92	-63	5294	1685.28	0.9	31.73
301	SLU 79	-89	-72	5232	1666.89	0.85	30.7
301	SLU 80	-92	-63	5272	1678.08	0.89	31.52
301	SLU 81	-89	-72	5353	1703.91	0.86	30.57
301	SLU 82	-92	-63	5393	1715.09	0.91	31.39
301	SLU 83	-90	-73	5388	1715.7	0.86	30.92
301	SLU 84	-93	-64	5429	1726.88	0.91	31.74
301	SLE RA 1	-62	-49	3519	1121.37	0.58	21.34
301	SLE RA 2	-65	-39	3564	1133.79	0.63	22.25
301	SLE RA 3	-63	-50	3557	1134.03	0.59	21.71
301	SLE RA 4	-65	-44	3584	1141.49	0.62	22.26
301	SLE RA 5	-65	-39	3588	1141.65	0.63	22.48
301	SLE RA 6	-64	-50	3581	1141.89	0.59	21.94
301	SLE RA 7	-65	-44	3608	1149.35	0.62	22.49
301	SLE RA 8	-64	-50	3566	1137.09	0.58	21.8
301	SLE RA 9	-65	-44	3593	1144.54	0.62	22.35
301	SLE RA 10	-67	-42	3863	1228.05	0.67	23.14
301	SLE RA 11	-66	-53	3856	1228.29	0.62	22.61
301	SLE RA 12	-67	-47	3883	1235.74	0.65	23.15
301	SLE RA 13	-68	-43	3887	1235.91	0.67	23.38
301	SLE RA 14	-67	-53	3880	1236.15	0.62	22.84
301	SLE RA 15	-68	-47	3907	1243.6	0.66	23.39
301	SLE RA 16	-66	-53	3865	1231.34	0.62	22.7
301	SLE RA 17	-68	-47	3892	1238.8	0.65	23.25
301	SLE RA 18	-66	-54	3946	1256.02	0.63	22.62
301	SLE RA 19	-68	-48	3973	1263.48	0.66	23.16
301	SLE RA 20	-67	-54	3970	1263.88	0.63	22.85
301	SLE RA 21	-68	-48	3997	1271.33	0.66	23.4
301	SLE FR 1	-62	-49	3519	1121.37	0.58	21.34
301	SLE FR 2	-63	-47	3528	1123.85	0.59	21.52
301	SLE FR 3	-62	-49	3528	1124.51	0.58	21.43
301	SLE FR 4	-64	-48	3656	1164.25	0.6	21.9
301	SLE FR 5	-64	-51	3657	1164.91	0.6	21.81
301	SLE FR 6	-64	-51	3733	1188.69	0.6	21.98
301	SLE QP 1	-62	-49	3519	1121.37	0.58	21.34
301	SLE QP 2	-63	-50	3647	1161.76	0.59	21.72
301	SLD 1	233	27	4431	1387.6	1.97	-82.31
301	SLD 2	293	-11	4384	1372.98	1.85	-103.21
301	SLD 3	273	-165	3457	1118.5	1.13	-96.08
301	SLD 4	333	-204	3409	1103.88	1	-116.98
301	SLD 5	-45	271	5368	1640.16	2.31	14.99
301	SLD 6	-6	246	5338	1630.75	2.23	1.53
301	SLD 7	88	-370	2120	743.16	-0.5	-30.91
301	SLD 8	126	-395	2090	733.75	-0.59	-44.37
301	SLD 9	-253	294	5204	1589.78	1.77	87.81
301	SLD 10	-214	269	5174	1580.37	1.69	74.35
301	SLD 11	-120	-347	1957	692.78	-1.04	41.91
301	SLD 12	-82	-372	1926	683.36	-1.12	28.45
301	SLD 13	-459	103	3885	1219.65	0.19	160.42
301	SLD 14	-400	64	3838	1205.03	0.06	139.52
301	SLD 15	-420	-89	2911	950.55	-0.66	146.65
301	SLD 16	-360	-128	2863	935.93	-0.78	125.75
301	SLV 1	398	85	4942	1533.91	2.81	-140
301	SLV 2	492	24	4867	1510.87	2.61	-172.94
301	SLV 3	465	-243	3279	1074.78	1.37	-163.41
301	SLV 4	560	-304	3205	1051.74	1.17	-196.36
301	SLV 5	-45	499	6571	1974.06	3.48	14.86
301	SLV 6	18	458	6520	1958.55	3.34	-7.31
301	SLV 7	180	-594	1029	443.61	-1.32	-63.19
301	SLV 8	244	-635	979	428.1	-1.45	-85.36
301	SLV 9	-370	535	6315	1895.42	2.64	128.8
301	SLV 10	-307	494	6265	1879.91	2.51	106.63
301	SLV 11	-145	-559	774	364.98	-2.15	50.75
301	SLV 12	-81	-600	724	349.47	-2.29	28.58
301	SLV 13	-686	203	4089	1271.79	0.02	239.8
301	SLV 14	-592	142	4015	1248.75	-0.18	206.86
301	SLV 15	-618	-125	2427	812.66	-1.42	216.38
301	SLV 16	-524	-186	2352	789.61	-1.62	183.44
301	SLV FO 1	444	98	5071	1571.13	3.03	-156.17
301	SLV FO 2	547	31	4989	1545.78	2.81	-192.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
301	SLV FO 3	518	-262	3243	1066.08	1.45	-181.93
301	SLV FO 4	622	-329	3161	1040.73	1.22	-218.17
301	SLV FO 5	-44	554	6863	2055.29	3.77	14.18
301	SLV FO 6	26	509	6808	2038.23	3.62	-10.21
301	SLV FO 7	205	-649	768	371.8	-1.51	-71.68
301	SLV FO 8	275	-694	712	354.74	-1.66	-96.07
301	SLV FO 9	-401	593	6582	1968.79	2.85	139.51
301	SLV FO 10	-331	548	6527	1951.73	2.7	115.12
301	SLV FO 11	-153	-610	486	285.3	-2.43	53.66
301	SLV FO 12	-83	-655	431	268.24	-2.58	29.26
301	SLV FO 13	-748	229	4134	1282.79	-0.04	261.61
301	SLV FO 14	-645	162	4052	1257.45	-0.26	225.37
301	SLV FO 15	-674	-132	2305	777.75	-1.62	235.85
301	SLV FO 16	-570	-199	2223	752.4	-1.84	199.61
301	CRTFP Ux+	0	0	0	0	0	0
301	CRTFP Ux-	0	0	0	0	0	0
301	CRTFP Uy+	0	0	0	0	0	0
301	CRTFP Uy-	0	0	0	0	0	0
302	SLU 1	-49	-49	2810	892.13	79.19	18.19
302	SLU 2	-52	-37	2865	906.92	80.76	18.98
302	SLU 3	-50	-50	2858	907.86	80.54	18.68
302	SLU 4	-52	-43	2891	916.73	81.48	19.15
302	SLU 5	-53	-38	2894	916.69	81.59	19.29
302	SLU 6	-51	-51	2888	917.62	81.38	18.99
302	SLU 7	-53	-44	2920	926.5	82.32	19.46
302	SLU 8	-50	-51	2870	911.67	80.86	18.81
302	SLU 9	-52	-43	2902	920.54	81.8	19.28
302	SLU 10	-55	-42	3238	1024.07	91.27	20.23
302	SLU 11	-53	-56	3231	1025.01	91.05	19.93
302	SLU 12	-55	-48	3264	1033.88	91.99	20.41
302	SLU 13	-56	-43	3267	1033.84	92.1	20.54
302	SLU 14	-54	-56	3261	1034.78	91.89	20.24
302	SLU 15	-56	-49	3294	1043.65	92.83	20.72
302	SLU 16	-53	-56	3243	1028.82	91.37	20.06
302	SLU 17	-55	-49	3275	1037.69	92.31	20.54
302	SLU 18	-53	-57	3343	1059.49	94.21	19.98
302	SLU 19	-55	-50	3376	1068.37	95.15	20.45
302	SLU 20	-54	-58	3373	1069.26	95.04	20.29
302	SLU 21	-56	-50	3406	1078.13	95.98	20.76
302	SLU 22	-56	-55	3209	1019.91	90.46	21.01
302	SLU 23	-59	-43	3264	1034.7	92.03	21.79
302	SLU 24	-57	-56	3257	1035.63	91.81	21.5
302	SLU 25	-59	-49	3290	1044.51	92.75	21.97
302	SLU 26	-60	-44	3293	1044.47	92.86	22.1
302	SLU 27	-58	-57	3287	1045.4	92.65	21.81
302	SLU 28	-60	-50	3320	1054.28	93.59	22.28
302	SLU 29	-58	-57	3269	1039.45	92.13	21.63
302	SLU 30	-60	-49	3301	1048.32	93.07	22.1
302	SLU 31	-63	-48	3637	1151.85	102.54	23.05
302	SLU 32	-61	-62	3630	1152.79	102.32	22.75
302	SLU 33	-63	-54	3663	1161.66	103.26	23.22
302	SLU 34	-63	-49	3667	1161.62	103.37	23.36
302	SLU 35	-62	-62	3660	1162.56	103.16	23.06
302	SLU 36	-63	-55	3693	1171.43	104.1	23.53
302	SLU 37	-61	-62	3642	1156.6	102.64	22.88
302	SLU 38	-63	-55	3674	1165.47	103.58	23.35
302	SLU 39	-61	-63	3743	1187.27	105.48	22.8
302	SLU 40	-63	-56	3775	1196.14	106.42	23.27
302	SLU 41	-62	-64	3772	1197.04	106.31	23.11
302	SLU 42	-64	-56	3805	1205.91	107.25	23.58
302	SLU 43	-60	-62	3517	1115.96	99.09	22.68
302	SLU 44	-64	-50	3571	1130.75	100.65	23.47
302	SLU 45	-62	-63	3565	1131.69	100.44	23.17
302	SLU 46	-64	-56	3597	1140.56	101.38	23.64
302	SLU 47	-65	-50	3601	1140.52	101.49	23.78
302	SLU 48	-63	-64	3594	1141.45	101.27	23.48
302	SLU 49	-65	-56	3627	1150.33	102.21	23.95
302	SLU 50	-62	-63	3576	1135.5	100.75	23.3
302	SLU 51	-64	-56	3608	1144.37	101.69	23.77
302	SLU 52	-67	-55	3944	1247.9	111.16	24.72
302	SLU 53	-65	-68	3938	1248.84	110.95	24.43
302	SLU 54	-67	-61	3970	1257.71	111.89	24.9
302	SLU 55	-68	-56	3974	1257.67	112	25.03
302	SLU 56	-66	-69	3967	1258.61	111.78	24.73
302	SLU 57	-68	-62	4000	1267.48	112.72	25.21
302	SLU 58	-65	-69	3949	1252.65	111.26	24.55
302	SLU 59	-67	-61	3982	1261.52	112.2	25.03
302	SLU 60	-65	-70	4050	1283.32	114.1	24.47
302	SLU 61	-67	-62	4082	1292.2	115.04	24.95
302	SLU 62	-66	-70	4079	1293.09	114.93	24.78
302	SLU 63	-68	-63	4112	1301.96	115.87	25.26
302	SLU 64	-68	-68	3916	1243.74	110.36	25.5
302	SLU 65	-71	-56	3970	1258.53	111.92	26.29
302	SLU 66	-69	-69	3964	1259.46	111.71	25.99
302	SLU 67	-71	-62	3996	1268.34	112.65	26.46
302	SLU 68	-72	-56	4000	1268.3	112.76	26.6
302	SLU 69	-70	-70	3993	1269.23	112.54	26.3
302	SLU 70	-72	-62	4026	1278.1	113.48	26.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
302	SLU 71	-70	-69	3975	1263.28	112.02	26.12
302	SLU 72	-72	-62	4007	1272.15	112.96	26.59
302	SLU 73	-75	-61	4343	1375.68	122.43	27.54
302	SLU 74	-73	-74	4337	1376.62	122.22	27.24
302	SLU 75	-75	-67	4369	1385.49	123.16	27.71
302	SLU 76	-75	-62	4373	1385.45	123.27	27.85
302	SLU 77	-73	-75	4366	1386.39	123.05	27.55
302	SLU 78	-75	-68	4399	1395.26	123.99	28.02
302	SLU 79	-73	-75	4348	1380.43	122.53	27.37
302	SLU 80	-75	-67	4381	1389.3	123.47	27.84
302	SLU 81	-73	-76	4449	1411.1	125.37	27.29
302	SLU 82	-75	-68	4481	1419.97	126.31	27.76
302	SLU 83	-74	-76	4478	1420.87	126.2	27.6
302	SLU 84	-75	-69	4511	1429.74	127.14	28.07
302	SLE RA 1	-51	-51	2924	928.64	82.41	19
302	SLE RA 2	-53	-43	2961	938.5	83.46	19.52
302	SLE RA 3	-52	-52	2956	939.12	83.31	19.32
302	SLE RA 4	-53	-47	2978	945.04	83.94	19.64
302	SLE RA 5	-53	-43	2980	945.01	84.01	19.73
302	SLE RA 6	-52	-52	2976	945.63	83.87	19.53
302	SLE RA 7	-53	-47	2998	951.55	84.5	19.84
302	SLE RA 8	-52	-52	2964	941.66	83.52	19.41
302	SLE RA 9	-53	-47	2986	947.58	84.15	19.72
302	SLE RA 10	-55	-46	3209	1016.6	90.46	20.36
302	SLE RA 11	-54	-55	3205	1017.22	90.32	20.16
302	SLE RA 12	-55	-50	3227	1023.14	90.95	20.47
302	SLE RA 13	-56	-47	3229	1023.11	91.02	20.56
302	SLE RA 14	-54	-56	3225	1023.74	90.87	20.36
302	SLE RA 15	-56	-51	3247	1029.65	91.5	20.68
302	SLE RA 16	-54	-55	3213	1019.77	90.53	20.24
302	SLE RA 17	-55	-51	3234	1025.68	91.16	20.56
302	SLE RA 18	-54	-56	3280	1040.21	92.42	20.19
302	SLE RA 19	-55	-51	3302	1046.13	93.05	20.5
302	SLE RA 20	-54	-57	3300	1046.73	92.98	20.4
302	SLE RA 21	-56	-52	3321	1052.64	93.6	20.71
302	SLE FR 1	-51	-51	2924	928.64	82.41	19
302	SLE FR 2	-51	-49	2932	930.61	82.62	19.1
302	SLE FR 3	-51	-51	2932	931.24	82.63	19.08
302	SLE FR 4	-52	-51	3038	964.08	85.62	19.46
302	SLE FR 5	-52	-53	3039	964.72	85.64	19.44
302	SLE FR 6	-52	-54	3102	984.43	87.42	19.59
302	SLE QP 1	-51	-51	2924	928.64	82.41	19
302	SLE QP 2	-52	-53	3031	962.11	85.41	19.35
302	SLD 1	198	6	3649	1136.85	103.55	-69.75
302	SLD 2	248	-25	3613	1125.4	102.46	-86.42
302	SLD 3	231	-151	2857	921.86	80.86	-76.8
302	SLD 4	281	-183	2821	910.41	79.78	-93.47
302	SLD 5	-35	209	4423	1342.56	125.45	6.17
302	SLD 6	-2	189	4400	1335.19	124.75	-4.56
302	SLD 7	74	-316	1784	625.95	49.83	-17.31
302	SLD 8	106	-336	1761	618.57	49.13	-28.05
302	SLD 9	-209	231	4301	1305.65	121.7	66.75
302	SLD 10	-177	211	4278	1298.28	121	56.02
302	SLD 11	-101	-294	1662	589.04	46.08	43.27
302	SLD 12	-68	-314	1639	581.66	45.38	32.53
302	SLD 13	-384	78	3241	1013.81	91.05	132.18
302	SLD 14	-334	46	3205	1002.36	89.97	115.51
302	SLD 15	-351	-80	2449	798.83	68.37	125.13
302	SLD 16	-301	-111	2413	787.38	67.28	108.46
302	SLV 1	336	51	4053	1250.57	115.37	-119.52
302	SLV 2	416	2	3996	1232.52	113.66	-145.79
302	SLV 3	392	-218	2702	883.76	76.67	-131.47
302	SLV 4	471	-267	2646	865.71	74.96	-157.75
302	SLV 5	-34	395	5397	1608.34	153.42	0.73
302	SLV 6	19	362	5359	1596.19	152.27	-16.96
302	SLV 7	151	-500	894	385.65	24.41	-39.12
302	SLV 8	204	-533	856	373.5	23.26	-56.81
302	SLV 9	-307	428	5206	1550.73	147.57	95.52
302	SLV 10	-254	395	5168	1538.58	146.42	77.83
302	SLV 11	-123	-467	703	328.03	18.56	55.67
302	SLV 12	-69	-500	665	315.88	17.41	37.98
302	SLV 13	-574	162	3416	1058.52	95.87	196.45
302	SLV 14	-495	113	3360	1040.47	94.16	170.18
302	SLV 15	-519	-107	2066	691.71	57.17	184.5
302	SLV 16	-440	-156	2009	673.66	55.46	158.22
302	SLV FO 1	375	61	4155	1279.41	118.37	-133.4
302	SLV FO 2	462	7	4093	1259.56	116.48	-162.31
302	SLV FO 3	436	-234	2669	875.92	75.8	-146.55
302	SLV FO 4	523	-289	2607	856.07	73.91	-175.46
302	SLV FO 5	-32	440	5634	1672.96	160.22	-1.14
302	SLV FO 6	26	403	5592	1659.6	158.95	-20.59
302	SLV FO 7	171	-545	681	328	18.31	-44.97
302	SLV FO 8	229	-582	639	314.64	17.04	-64.42
302	SLV FO 9	-333	476	5423	1609.59	153.79	103.13
302	SLV FO 10	-274	440	5381	1596.22	152.52	83.68
302	SLV FO 11	-130	-508	471	264.63	11.88	59.3
302	SLV FO 12	-71	-545	428	251.26	10.61	39.84
302	SLV FO 13	-626	184	3455	1068.16	96.92	214.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
302	SLV FO 14	-539	129	3393	1048.3	95.03	185.26
302	SLV FO 15	-565	-112	1969	664.67	54.35	201.01
302	SLV FO 16	-478	-166	1907	644.81	52.46	172.11
302	CRTFP Ux+	0	0	0	0	0	0
302	CRTFP Ux-	0	0	0	0	0	0
302	CRTFP Uy+	0	0	0	0	0	0
302	CRTFP Uy-	0	0	0	0	0	0
303	SLU 1	-71	-81	4133	1279.71	84.03	25.38
303	SLU 2	-76	-62	4211	1299.83	85.7	26.63
303	SLU 3	-73	-82	4203	1302.28	85.46	26.06
303	SLU 4	-76	-71	4250	1314.35	86.46	26.81
303	SLU 5	-77	-64	4254	1313.86	86.58	27.06
303	SLU 6	-74	-84	4247	1316.31	86.35	26.5
303	SLU 7	-77	-73	4293	1328.38	87.35	27.25
303	SLU 8	-74	-83	4220	1307.77	85.8	26.25
303	SLU 9	-76	-72	4267	1319.84	86.8	27
303	SLU 10	-81	-71	4760	1468.42	96.85	28.36
303	SLU 11	-78	-91	4752	1470.87	96.62	27.8
303	SLU 12	-81	-80	4799	1482.94	97.62	28.55
303	SLU 13	-82	-73	4803	1482.45	97.74	28.8
303	SLU 14	-79	-93	4796	1484.9	97.51	28.23
303	SLU 15	-82	-82	4842	1496.97	98.51	28.98
303	SLU 16	-78	-92	4769	1476.36	96.96	27.98
303	SLU 17	-81	-81	4816	1488.43	97.96	28.73
303	SLU 18	-78	-94	4917	1520.56	99.97	27.85
303	SLU 19	-81	-83	4964	1532.63	100.97	28.6
303	SLU 20	-79	-95	4961	1534.59	100.85	28.29
303	SLU 21	-82	-84	5008	1546.66	101.85	29.04
303	SLU 22	-82	-91	4717	1462.87	96.01	29.33
303	SLU 23	-87	-72	4795	1482.99	97.68	30.58
303	SLU 24	-84	-92	4788	1485.44	97.45	30.01
303	SLU 25	-87	-81	4834	1497.51	98.45	30.76
303	SLU 26	-88	-73	4838	1497.01	98.56	31.01
303	SLU 27	-85	-93	4831	1499.46	98.33	30.45
303	SLU 28	-88	-82	4878	1511.53	99.33	31.2
303	SLU 29	-85	-93	4804	1490.93	97.78	30.2
303	SLU 30	-88	-82	4851	1502.99	98.78	30.95
303	SLU 31	-92	-81	5344	1651.58	108.84	32.31
303	SLU 32	-89	-101	5337	1654.03	108.6	31.75
303	SLU 33	-92	-90	5383	1666.1	109.6	32.5
303	SLU 34	-93	-82	5388	1665.61	109.72	32.75
303	SLU 35	-90	-102	5380	1668.06	109.49	32.18
303	SLU 36	-93	-91	5427	1680.13	110.49	32.93
303	SLU 37	-89	-102	5353	1659.52	108.94	31.93
303	SLU 38	-92	-91	5400	1671.59	109.94	32.68
303	SLU 39	-89	-103	5502	1703.72	111.95	31.8
303	SLU 40	-92	-92	5548	1715.79	112.95	32.55
303	SLU 41	-90	-104	5545	1717.75	112.84	32.24
303	SLU 42	-93	-93	5592	1729.82	113.84	32.99
303	SLU 43	-89	-102	5172	1600.83	105.13	31.64
303	SLU 44	-93	-83	5250	1620.95	106.8	32.89
303	SLU 45	-91	-103	5243	1623.4	106.56	32.32
303	SLU 46	-93	-92	5289	1635.47	107.56	33.07
303	SLU 47	-95	-84	5294	1634.97	107.68	33.32
303	SLU 48	-92	-104	5286	1637.42	107.45	32.76
303	SLU 49	-95	-93	5333	1649.49	108.45	33.51
303	SLU 50	-91	-104	5259	1628.89	106.9	32.51
303	SLU 51	-94	-93	5306	1640.96	107.9	33.26
303	SLU 52	-98	-92	5799	1789.54	117.95	34.62
303	SLU 53	-95	-112	5792	1791.99	117.72	34.05
303	SLU 54	-98	-101	5839	1804.06	118.72	34.8
303	SLU 55	-99	-93	5843	1803.57	118.84	35.05
303	SLU 56	-96	-113	5835	1806.02	118.61	34.49
303	SLU 57	-99	-102	5882	1818.09	119.61	35.24
303	SLU 58	-96	-113	5809	1797.48	118.06	34.24
303	SLU 59	-99	-102	5855	1809.55	119.06	34.99
303	SLU 60	-95	-114	5957	1841.68	121.07	34.11
303	SLU 61	-98	-103	6004	1853.75	122.07	34.86
303	SLU 62	-96	-116	6000	1855.71	121.95	34.55
303	SLU 63	-99	-105	6047	1867.78	122.95	35.3
303	SLU 64	-100	-111	5757	1783.99	117.11	35.59
303	SLU 65	-105	-93	5835	1804.1	118.78	36.84
303	SLU 66	-102	-113	5827	1806.55	118.55	36.27
303	SLU 67	-105	-102	5874	1818.62	119.55	37.02
303	SLU 68	-106	-94	5878	1818.13	119.66	37.27
303	SLU 69	-103	-114	5870	1820.58	119.43	36.71
303	SLU 70	-106	-103	5917	1832.65	120.43	37.46
303	SLU 71	-102	-114	5844	1812.04	118.88	36.46
303	SLU 72	-105	-103	5890	1824.11	119.88	37.21
303	SLU 73	-109	-102	6384	1972.7	129.94	38.57
303	SLU 74	-106	-122	6376	1975.15	129.7	38
303	SLU 75	-109	-111	6423	1987.22	130.7	38.76
303	SLU 76	-110	-103	6427	1986.73	130.82	39
303	SLU 77	-108	-123	6420	1989.18	130.59	38.44
303	SLU 78	-110	-112	6466	2001.24	131.59	39.19
303	SLU 79	-107	-123	6393	1980.64	130.04	38.19
303	SLU 80	-110	-112	6440	1992.71	131.04	38.94
303	SLU 81	-106	-124	6541	2024.84	133.05	38.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
303	SLU 82	-109	-113	6588	2036.91	134.05	38.81
303	SLU 83	-108	-125	6585	2038.86	133.94	38.5
303	SLU 84	-111	-114	6631	2050.93	134.94	39.25
303	SLE RA 1	-74	-84	4300	1332.05	87.45	26.51
303	SLE RA 2	-77	-71	4352	1345.46	88.56	27.34
303	SLE RA 3	-76	-85	4347	1347.09	88.41	26.96
303	SLE RA 4	-77	-77	4378	1355.13	89.08	27.46
303	SLE RA 5	-78	-72	4381	1354.81	89.15	27.63
303	SLE RA 6	-76	-85	4376	1356.44	89	27.25
303	SLE RA 7	-78	-78	4407	1364.49	89.67	27.75
303	SLE RA 8	-76	-85	4358	1350.75	88.63	27.09
303	SLE RA 9	-78	-78	4389	1358.79	89.3	27.59
303	SLE RA 10	-81	-77	4718	1457.85	96	28.5
303	SLE RA 11	-79	-91	4713	1459.48	95.85	28.12
303	SLE RA 12	-81	-83	4744	1467.53	96.51	28.62
303	SLE RA 13	-81	-78	4747	1467.2	96.59	28.78
303	SLE RA 14	-80	-91	4742	1468.84	96.44	28.41
303	SLE RA 15	-81	-84	4773	1476.88	97.1	28.91
303	SLE RA 16	-79	-91	4724	1463.14	96.07	28.24
303	SLE RA 17	-81	-84	4755	1471.19	96.74	28.74
303	SLE RA 18	-79	-92	4823	1492.61	98.08	28.16
303	SLE RA 19	-81	-85	4854	1500.66	98.75	28.66
303	SLE RA 20	-80	-93	4852	1501.96	98.67	28.45
303	SLE RA 21	-81	-86	4883	1510.01	99.34	28.95
303	SLE FR 1	-74	-84	4300	1332.05	87.45	26.51
303	SLE FR 2	-75	-81	4310	1334.73	87.68	26.67
303	SLE FR 3	-75	-84	4311	1335.79	87.69	26.62
303	SLE FR 4	-76	-84	4467	1382.9	90.86	27.17
303	SLE FR 5	-76	-86	4468	1383.96	90.88	27.12
303	SLE FR 6	-77	-88	4561	1412.33	92.77	27.33
303	SLE QP 1	-74	-84	4300	1332.05	87.45	26.51
303	SLE QP 2	-76	-86	4457	1380.21	90.64	27
303	SLD 1	298	-4	5316	1608.99	110.1	-100.76
303	SLD 2	373	-48	5268	1593.79	108.93	-125.06
303	SLD 3	346	-237	4172	1313.84	86.01	-112.32
303	SLD 4	421	-281	4124	1298.64	84.84	-136.62
303	SLD 5	-49	299	6458	1899.1	133.22	10.39
303	SLD 6	0	271	6427	1889.31	132.47	-5.25
303	SLD 7	110	-477	2644	915.27	52.91	-28.16
303	SLD 8	158	-506	2614	905.49	52.16	-43.8
303	SLD 9	-310	333	6300	1854.94	129.13	97.81
303	SLD 10	-261	305	6269	1845.15	128.37	82.16
303	SLD 11	-151	-443	2487	871.11	48.81	59.26
303	SLD 12	-103	-472	2456	861.33	48.06	43.61
303	SLD 13	-572	109	4790	1461.79	96.45	190.62
303	SLD 14	-497	65	4742	1446.59	95.27	166.32
303	SLD 15	-524	-124	3646	1166.64	72.35	179.06
303	SLD 16	-449	-168	3598	1151.44	71.18	154.76
303	SLV 1	505	59	5881	1758.91	122.78	-171.99
303	SLV 2	623	-11	5806	1734.95	120.93	-210.29
303	SLV 3	586	-338	3929	1255.31	81.67	-191.63
303	SLV 4	704	-408	3854	1231.35	79.82	-229.93
303	SLV 5	-46	573	7859	2262.08	162.97	4.23
303	SLV 6	33	526	7808	2245.95	161.73	-21.55
303	SLV 7	224	-751	1352	583.42	25.95	-61.22
303	SLV 8	303	-798	1301	567.3	24.7	-87
303	SLV 9	-454	626	7612	2193.13	156.58	141.01
303	SLV 10	-375	579	7562	2177.01	155.34	115.22
303	SLV 11	-185	-698	1106	514.48	19.55	75.56
303	SLV 12	-105	-745	1055	498.35	18.31	49.77
303	SLV 13	-856	236	5060	1529.08	101.46	283.93
303	SLV 14	-737	166	4985	1505.12	99.61	245.63
303	SLV 15	-775	-162	3108	1025.48	60.35	264.3
303	SLV 16	-656	-231	3033	1001.52	58.51	225.99
303	SLV FO 1	563	74	6023	1796.77	125.99	-191.89
303	SLV FO 2	693	-3	5940	1770.42	123.96	-234.02
303	SLV FO 3	652	-363	3876	1242.82	80.77	-213.49
303	SLV FO 4	782	-440	3793	1216.46	78.74	-255.62
303	SLV FO 5	-43	639	8199	2350.27	170.21	1.95
303	SLV FO 6	44	587	8143	2332.53	168.84	-26.41
303	SLV FO 7	253	-818	1041	503.75	19.48	-70.04
303	SLV FO 8	341	-870	986	486	18.11	-98.4
303	SLV FO 9	-492	697	7928	2274.43	163.17	152.41
303	SLV FO 10	-405	646	7872	2256.68	161.8	124.04
303	SLV FO 11	-196	-760	771	427.9	12.44	80.41
303	SLV FO 12	-108	-811	715	410.16	11.07	52.05
303	SLV FO 13	-934	268	5120	1543.97	102.54	309.62
303	SLV FO 14	-804	191	5037	1517.61	100.51	267.49
303	SLV FO 15	-845	-169	2973	990.01	57.32	288.03
303	SLV FO 16	-715	-246	2890	963.66	55.29	245.89
303	CRTFP Ux+	0	0	0	0	0	0
303	CRTFP Ux-	0	0	0	0	0	0
303	CRTFP Uy+	0	0	0	0	0	0
303	CRTFP Uy-	0	0	0	0	0	0
305	SLU 1	-39	-46	2278	630.81	-54.01	10.87
305	SLU 2	-42	-35	2320	640.33	-54.99	11.92
305	SLU 3	-40	-47	2317	641.92	-54.93	11.18
305	SLU 4	-42	-41	2342	647.63	-55.51	11.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
305	SLU 5	-43	-36	2344	647.25	-55.55	12.12
305	SLU 6	-41	-47	2340	648.84	-55.49	11.37
305	SLU 7	-43	-41	2366	654.55	-56.08	12
305	SLU 8	-41	-47	2326	644.65	-55.15	11.26
305	SLU 9	-42	-41	2351	650.36	-55.73	11.89
305	SLU 10	-45	-41	2623	723.48	-62.16	12.59
305	SLU 11	-43	-52	2619	725.08	-62.1	11.85
305	SLU 12	-45	-46	2645	730.79	-62.69	12.48
305	SLU 13	-45	-41	2647	730.4	-62.73	12.79
305	SLU 14	-44	-52	2643	731.99	-62.67	12.04
305	SLU 15	-45	-46	2669	737.7	-63.26	12.67
305	SLU 16	-43	-52	2629	727.8	-62.32	11.93
305	SLU 17	-45	-46	2654	733.51	-62.91	12.56
305	SLU 18	-43	-53	2711	749.6	-64.26	11.83
305	SLU 19	-45	-47	2736	755.31	-64.85	12.46
305	SLU 20	-44	-54	2735	756.52	-64.83	12.02
305	SLU 21	-45	-48	2760	762.23	-65.41	12.65
305	SLU 22	-46	-51	2598	720.76	-61.6	12.63
305	SLU 23	-48	-41	2641	730.28	-62.58	13.68
305	SLU 24	-47	-52	2637	731.87	-62.52	12.93
305	SLU 25	-48	-46	2662	737.58	-63.11	13.56
305	SLU 26	-49	-42	2665	737.19	-63.15	13.87
305	SLU 27	-47	-53	2661	738.79	-63.09	13.12
305	SLU 28	-49	-47	2686	744.5	-63.67	13.75
305	SLU 29	-47	-53	2646	734.59	-62.74	13.01
305	SLU 30	-49	-46	2672	740.3	-63.33	13.64
305	SLU 31	-51	-46	2944	813.43	-69.76	14.35
305	SLU 32	-49	-57	2940	815.02	-69.7	13.6
305	SLU 33	-51	-51	2965	820.74	-70.28	14.23
305	SLU 34	-51	-47	2968	820.35	-70.32	14.54
305	SLU 35	-50	-58	2964	821.94	-70.26	13.79
305	SLU 36	-52	-52	2989	827.65	-70.85	14.43
305	SLU 37	-50	-58	2949	817.75	-69.91	13.68
305	SLU 38	-51	-51	2975	823.46	-70.5	14.31
305	SLU 39	-49	-59	3031	839.55	-71.85	13.59
305	SLU 40	-51	-52	3057	845.26	-72.44	14.22
305	SLU 41	-50	-59	3055	846.47	-72.42	13.78
305	SLU 42	-52	-53	3081	852.18	-73.01	14.41
305	SLU 43	-49	-58	2852	789.22	-67.61	13.53
305	SLU 44	-52	-47	2894	798.73	-68.58	14.58
305	SLU 45	-50	-59	2890	800.33	-68.52	13.84
305	SLU 46	-52	-52	2916	806.04	-69.11	14.47
305	SLU 47	-52	-48	2918	805.65	-69.15	14.78
305	SLU 48	-51	-59	2914	807.24	-69.09	14.03
305	SLU 49	-52	-53	2939	812.95	-69.68	14.66
305	SLU 50	-50	-59	2899	803.05	-68.74	13.92
305	SLU 51	-52	-53	2925	808.76	-69.33	14.55
305	SLU 52	-54	-52	3197	881.89	-75.76	15.25
305	SLU 53	-53	-64	3193	883.48	-75.7	14.51
305	SLU 54	-54	-58	3218	889.19	-76.29	15.14
305	SLU 55	-55	-53	3221	888.81	-76.33	15.45
305	SLU 56	-53	-64	3217	890.4	-76.27	14.7
305	SLU 57	-55	-58	3242	896.11	-76.85	15.33
305	SLU 58	-53	-64	3202	886.21	-75.92	14.59
305	SLU 59	-55	-58	3228	891.92	-76.51	15.22
305	SLU 60	-53	-65	3284	908.01	-77.86	14.49
305	SLU 61	-54	-59	3310	913.72	-78.44	15.12
305	SLU 62	-53	-66	3308	914.93	-78.43	14.68
305	SLU 63	-55	-59	3334	920.64	-79.01	15.31
305	SLU 64	-55	-63	3172	879.16	-75.2	15.29
305	SLU 65	-58	-53	3214	888.68	-76.18	16.34
305	SLU 66	-56	-64	3211	890.27	-76.12	15.59
305	SLU 67	-58	-58	3236	895.98	-76.71	16.22
305	SLU 68	-59	-53	3238	895.6	-76.75	16.53
305	SLU 69	-57	-65	3234	897.19	-76.69	15.79
305	SLU 70	-59	-58	3260	902.9	-77.27	16.42
305	SLU 71	-57	-64	3220	893	-76.34	15.67
305	SLU 72	-58	-58	3245	898.71	-76.92	16.3
305	SLU 73	-60	-58	3517	971.84	-83.35	17.01
305	SLU 74	-59	-69	3513	973.43	-83.29	16.26
305	SLU 75	-61	-63	3539	979.14	-83.88	16.89
305	SLU 76	-61	-59	3541	978.75	-83.92	17.2
305	SLU 77	-60	-70	3537	980.35	-83.86	16.46
305	SLU 78	-61	-64	3563	986.06	-84.45	17.09
305	SLU 79	-59	-70	3523	976.15	-83.51	16.34
305	SLU 80	-61	-63	3548	981.86	-84.1	16.97
305	SLU 81	-59	-70	3605	997.96	-85.45	16.25
305	SLU 82	-61	-64	3630	1003.67	-86.04	16.88
305	SLU 83	-60	-71	3629	1004.87	-86.02	16.44
305	SLU 84	-61	-65	3654	1010.58	-86.61	17.07
305	SLE RA 1	-41	-47	2370	656.51	-56.18	11.37
305	SLE RA 2	-43	-40	2398	662.86	-56.83	12.08
305	SLE RA 3	-42	-48	2395	663.92	-56.79	11.58
305	SLE RA 4	-43	-44	2412	667.73	-57.18	12
305	SLE RA 5	-43	-41	2414	667.47	-57.21	12.2
305	SLE RA 6	-42	-48	2411	668.53	-57.17	11.71
305	SLE RA 7	-43	-44	2428	672.34	-57.56	12.13
305	SLE RA 8	-42	-48	2401	665.73	-56.94	11.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
305	SLE RA 9	-43	-44	2418	669.54	-57.33	12.05
305	SLE RA 10	-45	-44	2600	718.29	-61.61	12.52
305	SLE RA 11	-44	-51	2597	719.35	-61.57	12.02
305	SLE RA 12	-45	-47	2614	723.16	-61.96	12.44
305	SLE RA 13	-45	-44	2616	722.9	-61.99	12.65
305	SLE RA 14	-44	-52	2613	723.97	-61.95	12.15
305	SLE RA 15	-45	-48	2630	727.77	-62.34	12.57
305	SLE RA 16	-44	-52	2603	721.17	-61.72	12.08
305	SLE RA 17	-45	-48	2620	724.98	-62.11	12.5
305	SLE RA 18	-44	-52	2658	735.71	-63.01	12.01
305	SLE RA 19	-45	-48	2675	739.51	-63.4	12.43
305	SLE RA 20	-44	-53	2674	740.32	-63.39	12.14
305	SLE RA 21	-45	-49	2691	744.12	-63.78	12.56
305	SLE FR 1	-41	-47	2370	656.51	-56.18	11.37
305	SLE FR 2	-41	-46	2375	657.78	-56.31	11.51
305	SLE FR 3	-41	-48	2376	658.36	-56.33	11.43
305	SLE FR 4	-42	-47	2462	681.54	-58.36	11.71
305	SLE FR 5	-42	-49	2462	682.11	-58.38	11.62
305	SLE FR 6	-42	-50	2514	696.11	-59.6	11.69
305	SLE QP 1	-41	-47	2370	656.51	-56.18	11.37
305	SLE QP 2	-42	-49	2456	680.27	-58.23	11.57
305	SLD 1	167	-4	2910	784.94	-68.57	-50.45
305	SLD 2	209	-27	2886	778.23	-68.03	-63.63
305	SLD 3	193	-134	2282	643.67	-54.05	-61.54
305	SLD 4	235	-158	2258	636.96	-53.5	-74.72
305	SLD 5	-26	166	3549	927.08	-83.46	12.06
305	SLD 6	1	151	3534	922.76	-83.1	3.57
305	SLD 7	61	-268	1455	456.19	-35.04	-24.92
305	SLD 8	88	-283	1440	451.87	-34.69	-33.41
305	SLD 9	-172	185	3473	908.67	-81.77	56.55
305	SLD 10	-145	170	3457	904.35	-81.42	48.06
305	SLD 11	-85	-249	1378	437.78	-33.35	19.57
305	SLD 12	-58	-264	1363	433.46	-33	11.08
305	SLD 13	-319	60	2654	723.58	-62.96	97.86
305	SLD 14	-277	36	2630	716.87	-62.41	84.67
305	SLD 15	-292	-70	2026	582.31	-48.43	86.76
305	SLD 16	-250	-94	2002	575.6	-47.89	73.58
305	SLV 1	282	31	3211	853.99	-75.43	-84.61
305	SLV 2	348	-6	3173	843.42	-74.57	-105.4
305	SLV 3	327	-191	2139	612.95	-50.65	-103.49
305	SLV 4	393	-228	2101	602.37	-49.79	-124.28
305	SLV 5	-24	319	4315	1099.94	-101.14	15.23
305	SLV 6	20	294	4290	1092.82	-100.56	1.24
305	SLV 7	124	-422	742	296.46	-18.53	-47.71
305	SLV 8	168	-446	717	289.34	-17.95	-61.7
305	SLV 9	-252	349	4196	1071.19	-98.51	84.83
305	SLV 10	-208	324	4170	1064.08	-97.93	70.84
305	SLV 11	-104	-392	622	267.71	-15.9	21.9
305	SLV 12	-59	-417	597	260.6	-15.32	7.91
305	SLV 13	-477	130	2811	758.16	-66.67	147.41
305	SLV 14	-411	94	2774	747.59	-65.81	126.63
305	SLV 15	-432	-92	1739	517.12	-41.88	128.53
305	SLV 16	-366	-129	1702	506.55	-41.02	107.75
305	SLV FO 1	315	39	3286	871.37	-77.15	-94.23
305	SLV FO 2	387	-2	3245	859.73	-76.21	-117.09
305	SLV FO 3	364	-205	2107	606.22	-49.89	-115
305	SLV FO 4	436	-246	2065	594.58	-48.95	-137.86
305	SLV FO 5	-23	356	4501	1141.91	-105.43	15.59
305	SLV FO 6	26	328	4473	1134.08	-104.79	0.2
305	SLV FO 7	140	-459	571	258.08	-14.55	-53.64
305	SLV FO 8	189	-486	543	250.25	-13.92	-69.03
305	SLV FO 9	-273	389	4370	1110.29	-102.54	92.16
305	SLV FO 10	-224	361	4342	1102.46	-101.9	76.77
305	SLV FO 11	-110	-426	439	226.46	-11.66	22.93
305	SLV FO 12	-61	-453	411	218.63	-11.03	7.54
305	SLV FO 13	-520	148	2847	765.95	-67.51	160.99
305	SLV FO 14	-447	108	2805	754.32	-66.57	138.13
305	SLV FO 15	-471	-96	1668	500.81	-40.25	140.22
305	SLV FO 16	-399	-137	1626	489.17	-39.3	117.36
305	CRTFP Ux+	0	0	0	0	0	0
305	CRTFP Ux-	0	0	0	0	0	0
305	CRTFP Uy+	0	0	0	0	0	0
305	CRTFP Uy-	0	0	0	0	0	0
306	SLU 1	-59	-65	3341	957.1	-83.97	17.01
306	SLU 2	-63	-50	3402	971.15	-85.45	18.65
306	SLU 3	-60	-67	3397	973.94	-85.39	17.48
306	SLU 4	-63	-57	3434	982.37	-86.28	18.47
306	SLU 5	-64	-50	3437	981.65	-86.33	18.95
306	SLU 6	-61	-67	3432	984.43	-86.27	17.78
306	SLU 7	-64	-58	3469	992.86	-87.16	18.77
306	SLU 8	-61	-67	3411	978.09	-85.73	17.61
306	SLU 9	-63	-58	3447	986.52	-86.62	18.59
306	SLU 10	-67	-57	3846	1097.33	-96.6	19.72
306	SLU 11	-64	-74	3841	1100.12	-96.55	18.55
306	SLU 12	-67	-64	3878	1108.55	-97.44	19.54
306	SLU 13	-68	-58	3881	1107.83	-97.49	20.02
306	SLU 14	-65	-75	3876	1110.61	-97.43	18.85
306	SLU 15	-68	-65	3913	1119.05	-98.32	19.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLU 16	-65	-74	3855	1104.27	-96.89	18.67
306	SLU 17	-67	-65	3891	1112.7	-97.78	19.66
306	SLU 18	-64	-76	3975	1137.36	-99.91	18.53
306	SLU 19	-67	-66	4012	1145.79	-100.79	19.52
306	SLU 20	-65	-77	4010	1147.85	-100.79	18.83
306	SLU 21	-68	-67	4047	1156.28	-101.68	19.82
306	SLU 22	-68	-73	3809	1093.02	-95.69	19.75
306	SLU 23	-72	-57	3870	1107.07	-97.17	21.39
306	SLU 24	-70	-74	3866	1109.86	-97.12	20.22
306	SLU 25	-72	-65	3902	1118.29	-98.01	21.21
306	SLU 26	-73	-58	3905	1117.56	-98.06	21.69
306	SLU 27	-71	-75	3901	1120.35	-98	20.52
306	SLU 28	-73	-66	3937	1128.78	-98.89	21.51
306	SLU 29	-70	-75	3879	1114.01	-97.46	20.34
306	SLU 30	-72	-65	3916	1122.44	-98.35	21.33
306	SLU 31	-76	-65	4314	1233.25	-108.33	22.46
306	SLU 32	-74	-81	4310	1236.04	-108.28	21.29
306	SLU 33	-76	-72	4346	1244.47	-109.16	22.28
306	SLU 34	-77	-65	4349	1243.75	-109.22	22.76
306	SLU 35	-75	-82	4345	1246.53	-109.16	21.59
306	SLU 36	-77	-73	4381	1254.96	-110.05	22.57
306	SLU 37	-74	-82	4323	1240.19	-108.62	21.41
306	SLU 38	-76	-73	4360	1248.62	-109.51	22.4
306	SLU 39	-74	-83	4443	1273.27	-111.63	21.27
306	SLU 40	-76	-74	4480	1281.71	-112.52	22.26
306	SLU 41	-75	-84	4478	1283.77	-112.52	21.57
306	SLU 42	-77	-75	4515	1292.2	-113.4	22.56
306	SLU 43	-73	-82	4182	1197.63	-105.14	21.17
306	SLU 44	-77	-66	4243	1211.68	-106.62	22.82
306	SLU 45	-75	-83	4239	1214.47	-106.56	21.65
306	SLU 46	-77	-74	4275	1222.9	-107.45	22.63
306	SLU 47	-78	-67	4278	1222.17	-107.5	23.12
306	SLU 48	-76	-84	4274	1224.96	-107.44	21.95
306	SLU 49	-78	-75	4310	1233.39	-108.33	22.93
306	SLU 50	-75	-84	4252	1218.62	-106.9	21.77
306	SLU 51	-78	-75	4289	1227.05	-107.79	22.76
306	SLU 52	-81	-74	4687	1337.86	-117.77	23.88
306	SLU 53	-79	-91	4683	1340.65	-117.72	22.71
306	SLU 54	-81	-81	4720	1349.08	-118.6	23.7
306	SLU 55	-82	-75	4722	1348.36	-118.66	24.18
306	SLU 56	-80	-92	4718	1351.14	-118.6	23.01
306	SLU 57	-82	-82	4755	1359.57	-119.49	24
306	SLU 58	-79	-91	4697	1344.8	-118.06	22.84
306	SLU 59	-82	-82	4733	1353.23	-118.95	23.82
306	SLU 60	-79	-93	4817	1377.88	-121.07	22.7
306	SLU 61	-81	-83	4853	1386.32	-121.96	23.68
306	SLU 62	-80	-94	4852	1388.38	-121.96	23
306	SLU 63	-82	-84	4888	1396.81	-122.85	23.98
306	SLU 64	-82	-90	4651	1333.54	-116.86	23.91
306	SLU 65	-86	-74	4712	1347.6	-118.34	25.55
306	SLU 66	-84	-91	4707	1350.38	-118.29	24.38
306	SLU 67	-86	-82	4744	1358.82	-119.18	25.37
306	SLU 68	-87	-75	4747	1358.09	-119.23	25.85
306	SLU 69	-85	-92	4742	1360.88	-119.17	24.68
306	SLU 70	-87	-83	4779	1369.31	-120.06	25.67
306	SLU 71	-85	-92	4721	1354.53	-118.63	24.51
306	SLU 72	-87	-82	4757	1362.97	-119.52	25.5
306	SLU 73	-90	-81	5156	1473.78	-129.5	26.62
306	SLU 74	-88	-98	5151	1476.57	-129.45	25.45
306	SLU 75	-90	-89	5188	1485	-130.33	26.44
306	SLU 76	-91	-82	5191	1484.27	-130.38	26.92
306	SLU 77	-89	-99	5186	1487.06	-130.33	25.75
306	SLU 78	-91	-90	5223	1495.49	-131.22	26.74
306	SLU 79	-88	-99	5165	1480.72	-129.79	25.58
306	SLU 80	-91	-90	5201	1489.15	-130.68	26.56
306	SLU 81	-88	-100	5285	1513.8	-132.8	25.43
306	SLU 82	-90	-91	5322	1522.24	-133.69	26.42
306	SLU 83	-89	-101	5320	1524.3	-133.69	25.73
306	SLU 84	-91	-92	5357	1532.73	-134.57	26.72
306	SLE RA 1	-61	-67	3474	995.93	-87.32	17.79
306	SLE RA 2	-64	-57	3515	1005.3	-88.3	18.89
306	SLE RA 3	-62	-68	3512	1007.16	-88.27	18.11
306	SLE RA 4	-64	-62	3537	1012.78	-88.86	18.77
306	SLE RA 5	-65	-58	3538	1012.3	-88.89	19.09
306	SLE RA 6	-63	-69	3536	1014.15	-88.86	18.31
306	SLE RA 7	-65	-63	3560	1019.78	-89.45	18.96
306	SLE RA 8	-63	-69	3521	1009.92	-88.5	18.19
306	SLE RA 9	-64	-62	3546	1015.55	-89.09	18.85
306	SLE RA 10	-67	-62	3811	1089.42	-95.74	19.6
306	SLE RA 11	-65	-73	3808	1091.28	-95.71	18.82
306	SLE RA 12	-67	-67	3833	1096.9	-96.3	19.48
306	SLE RA 13	-67	-62	3835	1096.42	-96.33	19.8
306	SLE RA 14	-66	-74	3832	1098.28	-96.29	19.02
306	SLE RA 15	-67	-68	3856	1103.9	-96.89	19.68
306	SLE RA 16	-65	-74	3817	1094.05	-95.93	18.9
306	SLE RA 17	-67	-67	3842	1099.67	-96.53	19.56
306	SLE RA 18	-65	-74	3897	1116.1	-97.94	18.81
306	SLE RA 19	-67	-68	3922	1121.73	-98.54	19.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLE RA 20	-66	-75	3921	1123.1	-98.53	19.01
306	SLE RA 21	-67	-69	3945	1128.72	-99.12	19.66
306	SLE FR 1	-61	-67	3474	995.93	-87.32	17.79
306	SLE FR 2	-62	-65	3483	997.81	-87.51	18.01
306	SLE FR 3	-62	-68	3484	998.73	-87.55	17.87
306	SLE FR 4	-63	-67	3609	1033.86	-90.7	18.31
306	SLE FR 5	-63	-70	3611	1034.78	-90.74	18.18
306	SLE FR 6	-63	-71	3686	1056.02	-92.63	18.3
306	SLE QP 1	-61	-67	3474	995.93	-87.32	17.79
306	SLE QP 2	-63	-69	3601	1031.98	-90.51	18.1
306	SLD 1	250	0	4236	1181.65	-105.43	-77.43
306	SLD 2	312	-33	4204	1172.38	-104.69	-97.7
306	SLD 3	288	-198	3328	971.13	-83.21	-94.83
306	SLD 4	351	-231	3296	961.86	-82.47	-115.1
306	SLD 5	-39	256	5175	1397.76	-128.81	19.32
306	SLD 6	2	235	5154	1391.8	-128.33	6.26
306	SLD 7	91	-401	2148	696.03	-54.74	-38.69
306	SLD 8	131	-423	2127	690.07	-54.27	-51.74
306	SLD 9	-256	284	5076	1373.9	-126.74	87.93
306	SLD 10	-216	262	5055	1367.93	-126.27	74.88
306	SLD 11	-127	-374	2049	672.17	-52.68	29.93
306	SLD 12	-86	-395	2028	666.2	-52.2	16.87
306	SLD 13	-476	92	3907	1102.1	-98.54	151.29
306	SLD 14	-414	59	3875	1092.84	-97.8	131.02
306	SLD 15	-437	-106	2999	891.59	-76.32	133.89
306	SLD 16	-375	-139	2967	882.32	-75.58	113.62
306	SLV 1	423	53	4659	1281.02	-115.42	-130.04
306	SLV 2	522	1	4608	1266.41	-114.26	-162
306	SLV 3	489	-283	3109	921.81	-77.51	-159.66
306	SLV 4	588	-336	3058	907.2	-76.34	-191.61
306	SLV 5	-36	487	6278	1654.23	-155.7	24.54
306	SLV 6	31	452	6244	1644.39	-154.91	3.02
306	SLV 7	185	-634	1113	456.85	-29.32	-74.19
306	SLV 8	251	-669	1079	447.02	-28.54	-95.7
306	SLV 9	-376	530	6124	1616.95	-152.47	131.89
306	SLV 10	-310	495	6090	1607.12	-151.69	110.38
306	SLV 11	-156	-591	959	419.57	-26.1	33.17
306	SLV 12	-89	-626	925	409.74	-25.31	11.65
306	SLV 13	-713	197	4145	1156.77	-104.67	227.8
306	SLV 14	-614	144	4094	1142.16	-103.5	195.85
306	SLV 15	-647	-140	2595	797.55	-66.75	198.19
306	SLV 16	-548	-192	2544	782.94	-65.59	166.23
306	SLV FO 1	471	65	4764	1305.93	-117.91	-144.85
306	SLV FO 2	580	8	4708	1289.86	-116.63	-180.01
306	SLV FO 3	544	-305	3060	910.79	-76.21	-177.43
306	SLV FO 4	653	-362	3004	894.72	-74.93	-212.58
306	SLV FO 5	-33	543	6546	1716.45	-162.22	25.18
306	SLV FO 6	40	504	6508	1705.63	-161.36	1.52
306	SLV FO 7	210	-691	864	399.34	-23.2	-83.41
306	SLV FO 8	283	-729	826	388.52	-22.34	-107.08
306	SLV FO 9	-408	590	6376	1675.45	-158.67	143.27
306	SLV FO 10	-335	552	6338	1664.63	-157.81	119.6
306	SLV FO 11	-165	-643	695	358.33	-19.65	34.67
306	SLV FO 12	-92	-682	657	347.51	-18.79	11.01
306	SLV FO 13	-778	223	4199	1169.24	-106.08	248.77
306	SLV FO 14	-669	166	4143	1153.17	-104.8	213.62
306	SLV FO 15	-705	-147	2495	774.11	-64.38	216.2
306	SLV FO 16	-596	-204	2438	758.04	-63.1	181.04
306	CRTFP Ux+	0	0	0	0	0	0
306	CRTFP Ux-	0	0	0	0	0	0
306	CRTFP Uy+	0	0	0	0	0	0
306	CRTFP Uy-	0	0	0	0	0	0
307	SLU 1	-68	-67	3813	1099.43	2.61	22.19
307	SLU 2	-73	-48	3882	1115.08	2.69	23.65
307	SLU 3	-70	-69	3878	1118.77	2.66	22.79
307	SLU 4	-73	-57	3919	1128.16	2.7	23.67
307	SLU 5	-74	-49	3922	1127.15	2.72	24.03
307	SLU 6	-72	-70	3918	1130.83	2.68	23.17
307	SLU 7	-74	-58	3959	1140.22	2.73	24.05
307	SLU 8	-71	-69	3893	1123.56	2.67	22.96
307	SLU 9	-74	-58	3934	1132.95	2.71	23.83
307	SLU 10	-78	-56	4389	1260.09	3.02	25.16
307	SLU 11	-75	-76	4385	1263.78	2.99	24.3
307	SLU 12	-78	-65	4426	1273.17	3.03	25.18
307	SLU 13	-79	-57	4429	1272.16	3.05	25.54
307	SLU 14	-76	-77	4425	1275.84	3.01	24.68
307	SLU 15	-79	-66	4466	1285.23	3.06	25.56
307	SLU 16	-75	-77	4400	1268.57	3	24.47
307	SLU 17	-78	-65	4441	1277.96	3.04	25.34
307	SLU 18	-75	-78	4538	1306.59	3.08	24.34
307	SLU 19	-78	-67	4579	1315.98	3.13	25.22
307	SLU 20	-76	-79	4578	1318.65	3.11	24.73
307	SLU 21	-79	-68	4619	1328.05	3.16	25.6
307	SLU 22	-79	-75	4345	1254.69	3.06	25.66
307	SLU 23	-84	-56	4413	1270.34	3.14	27.12
307	SLU 24	-81	-76	4410	1274.03	3.1	26.26
307	SLU 25	-84	-65	4450	1283.42	3.15	27.14
307	SLU 26	-85	-57	4453	1282.41	3.16	27.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
307	SLU 27	-82	-77	4449	1286.09	3.13	26.65
307	SLU 28	-85	-66	4490	1295.48	3.18	27.52
307	SLU 29	-82	-77	4425	1278.82	3.11	26.43
307	SLU 30	-84	-65	4466	1288.21	3.16	27.31
307	SLU 31	-88	-64	4921	1415.35	3.47	28.63
307	SLU 32	-86	-84	4917	1419.04	3.43	27.77
307	SLU 33	-88	-72	4958	1428.43	3.48	28.65
307	SLU 34	-90	-65	4961	1427.42	3.49	29.01
307	SLU 35	-87	-85	4957	1431.1	3.46	28.16
307	SLU 36	-90	-73	4998	1440.5	3.51	29.03
307	SLU 37	-86	-84	4932	1423.83	3.44	27.94
307	SLU 38	-89	-73	4973	1433.22	3.49	28.81
307	SLU 39	-86	-86	5070	1461.85	3.53	27.82
307	SLU 40	-88	-74	5111	1471.24	3.58	28.69
307	SLU 41	-87	-87	5110	1473.92	3.56	28.2
307	SLU 42	-90	-75	5151	1483.31	3.6	29.08
307	SLU 43	-85	-85	4775	1376.03	3.24	27.65
307	SLU 44	-90	-66	4843	1391.68	3.32	29.12
307	SLU 45	-87	-86	4839	1395.36	3.29	28.26
307	SLU 46	-90	-75	4880	1404.75	3.33	29.13
307	SLU 47	-91	-67	4883	1403.74	3.35	29.5
307	SLU 48	-88	-87	4879	1407.43	3.31	28.64
307	SLU 49	-91	-76	4920	1416.82	3.36	29.52
307	SLU 50	-88	-87	4855	1400.16	3.3	28.42
307	SLU 51	-90	-75	4896	1409.55	3.34	29.3
307	SLU 52	-94	-74	5350	1536.69	3.65	30.62
307	SLU 53	-92	-94	5347	1540.37	3.62	29.76
307	SLU 54	-94	-82	5388	1549.77	3.66	30.64
307	SLU 55	-96	-75	5390	1548.75	3.68	31.01
307	SLU 56	-93	-95	5387	1552.44	3.64	30.15
307	SLU 57	-96	-83	5428	1561.83	3.69	31.03
307	SLU 58	-92	-94	5362	1545.17	3.63	29.93
307	SLU 59	-95	-83	5403	1554.56	3.67	30.81
307	SLU 60	-92	-96	5500	1583.19	3.71	29.81
307	SLU 61	-95	-84	5541	1592.58	3.76	30.69
307	SLU 62	-93	-97	5540	1595.25	3.74	30.19
307	SLU 63	-96	-85	5581	1604.64	3.79	31.07
307	SLU 64	-96	-92	5307	1531.29	3.69	31.13
307	SLU 65	-101	-74	5375	1546.94	3.77	32.59
307	SLU 66	-98	-94	5371	1550.62	3.73	31.73
307	SLU 67	-101	-82	5412	1560.02	3.78	32.61
307	SLU 68	-102	-75	5415	1559	3.79	32.97
307	SLU 69	-99	-95	5411	1562.69	3.76	32.11
307	SLU 70	-102	-83	5452	1572.08	3.81	32.99
307	SLU 71	-98	-94	5387	1555.42	3.74	31.89
307	SLU 72	-101	-83	5428	1564.81	3.79	32.77
307	SLU 73	-105	-81	5882	1691.95	4.1	34.1
307	SLU 74	-102	-101	5878	1695.64	4.06	33.24
307	SLU 75	-105	-90	5919	1705.03	4.11	34.11
307	SLU 76	-106	-82	5922	1704.02	4.12	34.48
307	SLU 77	-104	-102	5918	1707.7	4.09	33.62
307	SLU 78	-106	-91	5959	1717.09	4.14	34.5
307	SLU 79	-103	-102	5894	1700.43	4.07	33.4
307	SLU 80	-106	-91	5935	1709.82	4.12	34.28
307	SLU 81	-103	-103	6031	1738.45	4.16	33.28
307	SLU 82	-105	-92	6072	1747.84	4.21	34.16
307	SLU 83	-104	-104	6071	1750.51	4.19	33.67
307	SLU 84	-106	-93	6112	1759.9	4.23	34.54
307	SLE RA 1	-72	-69	3965	1143.79	2.74	23.18
307	SLE RA 2	-75	-57	4011	1154.23	2.79	24.15
307	SLE RA 3	-73	-70	4008	1156.68	2.77	23.58
307	SLE RA 4	-75	-63	4036	1162.94	2.8	24.17
307	SLE RA 5	-75	-57	4037	1162.27	2.81	24.41
307	SLE RA 6	-74	-71	4035	1164.72	2.79	23.84
307	SLE RA 7	-75	-63	4062	1170.99	2.82	24.42
307	SLE RA 8	-73	-71	4018	1159.88	2.78	23.69
307	SLE RA 9	-75	-63	4046	1166.14	2.81	24.28
307	SLE RA 10	-78	-62	4349	1250.9	3.01	25.16
307	SLE RA 11	-76	-75	4346	1253.36	2.99	24.59
307	SLE RA 12	-78	-68	4374	1259.62	3.02	25.17
307	SLE RA 13	-78	-63	4376	1258.94	3.03	25.42
307	SLE RA 14	-77	-76	4373	1261.4	3.01	24.84
307	SLE RA 15	-78	-68	4400	1267.66	3.04	25.43
307	SLE RA 16	-76	-76	4357	1256.55	3	24.7
307	SLE RA 17	-78	-68	4384	1262.81	3.03	25.28
307	SLE RA 18	-76	-77	4448	1281.9	3.05	24.62
307	SLE RA 19	-78	-69	4476	1288.16	3.08	25.2
307	SLE RA 20	-77	-77	4475	1289.94	3.07	24.87
307	SLE RA 21	-78	-70	4502	1296.2	3.1	25.46
307	SLE FR 1	-72	-69	3965	1143.79	2.74	23.18
307	SLE FR 2	-72	-67	3974	1145.88	2.75	23.37
307	SLE FR 3	-72	-70	3976	1147.01	2.75	23.28
307	SLE FR 4	-73	-69	4119	1187.31	2.84	23.81
307	SLE FR 5	-73	-72	4121	1188.44	2.84	23.71
307	SLE FR 6	-74	-73	4207	1212.84	2.9	23.9
307	SLE QP 1	-72	-69	3965	1143.79	2.74	23.18
307	SLE QP 2	-73	-72	4110	1185.22	2.83	23.61
307	SLD 1	292	15	4794	1344.3	4.47	-90.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
307	SLD 2	365	-20	4761	1334.91	4.33	-113.71
307	SLD 3	337	-221	3768	1107.09	3.54	-105.46
307	SLD 4	410	-256	3735	1097.71	3.41	-128.27
307	SLD 5	-44	318	5876	1594.32	4.75	15.26
307	SLD 6	3	296	5855	1588.27	4.66	0.58
307	SLD 7	106	-468	2458	803.64	1.67	-33.28
307	SLD 8	153	-491	2437	797.6	1.58	-47.96
307	SLD 9	-299	348	5784	1572.85	4.09	95.18
307	SLD 10	-252	325	5762	1566.8	4	80.5
307	SLD 11	-148	-439	2365	782.17	1	46.64
307	SLD 12	-101	-461	2344	776.13	0.92	31.96
307	SLD 13	-556	113	4485	1272.74	2.26	175.49
307	SLD 14	-483	78	4452	1263.35	2.13	152.69
307	SLD 15	-511	-123	3460	1035.53	1.34	160.93
307	SLD 16	-438	-158	3427	1026.15	1.2	138.12
307	SLV 1	495	81	5252	1450.92	5.45	-154.44
307	SLV 2	610	25	5200	1436.12	5.24	-190.38
307	SLV 3	572	-321	3502	1046.17	3.87	-179.2
307	SLV 4	687	-377	3450	1031.37	3.66	-215.14
307	SLV 5	-41	595	7116	1881.56	6.05	14.45
307	SLV 6	37	557	7081	1871.6	5.91	-9.74
307	SLV 7	215	-746	1284	532.39	0.79	-68.07
307	SLV 8	293	-784	1248	522.44	0.65	-92.27
307	SLV 9	-439	641	6972	1848.01	5.02	139.49
307	SLV 10	-361	603	6937	1838.05	4.88	115.3
307	SLV 11	-183	-700	1139	498.84	-0.24	56.97
307	SLV 12	-105	-738	1104	488.88	-0.39	32.77
307	SLV 13	-832	234	4770	1339.07	2.01	262.36
307	SLV 14	-717	178	4718	1324.28	1.79	226.42
307	SLV 15	-756	-168	3020	934.32	0.43	237.6
307	SLV 16	-640	-224	2968	919.53	0.22	201.66
307	SLV FO 1	552	96	5366	1477.49	5.71	-172.24
307	SLV FO 2	678	35	5309	1461.21	5.48	-211.78
307	SLV FO 3	636	-346	3442	1032.26	3.98	-199.48
307	SLV FO 4	763	-407	3384	1015.99	3.74	-239.02
307	SLV FO 5	-37	661	7417	1951.2	6.38	13.54
307	SLV FO 6	48	620	7378	1940.24	6.22	-13.08
307	SLV FO 7	244	-814	1001	467.11	0.59	-77.24
307	SLV FO 8	330	-855	962	456.16	0.43	-103.86
307	SLV FO 9	-475	712	7258	1914.29	5.24	151.08
307	SLV FO 10	-390	671	7219	1903.33	5.08	124.46
307	SLV FO 11	-194	-763	842	430.2	-0.55	60.3
307	SLV FO 12	-108	-804	803	419.25	-0.71	33.69
307	SLV FO 13	-908	264	4836	1354.46	1.93	286.24
307	SLV FO 14	-782	203	4779	1338.18	1.69	246.7
307	SLV FO 15	-824	-178	2911	909.23	0.19	259
307	SLV FO 16	-697	-239	2854	892.96	-0.05	219.47
307	CRTFP Ux+	0	0	0	0	0	0
307	CRTFP Ux-	0	0	0	0	0	0
307	CRTFP Uy+	0	0	0	0	0	0
307	CRTFP Uy-	0	0	0	0	0	0
308	SLU 1	-68	-55	3749	1074.21	1.38	22.07
308	SLU 2	-73	-36	3815	1089.14	1.42	23.52
308	SLU 3	-70	-57	3812	1093.12	1.4	22.67
308	SLU 4	-73	-45	3852	1102.08	1.42	23.54
308	SLU 5	-74	-37	3854	1100.96	1.43	23.91
308	SLU 6	-71	-57	3851	1104.93	1.41	23.05
308	SLU 7	-74	-46	3891	1113.9	1.44	23.92
308	SLU 8	-70	-57	3827	1097.83	1.4	22.84
308	SLU 9	-73	-46	3867	1106.79	1.43	23.71
308	SLU 10	-77	-42	4315	1231.12	1.56	25.03
308	SLU 11	-74	-63	4312	1235.09	1.54	24.17
308	SLU 12	-77	-51	4352	1244.06	1.56	25.04
308	SLU 13	-78	-43	4354	1242.93	1.57	25.41
308	SLU 14	-76	-64	4351	1246.91	1.55	24.55
308	SLU 15	-78	-52	4391	1255.87	1.57	25.43
308	SLU 16	-75	-63	4327	1239.8	1.54	24.34
308	SLU 17	-78	-52	4367	1248.77	1.56	25.21
308	SLU 18	-74	-64	4463	1277.03	1.57	24.21
308	SLU 19	-77	-53	4502	1285.99	1.6	25.09
308	SLU 20	-76	-65	4502	1288.84	1.59	24.6
308	SLU 21	-78	-54	4542	1297.8	1.61	25.47
308	SLU 22	-79	-61	4269	1225.07	1.63	25.52
308	SLU 23	-83	-42	4335	1240.01	1.67	26.97
308	SLU 24	-81	-62	4332	1243.98	1.65	26.12
308	SLU 25	-83	-51	4372	1252.95	1.68	26.99
308	SLU 26	-84	-43	4374	1251.82	1.68	27.36
308	SLU 27	-82	-63	4372	1255.8	1.66	26.5
308	SLU 28	-84	-52	4411	1264.76	1.69	27.37
308	SLU 29	-81	-63	4347	1248.7	1.65	26.28
308	SLU 30	-84	-51	4387	1257.66	1.68	27.16
308	SLU 31	-88	-48	4835	1381.98	1.81	28.47
308	SLU 32	-85	-69	4832	1385.96	1.79	27.62
308	SLU 33	-88	-57	4872	1394.92	1.81	28.49
308	SLU 34	-89	-49	4874	1393.79	1.82	28.86
308	SLU 35	-86	-70	4871	1397.77	1.8	28
308	SLU 36	-89	-58	4911	1406.73	1.83	28.87
308	SLU 37	-86	-69	4847	1390.67	1.79	27.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLU 38	-88	-58	4887	1399.63	1.82	28.66
308	SLU 39	-85	-70	4983	1427.89	1.83	27.66
308	SLU 40	-88	-59	5022	1436.85	1.85	28.53
308	SLU 41	-86	-71	5022	1439.7	1.84	28.05
308	SLU 42	-89	-60	5062	1448.66	1.86	28.92
308	SLU 43	-85	-70	4695	1344.75	1.7	27.51
308	SLU 44	-89	-51	4761	1359.68	1.75	28.96
308	SLU 45	-87	-71	4758	1363.66	1.72	28.11
308	SLU 46	-89	-60	4798	1372.62	1.75	28.98
308	SLU 47	-90	-52	4800	1371.49	1.76	29.35
308	SLU 48	-88	-72	4798	1375.47	1.74	28.49
308	SLU 49	-91	-60	4837	1384.43	1.76	29.36
308	SLU 50	-87	-72	4774	1368.37	1.73	28.27
308	SLU 51	-90	-60	4813	1377.33	1.75	29.15
308	SLU 52	-94	-57	5261	1501.65	1.88	30.46
308	SLU 53	-91	-77	5258	1505.63	1.86	29.61
308	SLU 54	-94	-66	5298	1514.59	1.89	30.48
308	SLU 55	-95	-58	5300	1513.47	1.9	30.85
308	SLU 56	-92	-78	5297	1517.44	1.87	29.99
308	SLU 57	-95	-67	5337	1526.41	1.9	30.86
308	SLU 58	-92	-78	5273	1510.34	1.87	29.78
308	SLU 59	-94	-66	5313	1519.3	1.89	30.65
308	SLU 60	-91	-79	5409	1547.56	1.9	29.65
308	SLU 61	-94	-67	5449	1556.53	1.93	30.53
308	SLU 62	-92	-80	5448	1559.38	1.91	30.04
308	SLU 63	-95	-68	5488	1568.34	1.94	30.91
308	SLU 64	-95	-76	5215	1495.61	1.96	30.96
308	SLU 65	-100	-57	5281	1510.55	2	32.41
308	SLU 66	-97	-77	5278	1514.52	1.98	31.56
308	SLU 67	-100	-65	5318	1523.48	2	32.43
308	SLU 68	-101	-57	5321	1522.36	2.01	32.79
308	SLU 69	-98	-78	5318	1526.33	1.99	31.94
308	SLU 70	-101	-66	5358	1535.3	2.01	32.81
308	SLU 71	-98	-78	5294	1519.23	1.98	31.72
308	SLU 72	-101	-66	5333	1528.2	2.01	32.6
308	SLU 73	-104	-63	5781	1652.52	2.14	33.91
308	SLU 74	-102	-83	5778	1656.49	2.11	33.06
308	SLU 75	-105	-72	5818	1665.46	2.14	33.93
308	SLU 76	-106	-64	5820	1664.33	2.15	34.3
308	SLU 77	-103	-84	5818	1668.31	2.13	33.44
308	SLU 78	-106	-73	5857	1677.27	2.15	34.31
308	SLU 79	-102	-84	5793	1661.21	2.12	33.22
308	SLU 80	-105	-72	5833	1670.17	2.14	34.1
308	SLU 81	-102	-85	5929	1698.43	2.15	33.1
308	SLU 82	-105	-73	5969	1707.39	2.18	33.97
308	SLU 83	-103	-86	5968	1710.24	2.17	33.48
308	SLU 84	-106	-74	6008	1719.2	2.19	34.36
308	SLE RA 1	-71	-57	3897	1117.31	1.45	23.06
308	SLE RA 2	-74	-44	3941	1127.27	1.48	24.02
308	SLE RA 3	-72	-58	3939	1129.92	1.46	23.45
308	SLE RA 4	-74	-50	3966	1135.9	1.48	24.04
308	SLE RA 5	-75	-45	3968	1135.14	1.49	24.28
308	SLE RA 6	-73	-58	3966	1137.8	1.47	23.71
308	SLE RA 7	-75	-51	3992	1143.77	1.49	24.29
308	SLE RA 8	-73	-58	3950	1133.06	1.47	23.57
308	SLE RA 9	-74	-51	3976	1139.04	1.48	24.15
308	SLE RA 10	-77	-48	4275	1221.92	1.57	25.03
308	SLE RA 11	-75	-62	4273	1224.57	1.55	24.45
308	SLE RA 12	-77	-54	4299	1230.54	1.57	25.04
308	SLE RA 13	-78	-49	4301	1229.79	1.58	25.28
308	SLE RA 14	-76	-63	4299	1232.44	1.56	24.71
308	SLE RA 15	-78	-55	4325	1238.42	1.58	25.29
308	SLE RA 16	-76	-62	4283	1227.71	1.56	24.57
308	SLE RA 17	-77	-55	4309	1233.68	1.57	25.15
308	SLE RA 18	-75	-63	4373	1252.52	1.58	24.48
308	SLE RA 19	-77	-55	4400	1258.5	1.6	25.07
308	SLE RA 20	-76	-64	4399	1260.4	1.59	24.74
308	SLE RA 21	-78	-56	4426	1266.37	1.61	25.32
308	SLE FR 1	-71	-57	3897	1117.31	1.45	23.06
308	SLE FR 2	-72	-55	3906	1119.3	1.46	23.25
308	SLE FR 3	-71	-57	3908	1120.46	1.45	23.16
308	SLE FR 4	-73	-56	4049	1159.87	1.49	23.68
308	SLE FR 5	-73	-59	4050	1161.03	1.49	23.59
308	SLE FR 6	-73	-60	4135	1184.92	1.52	23.77
308	SLE QP 1	-71	-57	3897	1117.31	1.45	23.06
308	SLE QP 2	-72	-59	4040	1157.88	1.49	23.48
308	SLD 1	293	36	4673	1301.32	2.76	-90.82
308	SLD 2	366	4	4644	1293.38	2.65	-113.55
308	SLD 3	338	-207	3670	1072.21	2.35	-105.3
308	SLD 4	411	-238	3641	1064.27	2.24	-128.04
308	SLD 5	-43	343	5757	1549.76	2.51	15.07
308	SLD 6	4	322	5739	1544.64	2.44	0.43
308	SLD 7	106	-466	2412	786.06	1.14	-33.21
308	SLD 8	153	-486	2393	780.94	1.07	-47.85
308	SLD 9	-298	368	5687	1534.81	1.91	94.82
308	SLD 10	-251	348	5668	1529.69	1.83	80.18
308	SLD 11	-148	-440	2341	771.11	0.54	46.54
308	SLD 12	-101	-461	2323	765.99	0.46	31.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLD 13	-556	121	4439	1251.48	0.74	175.01
308	SLD 14	-482	89	4410	1243.54	0.62	152.27
308	SLD 15	-511	-122	3435	1022.37	0.33	160.52
308	SLD 16	-438	-153	3407	1014.43	0.21	137.79
308	SLV 1	496	106	5102	1398.59	3.51	-154.24
308	SLV 2	611	57	5057	1386.07	3.33	-190.08
308	SLV 3	572	-307	3389	1007.65	2.81	-178.87
308	SLV 4	687	-357	3344	995.13	2.63	-214.7
308	SLV 5	-39	627	6965	1825.36	3.19	14.2
308	SLV 6	38	594	6934	1816.94	3.07	-9.92
308	SLV 7	215	-752	1256	522.21	0.86	-67.89
308	SLV 8	293	-785	1225	513.78	0.73	-92.01
308	SLV 9	-437	667	6855	1801.97	2.24	138.98
308	SLV 10	-360	634	6824	1793.54	2.12	114.85
308	SLV 11	-183	-712	1146	498.82	-0.09	56.89
308	SLV 12	-105	-745	1115	490.39	-0.21	32.77
308	SLV 13	-832	239	4736	1320.62	0.35	261.67
308	SLV 14	-717	190	4691	1308.11	0.17	225.84
308	SLV 15	-755	-175	3023	929.68	-0.35	237.05
308	SLV 16	-640	-224	2978	917.16	-0.53	201.21
308	SLV FO 1	552	123	5208	1422.66	3.71	-172.02
308	SLV FO 2	679	68	5158	1408.89	3.51	-211.43
308	SLV FO 3	636	-332	3324	992.62	2.94	-199.11
308	SLV FO 4	763	-387	3274	978.85	2.74	-238.52
308	SLV FO 5	-36	696	7257	1892.11	3.36	13.27
308	SLV FO 6	49	659	7223	1882.84	3.23	-13.26
308	SLV FO 7	244	-821	977	458.64	0.79	-77.02
308	SLV FO 8	329	-858	944	449.37	0.66	-103.56
308	SLV FO 9	-474	740	7136	1866.38	2.32	150.53
308	SLV FO 10	-389	703	7103	1857.11	2.19	123.99
308	SLV FO 11	-194	-777	857	432.91	-0.25	60.23
308	SLV FO 12	-109	-814	823	423.64	-0.38	33.69
308	SLV FO 13	-908	269	4806	1336.9	0.24	285.49
308	SLV FO 14	-781	214	4756	1323.13	0.04	246.07
308	SLV FO 15	-824	-186	2922	906.86	-0.53	258.4
308	SLV FO 16	-697	-241	2872	893.09	-0.73	218.98
308	CRTFP Ux+	0	0	0	0	0	0
308	CRTFP Ux-	0	0	0	0	0	0
308	CRTFP Uy+	0	0	0	0	0	0
308	CRTFP Uy-	0	0	0	0	0	0
309	SLU 1	-67	-43	3732	1065.3	-0.28	21.84
309	SLU 2	-72	-23	3798	1079.98	-0.28	23.29
309	SLU 3	-69	-44	3795	1084.1	-0.29	22.43
309	SLU 4	-72	-32	3835	1092.91	-0.29	23.3
309	SLU 5	-73	-24	3837	1091.73	-0.29	23.67
309	SLU 6	-70	-45	3835	1095.85	-0.3	22.81
309	SLU 7	-73	-33	3874	1104.66	-0.3	23.68
309	SLU 8	-70	-45	3811	1088.8	-0.29	22.6
309	SLU 9	-72	-33	3850	1097.61	-0.29	23.47
309	SLU 10	-76	-28	4298	1221.43	-0.4	24.76
309	SLU 11	-74	-49	4295	1225.55	-0.41	23.91
309	SLU 12	-76	-37	4335	1234.36	-0.41	24.78
309	SLU 13	-77	-29	4337	1233.18	-0.4	25.14
309	SLU 14	-75	-50	4335	1237.3	-0.42	24.29
309	SLU 15	-77	-38	4374	1246.11	-0.41	25.16
309	SLU 16	-74	-50	4311	1230.25	-0.41	24.08
309	SLU 17	-77	-38	4350	1239.06	-0.41	24.94
309	SLU 18	-74	-50	4446	1267.37	-0.45	23.95
309	SLU 19	-76	-38	4486	1276.18	-0.45	24.82
309	SLU 20	-75	-51	4485	1279.12	-0.45	24.33
309	SLU 21	-78	-39	4525	1287.93	-0.45	25.2
309	SLU 22	-78	-47	4248	1214.31	-0.29	25.25
309	SLU 23	-82	-27	4314	1228.99	-0.29	26.7
309	SLU 24	-80	-48	4312	1233.11	-0.3	25.84
309	SLU 25	-82	-36	4351	1241.92	-0.3	26.71
309	SLU 26	-84	-28	4353	1240.74	-0.29	27.08
309	SLU 27	-81	-49	4351	1244.86	-0.31	26.22
309	SLU 28	-84	-37	4390	1253.67	-0.3	27.09
309	SLU 29	-80	-49	4327	1237.81	-0.3	26.01
309	SLU 30	-83	-37	4366	1246.62	-0.3	26.88
309	SLU 31	-87	-32	4814	1370.45	-0.4	28.17
309	SLU 32	-84	-53	4812	1374.57	-0.42	27.32
309	SLU 33	-87	-41	4851	1383.38	-0.41	28.19
309	SLU 34	-88	-33	4853	1382.2	-0.41	28.55
309	SLU 35	-85	-54	4851	1386.32	-0.42	27.7
309	SLU 36	-88	-42	4890	1395.13	-0.42	28.57
309	SLU 37	-85	-54	4827	1379.26	-0.42	27.49
309	SLU 38	-87	-42	4866	1388.07	-0.42	28.36
309	SLU 39	-84	-54	4962	1416.39	-0.45	27.36
309	SLU 40	-87	-42	5002	1425.2	-0.45	28.23
309	SLU 41	-85	-55	5002	1428.13	-0.46	27.74
309	SLU 42	-88	-43	5041	1436.95	-0.46	28.61
309	SLU 43	-84	-55	4675	1333.8	-0.36	27.22
309	SLU 44	-88	-35	4740	1348.48	-0.36	28.67
309	SLU 45	-86	-56	4738	1352.6	-0.37	27.82
309	SLU 46	-88	-44	4777	1361.41	-0.37	28.68
309	SLU 47	-90	-35	4780	1360.23	-0.37	29.05
309	SLU 48	-87	-56	4777	1364.35	-0.38	28.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLU 49	-90	-44	4817	1373.16	-0.38	29.07
309	SLU 50	-86	-56	4753	1357.29	-0.37	27.98
309	SLU 51	-89	-44	4793	1366.1	-0.37	28.85
309	SLU 52	-93	-40	5240	1489.93	-0.48	30.15
309	SLU 53	-90	-61	5238	1494.05	-0.49	29.29
309	SLU 54	-93	-49	5277	1502.86	-0.49	30.16
309	SLU 55	-94	-40	5279	1501.68	-0.48	30.53
309	SLU 56	-91	-61	5277	1505.8	-0.5	29.67
309	SLU 57	-94	-49	5317	1514.61	-0.5	30.54
309	SLU 58	-91	-61	5253	1498.75	-0.49	29.46
309	SLU 59	-93	-49	5293	1507.56	-0.49	30.33
309	SLU 60	-90	-62	5389	1535.87	-0.53	29.33
309	SLU 61	-93	-50	5428	1544.68	-0.53	30.2
309	SLU 62	-91	-63	5428	1547.62	-0.54	29.71
309	SLU 63	-94	-51	5467	1556.43	-0.53	30.58
309	SLU 64	-94	-59	5191	1482.81	-0.37	30.64
309	SLU 65	-99	-39	5257	1497.49	-0.37	32.08
309	SLU 66	-96	-60	5254	1501.61	-0.38	31.23
309	SLU 67	-99	-48	5294	1510.42	-0.38	32.1
309	SLU 68	-100	-40	5296	1509.24	-0.37	32.46
309	SLU 69	-97	-60	5294	1513.36	-0.39	31.61
309	SLU 70	-100	-48	5333	1522.17	-0.39	32.48
309	SLU 71	-97	-60	5270	1506.31	-0.38	31.4
309	SLU 72	-100	-48	5309	1515.12	-0.38	32.26
309	SLU 73	-103	-44	5756	1638.95	-0.48	33.56
309	SLU 74	-101	-65	5754	1643.07	-0.5	32.7
309	SLU 75	-103	-53	5794	1651.88	-0.5	33.57
309	SLU 76	-105	-45	5796	1650.7	-0.49	33.94
309	SLU 77	-102	-65	5793	1654.82	-0.5	33.08
309	SLU 78	-105	-53	5833	1663.63	-0.5	33.95
309	SLU 79	-101	-65	5769	1647.76	-0.5	32.87
309	SLU 80	-104	-53	5809	1656.57	-0.5	33.74
309	SLU 81	-101	-66	5905	1684.88	-0.54	32.74
309	SLU 82	-103	-54	5944	1693.69	-0.53	33.61
309	SLU 83	-102	-67	5944	1696.63	-0.54	33.12
309	SLU 84	-105	-55	5984	1705.44	-0.54	33.99
309	SLE RA 1	-70	-44	3880	1107.87	-0.28	22.82
309	SLE RA 2	-73	-31	3923	1117.66	-0.28	23.78
309	SLE RA 3	-72	-45	3922	1120.41	-0.29	23.21
309	SLE RA 4	-73	-37	3948	1126.28	-0.29	23.79
309	SLE RA 5	-74	-32	3950	1125.49	-0.29	24.03
309	SLE RA 6	-72	-45	3948	1128.24	-0.29	23.46
309	SLE RA 7	-74	-37	3974	1134.11	-0.29	24.04
309	SLE RA 8	-72	-45	3932	1123.54	-0.29	23.32
309	SLE RA 9	-74	-37	3958	1129.41	-0.29	23.9
309	SLE RA 10	-76	-34	4257	1211.96	-0.36	24.76
309	SLE RA 11	-75	-48	4255	1214.71	-0.37	24.19
309	SLE RA 12	-76	-40	4281	1220.58	-0.37	24.77
309	SLE RA 13	-77	-35	4283	1219.8	-0.36	25.02
309	SLE RA 14	-75	-49	4281	1222.54	-0.37	24.45
309	SLE RA 15	-77	-41	4307	1228.42	-0.37	25.03
309	SLE RA 16	-75	-49	4265	1217.84	-0.37	24.31
309	SLE RA 17	-77	-41	4291	1223.71	-0.37	24.88
309	SLE RA 18	-75	-49	4356	1242.59	-0.39	24.22
309	SLE RA 19	-76	-41	4382	1248.46	-0.39	24.8
309	SLE RA 20	-75	-50	4382	1250.42	-0.4	24.47
309	SLE RA 21	-77	-42	4408	1256.3	-0.4	25.05
309	SLE FR 1	-70	-44	3880	1107.87	-0.28	22.82
309	SLE FR 2	-71	-42	3888	1109.83	-0.28	23.01
309	SLE FR 3	-71	-45	3890	1111	-0.28	22.92
309	SLE FR 4	-72	-43	4031	1150.24	-0.31	23.43
309	SLE FR 5	-72	-46	4033	1151.42	-0.32	23.34
309	SLE FR 6	-72	-47	4118	1175.23	-0.34	23.52
309	SLE QP 1	-70	-44	3880	1107.87	-0.28	22.82
309	SLE QP 2	-72	-46	4022	1148.29	-0.32	23.24
309	SLD 1	294	57	4618	1280.84	0.58	-90.91
309	SLD 2	366	30	4593	1274.08	0.48	-113.58
309	SLD 3	338	-192	3617	1053.07	0.77	-105.3
309	SLD 4	411	-220	3592	1046.32	0.67	-127.98
309	SLD 5	-42	368	5723	1534.66	-0.32	14.73
309	SLD 6	5	350	5707	1530.31	-0.39	0.12
309	SLD 7	106	-463	2387	775.44	0.32	-33.26
309	SLD 8	153	-481	2371	771.09	0.26	-47.86
309	SLD 9	-297	389	5673	1525.49	-0.89	94.33
309	SLD 10	-250	372	5657	1521.14	-0.95	79.73
309	SLD 11	-148	-442	2338	766.26	-0.24	46.35
309	SLD 12	-101	-460	2322	761.91	-0.31	31.75
309	SLD 13	-554	128	4452	1250.26	-1.3	174.45
309	SLD 14	-481	101	4427	1243.5	-1.4	151.78
309	SLD 15	-510	-121	3452	1022.49	-1.11	160.06
309	SLD 16	-437	-149	3427	1015.74	-1.21	137.38
309	SLV 1	496	133	5026	1371.92	1.06	-154.25
309	SLV 2	611	90	4986	1361.28	0.91	-189.99
309	SLV 3	572	-292	3318	983.27	1.39	-178.72
309	SLV 4	687	-335	3278	972.62	1.24	-214.46
309	SLV 5	-38	661	6920	1806.82	-0.37	13.78
309	SLV 6	40	632	6894	1799.66	-0.47	-10.28
309	SLV 7	215	-757	1229	511.31	0.72	-67.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLV 8	292	-786	1202	504.14	0.62	-91.86
309	SLV 9	-436	694	6843	1792.43	-1.25	138.34
309	SLV 10	-358	665	6816	1785.27	-1.35	114.28
309	SLV 11	-183	-723	1151	496.92	-0.16	56.75
309	SLV 12	-105	-752	1124	489.75	-0.26	32.69
309	SLV 13	-830	244	4766	1323.95	-1.87	260.94
309	SLV 14	-715	201	4727	1313.3	-2.02	225.19
309	SLV 15	-754	-181	3059	935.3	-1.54	236.46
309	SLV 16	-639	-225	3019	924.65	-1.69	200.72
309	SLV FO 1	553	151	5126	1394.29	1.2	-171.99
309	SLV FO 2	679	103	5082	1382.58	1.04	-211.31
309	SLV FO 3	636	-317	3248	966.77	1.56	-198.92
309	SLV FO 4	763	-364	3204	955.06	1.4	-238.23
309	SLV FO 5	-34	732	7210	1872.68	-0.38	12.84
309	SLV FO 6	51	700	7181	1864.8	-0.49	-13.63
309	SLV FO 7	244	-828	949	447.61	0.83	-76.91
309	SLV FO 8	329	-860	920	439.73	0.72	-103.37
309	SLV FO 9	-472	768	7125	1856.85	-1.35	149.85
309	SLV FO 10	-387	736	7095	1848.96	-1.46	123.38
309	SLV FO 11	-194	-791	864	431.78	-0.14	60.11
309	SLV FO 12	-109	-823	835	423.89	-0.25	33.64
309	SLV FO 13	-906	273	4841	1341.52	-2.03	284.71
309	SLV FO 14	-780	225	4797	1329.81	-2.19	245.39
309	SLV FO 15	-823	-195	2962	914	-1.67	257.79
309	SLV FO 16	-696	-243	2919	902.29	-1.83	218.47
309	CRTFP Ux+	0	0	0	0	0	0
309	CRTFP Ux-	0	0	0	0	0	0
309	CRTFP Uy+	0	0	0	0	0	0
309	CRTFP Uy-	0	0	0	0	0	0
310	SLU 1	-67	-31	3777	1076.46	-2.06	21.58
310	SLU 2	-71	-11	3843	1091.39	-2.1	23.02
310	SLU 3	-68	-32	3841	1095.53	-2.11	22.16
310	SLU 4	-71	-19	3881	1104.49	-2.13	23.02
310	SLU 5	-72	-11	3883	1103.31	-2.13	23.39
310	SLU 6	-70	-32	3881	1107.45	-2.14	22.54
310	SLU 7	-72	-20	3921	1116.41	-2.16	23.4
310	SLU 8	-69	-32	3856	1100.29	-2.12	22.33
310	SLU 9	-72	-20	3896	1109.25	-2.14	23.19
310	SLU 10	-75	-14	4352	1235.4	-2.49	24.46
310	SLU 11	-73	-35	4350	1239.54	-2.5	23.6
310	SLU 12	-75	-23	4390	1248.5	-2.52	24.47
310	SLU 13	-77	-15	4392	1247.32	-2.52	24.83
310	SLU 14	-74	-36	4390	1251.46	-2.53	23.98
310	SLU 15	-77	-24	4430	1260.42	-2.55	24.84
310	SLU 16	-73	-36	4366	1244.3	-2.51	23.77
310	SLU 17	-76	-24	4405	1253.26	-2.53	24.63
310	SLU 18	-73	-36	4504	1282.18	-2.62	23.64
310	SLU 19	-75	-24	4544	1291.14	-2.64	24.5
310	SLU 20	-74	-37	4544	1294.1	-2.65	24.01
310	SLU 21	-77	-24	4584	1303.06	-2.67	24.88
310	SLU 22	-77	-34	4298	1226.76	-2.35	24.95
310	SLU 23	-81	-13	4365	1241.69	-2.39	26.39
310	SLU 24	-79	-34	4363	1245.83	-2.39	25.53
310	SLU 25	-81	-22	4403	1254.79	-2.42	26.39
310	SLU 26	-83	-14	4405	1253.61	-2.42	26.76
310	SLU 27	-80	-35	4403	1257.75	-2.42	25.91
310	SLU 28	-83	-22	4442	1266.71	-2.45	26.77
310	SLU 29	-79	-35	4378	1250.59	-2.41	25.7
310	SLU 30	-82	-22	4418	1259.55	-2.43	26.56
310	SLU 31	-86	-17	4874	1385.7	-2.78	27.83
310	SLU 32	-83	-38	4872	1389.84	-2.79	26.97
310	SLU 33	-86	-25	4912	1398.8	-2.81	27.84
310	SLU 34	-87	-17	4914	1397.62	-2.81	28.2
310	SLU 35	-84	-38	4912	1401.76	-2.81	27.35
310	SLU 36	-87	-26	4952	1410.72	-2.84	28.21
310	SLU 37	-84	-38	4887	1394.6	-2.8	27.14
310	SLU 38	-86	-26	4927	1403.56	-2.82	28
310	SLU 39	-83	-39	5026	1432.48	-2.91	27
310	SLU 40	-86	-26	5066	1441.44	-2.93	27.87
310	SLU 41	-84	-39	5066	1444.4	-2.93	27.38
310	SLU 42	-87	-27	5106	1453.36	-2.96	28.24
310	SLU 43	-83	-40	4731	1347.86	-2.58	26.89
310	SLU 44	-87	-19	4797	1362.79	-2.62	28.33
310	SLU 45	-85	-40	4795	1366.94	-2.63	27.48
310	SLU 46	-87	-28	4835	1375.9	-2.65	28.34
310	SLU 47	-89	-20	4837	1374.71	-2.65	28.71
310	SLU 48	-86	-41	4835	1378.86	-2.65	27.85
310	SLU 49	-89	-28	4875	1387.82	-2.68	28.72
310	SLU 50	-85	-41	4810	1371.7	-2.64	27.65
310	SLU 51	-88	-28	4850	1380.66	-2.66	28.51
310	SLU 52	-92	-23	5306	1506.8	-3.01	29.77
310	SLU 53	-89	-44	5304	1510.95	-3.02	28.92
310	SLU 54	-92	-31	5344	1519.91	-3.04	29.78
310	SLU 55	-93	-23	5346	1518.72	-3.04	30.15
310	SLU 56	-90	-44	5344	1522.87	-3.05	29.3
310	SLU 57	-93	-32	5384	1531.82	-3.07	30.16
310	SLU 58	-90	-44	5320	1515.71	-3.03	29.09
310	SLU 59	-92	-32	5359	1524.67	-3.05	29.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
310	SLU 60	-89	-45	5458	1553.59	-3.14	28.95
310	SLU 61	-92	-32	5498	1562.55	-3.16	29.82
310	SLU 62	-90	-45	5498	1565.51	-3.17	29.33
310	SLU 63	-93	-33	5538	1574.47	-3.19	30.19
310	SLU 64	-93	-42	5252	1498.16	-2.87	30.26
310	SLU 65	-98	-21	5319	1513.09	-2.91	31.7
310	SLU 66	-95	-43	5317	1517.24	-2.91	30.85
310	SLU 67	-98	-30	5357	1526.2	-2.94	31.71
310	SLU 68	-99	-22	5359	1525.01	-2.94	32.08
310	SLU 69	-96	-43	5357	1529.16	-2.94	31.22
310	SLU 70	-99	-31	5397	1538.12	-2.97	32.09
310	SLU 71	-96	-43	5332	1522	-2.93	31.02
310	SLU 72	-98	-31	5372	1530.96	-2.95	31.88
310	SLU 73	-102	-25	5828	1657.1	-3.3	33.14
310	SLU 74	-100	-46	5826	1661.25	-3.3	32.29
310	SLU 75	-102	-34	5866	1670.21	-3.33	33.15
310	SLU 76	-103	-26	5868	1669.02	-3.33	33.52
310	SLU 77	-101	-47	5866	1673.17	-3.33	32.67
310	SLU 78	-103	-34	5906	1682.13	-3.36	33.53
310	SLU 79	-100	-47	5842	1666.01	-3.32	32.46
310	SLU 80	-103	-34	5881	1674.97	-3.34	33.32
310	SLU 81	-100	-47	5980	1703.89	-3.43	32.32
310	SLU 82	-102	-35	6020	1712.85	-3.45	33.19
310	SLU 83	-101	-48	6020	1715.81	-3.45	32.7
310	SLU 84	-103	-35	6060	1724.77	-3.48	33.56
310	SLE RA 1	-70	-32	3926	1119.4	-2.14	22.54
310	SLE RA 2	-72	-18	3970	1129.35	-2.17	23.5
310	SLE RA 3	-71	-32	3969	1132.12	-2.17	22.93
310	SLE RA 4	-73	-24	3995	1138.09	-2.19	23.5
310	SLE RA 5	-73	-18	3996	1137.3	-2.19	23.75
310	SLE RA 6	-72	-33	3995	1140.06	-2.19	23.18
310	SLE RA 7	-73	-24	4022	1146.04	-2.21	23.76
310	SLE RA 8	-71	-33	3979	1135.29	-2.18	23.04
310	SLE RA 9	-73	-24	4005	1141.26	-2.2	23.62
310	SLE RA 10	-75	-20	4309	1225.36	-2.43	24.46
310	SLE RA 11	-74	-35	4308	1228.12	-2.43	23.89
310	SLE RA 12	-75	-26	4335	1234.1	-2.45	24.47
310	SLE RA 13	-76	-21	4336	1233.31	-2.45	24.71
310	SLE RA 14	-74	-35	4335	1236.07	-2.45	24.14
310	SLE RA 15	-76	-27	4361	1242.04	-2.47	24.72
310	SLE RA 16	-74	-35	4318	1231.3	-2.44	24
310	SLE RA 17	-76	-27	4345	1237.27	-2.46	24.58
310	SLE RA 18	-74	-35	4411	1256.55	-2.52	23.91
310	SLE RA 19	-75	-27	4437	1262.52	-2.53	24.49
310	SLE RA 20	-74	-36	4437	1264.5	-2.53	24.16
310	SLE RA 21	-76	-27	4464	1270.47	-2.55	24.74
310	SLE FR 1	-70	-32	3926	1119.4	-2.14	22.54
310	SLE FR 2	-70	-29	3934	1121.39	-2.15	22.73
310	SLE FR 3	-70	-32	3936	1122.58	-2.15	22.64
310	SLE FR 4	-71	-30	4080	1162.54	-2.26	23.14
310	SLE FR 5	-71	-33	4082	1163.72	-2.26	23.05
310	SLE FR 6	-72	-34	4168	1187.97	-2.33	23.23
310	SLE QP 1	-70	-32	3926	1119.4	-2.14	22.54
310	SLE QP 2	-71	-33	4071	1160.54	-2.26	22.95
310	SLD 1	294	79	4643	1287.52	-1.72	-91.04
310	SLD 2	367	56	4621	1281.71	-1.8	-113.66
310	SLD 3	338	-177	3624	1053.69	-0.93	-105.34
310	SLD 4	411	-201	3602	1047.89	-1	-127.96
310	SLD 5	-41	393	5792	1554.27	-3.29	14.33
310	SLD 6	6	378	5778	1550.53	-3.34	-0.24
310	SLD 7	107	-461	2395	774.85	-0.64	-33.33
310	SLD 8	154	-476	2381	771.11	-0.69	-47.9
310	SLD 9	-295	410	5761	1549.98	-3.82	93.8
310	SLD 10	-248	395	5747	1546.24	-3.87	79.23
310	SLD 11	-147	-444	2364	770.56	-1.18	46.14
310	SLD 12	-101	-459	2350	766.82	-1.22	31.58
310	SLD 13	-553	135	4540	1273.2	-3.51	173.86
310	SLD 14	-480	112	4518	1267.4	-3.58	151.24
310	SLD 15	-508	-121	3521	1039.38	-2.71	159.56
310	SLD 16	-436	-145	3499	1033.57	-2.79	136.94
310	SLV 1	497	160	5039	1376	-1.48	-154.3
310	SLV 2	612	123	5004	1366.85	-1.6	-189.96
310	SLV 3	572	-277	3300	977	-0.12	-178.61
310	SLV 4	687	-314	3265	967.85	-0.25	-214.26
310	SLV 5	-36	695	7005	1832.03	-4.06	13.29
310	SLV 6	41	670	6981	1825.87	-4.14	-10.71
310	SLV 7	215	-762	1209	502.05	0.46	-67.73
310	SLV 8	292	-787	1186	495.89	0.38	-91.73
310	SLV 9	-434	721	6956	1825.2	-4.89	137.63
310	SLV 10	-356	696	6933	1819.04	-4.97	113.63
310	SLV 11	-183	-736	1161	495.22	-0.37	56.61
310	SLV 12	-105	-760	1137	489.06	-0.46	32.61
310	SLV 13	-828	248	4877	1353.24	-4.27	260.16
310	SLV 14	-714	211	4842	1344.09	-4.39	224.51
310	SLV 15	-753	-189	3138	954.24	-2.91	235.86
310	SLV 16	-638	-226	3103	945.09	-3.03	200.2
310	SLV FO 1	553	180	5136	1397.54	-1.4	-172.03
310	SLV FO 2	680	139	5097	1387.48	-1.53	-211.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
310	SLV FO 3	636	-301	3223	958.65	0.09	-198.77
310	SLV FO 4	763	-342	3185	948.58	-0.04	-237.98
310	SLV FO 5	-33	768	7298	1899.18	-4.24	12.33
310	SLV FO 6	52	740	7273	1892.4	-4.32	-14.07
310	SLV FO 7	243	-835	923	436.2	0.73	-76.8
310	SLV FO 8	328	-862	897	429.42	0.64	-103.2
310	SLV FO 9	-470	797	7245	1891.67	-5.15	149.1
310	SLV FO 10	-385	769	7219	1884.89	-5.24	122.7
310	SLV FO 11	-194	-806	870	428.69	-0.19	59.97
310	SLV FO 12	-109	-833	844	421.91	-0.28	33.58
310	SLV FO 13	-904	276	4957	1372.51	-4.47	283.89
310	SLV FO 14	-778	236	4919	1362.44	-4.6	244.67
310	SLV FO 15	-821	-205	3045	933.61	-2.98	257.15
310	SLV FO 16	-695	-245	3007	923.55	-3.11	217.93
310	CRTFP Ux+	0	0	0	0	0	0
310	CRTFP Ux-	0	0	0	0	0	0
310	CRTFP Uy+	0	0	0	0	0	0
310	CRTFP Uy-	0	0	0	0	0	0
311	SLU 1	-66	-19	3884	1107.1	-3.72	21.32
311	SLU 2	-70	2	3952	1122.73	-3.79	22.75
311	SLU 3	-68	-19	3951	1126.81	-3.8	21.9
311	SLU 4	-70	-7	3992	1136.19	-3.84	22.76
311	SLU 5	-71	2	3994	1135.04	-3.84	23.12
311	SLU 6	-69	-20	3992	1139.13	-3.84	22.27
311	SLU 7	-71	-7	4033	1148.5	-3.89	23.13
311	SLU 8	-68	-20	3967	1131.72	-3.81	22.07
311	SLU 9	-71	-7	4008	1141.1	-3.86	22.92
311	SLU 10	-75	0	4480	1272.27	-4.43	24.16
311	SLU 11	-72	-22	4479	1276.36	-4.44	23.31
311	SLU 12	-75	-9	4520	1285.73	-4.48	24.17
311	SLU 13	-76	-1	4522	1284.58	-4.48	24.53
311	SLU 14	-73	-22	4520	1288.67	-4.49	23.68
311	SLU 15	-76	-10	4561	1298.04	-4.53	24.54
311	SLU 16	-72	-22	4495	1281.27	-4.46	23.48
311	SLU 17	-75	-10	4536	1290.64	-4.5	24.33
311	SLU 18	-72	-23	4639	1320.73	-4.64	23.34
311	SLU 19	-75	-10	4680	1330.11	-4.68	24.2
311	SLU 20	-73	-23	4680	1333.04	-4.69	23.71
311	SLU 21	-76	-10	4721	1342.42	-4.73	24.57
311	SLU 22	-76	-20	4421	1261.74	-4.27	24.65
311	SLU 23	-81	1	4490	1277.37	-4.34	26.08
311	SLU 24	-78	-20	4488	1281.46	-4.35	25.23
311	SLU 25	-81	-8	4529	1290.83	-4.39	26.09
311	SLU 26	-82	1	4531	1289.68	-4.39	26.45
311	SLU 27	-79	-21	4529	1293.77	-4.39	25.6
311	SLU 28	-82	-8	4570	1303.14	-4.44	26.46
311	SLU 29	-78	-21	4504	1286.37	-4.36	25.4
311	SLU 30	-81	-8	4545	1295.74	-4.41	26.25
311	SLU 31	-85	-1	5018	1426.91	-4.98	27.49
311	SLU 32	-82	-23	5016	1431	-4.99	26.64
311	SLU 33	-85	-10	5057	1440.38	-5.03	27.5
311	SLU 34	-86	-1	5059	1439.23	-5.03	27.86
311	SLU 35	-83	-23	5058	1443.31	-5.04	27.01
311	SLU 36	-86	-10	5099	1452.69	-5.08	27.87
311	SLU 37	-83	-23	5032	1435.91	-5.01	26.81
311	SLU 38	-85	-10	5073	1445.28	-5.05	27.67
311	SLU 39	-82	-23	5176	1475.37	-5.19	26.67
311	SLU 40	-85	-11	5217	1484.75	-5.23	27.53
311	SLU 41	-83	-24	5217	1487.69	-5.24	27.04
311	SLU 42	-86	-11	5258	1497.06	-5.28	27.9
311	SLU 43	-82	-25	4865	1386.21	-4.65	26.58
311	SLU 44	-86	-3	4933	1401.84	-4.72	28.01
311	SLU 45	-84	-25	4931	1405.93	-4.72	27.16
311	SLU 46	-86	-12	4972	1415.3	-4.77	28.01
311	SLU 47	-88	-4	4974	1414.15	-4.77	28.38
311	SLU 48	-85	-25	4973	1418.24	-4.77	27.53
311	SLU 49	-88	-13	5014	1427.61	-4.81	28.38
311	SLU 50	-84	-26	4947	1410.84	-4.74	27.32
311	SLU 51	-87	-13	4988	1420.21	-4.78	28.18
311	SLU 52	-91	-6	5461	1551.38	-5.36	29.42
311	SLU 53	-88	-27	5460	1555.47	-5.37	28.57
311	SLU 54	-91	-15	5501	1564.84	-5.41	29.42
311	SLU 55	-92	-6	5503	1563.69	-5.41	29.79
311	SLU 56	-89	-28	5501	1567.78	-5.41	28.94
311	SLU 57	-92	-15	5542	1577.16	-5.46	29.8
311	SLU 58	-89	-28	5476	1560.38	-5.38	28.73
311	SLU 59	-91	-15	5517	1569.75	-5.43	29.59
311	SLU 60	-88	-28	5619	1599.84	-5.57	28.59
311	SLU 61	-91	-15	5660	1609.22	-5.61	29.45
311	SLU 62	-89	-28	5661	1612.15	-5.61	28.96
311	SLU 63	-92	-16	5702	1621.53	-5.66	29.82
311	SLU 64	-92	-25	5402	1540.85	-5.2	29.91
311	SLU 65	-97	-4	5471	1556.48	-5.27	31.34
311	SLU 66	-94	-26	5469	1560.57	-5.27	30.49
311	SLU 67	-97	-13	5510	1569.94	-5.32	31.34
311	SLU 68	-98	-5	5512	1568.79	-5.32	31.71
311	SLU 69	-95	-26	5510	1572.88	-5.32	30.86
311	SLU 70	-98	-13	5551	1582.26	-5.36	31.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
311	SLU 71	-95	-26	5485	1565.48	-5.29	30.65
311	SLU 72	-97	-14	5526	1574.85	-5.33	31.51
311	SLU 73	-101	-7	5999	1706.02	-5.91	32.75
311	SLU 74	-98	-28	5997	1710.11	-5.92	31.9
311	SLU 75	-101	-15	6038	1719.49	-5.96	32.75
311	SLU 76	-102	-7	6040	1718.34	-5.96	33.12
311	SLU 77	-100	-29	6038	1722.42	-5.96	32.27
311	SLU 78	-102	-16	6079	1731.8	-6.01	33.13
311	SLU 79	-99	-29	6013	1715.02	-5.93	32.06
311	SLU 80	-102	-16	6054	1724.4	-5.98	32.92
311	SLU 81	-98	-29	6157	1754.48	-6.12	31.92
311	SLU 82	-101	-16	6198	1763.86	-6.16	32.78
311	SLU 83	-100	-29	6198	1766.8	-6.16	32.29
311	SLU 84	-102	-16	6239	1776.17	-6.21	33.15
311	SLE RA 1	-69	-19	4037	1151.29	-3.88	22.27
311	SLE RA 2	-72	-5	4083	1161.7	-3.92	23.23
311	SLE RA 3	-70	-20	4082	1164.43	-3.93	22.66
311	SLE RA 4	-72	-11	4109	1170.68	-3.96	23.23
311	SLE RA 5	-72	-6	4111	1169.91	-3.96	23.47
311	SLE RA 6	-71	-20	4109	1172.63	-3.96	22.91
311	SLE RA 7	-72	-11	4137	1178.89	-3.99	23.48
311	SLE RA 8	-70	-20	4093	1167.7	-3.94	22.77
311	SLE RA 9	-72	-11	4120	1173.95	-3.97	23.34
311	SLE RA 10	-75	-7	4435	1261.4	-4.35	24.17
311	SLE RA 11	-73	-21	4434	1264.12	-4.36	23.6
311	SLE RA 12	-75	-13	4461	1270.37	-4.39	24.17
311	SLE RA 13	-75	-7	4463	1269.61	-4.38	24.42
311	SLE RA 14	-74	-21	4462	1272.33	-4.39	23.85
311	SLE RA 15	-75	-13	4489	1278.58	-4.42	24.42
311	SLE RA 16	-73	-22	4445	1267.39	-4.37	23.71
311	SLE RA 17	-75	-13	4472	1273.65	-4.4	24.28
311	SLE RA 18	-73	-22	4541	1293.71	-4.49	23.62
311	SLE RA 19	-75	-13	4568	1299.96	-4.52	24.19
311	SLE RA 20	-74	-22	4568	1301.91	-4.52	23.87
311	SLE RA 21	-75	-13	4595	1308.16	-4.55	24.44
311	SLE FR 1	-69	-19	4037	1151.29	-3.88	22.27
311	SLE FR 2	-69	-17	4047	1153.37	-3.89	22.46
311	SLE FR 3	-69	-19	4048	1154.57	-3.89	22.37
311	SLE FR 4	-71	-17	4197	1196.1	-4.07	22.87
311	SLE FR 5	-70	-20	4199	1197.29	-4.07	22.78
311	SLE FR 6	-71	-20	4289	1222.5	-4.18	22.95
311	SLE QP 1	-69	-19	4037	1151.29	-3.88	22.27
311	SLE QP 2	-70	-20	4188	1194.01	-4.06	22.68
311	SLD 1	295	101	4753	1313.99	-3.8	-91.16
311	SLD 2	368	82	4733	1308.94	-3.86	-113.71
311	SLD 3	339	-163	3695	1067.35	-2.5	-105.34
311	SLD 4	411	-182	3676	1062.3	-2.56	-127.89
311	SLD 5	-40	419	5965	1604.94	-5.95	13.9
311	SLD 6	7	406	5952	1601.69	-5.99	-0.62
311	SLD 7	107	-459	2440	782.81	-1.6	-33.35
311	SLD 8	154	-471	2427	779.56	-1.64	-47.87
311	SLD 9	-294	431	5949	1608.46	-6.48	93.22
311	SLD 10	-247	419	5937	1605.21	-6.52	78.7
311	SLD 11	-147	-447	2424	786.33	-2.13	45.98
311	SLD 12	-100	-459	2412	783.08	-2.17	31.46
311	SLD 13	-551	142	4701	1325.72	-5.56	173.24
311	SLD 14	-479	122	4681	1320.67	-5.63	150.69
311	SLD 15	-507	-122	3643	1079.08	-4.26	159.07
311	SLD 16	-435	-141	3624	1074.03	-4.32	136.52
311	SLV 1	497	188	5148	1399.06	-3.75	-154.34
311	SLV 2	612	157	5117	1391.1	-3.85	-189.89
311	SLV 3	572	-261	3343	978.2	-1.52	-178.44
311	SLV 4	687	-292	3312	970.24	-1.62	-213.98
311	SLV 5	-34	729	7219	1895.31	-7.33	12.75
311	SLV 6	43	708	7198	1889.95	-7.4	-11.18
311	SLV 7	215	-768	1204	492.45	0.1	-67.57
311	SLV 8	292	-788	1183	487.1	0.04	-91.5
311	SLV 9	-432	748	7194	1900.93	-8.16	136.85
311	SLV 10	-355	728	7173	1895.57	-8.22	112.92
311	SLV 11	-183	-749	1179	498.07	-0.72	56.53
311	SLV 12	-105	-769	1158	492.71	-0.79	32.61
311	SLV 13	-827	252	5065	1417.78	-6.5	259.34
311	SLV 14	-712	221	5034	1409.82	-6.6	223.79
311	SLV 15	-752	-197	3260	996.93	-4.27	235.24
311	SLV 16	-637	-228	3229	988.96	-4.37	199.7
311	SLV FO 1	554	208	5243	1419.56	-3.72	-172.05
311	SLV FO 2	680	175	5209	1410.81	-3.83	-211.15
311	SLV FO 3	636	-286	3259	956.62	-1.27	-198.55
311	SLV FO 4	762	-319	3225	947.86	-1.38	-237.65
311	SLV FO 5	-31	804	7522	1965.44	-7.66	11.75
311	SLV FO 6	54	781	7499	1959.54	-7.73	-14.57
311	SLV FO 7	243	-843	905	422.3	0.52	-76.6
311	SLV FO 8	328	-865	882	416.4	0.45	-102.92
311	SLV FO 9	-468	825	7494	1971.62	-8.57	148.27
311	SLV FO 10	-383	803	7471	1965.72	-8.64	121.95
311	SLV FO 11	-194	-821	878	428.48	-0.39	59.92
311	SLV FO 12	-109	-844	855	422.58	-0.46	33.6
311	SLV FO 13	-902	279	5152	1440.16	-6.74	283

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
311	SLV FO 14	-776	246	5118	1431.4	-6.85	243.9
311	SLV FO 15	-820	-215	3167	977.22	-4.29	256.5
311	SLV FO 16	-694	-248	3133	968.46	-4.4	217.4
311	CRTFP Ux+	0	0	0	0	0	0
311	CRTFP Ux-	0	0	0	0	0	0
311	CRTFP Uy+	0	0	0	0	0	0
311	CRTFP Uy-	0	0	0	0	0	0
312	SLU 1	-189	-15	11516	3998.67	-904.47	71.51
312	SLU 2	-201	48	11717	4062.04	-920.15	80.62
312	SLU 3	-194	-15	11716	4069.26	-920.46	73.44
312	SLU 4	-202	23	11837	4107.28	-929.87	78.91
312	SLU 5	-205	47	11841	4105.95	-930.06	81.81
312	SLU 6	-197	-16	11840	4113.18	-930.37	74.63
312	SLU 7	-205	22	11960	4151.19	-939.78	80.1
312	SLU 8	-196	-16	11764	4086.51	-924.29	73.89
312	SLU 9	-203	21	11884	4124.53	-933.69	79.35
312	SLU 10	-214	45	13300	4609.97	-1047.08	85.34
312	SLU 11	-206	-17	13299	4617.19	-1047.4	78.16
312	SLU 12	-214	20	13419	4655.21	-1056.8	83.63
312	SLU 13	-217	45	13424	4653.89	-1056.99	86.53
312	SLU 14	-210	-18	13423	4661.11	-1057.31	79.35
312	SLU 15	-217	19	13543	4699.13	-1066.71	84.81
312	SLU 16	-208	-19	13347	4634.44	-1051.22	78.6
312	SLU 17	-215	19	13467	4672.46	-1060.63	84.07
312	SLU 18	-207	-18	13778	4781.44	-1085.81	78.25
312	SLU 19	-214	19	13898	4819.45	-1095.21	83.72
312	SLU 20	-210	-19	13902	4825.35	-1095.72	79.44
312	SLU 21	-217	18	14022	4863.37	-1105.12	84.9
312	SLU 22	-218	-11	13116	4556.38	-1031.24	82.96
312	SLU 23	-231	51	13317	4619.75	-1046.92	92.07
312	SLU 24	-224	-12	13316	4626.97	-1047.24	84.89
312	SLU 25	-231	26	13437	4664.99	-1056.64	90.36
312	SLU 26	-234	50	13441	4663.66	-1056.83	93.25
312	SLU 27	-227	-12	13440	4670.89	-1057.14	86.08
312	SLU 28	-234	25	13561	4708.9	-1066.55	91.54
312	SLU 29	-225	-13	13364	4644.22	-1051.06	85.33
312	SLU 30	-233	24	13485	4682.24	-1060.47	90.8
312	SLU 31	-243	49	14900	5167.68	-1173.86	96.79
312	SLU 32	-236	-14	14899	5174.9	-1174.17	89.61
312	SLU 33	-243	24	15020	5212.92	-1183.58	95.08
312	SLU 34	-247	48	15024	5211.6	-1183.77	97.97
312	SLU 35	-239	-15	15023	5218.82	-1184.08	90.8
312	SLU 36	-247	23	15143	5256.84	-1193.49	96.26
312	SLU 37	-237	-16	14947	5192.15	-1178	90.05
312	SLU 38	-245	22	15067	5230.17	-1187.4	95.52
312	SLU 39	-236	-15	15378	5339.15	-1212.58	89.7
312	SLU 40	-244	23	15498	5377.16	-1221.99	95.17
312	SLU 41	-239	-16	15502	5383.06	-1222.49	90.89
312	SLU 42	-247	22	15622	5421.08	-1231.9	96.35
312	SLU 43	-236	-20	14423	5007.06	-1132.35	89.04
312	SLU 44	-248	42	14623	5070.42	-1148.02	98.15
312	SLU 45	-241	-20	14623	5077.64	-1148.34	90.97
312	SLU 46	-248	17	14743	5115.66	-1157.74	96.44
312	SLU 47	-251	41	14747	5114.34	-1157.93	99.34
312	SLU 48	-244	-21	14747	5121.56	-1158.25	92.16
312	SLU 49	-252	16	14867	5159.58	-1167.65	97.62
312	SLU 50	-242	-22	14671	5094.89	-1152.16	91.41
312	SLU 51	-250	16	14791	5132.91	-1161.57	96.88
312	SLU 52	-260	40	16206	5618.36	-1274.96	102.87
312	SLU 53	-253	-23	16206	5625.58	-1275.28	95.69
312	SLU 54	-261	15	16326	5663.6	-1284.68	101.16
312	SLU 55	-264	39	16330	5662.27	-1284.87	104.05
312	SLU 56	-256	-24	16330	5669.5	-1285.18	96.88
312	SLU 57	-264	14	16450	5707.51	-1294.59	102.34
312	SLU 58	-255	-24	16254	5642.83	-1279.1	96.13
312	SLU 59	-262	13	16374	5680.85	-1288.51	101.6
312	SLU 60	-253	-24	16684	5789.82	-1313.69	95.78
312	SLU 61	-261	14	16804	5827.84	-1323.09	101.25
312	SLU 62	-256	-25	16808	5833.74	-1323.59	96.97
312	SLU 63	-264	13	16928	5871.76	-1333	102.43
312	SLU 64	-265	-17	16023	5564.77	-1259.12	100.49
312	SLU 65	-278	46	16223	5628.13	-1274.8	109.6
312	SLU 66	-270	-17	16223	5635.36	-1275.11	102.42
312	SLU 67	-278	20	16343	5673.37	-1284.52	107.89
312	SLU 68	-281	45	16347	5672.05	-1284.7	110.78
312	SLU 69	-273	-18	16347	5679.27	-1285.02	103.61
312	SLU 70	-281	20	16467	5717.29	-1294.43	109.07
312	SLU 71	-272	-19	16271	5652.61	-1278.94	102.86
312	SLU 72	-279	19	16391	5690.62	-1288.34	108.33
312	SLU 73	-290	43	17806	6176.07	-1401.73	114.32
312	SLU 74	-282	-20	17806	6183.29	-1402.05	107.14
312	SLU 75	-290	18	17926	6221.31	-1411.45	112.6
312	SLU 76	-293	42	17930	6219.98	-1411.64	115.5
312	SLU 77	-286	-20	17930	6227.21	-1411.96	108.33
312	SLU 78	-293	17	18050	6265.22	-1421.36	113.79
312	SLU 79	-284	-21	17854	6200.54	-1405.87	107.58
312	SLU 80	-291	16	17974	6238.56	-1415.28	113.05
312	SLU 81	-283	-21	18284	6347.53	-1440.46	107.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
312	SLU 82	-290	17	18404	6385.55	-1449.86	112.69
312	SLU 83	-286	-21	18408	6391.45	-1450.37	108.42
312	SLU 84	-293	16	18528	6429.47	-1459.77	113.88
312	SLE RA 1	-197	-14	11974	4158.02	-940.69	74.78
312	SLE RA 2	-206	28	12107	4200.26	-951.14	80.85
312	SLE RA 3	-201	-14	12107	4205.08	-951.35	76.07
312	SLE RA 4	-206	11	12187	4230.42	-957.62	79.71
312	SLE RA 5	-208	27	12190	4229.54	-957.75	81.65
312	SLE RA 6	-203	-14	12189	4234.35	-957.96	76.86
312	SLE RA 7	-208	11	12270	4259.7	-964.23	80.51
312	SLE RA 8	-202	-15	12139	4216.58	-953.9	76.37
312	SLE RA 9	-207	10	12219	4241.92	-960.17	80.01
312	SLE RA 10	-214	26	13162	4565.55	-1035.77	84
312	SLE RA 11	-209	-16	13162	4570.36	-1035.98	79.22
312	SLE RA 12	-214	9	13242	4595.71	-1042.25	82.86
312	SLE RA 13	-216	26	13245	4594.83	-1042.37	84.79
312	SLE RA 14	-211	-16	13245	4599.64	-1042.58	80.01
312	SLE RA 15	-216	9	13325	4624.99	-1048.85	83.65
312	SLE RA 16	-210	-17	13194	4581.86	-1038.53	79.51
312	SLE RA 17	-215	8	13274	4607.21	-1044.8	83.15
312	SLE RA 18	-209	-16	13481	4679.86	-1061.58	79.28
312	SLE RA 19	-214	9	13561	4705.21	-1067.85	82.92
312	SLE RA 20	-211	-17	13564	4709.14	-1068.19	80.07
312	SLE RA 21	-216	8	13644	4734.48	-1074.46	83.71
312	SLE FR 1	-197	-14	11974	4158.02	-940.69	74.78
312	SLE FR 2	-199	-6	12000	4166.47	-942.78	76
312	SLE FR 3	-198	-14	12007	4169.73	-943.33	75.1
312	SLE FR 4	-203	-6	12453	4323.02	-979.05	77.35
312	SLE FR 5	-202	-15	12459	4326.28	-979.6	76.45
312	SLE FR 6	-203	-15	12727	4418.94	-1001.14	77.03
312	SLE QP 1	-197	-14	11974	4158.02	-940.69	74.78
312	SLE QP 2	-201	-15	12426	4314.57	-976.96	76.13
312	SLD 1	839	360	13921	4778.73	-1080.5	-272.51
312	SLD 2	1043	320	13873	4763.06	-1078.04	-348.2
312	SLD 3	962	-415	10794	3781.03	-832.32	-373.45
312	SLD 4	1167	-455	10746	3765.36	-829.86	-449.14
312	SLD 5	-111	1280	17626	5969.69	-1384.85	137.63
312	SLD 6	21	1254	17596	5959.6	-1383.27	88.9
312	SLD 7	300	-1303	7201	2644.03	-557.58	-198.81
312	SLD 8	432	-1329	7170	2633.94	-556	-247.54
312	SLD 9	-834	1300	17682	5995.2	-1397.92	399.81
312	SLD 10	-702	1274	17651	5985.11	-1396.34	351.07
312	SLD 11	-422	-1283	7256	2669.54	-570.65	63.37
312	SLD 12	-291	-1309	7225	2659.46	-569.07	14.63
312	SLD 13	-1569	426	14106	4863.78	-1124.06	601.4
312	SLD 14	-1364	386	14058	4848.11	-1121.6	525.71
312	SLD 15	-1445	-349	10978	3866.08	-875.88	500.47
312	SLD 16	-1241	-389	10930	3850.42	-873.42	424.78
312	SLV 1	1416	625	14986	5111.39	-1156.61	-461.88
312	SLV 2	1739	562	14910	5086.7	-1152.75	-581.18
312	SLV 3	1626	-697	9649	3408.99	-733.15	-633.8
312	SLV 4	1949	-759	9574	3384.3	-729.28	-753.1
312	SLV 5	-94	2193	21302	7140.19	-1673.84	197.73
312	SLV 6	123	2151	21251	7123.57	-1671.24	117.42
312	SLV 7	605	-2212	3513	1465.54	-262.28	-375.33
312	SLV 8	822	-2254	3462	1448.91	-259.67	-455.64
312	SLV 9	-1224	2225	21390	7180.23	-1694.25	607.9
312	SLV 10	-1007	2183	21339	7163.61	-1691.64	527.59
312	SLV 11	-525	-2180	3600	1505.57	-282.68	34.84
312	SLV 12	-308	-2222	3549	1488.95	-280.08	-45.47
312	SLV 13	-2350	730	15278	5244.84	-1224.64	905.36
312	SLV 14	-2028	668	15202	5220.15	-1220.77	786.06
312	SLV 15	-2141	-591	9941	3542.45	-801.17	733.45
312	SLV 16	-1818	-654	9865	3517.75	-797.3	614.14
312	SLV FO 1	1578	689	15242	5191.07	-1174.58	-515.68
312	SLV FO 2	1933	620	15159	5163.91	-1170.33	-646.92
312	SLV FO 3	1809	-765	9372	3318.44	-708.76	-704.79
312	SLV FO 4	2164	-834	9288	3291.27	-704.51	-836.03
312	SLV FO 5	-83	2414	22190	7422.76	-1743.53	209.89
312	SLV FO 6	156	2368	22134	7404.47	-1740.66	121.55
312	SLV FO 7	685	-2432	2621	1180.63	-190.81	-420.48
312	SLV FO 8	924	-2478	2565	1162.35	-187.94	-508.82
312	SLV FO 9	-1326	2449	22286	7466.8	-1765.98	661.08
312	SLV FO 10	-1087	2402	22230	7448.51	-1763.11	572.74
312	SLV FO 11	-558	-2397	2718	1224.67	-213.26	30.71
312	SLV FO 12	-319	-2443	2662	1206.39	-210.39	-57.63
312	SLV FO 13	-2565	805	15563	5337.87	-1249.41	988.29
312	SLV FO 14	-2210	736	15480	5310.71	-1245.16	857.05
312	SLV FO 15	-2335	-649	9693	3465.23	-783.59	799.18
312	SLV FO 16	-1980	-718	9609	3438.07	-779.34	667.94
312	CRTFP Ux+	0	0	0	0	0	0
312	CRTFP Ux-	0	0	0	0	0	0
312	CRTFP Uy+	0	0	0	-0.01	0	0
312	CRTFP Uy-	0	0	0	0.01	0	0
314	SLU 1	-45	3	2872	842.59	346.67	14.34
314	SLU 2	-48	18	2923	854.83	352.69	13.47
314	SLU 3	-46	3	2922	857.77	352.72	14.72
314	SLU 4	-48	12	2952	865.12	356.33	14.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLU 5	-48	18	2954	864.3	356.44	13.74
314	SLU 6	-47	3	2953	867.25	356.47	14.99
314	SLU 7	-48	12	2983	874.59	360.08	14.47
314	SLU 8	-46	3	2934	861.53	354.17	14.88
314	SLU 9	-48	12	2964	868.88	357.78	14.36
314	SLU 10	-50	18	3320	970.98	400.64	14.41
314	SLU 11	-49	3	3320	973.92	400.66	15.67
314	SLU 12	-50	12	3350	981.27	404.28	15.15
314	SLU 13	-51	18	3351	980.45	404.39	14.69
314	SLU 14	-49	3	3351	983.4	404.41	15.94
314	SLU 15	-51	12	3381	990.74	408.03	15.42
314	SLU 16	-49	3	3332	977.68	402.11	15.83
314	SLU 17	-51	12	3362	985.03	405.73	15.31
314	SLU 18	-49	3	3441	1008.52	415.16	15.69
314	SLU 19	-50	12	3471	1015.86	418.78	15.17
314	SLU 20	-49	3	3472	1017.99	418.91	15.96
314	SLU 21	-51	12	3502	1025.33	422.53	15.44
314	SLU 22	-52	5	3272	960.99	394.98	16.42
314	SLU 23	-55	20	3323	973.22	401.01	15.55
314	SLU 24	-53	5	3323	976.17	401.03	16.81
314	SLU 25	-55	14	3353	983.52	404.65	16.29
314	SLU 26	-55	20	3354	982.7	404.76	15.83
314	SLU 27	-54	5	3354	985.65	404.78	17.08
314	SLU 28	-55	14	3384	992.99	408.4	16.56
314	SLU 29	-53	4	3335	979.93	402.48	16.97
314	SLU 30	-55	13	3365	987.28	406.1	16.45
314	SLU 31	-57	20	3721	1089.38	448.96	16.5
314	SLU 32	-56	5	3720	1092.32	448.98	17.76
314	SLU 33	-57	14	3751	1099.67	452.6	17.24
314	SLU 34	-58	20	3752	1098.85	452.7	16.77
314	SLU 35	-56	5	3751	1101.8	452.73	18.03
314	SLU 36	-58	14	3782	1109.14	456.35	17.51
314	SLU 37	-56	4	3732	1096.08	450.43	17.92
314	SLU 38	-58	14	3763	1103.43	454.04	17.39
314	SLU 39	-56	5	3841	1126.92	463.48	17.78
314	SLU 40	-57	14	3871	1134.26	467.09	17.26
314	SLU 41	-56	5	3872	1136.39	467.23	18.05
314	SLU 42	-58	14	3902	1143.73	470.84	17.53
314	SLU 43	-56	3	3596	1054.77	434.1	17.92
314	SLU 44	-59	18	3647	1067.01	440.13	17.05
314	SLU 45	-57	3	3647	1069.96	440.15	18.31
314	SLU 46	-59	12	3677	1077.3	443.77	17.79
314	SLU 47	-59	18	3678	1076.48	443.88	17.32
314	SLU 48	-58	3	3678	1079.43	443.9	18.58
314	SLU 49	-59	12	3708	1086.77	447.52	18.06
314	SLU 50	-57	3	3658	1073.72	441.6	18.47
314	SLU 51	-59	12	3689	1081.06	445.22	17.94
314	SLU 52	-61	18	4045	1183.16	488.07	18
314	SLU 53	-60	3	4044	1186.11	488.1	19.26
314	SLU 54	-61	12	4075	1193.45	491.71	18.73
314	SLU 55	-62	18	4076	1192.63	491.82	18.27
314	SLU 56	-60	3	4075	1195.58	491.85	19.53
314	SLU 57	-62	12	4106	1202.92	495.46	19.01
314	SLU 58	-60	3	4056	1189.87	489.55	19.41
314	SLU 59	-62	12	4087	1197.21	493.16	18.89
314	SLU 60	-60	3	4165	1220.7	502.6	19.28
314	SLU 61	-61	12	4195	1228.04	506.21	18.75
314	SLU 62	-60	3	4196	1230.17	506.35	19.55
314	SLU 63	-62	12	4226	1237.51	509.96	19.03
314	SLU 64	-62	5	3997	1173.17	482.42	20.01
314	SLU 65	-66	20	4047	1185.41	488.44	19.14
314	SLU 66	-64	5	4047	1188.35	488.47	20.39
314	SLU 67	-66	14	4077	1195.7	492.08	19.87
314	SLU 68	-66	20	4078	1194.88	492.19	19.41
314	SLU 69	-64	5	4078	1197.83	492.22	20.67
314	SLU 70	-66	14	4108	1205.17	495.83	20.14
314	SLU 71	-64	5	4059	1192.12	489.92	20.55
314	SLU 72	-66	14	4089	1199.46	493.53	20.03
314	SLU 73	-68	20	4445	1301.56	536.39	20.09
314	SLU 74	-67	5	4445	1304.51	536.41	21.34
314	SLU 75	-68	14	4475	1311.85	540.03	20.82
314	SLU 76	-69	20	4476	1311.03	540.14	20.36
314	SLU 77	-67	5	4476	1313.98	540.16	21.61
314	SLU 78	-69	14	4506	1321.32	543.78	21.09
314	SLU 79	-67	5	4457	1308.27	537.86	21.5
314	SLU 80	-69	14	4487	1315.61	541.48	20.98
314	SLU 81	-67	5	4565	1339.1	550.91	21.36
314	SLU 82	-68	14	4596	1346.44	554.53	20.84
314	SLU 83	-67	5	4596	1348.57	554.66	21.64
314	SLU 84	-69	14	4627	1355.91	558.28	21.11
314	SLE RA 1	-47	3	2986	876.42	360.47	14.93
314	SLE RA 2	-49	13	3020	884.57	364.49	14.35
314	SLE RA 3	-47	3	3020	886.54	364.51	15.19
314	SLE RA 4	-49	9	3040	891.43	366.92	14.84
314	SLE RA 5	-49	13	3041	890.89	366.99	14.53
314	SLE RA 6	-48	3	3041	892.86	367	15.37
314	SLE RA 7	-49	9	3061	897.75	369.42	15.02
314	SLE RA 8	-48	3	3028	889.05	365.47	15.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLE RA 9	-49	9	3048	893.94	367.88	14.95
314	SLE RA 10	-50	14	3285	962.01	396.45	14.99
314	SLE RA 11	-49	3	3285	963.97	396.47	15.82
314	SLE RA 12	-50	10	3305	968.87	398.88	15.47
314	SLE RA 13	-51	13	3306	968.32	398.95	15.17
314	SLE RA 14	-50	3	3306	970.29	398.97	16
314	SLE RA 15	-51	9	3326	975.18	401.38	15.66
314	SLE RA 16	-50	3	3293	966.48	397.44	15.93
314	SLE RA 17	-51	9	3313	971.38	399.85	15.58
314	SLE RA 18	-49	3	3365	987.04	406.14	15.84
314	SLE RA 19	-50	10	3386	991.93	408.55	15.49
314	SLE RA 20	-50	3	3386	993.35	408.64	16.02
314	SLE RA 21	-51	9	3406	998.25	411.05	15.67
314	SLE FR 1	-47	3	2986	876.42	360.47	14.93
314	SLE FR 2	-47	5	2993	878.05	361.27	14.82
314	SLE FR 3	-47	3	2995	878.94	361.47	15.01
314	SLE FR 4	-48	5	3107	911.23	374.97	15.09
314	SLE FR 5	-48	3	3108	912.13	375.17	15.28
314	SLE FR 6	-48	3	3176	931.73	383.3	15.38
314	SLE QP 1	-47	3	2986	876.42	360.47	14.93
314	SLE QP 2	-47	3	3100	909.6	374.17	15.2
314	SLD 1	201	107	3466	993.89	418.03	-76.15
314	SLD 2	250	100	3455	991.14	416.7	-90.98
314	SLD 3	230	-81	2675	798.35	323.6	-62.74
314	SLD 4	280	-88	2664	795.6	322.28	-77.57
314	SLD 5	-27	321	4411	1231.93	530.77	-29.99
314	SLD 6	5	316	4404	1230.16	529.92	-39.54
314	SLD 7	73	-305	1775	580.13	216.01	14.71
314	SLD 8	105	-310	1768	578.36	215.16	5.16
314	SLD 9	-199	317	4432	1240.85	533.18	25.25
314	SLD 10	-167	312	4425	1239.07	532.33	15.7
314	SLD 11	-100	-309	1797	589.05	218.42	69.94
314	SLD 12	-68	-314	1790	587.27	217.57	60.4
314	SLD 13	-374	95	3536	1023.61	426.06	107.97
314	SLD 14	-325	88	3525	1020.85	424.74	93.15
314	SLD 15	-345	-93	2745	828.07	331.64	121.38
314	SLD 16	-295	-100	2735	825.31	330.31	106.56
314	SLV 1	338	179	3728	1055.39	449.47	-128.62
314	SLV 2	416	168	3711	1051.05	447.38	-151.98
314	SLV 3	389	-141	2379	721.73	288.35	-105.72
314	SLV 4	467	-153	2362	717.39	286.26	-129.09
314	SLV 5	-23	544	5338	1460.2	641.52	-58.3
314	SLV 6	29	536	5326	1457.28	640.11	-74.03
314	SLV 7	146	-524	841	348	104.45	18.01
314	SLV 8	198	-531	830	345.08	103.04	2.28
314	SLV 9	-293	538	5371	1474.12	645.3	28.13
314	SLV 10	-241	530	5359	1471.2	643.9	12.4
314	SLV 11	-124	-530	874	361.93	108.23	104.44
314	SLV 12	-72	-537	863	359.01	106.82	88.71
314	SLV 13	-561	159	3838	1101.81	462.08	159.5
314	SLV 14	-484	148	3821	1097.47	459.99	136.13
314	SLV 15	-511	-161	2489	768.15	300.96	182.39
314	SLV 16	-433	-172	2472	763.82	298.87	159.02
314	SLV FO 1	377	197	3791	1069.97	457	-143
314	SLV FO 2	462	184	3772	1065.19	454.71	-168.7
314	SLV FO 3	433	-156	2307	702.94	279.77	-117.82
314	SLV FO 4	518	-168	2288	698.17	277.47	-143.52
314	SLV FO 5	-21	598	5561	1515.26	668.25	-65.65
314	SLV FO 6	37	590	5549	1512.04	666.71	-82.96
314	SLV FO 7	165	-576	615	291.84	77.47	18.29
314	SLV FO 8	223	-585	602	288.63	75.93	0.98
314	SLV FO 9	-318	592	5598	1530.58	672.41	29.42
314	SLV FO 10	-260	583	5585	1527.36	670.87	12.12
314	SLV FO 11	-132	-583	651	307.16	81.63	113.37
314	SLV FO 12	-74	-591	639	303.95	80.09	96.06
314	SLV FO 13	-613	175	3912	1121.03	470.87	173.93
314	SLV FO 14	-527	162	3893	1116.26	468.57	148.22
314	SLV FO 15	-557	-177	2428	754.01	293.64	199.11
314	SLV FO 16	-472	-190	2409	749.24	291.34	173.41
314	CRTFP Ux+	0	0	0	0	0	0
314	CRTFP Ux-	0	0	0	0	0	0
314	CRTFP Uy+	0	0	0	0	0	0
314	CRTFP Uy-	0	0	0	0	0	0
316	SLU 1	27	-107	7738	901.09	1350.46	12.59
316	SLU 2	32	-63	7883	913.8	1377.62	4.18
316	SLU 3	27	-109	7864	916.59	1372.37	13.1
316	SLU 4	29	-83	7951	924.22	1388.67	8.05
316	SLU 5	31	-65	7960	923.34	1390.96	4.67
316	SLU 6	26	-111	7941	926.13	1385.72	13.59
316	SLU 7	28	-85	8028	933.75	1402.01	8.54
316	SLU 8	25	-111	7891	920.16	1377.15	13.57
316	SLU 9	28	-85	7979	927.79	1393.44	8.52
316	SLU 10	30	-75	8922	1033.36	1560.67	6.1
316	SLU 11	25	-121	8902	1036.15	1555.42	15.02
316	SLU 12	28	-95	8990	1043.77	1571.72	9.98
316	SLU 13	29	-77	8998	1042.89	1574.01	6.59
316	SLU 14	24	-123	8979	1045.68	1568.76	15.52
316	SLU 15	27	-97	9066	1053.31	1585.06	10.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	SLU 16	24	-122	8929	1039.72	1560.2	15.49
316	SLU 17	26	-96	9017	1047.35	1576.49	10.45
316	SLU 18	25	-123	9221	1071.88	1611.96	15.34
316	SLU 19	28	-97	9308	1079.51	1628.26	10.29
316	SLU 20	24	-125	9298	1081.42	1625.3	15.83
316	SLU 21	27	-99	9385	1089.05	1641.6	10.78
316	SLU 22	31	-120	8782	1024.66	1531.83	14.16
316	SLU 23	35	-76	8928	1037.37	1558.99	5.75
316	SLU 24	30	-122	8909	1040.15	1553.74	14.67
316	SLU 25	33	-96	8996	1047.78	1570.04	9.62
316	SLU 26	34	-78	9005	1046.9	1572.33	6.24
316	SLU 27	29	-125	8985	1049.69	1567.08	15.16
316	SLU 28	31	-98	9073	1057.32	1583.38	10.11
316	SLU 29	28	-124	8936	1043.73	1558.52	15.14
316	SLU 30	31	-98	9023	1051.35	1574.81	10.09
316	SLU 31	33	-88	9966	1156.92	1742.04	7.67
316	SLU 32	28	-134	9947	1159.71	1736.79	16.59
316	SLU 33	31	-108	10034	1167.34	1753.08	11.55
316	SLU 34	32	-90	10043	1166.46	1755.38	8.16
316	SLU 35	27	-136	10023	1169.25	1750.13	17.08
316	SLU 36	30	-110	10111	1176.87	1766.43	12.04
316	SLU 37	27	-136	9974	1163.28	1741.57	17.06
316	SLU 38	29	-109	10061	1170.91	1757.86	12.02
316	SLU 39	29	-137	10266	1195.45	1793.33	16.91
316	SLU 40	31	-110	10353	1203.07	1809.62	11.86
316	SLU 41	27	-139	10342	1204.99	1806.67	17.4
316	SLU 42	30	-112	10430	1212.61	1822.97	12.35
316	SLU 43	35	-134	9701	1129.05	1693.42	15.82
316	SLU 44	39	-90	9847	1141.76	1720.58	7.42
316	SLU 45	34	-137	9827	1144.55	1715.33	16.34
316	SLU 46	36	-110	9915	1152.18	1731.62	11.29
316	SLU 47	38	-92	9923	1151.3	1733.92	7.91
316	SLU 48	33	-139	9904	1154.09	1728.67	16.83
316	SLU 49	35	-113	9991	1161.72	1744.97	11.78
316	SLU 50	32	-138	9854	1148.13	1720.1	16.81
316	SLU 51	35	-112	9942	1155.75	1736.4	11.76
316	SLU 52	37	-102	10885	1261.32	1903.63	9.34
316	SLU 53	32	-148	10866	1264.11	1898.38	18.26
316	SLU 54	35	-122	10953	1271.73	1914.67	13.22
316	SLU 55	36	-104	10962	1270.86	1916.97	9.83
316	SLU 56	31	-150	10942	1273.64	1911.72	18.75
316	SLU 57	34	-124	11029	1281.27	1928.01	13.71
316	SLU 58	31	-150	10893	1267.68	1903.15	18.73
316	SLU 59	33	-124	10980	1275.31	1919.45	13.69
316	SLU 60	33	-151	11184	1299.85	1954.92	18.58
316	SLU 61	35	-125	11272	1307.47	1971.21	13.53
316	SLU 62	31	-153	11261	1309.38	1968.26	19.07
316	SLU 63	34	-127	11348	1317.01	1984.55	14.02
316	SLU 64	38	-147	10746	1252.62	1874.79	17.39
316	SLU 65	42	-104	10891	1265.33	1901.94	8.98
316	SLU 66	37	-150	10872	1268.12	1896.7	17.91
316	SLU 67	40	-124	10959	1275.74	1912.99	12.86
316	SLU 68	41	-106	10968	1274.86	1915.29	9.48
316	SLU 69	36	-152	10948	1277.65	1910.04	18.4
316	SLU 70	38	-126	11036	1285.28	1926.33	13.35
316	SLU 71	35	-151	10899	1271.69	1901.47	18.38
316	SLU 72	38	-125	10986	1279.32	1917.77	13.33
316	SLU 73	41	-115	11929	1384.88	2084.99	10.91
316	SLU 74	36	-162	11910	1387.67	2079.75	19.83
316	SLU 75	38	-135	11997	1395.3	2096.04	14.79
316	SLU 76	39	-117	12006	1394.42	2098.34	11.4
316	SLU 77	34	-164	11987	1397.21	2093.09	20.32
316	SLU 78	37	-137	12074	1404.83	2109.38	15.28
316	SLU 79	34	-163	11937	1391.25	2084.52	20.3
316	SLU 80	37	-137	12025	1398.87	2100.81	15.26
316	SLU 81	36	-164	12229	1423.41	2136.29	20.14
316	SLU 82	38	-138	12316	1431.04	2152.58	15.1
316	SLU 83	34	-166	12306	1432.95	2149.63	20.64
316	SLU 84	37	-140	12393	1440.57	2165.92	15.59
316	SLE RA 1	28	-110	8036	936.4	1402.28	13.03
316	SLE RA 2	31	-81	8133	944.87	1420.39	7.43
316	SLE RA 3	28	-112	8120	946.73	1416.89	13.38
316	SLE RA 4	30	-95	8179	951.81	1427.75	10.01
316	SLE RA 5	30	-83	8184	951.23	1429.28	7.76
316	SLE RA 6	27	-114	8172	953.09	1425.78	13.7
316	SLE RA 7	29	-96	8230	958.17	1436.65	10.34
316	SLE RA 8	27	-113	8139	949.11	1420.07	13.69
316	SLE RA 9	29	-96	8197	954.19	1430.94	10.33
316	SLE RA 10	30	-89	8826	1024.57	1542.42	8.71
316	SLE RA 11	27	-120	8813	1026.43	1538.92	14.66
316	SLE RA 12	29	-102	8871	1031.52	1549.79	11.3
316	SLE RA 13	29	-90	8877	1030.93	1551.32	9.04
316	SLE RA 14	26	-121	8864	1032.79	1547.82	14.99
316	SLE RA 15	28	-104	8922	1037.87	1558.68	11.62
316	SLE RA 16	26	-121	8831	1028.81	1542.11	14.97
316	SLE RA 17	28	-103	8889	1033.9	1552.97	11.61
316	SLE RA 18	27	-122	9025	1050.26	1576.62	14.87
316	SLE RA 19	29	-104	9083	1055.34	1587.48	11.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	SLE RA 20	26	-123	9076	1056.62	1585.51	15.2
316	SLE RA 21	28	-105	9134	1061.7	1596.37	11.83
316	SLE FR 1	28	-110	8036	936.4	1402.28	13.03
316	SLE FR 2	29	-105	8056	938.09	1405.9	11.91
316	SLE FR 3	28	-111	8057	938.94	1405.84	13.17
316	SLE FR 4	29	-108	8352	972.25	1458.2	12.46
316	SLE FR 5	28	-114	8353	973.1	1458.14	13.72
316	SLE FR 6	28	-116	8531	993.33	1489.45	13.95
316	SLE QP 1	28	-110	8036	936.4	1402.28	13.03
316	SLE QP 2	28	-114	8333	970.55	1454.58	13.58
316	SLD 1	806	174	9481	1074.65	1677.84	-129.68
316	SLD 2	947	187	9519	1079.25	1682.75	-147.46
316	SLD 3	756	-381	7238	875.27	1258.22	-24.11
316	SLD 4	896	-368	7276	879.87	1263.13	-41.89
316	SLD 5	314	812	12072	1303.38	2157.13	-186.45
316	SLD 6	405	820	12096	1306.34	2160.29	-197.91
316	SLD 7	145	-1038	4597	638.79	758.41	165.45
316	SLD 8	235	-1030	4621	641.75	761.58	154
316	SLD 9	-179	802	12045	1299.36	2147.59	-126.83
316	SLD 10	-89	811	12069	1302.32	2150.75	-138.28
316	SLD 11	-349	-1048	4569	634.77	748.87	225.07
316	SLD 12	-258	-1040	4594	637.73	752.04	213.62
316	SLD 13	-840	141	9390	1061.24	1646.03	69.06
316	SLD 14	-700	154	9428	1065.83	1650.94	51.28
316	SLD 15	-891	-414	7147	861.86	1226.42	174.63
316	SLD 16	-750	-401	7185	866.46	1231.33	156.85
316	SLV 1	1248	376	10290	1147.77	1833.8	-217.93
316	SLV 2	1469	396	10350	1155.01	1841.55	-245.96
316	SLV 3	1162	-570	6464	807.55	1117.81	-37.85
316	SLV 4	1383	-550	6523	814.8	1125.56	-65.88
316	SLV 5	484	1465	14713	1538.36	2652.82	-323.75
316	SLV 6	633	1479	14753	1543.24	2658.04	-342.62
316	SLV 7	196	-1690	1957	404.31	266.19	276.5
316	SLV 8	344	-1677	1998	409.18	271.4	257.63
316	SLV 9	-289	1449	14668	1531.93	2637.77	-230.46
316	SLV 10	-140	1463	14709	1536.8	2642.98	-249.33
316	SLV 11	-577	-1706	1913	397.87	251.13	369.79
316	SLV 12	-428	-1693	1953	402.75	256.34	350.92
316	SLV 13	-1327	323	10143	1126.31	1783.61	93.05
316	SLV 14	-1106	343	10202	1133.56	1791.35	65.02
316	SLV 15	-1413	-624	6316	786.1	1067.62	273.13
316	SLV 16	-1192	-604	6376	793.34	1075.36	245.1
316	SLV FO 1	1370	425	10486	1165.49	1871.73	-241.08
316	SLV FO 2	1613	447	10552	1173.46	1880.24	-271.91
316	SLV FO 3	1275	-616	6277	791.25	1084.14	-43
316	SLV FO 4	1518	-594	6342	799.22	1092.65	-73.83
316	SLV FO 5	530	1623	15351	1595.14	2772.65	-357.49
316	SLV FO 6	693	1638	15395	1600.51	2778.38	-378.24
316	SLV FO 7	212	-1848	1320	347.68	147.35	302.79
316	SLV FO 8	376	-1833	1364	353.05	153.08	282.03
316	SLV FO 9	-320	1606	15302	1588.06	2756.08	-254.86
316	SLV FO 10	-157	1621	15346	1593.43	2761.82	-275.62
316	SLV FO 11	-637	-1866	1271	340.6	130.78	405.41
316	SLV FO 12	-474	-1851	1315	345.97	136.52	384.66
316	SLV FO 13	-1462	367	10323	1141.89	1816.51	101
316	SLV FO 14	-1219	389	10389	1149.86	1825.03	70.17
316	SLV FO 15	-1557	-675	6114	767.65	1028.92	299.08
316	SLV FO 16	-1314	-653	6180	775.62	1037.44	268.25
316	CRTFP Ux+	0	0	0	0	0	0
316	CRTFP Ux-	0	0	0	0	0	0
316	CRTFP Uy+	0	0	0	0	-0.01	0
316	CRTFP Uy-	0	0	0	0	0.01	0
318	SLU 1	19	-69	4197	1206.99	3.09	-6.01
318	SLU 2	21	-46	4271	1224.34	3.14	-6.91
318	SLU 3	18	-71	4266	1227.53	3.15	-5.92
318	SLU 4	20	-57	4310	1237.94	3.19	-6.45
318	SLU 5	21	-47	4313	1236.92	3.19	-6.72
318	SLU 6	18	-72	4308	1240.11	3.19	-5.72
318	SLU 7	19	-58	4352	1250.52	3.23	-6.26
318	SLU 8	17	-72	4281	1232.16	3.17	-5.63
318	SLU 9	19	-58	4325	1242.57	3.21	-6.17
318	SLU 10	21	-54	4829	1383.78	3.64	-6.82
318	SLU 11	18	-78	4823	1386.97	3.64	-5.82
318	SLU 12	19	-64	4868	1397.38	3.68	-6.36
318	SLU 13	20	-55	4870	1396.36	3.68	-6.63
318	SLU 14	17	-80	4865	1399.56	3.69	-5.63
318	SLU 15	19	-66	4910	1409.96	3.72	-6.17
318	SLU 16	17	-79	4838	1391.61	3.67	-5.54
318	SLU 17	18	-65	4883	1402.01	3.7	-6.08
318	SLU 18	18	-80	4994	1434.77	3.79	-5.88
318	SLU 19	20	-66	5038	1445.17	3.83	-6.42
318	SLU 20	17	-81	5035	1447.35	3.83	-5.69
318	SLU 21	19	-67	5080	1457.76	3.87	-6.23
318	SLU 22	21	-78	4766	1372.25	3.52	-6.74
318	SLU 23	23	-54	4840	1389.6	3.57	-7.63
318	SLU 24	20	-79	4834	1392.79	3.58	-6.64
318	SLU 25	22	-65	4879	1403.19	3.62	-7.18
318	SLU 26	23	-56	4881	1402.18	3.62	-7.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
318	SLU 27	20	-81	4876	1405.37	3.62	-6.45
318	SLU 28	21	-67	4920	1415.78	3.66	-6.98
318	SLU 29	19	-80	4849	1397.42	3.6	-6.35
318	SLU 30	21	-66	4893	1407.83	3.64	-6.89
318	SLU 31	23	-62	5397	1549.04	4.07	-7.54
318	SLU 32	20	-87	5392	1552.23	4.07	-6.55
318	SLU 33	22	-73	5436	1562.64	4.11	-7.09
318	SLU 34	22	-63	5439	1561.62	4.11	-7.35
318	SLU 35	19	-88	5434	1564.82	4.12	-6.36
318	SLU 36	21	-74	5478	1575.22	4.15	-6.89
318	SLU 37	19	-88	5407	1556.87	4.1	-6.26
318	SLU 38	21	-74	5451	1567.27	4.13	-6.8
318	SLU 39	20	-89	5562	1600.03	4.22	-6.61
318	SLU 40	22	-75	5607	1610.43	4.26	-7.15
318	SLU 41	19	-90	5604	1612.61	4.26	-6.42
318	SLU 42	21	-76	5648	1623.02	4.3	-6.95
318	SLU 43	23	-87	5262	1512.43	3.86	-7.57
318	SLU 44	26	-64	5335	1529.77	3.92	-8.47
318	SLU 45	23	-88	5330	1532.97	3.93	-7.47
318	SLU 46	25	-75	5375	1543.37	3.96	-8.01
318	SLU 47	25	-65	5377	1542.36	3.97	-8.27
318	SLU 48	22	-90	5372	1545.55	3.97	-7.28
318	SLU 49	24	-76	5416	1555.96	4.01	-7.82
318	SLU 50	22	-89	5345	1537.6	3.95	-7.19
318	SLU 51	24	-75	5389	1548.01	3.99	-7.72
318	SLU 52	26	-71	5893	1689.22	4.42	-8.38
318	SLU 53	22	-96	5888	1692.41	4.42	-7.38
318	SLU 54	24	-82	5932	1702.82	4.46	-7.92
318	SLU 55	25	-72	5935	1701.8	4.46	-8.18
318	SLU 56	22	-97	5929	1705	4.47	-7.19
318	SLU 57	24	-83	5974	1715.4	4.5	-7.73
318	SLU 58	22	-97	5902	1697.04	4.44	-7.1
318	SLU 59	23	-83	5947	1707.45	4.48	-7.63
318	SLU 60	23	-98	6058	1740.2	4.57	-7.44
318	SLU 61	24	-84	6102	1750.61	4.6	-7.98
318	SLU 62	22	-99	6100	1752.79	4.61	-7.25
318	SLU 63	24	-85	6144	1763.2	4.65	-7.79
318	SLU 64	26	-95	5830	1677.69	4.29	-8.29
318	SLU 65	28	-72	5904	1695.03	4.35	-9.19
318	SLU 66	25	-97	5899	1698.23	4.36	-8.2
318	SLU 67	27	-83	5943	1708.63	4.39	-8.73
318	SLU 68	28	-73	5945	1707.62	4.4	-9
318	SLU 69	25	-98	5940	1710.81	4.4	-8
318	SLU 70	26	-84	5985	1721.22	4.44	-8.54
318	SLU 71	24	-98	5913	1702.86	4.38	-7.91
318	SLU 72	26	-84	5958	1713.27	4.42	-8.45
318	SLU 73	28	-80	6461	1854.48	4.85	-9.1
318	SLU 74	25	-105	6456	1857.67	4.85	-8.1
318	SLU 75	26	-91	6501	1868.08	4.89	-8.64
318	SLU 76	27	-81	6503	1867.06	4.89	-8.91
318	SLU 77	24	-106	6498	1870.25	4.9	-7.91
318	SLU 78	26	-92	6542	1880.66	4.93	-8.45
318	SLU 79	24	-106	6471	1862.3	4.87	-7.82
318	SLU 80	25	-92	6515	1872.71	4.91	-8.36
318	SLU 81	25	-106	6626	1905.46	5	-8.16
318	SLU 82	27	-92	6671	1915.87	5.03	-8.7
318	SLU 83	24	-108	6668	1918.05	5.04	-7.97
318	SLU 84	26	-94	6713	1928.46	5.08	-8.51
318	SLE RA 1	19	-72	4360	1254.21	3.21	-6.22
318	SLE RA 2	21	-56	4409	1265.77	3.25	-6.82
318	SLE RA 3	19	-73	4405	1267.9	3.25	-6.16
318	SLE RA 4	20	-63	4435	1274.84	3.28	-6.51
318	SLE RA 5	21	-57	4437	1274.16	3.28	-6.69
318	SLE RA 6	18	-73	4433	1276.29	3.28	-6.03
318	SLE RA 7	20	-64	4463	1283.23	3.3	-6.39
318	SLE RA 8	18	-73	4415	1270.99	3.27	-5.97
318	SLE RA 9	19	-64	4445	1277.93	3.29	-6.32
318	SLE RA 10	21	-61	4781	1372.07	3.58	-6.76
318	SLE RA 11	19	-78	4777	1374.2	3.58	-6.09
318	SLE RA 12	20	-68	4807	1381.13	3.6	-6.45
318	SLE RA 13	20	-62	4808	1380.46	3.61	-6.63
318	SLE RA 14	18	-79	4805	1382.59	3.61	-5.97
318	SLE RA 15	19	-69	4834	1389.52	3.63	-6.32
318	SLE RA 16	18	-78	4787	1377.29	3.6	-5.9
318	SLE RA 17	19	-69	4816	1384.22	3.62	-6.26
318	SLE RA 18	19	-79	4891	1406.06	3.68	-6.13
318	SLE RA 19	20	-70	4920	1413	3.7	-6.49
318	SLE RA 20	18	-80	4918	1414.45	3.71	-6.01
318	SLE RA 21	19	-70	4948	1421.39	3.73	-6.36
318	SLE FR 1	19	-72	4360	1254.21	3.21	-6.22
318	SLE FR 2	20	-68	4369	1256.52	3.22	-6.34
318	SLE FR 3	19	-72	4371	1257.56	3.22	-6.17
318	SLE FR 4	19	-71	4529	1302.08	3.36	-6.31
318	SLE FR 5	19	-74	4530	1303.12	3.36	-6.14
318	SLE FR 6	19	-75	4625	1330.13	3.44	-6.18
318	SLE QP 1	19	-72	4360	1254.21	3.21	-6.22
318	SLE QP 2	19	-74	4519	1299.76	3.35	-6.2
318	SLD 1	453	85	5039	1425.51	4.52	-137.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
318	SLD 2	529	100	5063	1432.31	4.47	-160.78
318	SLD 3	420	-211	3902	1154.72	3.5	-127.46
318	SLD 4	497	-196	3926	1161.52	3.45	-150.36
318	SLD 5	185	420	6395	1747.02	5.25	-57.57
318	SLD 6	234	430	6411	1751.4	5.22	-72.32
318	SLD 7	77	-566	2605	844.38	1.86	-22.83
318	SLD 8	127	-557	2621	848.76	1.82	-37.57
318	SLD 9	-89	409	6417	1750.77	4.88	25.18
318	SLD 10	-39	419	6433	1755.15	4.84	10.44
318	SLD 11	-196	-577	2627	848.13	1.48	59.93
318	SLD 12	-147	-567	2643	852.51	1.44	45.18
318	SLD 13	-459	49	5112	1438.01	3.25	137.97
318	SLD 14	-382	64	5136	1444.81	3.2	115.07
318	SLD 15	-491	-247	3974	1167.22	2.23	148.39
318	SLD 16	-415	-232	3999	1174.02	2.18	125.49
318	SLV 1	699	195	5412	1515.17	5.24	-212.76
318	SLV 2	819	219	5451	1525.89	5.17	-248.85
318	SLV 3	644	-309	3472	1053.09	3.5	-194.99
318	SLV 4	764	-286	3510	1063.82	3.43	-231.09
318	SLV 5	284	768	7722	2063.2	6.57	-88.37
318	SLV 6	365	784	7748	2070.42	6.52	-112.67
318	SLV 7	101	-914	1255	522.95	0.77	-29.16
318	SLV 8	182	-898	1281	530.16	0.72	-53.46
318	SLV 9	-144	751	7757	2069.36	5.98	41.07
318	SLV 10	-63	767	7783	2076.58	5.93	16.77
318	SLV 11	-327	-931	1290	529.11	0.18	100.28
318	SLV 12	-246	-915	1316	536.33	0.13	75.98
318	SLV 13	-726	139	5527	1535.71	3.27	218.7
318	SLV 14	-606	162	5566	1546.43	3.2	182.6
318	SLV 15	-781	-366	3587	1073.64	1.53	236.46
318	SLV 16	-661	-343	3626	1084.36	1.46	200.37
318	SLV FO 1	767	222	5501	1536.71	5.43	-233.41
318	SLV FO 2	899	248	5544	1548.51	5.35	-273.12
318	SLV FO 3	707	-333	3367	1028.43	3.52	-213.87
318	SLV FO 4	839	-307	3410	1040.22	3.44	-253.58
318	SLV FO 5	310	852	8043	2139.54	6.89	-96.58
318	SLV FO 6	399	869	8071	2147.48	6.84	-123.31
318	SLV FO 7	109	-998	929	445.27	0.51	-31.46
318	SLV FO 8	198	-981	957	453.21	0.46	-58.19
318	SLV FO 9	-160	833	8081	2146.32	6.24	45.8
318	SLV FO 10	-71	851	8109	2154.26	6.19	19.07
318	SLV FO 11	-361	-1017	967	452.04	-0.14	110.92
318	SLV FO 12	-272	-1000	995	459.98	-0.19	84.19
318	SLV FO 13	-801	160	5628	1559.31	3.26	241.19
318	SLV FO 14	-669	186	5671	1571.1	3.18	201.48
318	SLV FO 15	-861	-395	3494	1051.02	1.35	260.73
318	SLV FO 16	-729	-370	3537	1062.82	1.27	221.02
318	CRTFP Ux+	0	0	0	0	0	0
318	CRTFP Ux-	0	0	0	0	0	0
318	CRTFP Uy+	0	0	0	0	0	0
318	CRTFP Uy-	0	0	0	0	0	0
319	SLU 1	21	-90	3497	1000.6	87.85	-4.37
319	SLU 2	24	-73	3561	1015.48	89.4	-5.57
319	SLU 3	21	-92	3552	1017.01	89.24	-4.28
319	SLU 4	23	-82	3590	1025.94	90.17	-5
319	SLU 5	23	-75	3593	1025.24	90.22	-5.39
319	SLU 6	21	-93	3584	1026.77	90.06	-4.1
319	SLU 7	22	-83	3623	1035.7	91	-4.82
319	SLU 8	20	-92	3562	1020.11	89.5	-4.01
319	SLU 9	22	-83	3600	1029.04	90.43	-4.73
319	SLU 10	24	-84	4017	1145.02	100.84	-5.39
319	SLU 11	21	-102	4008	1146.55	100.68	-4.1
319	SLU 12	23	-92	4047	1155.48	101.61	-4.82
319	SLU 13	23	-85	4050	1154.78	101.67	-5.21
319	SLU 14	21	-103	4041	1156.31	101.51	-3.92
319	SLU 15	22	-94	4079	1165.24	102.44	-4.64
319	SLU 16	21	-103	4018	1149.65	100.94	-3.83
319	SLU 17	22	-93	4056	1158.58	101.87	-4.55
319	SLU 18	22	-105	4149	1185.65	104.19	-4.11
319	SLU 19	23	-95	4187	1194.58	105.13	-4.83
319	SLU 20	21	-106	4181	1195.41	105.02	-3.93
319	SLU 21	23	-96	4219	1204.34	105.95	-4.65
319	SLU 22	24	-101	3978	1140.12	99.89	-4.97
319	SLU 23	27	-85	4042	1155.01	101.44	-6.16
319	SLU 24	24	-103	4033	1156.54	101.28	-4.87
319	SLU 25	25	-93	4071	1165.47	102.21	-5.59
319	SLU 26	26	-86	4074	1164.76	102.27	-5.98
319	SLU 27	23	-104	4065	1166.29	102.11	-4.7
319	SLU 28	25	-94	4104	1175.22	103.04	-5.41
319	SLU 29	23	-104	4043	1159.63	101.54	-4.61
319	SLU 30	25	-94	4081	1168.56	102.47	-5.32
319	SLU 31	27	-95	4498	1284.55	112.89	-5.98
319	SLU 32	24	-113	4489	1286.08	112.73	-4.69
319	SLU 33	26	-104	4527	1295.01	113.66	-5.41
319	SLU 34	26	-97	4530	1294.3	113.71	-5.8
319	SLU 35	24	-115	4521	1295.83	113.55	-4.51
319	SLU 36	25	-105	4560	1304.76	114.48	-5.23
319	SLU 37	23	-114	4499	1289.17	112.98	-4.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
319	SLU 38	25	-104	4537	1298.1	113.91	-5.14
319	SLU 39	24	-116	4629	1325.18	116.24	-4.71
319	SLU 40	26	-106	4668	1334.11	117.17	-5.43
319	SLU 41	24	-117	4662	1334.93	117.06	-4.53
319	SLU 42	25	-108	4700	1343.86	117.99	-5.25
319	SLU 43	27	-113	4381	1252.94	110.07	-5.48
319	SLU 44	29	-97	4445	1267.83	111.62	-6.67
319	SLU 45	26	-115	4436	1269.35	111.46	-5.38
319	SLU 46	28	-105	4475	1278.29	112.4	-6.1
319	SLU 47	29	-98	4478	1277.58	112.45	-6.49
319	SLU 48	26	-116	4469	1279.11	112.29	-5.21
319	SLU 49	27	-106	4507	1288.04	113.22	-5.92
319	SLU 50	26	-115	4446	1272.45	111.72	-5.12
319	SLU 51	27	-106	4484	1281.38	112.65	-5.83
319	SLU 52	29	-107	4901	1397.36	123.07	-6.49
319	SLU 53	27	-125	4892	1398.89	122.91	-5.2
319	SLU 54	28	-115	4931	1407.83	123.84	-5.92
319	SLU 55	29	-108	4934	1407.12	123.89	-6.31
319	SLU 56	26	-126	4925	1408.65	123.73	-5.02
319	SLU 57	28	-117	4963	1417.58	124.66	-5.74
319	SLU 58	26	-126	4902	1401.99	123.16	-4.94
319	SLU 59	27	-116	4941	1410.92	124.1	-5.65
319	SLU 60	27	-128	5033	1437.99	126.42	-5.22
319	SLU 61	28	-118	5071	1446.93	127.35	-5.94
319	SLU 62	26	-129	5065	1447.75	127.24	-5.04
319	SLU 63	28	-119	5104	1456.68	128.18	-5.76
319	SLU 64	29	-124	4862	1392.46	122.12	-6.07
319	SLU 65	32	-108	4926	1407.35	123.67	-7.27
319	SLU 66	29	-126	4917	1408.88	123.51	-5.98
319	SLU 67	31	-116	4956	1417.81	124.44	-6.7
319	SLU 68	31	-109	4959	1417.11	124.49	-7.09
319	SLU 69	29	-127	4950	1418.63	124.33	-5.8
319	SLU 70	30	-118	4988	1427.57	125.26	-6.52
319	SLU 71	29	-127	4927	1411.97	123.77	-5.71
319	SLU 72	30	-117	4965	1420.91	124.7	-6.43
319	SLU 73	32	-118	5382	1536.89	135.11	-7.09
319	SLU 74	30	-136	5373	1538.42	134.95	-5.8
319	SLU 75	31	-127	5412	1547.35	135.88	-6.52
319	SLU 76	32	-120	5415	1546.64	135.94	-6.91
319	SLU 77	29	-138	5406	1548.17	135.78	-5.62
319	SLU 78	31	-128	5444	1557.11	136.71	-6.34
319	SLU 79	29	-137	5383	1541.51	135.21	-5.53
319	SLU 80	30	-127	5421	1550.45	136.14	-6.25
319	SLU 81	30	-139	5514	1577.52	138.46	-5.82
319	SLU 82	31	-129	5552	1586.45	139.39	-6.53
319	SLU 83	29	-140	5546	1587.27	139.29	-5.64
319	SLU 84	31	-131	5584	1596.21	140.22	-6.35
319	SLE RA 1	22	-93	3634	1040.46	91.29	-4.54
319	SLE RA 2	24	-82	3677	1050.39	92.32	-5.34
319	SLE RA 3	22	-94	3671	1051.4	92.22	-4.48
319	SLE RA 4	23	-88	3697	1057.36	92.84	-4.96
319	SLE RA 5	23	-83	3699	1056.89	92.87	-5.22
319	SLE RA 6	22	-95	3693	1057.91	92.77	-4.36
319	SLE RA 7	23	-89	3718	1063.86	93.39	-4.84
319	SLE RA 8	21	-95	3678	1053.47	92.39	-4.3
319	SLE RA 9	22	-88	3703	1059.42	93.01	-4.78
319	SLE RA 10	24	-89	3981	1136.74	99.95	-5.22
319	SLE RA 11	22	-101	3975	1137.76	99.84	-4.36
319	SLE RA 12	23	-95	4001	1143.72	100.47	-4.84
319	SLE RA 13	24	-90	4003	1143.25	100.5	-5.1
319	SLE RA 14	22	-102	3997	1144.27	100.39	-4.24
319	SLE RA 15	23	-96	4022	1150.22	101.02	-4.72
319	SLE RA 16	22	-102	3982	1139.83	100.02	-4.18
319	SLE RA 17	23	-95	4007	1145.78	100.64	-4.66
319	SLE RA 18	22	-103	4069	1163.83	102.19	-4.37
319	SLE RA 19	23	-96	4094	1169.79	102.81	-4.85
319	SLE RA 20	22	-104	4090	1170.33	102.74	-4.25
319	SLE RA 21	23	-97	4116	1176.29	103.36	-4.73
319	SLE FR 1	22	-93	3634	1040.46	91.29	-4.54
319	SLE FR 2	22	-91	3643	1042.45	91.5	-4.7
319	SLE FR 3	22	-93	3643	1043.06	91.51	-4.49
319	SLE FR 4	22	-94	3773	1079.46	94.76	-4.65
319	SLE FR 5	22	-96	3773	1080.07	94.78	-4.44
319	SLE FR 6	22	-98	3852	1102.15	96.74	-4.45
319	SLE QP 1	22	-93	3634	1040.46	91.29	-4.54
319	SLE QP 2	22	-96	3765	1077.47	94.56	-4.49
319	SLD 1	388	43	4044	1142.2	101.96	-120.16
319	SLD 2	453	76	4079	1152.05	102.76	-140.68
319	SLD 3	360	-169	3091	918.74	78.7	-105.87
319	SLD 4	425	-136	3125	928.59	79.51	-126.38
319	SLD 5	164	261	5288	1434.11	131.91	-57.35
319	SLD 6	206	282	5310	1440.45	132.43	-70.56
319	SLD 7	69	-444	2111	689.25	54.4	-9.69
319	SLD 8	111	-423	2133	695.59	54.92	-22.9
319	SLD 9	-67	231	5396	1459.35	134.2	13.92
319	SLD 10	-25	252	5418	1465.7	134.72	0.72
319	SLD 11	-162	-474	2219	714.49	56.69	61.58
319	SLD 12	-120	-453	2241	720.84	57.21	48.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
319	SLD 13	-380	-56	4404	1226.35	109.6	117.41
319	SLD 14	-316	-23	4439	1236.2	110.41	96.89
319	SLD 15	-409	-268	3451	1002.89	86.35	131.7
319	SLD 16	-344	-235	3486	1012.74	87.16	111.19
319	SLV 1	596	136	4270	1194.66	107.79	-186.31
319	SLV 2	698	188	4324	1210.19	109.07	-218.64
319	SLV 3	548	-225	2643	813.36	68.11	-161.93
319	SLV 4	650	-173	2698	828.89	69.39	-194.26
319	SLV 5	249	511	6372	1688.03	158.47	-89.98
319	SLV 6	318	546	6409	1698.48	159.32	-111.75
319	SLV 7	87	-691	952	417.05	26.21	-8.71
319	SLV 8	156	-657	988	427.5	27.07	-30.48
319	SLV 9	-112	465	6541	1727.45	162.05	21.5
319	SLV 10	-43	500	6578	1737.9	162.9	-0.27
319	SLV 11	-274	-738	1120	456.46	29.79	102.77
319	SLV 12	-205	-703	1157	466.92	30.65	81
319	SLV 13	-606	-19	4831	1326.05	119.73	185.29
319	SLV 14	-504	33	4886	1341.58	121	152.95
319	SLV 15	-654	-379	3205	944.76	80.05	209.67
319	SLV 16	-552	-328	3260	960.28	81.33	177.33
319	SLV FO 1	654	159	4320	1206.38	109.11	-204.49
319	SLV FO 2	766	216	4380	1223.46	110.52	-240.06
319	SLV FO 3	600	-238	2531	786.95	65.47	-177.67
319	SLV FO 4	713	-181	2591	804.03	66.87	-213.24
319	SLV FO 5	272	572	6633	1749.08	164.86	-98.53
319	SLV FO 6	347	610	6674	1760.58	165.8	-122.47
319	SLV FO 7	94	-751	670	351	19.38	-9.13
319	SLV FO 8	169	-713	711	362.5	20.32	-33.08
319	SLV FO 9	-125	521	6819	1792.44	168.79	24.1
319	SLV FO 10	-49	559	6859	1803.94	169.74	0.16
319	SLV FO 11	-303	-802	856	394.36	23.32	113.49
319	SLV FO 12	-228	-764	896	405.86	24.26	89.55
319	SLV FO 13	-668	-11	4938	1350.91	122.24	204.26
319	SLV FO 14	-556	46	4998	1367.99	123.65	168.69
319	SLV FO 15	-722	-408	3149	931.49	78.6	231.08
319	SLV FO 16	-610	-351	3209	948.57	80	195.51
319	CRTFP Ux+	0	0	0	0	0	0
319	CRTFP Ux-	0	0	0	0	0	0
319	CRTFP Uy+	0	0	0	0	0	0
319	CRTFP Uy-	0	0	0	0	0	0
320	SLU 1	15	-62	2403	652.83	55.08	-2.9
320	SLU 2	17	-51	2448	662.78	56.08	-3.65
320	SLU 3	15	-63	2441	663.52	55.95	-2.84
320	SLU 4	16	-56	2468	669.49	56.55	-3.29
320	SLU 5	16	-52	2470	669.1	56.59	-3.54
320	SLU 6	14	-64	2463	669.84	56.46	-2.73
320	SLU 7	15	-57	2490	675.81	57.06	-3.18
320	SLU 8	14	-63	2447	665.47	56.1	-2.67
320	SLU 9	15	-57	2474	671.44	56.7	-3.12
320	SLU 10	17	-58	2762	747.33	63.26	-3.54
320	SLU 11	15	-70	2755	748.07	63.13	-2.73
320	SLU 12	16	-64	2782	754.04	63.73	-3.18
320	SLU 13	16	-59	2784	753.65	63.77	-3.42
320	SLU 14	15	-71	2777	754.39	63.64	-2.61
320	SLU 15	16	-64	2804	760.36	64.24	-3.07
320	SLU 16	14	-71	2761	750.03	63.28	-2.56
320	SLU 17	15	-64	2788	755.99	63.88	-3.01
320	SLU 18	15	-72	2851	773.62	65.34	-2.74
320	SLU 19	16	-65	2878	779.59	65.93	-3.19
320	SLU 20	15	-73	2873	779.94	65.85	-2.62
320	SLU 21	16	-66	2900	785.91	66.45	-3.08
320	SLU 22	17	-69	2735	744.23	62.68	-3.3
320	SLU 23	19	-59	2780	754.18	63.68	-4.05
320	SLU 24	17	-71	2773	754.92	63.55	-3.24
320	SLU 25	18	-64	2800	760.89	64.15	-3.7
320	SLU 26	18	-59	2802	760.5	64.19	-3.94
320	SLU 27	16	-72	2795	761.24	64.06	-3.13
320	SLU 28	17	-65	2822	767.21	64.66	-3.58
320	SLU 29	16	-71	2779	756.87	63.7	-3.07
320	SLU 30	17	-65	2806	762.84	64.3	-3.52
320	SLU 31	19	-66	3094	838.73	70.86	-3.94
320	SLU 32	17	-78	3086	839.47	70.73	-3.13
320	SLU 33	18	-71	3113	845.44	71.33	-3.59
320	SLU 34	18	-67	3116	845.05	71.37	-3.83
320	SLU 35	17	-79	3108	845.79	71.24	-3.02
320	SLU 36	18	-72	3135	851.76	71.84	-3.47
320	SLU 37	16	-78	3093	841.42	70.88	-2.96
320	SLU 38	17	-72	3120	847.39	71.48	-3.41
320	SLU 39	17	-80	3183	865.02	72.94	-3.14
320	SLU 40	18	-73	3210	870.99	73.53	-3.59
320	SLU 41	17	-81	3205	871.34	73.45	-3.03
320	SLU 42	18	-74	3232	877.31	74.05	-3.48
320	SLU 43	19	-77	3011	817.35	69	-3.63
320	SLU 44	20	-67	3056	827.29	69.99	-4.38
320	SLU 45	18	-79	3048	828.03	69.87	-3.57
320	SLU 46	20	-72	3075	834	70.46	-4.02
320	SLU 47	20	-67	3078	833.61	70.51	-4.27
320	SLU 48	18	-80	3070	834.36	70.38	-3.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
320	SLU 49	19	-73	3097	840.32	70.98	-3.91
320	SLU 50	18	-79	3055	829.99	70.02	-3.4
320	SLU 51	19	-73	3082	835.96	70.62	-3.85
320	SLU 52	20	-74	3369	911.84	77.17	-4.27
320	SLU 53	19	-86	3362	912.59	77.05	-3.46
320	SLU 54	20	-79	3389	918.55	77.64	-3.91
320	SLU 55	20	-75	3391	918.16	77.69	-4.15
320	SLU 56	18	-87	3384	918.91	77.56	-3.35
320	SLU 57	19	-80	3411	924.87	78.16	-3.8
320	SLU 58	18	-86	3368	914.54	77.2	-3.29
320	SLU 59	19	-80	3395	920.51	77.8	-3.74
320	SLU 60	19	-88	3459	938.14	79.25	-3.47
320	SLU 61	20	-81	3486	944.1	79.85	-3.92
320	SLU 62	19	-89	3481	944.46	79.76	-3.35
320	SLU 63	20	-82	3508	950.42	80.36	-3.81
320	SLU 64	21	-85	3342	908.74	76.6	-4.03
320	SLU 65	22	-74	3387	918.69	77.59	-4.78
320	SLU 66	20	-86	3380	919.43	77.47	-3.98
320	SLU 67	22	-80	3407	925.4	78.07	-4.43
320	SLU 68	22	-75	3409	925.01	78.11	-4.67
320	SLU 69	20	-87	3402	925.75	77.98	-3.86
320	SLU 70	21	-81	3429	931.72	78.58	-4.31
320	SLU 71	20	-87	3386	921.39	77.62	-3.8
320	SLU 72	21	-80	3413	927.35	78.22	-4.25
320	SLU 73	22	-82	3701	1003.24	84.77	-4.67
320	SLU 74	21	-94	3694	1003.98	84.65	-3.86
320	SLU 75	22	-87	3721	1009.95	85.24	-4.32
320	SLU 76	22	-82	3723	1009.56	85.29	-4.56
320	SLU 77	20	-95	3716	1010.31	85.16	-3.75
320	SLU 78	21	-88	3743	1016.27	85.76	-4.2
320	SLU 79	20	-94	3700	1005.94	84.8	-3.69
320	SLU 80	21	-88	3727	1011.91	85.4	-4.14
320	SLU 81	21	-96	3790	1029.53	86.85	-3.87
320	SLU 82	22	-89	3817	1035.5	87.45	-4.32
320	SLU 83	21	-96	3812	1035.85	87.36	-3.76
320	SLU 84	22	-90	3839	1041.82	87.96	-4.21
320	SLE RA 1	15	-64	2498	678.95	57.25	-3.01
320	SLE RA 2	17	-57	2528	685.58	57.92	-3.51
320	SLE RA 3	15	-65	2523	686.07	57.83	-2.97
320	SLE RA 4	16	-60	2541	690.05	58.23	-3.28
320	SLE RA 5	16	-57	2543	689.79	58.26	-3.44
320	SLE RA 6	15	-65	2538	690.29	58.17	-2.9
320	SLE RA 7	16	-61	2556	694.26	58.57	-3.2
320	SLE RA 8	15	-65	2528	687.37	57.93	-2.86
320	SLE RA 9	16	-61	2545	691.35	58.33	-3.16
320	SLE RA 10	17	-61	2737	741.95	62.7	-3.44
320	SLE RA 11	15	-69	2732	742.44	62.62	-2.9
320	SLE RA 12	16	-65	2750	746.42	63.02	-3.2
320	SLE RA 13	16	-62	2752	746.16	63.04	-3.36
320	SLE RA 14	15	-70	2747	746.65	62.96	-2.82
320	SLE RA 15	16	-66	2765	750.63	63.36	-3.13
320	SLE RA 16	15	-70	2737	743.74	62.72	-2.78
320	SLE RA 17	16	-65	2755	747.72	63.12	-3.09
320	SLE RA 18	16	-71	2797	759.47	64.09	-2.91
320	SLE RA 19	16	-66	2815	763.45	64.49	-3.21
320	SLE RA 20	15	-71	2811	763.69	64.43	-2.83
320	SLE RA 21	16	-67	2829	767.66	64.83	-3.13
320	SLE FR 1	15	-64	2498	678.95	57.25	-3.01
320	SLE FR 2	16	-62	2504	680.27	57.38	-3.11
320	SLE FR 3	15	-64	2504	680.63	57.39	-2.98
320	SLE FR 4	16	-64	2594	704.43	59.43	-3.08
320	SLE FR 5	15	-66	2594	704.79	59.44	-2.95
320	SLE FR 6	15	-67	2647	719.21	60.67	-2.96
320	SLE QP 1	15	-64	2498	678.95	57.25	-3.01
320	SLE QP 2	15	-66	2588	703.1	59.3	-2.98
320	SLD 1	263	28	2768	742	63.47	-77.47
320	SLD 2	307	51	2794	748.92	64.04	-90.73
320	SLD 3	244	-113	2102	593.72	48.64	-68.47
320	SLD 4	288	-90	2128	600.64	49.2	-81.74
320	SLD 5	112	172	3648	938.46	82.96	-36.69
320	SLD 6	140	187	3664	942.92	83.32	-45.23
320	SLD 7	47	-298	1427	444.22	33.51	-6.71
320	SLD 8	75	-283	1444	448.68	33.87	-15.25
320	SLD 9	-44	151	3732	957.53	84.73	9.29
320	SLD 10	-16	166	3748	961.99	85.1	0.75
320	SLD 11	-109	-319	1511	463.29	35.28	39.27
320	SLD 12	-81	-304	1528	467.75	35.65	30.73
320	SLD 13	-257	-42	3048	805.57	69.4	75.78
320	SLD 14	-213	-18	3073	812.49	69.96	62.51
320	SLD 15	-276	-183	2382	657.29	54.56	84.77
320	SLD 16	-232	-159	2407	664.21	55.13	71.51
320	SLV 1	404	90	2918	774.54	66.89	-120.04
320	SLV 2	473	127	2958	785.45	67.78	-140.96
320	SLV 3	371	-150	1781	521.54	41.58	-104.71
320	SLV 4	440	-113	1821	532.45	42.47	-125.62
320	SLV 5	169	339	4403	1106.21	99.8	-57.46
320	SLV 6	216	364	4430	1113.56	100.4	-71.54
320	SLV 7	59	-463	615	262.89	15.43	-6.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
320	SLV 8	106	-438	642	270.23	16.03	-20.41
320	SLV 9	-75	306	4534	1135.98	102.58	14.45
320	SLV 10	-28	331	4561	1143.32	103.18	0.37
320	SLV 11	-185	-496	745	292.65	18.2	65.58
320	SLV 12	-138	-471	772	300	18.8	51.5
320	SLV 13	-409	-18	3354	873.76	76.14	119.66
320	SLV 14	-340	19	3394	884.67	77.02	98.75
320	SLV 15	-442	-259	2217	620.76	50.82	135
320	SLV 16	-373	-222	2257	631.67	51.71	114.08
320	SLV FO 1	443	106	2951	781.68	67.65	-131.75
320	SLV FO 2	519	147	2995	793.68	68.63	-154.75
320	SLV FO 3	406	-159	1701	503.38	39.81	-114.88
320	SLV FO 4	483	-118	1745	515.38	40.78	-137.88
320	SLV FO 5	185	380	4584	1146.52	103.85	-62.91
320	SLV FO 6	236	407	4614	1154.6	104.51	-78.39
320	SLV FO 7	63	-503	417	218.86	11.04	-6.67
320	SLV FO 8	115	-475	447	226.94	11.7	-22.15
320	SLV FO 9	-84	344	4728	1179.27	106.9	16.19
320	SLV FO 10	-32	371	4758	1187.34	107.56	0.71
320	SLV FO 11	-205	-539	561	251.61	14.09	72.43
320	SLV FO 12	-154	-511	591	259.68	14.75	56.95
320	SLV FO 13	-452	-14	3431	890.83	77.82	131.92
320	SLV FO 14	-376	27	3475	902.82	78.8	108.92
320	SLV FO 15	-488	-278	2180	612.53	49.97	148.79
320	SLV FO 16	-412	-238	2224	624.53	50.95	125.79
320	CRTFP Ux+	0	0	0	0	0	0
320	CRTFP Ux-	0	0	0	0	0	0
320	CRTFP Uy+	0	0	0	0	0	0
320	CRTFP Uy-	0	0	0	0	0	0
322	SLU 1	20	-78	3115	950.17	109.9	-3.53
322	SLU 2	22	-65	3174	965.09	111.92	-4.75
322	SLU 3	20	-80	3164	965.69	111.64	-3.44
322	SLU 4	21	-72	3200	974.64	112.85	-4.17
322	SLU 5	21	-66	3203	974.22	112.94	-4.58
322	SLU 6	19	-81	3193	974.82	112.65	-3.26
322	SLU 7	20	-73	3228	983.77	113.86	-3.99
322	SLU 8	19	-80	3173	968.43	111.94	-3.18
322	SLU 9	20	-72	3208	977.38	113.15	-3.91
322	SLU 10	22	-74	3581	1088.14	126.25	-4.51
322	SLU 11	20	-89	3571	1088.74	125.97	-3.19
322	SLU 12	21	-81	3606	1097.69	127.18	-3.93
322	SLU 13	22	-75	3609	1097.27	127.27	-4.34
322	SLU 14	19	-90	3599	1097.87	126.99	-3.02
322	SLU 15	21	-82	3635	1106.82	128.2	-3.75
322	SLU 16	19	-90	3579	1091.49	126.27	-2.94
322	SLU 17	20	-81	3614	1100.43	127.48	-3.67
322	SLU 18	20	-91	3696	1125.96	130.38	-3.18
322	SLU 19	21	-83	3731	1134.91	131.59	-3.92
322	SLU 20	20	-92	3725	1135.09	131.4	-3.01
322	SLU 21	21	-84	3760	1144.04	132.61	-3.74
322	SLU 22	22	-88	3547	1083.6	125.11	-4.04
322	SLU 23	25	-74	3606	1098.51	127.13	-5.26
322	SLU 24	22	-90	3596	1099.12	126.84	-3.95
322	SLU 25	24	-82	3631	1108.06	128.05	-4.68
322	SLU 26	24	-75	3634	1107.64	128.14	-5.09
322	SLU 27	22	-91	3625	1108.25	127.86	-3.77
322	SLU 28	23	-83	3660	1117.2	129.07	-4.51
322	SLU 29	22	-90	3604	1101.86	127.14	-3.69
322	SLU 30	23	-82	3640	1110.81	128.35	-4.42
322	SLU 31	25	-84	4012	1221.56	141.46	-5.02
322	SLU 32	23	-99	4003	1222.17	141.18	-3.7
322	SLU 33	24	-91	4038	1231.12	142.39	-4.44
322	SLU 34	24	-85	4041	1230.69	142.48	-4.85
322	SLU 35	22	-100	4031	1231.3	142.19	-3.53
322	SLU 36	23	-92	4066	1240.25	143.4	-4.26
322	SLU 37	22	-99	4011	1224.91	141.47	-3.45
322	SLU 38	23	-91	4046	1233.86	142.68	-4.18
322	SLU 39	23	-101	4128	1259.38	145.59	-3.69
322	SLU 40	24	-93	4163	1268.33	146.8	-4.43
322	SLU 41	22	-102	4157	1268.51	146.6	-3.52
322	SLU 42	24	-94	4192	1277.46	147.81	-4.25
322	SLU 43	25	-98	3902	1189.48	137.66	-4.41
322	SLU 44	27	-85	3961	1204.39	139.68	-5.64
322	SLU 45	25	-100	3951	1205	139.4	-4.32
322	SLU 46	26	-92	3986	1213.95	140.61	-5.05
322	SLU 47	26	-86	3989	1213.53	140.7	-5.46
322	SLU 48	24	-101	3980	1214.13	140.41	-4.14
322	SLU 49	25	-93	4015	1223.08	141.62	-4.88
322	SLU 50	24	-100	3959	1207.74	139.69	-4.06
322	SLU 51	25	-92	3994	1216.69	140.9	-4.8
322	SLU 52	27	-94	4367	1327.45	154.01	-5.39
322	SLU 53	25	-109	4358	1328.05	153.73	-4.08
322	SLU 54	26	-101	4393	1337	154.94	-4.81
322	SLU 55	27	-95	4396	1336.58	155.03	-5.22
322	SLU 56	24	-110	4386	1337.18	154.74	-3.9
322	SLU 57	26	-102	4421	1346.13	155.95	-4.64
322	SLU 58	24	-110	4366	1330.79	154.03	-3.82
322	SLU 59	25	-101	4401	1339.74	155.24	-4.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
322	SLU 60	25	-111	4483	1365.27	158.14	-4.07
322	SLU 61	26	-103	4518	1374.22	159.35	-4.8
322	SLU 62	25	-112	4511	1374.4	159.15	-3.89
322	SLU 63	26	-104	4547	1383.35	160.36	-4.63
322	SLU 64	27	-108	4334	1322.9	152.87	-4.92
322	SLU 65	30	-94	4392	1337.82	154.89	-6.15
322	SLU 66	27	-110	4383	1338.42	154.6	-4.83
322	SLU 67	29	-102	4418	1347.37	155.81	-5.56
322	SLU 68	29	-96	4421	1346.95	155.9	-5.97
322	SLU 69	27	-111	4411	1347.55	155.62	-4.65
322	SLU 70	28	-103	4447	1356.5	156.83	-5.39
322	SLU 71	26	-110	4391	1341.16	154.9	-4.57
322	SLU 72	28	-102	4426	1350.11	156.11	-5.31
322	SLU 73	30	-104	4799	1460.87	169.22	-5.9
322	SLU 74	28	-119	4789	1461.47	168.93	-4.59
322	SLU 75	29	-111	4825	1470.42	170.14	-5.32
322	SLU 76	29	-105	4828	1470	170.23	-5.73
322	SLU 77	27	-120	4818	1470.6	169.95	-4.41
322	SLU 78	28	-112	4853	1479.55	171.16	-5.15
322	SLU 79	27	-120	4798	1464.22	169.23	-4.33
322	SLU 80	28	-111	4833	1473.16	170.44	-5.07
322	SLU 81	28	-121	4915	1498.69	173.34	-4.58
322	SLU 82	29	-113	4950	1507.64	174.55	-5.31
322	SLU 83	27	-122	4943	1507.82	174.36	-4.4
322	SLU 84	29	-114	4978	1516.77	175.57	-5.14
322	SLE RA 1	20	-81	3239	988.29	114.25	-3.67
322	SLE RA 2	22	-72	3278	998.24	115.59	-4.49
322	SLE RA 3	20	-82	3271	998.64	115.4	-3.61
322	SLE RA 4	21	-77	3295	1004.61	116.21	-4.1
322	SLE RA 5	22	-73	3297	1004.32	116.27	-4.37
322	SLE RA 6	20	-83	3290	1004.73	116.08	-3.5
322	SLE RA 7	21	-77	3314	1010.69	116.89	-3.99
322	SLE RA 8	20	-82	3277	1000.47	115.6	-3.44
322	SLE RA 9	21	-77	3300	1006.43	116.41	-3.93
322	SLE RA 10	22	-78	3549	1080.27	125.15	-4.33
322	SLE RA 11	21	-88	3542	1080.67	124.96	-3.45
322	SLE RA 12	21	-83	3566	1086.64	125.77	-3.94
322	SLE RA 13	22	-79	3568	1086.36	125.83	-4.21
322	SLE RA 14	20	-89	3562	1086.76	125.64	-3.33
322	SLE RA 15	21	-83	3585	1092.73	126.44	-3.82
322	SLE RA 16	20	-89	3548	1082.5	125.16	-3.28
322	SLE RA 17	21	-83	3571	1088.47	125.97	-3.77
322	SLE RA 18	21	-90	3626	1105.49	127.9	-3.44
322	SLE RA 19	22	-84	3649	1111.45	128.71	-3.93
322	SLE RA 20	20	-91	3645	1111.57	128.58	-3.33
322	SLE RA 21	21	-85	3669	1117.54	129.38	-3.82
322	SLE FR 1	20	-81	3239	988.29	114.25	-3.67
322	SLE FR 2	21	-79	3247	990.28	114.52	-3.84
322	SLE FR 3	20	-81	3246	990.73	114.52	-3.63
322	SLE FR 4	21	-82	3363	1025.44	118.61	-3.77
322	SLE FR 5	20	-84	3363	1025.89	118.62	-3.56
322	SLE FR 6	21	-85	3432	1046.89	121.07	-3.56
322	SLE QP 1	20	-81	3239	988.29	114.25	-3.67
322	SLE QP 2	21	-84	3355	1023.45	118.34	-3.6
322	SLD 1	340	36	3571	1075.68	126.28	-112.31
322	SLD 2	396	67	3606	1086.54	127.46	-131.8
322	SLD 3	314	-145	2707	854.91	96.41	-97.57
322	SLD 4	371	-113	2742	865.77	97.59	-117.06
322	SLD 5	145	220	4725	1372.08	165.82	-55.22
322	SLD 6	182	241	4747	1379.07	166.58	-67.78
322	SLD 7	60	-381	1844	636.2	66.26	-6.08
322	SLD 8	96	-361	1866	643.19	67.02	-18.63
322	SLD 9	-55	193	4844	1403.71	169.67	11.42
322	SLD 10	-19	214	4866	1410.7	170.43	-1.13
322	SLD 11	-141	-408	1963	667.83	70.11	60.57
322	SLD 12	-104	-388	1985	674.83	70.87	48.01
322	SLD 13	-330	-54	3968	1181.13	139.1	109.85
322	SLD 14	-273	-23	4003	1191.99	140.28	90.36
322	SLD 15	-355	-235	3104	960.36	109.23	124.59
322	SLD 16	-299	-203	3139	971.23	110.41	105.1
322	SLV 1	521	116	3755	1120.96	132.9	-174.56
322	SLV 2	610	165	3811	1138.08	134.75	-205.29
322	SLV 3	478	-192	2280	744.27	81.93	-149.42
322	SLV 4	567	-142	2336	761.39	83.79	-180.14
322	SLV 5	220	434	5701	1620.82	199.66	-87.29
322	SLV 6	280	467	5739	1632.34	200.91	-107.98
322	SLV 7	75	-592	786	365.2	29.78	-3.48
322	SLV 8	135	-559	823	376.72	31.03	-24.16
322	SLV 9	-94	391	5887	1670.18	205.66	16.95
322	SLV 10	-34	425	5924	1681.71	206.91	-3.73
322	SLV 11	-239	-635	971	414.56	35.78	100.77
322	SLV 12	-179	-601	1009	426.09	37.03	80.08
322	SLV 13	-526	-25	4374	1285.51	152.9	172.93
322	SLV 14	-437	25	4429	1302.63	154.75	142.21
322	SLV 15	-569	-333	2899	908.82	101.94	198.08
322	SLV 16	-480	-283	2955	925.94	103.79	167.35
322	SLV FO 1	572	136	3795	1130.71	134.35	-191.66
322	SLV FO 2	669	190	3856	1149.54	136.39	-225.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
322	SLV FO 3	524	-203	2173	716.36	78.29	-164
322	SLV FO 4	621	-148	2234	735.19	80.34	-197.8
322	SLV FO 5	240	485	5936	1680.55	207.79	-95.66
322	SLV FO 6	306	522	5977	1693.23	209.16	-118.41
322	SLV FO 7	80	-643	529	299.37	20.93	-3.47
322	SLV FO 8	146	-606	570	312.05	22.3	-26.22
322	SLV FO 9	-105	439	6140	1734.85	214.39	19.01
322	SLV FO 10	-39	476	6181	1747.53	215.76	-3.74
322	SLV FO 11	-265	-690	733	353.67	27.53	111.2
322	SLV FO 12	-199	-653	774	366.35	28.9	88.45
322	SLV FO 13	-580	-19	4476	1311.71	156.35	190.59
322	SLV FO 14	-483	36	4537	1330.55	158.4	156.79
322	SLV FO 15	-628	-358	2854	897.36	100.3	218.24
322	SLV FO 16	-531	-303	2915	916.19	102.34	184.45
322	CRTFP Ux+	0	0	0	0	0	0
322	CRTFP Ux-	0	0	0	0	0	0
322	CRTFP Uy+	0	0	0	0	0	0
322	CRTFP Uy-	0	0	0	0	0	0
323	SLU 1	20	-73	3092	999.32	-142.64	-10.32
323	SLU 2	23	-59	3151	1015.73	-145.43	-10.49
323	SLU 3	20	-74	3140	1015.56	-144.88	-10.36
323	SLU 4	22	-66	3176	1025.41	-146.55	-10.46
323	SLU 5	22	-60	3179	1025.23	-146.72	-10.39
323	SLU 6	20	-75	3169	1025.07	-146.17	-10.26
323	SLU 7	21	-67	3204	1034.91	-147.84	-10.36
323	SLU 8	20	-74	3148	1018.33	-145.23	-10.12
323	SLU 9	21	-66	3184	1028.17	-146.9	-10.22
323	SLU 10	23	-67	3555	1144.8	-164.04	-10.99
323	SLU 11	21	-82	3544	1144.64	-163.49	-10.87
323	SLU 12	22	-74	3579	1154.48	-165.16	-10.97
323	SLU 13	23	-68	3583	1154.31	-165.33	-10.9
323	SLU 14	20	-83	3572	1154.14	-164.79	-10.77
323	SLU 15	22	-75	3608	1163.99	-166.45	-10.87
323	SLU 16	20	-83	3552	1147.4	-163.84	-10.63
323	SLU 17	21	-75	3587	1157.25	-165.51	-10.73
323	SLU 18	21	-85	3668	1183.71	-169.23	-11.05
323	SLU 19	22	-77	3704	1193.56	-170.9	-11.15
323	SLU 20	21	-86	3696	1193.22	-170.53	-10.95
323	SLU 21	22	-77	3732	1203.06	-172.2	-11.05
323	SLU 22	23	-82	3522	1139.7	-162.53	-11.71
323	SLU 23	26	-68	3582	1156.11	-165.31	-11.87
323	SLU 24	23	-83	3571	1155.95	-164.77	-11.75
323	SLU 25	25	-75	3606	1165.79	-166.44	-11.85
323	SLU 26	25	-69	3610	1165.62	-166.61	-11.78
323	SLU 27	23	-84	3599	1165.45	-166.06	-11.65
323	SLU 28	24	-76	3635	1175.3	-167.73	-11.75
323	SLU 29	23	-84	3579	1158.71	-165.12	-11.51
323	SLU 30	24	-76	3614	1168.56	-166.79	-11.61
323	SLU 31	26	-77	3985	1285.19	-183.93	-12.38
323	SLU 32	24	-92	3974	1285.02	-183.38	-12.26
323	SLU 33	25	-84	4010	1294.87	-185.05	-12.36
323	SLU 34	26	-78	4013	1294.69	-185.22	-12.29
323	SLU 35	23	-93	4002	1294.53	-184.67	-12.16
323	SLU 36	25	-85	4038	1304.37	-186.34	-12.26
323	SLU 37	23	-92	3982	1287.79	-183.73	-12.02
323	SLU 38	24	-84	4018	1297.63	-185.4	-12.12
323	SLU 39	24	-94	4099	1324.1	-189.12	-12.44
323	SLU 40	25	-86	4134	1333.94	-190.79	-12.54
323	SLU 41	24	-95	4127	1333.6	-190.41	-12.34
323	SLU 42	25	-87	4162	1343.45	-192.08	-12.44
323	SLU 43	26	-91	3872	1250.98	-178.62	-12.94
323	SLU 44	28	-78	3931	1267.39	-181.4	-13.1
323	SLU 45	26	-93	3921	1267.22	-180.85	-12.98
323	SLU 46	27	-85	3956	1277.07	-182.52	-13.08
323	SLU 47	28	-79	3959	1276.9	-182.69	-13.01
323	SLU 48	25	-94	3949	1276.73	-182.15	-12.88
323	SLU 49	27	-86	3984	1286.58	-183.82	-12.98
323	SLU 50	25	-93	3928	1269.99	-181.2	-12.74
323	SLU 51	26	-85	3964	1279.84	-182.87	-12.84
323	SLU 52	28	-86	4335	1396.47	-200.01	-13.61
323	SLU 53	26	-101	4324	1396.3	-199.47	-13.49
323	SLU 54	27	-93	4360	1406.15	-201.14	-13.59
323	SLU 55	28	-87	4363	1405.97	-201.31	-13.52
323	SLU 56	26	-102	4352	1405.8	-200.76	-13.39
323	SLU 57	27	-94	4388	1415.65	-202.43	-13.49
323	SLU 58	25	-102	4332	1399.07	-199.82	-13.25
323	SLU 59	27	-93	4367	1408.91	-201.49	-13.35
323	SLU 60	26	-103	4448	1435.38	-205.21	-13.67
323	SLU 61	28	-95	4484	1445.22	-206.88	-13.77
323	SLU 62	26	-104	4476	1444.88	-206.5	-13.57
323	SLU 63	27	-96	4512	1454.73	-208.17	-13.67
323	SLU 64	28	-100	4302	1391.37	-198.51	-14.33
323	SLU 65	31	-87	4362	1407.78	-201.29	-14.49
323	SLU 66	28	-102	4351	1407.61	-200.74	-14.37
323	SLU 67	30	-94	4386	1417.46	-202.41	-14.47
323	SLU 68	30	-88	4390	1417.28	-202.58	-14.4
323	SLU 69	28	-103	4379	1417.11	-202.04	-14.27
323	SLU 70	29	-95	4415	1426.96	-203.7	-14.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
323	SLU 71	28	-102	4359	1410.37	-201.09	-14.13
323	SLU 72	29	-94	4394	1420.22	-202.76	-14.23
323	SLU 73	31	-95	4765	1536.85	-219.9	-15
323	SLU 74	29	-110	4754	1536.68	-219.35	-14.88
323	SLU 75	30	-102	4790	1546.53	-221.02	-14.98
323	SLU 76	31	-96	4793	1546.36	-221.19	-14.91
323	SLU 77	28	-111	4782	1546.19	-220.65	-14.78
323	SLU 78	30	-103	4818	1556.04	-222.32	-14.88
323	SLU 79	28	-111	4762	1539.45	-219.7	-14.64
323	SLU 80	29	-103	4798	1549.3	-221.37	-14.74
323	SLU 81	29	-112	4879	1575.76	-225.09	-15.06
323	SLU 82	30	-104	4914	1585.61	-226.76	-15.15
323	SLU 83	29	-113	4907	1585.26	-226.39	-14.96
323	SLU 84	30	-105	4942	1595.11	-228.06	-15.06
323	SLE RA 1	21	-75	3215	1039.43	-148.33	-10.72
323	SLE RA 2	23	-66	3254	1050.37	-150.18	-10.83
323	SLE RA 3	21	-76	3247	1050.26	-149.82	-10.74
323	SLE RA 4	22	-71	3271	1056.82	-150.93	-10.81
323	SLE RA 5	23	-67	3273	1056.7	-151.04	-10.76
323	SLE RA 6	21	-77	3266	1056.59	-150.68	-10.68
323	SLE RA 7	22	-71	3290	1063.16	-151.79	-10.74
323	SLE RA 8	21	-76	3252	1052.1	-150.05	-10.59
323	SLE RA 9	22	-71	3276	1058.66	-151.16	-10.65
323	SLE RA 10	23	-72	3523	1136.42	-162.59	-11.17
323	SLE RA 11	22	-82	3516	1136.31	-162.22	-11.08
323	SLE RA 12	22	-76	3540	1142.87	-163.34	-11.15
323	SLE RA 13	23	-72	3542	1142.75	-163.45	-11.1
323	SLE RA 14	21	-82	3535	1142.64	-163.09	-11.02
323	SLE RA 15	22	-77	3559	1149.21	-164.2	-11.08
323	SLE RA 16	21	-82	3521	1138.15	-162.46	-10.93
323	SLE RA 17	22	-77	3545	1144.71	-163.57	-10.99
323	SLE RA 18	22	-83	3599	1162.36	-166.05	-11.2
323	SLE RA 19	23	-78	3623	1168.92	-167.16	-11.27
323	SLE RA 20	21	-84	3618	1168.69	-166.91	-11.14
323	SLE RA 21	22	-78	3642	1175.26	-168.03	-11.2
323	SLE FR 1	21	-75	3215	1039.43	-148.33	-10.72
323	SLE FR 2	22	-73	3223	1041.62	-148.7	-10.74
323	SLE FR 3	21	-75	3222	1041.96	-148.67	-10.69
323	SLE FR 4	22	-76	3338	1078.49	-154.01	-10.88
323	SLE FR 5	21	-78	3338	1078.84	-153.99	-10.84
323	SLE FR 6	21	-79	3407	1100.89	-157.19	-10.96
323	SLE QP 1	21	-75	3215	1039.43	-148.33	-10.72
323	SLE QP 2	21	-78	3330	1076.31	-153.64	-10.86
323	SLD 1	336	38	3527	1125.33	-162.32	-116.6
323	SLD 2	391	70	3565	1137.48	-164.16	-134.47
323	SLD 3	310	-140	2658	884.07	-121.74	-114.16
323	SLD 4	366	-108	2696	896.22	-123.57	-132.04
323	SLD 5	146	221	4700	1454.84	-217.48	-43.2
323	SLD 6	181	242	4724	1462.66	-218.66	-54.71
323	SLD 7	59	-372	1805	650.63	-82.21	-35.09
323	SLD 8	95	-351	1830	658.46	-83.39	-46.6
323	SLD 9	-52	196	4831	1494.15	-223.9	24.88
323	SLD 10	-16	217	4855	1501.98	-225.08	13.37
323	SLD 11	-139	-397	1936	689.95	-88.62	32.98
323	SLD 12	-103	-377	1961	697.78	-89.81	21.47
323	SLD 13	-323	-48	3964	1256.39	-183.71	110.32
323	SLD 14	-267	-15	4002	1268.54	-185.55	92.44
323	SLD 15	-349	-225	3096	1015.13	-143.13	112.75
323	SLD 16	-293	-193	3134	1027.28	-144.97	94.87
323	SLV 1	515	115	3700	1170.33	-170.13	-176.29
323	SLV 2	602	166	3760	1189.48	-173.03	-204.47
323	SLV 3	471	-188	2218	758.67	-100.89	-172.2
323	SLV 4	558	-137	2278	777.83	-103.79	-200.38
323	SLV 5	220	431	5677	1725.28	-263.06	-61.43
323	SLV 6	279	466	5717	1738.17	-265.01	-80.4
323	SLV 7	73	-581	738	353.1	-32.26	-47.81
323	SLV 8	132	-546	779	366	-34.21	-66.78
323	SLV 9	-89	391	5882	1786.62	-273.07	45.05
323	SLV 10	-30	425	5922	1799.51	-275.02	26.09
323	SLV 11	-236	-621	943	414.44	-42.27	58.68
323	SLV 12	-178	-586	983	427.34	-44.22	39.71
323	SLV 13	-515	-18	4382	1374.79	-203.5	178.66
323	SLV 14	-428	33	4442	1393.94	-206.39	150.48
323	SLV 15	-560	-322	2900	963.13	-134.26	182.74
323	SLV 16	-472	-271	2960	982.29	-137.15	154.57
323	SLV FO 1	564	135	3737	1179.73	-171.78	-192.83
323	SLV FO 2	661	191	3803	1200.8	-174.97	-223.83
323	SLV FO 3	516	-199	2107	726.91	-95.62	-188.34
323	SLV FO 4	612	-143	2173	747.98	-98.8	-219.33
323	SLV FO 5	240	482	5912	1790.17	-274.01	-66.49
323	SLV FO 6	305	520	5956	1804.36	-276.15	-87.35
323	SLV FO 7	78	-631	479	280.78	-20.13	-51.5
323	SLV FO 8	143	-593	524	294.97	-22.27	-72.37
323	SLV FO 9	-100	438	6137	1857.65	-285.02	50.64
323	SLV FO 10	-35	476	6181	1871.83	-287.16	29.78
323	SLV FO 11	-262	-675	704	348.26	-31.14	65.63
323	SLV FO 12	-197	-637	749	362.44	-33.28	44.77
323	SLV FO 13	-569	-12	4487	1404.63	-208.48	197.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
323	SLV FO 14	-473	44	4553	1425.7	-211.67	166.62
323	SLV FO 15	-618	-346	2858	951.82	-132.32	202.1
323	SLV FO 16	-522	-290	2923	972.88	-135.51	171.11
323	CRTFP Ux+	0	0	0	0	0	0
323	CRTFP Ux-	0	0	0	0	0	0
323	CRTFP Uy+	0	0	0	0	0	0
323	CRTFP Uy-	0	0	0	0	0	0
324	SLU 1	29	-81	4018	1297.02	-0.39	-9.63
324	SLU 2	32	-63	4098	1319.39	-0.51	-10.66
324	SLU 3	29	-83	4081	1318.03	-0.39	-9.61
324	SLU 4	31	-72	4129	1331.46	-0.46	-10.23
324	SLU 5	31	-64	4134	1331.62	-0.5	-10.48
324	SLU 6	28	-84	4117	1330.25	-0.38	-9.43
324	SLU 7	30	-73	4165	1343.68	-0.45	-10.05
324	SLU 8	28	-83	4091	1321.47	-0.37	-9.28
324	SLU 9	30	-72	4139	1334.89	-0.44	-9.9
324	SLU 10	33	-73	4622	1486.81	-0.56	-10.88
324	SLU 11	30	-92	4605	1485.45	-0.43	-9.83
324	SLU 12	32	-81	4653	1498.87	-0.51	-10.45
324	SLU 13	32	-74	4659	1499.03	-0.55	-10.7
324	SLU 14	29	-93	4642	1497.67	-0.42	-9.65
324	SLU 15	31	-82	4690	1511.09	-0.5	-10.27
324	SLU 16	29	-92	4615	1488.88	-0.41	-9.5
324	SLU 17	31	-82	4663	1502.31	-0.49	-10.11
324	SLU 18	30	-94	4767	1536.19	-0.45	-9.94
324	SLU 19	32	-84	4815	1549.61	-0.53	-10.56
324	SLU 20	30	-95	4803	1548.41	-0.44	-9.76
324	SLU 21	31	-85	4851	1561.83	-0.52	-10.38
324	SLU 22	33	-91	4579	1479.54	-0.5	-10.97
324	SLU 23	36	-74	4659	1501.92	-0.62	-12.01
324	SLU 24	33	-93	4642	1500.55	-0.5	-10.96
324	SLU 25	35	-82	4690	1513.98	-0.57	-11.58
324	SLU 26	36	-75	4695	1514.14	-0.61	-11.83
324	SLU 27	33	-94	4678	1512.78	-0.49	-10.78
324	SLU 28	34	-83	4726	1526.2	-0.56	-11.4
324	SLU 29	32	-93	4652	1503.99	-0.48	-10.63
324	SLU 30	34	-83	4700	1517.41	-0.55	-11.25
324	SLU 31	37	-83	5183	1669.33	-0.67	-12.22
324	SLU 32	34	-102	5166	1667.97	-0.54	-11.18
324	SLU 33	36	-92	5214	1681.39	-0.62	-11.79
324	SLU 34	36	-84	5220	1681.56	-0.66	-12.05
324	SLU 35	33	-103	5203	1680.19	-0.53	-11
324	SLU 36	35	-93	5251	1693.62	-0.6	-11.62
324	SLU 37	33	-103	5176	1671.4	-0.52	-10.84
324	SLU 38	35	-92	5224	1684.83	-0.59	-11.46
324	SLU 39	34	-105	5328	1718.71	-0.56	-11.29
324	SLU 40	36	-94	5376	1732.13	-0.64	-11.9
324	SLU 41	34	-106	5364	1730.93	-0.55	-11.11
324	SLU 42	35	-95	5412	1744.36	-0.62	-11.73
324	SLU 43	36	-102	5031	1623.55	-0.47	-12.05
324	SLU 44	39	-84	5111	1645.92	-0.6	-13.08
324	SLU 45	36	-104	5094	1644.56	-0.47	-12.03
324	SLU 46	38	-93	5142	1657.98	-0.54	-12.65
324	SLU 47	39	-85	5148	1658.14	-0.58	-12.91
324	SLU 48	36	-105	5130	1656.78	-0.46	-11.86
324	SLU 49	38	-94	5178	1670.2	-0.53	-12.48
324	SLU 50	35	-104	5104	1647.99	-0.45	-11.7
324	SLU 51	37	-93	5152	1661.42	-0.52	-12.32
324	SLU 52	40	-94	5636	1813.34	-0.64	-13.3
324	SLU 53	37	-113	5618	1811.97	-0.51	-12.25
324	SLU 54	39	-102	5666	1825.4	-0.59	-12.87
324	SLU 55	40	-95	5672	1825.56	-0.63	-13.13
324	SLU 56	37	-114	5655	1824.2	-0.5	-12.08
324	SLU 57	38	-103	5703	1837.62	-0.58	-12.7
324	SLU 58	36	-113	5628	1815.41	-0.49	-11.92
324	SLU 59	38	-103	5676	1828.83	-0.57	-12.54
324	SLU 60	37	-115	5780	1862.71	-0.53	-12.36
324	SLU 61	39	-105	5828	1876.14	-0.61	-12.98
324	SLU 62	37	-116	5816	1874.94	-0.52	-12.19
324	SLU 63	39	-106	5864	1888.36	-0.6	-12.81
324	SLU 64	40	-112	5592	1806.07	-0.58	-13.4
324	SLU 65	43	-94	5672	1828.44	-0.7	-14.43
324	SLU 66	40	-114	5655	1827.08	-0.58	-13.38
324	SLU 67	42	-103	5703	1840.5	-0.65	-14
324	SLU 68	43	-95	5709	1840.67	-0.69	-14.26
324	SLU 69	40	-115	5691	1839.3	-0.57	-13.21
324	SLU 70	42	-104	5739	1852.73	-0.64	-13.83
324	SLU 71	39	-114	5665	1830.51	-0.56	-13.05
324	SLU 72	41	-104	5713	1843.94	-0.63	-13.67
324	SLU 73	44	-104	6197	1995.86	-0.75	-14.65
324	SLU 74	41	-123	6179	1994.5	-0.62	-13.6
324	SLU 75	43	-112	6227	2007.92	-0.7	-14.22
324	SLU 76	44	-105	6233	2008.08	-0.74	-14.48
324	SLU 77	41	-124	6216	2006.72	-0.61	-13.43
324	SLU 78	42	-113	6264	2020.14	-0.68	-14.05
324	SLU 79	40	-123	6189	1997.93	-0.6	-13.27
324	SLU 80	42	-113	6237	2011.36	-0.68	-13.89
324	SLU 81	41	-125	6341	2045.24	-0.64	-13.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
324	SLU 82	43	-115	6389	2058.66	-0.72	-14.33
324	SLU 83	41	-126	6377	2057.46	-0.63	-13.54
324	SLU 84	43	-116	6425	2070.88	-0.71	-14.16
324	SLE RA 1	30	-84	4178	1349.17	-0.42	-10.01
324	SLE RA 2	32	-72	4232	1364.09	-0.51	-10.7
324	SLE RA 3	30	-85	4220	1363.18	-0.42	-10
324	SLE RA 4	31	-78	4252	1372.13	-0.47	-10.41
324	SLE RA 5	32	-73	4256	1372.23	-0.5	-10.58
324	SLE RA 6	30	-86	4245	1371.32	-0.41	-9.88
324	SLE RA 7	31	-79	4277	1380.27	-0.46	-10.3
324	SLE RA 8	30	-85	4227	1365.47	-0.41	-9.78
324	SLE RA 9	31	-78	4259	1374.42	-0.46	-10.19
324	SLE RA 10	33	-78	4581	1475.7	-0.53	-10.84
324	SLE RA 11	31	-91	4570	1474.79	-0.45	-10.14
324	SLE RA 12	32	-84	4602	1483.74	-0.5	-10.56
324	SLE RA 13	32	-79	4605	1483.85	-0.53	-10.73
324	SLE RA 14	30	-92	4594	1482.94	-0.44	-10.03
324	SLE RA 15	32	-85	4626	1491.89	-0.49	-10.44
324	SLE RA 16	30	-92	4576	1477.08	-0.44	-9.92
324	SLE RA 17	31	-84	4608	1486.03	-0.49	-10.34
324	SLE RA 18	31	-93	4678	1508.61	-0.46	-10.22
324	SLE RA 19	32	-86	4710	1517.56	-0.51	-10.63
324	SLE RA 20	31	-94	4702	1516.76	-0.46	-10.1
324	SLE RA 21	32	-86	4734	1525.71	-0.51	-10.52
324	SLE FR 1	30	-84	4178	1349.17	-0.42	-10.01
324	SLE FR 2	31	-82	4189	1352.15	-0.44	-10.15
324	SLE FR 3	30	-84	4188	1352.43	-0.42	-9.96
324	SLE FR 4	31	-84	4339	1399.99	-0.45	-10.21
324	SLE FR 5	30	-87	4338	1400.26	-0.43	-10.03
324	SLE FR 6	31	-88	4428	1428.89	-0.44	-10.11
324	SLE QP 1	30	-84	4178	1349.17	-0.42	-10.01
324	SLE QP 2	30	-87	4328	1397	-0.44	-10.07
324	SLD 1	436	58	4563	1453.83	0.24	-152.32
324	SLD 2	508	102	4618	1470.66	0.04	-177.28
324	SLD 3	402	-175	3403	1127.28	1.61	-140.38
324	SLD 4	473	-132	3457	1144.12	1.41	-165.34
324	SLD 5	192	304	6150	1906.42	-2.27	-66.55
324	SLD 6	238	332	6185	1917.26	-2.4	-82.62
324	SLD 7	77	-475	2281	817.93	2.29	-26.78
324	SLD 8	123	-447	2316	828.77	2.16	-42.85
324	SLD 9	-62	274	6341	1965.24	-3.03	22.7
324	SLD 10	-16	302	6376	1976.08	-3.16	6.63
324	SLD 11	-178	-505	2472	876.75	1.53	62.48
324	SLD 12	-132	-477	2507	887.59	1.4	46.41
324	SLD 13	-412	-42	5199	1649.89	-2.28	145.2
324	SLD 14	-341	2	5254	1666.72	-2.48	120.24
324	SLD 15	-447	-275	4039	1323.34	-0.91	157.13
324	SLD 16	-376	-232	4093	1340.18	-1.11	132.17
324	SLV 1	667	156	4779	1509.41	0.52	-233.26
324	SLV 2	780	225	4865	1535.94	0.21	-272.6
324	SLV 3	608	-242	2799	952.25	2.86	-212.92
324	SLV 4	721	-174	2885	978.78	2.54	-252.26
324	SLV 5	290	578	7451	2270.8	-3.62	-100.53
324	SLV 6	366	624	7509	2288.67	-3.84	-127.02
324	SLV 7	93	-751	850	413.6	4.15	-32.74
324	SLV 8	169	-705	908	431.46	3.93	-59.22
324	SLV 9	-108	531	7749	2362.55	-4.81	39.08
324	SLV 10	-33	577	7806	2380.41	-5.02	12.59
324	SLV 11	-305	-797	1148	505.34	2.96	106.87
324	SLV 12	-229	-751	1206	523.2	2.75	80.39
324	SLV 13	-660	0	5772	1815.22	-3.41	232.12
324	SLV 14	-548	69	5857	1841.76	-3.73	192.77
324	SLV 15	-719	-398	3791	1258.06	-1.08	252.45
324	SLV 16	-607	-330	3877	1284.59	-1.4	213.11
324	SLV FO 1	731	181	4824	1520.65	0.62	-255.58
324	SLV FO 2	855	256	4919	1549.84	0.28	-298.85
324	SLV FO 3	666	-258	2646	907.77	3.19	-233.2
324	SLV FO 4	790	-182	2741	936.96	2.84	-276.48
324	SLV FO 5	316	644	7763	2358.19	-3.94	-109.58
324	SLV FO 6	399	695	7827	2377.83	-4.18	-138.71
324	SLV FO 7	100	-817	502	315.26	4.6	-35.01
324	SLV FO 8	183	-766	566	334.9	4.37	-64.14
324	SLV FO 9	-122	593	8091	2459.1	-5.24	43.99
324	SLV FO 10	-39	644	8154	2478.75	-5.48	14.86
324	SLV FO 11	-339	-869	830	416.17	3.31	118.57
324	SLV FO 12	-255	-818	893	435.82	3.07	89.43
324	SLV FO 13	-729	9	5916	1857.05	-3.71	256.33
324	SLV FO 14	-605	84	6010	1886.23	-4.06	213.06
324	SLV FO 15	-794	-429	3738	1244.17	-1.15	278.71
324	SLV FO 16	-670	-354	3832	1273.35	-1.49	235.43
324	CRTFP Ux+	0	0	0	0	0	0
324	CRTFP Ux-	0	0	0	0	0	0
324	CRTFP Uy+	0	0	0	0	0	0
324	CRTFP Uy-	0	0	0	0	0	0
325	SLU 1	22	-48	2788	903.34	173.33	-4.64
325	SLU 2	24	-35	2846	919.56	176.87	-6.16
325	SLU 3	22	-49	2832	917.95	176.04	-4.59
325	SLU 4	23	-41	2866	927.68	178.16	-5.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
325	SLU 5	24	-36	2871	928.02	178.42	-6.02
325	SLU 6	22	-49	2857	926.41	177.59	-4.45
325	SLU 7	23	-42	2891	936.14	179.71	-5.36
325	SLU 8	22	-49	2838	920.26	176.43	-4.36
325	SLU 9	23	-41	2873	929.99	178.56	-5.27
325	SLU 10	25	-41	3209	1036.22	199.47	-6.08
325	SLU 11	23	-54	3195	1034.61	198.64	-4.52
325	SLU 12	24	-46	3230	1044.34	200.76	-5.43
325	SLU 13	25	-41	3234	1044.68	201.02	-5.94
325	SLU 14	23	-55	3220	1043.07	200.19	-4.38
325	SLU 15	24	-47	3255	1052.8	202.32	-5.29
325	SLU 16	22	-54	3201	1036.92	199.04	-4.28
325	SLU 17	24	-47	3236	1046.65	201.16	-5.19
325	SLU 18	23	-55	3308	1070	205.62	-4.53
325	SLU 19	25	-48	3342	1079.73	207.75	-5.44
325	SLU 20	23	-56	3332	1078.46	207.17	-4.39
325	SLU 21	24	-48	3367	1088.19	209.3	-5.3
325	SLU 22	25	-54	3178	1030.67	197.57	-5.33
325	SLU 23	27	-41	3236	1046.88	201.1	-6.85
325	SLU 24	25	-55	3222	1045.27	200.27	-5.29
325	SLU 25	27	-47	3256	1055	202.4	-6.2
325	SLU 26	27	-42	3261	1055.34	202.66	-6.71
325	SLU 27	25	-55	3247	1053.73	201.82	-5.15
325	SLU 28	26	-48	3281	1063.46	203.95	-6.06
325	SLU 29	25	-55	3228	1047.59	200.67	-5.05
325	SLU 30	26	-47	3262	1057.31	202.79	-5.96
325	SLU 31	28	-47	3599	1163.54	223.71	-6.78
325	SLU 32	26	-60	3585	1161.93	222.88	-5.21
325	SLU 33	27	-52	3620	1171.66	225	-6.13
325	SLU 34	28	-47	3624	1172	225.26	-6.64
325	SLU 35	26	-61	3610	1170.39	224.43	-5.07
325	SLU 36	27	-53	3645	1180.12	226.55	-5.98
325	SLU 37	25	-60	3591	1164.24	223.27	-4.98
325	SLU 38	27	-53	3626	1173.97	225.4	-5.89
325	SLU 39	26	-61	3697	1197.32	229.86	-5.23
325	SLU 40	28	-54	3732	1207.05	231.98	-6.14
325	SLU 41	26	-62	3722	1205.78	231.41	-5.09
325	SLU 42	27	-54	3757	1215.51	233.53	-6
325	SLU 43	28	-60	3491	1130.69	217.02	-5.79
325	SLU 44	30	-47	3549	1146.91	220.56	-7.31
325	SLU 45	28	-61	3534	1145.3	219.73	-5.74
325	SLU 46	29	-53	3569	1155.03	221.85	-6.66
325	SLU 47	30	-48	3573	1155.37	222.11	-7.17
325	SLU 48	27	-62	3559	1153.76	221.28	-5.6
325	SLU 49	29	-54	3594	1163.49	223.4	-6.51
325	SLU 50	27	-61	3541	1147.61	220.12	-5.51
325	SLU 51	28	-54	3575	1157.34	222.25	-6.42
325	SLU 52	31	-53	3912	1263.57	243.16	-7.23
325	SLU 53	29	-66	3898	1261.96	242.33	-5.67
325	SLU 54	30	-59	3932	1271.69	244.45	-6.58
325	SLU 55	30	-53	3937	1272.03	244.71	-7.09
325	SLU 56	28	-67	3923	1270.42	243.88	-5.53
325	SLU 57	29	-59	3957	1280.15	246.01	-6.44
325	SLU 58	28	-66	3904	1264.27	242.73	-5.43
325	SLU 59	29	-59	3939	1274	244.85	-6.34
325	SLU 60	29	-68	4010	1297.35	249.31	-5.68
325	SLU 61	30	-60	4045	1307.08	251.44	-6.6
325	SLU 62	29	-68	4035	1305.81	250.86	-5.54
325	SLU 63	30	-61	4070	1315.54	252.99	-6.45
325	SLU 64	31	-66	3881	1258.01	241.26	-6.49
325	SLU 65	33	-53	3938	1274.23	244.79	-8.01
325	SLU 66	31	-67	3924	1272.62	243.96	-6.44
325	SLU 67	32	-59	3959	1282.35	246.09	-7.35
325	SLU 68	33	-54	3963	1282.69	246.35	-7.86
325	SLU 69	31	-68	3949	1281.08	245.51	-6.3
325	SLU 70	32	-60	3984	1290.81	247.64	-7.21
325	SLU 71	30	-67	3931	1274.93	244.36	-6.2
325	SLU 72	31	-60	3965	1284.66	246.48	-7.12
325	SLU 73	34	-59	4302	1390.89	267.4	-7.93
325	SLU 74	32	-72	4288	1389.28	266.57	-6.37
325	SLU 75	33	-65	4322	1399.01	268.69	-7.28
325	SLU 76	33	-59	4327	1399.35	268.95	-7.79
325	SLU 77	31	-73	4313	1397.74	268.12	-6.23
325	SLU 78	33	-65	4347	1407.47	270.24	-7.14
325	SLU 79	31	-72	4294	1391.59	266.96	-6.13
325	SLU 80	32	-65	4329	1401.32	269.09	-7.04
325	SLU 81	32	-74	4400	1424.67	273.55	-6.38
325	SLU 82	33	-66	4435	1434.4	275.67	-7.29
325	SLU 83	32	-74	4425	1433.13	275.1	-6.24
325	SLU 84	33	-67	4460	1442.86	277.22	-7.15
325	SLE RA 1	23	-49	2900	939.72	180.25	-4.84
325	SLE RA 2	24	-41	2938	950.53	182.61	-5.85
325	SLE RA 3	23	-50	2929	949.46	182.06	-4.81
325	SLE RA 4	24	-45	2952	955.94	183.47	-5.41
325	SLE RA 5	24	-41	2955	956.17	183.65	-5.75
325	SLE RA 6	23	-50	2945	955.1	183.09	-4.71
325	SLE RA 7	24	-45	2968	961.58	184.51	-5.32
325	SLE RA 8	23	-50	2933	951	182.32	-4.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
325	SLE RA 9	23	-45	2956	957.49	183.74	-5.26
325	SLE RA 10	25	-45	3180	1028.3	197.68	-5.8
325	SLE RA 11	24	-54	3171	1027.23	197.13	-4.76
325	SLE RA 12	24	-49	3194	1033.72	198.54	-5.36
325	SLE RA 13	25	-45	3197	1033.94	198.72	-5.71
325	SLE RA 14	23	-54	3188	1032.87	198.16	-4.66
325	SLE RA 15	24	-49	3211	1039.36	199.58	-5.27
325	SLE RA 16	23	-54	3175	1028.77	197.39	-4.6
325	SLE RA 17	24	-49	3198	1035.26	198.81	-5.21
325	SLE RA 18	24	-55	3246	1050.83	201.78	-4.77
325	SLE RA 19	25	-50	3269	1057.31	203.2	-5.37
325	SLE RA 20	24	-55	3262	1056.47	202.82	-4.67
325	SLE RA 21	24	-50	3285	1062.95	204.23	-5.28
325	SLE FR 1	23	-49	2900	939.72	180.25	-4.84
325	SLE FR 2	23	-48	2907	941.88	180.73	-5.04
325	SLE FR 3	23	-50	2906	941.98	180.67	-4.8
325	SLE FR 4	24	-49	3011	975.21	187.18	-5.02
325	SLE FR 5	23	-51	3010	975.31	187.13	-4.78
325	SLE FR 6	23	-52	3073	995.27	191.02	-4.8
325	SLE QP 1	23	-49	2900	939.72	180.25	-4.84
325	SLE QP 2	23	-51	3004	973.05	186.71	-4.82
325	SLD 1	305	48	3155	1009.56	196.34	-109.42
325	SLD 2	355	79	3196	1021.83	198.84	-128.7
325	SLD 3	280	-118	2328	774.54	145.32	-90.67
325	SLD 4	330	-86	2369	786.81	147.82	-109.96
325	SLD 5	137	225	4296	1338.33	266.55	-61.31
325	SLD 6	169	245	4323	1346.23	268.16	-73.73
325	SLD 7	54	-328	1540	554.95	96.49	1.17
325	SLD 8	86	-308	1566	562.85	98.09	-11.24
325	SLD 9	-40	206	4441	1383.25	275.33	1.61
325	SLD 10	-8	226	4468	1391.15	276.94	-10.8
325	SLD 11	-122	-347	1684	599.87	105.27	64.1
325	SLD 12	-90	-327	1711	607.77	106.87	51.68
325	SLD 13	-283	-16	3638	1159.29	225.61	100.33
325	SLD 14	-234	16	3679	1171.56	228.11	81.04
325	SLD 15	-308	-181	2811	924.28	174.59	119.07
325	SLD 16	-258	-150	2852	936.55	177.09	99.79
325	SLV 1	465	116	3301	1047.1	205.44	-169.64
325	SLV 2	544	165	3365	1066.44	209.38	-200.04
325	SLV 3	423	-167	1889	646.12	118.4	-137.67
325	SLV 4	501	-118	1954	665.46	122.33	-168.06
325	SLV 5	205	419	5221	1599.81	323.62	-97.09
325	SLV 6	258	452	5264	1612.83	326.27	-117.55
325	SLV 7	65	-524	517	263.21	33.46	9.5
325	SLV 8	117	-491	561	276.23	36.11	-10.96
325	SLV 9	-71	389	5446	1669.87	337.32	1.33
325	SLV 10	-18	422	5490	1682.89	339.96	-19.13
325	SLV 11	-212	-554	743	333.28	47.16	107.92
325	SLV 12	-159	-521	786	346.29	49.81	87.46
325	SLV 13	-455	16	4053	1280.64	251.1	158.43
325	SLV 14	-377	65	4118	1299.98	255.03	128.04
325	SLV 15	-497	-267	2642	879.67	164.05	190.41
325	SLV 16	-419	-218	2706	899	167.98	160.01
325	SLV FO 1	510	132	3330	1054.51	207.32	-186.13
325	SLV FO 2	596	187	3402	1075.78	211.64	-219.56
325	SLV FO 3	463	-179	1778	613.43	111.57	-150.95
325	SLV FO 4	549	-125	1849	634.7	115.89	-184.39
325	SLV FO 5	224	466	5442	1662.49	337.31	-106.32
325	SLV FO 6	281	502	5490	1676.81	340.22	-128.82
325	SLV FO 7	69	-572	268	192.23	18.14	10.93
325	SLV FO 8	127	-535	316	206.55	21.05	-11.58
325	SLV FO 9	-80	433	5691	1739.56	352.38	1.95
325	SLV FO 10	-22	470	5739	1753.87	355.29	-20.56
325	SLV FO 11	-235	-604	517	269.3	33.2	119.19
325	SLV FO 12	-177	-568	565	283.62	36.11	96.69
325	SLV FO 13	-503	23	4158	1311.4	257.53	174.76
325	SLV FO 14	-417	77	4229	1332.67	261.86	141.32
325	SLV FO 15	-549	-289	2606	870.33	161.78	209.93
325	SLV FO 16	-463	-234	2677	891.6	166.11	176.5
325	CRTFP Ux+	0	0	0	0	0	0
325	CRTFP Ux-	0	0	0	0	0	0
325	CRTFP Uy+	0	0	0	0	0	0
325	CRTFP Uy-	0	0	0	0	0	0
327	SLU 1	54	-83	5779	1034.91	55.38	-7.44
327	SLU 2	59	-56	5909	1056.51	54.98	-8.28
327	SLU 3	54	-84	5867	1051.1	56.43	-7.44
327	SLU 4	57	-68	5945	1064.06	56.19	-7.95
327	SLU 5	58	-57	5959	1065.74	55.7	-8.15
327	SLU 6	54	-85	5917	1060.32	57.15	-7.32
327	SLU 7	57	-69	5995	1073.29	56.91	-7.82
327	SLU 8	53	-85	5878	1053.36	56.81	-7.19
327	SLU 9	56	-68	5956	1066.33	56.57	-7.69
327	SLU 10	61	-65	6663	1190.95	62.61	-8.43
327	SLU 11	57	-93	6620	1185.53	64.06	-7.6
327	SLU 12	60	-77	6699	1198.49	63.82	-8.1
327	SLU 13	61	-66	6713	1200.17	63.33	-8.31
327	SLU 14	56	-94	6670	1194.75	64.78	-7.47
327	SLU 15	59	-78	6748	1207.72	64.54	-7.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLU 16	56	-93	6632	1187.79	64.44	-7.34
327	SLU 17	58	-77	6710	1200.76	64.2	-7.85
327	SLU 18	58	-95	6855	1226.95	66.28	-7.66
327	SLU 19	61	-79	6934	1239.92	66.04	-8.17
327	SLU 20	57	-96	6905	1236.18	67	-7.53
327	SLU 21	60	-80	6983	1249.14	66.76	-8.04
327	SLU 22	62	-93	6584	1179.98	63.13	-8.5
327	SLU 23	66	-66	6715	1201.58	62.74	-9.34
327	SLU 24	62	-95	6672	1196.16	64.19	-8.5
327	SLU 25	65	-78	6751	1209.13	63.95	-9.01
327	SLU 26	66	-67	6764	1210.81	63.45	-9.21
327	SLU 27	61	-95	6722	1205.39	64.9	-8.38
327	SLU 28	64	-79	6800	1218.36	64.66	-8.88
327	SLU 29	60	-95	6684	1198.43	64.57	-8.25
327	SLU 30	63	-79	6762	1211.4	64.33	-8.75
327	SLU 31	69	-75	7468	1336.01	70.37	-9.5
327	SLU 32	64	-103	7426	1330.6	71.82	-8.66
327	SLU 33	67	-87	7504	1343.56	71.58	-9.16
327	SLU 34	68	-76	7518	1345.24	71.08	-9.37
327	SLU 35	64	-104	7476	1339.82	72.53	-8.53
327	SLU 36	67	-88	7554	1352.79	72.29	-9.03
327	SLU 37	63	-104	7437	1332.86	72.2	-8.4
327	SLU 38	66	-88	7516	1345.83	71.96	-8.91
327	SLU 39	65	-106	7661	1372.02	74.04	-8.72
327	SLU 40	68	-90	7739	1384.98	73.8	-9.23
327	SLU 41	65	-107	7711	1381.25	74.75	-8.6
327	SLU 42	68	-91	7789	1394.21	74.51	-9.1
327	SLU 43	68	-104	7236	1295.64	69.33	-9.31
327	SLU 44	72	-77	7367	1317.25	68.94	-10.15
327	SLU 45	68	-106	7324	1311.83	70.38	-9.31
327	SLU 46	71	-90	7403	1324.79	70.15	-9.81
327	SLU 47	72	-78	7416	1326.48	69.65	-10.02
327	SLU 48	67	-106	7374	1321.06	71.1	-9.18
327	SLU 49	70	-90	7452	1334.02	70.86	-9.69
327	SLU 50	67	-106	7336	1314.1	70.77	-9.06
327	SLU 51	69	-90	7414	1327.06	70.53	-9.56
327	SLU 52	75	-86	8120	1451.68	76.57	-10.3
327	SLU 53	70	-114	8078	1446.26	78.02	-9.47
327	SLU 54	73	-98	8156	1459.23	77.78	-9.97
327	SLU 55	74	-87	8170	1460.91	77.28	-10.18
327	SLU 56	70	-115	8128	1455.49	78.73	-9.34
327	SLU 57	73	-99	8206	1468.45	78.49	-9.84
327	SLU 58	69	-115	8089	1448.53	78.4	-9.21
327	SLU 59	72	-99	8167	1461.49	78.16	-9.71
327	SLU 60	71	-117	8313	1487.69	80.23	-9.53
327	SLU 61	74	-101	8391	1500.65	80	-10.03
327	SLU 62	71	-118	8362	1496.91	80.95	-9.4
327	SLU 63	74	-102	8441	1509.88	80.71	-9.91
327	SLU 64	75	-114	8042	1440.71	77.09	-10.37
327	SLU 65	80	-87	8172	1462.32	76.69	-11.21
327	SLU 66	75	-116	8130	1456.9	78.14	-10.37
327	SLU 67	78	-100	8208	1469.86	77.9	-10.88
327	SLU 68	79	-88	8222	1471.55	77.41	-11.08
327	SLU 69	75	-117	8180	1466.13	78.86	-10.24
327	SLU 70	78	-101	8258	1479.09	78.62	-10.75
327	SLU 71	74	-116	8141	1459.16	78.52	-10.12
327	SLU 72	77	-100	8219	1472.13	78.28	-10.62
327	SLU 73	83	-96	8926	1596.75	84.32	-11.36
327	SLU 74	78	-125	8883	1591.33	85.77	-10.53
327	SLU 75	81	-109	8962	1604.29	85.53	-11.03
327	SLU 76	82	-97	8976	1605.98	85.04	-11.24
327	SLU 77	78	-126	8933	1600.56	86.49	-10.4
327	SLU 78	80	-110	9011	1613.52	86.25	-10.9
327	SLU 79	77	-125	8895	1593.6	86.15	-10.27
327	SLU 80	80	-109	8973	1606.56	85.91	-10.77
327	SLU 81	79	-127	9118	1632.75	87.99	-10.59
327	SLU 82	82	-111	9197	1645.72	87.75	-11.09
327	SLU 83	78	-128	9168	1641.98	88.71	-10.46
327	SLU 84	81	-112	9246	1654.95	88.47	-10.97
327	SLE RA 1	56	-86	6009	1076.35	57.59	-7.74
327	SLE RA 2	59	-68	6096	1090.76	57.33	-8.3
327	SLE RA 3	56	-87	6068	1087.15	58.3	-7.75
327	SLE RA 4	58	-76	6120	1095.79	58.14	-8.08
327	SLE RA 5	59	-68	6129	1096.91	57.81	-8.22
327	SLE RA 6	56	-87	6101	1093.3	58.77	-7.66
327	SLE RA 7	58	-77	6153	1101.94	58.61	-8
327	SLE RA 8	55	-87	6075	1088.66	58.55	-7.58
327	SLE RA 9	57	-76	6127	1097.3	58.39	-7.91
327	SLE RA 10	61	-74	6598	1180.38	62.42	-8.41
327	SLE RA 11	58	-93	6570	1176.77	63.38	-7.85
327	SLE RA 12	60	-82	6622	1185.41	63.22	-8.18
327	SLE RA 13	61	-74	6631	1186.53	62.89	-8.32
327	SLE RA 14	58	-93	6603	1182.92	63.86	-7.76
327	SLE RA 15	60	-83	6655	1191.56	63.7	-8.1
327	SLE RA 16	57	-93	6578	1178.28	63.64	-7.68
327	SLE RA 17	59	-82	6630	1186.92	63.48	-8.01
327	SLE RA 18	59	-94	6727	1204.38	64.86	-7.89
327	SLE RA 19	61	-83	6779	1213.03	64.7	-8.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLE RA 20	58	-95	6760	1210.54	65.34	-7.81
327	SLE RA 21	60	-84	6812	1219.18	65.18	-8.14
327	SLE FR 1	56	-86	6009	1076.35	57.59	-7.74
327	SLE FR 2	57	-82	6026	1079.24	57.54	-7.86
327	SLE FR 3	56	-86	6022	1078.82	57.79	-7.71
327	SLE FR 4	58	-85	6242	1117.64	59.72	-7.9
327	SLE FR 5	57	-88	6238	1117.22	59.97	-7.75
327	SLE FR 6	57	-90	6368	1140.37	61.23	-7.82
327	SLE QP 1	56	-86	6009	1076.35	57.59	-7.74
327	SLE QP 2	57	-88	6224	1114.76	59.78	-7.79
327	SLD 1	640	119	6540	1163.88	70.05	-116.37
327	SLD 2	744	189	6638	1180.14	68.57	-135.04
327	SLD 3	585	-232	4696	856.41	68.3	-106.3
327	SLD 4	690	-162	4793	872.67	66.81	-124.97
327	SLD 5	297	494	9101	1593.02	65.78	-52.43
327	SLD 6	364	539	9163	1603.49	64.82	-64.45
327	SLD 7	115	-675	2951	568.14	59.92	-18.85
327	SLD 8	182	-630	3013	578.61	58.97	-30.88
327	SLD 9	-68	454	9435	1650.92	60.58	15.3
327	SLD 10	-1	499	9498	1661.38	59.63	3.28
327	SLD 11	-250	-716	3285	626.04	54.73	48.87
327	SLD 12	-183	-670	3348	636.5	53.77	36.85
327	SLD 13	-576	-15	7656	1356.86	52.74	109.39
327	SLD 14	-472	55	7753	1373.11	51.25	90.72
327	SLD 15	-631	-366	5811	1049.39	50.98	119.46
327	SLD 16	-526	-295	5908	1065.65	49.5	100.79
327	SLV 1	972	260	6852	1213.74	75.98	-178.23
327	SLV 2	1137	371	7005	1239.37	73.63	-207.66
327	SLV 3	879	-338	3704	689.18	72.97	-161.06
327	SLV 4	1044	-228	3858	714.8	70.62	-190.49
327	SLV 5	442	904	11158	1935.26	69.64	-79.47
327	SLV 6	553	978	11261	1952.51	68.06	-99.29
327	SLV 7	131	-1092	666	186.72	59.6	-22.24
327	SLV 8	242	-1017	769	203.97	58.03	-42.05
327	SLV 9	-129	841	11680	2025.56	61.52	26.47
327	SLV 10	-18	915	11783	2042.81	59.95	6.66
327	SLV 11	-439	-1154	1187	277.01	51.49	83.71
327	SLV 12	-328	-1080	1291	294.26	49.91	63.89
327	SLV 13	-930	51	8591	1514.73	48.93	174.92
327	SLV 14	-765	162	8745	1540.35	46.58	145.48
327	SLV 15	-1023	-547	5443	990.16	45.92	192.09
327	SLV 16	-858	-437	5597	1015.79	43.57	162.65
327	SLV FO 1	1064	295	6914	1223.64	77.6	-195.28
327	SLV FO 2	1245	417	7083	1251.83	75.02	-227.65
327	SLV FO 3	961	-363	3452	646.62	74.28	-176.39
327	SLV FO 4	1142	-241	3621	674.8	71.71	-208.76
327	SLV FO 5	481	1003	11651	2017.31	70.63	-86.64
327	SLV FO 6	603	1085	11765	2036.29	68.89	-108.43
327	SLV FO 7	139	-1192	110	93.91	59.58	-23.68
327	SLV FO 8	261	-1110	223	112.89	57.85	-45.48
327	SLV FO 9	-147	934	12225	2116.64	61.7	29.9
327	SLV FO 10	-25	1016	12339	2135.61	59.97	8.1
327	SLV FO 11	-489	-1261	684	193.24	50.66	92.86
327	SLV FO 12	-367	-1179	797	212.21	48.92	71.06
327	SLV FO 13	-1029	65	8828	1554.72	47.84	193.19
327	SLV FO 14	-847	187	8997	1582.91	45.27	160.81
327	SLV FO 15	-1131	-593	5365	977.7	44.53	212.07
327	SLV FO 16	-950	-472	5534	1005.89	41.95	179.7
327	CRTFP Ux+	0	0	0	0	0	0
327	CRTFP Ux-	0	0	0	0	0	0
327	CRTFP Uy+	0	0	0	0	0	0
327	CRTFP Uy-	0	0	0	0	0	0
329	SLU 1	24	-32	2557	770.58	-157.4	-10.26
329	SLU 2	26	-19	2615	785.72	-160.96	-10.2
329	SLU 3	24	-33	2597	782.82	-159.81	-10.33
329	SLU 4	25	-25	2631	791.9	-161.95	-10.3
329	SLU 5	26	-20	2637	792.75	-162.32	-10.13
329	SLU 6	24	-33	2619	789.86	-161.17	-10.26
329	SLU 7	25	-25	2653	798.94	-163.31	-10.23
329	SLU 8	23	-33	2602	784.66	-160.11	-10.12
329	SLU 9	25	-25	2636	793.74	-162.25	-10.09
329	SLU 10	27	-22	2947	884.4	-181.38	-10.76
329	SLU 11	25	-36	2929	881.5	-180.23	-10.9
329	SLU 12	26	-28	2963	890.58	-182.37	-10.86
329	SLU 13	27	-23	2969	891.44	-182.74	-10.7
329	SLU 14	25	-36	2951	888.54	-181.59	-10.83
329	SLU 15	26	-29	2985	897.62	-183.73	-10.8
329	SLU 16	24	-36	2934	883.34	-180.53	-10.69
329	SLU 17	26	-28	2968	892.42	-182.67	-10.65
329	SLU 18	25	-37	3032	911.56	-186.57	-11.07
329	SLU 19	27	-29	3066	920.64	-188.71	-11.03
329	SLU 20	25	-37	3054	918.59	-187.92	-11
329	SLU 21	26	-29	3088	927.67	-190.06	-10.96
329	SLU 22	27	-36	2915	878.29	-179.39	-11.67
329	SLU 23	29	-23	2973	893.42	-182.96	-11.61
329	SLU 24	27	-36	2954	890.53	-181.81	-11.74
329	SLU 25	29	-29	2989	899.61	-183.95	-11.71
329	SLU 26	29	-23	2995	900.46	-184.32	-11.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
329	SLU 27	27	-37	2977	897.57	-183.16	-11.68
329	SLU 28	28	-29	3011	906.65	-185.3	-11.64
329	SLU 29	27	-36	2959	892.36	-182.11	-11.53
329	SLU 30	28	-29	2994	901.44	-184.25	-11.5
329	SLU 31	30	-26	3305	992.1	-203.38	-12.18
329	SLU 32	28	-40	3286	989.21	-202.23	-12.31
329	SLU 33	30	-32	3321	998.29	-204.37	-12.28
329	SLU 34	30	-27	3327	999.14	-204.74	-12.11
329	SLU 35	28	-40	3309	996.25	-203.58	-12.24
329	SLU 36	29	-32	3343	1005.33	-205.72	-12.21
329	SLU 37	28	-40	3291	991.04	-202.53	-12.1
329	SLU 38	29	-32	3326	1000.13	-204.67	-12.07
329	SLU 39	29	-40	3389	1019.26	-208.57	-12.48
329	SLU 40	30	-33	3424	1028.34	-210.71	-12.44
329	SLU 41	29	-41	3412	1026.3	-209.92	-12.41
329	SLU 42	30	-33	3446	1035.38	-212.06	-12.38
329	SLU 43	30	-40	3202	964.83	-197.07	-12.85
329	SLU 44	32	-27	3260	979.96	-200.64	-12.79
329	SLU 45	30	-41	3241	977.07	-199.49	-12.93
329	SLU 46	31	-33	3276	986.15	-201.62	-12.89
329	SLU 47	32	-28	3282	987	-201.99	-12.72
329	SLU 48	30	-41	3264	984.11	-200.84	-12.86
329	SLU 49	31	-33	3298	993.19	-202.98	-12.82
329	SLU 50	29	-41	3246	978.9	-199.79	-12.72
329	SLU 51	31	-33	3281	987.98	-201.92	-12.68
329	SLU 52	33	-31	3592	1078.64	-221.06	-13.36
329	SLU 53	31	-44	3573	1075.75	-219.91	-13.49
329	SLU 54	32	-36	3608	1084.83	-222.04	-13.46
329	SLU 55	33	-31	3614	1085.68	-222.41	-13.29
329	SLU 56	31	-44	3596	1082.79	-221.26	-13.43
329	SLU 57	32	-37	3630	1091.87	-223.4	-13.39
329	SLU 58	30	-44	3578	1077.58	-220.2	-13.28
329	SLU 59	32	-36	3613	1086.67	-222.34	-13.25
329	SLU 60	31	-45	3676	1105.8	-226.24	-13.66
329	SLU 61	33	-37	3711	1114.88	-228.38	-13.62
329	SLU 62	31	-45	3699	1112.84	-227.6	-13.59
329	SLU 63	32	-38	3733	1121.92	-229.74	-13.56
329	SLU 64	33	-44	3560	1072.53	-219.07	-14.26
329	SLU 65	35	-31	3617	1087.67	-222.64	-14.2
329	SLU 66	33	-45	3599	1084.77	-221.48	-14.34
329	SLU 67	35	-37	3634	1093.85	-223.62	-14.3
329	SLU 68	35	-32	3639	1094.71	-223.99	-14.13
329	SLU 69	33	-45	3621	1091.81	-222.84	-14.27
329	SLU 70	34	-37	3656	1100.89	-224.98	-14.23
329	SLU 71	33	-45	3604	1086.61	-221.78	-14.13
329	SLU 72	34	-37	3638	1095.69	-223.92	-14.09
329	SLU 73	36	-35	3949	1186.35	-243.06	-14.77
329	SLU 74	34	-48	3931	1183.46	-241.9	-14.9
329	SLU 75	36	-40	3966	1192.54	-244.04	-14.87
329	SLU 76	36	-35	3971	1193.39	-244.41	-14.7
329	SLU 77	34	-48	3953	1190.49	-243.26	-14.84
329	SLU 78	35	-41	3988	1199.57	-245.4	-14.8
329	SLU 79	34	-48	3936	1185.29	-242.2	-14.69
329	SLU 80	35	-40	3971	1194.37	-244.34	-14.66
329	SLU 81	35	-49	4034	1213.51	-248.24	-15.07
329	SLU 82	36	-41	4069	1222.59	-250.38	-15.04
329	SLU 83	35	-49	4056	1220.55	-249.6	-15
329	SLU 84	36	-41	4091	1229.63	-251.74	-14.97
329	SLE RA 1	25	-33	2660	801.35	-163.68	-10.66
329	SLE RA 2	26	-25	2698	811.44	-166.06	-10.62
329	SLE RA 3	25	-33	2686	809.51	-165.29	-10.71
329	SLE RA 4	26	-28	2709	815.57	-166.72	-10.69
329	SLE RA 5	26	-25	2713	816.14	-166.96	-10.58
329	SLE RA 6	25	-34	2701	814.21	-166.19	-10.67
329	SLE RA 7	26	-29	2724	820.26	-167.62	-10.64
329	SLE RA 8	25	-33	2689	810.74	-165.49	-10.57
329	SLE RA 9	25	-28	2712	816.79	-166.92	-10.55
329	SLE RA 10	27	-27	2919	877.23	-179.67	-11
329	SLE RA 11	26	-36	2907	875.3	-178.9	-11.09
329	SLE RA 12	26	-31	2930	881.36	-180.33	-11.06
329	SLE RA 13	27	-27	2934	881.92	-180.58	-10.95
329	SLE RA 14	25	-36	2922	879.99	-179.81	-11.04
329	SLE RA 15	26	-31	2945	886.05	-181.23	-11.02
329	SLE RA 16	25	-36	2911	876.53	-179.1	-10.95
329	SLE RA 17	26	-31	2934	882.58	-180.53	-10.92
329	SLE RA 18	26	-36	2976	895.34	-183.13	-11.2
329	SLE RA 19	27	-31	2999	901.39	-184.55	-11.18
329	SLE RA 20	26	-36	2991	900.03	-184.03	-11.16
329	SLE RA 21	27	-31	3014	906.08	-185.46	-11.13
329	SLE FR 1	25	-33	2660	801.35	-163.68	-10.66
329	SLE FR 2	25	-31	2667	803.37	-164.16	-10.65
329	SLE FR 3	25	-33	2666	803.23	-164.04	-10.64
329	SLE FR 4	25	-32	2762	831.57	-169.99	-10.81
329	SLE FR 5	25	-34	2760	831.43	-169.88	-10.8
329	SLE FR 6	25	-35	2818	848.35	-173.4	-10.93
329	SLE QP 1	25	-33	2660	801.35	-163.68	-10.66
329	SLE QP 2	25	-34	2755	829.55	-169.52	-10.82
329	SLD 1	295	63	2871	863.08	-176.52	-98.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
329	SLD 2	342	98	2916	874.95	-179.31	-113.15
329	SLD 3	270	-102	2067	646.23	-126.75	-101.48
329	SLD 4	318	-67	2111	658.1	-129.54	-115.92
329	SLD 5	135	239	4002	1166.45	-246.62	-30.51
329	SLD 6	166	262	4031	1174.1	-248.42	-39.8
329	SLD 7	53	-311	1320	443.63	-80.72	-39.74
329	SLD 8	84	-288	1349	451.27	-82.52	-49.03
329	SLD 9	-33	220	4160	1207.82	-256.51	27.39
329	SLD 10	-3	243	4189	1215.47	-258.31	18.09
329	SLD 11	-116	-330	1478	485	-90.61	18.16
329	SLD 12	-85	-307	1507	492.65	-92.41	8.86
329	SLD 13	-267	-1	3398	1000.99	-209.49	94.27
329	SLD 14	-220	34	3443	1012.87	-212.28	79.84
329	SLD 15	-292	-166	2593	784.15	-159.72	91.5
329	SLD 16	-245	-131	2638	796.02	-162.51	77.07
329	SLV 1	449	130	2995	897.61	-184.05	-148.05
329	SLV 2	523	185	3066	916.33	-188.46	-170.81
329	SLV 3	406	-152	1622	527.65	-99.15	-152.73
329	SLV 4	481	-97	1693	546.37	-103.55	-175.49
329	SLV 5	202	432	4896	1407.59	-301.83	-40.64
329	SLV 6	253	469	4943	1420.19	-304.79	-55.96
329	SLV 7	62	-507	320	174.38	-18.81	-56.26
329	SLV 8	112	-469	367	186.98	-21.77	-71.58
329	SLV 9	-62	401	5142	1472.12	-317.26	49.93
329	SLV 10	-11	439	5190	1484.72	-320.22	34.61
329	SLV 11	-202	-537	566	238.91	-34.24	34.31
329	SLV 12	-152	-500	613	251.51	-37.2	18.99
329	SLV 13	-431	29	3816	1112.73	-235.48	153.85
329	SLV 14	-356	84	3887	1131.45	-239.88	131.09
329	SLV 15	-473	-253	2444	742.77	-150.57	149.16
329	SLV 16	-398	-197	2514	761.48	-154.98	126.4
329	SLV FO 1	491	146	3019	904.42	-185.51	-161.77
329	SLV FO 2	573	207	3097	925.01	-190.35	-186.8
329	SLV FO 3	444	-164	1509	497.46	-92.11	-166.92
329	SLV FO 4	527	-103	1587	518.05	-96.96	-191.96
329	SLV FO 5	220	478	5110	1465.39	-315.06	-43.62
329	SLV FO 6	275	519	5162	1479.25	-318.32	-60.47
329	SLV FO 7	65	-554	76	108.86	-3.74	-60.8
329	SLV FO 8	121	-513	128	122.72	-7	-77.65
329	SLV FO 9	-70	445	5381	1536.38	-332.03	56.01
329	SLV FO 10	-15	486	5433	1550.24	-335.29	39.16
329	SLV FO 11	-225	-587	347	179.85	-20.71	38.83
329	SLV FO 12	-169	-546	399	193.71	-23.97	21.97
329	SLV FO 13	-477	35	3923	1141.05	-242.07	170.31
329	SLV FO 14	-394	96	4000	1161.64	-246.92	145.28
329	SLV FO 15	-523	-275	2412	734.09	-148.68	165.16
329	SLV FO 16	-441	-214	2490	754.68	-153.52	140.13
329	CRTFP Ux+	0	0	0	0	0	0
329	CRTFP Ux-	0	0	0	0	0	0
329	CRTFP Uy+	0	0	0	0	0	0
329	CRTFP Uy-	0	0	0	0	0	0
330	SLU 1	37	-40	3603	997.79	5.49	-12.77
330	SLU 2	40	-21	3686	1017.89	5.54	-13.85
330	SLU 3	37	-41	3657	1013.39	5.59	-12.84
330	SLU 4	39	-29	3707	1025.44	5.62	-13.49
330	SLU 5	40	-22	3716	1026.83	5.61	-13.73
330	SLU 6	37	-41	3688	1022.33	5.66	-12.72
330	SLU 7	39	-30	3738	1034.39	5.69	-13.37
330	SLU 8	37	-41	3664	1015.69	5.62	-12.53
330	SLU 9	38	-29	3714	1027.74	5.65	-13.18
330	SLU 10	42	-25	4152	1144.1	6.33	-14.46
330	SLU 11	39	-44	4124	1139.59	6.38	-13.46
330	SLU 12	41	-33	4173	1151.65	6.41	-14.1
330	SLU 13	42	-25	4182	1153.04	6.4	-14.34
330	SLU 14	39	-45	4154	1148.54	6.45	-13.34
330	SLU 15	41	-34	4204	1160.6	6.48	-13.98
330	SLU 16	38	-45	4130	1141.9	6.41	-13.14
330	SLU 17	40	-33	4180	1153.95	6.44	-13.79
330	SLU 18	40	-45	4268	1178.09	6.62	-13.64
330	SLU 19	42	-34	4318	1190.15	6.65	-14.29
330	SLU 20	39	-46	4299	1187.04	6.68	-13.52
330	SLU 21	41	-35	4349	1199.09	6.71	-14.17
330	SLU 22	42	-45	4105	1135.5	6.32	-14.58
330	SLU 23	46	-26	4188	1155.6	6.38	-15.66
330	SLU 24	43	-45	4160	1151.09	6.43	-14.66
330	SLU 25	45	-34	4210	1163.15	6.46	-15.3
330	SLU 26	45	-26	4219	1164.54	6.44	-15.54
330	SLU 27	42	-46	4191	1160.04	6.49	-14.54
330	SLU 28	44	-35	4240	1172.1	6.52	-15.18
330	SLU 29	42	-45	4166	1153.4	6.45	-14.34
330	SLU 30	44	-34	4216	1165.45	6.48	-14.99
330	SLU 31	47	-30	4654	1281.8	7.16	-16.27
330	SLU 32	45	-49	4626	1277.3	7.21	-15.27
330	SLU 33	46	-38	4676	1289.36	7.25	-15.91
330	SLU 34	47	-30	4685	1290.75	7.23	-16.15
330	SLU 35	44	-50	4657	1286.25	7.28	-15.15
330	SLU 36	46	-39	4707	1298.3	7.31	-15.79
330	SLU 37	44	-49	4633	1279.6	7.24	-14.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
330	SLU 38	45	-38	4682	1291.66	7.27	-15.6
330	SLU 39	45	-50	4771	1315.8	7.45	-15.46
330	SLU 40	47	-39	4821	1327.85	7.48	-16.1
330	SLU 41	45	-51	4802	1324.75	7.51	-15.34
330	SLU 42	47	-39	4851	1336.8	7.55	-15.98
330	SLU 43	47	-50	4511	1249.92	6.85	-15.98
330	SLU 44	50	-31	4594	1270.01	6.9	-17.06
330	SLU 45	47	-51	4566	1265.51	6.95	-16.05
330	SLU 46	49	-40	4616	1277.57	6.99	-16.7
330	SLU 47	49	-32	4625	1278.96	6.97	-16.94
330	SLU 48	46	-51	4597	1274.46	7.02	-15.93
330	SLU 49	48	-40	4647	1286.51	7.05	-16.58
330	SLU 50	46	-51	4573	1267.81	6.98	-15.74
330	SLU 51	48	-40	4622	1279.87	7.01	-16.39
330	SLU 52	51	-35	5060	1396.22	7.69	-17.67
330	SLU 53	49	-55	5032	1391.72	7.74	-16.67
330	SLU 54	50	-44	5082	1403.77	7.77	-17.31
330	SLU 55	51	-36	5091	1405.17	7.76	-17.55
330	SLU 56	48	-55	5063	1400.66	7.81	-16.55
330	SLU 57	50	-44	5113	1412.72	7.84	-17.19
330	SLU 58	48	-55	5039	1394.02	7.77	-16.35
330	SLU 59	50	-44	5088	1406.08	7.8	-17
330	SLU 60	49	-56	5177	1430.22	7.98	-16.85
330	SLU 61	51	-44	5227	1442.27	8.01	-17.5
330	SLU 62	49	-56	5208	1439.16	8.04	-16.74
330	SLU 63	51	-45	5257	1451.22	8.07	-17.38
330	SLU 64	52	-55	5014	1387.63	7.68	-17.79
330	SLU 65	55	-36	5097	1407.72	7.74	-18.87
330	SLU 66	52	-56	5068	1403.22	7.79	-17.87
330	SLU 67	54	-45	5118	1415.27	7.82	-18.51
330	SLU 68	55	-37	5127	1416.67	7.8	-18.75
330	SLU 69	52	-56	5099	1412.16	7.85	-17.75
330	SLU 70	54	-45	5149	1424.22	7.88	-18.39
330	SLU 71	51	-56	5075	1405.52	7.81	-17.55
330	SLU 72	53	-45	5125	1417.58	7.85	-18.2
330	SLU 73	57	-40	5563	1533.93	8.53	-19.48
330	SLU 74	54	-60	5534	1529.42	8.58	-18.48
330	SLU 75	56	-48	5584	1541.48	8.61	-19.12
330	SLU 76	56	-41	5593	1542.87	8.59	-19.36
330	SLU 77	54	-60	5565	1538.37	8.64	-18.36
330	SLU 78	55	-49	5615	1550.43	8.67	-19
330	SLU 79	53	-60	5541	1531.73	8.6	-18.16
330	SLU 80	55	-48	5591	1543.78	8.63	-18.81
330	SLU 81	54	-60	5679	1567.92	8.81	-18.67
330	SLU 82	56	-49	5729	1579.98	8.84	-19.31
330	SLU 83	54	-61	5710	1576.87	8.87	-18.55
330	SLU 84	56	-50	5760	1588.93	8.91	-19.19
330	SLE RA 1	39	-41	3746	1037.14	5.73	-13.29
330	SLE RA 2	41	-29	3801	1050.54	5.76	-14.01
330	SLE RA 3	39	-42	3783	1047.53	5.8	-13.34
330	SLE RA 4	40	-34	3816	1055.57	5.82	-13.77
330	SLE RA 5	41	-29	3822	1056.5	5.81	-13.93
330	SLE RA 6	39	-42	3803	1053.5	5.84	-13.26
330	SLE RA 7	40	-35	3836	1061.54	5.86	-13.69
330	SLE RA 8	38	-42	3787	1049.07	5.81	-13.13
330	SLE RA 9	39	-34	3820	1057.11	5.84	-13.56
330	SLE RA 10	42	-31	4112	1134.67	6.29	-14.41
330	SLE RA 11	40	-44	4093	1131.67	6.32	-13.75
330	SLE RA 12	41	-37	4127	1139.71	6.34	-14.18
330	SLE RA 13	42	-32	4133	1140.64	6.33	-14.33
330	SLE RA 14	40	-45	4114	1137.64	6.37	-13.67
330	SLE RA 15	41	-37	4147	1145.67	6.39	-14.1
330	SLE RA 16	39	-44	4098	1133.21	6.34	-13.54
330	SLE RA 17	41	-37	4131	1141.24	6.36	-13.97
330	SLE RA 18	40	-45	4190	1157.34	6.48	-13.87
330	SLE RA 19	42	-37	4223	1165.37	6.5	-14.3
330	SLE RA 20	40	-45	4210	1163.3	6.52	-13.79
330	SLE RA 21	41	-38	4244	1171.34	6.54	-14.22
330	SLE FR 1	39	-41	3746	1037.14	5.73	-13.29
330	SLE FR 2	39	-39	3757	1039.82	5.74	-13.43
330	SLE FR 3	39	-41	3754	1039.53	5.75	-13.26
330	SLE FR 4	40	-40	3890	1075.88	5.96	-13.61
330	SLE FR 5	39	-42	3887	1075.58	5.97	-13.43
330	SLE FR 6	40	-43	3968	1097.24	6.1	-13.58
330	SLE QP 1	39	-41	3746	1037.14	5.73	-13.29
330	SLE QP 2	39	-42	3879	1073.2	5.95	-13.46
330	SLD 1	433	98	4027	1122.17	6.9	-151.25
330	SLD 2	502	151	4093	1138.33	6.91	-175.48
330	SLD 3	395	-142	2878	834.64	5.65	-138.13
330	SLD 4	465	-89	2944	850.8	5.65	-162.36
330	SLD 5	202	354	5655	1521.2	8.14	-70.53
330	SLD 6	246	388	5698	1531.6	8.14	-86.13
330	SLD 7	78	-444	1825	562.77	3.96	-26.8
330	SLD 8	122	-410	1867	573.17	3.96	-42.4
330	SLD 9	-44	326	5892	1573.23	7.94	15.48
330	SLD 10	1	360	5934	1583.63	7.95	-0.12
330	SLD 11	-168	-472	2061	614.8	3.76	59.2
330	SLD 12	-123	-438	2103	625.2	3.77	43.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
330	SLD 13	-386	4	4815	1295.6	6.25	135.44
330	SLD 14	-317	57	4880	1311.76	6.26	111.21
330	SLD 15	-424	-235	3665	1008.07	5	148.56
330	SLD 16	-354	-182	3731	1024.23	5	124.33
330	SLV 1	657	193	4194	1170.48	7.53	-229.78
330	SLV 2	766	277	4297	1195.95	7.54	-267.98
330	SLV 3	593	-215	2233	679.93	5.39	-207.42
330	SLV 4	703	-132	2337	705.4	5.39	-245.61
330	SLV 5	300	632	6928	1841.63	9.67	-105.15
330	SLV 6	374	688	6998	1858.78	9.68	-130.86
330	SLV 7	89	-729	393	206.47	2.53	-30.6
330	SLV 8	162	-673	462	223.61	2.54	-56.31
330	SLV 9	-84	588	7296	1922.79	9.37	29.39
330	SLV 10	-10	644	7366	1939.93	9.37	3.68
330	SLV 11	-295	-773	761	287.62	2.23	103.94
330	SLV 12	-222	-717	831	304.77	2.23	78.23
330	SLV 13	-624	47	5422	1441	6.51	218.69
330	SLV 14	-515	130	5525	1466.46	6.52	180.49
330	SLV 15	-688	-361	3461	950.45	4.37	241.05
330	SLV 16	-578	-278	3565	975.92	4.38	202.86
330	SLV FO 1	718	217	4225	1180.21	7.69	-251.42
330	SLV FO 2	839	309	4339	1208.22	7.69	-293.43
330	SLV FO 3	649	-232	2069	640.61	5.33	-226.82
330	SLV FO 4	769	-141	2183	668.62	5.34	-268.83
330	SLV FO 5	326	700	7233	1918.48	10.04	-114.32
330	SLV FO 6	407	761	7310	1937.33	10.05	-142.6
330	SLV FO 7	94	-798	44	119.79	2.19	-32.32
330	SLV FO 8	175	-736	121	138.65	2.2	-60.6
330	SLV FO 9	-96	651	7638	2007.75	9.71	33.67
330	SLV FO 10	-15	713	7715	2026.6	9.71	5.39
330	SLV FO 11	-329	-846	449	209.06	1.86	115.68
330	SLV FO 12	-248	-784	526	227.92	1.86	87.4
330	SLV FO 13	-691	56	5576	1477.78	6.57	241.9
330	SLV FO 14	-570	148	5690	1505.79	6.57	199.89
330	SLV FO 15	-760	-393	3419	938.17	4.21	266.5
330	SLV FO 16	-640	-301	3533	966.19	4.22	224.49
330	CRTFP Ux+	0	0	0	0	0	0
330	CRTFP Ux-	0	0	0	0	0	0
330	CRTFP Uy+	0	0	0	0	0	0
330	CRTFP Uy-	0	0	0	0	0	0
331	SLU 1	40	-33	3421	840.99	6.15	-13.7
331	SLU 2	43	-14	3501	858.23	6.24	-14.79
331	SLU 3	40	-34	3472	853.78	6.27	-13.8
331	SLU 4	42	-22	3521	864.13	6.32	-14.45
331	SLU 5	43	-15	3530	865.56	6.31	-14.69
331	SLU 6	40	-34	3501	861.11	6.34	-13.69
331	SLU 7	42	-23	3549	871.45	6.39	-14.35
331	SLU 8	39	-34	3478	855.64	6.29	-13.49
331	SLU 9	41	-22	3526	865.99	6.34	-14.14
331	SLU 10	45	-17	3941	962.3	7.13	-15.51
331	SLU 11	42	-37	3912	957.84	7.15	-14.52
331	SLU 12	44	-25	3960	968.19	7.21	-15.17
331	SLU 13	45	-18	3970	969.63	7.2	-15.4
331	SLU 14	42	-37	3941	965.17	7.22	-14.41
331	SLU 15	44	-26	3989	975.52	7.28	-15.07
331	SLU 16	41	-37	3918	959.71	7.18	-14.21
331	SLU 17	43	-25	3966	970.06	7.23	-14.86
331	SLU 18	43	-37	4049	989.65	7.42	-14.73
331	SLU 19	45	-26	4097	1000	7.47	-15.38
331	SLU 20	42	-37	4078	996.98	7.49	-14.62
331	SLU 21	44	-26	4126	1007.33	7.54	-15.28
331	SLU 22	45	-37	3895	954.51	7.1	-15.65
331	SLU 23	48	-18	3976	971.75	7.18	-16.74
331	SLU 24	46	-38	3947	967.3	7.21	-15.75
331	SLU 25	48	-26	3995	977.65	7.26	-16.4
331	SLU 26	48	-19	4005	979.08	7.25	-16.63
331	SLU 27	45	-38	3975	974.63	7.28	-15.64
331	SLU 28	47	-27	4024	984.97	7.33	-16.3
331	SLU 29	45	-37	3952	969.16	7.24	-15.44
331	SLU 30	47	-26	4001	979.51	7.29	-16.09
331	SLU 31	51	-21	4416	1075.82	8.07	-17.46
331	SLU 32	48	-40	4387	1071.36	8.1	-16.47
331	SLU 33	50	-29	4435	1081.71	8.15	-17.12
331	SLU 34	50	-22	4445	1083.15	8.14	-17.35
331	SLU 35	47	-41	4415	1078.69	8.17	-16.36
331	SLU 36	49	-30	4464	1089.04	8.22	-17.01
331	SLU 37	47	-40	4392	1073.23	8.13	-16.15
331	SLU 38	49	-29	4441	1083.57	8.18	-16.81
331	SLU 39	48	-41	4524	1103.17	8.37	-16.67
331	SLU 40	50	-30	4572	1113.52	8.42	-17.33
331	SLU 41	48	-41	4552	1110.5	8.44	-16.57
331	SLU 42	50	-30	4601	1120.85	8.49	-17.22
331	SLU 43	50	-41	4284	1054.36	7.67	-17.14
331	SLU 44	53	-23	4365	1071.61	7.76	-18.23
331	SLU 45	50	-42	4336	1067.15	7.79	-17.24
331	SLU 46	52	-31	4384	1077.5	7.84	-17.9
331	SLU 47	53	-23	4393	1078.94	7.83	-18.13
331	SLU 48	50	-42	4364	1074.48	7.86	-17.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	SLU 49	52	-31	4413	1084.83	7.91	-17.79
331	SLU 50	49	-42	4341	1069.02	7.81	-16.93
331	SLU 51	51	-31	4390	1079.37	7.87	-17.59
331	SLU 52	55	-26	4805	1175.67	8.65	-18.95
331	SLU 53	52	-45	4775	1171.22	8.68	-17.96
331	SLU 54	54	-34	4824	1181.57	8.73	-18.62
331	SLU 55	55	-26	4833	1183	8.72	-18.85
331	SLU 56	52	-45	4804	1178.55	8.75	-17.86
331	SLU 57	54	-34	4853	1188.89	8.8	-18.51
331	SLU 58	51	-45	4781	1173.08	8.7	-17.65
331	SLU 59	53	-34	4830	1183.43	8.75	-18.3
331	SLU 60	53	-46	4912	1203.03	8.94	-18.17
331	SLU 61	55	-34	4961	1213.38	8.99	-18.82
331	SLU 62	52	-46	4941	1210.36	9.01	-18.06
331	SLU 63	54	-35	4990	1220.7	9.06	-18.72
331	SLU 64	55	-45	4759	1167.88	8.62	-19.09
331	SLU 65	58	-27	4839	1185.13	8.7	-20.18
331	SLU 66	56	-46	4810	1180.67	8.73	-19.19
331	SLU 67	58	-35	4859	1191.02	8.78	-19.84
331	SLU 68	58	-27	4868	1192.46	8.77	-20.07
331	SLU 69	55	-46	4839	1188	8.8	-19.08
331	SLU 70	57	-35	4887	1198.35	8.85	-19.74
331	SLU 71	55	-46	4816	1182.54	8.76	-18.88
331	SLU 72	57	-35	4864	1192.89	8.81	-19.53
331	SLU 73	61	-30	5279	1289.19	9.59	-20.9
331	SLU 74	58	-49	5250	1284.74	9.62	-19.91
331	SLU 75	60	-38	5298	1295.09	9.67	-20.56
331	SLU 76	60	-30	5308	1296.52	9.66	-20.79
331	SLU 77	57	-49	5279	1292.07	9.69	-19.8
331	SLU 78	59	-38	5327	1302.41	9.74	-20.46
331	SLU 79	57	-49	5256	1286.6	9.65	-19.6
331	SLU 80	59	-38	5304	1296.95	9.7	-20.25
331	SLU 81	58	-50	5387	1316.55	9.89	-20.12
331	SLU 82	60	-38	5436	1326.89	9.94	-20.77
331	SLU 83	58	-50	5416	1323.88	9.96	-20.01
331	SLU 84	60	-39	5464	1334.22	10.01	-20.66
331	SLE RA 1	41	-34	3556	873.42	6.42	-14.26
331	SLE RA 2	43	-22	3610	884.92	6.48	-14.98
331	SLE RA 3	42	-34	3590	881.95	6.5	-14.32
331	SLE RA 4	43	-27	3623	888.85	6.53	-14.76
331	SLE RA 5	43	-22	3629	889.8	6.53	-14.91
331	SLE RA 6	41	-35	3610	886.83	6.55	-14.25
331	SLE RA 7	43	-27	3642	893.73	6.58	-14.69
331	SLE RA 8	41	-34	3594	883.19	6.52	-14.12
331	SLE RA 9	42	-27	3627	890.09	6.55	-14.55
331	SLE RA 10	45	-24	3903	954.3	7.07	-15.46
331	SLE RA 11	43	-36	3884	951.33	7.09	-14.8
331	SLE RA 12	44	-29	3916	958.22	7.12	-15.24
331	SLE RA 13	45	-24	3922	959.18	7.12	-15.39
331	SLE RA 14	43	-37	3903	956.21	7.14	-14.73
331	SLE RA 15	44	-29	3935	963.11	7.17	-15.17
331	SLE RA 16	42	-36	3888	952.57	7.11	-14.59
331	SLE RA 17	44	-29	3920	959.47	7.14	-15.03
331	SLE RA 18	43	-37	3975	972.53	7.27	-14.94
331	SLE RA 19	45	-29	4007	979.43	7.3	-15.38
331	SLE RA 20	43	-37	3994	977.42	7.32	-14.87
331	SLE RA 21	44	-30	4027	984.32	7.35	-15.31
331	SLE FR 1	41	-34	3556	873.42	6.42	-14.26
331	SLE FR 2	42	-32	3567	875.72	6.43	-14.4
331	SLE FR 3	41	-34	3564	875.38	6.44	-14.23
331	SLE FR 4	42	-32	3693	905.45	6.69	-14.61
331	SLE FR 5	42	-35	3689	905.11	6.7	-14.43
331	SLE FR 6	42	-35	3766	922.98	6.85	-14.6
331	SLE QP 1	41	-34	3556	873.42	6.42	-14.26
331	SLE QP 2	42	-35	3682	903.16	6.68	-14.46
331	SLD 1	435	100	3798	949.29	7.79	-152.4
331	SLD 2	505	155	3863	963.48	7.84	-176.68
331	SLD 3	397	-134	2696	703.96	6.09	-138.72
331	SLD 4	466	-80	2761	718.15	6.14	-163.01
331	SLD 5	206	352	5378	1286.63	9.58	-72.41
331	SLD 6	251	387	5420	1295.77	9.61	-88.04
331	SLD 7	78	-430	1702	468.88	3.92	-26.82
331	SLD 8	123	-395	1744	478.02	3.94	-42.46
331	SLD 9	-39	325	5619	1328.29	9.41	13.54
331	SLD 10	6	360	5661	1337.43	9.44	-2.1
331	SLD 11	-167	-457	1944	510.54	3.74	59.12
331	SLD 12	-123	-422	1986	519.68	3.77	43.48
331	SLD 13	-383	10	4603	1088.16	7.22	134.08
331	SLD 14	-313	65	4668	1102.35	7.26	109.8
331	SLD 15	-421	-225	3500	842.83	5.52	147.76
331	SLD 16	-352	-170	3565	857.03	5.56	123.47
331	SLV 1	660	193	3944	992.93	8.55	-231.05
331	SLV 2	769	279	4046	1015.3	8.61	-269.33
331	SLV 3	594	-208	2062	574.39	5.64	-207.74
331	SLV 4	704	-122	2165	596.76	5.71	-246.02
331	SLV 5	306	624	6594	1560.7	11.63	-107.66
331	SLV 6	380	682	6663	1575.76	11.67	-133.43
331	SLV 7	88	-710	324	165.57	1.95	-29.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	SLV 8	161	-652	393	180.62	2	-55.71
331	SLV 9	-77	582	6971	1625.69	11.35	26.78
331	SLV 10	-4	640	7040	1640.75	11.4	1.02
331	SLV 11	-296	-752	700	230.55	1.68	104.5
331	SLV 12	-223	-694	769	245.61	1.73	78.74
331	SLV 13	-620	52	5199	1209.56	7.64	217.09
331	SLV 14	-510	138	5301	1231.93	7.71	178.81
331	SLV 15	-685	-348	3318	791.02	4.74	240.41
331	SLV 16	-576	-262	3420	813.39	4.81	202.13
331	SLV FO 1	722	215	3970	1001.9	8.73	-252.71
331	SLV FO 2	842	310	4083	1026.51	8.81	-294.82
331	SLV FO 3	649	-225	1901	541.51	5.54	-227.07
331	SLV FO 4	770	-130	2013	566.12	5.62	-269.17
331	SLV FO 5	333	690	6886	1626.45	12.12	-116.98
331	SLV FO 6	414	754	6962	1643.02	12.17	-145.32
331	SLV FO 7	92	-777	-12	91.81	1.48	-31.49
331	SLV FO 8	173	-714	64	108.37	1.53	-59.83
331	SLV FO 9	-89	644	7300	1697.94	11.82	30.91
331	SLV FO 10	-8	708	7376	1714.5	11.87	2.56
331	SLV FO 11	-330	-824	402	163.29	1.18	116.4
331	SLV FO 12	-249	-760	478	179.86	1.23	88.06
331	SLV FO 13	-686	60	5350	1240.2	7.74	240.25
331	SLV FO 14	-565	155	5463	1264.8	7.81	198.14
331	SLV FO 15	-758	-380	3281	779.8	4.55	265.9
331	SLV FO 16	-638	-285	3394	804.41	4.62	223.79
331	CRTFP Ux+	0	0	0	0	0	0
331	CRTFP Ux-	0	0	0	0	0	0
331	CRTFP Uy+	0	0	0	0	0	0
331	CRTFP Uy-	0	0	0	0	0	0
332	SLU 1	42	-27	3234	686.87	5.86	-14.58
332	SLU 2	45	-9	3312	701.06	5.95	-15.67
332	SLU 3	43	-28	3282	696.92	5.97	-14.7
332	SLU 4	44	-17	3329	705.43	6.02	-15.36
332	SLU 5	45	-9	3338	706.81	6.02	-15.58
332	SLU 6	42	-28	3308	702.66	6.03	-14.61
332	SLU 7	44	-17	3355	711.18	6.09	-15.27
332	SLU 8	42	-28	3287	698.37	5.99	-14.39
332	SLU 9	43	-17	3334	706.88	6.05	-15.05
332	SLU 10	48	-11	3725	783.31	6.8	-16.49
332	SLU 11	45	-30	3695	779.16	6.82	-15.52
332	SLU 12	47	-19	3741	787.67	6.87	-16.18
332	SLU 13	47	-11	3751	789.05	6.87	-16.4
332	SLU 14	45	-30	3721	784.91	6.88	-15.43
332	SLU 15	47	-19	3768	793.42	6.94	-16.09
332	SLU 16	44	-30	3700	780.61	6.84	-15.21
332	SLU 17	46	-19	3746	789.12	6.9	-15.87
332	SLU 18	46	-30	3823	804.36	7.08	-15.75
332	SLU 19	47	-19	3870	812.88	7.13	-16.4
332	SLU 20	45	-31	3850	810.11	7.14	-15.65
332	SLU 21	47	-20	3897	818.62	7.2	-16.31
332	SLU 22	48	-30	3679	776.55	6.77	-16.65
332	SLU 23	51	-12	3758	790.74	6.86	-17.75
332	SLU 24	48	-31	3728	786.59	6.87	-16.78
332	SLU 25	50	-20	3774	795.11	6.93	-17.43
332	SLU 26	51	-12	3784	796.49	6.92	-17.65
332	SLU 27	48	-31	3754	792.34	6.94	-16.68
332	SLU 28	50	-20	3801	800.85	6.99	-17.34
332	SLU 29	48	-31	3733	788.04	6.9	-16.47
332	SLU 30	49	-20	3779	796.56	6.95	-17.12
332	SLU 31	54	-14	4170	872.98	7.71	-18.57
332	SLU 32	51	-33	4140	868.83	7.73	-17.59
332	SLU 33	53	-22	4187	877.35	7.78	-18.25
332	SLU 34	53	-15	4197	878.73	7.78	-18.47
332	SLU 35	51	-34	4167	874.58	7.79	-17.5
332	SLU 36	52	-22	4214	883.1	7.85	-18.16
332	SLU 37	50	-33	4145	870.28	7.75	-17.28
332	SLU 38	52	-22	4192	878.8	7.8	-17.94
332	SLU 39	52	-34	4269	894.04	7.98	-17.82
332	SLU 40	53	-23	4316	902.55	8.04	-18.48
332	SLU 41	51	-34	4296	899.78	8.05	-17.73
332	SLU 42	53	-23	4343	908.3	8.1	-18.39
332	SLU 43	53	-34	4051	862.19	7.31	-18.24
332	SLU 44	56	-16	4129	876.38	7.4	-19.34
332	SLU 45	53	-35	4099	872.23	7.41	-18.37
332	SLU 46	55	-24	4146	880.75	7.47	-19.02
332	SLU 47	56	-16	4155	882.13	7.46	-19.24
332	SLU 48	53	-35	4125	877.98	7.48	-18.27
332	SLU 49	55	-24	4172	886.5	7.53	-18.93
332	SLU 50	52	-35	4104	873.68	7.44	-18.06
332	SLU 51	54	-23	4151	882.2	7.49	-18.71
332	SLU 52	58	-18	4542	958.62	8.25	-20.16
332	SLU 53	55	-37	4512	954.48	8.27	-19.18
332	SLU 54	57	-26	4559	962.99	8.32	-19.84
332	SLU 55	58	-18	4568	964.37	8.32	-20.06
332	SLU 56	55	-37	4538	960.22	8.33	-19.09
332	SLU 57	57	-26	4585	968.74	8.39	-19.75
332	SLU 58	55	-37	4517	955.93	8.29	-18.87
332	SLU 59	56	-26	4564	964.44	8.34	-19.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	SLU 60	56	-37	4641	979.68	8.52	-19.41
332	SLU 61	58	-26	4687	988.19	8.58	-20.07
332	SLU 62	56	-38	4667	985.43	8.59	-19.32
332	SLU 63	58	-27	4714	993.94	8.64	-19.97
332	SLU 64	59	-37	4497	951.86	8.21	-20.31
332	SLU 65	62	-19	4575	966.05	8.3	-21.41
332	SLU 66	59	-38	4545	961.91	8.32	-20.44
332	SLU 67	61	-27	4592	970.42	8.38	-21.1
332	SLU 68	62	-19	4601	971.8	8.37	-21.32
332	SLU 69	59	-38	4571	967.65	8.39	-20.35
332	SLU 70	61	-27	4618	976.17	8.44	-21
332	SLU 71	58	-38	4550	963.36	8.34	-20.13
332	SLU 72	60	-27	4597	971.87	8.4	-20.79
332	SLU 73	64	-21	4988	1048.3	9.16	-22.23
332	SLU 74	61	-40	4958	1044.15	9.17	-21.26
332	SLU 75	63	-29	5004	1052.66	9.23	-21.91
332	SLU 76	64	-22	5014	1054.04	9.22	-22.14
332	SLU 77	61	-41	4984	1049.9	9.24	-21.16
332	SLU 78	63	-29	5031	1058.41	9.29	-21.82
332	SLU 79	61	-40	4963	1045.6	9.2	-20.95
332	SLU 80	62	-29	5009	1054.11	9.25	-21.6
332	SLU 81	62	-41	5086	1069.35	9.43	-21.48
332	SLU 82	64	-30	5133	1077.87	9.48	-22.14
332	SLU 83	62	-41	5113	1075.1	9.5	-21.39
332	SLU 84	64	-30	5160	1083.61	9.55	-22.05
332	SLE RA 1	44	-28	3361	712.49	6.12	-15.17
332	SLE RA 2	46	-16	3413	721.95	6.18	-15.9
332	SLE RA 3	44	-28	3393	719.19	6.19	-15.25
332	SLE RA 4	45	-21	3424	724.87	6.23	-15.69
332	SLE RA 5	46	-16	3431	725.79	6.22	-15.84
332	SLE RA 6	44	-29	3411	723.02	6.23	-15.19
332	SLE RA 7	45	-21	3442	728.7	6.27	-15.63
332	SLE RA 8	44	-28	3396	720.16	6.21	-15.05
332	SLE RA 9	45	-21	3428	725.83	6.24	-15.48
332	SLE RA 10	48	-17	3688	776.78	6.75	-16.45
332	SLE RA 11	46	-30	3668	774.02	6.76	-15.8
332	SLE RA 12	47	-23	3699	779.69	6.79	-16.24
332	SLE RA 13	47	-17	3706	780.61	6.79	-16.38
332	SLE RA 14	46	-30	3686	777.85	6.8	-15.74
332	SLE RA 15	47	-23	3717	783.53	6.84	-16.18
332	SLE RA 16	45	-30	3672	774.98	6.77	-15.59
332	SLE RA 17	46	-23	3703	780.66	6.81	-16.03
332	SLE RA 18	46	-30	3754	790.82	6.93	-15.95
332	SLE RA 19	47	-23	3785	796.5	6.97	-16.39
332	SLE RA 20	46	-30	3772	794.65	6.97	-15.89
332	SLE RA 21	47	-23	3803	800.33	7.01	-16.33
332	SLE FR 1	44	-28	3361	712.49	6.12	-15.17
332	SLE FR 2	44	-26	3371	714.39	6.13	-15.32
332	SLE FR 3	44	-28	3368	714.03	6.14	-15.15
332	SLE FR 4	45	-26	3489	737.88	6.37	-15.55
332	SLE FR 5	44	-29	3486	737.52	6.38	-15.38
332	SLE FR 6	45	-29	3558	751.66	6.52	-15.56
332	SLE QP 1	44	-28	3361	712.49	6.12	-15.17
332	SLE QP 2	45	-29	3479	735.99	6.36	-15.4
332	SLD 1	438	99	3560	777.41	7.57	-153.41
332	SLD 2	508	155	3623	789.29	7.63	-177.74
332	SLD 3	398	-128	2511	577.62	5.83	-139.25
332	SLD 4	468	-72	2575	589.5	5.88	-163.57
332	SLD 5	211	346	5083	1049.38	9.37	-74.11
332	SLD 6	256	382	5124	1057.03	9.4	-89.77
332	SLD 7	78	-414	1587	383.43	3.54	-26.89
332	SLD 8	123	-378	1628	391.08	3.57	-42.55
332	SLD 9	-34	320	5330	1080.91	9.15	11.74
332	SLD 10	11	356	5371	1088.56	9.18	-3.92
332	SLD 11	-167	-439	1834	414.95	3.32	58.96
332	SLD 12	-122	-403	1875	422.6	3.35	43.3
332	SLD 13	-379	15	4383	882.48	6.85	132.76
332	SLD 14	-309	71	4447	894.36	6.9	108.44
332	SLD 15	-419	-213	3335	682.69	5.1	146.93
332	SLD 16	-349	-157	3398	694.57	5.15	122.61
332	SLV 1	663	187	3681	815.09	8.38	-232.16
332	SLV 2	772	276	3781	833.82	8.47	-270.49
332	SLV 3	595	-201	1892	474.25	5.4	-208
332	SLV 4	704	-113	1992	492.98	5.48	-246.34
332	SLV 5	312	609	6235	1273.17	11.48	-109.91
332	SLV 6	386	668	6302	1285.78	11.54	-135.72
332	SLV 7	86	-686	271	137.03	1.53	-29.39
332	SLV 8	160	-627	338	149.64	1.58	-55.2
332	SLV 9	-71	569	6620	1322.34	11.14	24.39
332	SLV 10	3	629	6687	1334.95	11.19	-1.41
332	SLV 11	-297	-726	656	186.21	1.19	104.91
332	SLV 12	-223	-666	723	198.81	1.24	79.11
332	SLV 13	-615	55	4966	979.01	7.24	215.53
332	SLV 14	-506	144	5066	997.74	7.32	177.19
332	SLV 15	-683	-333	3177	638.16	4.26	239.68
332	SLV 16	-574	-245	3277	656.89	4.34	201.35
332	SLV FO 1	724	209	3702	823	8.59	-253.83
332	SLV FO 2	845	306	3812	843.6	8.68	-296

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	SLV FO 3	650	-218	1733	448.07	5.3	-227.26
332	SLV FO 4	770	-121	1844	468.67	5.39	-269.43
332	SLV FO 5	339	673	6510	1326.89	11.99	-119.37
332	SLV FO 6	420	738	6584	1340.76	12.05	-147.75
332	SLV FO 7	90	-752	-50	77.13	1.05	-30.79
332	SLV FO 8	172	-687	24	91	1.11	-59.18
332	SLV FO 9	-83	629	6934	1380.98	11.62	28.37
332	SLV FO 10	-1	695	7008	1394.85	11.68	-0.02
332	SLV FO 11	-331	-796	374	131.23	0.67	116.94
332	SLV FO 12	-250	-730	448	145.1	0.73	88.56
332	SLV FO 13	-681	64	5114	1003.31	7.33	238.62
332	SLV FO 14	-561	161	5225	1023.91	7.42	196.45
332	SLV FO 15	-756	-364	3146	628.38	4.05	265.19
332	SLV FO 16	-635	-266	3256	648.98	4.14	223.02
332	CRTFP Ux+	0	0	0	0	0	0
332	CRTFP Ux-	0	0	0	0	0	0
332	CRTFP Uy+	0	0	0	0	0	0
332	CRTFP Uy-	0	0	0	0	0	0
333	SLU 1	44	-22	3066	549.31	4.95	-15.42
333	SLU 2	48	-4	3141	560.63	5.03	-16.52
333	SLU 3	45	-23	3111	556.91	5.04	-15.57
333	SLU 4	47	-12	3156	563.7	5.09	-16.23
333	SLU 5	47	-4	3166	564.97	5.09	-16.44
333	SLU 6	45	-23	3136	561.26	5.09	-15.49
333	SLU 7	47	-12	3181	568.05	5.14	-16.15
333	SLU 8	44	-22	3115	558	5.06	-15.26
333	SLU 9	46	-12	3160	564.79	5.11	-15.92
333	SLU 10	50	-6	3530	623.35	5.76	-17.43
333	SLU 11	48	-24	3499	619.63	5.77	-16.48
333	SLU 12	49	-13	3544	626.42	5.82	-17.14
333	SLU 13	50	-6	3554	627.69	5.81	-17.35
333	SLU 14	47	-25	3524	623.98	5.82	-16.4
333	SLU 15	49	-14	3569	630.77	5.87	-17.06
333	SLU 16	47	-24	3503	620.72	5.79	-16.18
333	SLU 17	49	-13	3549	627.51	5.84	-16.83
333	SLU 18	48	-25	3621	638.91	5.99	-16.73
333	SLU 19	50	-14	3666	645.7	6.04	-17.38
333	SLU 20	48	-25	3645	643.26	6.04	-16.65
333	SLU 21	50	-14	3690	650.05	6.09	-17.3
333	SLU 22	51	-25	3486	617.66	5.72	-17.62
333	SLU 23	54	-7	3561	628.98	5.8	-18.71
333	SLU 24	51	-26	3531	625.26	5.81	-17.76
333	SLU 25	53	-15	3576	632.05	5.86	-18.42
333	SLU 26	54	-7	3586	633.32	5.86	-18.63
333	SLU 27	51	-26	3555	629.6	5.86	-17.68
333	SLU 28	53	-15	3600	636.39	5.91	-18.34
333	SLU 29	50	-25	3535	626.35	5.83	-17.46
333	SLU 30	52	-14	3580	633.14	5.88	-18.11
333	SLU 31	57	-9	3949	691.69	6.53	-19.62
333	SLU 32	54	-27	3919	687.98	6.54	-18.68
333	SLU 33	56	-16	3964	694.77	6.59	-19.34
333	SLU 34	56	-9	3974	696.04	6.59	-19.54
333	SLU 35	54	-27	3944	692.32	6.59	-18.6
333	SLU 36	56	-17	3989	699.11	6.64	-19.26
333	SLU 37	53	-27	3923	689.06	6.56	-18.37
333	SLU 38	55	-16	3968	695.86	6.61	-19.03
333	SLU 39	55	-28	4040	707.26	6.76	-18.92
333	SLU 40	56	-17	4086	714.05	6.81	-19.58
333	SLU 41	54	-28	4065	711.6	6.81	-18.84
333	SLU 42	56	-17	4110	718.39	6.86	-19.5
333	SLU 43	56	-28	3842	690.67	6.17	-19.3
333	SLU 44	59	-10	3917	701.99	6.25	-20.39
333	SLU 45	56	-28	3887	698.27	6.26	-19.44
333	SLU 46	58	-17	3932	705.07	6.31	-20.1
333	SLU 47	59	-10	3942	706.34	6.31	-20.31
333	SLU 48	56	-28	3911	702.62	6.31	-19.36
333	SLU 49	58	-18	3957	709.41	6.36	-20.02
333	SLU 50	55	-28	3891	699.36	6.28	-19.14
333	SLU 51	57	-17	3936	706.15	6.33	-19.79
333	SLU 52	61	-11	4305	764.71	6.98	-21.3
333	SLU 53	59	-30	4275	760.99	6.99	-20.36
333	SLU 54	61	-19	4320	767.78	7.04	-21.02
333	SLU 55	61	-11	4330	769.06	7.04	-21.22
333	SLU 56	59	-30	4300	765.34	7.04	-20.28
333	SLU 57	60	-19	4345	772.13	7.09	-20.94
333	SLU 58	58	-30	4279	762.08	7.01	-20.05
333	SLU 59	60	-19	4325	768.87	7.06	-20.71
333	SLU 60	59	-30	4396	780.27	7.21	-20.6
333	SLU 61	61	-19	4442	787.06	7.26	-21.26
333	SLU 62	59	-30	4421	784.62	7.26	-20.52
333	SLU 63	61	-19	4466	791.41	7.31	-21.18
333	SLU 64	62	-31	4262	759.02	6.94	-21.49
333	SLU 65	65	-13	4337	770.34	7.02	-22.58
333	SLU 66	62	-31	4307	766.62	7.03	-21.64
333	SLU 67	64	-20	4352	773.41	7.08	-22.29
333	SLU 68	65	-13	4361	774.68	7.08	-22.5
333	SLU 69	62	-31	4331	770.96	7.08	-21.56
333	SLU 70	64	-20	4376	777.75	7.13	-22.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
333	SLU 71	62	-31	4311	767.71	7.05	-21.33
333	SLU 72	63	-20	4356	774.5	7.1	-21.99
333	SLU 73	68	-14	4725	833.06	7.75	-23.5
333	SLU 74	65	-33	4695	829.34	7.76	-22.55
333	SLU 75	67	-22	4740	836.13	7.81	-23.21
333	SLU 76	68	-14	4750	837.4	7.81	-23.42
333	SLU 77	65	-33	4719	833.68	7.81	-22.47
333	SLU 78	67	-22	4765	840.47	7.86	-23.13
333	SLU 79	64	-33	4699	830.43	7.78	-22.24
333	SLU 80	66	-22	4744	837.22	7.83	-22.9
333	SLU 81	66	-33	4816	848.62	7.98	-22.8
333	SLU 82	68	-22	4861	855.41	8.03	-23.45
333	SLU 83	66	-33	4841	852.96	8.03	-22.72
333	SLU 84	67	-22	4886	859.75	8.08	-23.37
333	SLE RA 1	46	-23	3186	568.84	5.17	-16.05
333	SLE RA 2	48	-11	3236	576.39	5.22	-16.78
333	SLE RA 3	47	-23	3216	573.91	5.23	-16.15
333	SLE RA 4	48	-16	3246	578.43	5.26	-16.59
333	SLE RA 5	48	-11	3252	579.28	5.26	-16.72
333	SLE RA 6	46	-23	3232	576.8	5.27	-16.09
333	SLE RA 7	48	-16	3262	581.33	5.3	-16.53
333	SLE RA 8	46	-23	3219	574.63	5.24	-15.94
333	SLE RA 9	47	-16	3249	579.16	5.28	-16.38
333	SLE RA 10	50	-12	3495	618.2	5.71	-17.39
333	SLE RA 11	48	-25	3475	615.72	5.71	-16.76
333	SLE RA 12	50	-17	3505	620.25	5.75	-17.19
333	SLE RA 13	50	-12	3511	621.09	5.75	-17.33
333	SLE RA 14	48	-25	3491	618.62	5.75	-16.7
333	SLE RA 15	49	-17	3521	623.14	5.78	-17.14
333	SLE RA 16	48	-24	3478	616.44	5.73	-16.55
333	SLE RA 17	49	-17	3508	620.97	5.76	-16.99
333	SLE RA 18	49	-25	3556	628.57	5.86	-16.92
333	SLE RA 19	50	-17	3586	633.1	5.9	-17.36
333	SLE RA 20	49	-25	3572	631.47	5.9	-16.87
333	SLE RA 21	50	-17	3602	636	5.93	-17.3
333	SLE FR 1	46	-23	3186	568.84	5.17	-16.05
333	SLE FR 2	47	-21	3196	570.35	5.18	-16.19
333	SLE FR 3	46	-23	3192	570	5.18	-16.03
333	SLE FR 4	47	-21	3307	588.27	5.39	-16.46
333	SLE FR 5	47	-24	3303	587.92	5.39	-16.29
333	SLE FR 6	48	-24	3371	598.71	5.52	-16.48
333	SLE QP 1	46	-23	3186	568.84	5.17	-16.05
333	SLE QP 2	47	-24	3297	586.76	5.38	-16.31
333	SLD 1	441	97	3340	622.03	6.65	-154.33
333	SLD 2	510	154	3402	631.62	6.69	-178.67
333	SLD 3	399	-124	2342	465.34	5.12	-139.73
333	SLD 4	469	-66	2404	474.92	5.16	-164.07
333	SLD 5	215	337	4812	833.35	8.07	-75.68
333	SLD 6	260	374	4852	839.52	8.09	-91.35
333	SLD 7	78	-398	1486	311.03	2.98	-27
333	SLD 8	123	-361	1526	317.2	3	-42.67
333	SLD 9	-29	314	5067	856.32	7.75	10.06
333	SLD 10	16	351	5107	862.49	7.78	-5.62
333	SLD 11	-166	-421	1741	334	2.66	58.73
333	SLD 12	-121	-384	1781	340.17	2.68	43.06
333	SLD 13	-375	19	4190	698.6	5.59	131.45
333	SLD 14	-305	77	4252	708.18	5.63	107.11
333	SLD 15	-416	-201	3192	541.9	4.06	146.05
333	SLD 16	-346	-144	3254	551.49	4.1	121.71
333	SLV 1	665	180	3436	653.13	7.48	-233.12
333	SLV 2	775	271	3534	668.25	7.54	-271.48
333	SLV 3	595	-197	1734	385.81	4.87	-208.22
333	SLV 4	705	-105	1832	400.93	4.93	-246.58
333	SLV 5	318	591	5902	1009.29	9.95	-111.97
333	SLV 6	392	652	5968	1019.46	9.99	-137.79
333	SLV 7	85	-663	228	118.22	1.26	-28.95
333	SLV 8	159	-602	294	128.39	1.3	-54.78
333	SLV 9	-65	555	6300	1045.13	9.45	22.16
333	SLV 10	9	616	6366	1055.3	9.49	-3.67
333	SLV 11	-298	-699	626	154.06	0.76	105.17
333	SLV 12	-224	-638	692	164.23	0.8	79.35
333	SLV 13	-611	58	4762	772.59	5.82	213.96
333	SLV 14	-501	149	4860	787.71	5.88	175.6
333	SLV 15	-681	-318	3060	505.27	3.21	238.87
333	SLV 16	-571	-227	3158	520.39	3.28	200.5
333	SLV FO 1	727	200	3450	659.77	7.69	-254.8
333	SLV FO 2	848	300	3558	676.39	7.75	-297
333	SLV FO 3	650	-214	1578	365.72	4.82	-227.41
333	SLV FO 4	771	-114	1685	382.34	4.89	-269.61
333	SLV FO 5	345	653	6162	1051.54	10.41	-121.53
333	SLV FO 6	427	720	6235	1062.73	10.45	-149.94
333	SLV FO 7	88	-727	-79	71.37	0.85	-30.22
333	SLV FO 8	170	-660	-6	82.56	0.89	-58.62
333	SLV FO 9	-76	613	6600	1090.96	9.86	26.01
333	SLV FO 10	6	680	6672	1102.15	9.91	-2.4
333	SLV FO 11	-333	-767	359	110.79	0.3	117.32
333	SLV FO 12	-251	-700	431	121.98	0.35	88.91
333	SLV FO 13	-677	67	4908	791.18	5.87	236.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
333	SLV FO 14	-556	167	5016	807.8	5.94	194.79
333	SLV FO 15	-754	-347	3036	497.13	3	264.38
333	SLV FO 16	-633	-247	3144	513.75	3.07	222.18
333	CRTFP Ux+	0	0	0	0	0	0
333	CRTFP Ux-	0	0	0	0	0	0
333	CRTFP Uy+	0	0	0	0	0	0
333	CRTFP Uy-	0	0	0	0	0	0
334	SLU 1	47	-18	2933	437.33	3.65	-16.23
334	SLU 2	50	0	3006	446.22	3.71	-17.31
334	SLU 3	47	-18	2975	442.95	3.71	-16.4
334	SLU 4	49	-7	3019	448.28	3.75	-17.05
334	SLU 5	50	0	3029	449.43	3.75	-17.25
334	SLU 6	47	-18	2998	446.15	3.76	-16.33
334	SLU 7	49	-7	3042	451.49	3.79	-16.98
334	SLU 8	46	-18	2979	443.74	3.73	-16.09
334	SLU 9	48	-7	3023	449.08	3.77	-16.74
334	SLU 10	53	-1	3374	492.99	4.26	-18.32
334	SLU 11	50	-19	3344	489.72	4.26	-17.41
334	SLU 12	52	-8	3388	495.06	4.3	-18.06
334	SLU 13	53	-1	3397	496.2	4.3	-18.25
334	SLU 14	50	-19	3367	492.93	4.31	-17.34
334	SLU 15	52	-8	3411	498.26	4.34	-17.99
334	SLU 16	49	-19	3347	490.52	4.28	-17.1
334	SLU 17	51	-8	3391	495.85	4.32	-17.75
334	SLU 18	51	-19	3459	504.15	4.43	-17.66
334	SLU 19	53	-9	3503	509.49	4.47	-18.32
334	SLU 20	51	-19	3482	507.36	4.47	-17.6
334	SLU 21	53	-9	3526	512.69	4.51	-18.25
334	SLU 22	53	-20	3332	488.28	4.22	-18.54
334	SLU 23	57	-2	3405	497.16	4.28	-19.62
334	SLU 24	54	-21	3374	493.89	4.29	-18.71
334	SLU 25	56	-10	3418	499.23	4.32	-19.36
334	SLU 26	56	-2	3428	500.37	4.33	-19.55
334	SLU 27	54	-21	3397	497.1	4.33	-18.64
334	SLU 28	56	-10	3441	502.43	4.37	-19.29
334	SLU 29	53	-20	3378	494.69	4.3	-18.4
334	SLU 30	55	-9	3422	500.02	4.34	-19.05
334	SLU 31	59	-3	3773	543.94	4.83	-20.63
334	SLU 32	57	-22	3743	540.67	4.84	-19.71
334	SLU 33	59	-11	3786	546	4.87	-20.37
334	SLU 34	59	-3	3796	547.14	4.88	-20.56
334	SLU 35	57	-22	3766	543.87	4.88	-19.65
334	SLU 36	59	-11	3810	549.2	4.92	-20.3
334	SLU 37	56	-22	3746	541.46	4.85	-19.41
334	SLU 38	58	-11	3790	546.79	4.89	-20.06
334	SLU 39	58	-22	3858	555.1	5.01	-19.97
334	SLU 40	59	-11	3902	560.43	5.04	-20.62
334	SLU 41	57	-22	3881	558.3	5.05	-19.91
334	SLU 42	59	-11	3925	563.63	5.09	-20.56
334	SLU 43	59	-22	3676	551.07	4.55	-20.3
334	SLU 44	62	-4	3749	559.95	4.61	-21.39
334	SLU 45	59	-22	3718	556.68	4.61	-20.48
334	SLU 46	61	-12	3762	562.01	4.65	-21.13
334	SLU 47	61	-4	3772	563.16	4.65	-21.32
334	SLU 48	59	-22	3741	559.89	4.65	-20.41
334	SLU 49	61	-12	3785	565.22	4.69	-21.06
334	SLU 50	58	-22	3722	557.48	4.63	-20.17
334	SLU 51	60	-11	3766	562.81	4.67	-20.82
334	SLU 52	65	-5	4117	606.73	5.16	-22.4
334	SLU 53	62	-24	4087	603.46	5.16	-21.48
334	SLU 54	64	-13	4131	608.79	5.2	-22.13
334	SLU 55	64	-5	4140	609.93	5.2	-22.33
334	SLU 56	62	-24	4110	606.66	5.2	-21.41
334	SLU 57	64	-13	4154	611.99	5.24	-22.07
334	SLU 58	61	-23	4090	604.25	5.18	-21.17
334	SLU 59	63	-12	4134	609.58	5.22	-21.83
334	SLU 60	63	-24	4202	617.89	5.33	-21.74
334	SLU 61	65	-13	4246	623.22	5.37	-22.39
334	SLU 62	63	-24	4225	621.09	5.37	-21.67
334	SLU 63	64	-13	4269	626.42	5.41	-22.32
334	SLU 64	65	-25	4075	602.01	5.12	-22.61
334	SLU 65	68	-7	4148	610.9	5.18	-23.7
334	SLU 66	66	-25	4117	607.63	5.19	-22.78
334	SLU 67	68	-14	4161	612.96	5.22	-23.44
334	SLU 68	68	-7	4171	614.1	5.22	-23.63
334	SLU 69	65	-25	4140	610.83	5.23	-22.72
334	SLU 70	67	-14	4184	616.16	5.26	-23.37
334	SLU 71	65	-25	4121	608.42	5.2	-22.48
334	SLU 72	67	-14	4165	613.75	5.24	-23.13
334	SLU 73	71	-8	4516	657.67	5.73	-24.7
334	SLU 74	69	-26	4486	654.4	5.73	-23.79
334	SLU 75	70	-15	4529	659.73	5.77	-24.44
334	SLU 76	71	-8	4539	660.88	5.77	-24.64
334	SLU 77	68	-26	4509	657.61	5.78	-23.72
334	SLU 78	70	-15	4553	662.94	5.81	-24.38
334	SLU 79	68	-26	4489	655.19	5.75	-23.48
334	SLU 80	70	-15	4533	660.53	5.79	-24.14
334	SLU 81	69	-26	4601	668.83	5.9	-24.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
334	SLU 82	71	-16	4645	674.16	5.94	-24.7
334	SLU 83	69	-26	4624	672.04	5.95	-23.98
334	SLU 84	71	-16	4668	677.37	5.98	-24.63
334	SLE RA 1	49	-18	3047	451.89	3.81	-16.89
334	SLE RA 2	51	-6	3095	457.81	3.85	-17.61
334	SLE RA 3	49	-19	3075	455.63	3.86	-17
334	SLE RA 4	50	-11	3104	459.19	3.88	-17.44
334	SLE RA 5	51	-6	3111	459.95	3.88	-17.57
334	SLE RA 6	49	-19	3090	457.77	3.88	-16.96
334	SLE RA 7	50	-11	3120	461.32	3.91	-17.39
334	SLE RA 8	48	-18	3077	456.16	3.87	-16.8
334	SLE RA 9	50	-11	3107	459.72	3.89	-17.23
334	SLE RA 10	53	-7	3341	489	4.22	-18.28
334	SLE RA 11	51	-19	3321	486.82	4.22	-17.67
334	SLE RA 12	52	-12	3350	490.37	4.25	-18.11
334	SLE RA 13	53	-7	3356	491.13	4.25	-18.24
334	SLE RA 14	51	-19	3336	488.95	4.25	-17.63
334	SLE RA 15	52	-12	3365	492.51	4.28	-18.06
334	SLE RA 16	50	-19	3323	487.34	4.23	-17.47
334	SLE RA 17	52	-12	3352	490.9	4.26	-17.9
334	SLE RA 18	51	-20	3398	496.44	4.34	-17.84
334	SLE RA 19	53	-12	3427	499.99	4.36	-18.28
334	SLE RA 20	51	-20	3413	498.57	4.36	-17.8
334	SLE RA 21	53	-12	3442	502.13	4.39	-18.23
334	SLE FR 1	49	-18	3047	451.89	3.81	-16.89
334	SLE FR 2	49	-16	3056	453.07	3.82	-17.03
334	SLE FR 3	49	-18	3053	452.74	3.82	-16.87
334	SLE FR 4	50	-16	3162	466.44	3.98	-17.32
334	SLE FR 5	49	-19	3158	466.11	3.98	-17.16
334	SLE FR 6	50	-19	3222	474.16	4.07	-17.37
334	SLE QP 1	49	-18	3047	451.89	3.81	-16.89
334	SLE QP 2	50	-19	3152	465.25	3.97	-17.17
334	SLD 1	443	94	3155	493.04	5.29	-155.15
334	SLD 2	513	154	3216	500.63	5.3	-179.49
334	SLD 3	401	-121	2198	372.93	4.16	-140.16
334	SLD 4	470	-61	2260	380.51	4.18	-164.5
334	SLD 5	220	330	4593	654.46	6.07	-77.12
334	SLD 6	265	368	4633	659.34	6.08	-92.79
334	SLD 7	79	-385	1404	254.07	2.32	-27.15
334	SLD 8	124	-346	1444	258.96	2.33	-42.82
334	SLD 9	-25	309	4860	671.54	5.61	8.47
334	SLD 10	20	347	4899	676.43	5.62	-7.2
334	SLD 11	-166	-406	1671	271.16	1.86	58.45
334	SLD 12	-121	-367	1711	276.05	1.87	42.77
334	SLD 13	-371	23	4044	549.99	3.76	130.16
334	SLD 14	-302	83	4105	557.58	3.77	105.81
334	SLD 15	-414	-191	3088	429.88	2.64	145.15
334	SLD 16	-344	-131	3149	437.46	2.65	120.8
334	SLV 1	668	172	3226	517.29	6.11	-233.94
334	SLV 2	778	266	3323	529.25	6.13	-272.31
334	SLV 3	595	-194	1594	312.39	4.19	-208.37
334	SLV 4	705	-99	1691	324.35	4.21	-246.75
334	SLV 5	324	575	5631	789.4	7.52	-113.82
334	SLV 6	398	639	5696	797.45	7.53	-139.65
334	SLV 7	83	-643	192	106.39	1.12	-28.6
334	SLV 8	157	-580	257	114.44	1.14	-54.43
334	SLV 9	-58	542	6047	816.06	6.8	20.08
334	SLV 10	16	606	6112	824.11	6.82	-5.75
334	SLV 11	-299	-676	608	133.05	0.41	105.31
334	SLV 12	-225	-613	673	141.1	0.42	79.48
334	SLV 13	-606	62	4613	606.16	3.72	212.4
334	SLV 14	-496	156	4710	618.12	3.74	174.03
334	SLV 15	-678	-304	2981	401.25	1.81	237.97
334	SLV 16	-568	-209	3078	413.21	1.83	199.6
334	SLV FO 1	729	191	3233	522.5	6.33	-255.62
334	SLV FO 2	850	295	3340	535.65	6.35	-297.83
334	SLV FO 3	650	-211	1438	297.1	4.22	-227.49
334	SLV FO 4	771	-107	1545	310.26	4.24	-269.7
334	SLV FO 5	351	635	5879	821.82	7.87	-123.49
334	SLV FO 6	433	705	5950	830.67	7.89	-151.9
334	SLV FO 7	87	-706	-104	70.51	0.84	-29.74
334	SLV FO 8	168	-636	-33	79.36	0.85	-58.15
334	SLV FO 9	-69	598	6337	851.14	7.09	23.8
334	SLV FO 10	12	668	6408	860	7.1	-4.61
334	SLV FO 11	-334	-742	353	99.83	0.05	117.55
334	SLV FO 12	-252	-672	425	108.69	0.06	89.14
334	SLV FO 13	-672	70	4759	620.25	3.7	235.36
334	SLV FO 14	-551	174	4865	633.4	3.72	193.15
334	SLV FO 15	-751	-332	2964	394.85	1.59	263.48
334	SLV FO 16	-630	-228	3070	408.01	1.61	221.27
334	CRTFP Ux+	0	0	0	0	0	0
334	CRTFP Ux-	0	0	0	0	0	0
334	CRTFP Uy+	0	0	0	0	0	0
334	CRTFP Uy-	0	0	0	0	0	0
335	SLU 1	49	-13	2843	356.59	2.11	-16.99
335	SLU 2	52	5	2915	363.66	2.14	-18.06
335	SLU 3	50	-13	2884	360.78	2.14	-17.18
335	SLU 4	51	-2	2927	365.03	2.17	-17.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
335	SLU 5	52	5	2937	366.04	2.17	-18.01
335	SLU 6	49	-13	2907	363.17	2.17	-17.13
335	SLU 7	51	-2	2949	367.41	2.19	-17.77
335	SLU 8	49	-13	2888	361.36	2.16	-16.88
335	SLU 9	51	-2	2931	365.6	2.18	-17.52
335	SLU 10	55	4	3270	398.85	2.48	-19.15
335	SLU 11	53	-14	3239	395.97	2.48	-18.27
335	SLU 12	55	-3	3282	400.22	2.5	-18.92
335	SLU 13	55	5	3292	401.23	2.51	-19.1
335	SLU 14	53	-14	3261	398.36	2.51	-18.22
335	SLU 15	54	-3	3304	402.6	2.53	-18.87
335	SLU 16	52	-13	3242	396.55	2.5	-17.97
335	SLU 17	54	-3	3285	400.79	2.52	-18.62
335	SLU 18	54	-14	3350	406.86	2.59	-18.55
335	SLU 19	55	-3	3393	411.1	2.61	-19.19
335	SLU 20	53	-14	3372	409.24	2.61	-18.49
335	SLU 21	55	-3	3415	413.49	2.64	-19.14
335	SLU 22	56	-15	3228	394.94	2.45	-19.4
335	SLU 23	59	3	3300	402.01	2.48	-20.48
335	SLU 24	57	-15	3269	399.13	2.48	-19.6
335	SLU 25	58	-5	3312	403.38	2.5	-20.24
335	SLU 26	59	3	3322	404.39	2.51	-20.42
335	SLU 27	56	-15	3291	401.52	2.51	-19.54
335	SLU 28	58	-5	3334	405.76	2.53	-20.19
335	SLU 29	56	-15	3272	399.71	2.5	-19.29
335	SLU 30	57	-4	3315	403.95	2.52	-19.94
335	SLU 31	62	2	3654	437.2	2.82	-21.57
335	SLU 32	60	-16	3624	434.32	2.82	-20.69
335	SLU 33	62	-5	3667	438.57	2.84	-21.34
335	SLU 34	62	2	3677	439.59	2.84	-21.52
335	SLU 35	60	-16	3646	436.71	2.84	-20.64
335	SLU 36	61	-5	3689	440.95	2.87	-21.28
335	SLU 37	59	-16	3627	434.9	2.83	-20.39
335	SLU 38	61	-5	3670	439.14	2.85	-21.03
335	SLU 39	60	-16	3735	445.21	2.93	-20.96
335	SLU 40	62	-5	3778	449.45	2.95	-21.61
335	SLU 41	60	-16	3757	447.6	2.95	-20.91
335	SLU 42	62	-5	3800	451.84	2.97	-21.56
335	SLU 43	61	-16	3565	450.41	2.62	-21.25
335	SLU 44	64	2	3636	457.49	2.66	-22.33
335	SLU 45	62	-16	3605	454.61	2.66	-21.45
335	SLU 46	64	-5	3648	458.85	2.68	-22.1
335	SLU 47	64	2	3658	459.87	2.68	-22.28
335	SLU 48	62	-16	3628	456.99	2.69	-21.4
335	SLU 49	64	-5	3671	461.24	2.71	-22.04
335	SLU 50	61	-16	3609	455.18	2.67	-21.14
335	SLU 51	63	-5	3652	459.43	2.7	-21.79
335	SLU 52	68	1	3991	492.68	3	-23.42
335	SLU 53	65	-17	3960	489.8	3	-22.54
335	SLU 54	67	-6	4003	494.04	3.02	-23.19
335	SLU 55	67	1	4013	495.06	3.02	-23.37
335	SLU 56	65	-17	3982	492.18	3.02	-22.49
335	SLU 57	67	-6	4025	496.43	3.04	-23.13
335	SLU 58	64	-16	3963	490.37	3.01	-22.24
335	SLU 59	66	-6	4006	494.62	3.03	-22.88
335	SLU 60	66	-17	4071	500.69	3.11	-22.81
335	SLU 61	68	-6	4114	504.93	3.13	-23.46
335	SLU 62	66	-17	4093	503.07	3.13	-22.76
335	SLU 63	68	-6	4136	507.31	3.15	-23.41
335	SLU 64	68	-18	3949	488.77	2.96	-23.67
335	SLU 65	71	0	4021	495.84	3	-24.75
335	SLU 66	69	-18	3990	492.96	3	-23.87
335	SLU 67	71	-8	4033	497.2	3.02	-24.51
335	SLU 68	71	0	4043	498.22	3.02	-24.69
335	SLU 69	69	-18	4012	495.34	3.02	-23.81
335	SLU 70	71	-8	4055	499.59	3.05	-24.46
335	SLU 71	68	-18	3994	493.53	3.01	-23.56
335	SLU 72	70	-7	4036	497.78	3.03	-24.21
335	SLU 73	75	-1	4376	531.03	3.33	-25.84
335	SLU 74	72	-19	4345	528.15	3.34	-24.96
335	SLU 75	74	-8	4388	532.39	3.36	-25.6
335	SLU 76	74	-1	4398	533.41	3.36	-25.78
335	SLU 77	72	-19	4367	530.54	3.36	-24.9
335	SLU 78	74	-8	4410	534.78	3.38	-25.55
335	SLU 79	71	-19	4348	528.72	3.35	-24.65
335	SLU 80	73	-8	4391	532.97	3.37	-25.3
335	SLU 81	73	-19	4456	539.04	3.44	-25.23
335	SLU 82	75	-8	4499	543.28	3.46	-25.88
335	SLU 83	73	-19	4478	541.42	3.47	-25.18
335	SLU 84	74	-8	4521	545.67	3.49	-25.82
335	SLE RA 1	51	-13	2953	367.54	2.2	-17.68
335	SLE RA 2	53	-1	3001	372.26	2.23	-18.39
335	SLE RA 3	51	-14	2981	370.34	2.23	-17.81
335	SLE RA 4	53	-6	3009	373.17	2.24	-18.24
335	SLE RA 5	53	-1	3016	373.85	2.24	-18.36
335	SLE RA 6	51	-14	2995	371.93	2.25	-17.77
335	SLE RA 7	52	-6	3024	374.76	2.26	-18.2
335	SLE RA 8	51	-13	2983	370.72	2.24	-17.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
335	SLE RA 9	52	-6	3011	373.55	2.25	-18.03
335	SLE RA 10	55	-2	3238	395.72	2.45	-19.12
335	SLE RA 11	53	-14	3217	393.8	2.45	-18.54
335	SLE RA 12	55	-7	3246	396.63	2.47	-18.97
335	SLE RA 13	55	-2	3252	397.31	2.47	-19.09
335	SLE RA 14	53	-14	3232	395.39	2.47	-18.5
335	SLE RA 15	55	-7	3261	398.22	2.48	-18.93
335	SLE RA 16	53	-14	3219	394.18	2.46	-18.33
335	SLE RA 17	54	-7	3248	397.01	2.48	-18.76
335	SLE RA 18	54	-14	3291	401.06	2.52	-18.72
335	SLE RA 19	55	-7	3320	403.89	2.54	-19.15
335	SLE RA 20	54	-14	3306	402.65	2.54	-18.68
335	SLE RA 21	55	-7	3335	405.48	2.56	-19.11
335	SLE FR 1	51	-13	2953	367.54	2.2	-17.68
335	SLE FR 2	51	-11	2963	368.49	2.21	-17.82
335	SLE FR 3	51	-13	2959	368.18	2.21	-17.66
335	SLE FR 4	52	-11	3064	378.54	2.3	-18.13
335	SLE FR 5	52	-14	3061	378.23	2.31	-17.97
335	SLE FR 6	52	-14	3122	384.3	2.36	-18.2
335	SLE QP 1	51	-13	2953	367.54	2.2	-17.68
335	SLE QP 2	52	-14	3055	377.6	2.3	-17.99
335	SLD 1	445	92	3016	396.38	3.68	-155.86
335	SLD 2	515	155	3078	402.48	3.65	-180.19
335	SLD 3	401	-118	2087	303.59	3.08	-140.53
335	SLD 4	471	-55	2148	309.69	3.05	-164.86
335	SLD 5	224	326	4443	522.92	3.63	-78.43
335	SLD 6	269	366	4482	526.85	3.62	-94.09
335	SLD 7	79	-375	1344	213.61	1.62	-27.31
335	SLD 8	124	-334	1383	217.54	1.61	-42.98
335	SLD 9	-20	307	4726	537.66	2.99	7
335	SLD 10	25	347	4766	541.59	2.98	-8.67
335	SLD 11	-165	-394	1627	228.35	0.98	58.12
335	SLD 12	-120	-353	1667	232.28	0.97	42.45
335	SLD 13	-368	28	3961	445.51	1.55	128.88
335	SLD 14	-298	91	4023	451.61	1.52	104.55
335	SLD 15	-411	-182	3032	352.71	0.95	144.22
335	SLD 16	-341	-119	3093	358.81	0.92	119.88
335	SLV 1	670	166	3062	413.61	4.5	-234.62
335	SLV 2	780	265	3159	423.23	4.46	-272.98
335	SLV 3	595	-193	1476	255.33	3.47	-208.47
335	SLV 4	705	-93	1573	264.94	3.43	-246.82
335	SLV 5	329	565	5444	626.68	4.53	-115.49
335	SLV 6	403	632	5510	633.15	4.5	-141.31
335	SLV 7	82	-630	158	99.06	1.1	-28.31
335	SLV 8	156	-563	223	105.53	1.07	-54.13
335	SLV 9	-52	535	5887	649.67	3.53	18.15
335	SLV 10	22	602	5952	656.14	3.5	-7.67
335	SLV 11	-300	-659	600	122.05	0.1	105.33
335	SLV 12	-225	-593	665	128.52	0.07	79.51
335	SLV 13	-602	66	4536	490.25	1.17	210.84
335	SLV 14	-492	165	4633	499.87	1.13	172.49
335	SLV 15	-676	-292	2950	331.97	0.14	237
335	SLV 16	-566	-193	3047	341.58	0.1	198.64
335	SLV FO 1	731	184	3063	417.21	4.72	-256.29
335	SLV FO 2	852	293	3169	427.79	4.67	-298.48
335	SLV FO 3	650	-211	1318	243.1	3.58	-227.51
335	SLV FO 4	771	-101	1425	253.68	3.54	-269.71
335	SLV FO 5	357	623	5683	651.58	4.75	-125.24
335	SLV FO 6	439	697	5755	658.7	4.72	-153.65
335	SLV FO 7	85	-691	-132	71.2	0.98	-29.34
335	SLV FO 8	166	-617	-60	78.32	0.95	-57.74
335	SLV FO 9	-62	590	6170	676.87	3.65	21.76
335	SLV FO 10	19	664	6241	683.99	3.62	-6.64
335	SLV FO 11	-335	-724	354	96.49	-0.12	117.67
335	SLV FO 12	-253	-650	426	103.62	-0.15	89.26
335	SLV FO 13	-667	74	4685	501.52	1.06	233.73
335	SLV FO 14	-546	183	4791	512.1	1.02	191.53
335	SLV FO 15	-749	-320	2940	327.41	-0.07	262.5
335	SLV FO 16	-628	-211	3046	337.98	-0.12	220.31
335	CRTFP Ux+	0	0	0	0	0	0
335	CRTFP Ux-	0	0	0	0	0	0
335	CRTFP Uy+	0	0	0	0	0	0
335	CRTFP Uy-	0	0	0	0	0	0
336	SLU 1	51	-7	2804	310.82	0.4	-17.69
336	SLU 2	54	11	2875	316.8	0.4	-18.75
336	SLU 3	52	-7	2845	314.22	0.4	-17.9
336	SLU 4	54	3	2887	317.81	0.4	-18.54
336	SLU 5	54	11	2897	318.72	0.41	-18.7
336	SLU 6	52	-7	2866	316.14	0.41	-17.86
336	SLU 7	53	4	2909	319.73	0.41	-18.5
336	SLU 8	51	-7	2848	314.65	0.41	-17.6
336	SLU 9	53	4	2890	318.24	0.41	-18.24
336	SLU 10	58	10	3223	345.27	0.5	-19.92
336	SLU 11	55	-8	3193	342.69	0.5	-19.07
336	SLU 12	57	3	3235	346.28	0.51	-19.71
336	SLU 13	57	11	3245	347.19	0.51	-19.88
336	SLU 14	55	-8	3214	344.6	0.51	-19.03
336	SLU 15	57	3	3257	348.19	0.51	-19.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
336	SLU 16	54	-7	3196	343.11	0.51	-18.77
336	SLU 17	56	4	3238	346.71	0.52	-19.41
336	SLU 18	56	-8	3301	351.49	0.54	-19.36
336	SLU 19	58	3	3344	355.08	0.54	-20
336	SLU 20	56	-7	3323	353.4	0.55	-19.32
336	SLU 21	58	3	3366	356.99	0.55	-19.95
336	SLU 22	58	-9	3183	341.96	0.47	-20.2
336	SLU 23	61	9	3254	347.94	0.48	-21.26
336	SLU 24	59	-9	3223	345.36	0.48	-20.42
336	SLU 25	61	1	3266	348.95	0.48	-21.06
336	SLU 26	61	9	3275	349.86	0.48	-21.22
336	SLU 27	59	-9	3245	347.27	0.49	-20.38
336	SLU 28	61	2	3287	350.87	0.49	-21.01
336	SLU 29	58	-9	3226	345.79	0.49	-20.12
336	SLU 30	60	2	3269	349.38	0.49	-20.75
336	SLU 31	65	9	3602	376.41	0.58	-22.44
336	SLU 32	62	-10	3571	373.83	0.58	-21.59
336	SLU 33	64	1	3614	377.42	0.58	-22.23
336	SLU 34	65	9	3623	378.32	0.58	-22.39
336	SLU 35	62	-9	3593	375.74	0.59	-21.55
336	SLU 36	64	1	3635	379.33	0.59	-22.18
336	SLU 37	61	-9	3574	374.25	0.59	-21.29
336	SLU 38	63	2	3617	377.85	0.59	-21.92
336	SLU 39	63	-10	3680	382.62	0.62	-21.88
336	SLU 40	65	1	3722	386.22	0.62	-22.51
336	SLU 41	63	-9	3701	384.54	0.63	-21.83
336	SLU 42	65	1	3744	388.13	0.63	-22.47
336	SLU 43	64	-9	3516	393.39	0.49	-22.13
336	SLU 44	67	9	3587	399.37	0.49	-23.19
336	SLU 45	65	-9	3556	396.79	0.5	-22.35
336	SLU 46	66	2	3599	400.38	0.5	-22.98
336	SLU 47	67	9	3609	401.29	0.5	-23.15
336	SLU 48	64	-9	3578	398.7	0.5	-22.3
336	SLU 49	66	2	3621	402.3	0.51	-22.94
336	SLU 50	64	-8	3559	397.22	0.51	-22.04
336	SLU 51	66	2	3602	400.81	0.51	-22.68
336	SLU 52	70	9	3935	427.84	0.6	-24.36
336	SLU 53	68	-9	3904	425.26	0.6	-23.52
336	SLU 54	70	2	3947	428.85	0.6	-24.15
336	SLU 55	70	9	3956	429.75	0.6	-24.32
336	SLU 56	68	-9	3926	427.17	0.61	-23.48
336	SLU 57	70	2	3968	430.76	0.61	-24.11
336	SLU 58	67	-9	3907	425.68	0.61	-23.22
336	SLU 59	69	2	3950	429.27	0.61	-23.85
336	SLU 60	69	-9	4013	434.05	0.64	-23.8
336	SLU 61	71	2	4056	437.65	0.64	-24.44
336	SLU 62	69	-9	4035	435.97	0.64	-23.76
336	SLU 63	70	2	4077	439.56	0.65	-24.4
336	SLU 64	71	-11	3894	424.53	0.57	-24.64
336	SLU 65	74	7	3965	430.51	0.57	-25.71
336	SLU 66	72	-11	3935	427.93	0.57	-24.86
336	SLU 67	74	0	3977	431.52	0.57	-25.5
336	SLU 68	74	7	3987	432.43	0.58	-25.66
336	SLU 69	72	-11	3956	429.84	0.58	-24.82
336	SLU 70	73	0	3999	433.43	0.58	-25.46
336	SLU 71	71	-10	3938	428.36	0.58	-24.56
336	SLU 72	73	0	3980	431.95	0.58	-25.2
336	SLU 73	78	7	4313	458.98	0.67	-26.88
336	SLU 74	75	-11	4283	456.4	0.67	-26.03
336	SLU 75	77	0	4325	459.99	0.67	-26.67
336	SLU 76	77	7	4335	460.89	0.68	-26.84
336	SLU 77	75	-11	4304	458.31	0.68	-25.99
336	SLU 78	77	0	4347	461.9	0.68	-26.63
336	SLU 79	74	-11	4286	456.82	0.68	-25.73
336	SLU 80	76	0	4328	460.41	0.68	-26.37
336	SLU 81	76	-11	4391	465.19	0.71	-26.32
336	SLU 82	78	0	4434	468.78	0.71	-26.96
336	SLU 83	76	-11	4413	467.11	0.72	-26.28
336	SLU 84	78	0	4456	470.7	0.72	-26.91
336	SLE RA 1	53	-8	2913	319.71	0.42	-18.4
336	SLE RA 2	55	4	2960	323.7	0.42	-19.11
336	SLE RA 3	54	-8	2939	321.98	0.42	-18.55
336	SLE RA 4	55	-1	2968	324.38	0.42	-18.97
336	SLE RA 5	55	4	2974	324.98	0.43	-19.08
336	SLE RA 6	53	-8	2954	323.26	0.43	-18.52
336	SLE RA 7	55	-1	2982	325.65	0.43	-18.95
336	SLE RA 8	53	-8	2941	322.27	0.43	-18.35
336	SLE RA 9	54	0	2970	324.66	0.43	-18.77
336	SLE RA 10	57	4	3192	342.68	0.49	-19.89
336	SLE RA 11	56	-8	3171	340.96	0.49	-19.33
336	SLE RA 12	57	-1	3200	343.36	0.49	-19.76
336	SLE RA 13	57	4	3206	343.96	0.49	-19.87
336	SLE RA 14	56	-8	3186	342.24	0.5	-19.3
336	SLE RA 15	57	-1	3214	344.63	0.5	-19.73
336	SLE RA 16	55	-8	3173	341.25	0.5	-19.13
336	SLE RA 17	56	-1	3202	343.64	0.5	-19.55
336	SLE RA 18	56	-8	3244	346.83	0.52	-19.52
336	SLE RA 19	58	-1	3272	349.22	0.52	-19.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
336	SLE RA 20	56	-8	3258	348.1	0.52	-19.49
336	SLE RA 21	58	-1	3287	350.5	0.52	-19.92
336	SLE FR 1	53	-8	2913	319.71	0.42	-18.4
336	SLE FR 2	54	-5	2922	320.51	0.42	-18.55
336	SLE FR 3	53	-8	2918	320.22	0.42	-18.39
336	SLE FR 4	55	-6	3021	328.65	0.45	-18.88
336	SLE FR 5	54	-8	3018	328.36	0.45	-18.73
336	SLE FR 6	55	-8	3078	333.27	0.47	-18.96
336	SLE QP 1	53	-8	2913	319.71	0.42	-18.4
336	SLE QP 2	54	-8	3012	327.85	0.45	-18.74
336	SLD 1	447	92	2930	335.74	1.9	-156.45
336	SLD 2	517	159	2993	341.07	1.83	-180.76
336	SLD 3	402	-117	2010	259.09	1.93	-140.81
336	SLD 4	472	-49	2072	264.41	1.85	-165.12
336	SLD 5	228	327	4372	445.56	0.86	-79.58
336	SLD 6	273	370	4413	448.99	0.82	-95.24
336	SLD 7	79	-369	1305	190.04	0.94	-27.47
336	SLD 8	124	-325	1345	193.47	0.89	-43.12
336	SLD 9	-16	310	4679	462.23	0.01	5.64
336	SLD 10	29	353	4719	465.65	-0.04	-10.01
336	SLD 11	-164	-386	1611	206.71	0.08	57.76
336	SLD 12	-119	-343	1651	210.13	0.03	42.11
336	SLD 13	-364	34	3951	391.29	-0.96	127.64
336	SLD 14	-294	101	4014	396.61	-1.03	103.33
336	SLD 15	-409	-175	3031	314.63	-0.93	143.28
336	SLD 16	-339	-108	3094	319.95	-1.01	118.97
336	SLV 1	671	163	2951	345.71	2.72	-235.14
336	SLV 2	781	269	3050	354.1	2.6	-273.46
336	SLV 3	595	-193	1381	214.96	2.75	-208.47
336	SLV 4	705	-87	1480	223.35	2.64	-246.79
336	SLV 5	334	564	5356	529.94	1.09	-116.96
336	SLV 6	408	635	5423	535.59	1.02	-142.76
336	SLV 7	80	-623	123	94.11	1.22	-28.06
336	SLV 8	154	-552	190	99.76	1.14	-53.86
336	SLV 9	-46	536	5834	555.94	-0.24	16.38
336	SLV 10	28	607	5901	561.59	-0.32	-9.42
336	SLV 11	-300	-651	601	120.1	-0.12	105.28
336	SLV 12	-226	-580	668	125.75	-0.2	79.48
336	SLV 13	-597	71	4544	432.35	-1.74	209.32
336	SLV 14	-487	177	4643	440.74	-1.86	170.99
336	SLV 15	-673	-285	2974	301.6	-1.71	235.98
336	SLV 16	-563	-179	3073	309.99	-1.82	197.66
336	SLV FO 1	733	180	2944	347.49	2.94	-256.78
336	SLV FO 2	854	297	3054	356.73	2.82	-298.94
336	SLV FO 3	649	-211	1218	203.67	2.99	-227.44
336	SLV FO 4	770	-95	1327	212.9	2.86	-269.6
336	SLV FO 5	362	621	5591	550.15	1.16	-126.78
336	SLV FO 6	444	699	5664	556.37	1.07	-155.16
336	SLV FO 7	83	-685	-166	70.74	1.29	-28.99
336	SLV FO 8	164	-606	-92	76.95	1.21	-57.37
336	SLV FO 9	-56	591	6116	578.74	-0.31	19.89
336	SLV FO 10	25	669	6190	584.96	-0.4	-8.49
336	SLV FO 11	-336	-715	360	99.33	-0.18	117.68
336	SLV FO 12	-254	-637	433	105.54	-0.26	89.3
336	SLV FO 13	-662	79	4697	442.8	-1.96	232.12
336	SLV FO 14	-541	196	4806	452.03	-2.09	189.96
336	SLV FO 15	-746	-313	2970	298.97	-1.92	261.46
336	SLV FO 16	-625	-196	3079	308.2	-2.05	219.3
336	CRTFP Ux+	0	0	0	0	0	0
336	CRTFP Ux-	0	0	0	0	0	0
336	CRTFP Uy+	0	0	0	0	0	0
336	CRTFP Uy-	0	0	0	0	0	0
337	SLU 1	53	-1	2820	303.44	-1.45	-18.31
337	SLU 2	56	17	2892	309.16	-1.49	-19.36
337	SLU 3	54	-1	2861	306.74	-1.48	-18.55
337	SLU 4	55	10	2904	310.18	-1.5	-19.18
337	SLU 5	56	18	2913	310.99	-1.5	-19.33
337	SLU 6	54	-1	2883	308.57	-1.49	-18.52
337	SLU 7	55	10	2926	312.01	-1.51	-19.14
337	SLU 8	53	0	2864	307.1	-1.47	-18.25
337	SLU 9	55	11	2907	310.53	-1.49	-18.87
337	SLU 10	60	18	3241	336.22	-1.64	-20.6
337	SLU 11	57	-1	3210	333.79	-1.63	-19.79
337	SLU 12	59	10	3253	337.23	-1.66	-20.42
337	SLU 13	60	18	3262	338.04	-1.65	-20.57
337	SLU 14	57	0	3231	335.62	-1.65	-19.76
337	SLU 15	59	11	3274	339.06	-1.67	-20.39
337	SLU 16	56	0	3212	334.15	-1.63	-19.49
337	SLU 17	58	11	3255	337.58	-1.65	-20.12
337	SLU 18	58	0	3319	342.08	-1.67	-20.09
337	SLU 19	60	11	3361	345.52	-1.69	-20.71
337	SLU 20	58	0	3340	343.91	-1.68	-20.05
337	SLU 21	60	11	3383	347.35	-1.7	-20.68
337	SLU 22	60	-2	3201	333.27	-1.66	-20.91
337	SLU 23	63	16	3272	338.99	-1.7	-21.96
337	SLU 24	61	-2	3241	336.57	-1.69	-21.15
337	SLU 25	63	9	3284	340.01	-1.71	-21.78
337	SLU 26	63	16	3294	340.82	-1.71	-21.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLU 27	61	-2	3263	338.4	-1.7	-21.12
337	SLU 28	63	9	3306	341.84	-1.72	-21.75
337	SLU 29	60	-2	3244	336.93	-1.68	-20.85
337	SLU 30	62	9	3287	340.36	-1.7	-21.48
337	SLU 31	67	16	3621	366.04	-1.85	-23.2
337	SLU 32	65	-2	3590	363.62	-1.84	-22.39
337	SLU 33	67	9	3633	367.06	-1.86	-23.02
337	SLU 34	67	17	3643	367.87	-1.86	-23.17
337	SLU 35	65	-2	3612	365.45	-1.85	-22.36
337	SLU 36	66	9	3655	368.89	-1.88	-22.99
337	SLU 37	64	-1	3593	363.98	-1.84	-22.09
337	SLU 38	66	10	3636	367.41	-1.86	-22.72
337	SLU 39	66	-2	3699	371.91	-1.88	-22.69
337	SLU 40	67	9	3742	375.35	-1.9	-23.32
337	SLU 41	66	-1	3721	373.74	-1.89	-22.66
337	SLU 42	67	9	3763	377.18	-1.91	-23.29
337	SLU 43	66	-1	3536	384.25	-1.81	-22.91
337	SLU 44	69	18	3607	389.97	-1.85	-23.96
337	SLU 45	67	-1	3577	387.55	-1.84	-23.15
337	SLU 46	69	10	3620	390.98	-1.87	-23.78
337	SLU 47	69	18	3629	391.8	-1.86	-23.93
337	SLU 48	67	0	3598	389.38	-1.86	-23.12
337	SLU 49	69	11	3641	392.81	-1.88	-23.74
337	SLU 50	66	0	3579	387.9	-1.84	-22.85
337	SLU 51	68	11	3622	391.34	-1.86	-23.48
337	SLU 52	73	18	3956	417.02	-2	-25.2
337	SLU 53	71	0	3925	414.6	-2	-24.39
337	SLU 54	72	11	3968	418.03	-2.02	-25.02
337	SLU 55	73	18	3978	418.85	-2.01	-25.17
337	SLU 56	71	0	3947	416.43	-2.01	-24.36
337	SLU 57	72	11	3990	419.86	-2.03	-24.99
337	SLU 58	70	0	3928	414.95	-1.99	-24.09
337	SLU 59	72	11	3971	418.39	-2.01	-24.72
337	SLU 60	71	0	4034	422.89	-2.03	-24.69
337	SLU 61	73	11	4077	426.32	-2.06	-25.31
337	SLU 62	71	0	4056	424.72	-2.05	-24.65
337	SLU 63	73	11	4099	428.15	-2.07	-25.28
337	SLU 64	74	-2	3916	414.08	-2.02	-25.51
337	SLU 65	77	16	3988	419.8	-2.06	-26.56
337	SLU 66	74	-2	3957	417.38	-2.05	-25.75
337	SLU 67	76	9	4000	420.81	-2.07	-26.38
337	SLU 68	77	16	4010	421.63	-2.07	-26.53
337	SLU 69	74	-2	3979	419.21	-2.06	-25.72
337	SLU 70	76	9	4022	422.64	-2.09	-26.35
337	SLU 71	74	-1	3960	417.73	-2.05	-25.45
337	SLU 72	75	9	4003	421.17	-2.07	-26.08
337	SLU 73	80	16	4337	446.85	-2.21	-27.8
337	SLU 74	78	-2	4306	444.43	-2.21	-26.99
337	SLU 75	80	9	4349	447.86	-2.23	-27.62
337	SLU 76	80	17	4358	448.68	-2.22	-27.77
337	SLU 77	78	-1	4328	446.26	-2.22	-26.96
337	SLU 78	80	9	4370	449.69	-2.24	-27.59
337	SLU 79	77	-1	4308	444.78	-2.2	-26.69
337	SLU 80	79	10	4351	448.22	-2.22	-27.32
337	SLU 81	79	-2	4415	452.72	-2.24	-27.29
337	SLU 82	81	9	4457	456.15	-2.26	-27.92
337	SLU 83	79	-1	4436	454.55	-2.25	-27.26
337	SLU 84	81	10	4479	457.98	-2.28	-27.89
337	SLE RA 1	55	-1	2929	311.96	-1.51	-19.05
337	SLE RA 2	57	11	2977	315.78	-1.53	-19.75
337	SLE RA 3	56	-1	2956	314.17	-1.53	-19.21
337	SLE RA 4	57	6	2985	316.46	-1.54	-19.63
337	SLE RA 5	57	11	2991	317	-1.54	-19.73
337	SLE RA 6	56	-1	2971	315.38	-1.54	-19.19
337	SLE RA 7	57	6	2999	317.67	-1.55	-19.61
337	SLE RA 8	55	-1	2958	314.4	-1.53	-19.01
337	SLE RA 9	56	6	2986	316.69	-1.54	-19.43
337	SLE RA 10	60	11	3209	333.81	-1.64	-20.58
337	SLE RA 11	58	-1	3189	332.2	-1.63	-20.04
337	SLE RA 12	59	6	3217	334.49	-1.65	-20.46
337	SLE RA 13	59	11	3224	335.03	-1.64	-20.56
337	SLE RA 14	58	-1	3203	333.42	-1.64	-20.02
337	SLE RA 15	59	6	3232	335.71	-1.65	-20.44
337	SLE RA 16	57	-1	3190	332.43	-1.63	-19.84
337	SLE RA 17	59	7	3219	334.72	-1.64	-20.26
337	SLE RA 18	59	-1	3261	337.73	-1.66	-20.24
337	SLE RA 19	60	6	3290	340.02	-1.67	-20.66
337	SLE RA 20	58	-1	3276	338.94	-1.66	-20.22
337	SLE RA 21	60	7	3304	341.23	-1.68	-20.64
337	SLE FR 1	55	-1	2929	311.96	-1.51	-19.05
337	SLE FR 2	55	1	2939	312.73	-1.52	-19.19
337	SLE FR 3	55	-1	2935	312.45	-1.51	-19.05
337	SLE FR 4	57	1	3038	320.46	-1.56	-19.55
337	SLE FR 5	56	-1	3034	320.18	-1.56	-19.4
337	SLE FR 6	57	-1	3095	324.84	-1.58	-19.65
337	SLE QP 1	55	-1	2929	311.96	-1.51	-19.05
337	SLE QP 2	56	-1	3029	319.69	-1.55	-19.41
337	SLD 1	448	96	2900	314.32	0.04	-156.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLD 2	518	168	2966	319.79	-0.09	-181.18
337	SLD 3	403	-115	1969	240.99	0.71	-141
337	SLD 4	473	-42	2035	246.46	0.58	-165.28
337	SLD 5	231	335	4390	428.36	-2.07	-80.59
337	SLD 6	276	382	4433	431.88	-2.15	-96.22
337	SLD 7	79	-367	1288	183.93	0.16	-27.6
337	SLD 8	124	-321	1331	187.44	0.08	-43.24
337	SLD 9	-11	318	4727	451.94	-3.19	4.42
337	SLD 10	34	365	4769	455.46	-3.27	-11.22
337	SLD 11	-164	-384	1625	207.51	-0.96	57.41
337	SLD 12	-119	-337	1667	211.03	-1.04	41.77
337	SLD 13	-360	40	4022	392.93	-3.69	126.47
337	SLD 14	-290	112	4088	398.39	-3.82	102.18
337	SLD 15	-406	-171	3092	319.6	-3.02	142.36
337	SLD 16	-336	-98	3158	325.06	-3.15	118.08
337	SLV 1	673	166	2895	316.62	0.88	-235.49
337	SLV 2	783	279	2999	325.23	0.68	-273.77
337	SLV 3	595	-194	1307	191.54	2.03	-208.37
337	SLV 4	705	-80	1411	200.16	1.83	-246.65
337	SLV 5	339	573	5377	506.86	-2.52	-118.21
337	SLV 6	413	649	5447	512.65	-2.65	-143.98
337	SLV 7	79	-625	85	89.95	1.29	-27.83
337	SLV 8	153	-549	155	95.74	1.16	-53.6
337	SLV 9	-41	546	5902	543.64	-4.27	14.78
337	SLV 10	33	623	5972	549.44	-4.4	-10.98
337	SLV 11	-301	-652	611	126.73	-0.45	105.16
337	SLV 12	-227	-575	681	132.53	-0.59	79.4
337	SLV 13	-593	78	4646	439.23	-4.94	207.83
337	SLV 14	-482	191	4750	447.84	-5.14	169.56
337	SLV 15	-671	-282	3059	314.16	-3.79	234.95
337	SLV 16	-560	-168	3163	322.77	-3.99	196.67
337	SLV FO 1	734	182	2881	316.31	1.13	-257.1
337	SLV FO 2	855	307	2996	325.78	0.91	-299.2
337	SLV FO 3	648	-213	1135	178.73	2.38	-227.27
337	SLV FO 4	770	-88	1250	188.2	2.17	-269.38
337	SLV FO 5	367	630	5611	525.57	-2.62	-128.09
337	SLV FO 6	449	714	5688	531.95	-2.76	-156.44
337	SLV FO 7	81	-688	-209	66.97	1.58	-28.68
337	SLV FO 8	163	-603	-132	73.35	1.43	-57.02
337	SLV FO 9	-50	601	6189	566.04	-4.54	18.2
337	SLV FO 10	31	685	6266	572.41	-4.69	-10.14
337	SLV FO 11	-336	-717	369	107.43	-0.34	117.62
337	SLV FO 12	-255	-632	446	113.81	-0.49	89.28
337	SLV FO 13	-657	85	4808	451.18	-5.28	230.56
337	SLV FO 14	-536	211	4922	460.65	-5.49	188.45
337	SLV FO 15	-743	-310	3062	313.6	-4.02	260.38
337	SLV FO 16	-622	-185	3176	323.07	-4.24	218.28
337	CRTFP Ux+	0	0	0	0	0	0
337	CRTFP Ux-	0	0	0	0	0	0
337	CRTFP Uy+	0	0	0	0	0	0
337	CRTFP Uy-	0	0	0	0	0	0
338	SLU 1	55	7	2896	337.91	-3.44	-18.85
338	SLU 2	58	25	2969	344.3	-3.52	-19.88
338	SLU 3	55	7	2938	341.87	-3.51	-19.1
338	SLU 4	57	18	2982	345.71	-3.56	-19.72
338	SLU 5	58	26	2991	346.46	-3.55	-19.86
338	SLU 6	55	7	2960	344.03	-3.54	-19.08
338	SLU 7	57	18	3004	347.86	-3.59	-19.7
338	SLU 8	54	8	2940	342.22	-3.51	-18.8
338	SLU 9	56	19	2984	346.05	-3.55	-19.42
338	SLU 10	61	26	3326	375.7	-3.95	-21.18
338	SLU 11	59	8	3295	373.27	-3.94	-20.4
338	SLU 12	61	19	3339	377.1	-3.98	-21.02
338	SLU 13	61	27	3349	377.85	-3.98	-21.16
338	SLU 14	59	8	3318	375.42	-3.97	-20.38
338	SLU 15	61	19	3362	379.25	-4.01	-21
338	SLU 16	58	9	3298	373.62	-3.93	-20.11
338	SLU 17	60	20	3342	377.45	-3.98	-20.73
338	SLU 18	60	8	3406	382.77	-4.05	-20.71
338	SLU 19	62	19	3450	386.6	-4.1	-21.33
338	SLU 20	60	9	3429	384.92	-4.09	-20.69
338	SLU 21	62	20	3473	388.75	-4.13	-21.31
338	SLU 22	62	6	3287	372.87	-3.96	-21.52
338	SLU 23	65	24	3360	379.26	-4.04	-22.56
338	SLU 24	63	6	3329	376.83	-4.02	-21.78
338	SLU 25	65	17	3373	380.66	-4.07	-22.4
338	SLU 26	65	25	3383	381.41	-4.07	-22.53
338	SLU 27	63	6	3352	378.98	-4.06	-21.76
338	SLU 28	65	17	3395	382.81	-4.1	-22.38
338	SLU 29	62	7	3332	377.18	-4.02	-21.48
338	SLU 30	64	18	3376	381.01	-4.07	-22.1
338	SLU 31	69	25	3718	410.65	-4.46	-23.86
338	SLU 32	67	7	3687	408.22	-4.45	-23.08
338	SLU 33	69	18	3731	412.06	-4.5	-23.7
338	SLU 34	69	26	3740	412.81	-4.49	-23.84
338	SLU 35	67	7	3709	410.38	-4.48	-23.06
338	SLU 36	69	19	3753	414.21	-4.53	-23.68
338	SLU 37	66	8	3689	408.57	-4.45	-22.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
338	SLU 38	68	19	3733	412.41	-4.5	-23.4
338	SLU 39	68	7	3798	417.72	-4.57	-23.39
338	SLU 40	70	18	3842	421.55	-4.62	-24
338	SLU 41	68	8	3820	419.87	-4.6	-23.36
338	SLU 42	69	19	3864	423.71	-4.65	-23.98
338	SLU 43	68	9	3630	427.3	-4.3	-23.58
338	SLU 44	71	27	3703	433.69	-4.38	-24.61
338	SLU 45	69	9	3672	431.26	-4.37	-23.84
338	SLU 46	71	20	3716	435.09	-4.41	-24.46
338	SLU 47	71	28	3725	435.85	-4.41	-24.59
338	SLU 48	69	9	3694	433.41	-4.4	-23.82
338	SLU 49	71	21	3738	437.25	-4.44	-24.43
338	SLU 50	68	10	3675	431.61	-4.36	-23.54
338	SLU 51	70	21	3718	435.44	-4.41	-24.16
338	SLU 52	75	28	4061	465.09	-4.8	-25.92
338	SLU 53	73	10	4030	462.66	-4.79	-25.14
338	SLU 54	75	21	4074	466.49	-4.84	-25.76
338	SLU 55	75	29	4083	467.24	-4.84	-25.9
338	SLU 56	73	11	4052	464.81	-4.82	-25.12
338	SLU 57	75	22	4096	468.64	-4.87	-25.74
338	SLU 58	72	11	4032	463.01	-4.79	-24.84
338	SLU 59	74	22	4076	466.84	-4.84	-25.46
338	SLU 60	74	10	4141	472.15	-4.91	-25.45
338	SLU 61	76	21	4185	475.99	-4.96	-26.06
338	SLU 62	74	11	4163	474.31	-4.94	-25.42
338	SLU 63	75	22	4207	478.14	-4.99	-26.04
338	SLU 64	76	8	4022	462.26	-4.81	-26.26
338	SLU 65	79	26	4095	468.65	-4.89	-27.29
338	SLU 66	77	8	4064	466.22	-4.88	-26.51
338	SLU 67	79	19	4108	470.05	-4.93	-27.13
338	SLU 68	79	27	4117	470.8	-4.92	-27.27
338	SLU 69	77	9	4086	468.37	-4.91	-26.49
338	SLU 70	79	20	4130	472.2	-4.96	-27.11
338	SLU 71	76	9	4066	466.57	-4.88	-26.22
338	SLU 72	78	20	4110	470.4	-4.92	-26.84
338	SLU 73	83	28	4452	500.04	-5.32	-28.59
338	SLU 74	81	9	4421	497.61	-5.31	-27.82
338	SLU 75	82	20	4465	501.45	-5.36	-28.44
338	SLU 76	83	28	4475	502.2	-5.35	-28.57
338	SLU 77	81	10	4444	499.77	-5.34	-27.8
338	SLU 78	82	21	4488	503.6	-5.39	-28.41
338	SLU 79	80	10	4424	497.96	-5.3	-27.52
338	SLU 80	82	21	4468	501.8	-5.35	-28.14
338	SLU 81	81	10	4532	507.11	-5.43	-28.12
338	SLU 82	83	21	4576	510.94	-5.47	-28.74
338	SLU 83	81	10	4555	509.26	-5.46	-28.1
338	SLU 84	83	21	4599	513.1	-5.5	-28.72
338	SLE RA 1	57	6	3007	347.9	-3.59	-19.61
338	SLE RA 2	59	19	3056	352.16	-3.64	-20.3
338	SLE RA 3	57	6	3036	350.54	-3.63	-19.78
338	SLE RA 4	58	14	3065	353.1	-3.67	-20.19
338	SLE RA 5	59	19	3071	353.6	-3.66	-20.29
338	SLE RA 6	57	7	3050	351.98	-3.66	-19.77
338	SLE RA 7	58	14	3080	354.53	-3.69	-20.18
338	SLE RA 8	57	7	3037	350.77	-3.63	-19.58
338	SLE RA 9	58	14	3066	353.33	-3.66	-20
338	SLE RA 10	61	19	3295	373.09	-3.93	-21.17
338	SLE RA 11	60	7	3274	371.47	-3.92	-20.65
338	SLE RA 12	61	15	3303	374.03	-3.95	-21.06
338	SLE RA 13	61	20	3309	374.53	-3.95	-21.15
338	SLE RA 14	60	7	3289	372.91	-3.94	-20.64
338	SLE RA 15	61	15	3318	375.46	-3.97	-21.05
338	SLE RA 16	59	8	3276	371.7	-3.92	-20.45
338	SLE RA 17	60	15	3305	374.26	-3.95	-20.86
338	SLE RA 18	60	7	3348	377.8	-4	-20.85
338	SLE RA 19	62	15	3377	380.36	-4.03	-21.27
338	SLE RA 20	60	8	3363	379.24	-4.02	-20.84
338	SLE RA 21	62	15	3392	381.79	-4.05	-21.25
338	SLE FR 1	57	6	3007	347.9	-3.59	-19.61
338	SLE FR 2	57	9	3017	348.75	-3.6	-19.75
338	SLE FR 3	57	6	3013	348.48	-3.6	-19.61
338	SLE FR 4	58	9	3119	357.72	-3.72	-20.12
338	SLE FR 5	58	7	3116	357.45	-3.72	-19.98
338	SLE FR 6	59	7	3178	362.85	-3.79	-20.23
338	SLE QP 1	57	6	3007	347.9	-3.59	-19.61
338	SLE QP 2	58	7	3110	356.87	-3.71	-19.98
338	SLD 1	449	47	2929	335.19	-1.94	-157.2
338	SLD 2	519	126	3000	341.9	-2.12	-181.45
338	SLD 3	403	-169	1967	250.92	-0.55	-141.08
338	SLD 4	473	-90	2037	257.62	-0.73	-165.33
338	SLD 5	234	333	4503	477.03	-5.26	-81.43
338	SLD 6	279	383	4548	481.35	-5.38	-97.04
338	SLD 7	79	-387	1295	196.12	-0.62	-27.7
338	SLD 8	124	-336	1341	200.44	-0.74	-43.31
338	SLD 9	-8	350	4879	513.31	-6.69	3.34
338	SLD 10	37	400	4924	517.63	-6.81	-12.27
338	SLD 11	-163	-370	1671	232.4	-2.04	57.07
338	SLD 12	-118	-320	1716	236.72	-2.16	41.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
338	SLD 13	-357	104	4182	456.12	-6.69	125.36
338	SLD 14	-287	182	4253	462.83	-6.88	101.11
338	SLD 15	-404	-112	3220	371.85	-5.3	141.48
338	SLD 16	-334	-34	3290	378.55	-5.48	117.23
338	SLV 1	673	85	2897	329.14	-1.05	-235.66
338	SLV 2	784	208	3009	339.7	-1.34	-273.88
338	SLV 3	594	-284	1256	185.39	1.33	-208.17
338	SLV 4	704	-160	1367	195.96	1.04	-246.39
338	SLV 5	343	566	5515	564.59	-6.46	-119.26
338	SLV 6	417	649	5590	571.71	-6.66	-144.99
338	SLV 7	77	-662	43	85.44	1.46	-27.61
338	SLV 8	152	-579	118	92.56	1.26	-53.34
338	SLV 9	-36	592	6101	621.19	-8.69	13.37
338	SLV 10	38	676	6176	628.3	-8.88	-12.36
338	SLV 11	-301	-636	629	142.04	-0.77	105.02
338	SLV 12	-227	-553	704	149.15	-0.96	79.29
338	SLV 13	-588	173	4852	517.78	-8.46	206.42
338	SLV 14	-478	297	4963	528.35	-8.75	168.2
338	SLV 15	-668	-195	3211	374.04	-6.09	233.91
338	SLV 16	-558	-71	3322	384.61	-6.38	195.69
338	SLV FO 1	735	93	2876	326.36	-0.78	-257.23
338	SLV FO 2	856	229	2999	337.99	-1.1	-299.27
338	SLV FO 3	647	-313	1070	168.24	1.83	-226.98
338	SLV FO 4	769	-177	1193	179.87	1.51	-269.03
338	SLV FO 5	371	622	5755	585.36	-6.74	-129.18
338	SLV FO 6	453	713	5838	593.19	-6.95	-157.49
338	SLV FO 7	79	-729	-264	58.3	1.98	-28.37
338	SLV FO 8	161	-638	-181	66.13	1.76	-56.67
338	SLV FO 9	-45	651	6400	647.62	-9.19	16.7
338	SLV FO 10	36	742	6483	655.44	-9.4	-11.6
338	SLV FO 11	-337	-700	381	120.55	-0.47	117.52
338	SLV FO 12	-255	-608	464	128.38	-0.69	89.21
338	SLV FO 13	-653	190	5026	533.87	-8.94	229.06
338	SLV FO 14	-532	326	5149	545.5	-9.26	187.01
338	SLV FO 15	-740	-215	3221	375.76	-6.33	259.3
338	SLV FO 16	-619	-79	3343	387.38	-6.64	217.26
338	CRTFP Ux+	0	0	0	0	0	0
338	CRTFP Ux-	0	0	0	0	0	0
338	CRTFP Uy+	0	0	0	0	0	0
338	CRTFP Uy-	0	0	0	0	0	0
339	SLU 1	56	15	3035	418.28	-5.58	-19.29
339	SLU 2	59	34	3111	426.37	-5.71	-20.31
339	SLU 3	57	15	3079	423.72	-5.69	-19.56
339	SLU 4	59	27	3125	428.58	-5.76	-20.17
339	SLU 5	59	35	3134	429.3	-5.76	-20.29
339	SLU 6	57	16	3103	426.65	-5.74	-19.55
339	SLU 7	58	27	3149	431.5	-5.82	-20.16
339	SLU 8	56	16	3082	424.13	-5.69	-19.26
339	SLU 9	58	28	3127	428.99	-5.76	-19.87
339	SLU 10	63	36	3486	468.43	-6.43	-21.66
339	SLU 11	61	17	3455	465.77	-6.41	-20.91
339	SLU 12	62	29	3500	470.63	-6.49	-21.52
339	SLU 13	63	37	3510	471.35	-6.48	-21.65
339	SLU 14	61	18	3478	468.7	-6.46	-20.9
339	SLU 15	62	29	3524	473.55	-6.54	-21.51
339	SLU 16	60	18	3457	466.19	-6.41	-20.62
339	SLU 17	62	30	3503	471.04	-6.48	-21.23
339	SLU 18	62	18	3571	478.36	-6.61	-21.22
339	SLU 19	63	29	3616	483.21	-6.69	-21.83
339	SLU 20	62	19	3594	481.28	-6.67	-21.21
339	SLU 21	63	30	3640	486.14	-6.74	-21.82
339	SLU 22	64	15	3447	465.44	-6.43	-22.03
339	SLU 23	67	34	3523	473.53	-6.55	-23.04
339	SLU 24	65	15	3492	470.87	-6.53	-22.29
339	SLU 25	66	27	3538	475.73	-6.61	-22.91
339	SLU 26	67	34	3547	476.45	-6.61	-23.03
339	SLU 27	65	16	3515	473.8	-6.59	-22.28
339	SLU 28	66	27	3561	478.66	-6.66	-22.89
339	SLU 29	64	16	3494	471.29	-6.53	-22
339	SLU 30	66	28	3540	476.14	-6.61	-22.61
339	SLU 31	71	36	3899	515.58	-7.27	-24.39
339	SLU 32	69	17	3867	512.93	-7.26	-23.65
339	SLU 33	70	29	3913	517.78	-7.33	-24.26
339	SLU 34	71	37	3922	518.51	-7.33	-24.38
339	SLU 35	69	18	3891	515.85	-7.31	-23.63
339	SLU 36	70	29	3936	520.71	-7.38	-24.24
339	SLU 37	68	18	3869	513.34	-7.25	-23.35
339	SLU 38	70	30	3915	518.2	-7.33	-23.96
339	SLU 39	69	18	3983	525.51	-7.46	-23.96
339	SLU 40	71	29	4029	530.37	-7.53	-24.57
339	SLU 41	69	18	4007	528.44	-7.51	-23.94
339	SLU 42	71	30	4052	533.29	-7.59	-24.55
339	SLU 43	70	19	3803	527.6	-6.97	-24.14
339	SLU 44	73	38	3880	535.69	-7.09	-25.16
339	SLU 45	71	20	3848	533.04	-7.08	-24.41
339	SLU 46	73	31	3894	537.89	-7.15	-25.02
339	SLU 47	73	39	3903	538.62	-7.15	-25.14
339	SLU 48	71	21	3872	535.96	-7.13	-24.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
339	SLU 49	73	32	3918	540.82	-7.2	-25.01
339	SLU 50	70	21	3851	533.45	-7.07	-24.11
339	SLU 51	72	32	3896	538.31	-7.15	-24.72
339	SLU 52	77	40	4255	577.74	-7.81	-26.51
339	SLU 53	75	22	4224	575.09	-7.8	-25.76
339	SLU 54	77	33	4269	579.94	-7.87	-26.37
339	SLU 55	77	41	4279	580.67	-7.87	-26.5
339	SLU 56	75	23	4247	578.01	-7.85	-25.75
339	SLU 57	77	34	4293	582.87	-7.92	-26.36
339	SLU 58	74	23	4226	575.5	-7.8	-25.47
339	SLU 59	76	34	4272	580.36	-7.87	-26.08
339	SLU 60	76	22	4340	587.67	-8	-26.07
339	SLU 61	77	34	4385	592.53	-8.07	-26.68
339	SLU 62	76	23	4363	590.6	-8.05	-26.06
339	SLU 63	77	34	4409	595.45	-8.13	-26.67
339	SLU 64	78	19	4216	574.75	-7.81	-26.87
339	SLU 65	81	38	4292	582.85	-7.94	-27.89
339	SLU 66	79	20	4261	580.19	-7.92	-27.14
339	SLU 67	80	31	4306	585.05	-7.99	-27.75
339	SLU 68	81	39	4316	585.77	-7.99	-27.88
339	SLU 69	79	20	4284	583.12	-7.97	-27.13
339	SLU 70	80	32	4330	587.97	-8.05	-27.74
339	SLU 71	78	21	4263	580.61	-7.92	-26.85
339	SLU 72	80	32	4309	585.46	-7.99	-27.46
339	SLU 73	85	40	4667	624.9	-8.66	-29.24
339	SLU 74	83	22	4636	622.24	-8.64	-28.5
339	SLU 75	84	33	4682	627.1	-8.72	-29.11
339	SLU 76	85	41	4691	627.82	-8.71	-29.23
339	SLU 77	83	22	4660	625.17	-8.69	-28.48
339	SLU 78	84	34	4705	630.03	-8.77	-29.09
339	SLU 79	82	23	4638	622.66	-8.64	-28.2
339	SLU 80	84	34	4684	627.51	-8.72	-28.81
339	SLU 81	84	22	4752	634.83	-8.84	-28.81
339	SLU 82	85	34	4798	639.68	-8.92	-29.42
339	SLU 83	84	23	4776	637.75	-8.9	-28.79
339	SLU 84	85	34	4821	642.61	-8.97	-29.4
339	SLE RA 1	58	15	3152	431.75	-5.83	-20.07
339	SLE RA 2	60	28	3203	437.15	-5.91	-20.75
339	SLE RA 3	59	15	3182	435.38	-5.9	-20.25
339	SLE RA 4	60	23	3213	438.62	-5.95	-20.66
339	SLE RA 5	60	28	3219	439.1	-5.94	-20.74
339	SLE RA 6	59	16	3198	437.33	-5.93	-20.24
339	SLE RA 7	60	23	3228	440.57	-5.98	-20.65
339	SLE RA 8	58	16	3184	435.66	-5.9	-20.05
339	SLE RA 9	59	23	3214	438.89	-5.95	-20.46
339	SLE RA 10	63	29	3453	465.18	-6.39	-21.65
339	SLE RA 11	61	17	3432	463.41	-6.38	-21.15
339	SLE RA 12	63	24	3463	466.65	-6.43	-21.56
339	SLE RA 13	63	29	3469	467.13	-6.42	-21.64
339	SLE RA 14	61	17	3448	465.37	-6.41	-21.14
339	SLE RA 15	63	25	3479	468.6	-6.46	-21.55
339	SLE RA 16	61	17	3434	463.69	-6.38	-20.96
339	SLE RA 17	62	25	3465	466.93	-6.43	-21.36
339	SLE RA 18	62	17	3510	471.8	-6.51	-21.36
339	SLE RA 19	63	24	3540	475.04	-6.56	-21.77
339	SLE RA 20	62	17	3526	473.75	-6.55	-21.35
339	SLE RA 21	63	25	3556	476.99	-6.6	-21.76
339	SLE FR 1	58	15	3152	431.75	-5.83	-20.07
339	SLE FR 2	59	17	3163	432.83	-5.84	-20.21
339	SLE FR 3	58	15	3159	432.53	-5.84	-20.07
339	SLE FR 4	60	18	3270	444.85	-6.05	-20.59
339	SLE FR 5	59	16	3266	444.55	-6.05	-20.45
339	SLE FR 6	60	16	3331	451.78	-6.17	-20.72
339	SLE QP 1	58	15	3152	431.75	-5.83	-20.07
339	SLE QP 2	59	15	3260	443.77	-6.03	-20.46
339	SLD 1	450	55	3021	401.84	-4.02	-157.36
339	SLD 2	520	141	3098	411.07	-4.27	-181.58
339	SLD 3	403	-169	2004	290.88	-1.86	-141.05
339	SLD 4	473	-84	2081	300.11	-2.11	-165.27
339	SLD 5	237	353	4717	597.9	-8.67	-82.1
339	SLD 6	282	408	4767	603.84	-8.83	-97.69
339	SLD 7	78	-395	1327	228.02	-1.45	-27.74
339	SLD 8	123	-340	1377	233.97	-1.61	-43.33
339	SLD 9	-5	371	5142	653.57	-10.45	2.41
339	SLD 10	40	426	5192	659.52	-10.61	-13.18
339	SLD 11	-163	-377	1752	283.7	-3.23	56.78
339	SLD 12	-118	-322	1802	289.64	-3.39	41.19
339	SLD 13	-354	115	4438	587.43	-9.96	124.35
339	SLD 14	-284	200	4515	596.66	-10.2	100.14
339	SLD 15	-401	-110	3421	476.47	-7.79	140.66
339	SLD 16	-332	-24	3498	485.7	-8.04	116.45
339	SLV 1	674	93	2960	386.37	-3.05	-235.66
339	SLV 2	784	228	3082	400.92	-3.44	-273.83
339	SLV 3	593	-290	1225	197.09	0.64	-207.84
339	SLV 4	703	-155	1347	211.64	0.25	-246.01
339	SLV 5	346	594	5778	710.91	-10.67	-120.1
339	SLV 6	420	685	5860	720.7	-10.93	-145.79
339	SLV 7	76	-682	-5	79.97	1.64	-27.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
339	SLV 8	150	-591	77	89.77	1.38	-53.05
339	SLV 9	-31	622	6442	797.77	-13.44	12.13
339	SLV 10	43	713	6524	807.56	-13.71	-13.56
339	SLV 11	-302	-654	659	166.84	-1.13	104.87
339	SLV 12	-227	-563	741	176.63	-1.4	79.18
339	SLV 13	-584	186	5172	675.9	-12.31	205.1
339	SLV 14	-474	321	5294	690.45	-12.7	166.93
339	SLV 15	-665	-197	3437	486.62	-8.62	232.92
339	SLV 16	-555	-62	3559	501.17	-9.01	194.75
339	SLV FO 1	735	100	2931	380.63	-2.76	-257.19
339	SLV FO 2	857	249	3065	396.63	-3.18	-299.17
339	SLV FO 3	646	-321	1022	172.42	1.31	-226.58
339	SLV FO 4	767	-172	1156	188.42	0.88	-268.57
339	SLV FO 5	375	652	6030	737.62	-11.13	-130.06
339	SLV FO 6	456	752	6121	748.4	-11.42	-158.32
339	SLV FO 7	78	-752	-331	43.6	2.41	-28.05
339	SLV FO 8	159	-652	-241	54.37	2.12	-56.31
339	SLV FO 9	-41	683	6760	833.17	-14.19	15.39
339	SLV FO 10	41	783	6850	843.94	-14.47	-12.87
339	SLV FO 11	-338	-721	399	139.14	-0.64	117.41
339	SLV FO 12	-256	-621	489	149.92	-0.93	89.14
339	SLV FO 13	-649	203	5363	699.11	-12.94	227.65
339	SLV FO 14	-528	352	5497	715.12	-13.37	185.67
339	SLV FO 15	-738	-218	3455	490.91	-8.88	258.25
339	SLV FO 16	-617	-69	3589	506.91	-9.31	216.27
339	CRTFP Ux+	0	0	0	0	0	0
339	CRTFP Ux-	0	0	0	0	0	0
339	CRTFP Uy+	0	0	0	0	0	0
339	CRTFP Uy-	0	0	0	0	0	0
340	SLU 1	57	24	3242	548.35	-7.86	-19.64
340	SLU 2	60	44	3323	559.29	-8.03	-20.64
340	SLU 3	58	25	3290	556.15	-8.01	-19.92
340	SLU 4	60	37	3339	562.72	-8.11	-20.52
340	SLU 5	60	45	3348	563.47	-8.11	-20.64
340	SLU 6	58	26	3316	560.33	-8.08	-19.91
340	SLU 7	60	37	3364	566.9	-8.19	-20.52
340	SLU 8	57	26	3293	556.7	-8.01	-19.63
340	SLU 9	59	38	3341	563.27	-8.11	-20.23
340	SLU 10	64	47	3725	618.83	-9.07	-22.03
340	SLU 11	62	28	3693	615.69	-9.04	-21.31
340	SLU 12	64	40	3741	622.26	-9.14	-21.91
340	SLU 13	64	48	3750	623.01	-9.14	-22.03
340	SLU 14	62	29	3718	619.87	-9.11	-21.3
340	SLU 15	64	40	3767	626.44	-9.22	-21.9
340	SLU 16	61	29	3695	616.24	-9.04	-21.02
340	SLU 17	63	41	3744	622.81	-9.15	-21.62
340	SLU 18	63	29	3816	633.4	-9.33	-21.62
340	SLU 19	65	40	3865	639.97	-9.44	-22.22
340	SLU 20	63	29	3842	637.58	-9.41	-21.62
340	SLU 21	65	41	3890	644.15	-9.51	-22.22
340	SLU 22	65	25	3686	615.37	-9.05	-22.42
340	SLU 23	68	45	3766	626.31	-9.23	-23.42
340	SLU 24	66	26	3734	623.18	-9.2	-22.7
340	SLU 25	68	37	3783	629.74	-9.31	-23.3
340	SLU 26	68	46	3792	630.49	-9.3	-23.42
340	SLU 27	66	27	3760	627.36	-9.28	-22.69
340	SLU 28	68	38	3808	633.92	-9.38	-23.3
340	SLU 29	65	27	3737	623.73	-9.2	-22.41
340	SLU 30	67	39	3785	630.29	-9.31	-23.01
340	SLU 31	72	48	4169	685.85	-10.26	-24.81
340	SLU 32	70	29	4137	682.72	-10.23	-24.09
340	SLU 33	72	40	4185	689.28	-10.34	-24.69
340	SLU 34	72	49	4194	690.03	-10.34	-24.81
340	SLU 35	70	30	4162	686.89	-10.31	-24.08
340	SLU 36	72	41	4211	693.46	-10.41	-24.68
340	SLU 37	69	30	4139	683.26	-10.24	-23.79
340	SLU 38	71	42	4188	689.83	-10.34	-24.4
340	SLU 39	71	29	4260	700.42	-10.53	-24.4
340	SLU 40	73	41	4309	706.99	-10.63	-25
340	SLU 41	71	30	4286	704.6	-10.6	-24.4
340	SLU 42	73	42	4334	711.17	-10.71	-25
340	SLU 43	71	31	4062	689.87	-9.81	-24.57
340	SLU 44	74	51	4143	700.82	-9.98	-25.58
340	SLU 45	72	32	4111	697.68	-9.95	-24.85
340	SLU 46	74	44	4159	704.25	-10.06	-25.46
340	SLU 47	74	52	4168	704.99	-10.06	-25.57
340	SLU 48	72	33	4136	701.86	-10.03	-24.85
340	SLU 49	74	44	4185	708.43	-10.13	-25.45
340	SLU 50	71	33	4113	698.23	-9.96	-24.56
340	SLU 51	73	45	4162	704.8	-10.06	-25.17
340	SLU 52	78	54	4545	760.35	-11.02	-26.97
340	SLU 53	76	35	4513	757.22	-10.99	-26.24
340	SLU 54	78	47	4562	763.79	-11.09	-26.85
340	SLU 55	78	55	4571	764.53	-11.09	-26.96
340	SLU 56	76	36	4539	761.4	-11.06	-26.24
340	SLU 57	78	47	4587	767.97	-11.17	-26.84
340	SLU 58	75	36	4515	757.77	-10.99	-25.95
340	SLU 59	77	48	4564	764.34	-11.1	-26.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLU 60	77	36	4637	774.93	-11.28	-26.56
340	SLU 61	79	47	4685	781.49	-11.39	-27.16
340	SLU 62	77	36	4662	779.11	-11.36	-26.55
340	SLU 63	79	48	4711	785.67	-11.46	-27.16
340	SLU 64	79	32	4506	756.89	-11	-27.35
340	SLU 65	82	52	4587	767.84	-11.18	-28.36
340	SLU 66	80	33	4555	764.7	-11.15	-27.63
340	SLU 67	82	44	4603	771.27	-11.25	-28.24
340	SLU 68	82	53	4612	772.02	-11.25	-28.35
340	SLU 69	80	34	4580	768.88	-11.22	-27.63
340	SLU 70	82	45	4629	775.45	-11.33	-28.23
340	SLU 71	79	34	4557	765.25	-11.15	-27.34
340	SLU 72	81	46	4605	771.82	-11.26	-27.95
340	SLU 73	86	55	4989	827.38	-12.21	-29.75
340	SLU 74	84	36	4957	824.24	-12.18	-29.02
340	SLU 75	86	47	5005	830.81	-12.29	-29.63
340	SLU 76	86	56	5015	831.56	-12.28	-29.74
340	SLU 77	84	37	4982	828.42	-12.26	-29.02
340	SLU 78	86	48	5031	834.99	-12.36	-29.62
340	SLU 79	83	37	4959	824.79	-12.18	-28.73
340	SLU 80	85	49	5008	831.36	-12.29	-29.34
340	SLU 81	85	36	5081	841.95	-12.48	-29.34
340	SLU 82	87	48	5129	848.51	-12.58	-29.94
340	SLU 83	85	37	5106	846.13	-12.55	-29.33
340	SLU 84	87	49	5155	852.69	-12.66	-29.94
340	SLE RA 1	59	25	3368	567.49	-8.2	-20.43
340	SLE RA 2	61	38	3422	574.79	-8.32	-21.1
340	SLE RA 3	60	25	3401	572.7	-8.3	-20.62
340	SLE RA 4	61	33	3433	577.08	-8.37	-21.02
340	SLE RA 5	61	38	3439	577.58	-8.37	-21.1
340	SLE RA 6	60	26	3418	575.49	-8.35	-20.61
340	SLE RA 7	61	33	3450	579.86	-8.42	-21.02
340	SLE RA 8	59	26	3403	573.07	-8.3	-20.42
340	SLE RA 9	60	34	3435	577.44	-8.37	-20.83
340	SLE RA 10	64	40	3691	614.48	-9.01	-22.03
340	SLE RA 11	63	27	3669	612.39	-8.99	-21.54
340	SLE RA 12	64	35	3702	616.77	-9.06	-21.95
340	SLE RA 13	64	40	3708	617.27	-9.06	-22.02
340	SLE RA 14	63	28	3686	615.18	-9.04	-21.54
340	SLE RA 15	64	35	3719	619.56	-9.11	-21.94
340	SLE RA 16	62	28	3671	612.76	-8.99	-21.35
340	SLE RA 17	63	35	3703	617.14	-9.06	-21.75
340	SLE RA 18	63	27	3752	624.2	-9.18	-21.75
340	SLE RA 19	64	35	3784	628.58	-9.25	-22.15
340	SLE RA 20	63	28	3769	626.98	-9.23	-21.75
340	SLE RA 21	64	36	3801	631.36	-9.3	-22.15
340	SLE FR 1	59	25	3368	567.49	-8.2	-20.43
340	SLE FR 2	60	27	3379	568.95	-8.22	-20.56
340	SLE FR 3	59	25	3375	568.61	-8.22	-20.43
340	SLE FR 4	61	28	3494	585.96	-8.52	-20.96
340	SLE FR 5	60	26	3490	585.62	-8.52	-20.83
340	SLE FR 6	61	26	3560	595.85	-8.69	-21.09
340	SLE QP 1	59	25	3368	567.49	-8.2	-20.43
340	SLE QP 2	60	25	3483	584.51	-8.5	-20.83
340	SLD 1	451	64	3178	517.2	-6.2	-157.39
340	SLD 2	520	158	3264	530.36	-6.51	-181.58
340	SLD 3	402	-172	2082	362.59	-3.23	-140.91
340	SLD 4	472	-78	2168	375.74	-3.54	-165.1
340	SLD 5	239	379	5040	796.55	-12.26	-82.63
340	SLD 6	284	439	5095	805.02	-12.46	-98.2
340	SLD 7	78	-408	1386	281.18	-2.35	-27.7
340	SLD 8	123	-347	1441	289.65	-2.55	-43.28
340	SLD 9	-2	398	5526	879.37	-14.44	1.62
340	SLD 10	43	458	5581	887.84	-14.64	-13.95
340	SLD 11	-163	-388	1872	363.99	-4.53	56.55
340	SLD 12	-118	-328	1927	372.47	-4.73	40.98
340	SLD 13	-351	129	4799	793.27	-13.45	123.44
340	SLD 14	-281	223	4885	806.42	-13.77	99.26
340	SLD 15	-400	-107	3703	638.66	-10.48	139.92
340	SLD 16	-330	-13	3789	651.81	-10.79	115.74
340	SLV 1	674	102	3087	490.66	-5.12	-235.52
340	SLV 2	784	250	3222	511.4	-5.62	-273.64
340	SLV 3	592	-301	1217	226.91	-0.05	-207.41
340	SLV 4	702	-153	1352	247.65	-0.55	-245.53
340	SLV 5	349	631	6175	952.5	-15.08	-120.75
340	SLV 6	423	731	6266	966.46	-15.42	-146.41
340	SLV 7	74	-710	-58	73.34	1.82	-27.06
340	SLV 8	149	-611	33	87.3	1.49	-52.72
340	SLV 9	-28	662	6934	1081.71	-18.48	11.06
340	SLV 10	46	761	7025	1095.67	-18.81	-14.6
340	SLV 11	-302	-680	700	202.55	-1.58	104.76
340	SLV 12	-228	-580	792	216.51	-1.91	79.1
340	SLV 13	-581	203	5615	921.36	-16.44	203.87
340	SLV 14	-471	352	5750	942.1	-16.94	165.75
340	SLV 15	-663	-199	3745	657.61	-11.37	231.98
340	SLV 16	-553	-51	3880	678.35	-11.87	193.86
340	SLV FO 1	735	109	3047	481.28	-4.79	-256.99
340	SLV FO 2	856	272	3196	504.09	-5.33	-298.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLV FO 3	645	-333	990	191.15	0.79	-226.06
340	SLV FO 4	766	-170	1139	213.96	0.25	-268
340	SLV FO 5	377	692	6444	989.3	-15.74	-130.75
340	SLV FO 6	459	801	6545	1004.66	-16.11	-158.97
340	SLV FO 7	76	-784	-412	22.22	2.85	-27.68
340	SLV FO 8	157	-674	-312	37.58	2.49	-55.9
340	SLV FO 9	-37	725	7279	1131.43	-19.48	14.25
340	SLV FO 10	45	835	7379	1146.79	-19.84	-13.97
340	SLV FO 11	-338	-750	422	164.35	-0.88	117.32
340	SLV FO 12	-257	-641	522	179.71	-1.25	89.09
340	SLV FO 13	-645	221	5828	955.05	-17.24	226.34
340	SLV FO 14	-524	384	5977	977.86	-17.78	184.41
340	SLV FO 15	-735	-221	3771	664.92	-11.66	257.26
340	SLV FO 16	-614	-59	3920	687.73	-12.2	215.33
340	CRTFP Ux+	0	0	0	0	0	0
340	CRTFP Ux-	0	0	0	0	0	0
340	CRTFP Uy+	0	0	0	0	0	0
340	CRTFP Uy-	0	0	0	0	0	0
341	SLU 1	58	34	3520	731.38	-10.21	-19.89
341	SLU 2	61	55	3607	746.41	-10.44	-20.88
341	SLU 3	59	35	3574	742.51	-10.4	-20.18
341	SLU 4	60	47	3627	751.53	-10.53	-20.78
341	SLU 5	61	56	3636	752.35	-10.53	-20.89
341	SLU 6	59	36	3602	748.45	-10.5	-20.18
341	SLU 7	60	48	3655	757.47	-10.63	-20.78
341	SLU 8	58	37	3577	743.26	-10.4	-19.89
341	SLU 9	60	49	3629	752.28	-10.54	-20.49
341	SLU 10	65	59	4047	830.71	-11.79	-22.3
341	SLU 11	63	39	4013	826.81	-11.75	-21.59
341	SLU 12	65	52	4066	835.83	-11.89	-22.19
341	SLU 13	65	60	4075	836.65	-11.89	-22.3
341	SLU 14	63	40	4042	832.75	-11.85	-21.59
341	SLU 15	65	53	4094	841.77	-11.99	-22.19
341	SLU 16	62	41	4016	827.56	-11.76	-21.31
341	SLU 17	64	53	4068	836.58	-11.9	-21.9
341	SLU 18	64	40	4148	851.81	-12.14	-21.91
341	SLU 19	65	52	4200	860.83	-12.28	-22.51
341	SLU 20	64	41	4176	857.75	-12.24	-21.91
341	SLU 21	65	53	4228	866.77	-12.38	-22.51
341	SLU 22	66	36	4007	826.44	-11.76	-22.7
341	SLU 23	69	57	4094	841.48	-11.99	-23.69
341	SLU 24	67	37	4061	837.57	-11.95	-22.99
341	SLU 25	69	49	4113	846.59	-12.09	-23.59
341	SLU 26	69	58	4122	847.42	-12.09	-23.7
341	SLU 27	67	38	4089	843.51	-12.05	-22.99
341	SLU 28	69	50	4141	852.53	-12.19	-23.59
341	SLU 29	66	38	4063	838.33	-11.96	-22.7
341	SLU 30	68	51	4115	847.35	-12.1	-23.3
341	SLU 31	73	61	4533	925.78	-13.35	-25.11
341	SLU 32	71	41	4500	921.87	-13.31	-24.4
341	SLU 33	73	53	4552	930.89	-13.45	-25
341	SLU 34	73	62	4561	931.72	-13.45	-25.11
341	SLU 35	71	42	4528	927.81	-13.41	-24.4
341	SLU 36	73	54	4580	936.83	-13.54	-25
341	SLU 37	70	43	4502	922.63	-13.31	-24.11
341	SLU 38	72	55	4555	931.65	-13.45	-24.71
341	SLU 39	72	42	4634	946.87	-13.7	-24.72
341	SLU 40	74	54	4686	955.89	-13.84	-25.32
341	SLU 41	72	43	4662	952.81	-13.8	-24.72
341	SLU 42	74	55	4714	961.83	-13.93	-25.32
341	SLU 43	72	44	4410	918.2	-12.74	-24.89
341	SLU 44	75	64	4497	933.24	-12.97	-25.89
341	SLU 45	73	45	4464	929.33	-12.93	-25.18
341	SLU 46	75	57	4516	938.35	-13.06	-25.78
341	SLU 47	75	65	4525	939.18	-13.06	-25.89
341	SLU 48	73	46	4492	935.27	-13.02	-25.18
341	SLU 49	75	58	4544	944.29	-13.16	-25.78
341	SLU 50	72	46	4466	930.09	-12.93	-24.89
341	SLU 51	74	58	4518	939.1	-13.07	-25.49
341	SLU 52	79	68	4936	1017.54	-14.32	-27.3
341	SLU 53	77	49	4903	1013.63	-14.28	-26.6
341	SLU 54	79	61	4955	1022.65	-14.42	-27.19
341	SLU 55	79	69	4964	1023.48	-14.42	-27.3
341	SLU 56	77	50	4931	1019.57	-14.38	-26.6
341	SLU 57	79	62	4983	1028.59	-14.52	-27.2
341	SLU 58	77	50	4905	1014.39	-14.29	-26.31
341	SLU 59	78	62	4958	1023.4	-14.42	-26.91
341	SLU 60	78	50	5037	1038.63	-14.67	-26.91
341	SLU 61	80	62	5089	1047.65	-14.81	-27.51
341	SLU 62	78	51	5065	1044.57	-14.77	-26.91
341	SLU 63	80	63	5118	1053.59	-14.91	-27.51
341	SLU 64	80	46	4896	1013.27	-14.29	-27.7
341	SLU 65	83	66	4983	1028.3	-14.52	-28.7
341	SLU 66	81	47	4950	1024.39	-14.48	-27.99
341	SLU 67	83	59	5002	1033.41	-14.62	-28.59
341	SLU 68	83	67	5011	1034.24	-14.62	-28.7
341	SLU 69	81	48	4978	1030.33	-14.58	-27.99
341	SLU 70	83	60	5030	1039.35	-14.72	-28.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
341	SLU 71	81	48	4952	1025.15	-14.49	-27.7
341	SLU 72	82	60	5005	1034.17	-14.63	-28.3
341	SLU 73	88	70	5422	1112.6	-15.88	-30.11
341	SLU 74	85	51	5389	1108.69	-15.84	-29.4
341	SLU 75	87	63	5441	1117.71	-15.97	-30
341	SLU 76	88	71	5451	1118.54	-15.97	-30.11
341	SLU 77	86	52	5417	1114.63	-15.93	-29.41
341	SLU 78	87	64	5470	1123.65	-16.07	-30.01
341	SLU 79	85	52	5392	1109.45	-15.84	-29.12
341	SLU 80	86	64	5444	1118.47	-15.98	-29.72
341	SLU 81	86	52	5523	1133.7	-16.23	-29.72
341	SLU 82	88	64	5576	1142.71	-16.36	-30.32
341	SLU 83	86	53	5552	1139.64	-16.33	-29.72
341	SLU 84	88	65	5604	1148.66	-16.46	-30.32
341	SLE RA 1	60	35	3659	758.54	-10.65	-20.69
341	SLE RA 2	62	48	3717	768.56	-10.81	-21.35
341	SLE RA 3	61	36	3695	765.96	-10.78	-20.88
341	SLE RA 4	62	44	3730	771.97	-10.87	-21.28
341	SLE RA 5	62	49	3736	772.52	-10.87	-21.36
341	SLE RA 6	61	36	3714	769.92	-10.84	-20.88
341	SLE RA 7	62	44	3749	775.93	-10.94	-21.28
341	SLE RA 8	60	36	3697	766.46	-10.78	-20.69
341	SLE RA 9	61	44	3732	772.48	-10.87	-21.09
341	SLE RA 10	65	51	4010	824.76	-11.71	-22.3
341	SLE RA 11	63	38	3988	822.16	-11.68	-21.83
341	SLE RA 12	65	46	4023	828.17	-11.77	-22.23
341	SLE RA 13	65	52	4029	828.72	-11.77	-22.3
341	SLE RA 14	63	39	4007	826.12	-11.75	-21.83
341	SLE RA 15	65	47	4042	832.13	-11.84	-22.23
341	SLE RA 16	63	39	3990	822.66	-11.69	-21.63
341	SLE RA 17	64	47	4025	828.68	-11.78	-22.03
341	SLE RA 18	64	39	4078	838.83	-11.94	-22.04
341	SLE RA 19	65	47	4112	844.84	-12.03	-22.44
341	SLE RA 20	64	40	4096	842.79	-12.01	-22.04
341	SLE RA 21	65	48	4131	848.8	-12.1	-22.44
341	SLE FR 1	60	35	3659	758.54	-10.65	-20.69
341	SLE FR 2	61	38	3671	760.55	-10.68	-20.82
341	SLE FR 3	60	35	3667	760.13	-10.68	-20.69
341	SLE FR 4	62	39	3796	784.63	-11.07	-21.23
341	SLE FR 5	61	36	3792	784.21	-11.07	-21.09
341	SLE FR 6	62	37	3868	798.69	-11.3	-21.36
341	SLE QP 1	60	35	3659	758.54	-10.65	-20.69
341	SLE QP 2	61	36	3785	782.63	-11.04	-21.09
341	SLD 1	451	74	3404	683.52	-8.41	-157.3
341	SLD 2	521	177	3500	702.05	-8.79	-181.46
341	SLD 3	402	-175	2203	467.43	-4.62	-140.67
341	SLD 4	472	-72	2300	485.96	-5	-164.83
341	SLD 5	240	408	5475	1077.45	-15.93	-83.02
341	SLD 6	285	474	5537	1089.38	-16.18	-98.58
341	SLD 7	77	-423	1473	357.14	-3.3	-27.59
341	SLD 8	122	-357	1535	369.08	-3.55	-43.14
341	SLD 9	0	429	6034	1196.18	-18.53	0.96
341	SLD 10	45	495	6097	1208.11	-18.78	-14.6
341	SLD 11	-163	-402	2033	475.88	-5.9	56.4
341	SLD 12	-118	-336	2095	487.81	-6.15	40.84
341	SLD 13	-349	145	5270	1079.3	-17.08	122.64
341	SLD 14	-279	248	5366	1097.83	-17.46	98.48
341	SLD 15	-398	-105	4069	863.21	-13.29	139.27
341	SLD 16	-328	-2	4166	881.74	-13.67	115.11
341	SLV 1	673	112	3277	643.6	-7.21	-235.23
341	SLV 2	784	274	3429	672.82	-7.81	-273.32
341	SLV 3	590	-313	1229	274.96	-0.74	-206.86
341	SLV 4	700	-151	1381	304.18	-1.34	-244.95
341	SLV 5	351	674	6710	1294.57	-19.58	-121.26
341	SLV 6	425	783	6813	1314.24	-19.99	-146.9
341	SLV 7	73	-744	-116	65.78	1.96	-26.69
341	SLV 8	147	-635	-14	85.45	1.56	-52.32
341	SLV 9	-25	707	7583	1479.81	-23.64	10.14
341	SLV 10	49	817	7686	1499.48	-24.04	-15.5
341	SLV 11	-302	-711	757	251.02	-2.09	104.71
341	SLV 12	-228	-602	859	270.69	-2.5	79.07
341	SLV 13	-578	223	6188	1261.08	-20.74	202.76
341	SLV 14	-468	386	6341	1290.3	-21.33	164.68
341	SLV 15	-661	-202	4140	892.44	-14.27	231.13
341	SLV 16	-551	-40	4293	921.66	-14.87	193.05
341	SLV FO 1	735	120	3226	629.7	-6.83	-256.65
341	SLV FO 2	856	298	3394	661.83	-7.48	-298.54
341	SLV FO 3	643	-348	973	224.2	0.28	-225.44
341	SLV FO 4	764	-170	1141	256.33	-0.37	-267.33
341	SLV FO 5	380	738	7003	1345.76	-20.44	-131.28
341	SLV FO 6	461	858	7115	1367.4	-20.88	-159.48
341	SLV FO 7	74	-822	-507	-5.91	3.26	-27.25
341	SLV FO 8	156	-702	-394	15.73	2.82	-55.45
341	SLV FO 9	-33	774	7963	1549.53	-24.9	13.26
341	SLV FO 10	48	895	8076	1571.16	-25.34	-14.94
341	SLV FO 11	-339	-786	454	197.86	-1.2	117.29
341	SLV FO 12	-257	-665	567	219.5	-1.64	89.09
341	SLV FO 13	-642	242	6428	1308.92	-21.7	225.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
341	SLV FO 14	-520	421	6596	1341.06	-22.36	183.25
341	SLV FO 15	-733	-226	4176	903.42	-14.59	256.35
341	SLV FO 16	-612	-47	4343	935.56	-15.25	214.46
341	CRTFP Ux+	0	0	0	0	0	0
341	CRTFP Ux-	0	0	0	0	0	0
341	CRTFP Uy+	0	0	0	0	0	0
341	CRTFP Uy-	0	0	0	0	0	0
342	SLU 1	58	45	3871	968.73	-12.49	-20.05
342	SLU 2	61	66	3966	989.12	-12.77	-21.05
342	SLU 3	59	47	3931	984.14	-12.72	-20.35
342	SLU 4	61	59	3988	996.37	-12.89	-20.95
342	SLU 5	61	67	3997	997.34	-12.89	-21.06
342	SLU 6	59	48	3963	992.36	-12.84	-20.36
342	SLU 7	61	60	4020	1004.59	-13.01	-20.96
342	SLU 8	58	48	3934	985.17	-12.73	-20.07
342	SLU 9	60	60	3991	997.41	-12.9	-20.66
342	SLU 10	65	71	4452	1105.63	-14.44	-22.48
342	SLU 11	63	52	4417	1100.64	-14.38	-21.78
342	SLU 12	65	64	4474	1112.88	-14.55	-22.38
342	SLU 13	65	73	4483	1113.85	-14.56	-22.49
342	SLU 14	63	53	4449	1108.86	-14.5	-21.79
342	SLU 15	65	66	4506	1121.1	-14.67	-22.39
342	SLU 16	63	53	4420	1101.68	-14.39	-21.5
342	SLU 17	64	66	4477	1113.91	-14.56	-22.1
342	SLU 18	64	53	4565	1135.17	-14.87	-22.1
342	SLU 19	66	65	4622	1147.4	-15.04	-22.69
342	SLU 20	64	54	4596	1143.39	-14.99	-22.1
342	SLU 21	66	67	4653	1155.62	-15.16	-22.7
342	SLU 22	67	49	4411	1100.21	-14.4	-22.88
342	SLU 23	69	69	4506	1120.6	-14.68	-23.87
342	SLU 24	67	50	4471	1115.62	-14.63	-23.18
342	SLU 25	69	62	4528	1127.85	-14.8	-23.77
342	SLU 26	69	71	4537	1128.82	-14.8	-23.88
342	SLU 27	67	51	4503	1123.84	-14.75	-23.18
342	SLU 28	69	63	4560	1136.07	-14.91	-23.78
342	SLU 29	67	51	4474	1116.65	-14.63	-22.89
342	SLU 30	68	64	4531	1128.88	-14.8	-23.49
342	SLU 31	74	75	4991	1237.11	-16.34	-25.3
342	SLU 32	72	55	4957	1232.12	-16.29	-24.61
342	SLU 33	73	67	5014	1244.36	-16.46	-25.21
342	SLU 34	74	76	5023	1245.33	-16.46	-25.31
342	SLU 35	72	56	4988	1240.34	-16.41	-24.61
342	SLU 36	73	69	5045	1252.58	-16.58	-25.21
342	SLU 37	71	56	4960	1233.16	-16.3	-24.32
342	SLU 38	73	69	5017	1245.39	-16.47	-24.92
342	SLU 39	73	56	5105	1266.65	-16.78	-24.92
342	SLU 40	74	69	5162	1278.88	-16.94	-25.52
342	SLU 41	73	57	5136	1274.87	-16.9	-24.93
342	SLU 42	74	70	5193	1287.1	-17.06	-25.53
342	SLU 43	73	58	4847	1214.27	-15.58	-25.1
342	SLU 44	76	79	4942	1234.66	-15.86	-26.09
342	SLU 45	74	59	4907	1229.68	-15.81	-25.4
342	SLU 46	76	72	4964	1241.91	-15.98	-25.99
342	SLU 47	76	80	4974	1242.88	-15.98	-26.1
342	SLU 48	74	60	4939	1237.9	-15.93	-25.4
342	SLU 49	76	73	4996	1250.13	-16.1	-26
342	SLU 50	73	60	4910	1230.71	-15.82	-25.11
342	SLU 51	75	73	4967	1242.95	-15.99	-25.71
342	SLU 52	80	84	5428	1351.17	-17.53	-27.53
342	SLU 53	78	64	5393	1346.19	-17.48	-26.83
342	SLU 54	80	77	5450	1358.42	-17.65	-27.43
342	SLU 55	80	85	5459	1359.39	-17.65	-27.53
342	SLU 56	78	66	5425	1354.41	-17.6	-26.84
342	SLU 57	80	78	5482	1366.64	-17.76	-27.43
342	SLU 58	77	66	5396	1347.22	-17.48	-26.54
342	SLU 59	79	78	5453	1359.45	-17.65	-27.14
342	SLU 60	79	65	5541	1380.71	-17.96	-27.14
342	SLU 61	81	78	5598	1392.95	-18.13	-27.74
342	SLU 62	79	67	5573	1388.93	-18.08	-27.15
342	SLU 63	81	79	5630	1401.17	-18.25	-27.75
342	SLU 64	81	61	5387	1345.75	-17.49	-27.92
342	SLU 65	84	82	5482	1366.14	-17.77	-28.92
342	SLU 66	82	62	5447	1361.16	-17.72	-28.22
342	SLU 67	84	75	5504	1373.39	-17.89	-28.82
342	SLU 68	84	83	5513	1374.36	-17.89	-28.93
342	SLU 69	82	63	5479	1369.38	-17.84	-28.23
342	SLU 70	84	76	5536	1381.61	-18.01	-28.83
342	SLU 71	81	64	5450	1362.19	-17.73	-27.94
342	SLU 72	83	76	5507	1374.42	-17.9	-28.54
342	SLU 73	88	87	5968	1482.65	-19.44	-30.35
342	SLU 74	86	67	5933	1477.66	-19.38	-29.65
342	SLU 75	88	80	5990	1489.9	-19.55	-30.25
342	SLU 76	88	88	5999	1490.87	-19.56	-30.36
342	SLU 77	86	69	5965	1485.88	-19.5	-29.66
342	SLU 78	88	81	6022	1498.12	-19.67	-30.26
342	SLU 79	86	69	5936	1478.7	-19.39	-29.37
342	SLU 80	87	81	5993	1490.93	-19.56	-29.97
342	SLU 81	87	69	6081	1512.19	-19.87	-29.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
342	SLU 82	89	81	6138	1524.42	-20.04	-30.57
342	SLU 83	87	70	6112	1520.41	-19.99	-29.98
342	SLU 84	89	82	6169	1532.64	-20.16	-30.57
342	SLE RA 1	61	46	4025	1006.3	-13.03	-20.86
342	SLE RA 2	63	60	4088	1019.89	-13.22	-21.52
342	SLE RA 3	61	47	4065	1016.57	-13.19	-21.06
342	SLE RA 4	62	55	4103	1024.72	-13.3	-21.46
342	SLE RA 5	63	61	4109	1025.37	-13.3	-21.53
342	SLE RA 6	61	48	4086	1022.05	-13.27	-21.06
342	SLE RA 7	62	56	4124	1030.2	-13.38	-21.46
342	SLE RA 8	61	48	4067	1017.26	-13.19	-20.87
342	SLE RA 9	62	56	4105	1025.41	-13.31	-21.27
342	SLE RA 10	65	64	4412	1097.56	-14.33	-22.48
342	SLE RA 11	64	51	4389	1094.24	-14.3	-22.01
342	SLE RA 12	65	59	4427	1102.39	-14.41	-22.41
342	SLE RA 13	65	65	4433	1103.04	-14.41	-22.48
342	SLE RA 14	64	51	4410	1099.72	-14.38	-22.02
342	SLE RA 15	65	60	4448	1107.87	-14.49	-22.42
342	SLE RA 16	64	51	4391	1094.93	-14.3	-21.82
342	SLE RA 17	65	60	4429	1103.08	-14.42	-22.22
342	SLE RA 18	65	51	4488	1117.26	-14.62	-22.22
342	SLE RA 19	66	60	4526	1125.41	-14.73	-22.62
342	SLE RA 20	65	52	4509	1122.74	-14.7	-22.23
342	SLE RA 21	66	60	4547	1130.89	-14.81	-22.63
342	SLE FR 1	61	46	4025	1006.3	-13.03	-20.86
342	SLE FR 2	61	49	4038	1009.02	-13.07	-20.99
342	SLE FR 3	61	47	4033	1008.49	-13.06	-20.86
342	SLE FR 4	62	51	4177	1042.3	-13.55	-21.4
342	SLE FR 5	62	48	4172	1041.78	-13.54	-21.27
342	SLE FR 6	63	49	4256	1061.78	-13.83	-21.54
342	SLE QP 1	61	46	4025	1006.3	-13.03	-20.86
342	SLE QP 2	62	48	4164	1039.59	-13.51	-21.27
342	SLD 1	450	85	3696	900.99	-10.53	-157.11
342	SLD 2	520	197	3806	926.32	-10.97	-181.26
342	SLD 3	401	-179	2367	605.53	-5.97	-140.33
342	SLD 4	471	-67	2476	630.86	-6.41	-164.48
342	SLD 5	241	440	6021	1441.76	-19.45	-83.32
342	SLD 6	286	512	6092	1458.07	-19.73	-98.87
342	SLD 7	77	-440	1590	456.9	-4.26	-27.38
342	SLD 8	122	-368	1660	473.21	-4.54	-42.93
342	SLD 9	2	463	6668	1605.96	-22.47	0.4
342	SLD 10	47	535	6738	1622.27	-22.76	-15.16
342	SLD 11	-162	-417	2236	621.1	-7.28	56.33
342	SLD 12	-117	-345	2307	637.41	-7.57	40.78
342	SLD 13	-347	162	5852	1448.31	-20.61	121.94
342	SLD 14	-277	274	5961	1473.64	-21.05	97.79
342	SLD 15	-397	-102	4522	1152.85	-16.05	138.72
342	SLD 16	-327	10	4631	1178.18	-16.49	114.57
342	SLV 1	673	124	3530	844.69	-9.19	-234.85
342	SLV 2	783	301	3703	884.61	-9.88	-272.92
342	SLV 3	589	-327	1262	340.64	-1.41	-206.22
342	SLV 4	699	-149	1435	380.56	-2.1	-244.29
342	SLV 5	352	721	7381	1738.13	-23.88	-121.66
342	SLV 6	426	840	7497	1765	-24.34	-147.29
342	SLV 7	72	-781	-178	57.99	2.05	-26.23
342	SLV 8	146	-662	-62	84.86	1.58	-51.86
342	SLV 9	-22	757	8390	1994.31	-28.59	9.32
342	SLV 10	52	876	8506	2021.18	-29.06	-16.31
342	SLV 11	-303	-745	830	314.17	-2.67	104.75
342	SLV 12	-228	-625	946	341.04	-3.14	79.12
342	SLV 13	-575	245	6893	1698.61	-24.91	201.75
342	SLV 14	-465	422	7065	1738.53	-25.61	163.68
342	SLV 15	-659	-206	4625	1194.56	-17.14	230.38
342	SLV 16	-549	-28	4797	1234.49	-17.83	192.31
342	SLV FO 1	734	132	3467	825.2	-8.75	-256.2
342	SLV FO 2	855	326	3657	869.11	-9.52	-298.08
342	SLV FO 3	641	-364	972	270.75	-0.2	-224.71
342	SLV FO 4	763	-169	1162	314.66	-0.96	-266.59
342	SLV FO 5	381	788	7703	1807.98	-24.91	-131.7
342	SLV FO 6	463	919	7831	1837.55	-25.43	-159.89
342	SLV FO 7	73	-864	-613	-40.17	3.6	-26.73
342	SLV FO 8	154	-733	-485	-10.61	3.09	-54.92
342	SLV FO 9	-31	828	8813	2089.78	-30.1	12.38
342	SLV FO 10	51	959	8940	2119.34	-30.62	-15.81
342	SLV FO 11	-339	-824	497	241.63	-1.59	117.35
342	SLV FO 12	-257	-693	625	271.19	-2.1	89.16
342	SLV FO 13	-639	265	7166	1764.51	-26.05	224.05
342	SLV FO 14	-518	460	7355	1808.42	-26.82	182.18
342	SLV FO 15	-731	-231	4671	1210.06	-17.5	255.55
342	SLV FO 16	-610	-36	4861	1253.98	-18.26	213.67
342	CRTFP Ux+	0	0	0	0	0	0
342	CRTFP Ux-	0	0	0	0	0	0
342	CRTFP Uy+	0	0	0	0	0	0
342	CRTFP Uy-	0	0	0	0	0	0
344	SLU 1	42	40	3031	875.79	163.96	-16.8
344	SLU 2	44	55	3105	894.5	167.97	-18.38
344	SLU 3	43	41	3079	890.1	166.55	-17.08
344	SLU 4	44	50	3123	901.32	168.95	-18.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
344	SLU 5	44	56	3130	902.13	169.32	-18.45
344	SLU 6	43	42	3104	897.73	167.9	-17.15
344	SLU 7	44	51	3148	908.96	170.3	-18.09
344	SLU 8	42	42	3081	891.07	166.67	-16.93
344	SLU 9	43	51	3125	902.29	169.07	-17.88
344	SLU 10	47	60	3487	1002.66	188.62	-19.69
344	SLU 11	46	45	3461	998.26	187.19	-18.39
344	SLU 12	47	55	3505	1009.48	189.6	-19.33
344	SLU 13	47	61	3512	1010.3	189.97	-19.76
344	SLU 14	46	46	3486	1005.89	188.55	-18.45
344	SLU 15	47	56	3531	1017.12	190.95	-19.4
344	SLU 16	45	46	3463	999.23	187.31	-18.24
344	SLU 17	46	56	3508	1010.45	189.72	-19.19
344	SLU 18	46	46	3577	1030.31	193.46	-18.67
344	SLU 19	48	55	3621	1041.53	195.87	-19.62
344	SLU 20	46	47	3602	1037.95	194.81	-18.73
344	SLU 21	48	56	3646	1049.17	197.22	-19.68
344	SLU 22	48	43	3457	997.89	186.95	-19.03
344	SLU 23	50	58	3531	1016.59	190.96	-20.61
344	SLU 24	49	44	3505	1012.19	189.53	-19.31
344	SLU 25	50	53	3549	1023.42	191.94	-20.25
344	SLU 26	50	59	3556	1024.23	192.31	-20.68
344	SLU 27	49	45	3530	1019.83	190.88	-19.37
344	SLU 28	50	54	3574	1031.05	193.29	-20.32
344	SLU 29	48	45	3507	1013.16	189.65	-19.16
344	SLU 30	49	54	3551	1024.38	192.06	-20.11
344	SLU 31	53	63	3913	1124.76	211.6	-21.92
344	SLU 32	52	48	3887	1120.35	210.18	-20.61
344	SLU 33	53	58	3932	1131.58	212.58	-21.56
344	SLU 34	53	64	3938	1132.39	212.96	-21.98
344	SLU 35	52	49	3912	1127.99	211.53	-20.68
344	SLU 36	53	59	3957	1139.21	213.94	-21.63
344	SLU 37	51	49	3889	1121.32	210.3	-20.47
344	SLU 38	52	59	3934	1132.55	212.7	-21.41
344	SLU 39	52	49	4003	1152.4	216.45	-20.89
344	SLU 40	54	59	4047	1163.63	218.85	-21.84
344	SLU 41	52	50	4028	1160.04	217.8	-20.96
344	SLU 42	54	60	4073	1171.26	220.2	-21.91
344	SLU 43	53	51	3794	1096.67	205.27	-21.08
344	SLU 44	55	66	3868	1115.37	209.28	-22.66
344	SLU 45	53	52	3842	1110.97	207.86	-21.36
344	SLU 46	55	61	3886	1122.2	210.26	-22.31
344	SLU 47	55	67	3893	1123.01	210.63	-22.73
344	SLU 48	53	53	3867	1118.61	209.21	-21.42
344	SLU 49	55	62	3911	1129.83	211.61	-22.37
344	SLU 50	53	53	3844	1111.94	207.97	-21.21
344	SLU 51	54	62	3888	1123.17	210.38	-22.16
344	SLU 52	58	70	4250	1223.54	229.93	-23.97
344	SLU 53	56	56	4224	1219.13	228.5	-22.66
344	SLU 54	58	65	4269	1230.36	230.91	-23.61
344	SLU 55	58	71	4275	1231.17	231.28	-24.03
344	SLU 56	56	57	4249	1226.77	229.85	-22.73
344	SLU 57	58	66	4294	1237.99	232.26	-23.68
344	SLU 58	56	57	4226	1220.1	228.62	-22.52
344	SLU 59	57	66	4271	1231.33	231.03	-23.47
344	SLU 60	57	57	4340	1251.18	234.77	-22.95
344	SLU 61	58	66	4385	1262.41	237.17	-23.89
344	SLU 62	57	58	4365	1258.82	236.12	-23.01
344	SLU 63	58	67	4410	1270.04	238.53	-23.96
344	SLU 64	59	54	4220	1218.76	228.26	-23.31
344	SLU 65	61	69	4294	1237.47	232.26	-24.89
344	SLU 66	59	55	4268	1233.07	230.84	-23.58
344	SLU 67	60	64	4312	1244.29	233.24	-24.53
344	SLU 68	61	70	4319	1245.11	233.62	-24.95
344	SLU 69	59	56	4293	1240.71	232.19	-23.65
344	SLU 70	61	65	4337	1251.93	234.6	-24.6
344	SLU 71	59	56	4270	1234.04	230.96	-23.44
344	SLU 72	60	65	4314	1245.26	233.36	-24.39
344	SLU 73	64	74	4676	1345.63	252.91	-26.19
344	SLU 74	62	59	4650	1341.23	251.49	-24.89
344	SLU 75	64	69	4695	1352.45	253.89	-25.84
344	SLU 76	64	75	4701	1353.27	254.26	-26.26
344	SLU 77	62	60	4675	1348.87	252.84	-24.96
344	SLU 78	64	70	4720	1360.09	255.24	-25.9
344	SLU 79	62	60	4653	1342.2	251.61	-24.74
344	SLU 80	63	69	4697	1353.42	254.01	-25.69
344	SLU 81	63	60	4766	1373.28	257.75	-25.17
344	SLU 82	64	69	4811	1384.5	260.16	-26.12
344	SLU 83	63	61	4791	1380.92	259.11	-25.24
344	SLU 84	64	70	4836	1392.14	261.51	-26.19
344	SLE RA 1	44	41	3152	910.68	170.53	-17.44
344	SLE RA 2	45	51	3202	923.15	173.2	-18.49
344	SLE RA 3	44	41	3184	920.21	172.25	-17.62
344	SLE RA 4	45	47	3214	927.7	173.86	-18.26
344	SLE RA 5	45	52	3218	928.24	174.1	-18.54
344	SLE RA 6	44	42	3201	925.3	173.15	-17.67
344	SLE RA 7	45	48	3231	932.79	174.76	-18.3
344	SLE RA 8	44	42	3186	920.86	172.33	-17.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
344	SLE RA 9	45	48	3216	928.34	173.94	-18.16
344	SLE RA 10	47	54	3457	995.25	186.97	-19.36
344	SLE RA 11	46	44	3439	992.32	186.02	-18.49
344	SLE RA 12	47	50	3469	999.8	187.62	-19.13
344	SLE RA 13	47	55	3473	1000.35	187.87	-19.41
344	SLE RA 14	46	45	3456	997.41	186.92	-18.54
344	SLE RA 15	47	51	3486	1004.89	188.52	-19.17
344	SLE RA 16	46	45	3441	992.97	186.1	-18.4
344	SLE RA 17	47	51	3470	1000.45	187.7	-19.03
344	SLE RA 18	47	45	3517	1013.69	190.2	-18.68
344	SLE RA 19	48	51	3546	1021.17	191.8	-19.31
344	SLE RA 20	47	46	3533	1018.78	191.1	-18.73
344	SLE RA 21	48	52	3563	1026.26	192.7	-19.36
344	SLE FR 1	44	41	3152	910.68	170.53	-17.44
344	SLE FR 2	44	43	3162	913.17	171.07	-17.65
344	SLE FR 3	44	41	3159	912.71	170.89	-17.46
344	SLE FR 4	45	44	3272	944.07	176.96	-18.02
344	SLE FR 5	45	42	3268	943.62	176.79	-17.83
344	SLE FR 6	45	43	3335	962.18	180.36	-18.06
344	SLE QP 1	44	41	3152	910.68	170.53	-17.44
344	SLE QP 2	45	42	3262	941.58	176.43	-17.81
344	SLD 1	323	68	2867	812.28	155.59	-118.29
344	SLD 2	373	155	2954	835.43	160.29	-140.55
344	SLD 3	287	-130	1821	540.8	99.1	-95.07
344	SLD 4	337	-44	1908	563.94	103.79	-117.34
344	SLD 5	174	336	4714	1310.56	255.06	-79.34
344	SLD 6	206	392	4770	1325.47	258.08	-93.68
344	SLD 7	55	-326	1229	405.61	66.74	-1.95
344	SLD 8	87	-270	1285	420.52	69.76	-16.28
344	SLD 9	2	354	5239	1462.64	283.1	-19.34
344	SLD 10	35	409	5295	1477.55	286.13	-33.68
344	SLD 11	-117	-308	1753	557.69	94.78	58.05
344	SLD 12	-84	-252	1809	572.6	97.8	43.72
344	SLD 13	-248	127	4615	1319.22	249.07	81.71
344	SLD 14	-198	214	4702	1342.36	253.77	59.45
344	SLD 15	-284	-71	3569	1047.73	192.58	104.93
344	SLD 16	-234	15	3657	1070.88	197.27	82.66
344	SLV 1	482	97	2721	759.46	148	-176.54
344	SLV 2	561	233	2859	795.94	155.4	-211.63
344	SLV 3	421	-242	937	296.31	51.62	-136.92
344	SLV 4	501	-106	1075	332.79	59.02	-172.02
344	SLV 5	253	547	5780	1582.58	312.7	-118.97
344	SLV 6	307	638	5872	1607.13	317.68	-142.59
344	SLV 7	51	-582	-167	38.75	-8.57	13.09
344	SLV 8	104	-491	-74	63.31	-3.59	-10.54
344	SLV 9	-15	574	6598	1819.85	356.45	-25.09
344	SLV 10	39	666	6690	1844.41	361.43	-48.71
344	SLV 11	-217	-555	651	276.03	35.18	106.97
344	SLV 12	-164	-463	744	300.58	40.16	83.34
344	SLV 13	-411	189	5449	1550.37	293.84	136.39
344	SLV 14	-332	326	5586	1586.85	301.24	101.3
344	SLV 15	-472	-149	3665	1087.22	197.46	176.01
344	SLV 16	-393	-13	3802	1123.7	204.86	140.91
344	SLV FO 1	526	102	2667	741.25	145.16	-192.41
344	SLV FO 2	613	252	2818	781.38	153.29	-231.02
344	SLV FO 3	459	-270	705	231.78	39.14	-148.83
344	SLV FO 4	546	-120	856	271.92	47.28	-187.44
344	SLV FO 5	274	597	6031	1646.68	326.32	-129.08
344	SLV FO 6	333	698	6133	1673.69	331.8	-155.07
344	SLV FO 7	51	-645	-510	-51.53	-27.07	16.18
344	SLV FO 8	110	-544	-408	-24.51	-21.59	-9.81
344	SLV FO 9	-21	628	6931	1907.68	374.45	-25.81
344	SLV FO 10	38	729	7033	1934.69	379.93	-51.8
344	SLV FO 11	-243	-614	390	209.47	21.06	119.45
344	SLV FO 12	-185	-513	492	236.49	26.54	93.46
344	SLV FO 13	-457	204	5667	1611.25	305.59	151.82
344	SLV FO 14	-370	354	5819	1651.38	313.72	113.21
344	SLV FO 15	-524	-168	3705	1101.78	199.57	195.39
344	SLV FO 16	-437	-18	3856	1141.91	207.7	156.79
344	CRTFP Ux+	0	0	0	0	0	0
344	CRTFP Ux-	0	0	0	0	0	0
344	CRTFP Uy+	0	0	0	0	0	0
344	CRTFP Uy-	0	0	0	0	0	0
346	SLU 1	55	46	3694	656.75	1703.77	-32.41
346	SLU 2	58	65	3788	672.33	1747.95	-42.06
346	SLU 3	56	48	3751	667.24	1729.82	-33.14
346	SLU 4	58	59	3808	676.59	1756.32	-38.93
346	SLU 5	58	66	3818	677.85	1761.39	-42.66
346	SLU 6	56	49	3781	672.76	1743.25	-33.74
346	SLU 7	58	60	3838	682.11	1769.76	-39.53
346	SLU 8	56	49	3754	667.78	1730.65	-33.61
346	SLU 9	57	60	3810	677.13	1757.15	-39.4
346	SLU 10	62	70	4255	754.98	1962.33	-45.41
346	SLU 11	61	53	4218	749.89	1944.2	-36.48
346	SLU 12	62	64	4275	759.24	1970.7	-42.28
346	SLU 13	62	71	4285	760.49	1975.77	-46.01
346	SLU 14	61	54	4248	755.4	1957.63	-37.08
346	SLU 15	62	65	4305	764.75	1984.14	-42.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
346	SLU 16	60	54	4221	750.43	1945.03	-36.95
346	SLU 17	61	65	4277	759.78	1971.54	-42.74
346	SLU 18	61	54	4361	774.81	2010.03	-37.18
346	SLU 19	63	65	4418	784.16	2036.54	-42.98
346	SLU 20	62	55	4391	780.33	2023.47	-37.78
346	SLU 21	63	66	4447	789.68	2049.98	-43.58
346	SLU 22	63	50	4212	749.1	1940.66	-35.49
346	SLU 23	66	68	4306	764.68	1984.84	-45.15
346	SLU 24	64	51	4269	759.59	1966.71	-36.23
346	SLU 25	66	62	4326	768.94	1993.21	-42.02
346	SLU 26	66	70	4336	770.19	1998.28	-45.75
346	SLU 27	64	52	4299	765.1	1980.14	-36.83
346	SLU 28	66	63	4356	774.45	2006.65	-42.62
346	SLU 29	63	52	4271	760.13	1967.54	-36.69
346	SLU 30	65	63	4328	769.48	1994.05	-42.49
346	SLU 31	70	74	4773	847.32	2199.22	-48.49
346	SLU 32	68	56	4736	842.23	2181.09	-39.57
346	SLU 33	70	68	4793	851.58	2207.6	-45.36
346	SLU 34	70	75	4803	852.84	2212.66	-49.09
346	SLU 35	68	58	4766	847.75	2194.53	-40.17
346	SLU 36	70	69	4822	857.1	2221.03	-45.96
346	SLU 37	68	58	4738	842.77	2181.92	-40.04
346	SLU 38	69	69	4795	852.12	2208.43	-45.83
346	SLU 39	69	58	4879	867.16	2246.92	-40.27
346	SLU 40	71	69	4935	876.51	2273.43	-46.06
346	SLU 41	69	59	4909	872.68	2260.36	-40.87
346	SLU 42	71	70	4965	882.03	2286.87	-46.66
346	SLU 43	69	59	4625	822.11	2133.68	-41.07
346	SLU 44	72	77	4719	837.69	2177.86	-50.73
346	SLU 45	70	60	4682	832.6	2159.73	-41.8
346	SLU 46	72	71	4739	841.95	2186.23	-47.6
346	SLU 47	72	79	4749	843.21	2191.3	-51.33
346	SLU 48	70	61	4712	838.12	2173.16	-42.4
346	SLU 49	72	72	4768	847.47	2199.67	-48.2
346	SLU 50	70	61	4684	833.14	2160.56	-42.27
346	SLU 51	71	72	4741	842.49	2187.07	-48.06
346	SLU 52	76	83	5186	920.34	2392.24	-54.07
346	SLU 53	75	66	5149	915.25	2374.11	-45.14
346	SLU 54	76	77	5206	924.6	2400.62	-50.94
346	SLU 55	76	84	5216	925.85	2405.68	-54.67
346	SLU 56	75	67	5179	920.77	2387.55	-45.75
346	SLU 57	76	78	5235	930.11	2414.05	-51.54
346	SLU 58	74	67	5151	915.79	2374.94	-45.61
346	SLU 59	75	78	5208	925.14	2401.45	-51.41
346	SLU 60	75	67	5292	940.18	2439.94	-45.85
346	SLU 61	77	78	5348	949.53	2466.45	-51.64
346	SLU 62	76	68	5322	945.69	2453.38	-46.45
346	SLU 63	77	79	5378	955.04	2479.89	-52.24
346	SLU 64	77	63	5142	914.46	2370.58	-44.16
346	SLU 65	80	81	5237	930.04	2414.75	-53.81
346	SLU 66	78	64	5200	924.95	2396.62	-44.89
346	SLU 67	80	75	5256	934.3	2423.13	-50.68
346	SLU 68	80	82	5266	935.56	2428.19	-54.41
346	SLU 69	78	65	5230	930.47	2410.06	-45.49
346	SLU 70	80	76	5286	939.82	2436.56	-51.28
346	SLU 71	77	65	5202	925.49	2397.45	-45.36
346	SLU 72	79	76	5258	934.84	2423.96	-51.15
346	SLU 73	84	86	5704	1012.69	2629.14	-57.16
346	SLU 74	82	69	5667	1007.6	2611	-48.23
346	SLU 75	84	80	5723	1016.94	2637.51	-54.03
346	SLU 76	84	88	5733	1018.2	2642.57	-57.76
346	SLU 77	82	70	5697	1013.11	2624.44	-48.83
346	SLU 78	84	81	5753	1022.46	2650.94	-54.63
346	SLU 79	82	70	5669	1008.14	2611.83	-48.7
346	SLU 80	83	81	5725	1017.48	2638.34	-54.5
346	SLU 81	83	70	5810	1032.52	2676.84	-48.93
346	SLU 82	85	81	5866	1041.87	2703.34	-54.73
346	SLU 83	83	71	5839	1038.04	2690.27	-49.53
346	SLU 84	85	83	5896	1047.39	2716.78	-55.33
346	SLE RA 1	58	47	3842	683.13	1771.46	-33.29
346	SLE RA 2	59	60	3905	693.52	1800.91	-39.73
346	SLE RA 3	58	48	3880	690.13	1788.82	-33.78
346	SLE RA 4	59	56	3918	696.36	1806.49	-37.64
346	SLE RA 5	60	60	3925	697.2	1809.87	-40.13
346	SLE RA 6	58	49	3900	693.81	1797.78	-34.18
346	SLE RA 7	59	56	3938	700.04	1815.45	-38.04
346	SLE RA 8	58	49	3882	690.49	1789.37	-34.09
346	SLE RA 9	59	56	3919	696.72	1807.04	-37.95
346	SLE RA 10	62	63	4216	748.62	1943.83	-41.96
346	SLE RA 11	61	52	4192	745.23	1931.74	-36.01
346	SLE RA 12	62	59	4229	751.46	1949.41	-39.87
346	SLE RA 13	62	64	4236	752.3	1952.79	-42.36
346	SLE RA 14	61	53	4211	748.9	1940.7	-36.41
346	SLE RA 15	62	60	4249	755.14	1958.37	-40.27
346	SLE RA 16	61	53	4193	745.59	1932.29	-36.32
346	SLE RA 17	62	60	4231	751.82	1949.96	-40.18
346	SLE RA 18	62	52	4287	761.84	1975.63	-36.47
346	SLE RA 19	63	60	4324	768.08	1993.3	-40.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
346	SLE RA 20	62	53	4307	765.52	1984.59	-36.87
346	SLE RA 21	63	61	4344	771.75	2002.26	-40.74
346	SLE FR 1	58	47	3842	683.13	1771.46	-33.29
346	SLE FR 2	58	50	3854	685.21	1777.35	-34.58
346	SLE FR 3	58	48	3850	684.6	1775.04	-33.45
346	SLE FR 4	59	51	3988	708.82	1838.6	-35.53
346	SLE FR 5	59	49	3983	708.22	1836.29	-34.4
346	SLE FR 6	60	50	4064	722.49	1873.54	-34.88
346	SLE QP 1	58	47	3842	683.13	1771.46	-33.29
346	SLE QP 2	59	49	3975	706.75	1832.71	-34.24
346	SLD 1	397	81	3520	618.5	1637.6	-132.2
346	SLD 2	460	184	3631	637.02	1688.72	-194.76
346	SLD 3	349	-157	2193	397.09	1020.11	-6
346	SLD 4	413	-54	2304	415.61	1071.23	-68.56
346	SLD 5	222	402	5832	1012.89	2701.91	-244.27
346	SLD 6	263	468	5904	1024.81	2734.83	-284.56
346	SLD 7	62	-392	1409	274.86	643.61	176.39
346	SLD 8	103	-325	1480	286.79	676.53	136.1
346	SLD 9	14	423	6470	1126.7	2988.89	-204.59
346	SLD 10	55	490	6542	1138.63	3021.81	-244.88
346	SLD 11	-145	-371	2047	388.68	930.59	216.07
346	SLD 12	-104	-304	2118	400.61	963.5	175.79
346	SLD 13	-295	152	5647	997.88	2594.19	0.07
346	SLD 14	-231	255	5758	1016.4	2645.31	-62.49
346	SLD 15	-343	-87	4320	776.47	1976.7	126.27
346	SLD 16	-279	17	4431	795	2027.82	63.71
346	SLV 1	591	115	3361	585.05	1572.9	-196.17
346	SLV 2	691	278	3536	614.25	1653.48	-294.78
346	SLV 3	509	-291	1097	207.34	519.51	19.19
346	SLV 4	609	-128	1272	236.54	600.09	-79.42
346	SLV 5	324	654	7192	1237.64	3337.36	-391.05
346	SLV 6	391	764	7310	1257.3	3391.61	-457.43
346	SLV 7	51	-700	-354	-21.38	-173.92	326.81
346	SLV 8	119	-590	-237	-1.72	-119.68	260.43
346	SLV 9	-1	688	8187	1415.22	3785.09	-328.92
346	SLV 10	67	797	8305	1434.87	3839.33	-395.3
346	SLV 11	-273	-666	641	156.19	273.81	388.95
346	SLV 12	-206	-557	759	175.85	328.05	322.56
346	SLV 13	-492	226	6679	1176.95	3065.32	10.94
346	SLV 14	-391	389	6854	1206.15	3145.9	-87.68
346	SLV 15	-573	-180	4415	799.25	2011.94	226.3
346	SLV 16	-473	-17	4590	828.44	2092.52	127.68
346	SLV FO 1	644	122	3300	572.88	1546.91	-212.36
346	SLV FO 2	754	301	3492	605	1635.55	-320.84
346	SLV FO 3	554	-325	809	157.4	388.19	24.53
346	SLV FO 4	664	-146	1001	189.52	476.83	-83.94
346	SLV FO 5	350	715	7514	1290.73	3487.83	-426.73
346	SLV FO 6	424	836	7643	1312.35	3547.5	-499.75
346	SLV FO 7	50	-775	-787	-94.19	-374.58	362.92
346	SLV FO 8	125	-654	-658	-72.57	-314.91	289.9
346	SLV FO 9	-7	752	8609	1486.06	3980.33	-358.39
346	SLV FO 10	67	872	8738	1507.68	4040	-431.41
346	SLV FO 11	-307	-738	308	101.14	117.92	431.27
346	SLV FO 12	-232	-617	437	122.76	177.59	358.24
346	SLV FO 13	-547	244	6949	1223.97	3188.58	15.46
346	SLV FO 14	-436	423	7141	1256.09	3277.22	-93.02
346	SLV FO 15	-636	-203	4459	808.5	2029.86	252.35
346	SLV FO 16	-526	-24	4651	840.61	2118.5	143.87
346	CRTFP Ux+	0	0	0	0	0	0
346	CRTFP Ux-	0	0	0	0	0	0
346	CRTFP Uy+	0	0	0	0	-0.01	0
346	CRTFP Uy-	0	0	0	0	0.01	0
347	SLU 1	19	-75	4100	1179.12	1.89	-6.33
347	SLU 2	22	-53	4172	1195.84	1.93	-7.22
347	SLU 3	19	-77	4166	1199.04	1.94	-6.24
347	SLU 4	21	-63	4209	1209.08	1.96	-6.77
347	SLU 5	22	-54	4212	1208.01	1.96	-7.03
347	SLU 6	18	-78	4206	1211.21	1.97	-6.05
347	SLU 7	20	-65	4250	1221.25	1.99	-6.59
347	SLU 8	18	-77	4180	1203.46	1.96	-5.96
347	SLU 9	20	-64	4223	1213.49	1.98	-6.49
347	SLU 10	22	-61	4713	1350.63	2.26	-7.17
347	SLU 11	19	-85	4708	1353.83	2.27	-6.19
347	SLU 12	20	-72	4751	1363.86	2.29	-6.72
347	SLU 13	21	-62	4753	1362.8	2.29	-6.98
347	SLU 14	18	-86	4748	1366	2.3	-6
347	SLU 15	20	-73	4791	1376.03	2.32	-6.53
347	SLU 16	18	-86	4722	1358.25	2.29	-5.9
347	SLU 17	19	-73	4765	1368.28	2.31	-6.44
347	SLU 18	19	-87	4873	1400.24	2.37	-6.26
347	SLU 19	21	-74	4916	1410.28	2.39	-6.79
347	SLU 20	18	-88	4913	1412.41	2.4	-6.07
347	SLU 21	20	-75	4957	1422.45	2.42	-6.6
347	SLU 22	22	-84	4654	1340.55	2.15	-7.1
347	SLU 23	25	-62	4726	1357.27	2.19	-7.99
347	SLU 24	21	-86	4721	1360.47	2.2	-7.01
347	SLU 25	23	-73	4764	1370.51	2.22	-7.54
347	SLU 26	24	-63	4767	1369.44	2.22	-7.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLU 27	21	-87	4761	1372.64	2.23	-6.82
347	SLU 28	22	-74	4804	1382.68	2.25	-7.36
347	SLU 29	21	-87	4735	1364.89	2.22	-6.73
347	SLU 30	22	-74	4778	1374.92	2.24	-7.26
347	SLU 31	24	-70	5268	1512.06	2.52	-7.94
347	SLU 32	21	-95	5262	1515.26	2.53	-6.96
347	SLU 33	23	-81	5306	1525.3	2.55	-7.49
347	SLU 34	24	-72	5308	1524.23	2.55	-7.75
347	SLU 35	20	-96	5303	1527.43	2.56	-6.77
347	SLU 36	22	-82	5346	1537.47	2.58	-7.3
347	SLU 37	20	-95	5276	1519.68	2.55	-6.67
347	SLU 38	22	-82	5320	1529.71	2.57	-7.21
347	SLU 39	21	-96	5428	1561.67	2.63	-7.03
347	SLU 40	23	-83	5471	1571.71	2.65	-7.56
347	SLU 41	21	-98	5468	1573.84	2.66	-6.84
347	SLU 42	22	-84	5512	1583.88	2.68	-7.37
347	SLU 43	24	-94	5139	1477.5	2.37	-7.97
347	SLU 44	27	-72	5211	1494.23	2.41	-8.85
347	SLU 45	24	-96	5206	1497.43	2.42	-7.87
347	SLU 46	26	-83	5249	1507.46	2.44	-8.41
347	SLU 47	27	-73	5251	1506.4	2.44	-8.67
347	SLU 48	23	-97	5246	1509.6	2.45	-7.69
347	SLU 49	25	-84	5289	1519.63	2.47	-8.22
347	SLU 50	23	-97	5220	1501.84	2.43	-7.59
347	SLU 51	25	-83	5263	1511.88	2.46	-8.12
347	SLU 52	27	-80	5753	1649.02	2.74	-8.8
347	SLU 53	24	-104	5747	1652.22	2.75	-7.82
347	SLU 54	25	-91	5791	1662.25	2.77	-8.36
347	SLU 55	26	-82	5793	1661.19	2.77	-8.61
347	SLU 56	23	-106	5788	1664.39	2.78	-7.64
347	SLU 57	25	-92	5831	1674.42	2.8	-8.17
347	SLU 58	23	-105	5761	1656.63	2.77	-7.54
347	SLU 59	24	-92	5804	1666.67	2.79	-8.07
347	SLU 60	24	-106	5913	1698.63	2.85	-7.89
347	SLU 61	26	-93	5956	1708.66	2.87	-8.42
347	SLU 62	23	-108	5953	1710.8	2.88	-7.7
347	SLU 63	25	-94	5996	1720.83	2.9	-8.24
347	SLU 64	27	-104	5694	1638.93	2.63	-8.74
347	SLU 65	30	-81	5766	1655.66	2.67	-9.62
347	SLU 66	26	-105	5761	1658.86	2.68	-8.65
347	SLU 67	28	-92	5804	1668.89	2.7	-9.18
347	SLU 68	29	-83	5806	1667.83	2.7	-9.44
347	SLU 69	26	-107	5801	1671.03	2.71	-8.46
347	SLU 70	27	-93	5844	1681.06	2.73	-8.99
347	SLU 71	26	-106	5775	1663.28	2.69	-8.36
347	SLU 72	27	-93	5818	1673.31	2.72	-8.89
347	SLU 73	29	-90	6308	1810.45	3	-9.57
347	SLU 74	26	-114	6302	1813.65	3.01	-8.59
347	SLU 75	28	-100	6345	1823.68	3.03	-9.13
347	SLU 76	29	-91	6348	1822.62	3.03	-9.39
347	SLU 77	25	-115	6342	1825.82	3.04	-8.41
347	SLU 78	27	-102	6386	1835.85	3.06	-8.94
347	SLU 79	25	-115	6316	1818.06	3.03	-8.31
347	SLU 80	27	-101	6359	1828.1	3.05	-8.84
347	SLU 81	26	-116	6468	1860.06	3.11	-8.66
347	SLU 82	28	-102	6511	1870.09	3.13	-9.2
347	SLU 83	26	-117	6508	1872.23	3.14	-8.47
347	SLU 84	27	-104	6551	1882.26	3.16	-9.01
347	SLE RA 1	20	-78	4258	1225.24	1.97	-6.55
347	SLE RA 2	22	-63	4306	1236.39	1.99	-7.14
347	SLE RA 3	20	-79	4302	1238.52	2	-6.49
347	SLE RA 4	21	-70	4331	1245.21	2.01	-6.85
347	SLE RA 5	22	-64	4333	1244.5	2.01	-7.02
347	SLE RA 6	19	-80	4329	1246.64	2.02	-6.37
347	SLE RA 7	21	-71	4358	1253.33	2.03	-6.72
347	SLE RA 8	19	-79	4312	1241.47	2.01	-6.3
347	SLE RA 9	20	-70	4341	1248.16	2.02	-6.66
347	SLE RA 10	22	-68	4667	1339.58	2.21	-7.11
347	SLE RA 11	20	-84	4663	1341.72	2.22	-6.46
347	SLE RA 12	21	-75	4692	1348.4	2.23	-6.81
347	SLE RA 13	21	-69	4694	1347.69	2.23	-6.98
347	SLE RA 14	19	-85	4690	1349.83	2.24	-6.33
347	SLE RA 15	20	-76	4719	1356.52	2.25	-6.69
347	SLE RA 16	19	-85	4673	1344.66	2.23	-6.27
347	SLE RA 17	20	-76	4702	1351.35	2.25	-6.62
347	SLE RA 18	20	-86	4774	1372.66	2.28	-6.5
347	SLE RA 19	21	-77	4803	1379.35	2.3	-6.86
347	SLE RA 20	19	-87	4801	1380.77	2.31	-6.38
347	SLE RA 21	20	-78	4830	1387.46	2.32	-6.73
347	SLE FR 1	20	-78	4258	1225.24	1.97	-6.55
347	SLE FR 2	20	-75	4268	1227.47	1.97	-6.67
347	SLE FR 3	20	-78	4269	1228.48	1.97	-6.5
347	SLE FR 4	20	-77	4422	1271.69	2.07	-6.65
347	SLE FR 5	20	-80	4424	1272.71	2.07	-6.49
347	SLE FR 6	20	-82	4516	1298.95	2.12	-6.53
347	SLE QP 1	20	-78	4258	1225.24	1.97	-6.55
347	SLE QP 2	20	-80	4413	1269.46	2.06	-6.54
347	SLD 1	451	78	4895	1387.55	3.1	-138.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLD 2	527	97	4921	1394.84	3.05	-160.94
347	SLD 3	419	-207	3792	1127.36	2.41	-127.72
347	SLD 4	495	-188	3818	1134.65	2.36	-150.63
347	SLD 5	185	397	6226	1698.26	3.43	-57.69
347	SLD 6	234	409	6243	1702.95	3.4	-72.44
347	SLD 7	78	-554	2549	830.96	1.12	-23.3
347	SLD 8	127	-542	2566	835.66	1.09	-38.06
347	SLD 9	-87	382	6260	1703.27	3.03	24.99
347	SLD 10	-38	394	6277	1707.97	3	10.23
347	SLD 11	-194	-570	2582	835.98	0.72	59.37
347	SLD 12	-145	-557	2599	840.67	0.69	44.62
347	SLD 13	-455	28	5008	1404.27	1.77	137.56
347	SLD 14	-379	47	5034	1411.57	1.71	114.64
347	SLD 15	-487	-258	3904	1144.09	1.07	147.87
347	SLD 16	-411	-239	3931	1151.38	1.02	124.96
347	SLV 1	696	188	5245	1472.27	3.73	-212.79
347	SLV 2	816	218	5286	1483.76	3.65	-248.91
347	SLV 3	641	-299	3362	1028.28	2.55	-195.22
347	SLV 4	761	-269	3404	1039.78	2.47	-231.33
347	SLV 5	284	733	7510	2001.54	4.37	-88.34
347	SLV 6	364	753	7538	2009.28	4.32	-112.65
347	SLV 7	101	-890	1235	521.59	0.43	-29.74
347	SLV 8	181	-870	1263	529.32	0.37	-54.05
347	SLV 9	-141	709	7563	2009.61	3.75	40.98
347	SLV 10	-61	730	7591	2017.34	3.69	16.67
347	SLV 11	-324	-914	1288	529.65	-0.19	99.58
347	SLV 12	-244	-893	1316	537.39	-0.25	75.26
347	SLV 13	-721	109	5422	1499.15	1.65	218.26
347	SLV 14	-601	139	5464	1510.65	1.57	182.14
347	SLV 15	-776	-378	3539	1055.17	0.47	235.84
347	SLV 16	-656	-348	3581	1066.66	0.39	199.72
347	SLV FO 1	764	215	5328	1492.55	3.9	-233.42
347	SLV FO 2	895	248	5374	1505.19	3.81	-273.15
347	SLV FO 3	703	-321	3257	1004.17	2.6	-214.08
347	SLV FO 4	835	-288	3303	1016.81	2.51	-253.81
347	SLV FO 5	310	815	7820	2074.75	4.6	-96.52
347	SLV FO 6	399	837	7850	2083.26	4.54	-123.26
347	SLV FO 7	109	-971	917	446.8	0.27	-32.06
347	SLV FO 8	198	-949	948	455.31	0.21	-58.8
347	SLV FO 9	-158	788	7878	2083.62	3.92	45.73
347	SLV FO 10	-69	811	7909	2092.13	3.86	18.99
347	SLV FO 11	-359	-997	975	455.67	-0.42	110.19
347	SLV FO 12	-270	-975	1006	464.18	-0.48	83.44
347	SLV FO 13	-795	128	5523	1522.12	1.61	240.74
347	SLV FO 14	-663	160	5569	1534.76	1.52	201.01
347	SLV FO 15	-855	-408	3452	1033.74	0.31	260.08
347	SLV FO 16	-724	-375	3498	1046.38	0.22	220.35
347	CRTFP Ux+	0	0	0	0	0	0
347	CRTFP Ux-	0	0	0	0	0	0
347	CRTFP Uy+	0	0	0	0	0	0
347	CRTFP Uy-	0	0	0	0	0	0
348	SLU 1	20	-81	4035	1156.57	1.34	-6.67
348	SLU 2	23	-60	4106	1172.82	1.36	-7.56
348	SLU 3	20	-83	4100	1175.97	1.38	-6.59
348	SLU 4	22	-70	4142	1185.72	1.39	-7.12
348	SLU 5	23	-61	4145	1184.62	1.39	-7.38
348	SLU 6	20	-84	4139	1187.78	1.4	-6.4
348	SLU 7	21	-72	4181	1197.53	1.41	-6.94
348	SLU 8	19	-84	4113	1180.18	1.39	-6.3
348	SLU 9	21	-71	4155	1189.93	1.41	-6.84
348	SLU 10	23	-69	4636	1323.74	1.61	-7.55
348	SLU 11	20	-92	4630	1326.9	1.62	-6.57
348	SLU 12	22	-79	4672	1336.65	1.64	-7.11
348	SLU 13	22	-70	4675	1335.55	1.63	-7.36
348	SLU 14	19	-94	4669	1338.7	1.65	-6.39
348	SLU 15	21	-81	4711	1348.45	1.66	-6.93
348	SLU 16	19	-93	4643	1331.1	1.64	-6.29
348	SLU 17	21	-80	4686	1340.85	1.65	-6.82
348	SLU 18	20	-95	4792	1372.17	1.69	-6.65
348	SLU 19	22	-82	4835	1381.92	1.71	-7.19
348	SLU 20	20	-96	4831	1383.98	1.72	-6.47
348	SLU 21	21	-83	4874	1393.73	1.73	-7
348	SLU 22	23	-92	4581	1315.05	1.51	-7.49
348	SLU 23	26	-70	4652	1331.3	1.53	-8.38
348	SLU 24	23	-93	4646	1334.45	1.54	-7.41
348	SLU 25	24	-80	4688	1344.2	1.55	-7.95
348	SLU 26	25	-71	4691	1343.1	1.55	-8.2
348	SLU 27	22	-95	4685	1346.25	1.57	-7.22
348	SLU 28	24	-82	4727	1356	1.58	-7.76
348	SLU 29	22	-94	4659	1338.65	1.56	-7.12
348	SLU 30	23	-81	4702	1348.4	1.57	-7.66
348	SLU 31	26	-79	5182	1482.22	1.77	-8.37
348	SLU 32	22	-103	5176	1485.37	1.79	-7.4
348	SLU 33	24	-90	5219	1495.12	1.8	-7.93
348	SLU 34	25	-81	5221	1494.02	1.8	-8.19
348	SLU 35	22	-104	5215	1497.17	1.81	-7.21
348	SLU 36	24	-91	5258	1506.93	1.83	-7.75
348	SLU 37	22	-103	5189	1489.57	1.81	-7.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
348	SLU 38	23	-90	5232	1499.33	1.82	-7.65
348	SLU 39	23	-105	5338	1530.65	1.86	-7.47
348	SLU 40	24	-92	5381	1540.4	1.87	-8.01
348	SLU 41	22	-106	5377	1542.45	1.88	-7.29
348	SLU 42	24	-93	5420	1552.2	1.9	-7.82
348	SLU 43	26	-102	5058	1449.21	1.68	-8.39
348	SLU 44	29	-81	5129	1465.46	1.71	-9.28
348	SLU 45	25	-104	5123	1468.61	1.72	-8.3
348	SLU 46	27	-91	5165	1478.36	1.73	-8.84
348	SLU 47	28	-82	5168	1477.26	1.73	-9.1
348	SLU 48	25	-105	5162	1480.41	1.75	-8.12
348	SLU 49	27	-92	5204	1490.16	1.76	-8.66
348	SLU 50	25	-105	5136	1472.81	1.74	-8.02
348	SLU 51	26	-92	5179	1482.56	1.75	-8.56
348	SLU 52	28	-90	5659	1616.38	1.95	-9.27
348	SLU 53	25	-113	5653	1619.53	1.97	-8.29
348	SLU 54	27	-100	5695	1629.28	1.98	-8.83
348	SLU 55	28	-91	5698	1628.18	1.98	-9.08
348	SLU 56	25	-115	5692	1631.33	1.99	-8.11
348	SLU 57	26	-102	5735	1641.08	2.01	-8.64
348	SLU 58	24	-114	5666	1623.73	1.98	-8.01
348	SLU 59	26	-101	5709	1633.48	2	-8.54
348	SLU 60	25	-115	5815	1664.81	2.04	-8.37
348	SLU 61	27	-102	5858	1674.56	2.05	-8.9
348	SLU 62	25	-117	5854	1676.61	2.06	-8.18
348	SLU 63	26	-104	5897	1686.36	2.08	-8.72
348	SLU 64	28	-112	5604	1607.68	1.85	-9.21
348	SLU 65	31	-91	5675	1623.94	1.87	-10.1
348	SLU 66	28	-114	5669	1627.09	1.89	-9.13
348	SLU 67	30	-101	5712	1636.84	1.9	-9.66
348	SLU 68	30	-92	5714	1635.74	1.9	-9.92
348	SLU 69	27	-116	5708	1638.89	1.91	-8.94
348	SLU 70	29	-103	5751	1648.64	1.93	-9.48
348	SLU 71	27	-115	5682	1631.29	1.9	-8.84
348	SLU 72	29	-102	5725	1641.04	1.92	-9.38
348	SLU 73	31	-100	6205	1774.86	2.12	-10.09
348	SLU 74	28	-124	6199	1778.01	2.13	-9.11
348	SLU 75	29	-111	6242	1787.76	2.15	-9.65
348	SLU 76	30	-101	6244	1786.66	2.15	-9.91
348	SLU 77	27	-125	6238	1789.81	2.16	-8.93
348	SLU 78	29	-112	6281	1799.56	2.17	-9.47
348	SLU 79	27	-124	6212	1782.21	2.15	-8.83
348	SLU 80	28	-111	6255	1791.96	2.16	-9.36
348	SLU 81	28	-126	6361	1823.29	2.2	-9.19
348	SLU 82	30	-113	6404	1833.04	2.22	-9.73
348	SLU 83	27	-127	6400	1835.09	2.23	-9.01
348	SLU 84	29	-114	6443	1844.84	2.24	-9.54
348	SLE RA 1	21	-84	4191	1201.85	1.39	-6.9
348	SLE RA 2	23	-70	4238	1212.68	1.4	-7.5
348	SLE RA 3	21	-85	4234	1214.78	1.41	-6.85
348	SLE RA 4	22	-77	4262	1221.29	1.42	-7.21
348	SLE RA 5	23	-71	4264	1220.55	1.42	-7.38
348	SLE RA 6	21	-86	4260	1222.65	1.43	-6.73
348	SLE RA 7	22	-78	4288	1229.15	1.44	-7.08
348	SLE RA 8	20	-86	4243	1217.59	1.42	-6.66
348	SLE RA 9	21	-77	4271	1224.09	1.43	-7.02
348	SLE RA 10	23	-76	4591	1313.3	1.57	-7.49
348	SLE RA 11	21	-92	4587	1315.4	1.58	-6.84
348	SLE RA 12	22	-83	4616	1321.9	1.58	-7.2
348	SLE RA 13	22	-77	4617	1321.17	1.58	-7.37
348	SLE RA 14	20	-93	4614	1323.27	1.59	-6.72
348	SLE RA 15	22	-84	4642	1329.77	1.6	-7.07
348	SLE RA 16	20	-92	4596	1318.2	1.59	-6.65
348	SLE RA 17	21	-84	4625	1324.7	1.6	-7.01
348	SLE RA 18	21	-93	4696	1345.59	1.62	-6.89
348	SLE RA 19	22	-84	4724	1352.09	1.63	-7.25
348	SLE RA 20	21	-94	4722	1353.45	1.64	-6.77
348	SLE RA 21	22	-85	4750	1359.95	1.65	-7.13
348	SLE FR 1	21	-84	4191	1201.85	1.39	-6.9
348	SLE FR 2	22	-81	4200	1204.02	1.39	-7.02
348	SLE FR 3	21	-85	4201	1205	1.39	-6.85
348	SLE FR 4	22	-84	4352	1247.14	1.46	-7.02
348	SLE FR 5	21	-87	4353	1248.12	1.46	-6.85
348	SLE FR 6	21	-89	4443	1273.72	1.5	-6.9
348	SLE QP 1	21	-84	4191	1201.85	1.39	-6.9
348	SLE QP 2	21	-87	4342	1244.97	1.46	-6.9
348	SLD 1	452	73	4788	1353.21	2.46	-138.59
348	SLD 2	528	96	4816	1361.03	2.4	-161.57
348	SLD 3	420	-204	3707	1101.58	1.98	-128.23
348	SLD 4	496	-181	3736	1109.4	1.92	-151.21
348	SLD 5	186	378	6109	1657.74	2.5	-58.16
348	SLD 6	235	393	6128	1662.78	2.46	-72.95
348	SLD 7	79	-547	2509	818.97	0.89	-23.65
348	SLD 8	128	-532	2527	824	0.86	-38.44
348	SLD 9	-85	358	6158	1665.94	2.06	24.64
348	SLD 10	-36	373	6176	1670.97	2.02	9.85
348	SLD 11	-193	-566	2557	827.16	0.45	59.15
348	SLD 12	-144	-552	2575	832.2	0.42	44.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
348	SLD 13	-454	7	4949	1380.54	0.99	137.41
348	SLD 14	-378	31	4977	1388.36	0.94	114.44
348	SLD 15	-486	-270	3869	1128.91	0.51	147.77
348	SLD 16	-410	-247	3897	1136.73	0.46	124.79
348	SLV 1	697	183	5115	1431.93	3.06	-213.46
348	SLV 2	817	219	5160	1444.26	2.97	-249.68
348	SLV 3	642	-290	3272	1002.55	2.24	-195.82
348	SLV 4	762	-254	3317	1014.87	2.14	-232.04
348	SLV 5	285	705	7361	1949.99	3.2	-88.87
348	SLV 6	366	729	7391	1958.29	3.14	-113.25
348	SLV 7	101	-872	1217	518.71	0.46	-30.06
348	SLV 8	182	-848	1247	527.01	0.4	-54.44
348	SLV 9	-140	674	7437	1962.93	2.52	40.64
348	SLV 10	-59	699	7467	1971.23	2.45	16.26
348	SLV 11	-324	-903	1293	531.65	-0.22	99.45
348	SLV 12	-243	-879	1323	539.95	-0.29	75.07
348	SLV 13	-720	80	5368	1475.07	0.77	218.24
348	SLV 14	-600	117	5412	1487.39	0.68	182.02
348	SLV 15	-775	-393	3524	1045.68	-0.05	235.88
348	SLV 16	-655	-357	3569	1058.01	-0.14	199.67
348	SLV FO 1	765	210	5193	1450.63	3.22	-234.12
348	SLV FO 2	897	250	5242	1464.19	3.12	-273.96
348	SLV FO 3	704	-311	3165	978.3	2.31	-214.71
348	SLV FO 4	836	-271	3214	991.87	2.21	-254.55
348	SLV FO 5	312	784	7663	2020.49	3.38	-97.07
348	SLV FO 6	400	811	7696	2029.62	3.31	-123.89
348	SLV FO 7	110	-951	905	446.08	0.36	-32.38
348	SLV FO 8	198	-924	938	455.21	0.29	-59.19
348	SLV FO 9	-156	750	7747	2034.73	2.62	45.4
348	SLV FO 10	-67	777	7780	2043.86	2.55	18.58
348	SLV FO 11	-358	-985	988	460.32	-0.39	110.09
348	SLV FO 12	-269	-958	1021	469.45	-0.46	83.27
348	SLV FO 13	-794	97	5470	1498.08	0.7	240.75
348	SLV FO 14	-662	137	5519	1511.64	0.6	200.91
348	SLV FO 15	-854	-424	3443	1025.75	-0.2	260.16
348	SLV FO 16	-723	-383	3492	1039.31	-0.3	220.32
348	CRTFP Ux+	0	0	0	0	0	0
348	CRTFP Ux-	0	0	0	0	0	0
348	CRTFP Uy+	0	0	0	0	0	0
348	CRTFP Uy-	0	0	0	0	0	0
349	SLU 1	22	-88	4002	1144.52	0.3	-7.03
349	SLU 2	24	-67	4073	1160.58	0.3	-7.93
349	SLU 3	21	-90	4066	1163.58	0.32	-6.96
349	SLU 4	23	-77	4108	1173.22	0.31	-7.5
349	SLU 5	24	-68	4111	1172.12	0.31	-7.75
349	SLU 6	21	-91	4104	1175.12	0.33	-6.78
349	SLU 7	22	-79	4147	1184.76	0.33	-7.32
349	SLU 8	20	-91	4079	1167.6	0.33	-6.67
349	SLU 9	22	-78	4121	1177.23	0.33	-7.21
349	SLU 10	24	-77	4596	1309.23	0.38	-7.96
349	SLU 11	21	-100	4590	1312.23	0.41	-6.99
349	SLU 12	23	-87	4632	1321.87	0.4	-7.53
349	SLU 13	24	-78	4634	1320.77	0.4	-7.78
349	SLU 14	21	-101	4628	1323.78	0.42	-6.81
349	SLU 15	22	-89	4670	1333.41	0.42	-7.35
349	SLU 16	20	-101	4602	1316.25	0.42	-6.7
349	SLU 17	22	-88	4645	1325.89	0.42	-7.24
349	SLU 18	21	-102	4750	1356.88	0.43	-7.07
349	SLU 19	23	-90	4792	1366.52	0.42	-7.61
349	SLU 20	21	-104	4788	1368.42	0.44	-6.89
349	SLU 21	23	-91	4831	1378.06	0.44	-7.43
349	SLU 22	24	-99	4545	1301.72	0.3	-7.91
349	SLU 23	27	-78	4615	1317.78	0.3	-8.81
349	SLU 24	24	-101	4609	1320.79	0.32	-7.84
349	SLU 25	26	-88	4651	1330.43	0.31	-8.38
349	SLU 26	27	-79	4654	1329.33	0.31	-8.63
349	SLU 27	23	-102	4647	1332.33	0.33	-7.66
349	SLU 28	25	-90	4689	1341.97	0.33	-8.2
349	SLU 29	23	-102	4621	1324.8	0.33	-7.55
349	SLU 30	25	-89	4664	1334.44	0.33	-8.09
349	SLU 31	27	-88	5139	1466.44	0.38	-8.84
349	SLU 32	24	-111	5132	1469.44	0.41	-7.87
349	SLU 33	26	-98	5175	1479.08	0.4	-8.41
349	SLU 34	26	-90	5177	1477.98	0.4	-8.66
349	SLU 35	23	-112	5171	1480.98	0.42	-7.69
349	SLU 36	25	-100	5213	1490.62	0.42	-8.23
349	SLU 37	23	-112	5145	1473.46	0.42	-7.58
349	SLU 38	25	-99	5187	1483.1	0.42	-8.12
349	SLU 39	24	-113	5293	1514.09	0.43	-7.95
349	SLU 40	26	-101	5335	1523.72	0.42	-8.49
349	SLU 41	24	-115	5331	1525.63	0.44	-7.77
349	SLU 42	25	-102	5373	1535.26	0.44	-8.31
349	SLU 43	27	-110	5016	1433.97	0.39	-8.84
349	SLU 44	30	-90	5087	1450.03	0.39	-9.74
349	SLU 45	27	-112	5080	1453.04	0.41	-8.77
349	SLU 46	29	-100	5123	1462.67	0.4	-9.31
349	SLU 47	29	-91	5125	1461.57	0.4	-9.56
349	SLU 48	26	-114	5119	1464.58	0.42	-8.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	SLU 49	28	-101	5161	1474.21	0.42	-9.13
349	SLU 50	26	-113	5093	1457.05	0.42	-8.48
349	SLU 51	28	-101	5135	1466.69	0.42	-9.02
349	SLU 52	30	-100	5611	1598.69	0.47	-9.77
349	SLU 53	27	-123	5604	1601.69	0.5	-8.79
349	SLU 54	29	-110	5646	1611.33	0.49	-9.33
349	SLU 55	29	-101	5649	1610.23	0.49	-9.59
349	SLU 56	26	-124	5642	1613.23	0.51	-8.61
349	SLU 57	28	-111	5685	1622.87	0.51	-9.15
349	SLU 58	26	-123	5617	1605.71	0.51	-8.51
349	SLU 59	28	-111	5659	1615.34	0.51	-9.05
349	SLU 60	27	-125	5765	1646.33	0.52	-8.88
349	SLU 61	29	-112	5807	1655.97	0.51	-9.42
349	SLU 62	26	-126	5803	1657.87	0.53	-8.7
349	SLU 63	28	-114	5845	1667.51	0.53	-9.24
349	SLU 64	30	-122	5559	1591.18	0.39	-9.72
349	SLU 65	33	-101	5630	1607.24	0.39	-10.62
349	SLU 66	30	-124	5623	1610.24	0.41	-9.65
349	SLU 67	31	-111	5666	1619.88	0.4	-10.19
349	SLU 68	32	-102	5668	1618.78	0.4	-10.44
349	SLU 69	29	-125	5662	1621.78	0.42	-9.47
349	SLU 70	31	-112	5704	1631.42	0.42	-10.01
349	SLU 71	29	-124	5636	1614.26	0.42	-9.36
349	SLU 72	30	-112	5678	1623.9	0.42	-9.9
349	SLU 73	33	-111	6153	1755.89	0.47	-10.65
349	SLU 74	30	-134	6147	1758.9	0.5	-9.68
349	SLU 75	31	-121	6189	1768.53	0.49	-10.22
349	SLU 76	32	-112	6192	1767.43	0.49	-10.47
349	SLU 77	29	-135	6185	1770.44	0.51	-9.5
349	SLU 78	31	-122	6227	1780.07	0.51	-10.04
349	SLU 79	29	-134	6160	1762.91	0.51	-9.39
349	SLU 80	30	-122	6202	1772.55	0.51	-9.93
349	SLU 81	30	-136	6307	1803.54	0.52	-9.76
349	SLU 82	31	-123	6350	1813.18	0.51	-10.3
349	SLU 83	29	-137	6346	1815.08	0.53	-9.58
349	SLU 84	31	-125	6388	1824.72	0.53	-10.12
349	SLE RA 1	22	-91	4157	1189.43	0.3	-7.28
349	SLE RA 2	24	-77	4204	1200.14	0.3	-7.89
349	SLE RA 3	22	-92	4200	1202.14	0.31	-7.24
349	SLE RA 4	23	-84	4228	1208.57	0.31	-7.6
349	SLE RA 5	24	-78	4230	1207.83	0.31	-7.76
349	SLE RA 6	22	-93	4225	1209.84	0.32	-7.12
349	SLE RA 7	23	-85	4253	1216.26	0.32	-7.48
349	SLE RA 8	22	-93	4208	1204.82	0.32	-7.04
349	SLE RA 9	23	-85	4236	1211.24	0.32	-7.4
349	SLE RA 10	24	-84	4553	1299.24	0.36	-7.9
349	SLE RA 11	22	-99	4549	1301.24	0.37	-7.25
349	SLE RA 12	23	-91	4577	1307.67	0.37	-7.61
349	SLE RA 13	24	-85	4579	1306.94	0.37	-7.78
349	SLE RA 14	22	-100	4574	1308.94	0.38	-7.13
349	SLE RA 15	23	-92	4603	1315.36	0.38	-7.49
349	SLE RA 16	22	-100	4557	1303.92	0.38	-7.06
349	SLE RA 17	23	-91	4585	1310.35	0.38	-7.42
349	SLE RA 18	22	-101	4656	1331.01	0.39	-7.31
349	SLE RA 19	23	-92	4684	1337.43	0.38	-7.67
349	SLE RA 20	22	-102	4681	1338.7	0.4	-7.19
349	SLE RA 21	23	-93	4710	1345.13	0.39	-7.55
349	SLE FR 1	22	-91	4157	1189.43	0.3	-7.28
349	SLE FR 2	23	-88	4167	1191.57	0.3	-7.4
349	SLE FR 3	22	-91	4167	1192.51	0.3	-7.24
349	SLE FR 4	23	-91	4316	1234.05	0.33	-7.41
349	SLE FR 5	22	-94	4317	1234.98	0.33	-7.24
349	SLE FR 6	22	-96	4406	1260.22	0.34	-7.3
349	SLE QP 1	22	-91	4157	1189.43	0.3	-7.28
349	SLE QP 2	22	-94	4307	1231.9	0.33	-7.29
349	SLD 1	454	67	4717	1330.57	1.23	-139.16
349	SLD 2	530	95	4748	1339.05	1.16	-162.2
349	SLD 3	421	-203	3648	1083.45	1.13	-128.75
349	SLD 4	497	-175	3679	1091.92	1.06	-151.79
349	SLD 5	188	359	6046	1634.86	0.76	-58.68
349	SLD 6	237	377	6066	1640.31	0.72	-73.52
349	SLD 7	80	-540	2483	811.1	0.43	-23.98
349	SLD 8	129	-523	2502	816.56	0.38	-38.81
349	SLD 9	-84	335	6111	1647.25	0.27	24.23
349	SLD 10	-35	353	6131	1652.71	0.23	9.39
349	SLD 11	-192	-564	2548	823.5	-0.07	58.93
349	SLD 12	-143	-547	2567	828.95	-0.11	44.1
349	SLD 13	-453	-13	4934	1371.89	-0.41	137.2
349	SLD 14	-376	15	4965	1380.36	-0.48	114.17
349	SLD 15	-485	-282	3865	1124.76	-0.51	147.61
349	SLD 16	-409	-255	3896	1133.24	-0.58	124.58
349	SLV 1	699	177	5025	1403.67	1.75	-214.15
349	SLV 2	819	220	5073	1417.03	1.64	-250.46
349	SLV 3	643	-283	3201	981.98	1.58	-196.41
349	SLV 4	763	-240	3249	995.34	1.47	-232.71
349	SLV 5	287	677	7280	1920.51	1.04	-89.49
349	SLV 6	368	706	7312	1929.51	0.96	-113.93
349	SLV 7	102	-857	1200	514.86	0.46	-30.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	SLV 8	183	-828	1232	523.86	0.38	-54.78
349	SLV 9	-138	640	7381	1939.95	0.27	40.2
349	SLV 10	-57	669	7414	1948.95	0.19	15.76
349	SLV 11	-323	-894	1301	534.3	-0.31	99.34
349	SLV 12	-242	-865	1334	543.3	-0.39	74.9
349	SLV 13	-719	52	5364	1468.47	-0.81	218.13
349	SLV 14	-599	95	5412	1481.83	-0.92	181.82
349	SLV 15	-774	-408	3540	1046.78	-0.99	235.87
349	SLV 16	-654	-365	3588	1060.14	-1.1	199.57
349	SLV FO 1	767	204	5097	1420.85	1.89	-234.84
349	SLV FO 2	899	252	5150	1435.55	1.77	-274.77
349	SLV FO 3	706	-302	3091	956.99	1.7	-215.32
349	SLV FO 4	838	-255	3144	971.68	1.58	-255.25
349	SLV FO 5	314	755	7577	1989.38	1.11	-97.7
349	SLV FO 6	402	786	7613	1999.27	1.03	-124.59
349	SLV FO 7	110	-933	889	443.16	0.47	-32.65
349	SLV FO 8	199	-901	925	453.05	0.39	-59.53
349	SLV FO 9	-154	713	7689	2010.76	0.26	44.95
349	SLV FO 10	-65	745	7725	2020.65	0.18	18.06
349	SLV FO 11	-358	-974	1001	464.54	-0.38	110
349	SLV FO 12	-269	-943	1036	474.43	-0.46	83.12
349	SLV FO 13	-793	67	5470	1492.13	-0.93	240.67
349	SLV FO 14	-661	114	5523	1506.82	-1.05	200.73
349	SLV FO 15	-854	-440	3463	1028.26	-1.12	260.19
349	SLV FO 16	-722	-392	3516	1042.96	-1.24	220.25
349	CRTFP Ux+	0	0	0	0	0	0
349	CRTFP Ux-	0	0	0	0	0	0
349	CRTFP Uy+	0	0	0	0	0	0
349	CRTFP Uy-	0	0	0	0	0	0
350	SLU 1	23	-95	4010	1146.63	-0.89	-7.4
350	SLU 2	26	-74	4082	1162.88	-0.92	-8.31
350	SLU 3	23	-97	4074	1165.61	-0.89	-7.34
350	SLU 4	24	-85	4117	1175.36	-0.91	-7.88
350	SLU 5	25	-76	4120	1174.31	-0.92	-8.13
350	SLU 6	22	-98	4112	1177.04	-0.89	-7.16
350	SLU 7	24	-86	4155	1186.79	-0.91	-7.71
350	SLU 8	22	-97	4086	1169.48	-0.88	-7.05
350	SLU 9	23	-85	4129	1179.23	-0.9	-7.59
350	SLU 10	26	-85	4605	1311.4	-1.02	-8.37
350	SLU 11	23	-108	4597	1314.14	-0.98	-7.4
350	SLU 12	24	-95	4640	1323.89	-1.01	-7.95
350	SLU 13	25	-87	4643	1322.83	-1.01	-8.2
350	SLU 14	22	-109	4635	1325.56	-0.98	-7.23
350	SLU 15	24	-97	4678	1335.31	-1	-7.77
350	SLU 16	22	-108	4610	1318	-0.97	-7.11
350	SLU 17	23	-96	4652	1327.75	-0.99	-7.66
350	SLU 18	23	-110	4758	1358.81	-1.02	-7.49
350	SLU 19	25	-98	4801	1368.56	-1.04	-8.04
350	SLU 20	22	-112	4796	1370.23	-1.02	-7.32
350	SLU 21	24	-100	4839	1379.98	-1.04	-7.86
350	SLU 22	26	-107	4556	1304.79	-1.08	-8.34
350	SLU 23	29	-86	4628	1321.04	-1.11	-9.25
350	SLU 24	25	-109	4620	1323.77	-1.08	-8.28
350	SLU 25	27	-96	4663	1333.52	-1.1	-8.83
350	SLU 26	28	-88	4665	1332.46	-1.11	-9.08
350	SLU 27	25	-110	4658	1335.19	-1.08	-8.1
350	SLU 28	27	-98	4701	1344.94	-1.1	-8.65
350	SLU 29	25	-109	4632	1327.64	-1.07	-7.99
350	SLU 30	26	-97	4675	1337.39	-1.09	-8.54
350	SLU 31	29	-97	5151	1469.56	-1.2	-9.32
350	SLU 32	26	-120	5143	1472.29	-1.17	-8.35
350	SLU 33	27	-107	5186	1482.04	-1.19	-8.89
350	SLU 34	28	-99	5189	1480.98	-1.2	-9.14
350	SLU 35	25	-121	5181	1483.72	-1.17	-8.17
350	SLU 36	27	-109	5224	1493.46	-1.19	-8.71
350	SLU 37	25	-120	5156	1476.16	-1.16	-8.06
350	SLU 38	26	-108	5198	1485.91	-1.18	-8.6
350	SLU 39	26	-122	5304	1516.96	-1.21	-8.44
350	SLU 40	27	-110	5347	1526.71	-1.23	-8.98
350	SLU 41	25	-124	5342	1528.39	-1.2	-8.26
350	SLU 42	27	-111	5385	1538.14	-1.22	-8.81
350	SLU 43	29	-119	5026	1436.4	-1.09	-9.3
350	SLU 44	31	-99	5098	1452.65	-1.13	-10.21
350	SLU 45	28	-121	5090	1455.38	-1.1	-9.23
350	SLU 46	30	-109	5133	1465.13	-1.12	-9.78
350	SLU 47	31	-100	5136	1464.07	-1.12	-10.03
350	SLU 48	28	-122	5128	1466.8	-1.09	-9.06
350	SLU 49	30	-110	5171	1476.55	-1.11	-9.6
350	SLU 50	27	-122	5102	1459.25	-1.08	-8.94
350	SLU 51	29	-110	5145	1469	-1.11	-9.49
350	SLU 52	32	-110	5621	1601.17	-1.22	-10.27
350	SLU 53	28	-132	5613	1603.9	-1.19	-9.3
350	SLU 54	30	-120	5656	1613.65	-1.21	-9.84
350	SLU 55	31	-111	5659	1612.59	-1.22	-10.09
350	SLU 56	28	-133	5651	1615.33	-1.18	-9.12
350	SLU 57	30	-121	5694	1625.07	-1.21	-9.67
350	SLU 58	28	-133	5626	1607.77	-1.18	-9.01
350	SLU 59	29	-121	5668	1617.52	-1.2	-9.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
350	SLU 60	29	-135	5774	1648.57	-1.22	-9.39
350	SLU 61	30	-122	5817	1658.32	-1.24	-9.94
350	SLU 62	28	-136	5812	1660	-1.22	-9.21
350	SLU 63	30	-124	5855	1669.75	-1.24	-9.76
350	SLU 64	32	-131	5572	1594.55	-1.28	-10.24
350	SLU 65	34	-111	5644	1610.8	-1.31	-11.15
350	SLU 66	31	-133	5636	1613.54	-1.28	-10.18
350	SLU 67	33	-121	5679	1623.28	-1.3	-10.72
350	SLU 68	34	-112	5681	1622.23	-1.31	-10.97
350	SLU 69	31	-134	5674	1624.96	-1.28	-10
350	SLU 70	32	-122	5717	1634.71	-1.3	-10.55
350	SLU 71	30	-134	5648	1617.4	-1.27	-9.89
350	SLU 72	32	-122	5691	1627.15	-1.29	-10.43
350	SLU 73	34	-122	6167	1759.32	-1.41	-11.21
350	SLU 74	31	-144	6159	1762.06	-1.37	-10.24
350	SLU 75	33	-132	6202	1771.81	-1.4	-10.79
350	SLU 76	34	-123	6205	1770.75	-1.4	-11.04
350	SLU 77	31	-145	6197	1773.48	-1.37	-10.07
350	SLU 78	32	-133	6240	1783.23	-1.39	-10.61
350	SLU 79	30	-145	6172	1765.93	-1.36	-9.95
350	SLU 80	32	-132	6214	1775.67	-1.38	-10.5
350	SLU 81	32	-147	6320	1806.73	-1.41	-10.33
350	SLU 82	33	-134	6363	1816.48	-1.43	-10.88
350	SLU 83	31	-148	6358	1818.15	-1.4	-10.16
350	SLU 84	33	-136	6401	1827.9	-1.43	-10.7
350	SLE RA 1	24	-98	4166	1191.82	-0.94	-7.67
350	SLE RA 2	26	-84	4214	1202.65	-0.97	-8.28
350	SLE RA 3	23	-99	4209	1204.47	-0.94	-7.63
350	SLE RA 4	25	-91	4237	1210.97	-0.96	-7.99
350	SLE RA 5	25	-85	4239	1210.27	-0.96	-8.16
350	SLE RA 6	23	-100	4234	1212.09	-0.94	-7.51
350	SLE RA 7	24	-92	4263	1218.59	-0.96	-7.87
350	SLE RA 8	23	-100	4217	1207.05	-0.94	-7.44
350	SLE RA 9	24	-92	4245	1213.55	-0.95	-7.8
350	SLE RA 10	26	-92	4563	1301.67	-1.03	-8.32
350	SLE RA 11	23	-107	4558	1303.49	-1.01	-7.67
350	SLE RA 12	25	-99	4586	1309.99	-1.02	-8.03
350	SLE RA 13	25	-93	4588	1309.28	-1.02	-8.2
350	SLE RA 14	23	-108	4583	1311.11	-1	-7.55
350	SLE RA 15	24	-100	4612	1317.6	-1.02	-7.92
350	SLE RA 16	23	-107	4566	1306.07	-1	-7.48
350	SLE RA 17	24	-99	4594	1312.57	-1.01	-7.84
350	SLE RA 18	24	-108	4665	1333.27	-1.03	-7.73
350	SLE RA 19	25	-100	4693	1339.77	-1.04	-8.1
350	SLE RA 20	23	-109	4690	1340.89	-1.03	-7.61
350	SLE RA 21	24	-101	4719	1347.39	-1.04	-7.98
350	SLE FR 1	24	-98	4166	1191.82	-0.94	-7.67
350	SLE FR 2	24	-95	4176	1193.99	-0.95	-7.79
350	SLE FR 3	23	-98	4176	1194.87	-0.94	-7.62
350	SLE FR 4	24	-98	4325	1236.42	-0.97	-7.81
350	SLE FR 5	23	-102	4326	1237.3	-0.97	-7.64
350	SLE FR 6	24	-103	4416	1262.55	-0.99	-7.7
350	SLE QP 1	24	-98	4166	1191.82	-0.94	-7.67
350	SLE QP 2	24	-101	4316	1234.26	-0.97	-7.69
350	SLD 1	455	61	4696	1324.5	-0.18	-139.76
350	SLD 2	532	93	4729	1333.82	-0.27	-162.85
350	SLD 3	423	-201	3622	1076.4	0.19	-129.27
350	SLD 4	499	-170	3656	1085.73	0.1	-152.36
350	SLD 5	190	340	6052	1636	-1.28	-59.25
350	SLD 6	239	361	6073	1642.01	-1.33	-74.12
350	SLD 7	80	-535	2474	809.02	-0.05	-24.28
350	SLD 8	129	-515	2496	815.02	-0.1	-39.15
350	SLD 9	-82	312	6136	1653.49	-1.83	23.77
350	SLD 10	-33	332	6158	1659.49	-1.89	8.91
350	SLD 11	-192	-563	2558	826.51	-0.6	58.74
350	SLD 12	-143	-543	2580	832.51	-0.66	43.87
350	SLD 13	-451	-33	4976	1382.79	-2.03	136.98
350	SLD 14	-375	-1	5009	1392.11	-2.12	113.89
350	SLD 15	-484	-295	3903	1134.69	-1.67	147.47
350	SLD 16	-408	-264	3936	1144.02	-1.75	124.38
350	SLV 1	701	172	4986	1392.99	0.23	-214.86
350	SLV 2	821	221	5039	1407.68	0.09	-251.26
350	SLV 3	645	-276	3155	969.64	0.86	-196.99
350	SLV 4	765	-227	3208	984.34	0.72	-233.38
350	SLV 5	289	651	7285	1921.21	-1.54	-90.16
350	SLV 6	370	684	7320	1931.1	-1.63	-114.66
350	SLV 7	103	-842	1180	510.06	0.56	-30.58
350	SLV 8	183	-809	1216	519.95	0.47	-55.07
350	SLV 9	-136	607	7416	1948.56	-2.4	39.7
350	SLV 10	-55	640	7452	1958.46	-2.49	15.2
350	SLV 11	-323	-886	1312	537.41	-0.31	99.28
350	SLV 12	-242	-853	1347	547.31	-0.4	74.78
350	SLV 13	-718	25	5424	1484.17	-2.66	218
350	SLV 14	-597	74	5477	1498.87	-2.79	181.61
350	SLV 15	-774	-423	3593	1060.83	-2.03	235.88
350	SLV 16	-653	-374	3645	1075.53	-2.17	199.49
350	SLV FO 1	768	199	5054	1408.86	0.35	-235.58
350	SLV FO 2	901	253	5112	1425.03	0.2	-275.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
350	SLV FO 3	707	-294	3039	943.18	1.04	-215.92
350	SLV FO 4	839	-240	3097	959.35	0.89	-255.95
350	SLV FO 5	316	726	7582	1989.9	-1.59	-98.41
350	SLV FO 6	405	763	7621	2000.78	-1.69	-125.36
350	SLV FO 7	111	-916	867	437.64	0.71	-32.87
350	SLV FO 8	199	-880	906	448.52	0.61	-59.81
350	SLV FO 9	-152	677	7726	2019.99	-2.54	44.44
350	SLV FO 10	-63	714	7765	2030.88	-2.65	17.49
350	SLV FO 11	-358	-965	1011	467.73	-0.24	109.98
350	SLV FO 12	-269	-928	1050	478.61	-0.34	83.03
350	SLV FO 13	-792	37	5535	1509.16	-2.82	240.57
350	SLV FO 14	-660	91	5593	1525.33	-2.98	200.54
350	SLV FO 15	-853	-456	3520	1043.48	-2.13	260.23
350	SLV FO 16	-721	-401	3578	1059.65	-2.29	220.2
350	CRTFP Ux+	0	0	0	0	0	0
350	CRTFP Ux-	0	0	0	0	0	0
350	CRTFP Uy+	0	0	0	0	0	0
350	CRTFP Uy-	0	0	0	0	0	0
351	SLU 1	24	-101	4057	1161.98	-1.89	-7.72
351	SLU 2	27	-81	4130	1178.8	-1.96	-8.64
351	SLU 3	24	-103	4121	1181.11	-1.92	-7.67
351	SLU 4	25	-91	4164	1191.21	-1.96	-8.22
351	SLU 5	26	-83	4168	1190.24	-1.97	-8.47
351	SLU 6	23	-105	4159	1192.56	-1.92	-7.49
351	SLU 7	25	-93	4202	1202.65	-1.96	-8.04
351	SLU 8	23	-104	4133	1184.87	-1.91	-7.37
351	SLU 9	25	-92	4176	1194.96	-1.95	-7.92
351	SLU 10	27	-93	4659	1329.19	-2.2	-8.74
351	SLU 11	24	-115	4650	1331.5	-2.16	-7.76
351	SLU 12	26	-103	4693	1341.59	-2.2	-8.31
351	SLU 13	26	-95	4696	1340.63	-2.21	-8.56
351	SLU 14	23	-117	4688	1342.94	-2.17	-7.59
351	SLU 15	25	-105	4731	1353.04	-2.21	-8.14
351	SLU 16	23	-116	4661	1335.25	-2.15	-7.47
351	SLU 17	25	-104	4705	1345.35	-2.19	-8.02
351	SLU 18	24	-118	4812	1376.82	-2.24	-7.86
351	SLU 19	26	-106	4856	1386.91	-2.28	-8.41
351	SLU 20	24	-119	4850	1388.26	-2.25	-7.68
351	SLU 21	25	-108	4894	1398.35	-2.29	-8.23
351	SLU 22	27	-114	4612	1323.13	-2.24	-8.73
351	SLU 23	30	-94	4685	1339.95	-2.3	-9.64
351	SLU 24	27	-116	4676	1342.26	-2.26	-8.67
351	SLU 25	29	-104	4719	1352.35	-2.3	-9.22
351	SLU 26	29	-96	4723	1351.39	-2.31	-9.47
351	SLU 27	26	-117	4714	1353.7	-2.26	-8.5
351	SLU 28	28	-106	4757	1363.8	-2.3	-9.05
351	SLU 29	26	-117	4688	1346.01	-2.25	-8.38
351	SLU 30	28	-105	4731	1356.1	-2.29	-8.93
351	SLU 31	30	-106	5214	1490.33	-2.55	-9.74
351	SLU 32	27	-128	5205	1492.65	-2.5	-8.77
351	SLU 33	29	-116	5248	1502.74	-2.54	-9.32
351	SLU 34	30	-107	5251	1501.78	-2.55	-9.57
351	SLU 35	26	-129	5243	1504.09	-2.51	-8.59
351	SLU 36	28	-117	5286	1514.18	-2.55	-9.14
351	SLU 37	26	-129	5216	1496.4	-2.49	-8.47
351	SLU 38	28	-117	5260	1506.49	-2.53	-9.02
351	SLU 39	27	-131	5367	1537.96	-2.58	-8.86
351	SLU 40	29	-119	5411	1548.06	-2.62	-9.41
351	SLU 41	27	-132	5405	1549.41	-2.59	-8.69
351	SLU 42	28	-120	5449	1559.5	-2.63	-9.24
351	SLU 43	30	-127	5083	1455.32	-2.34	-9.69
351	SLU 44	33	-107	5156	1472.14	-2.41	-10.61
351	SLU 45	30	-129	5147	1474.46	-2.37	-9.64
351	SLU 46	32	-117	5191	1484.55	-2.41	-10.19
351	SLU 47	32	-109	5194	1483.59	-2.42	-10.44
351	SLU 48	29	-131	5185	1485.9	-2.37	-9.46
351	SLU 49	31	-119	5229	1495.99	-2.41	-10.01
351	SLU 50	29	-130	5159	1478.21	-2.36	-9.34
351	SLU 51	31	-118	5203	1488.3	-2.4	-9.9
351	SLU 52	33	-119	5685	1622.53	-2.65	-10.71
351	SLU 53	30	-141	5676	1624.85	-2.61	-9.73
351	SLU 54	32	-129	5720	1634.94	-2.65	-10.28
351	SLU 55	33	-121	5723	1633.97	-2.66	-10.53
351	SLU 56	29	-142	5714	1636.29	-2.62	-9.56
351	SLU 57	31	-131	5758	1646.38	-2.66	-10.11
351	SLU 58	29	-142	5688	1628.6	-2.6	-9.44
351	SLU 59	31	-130	5732	1638.69	-2.64	-9.99
351	SLU 60	30	-144	5839	1670.16	-2.69	-9.83
351	SLU 61	32	-132	5883	1680.25	-2.73	-10.38
351	SLU 62	30	-145	5877	1681.61	-2.7	-9.66
351	SLU 63	31	-134	5921	1691.7	-2.74	-10.21
351	SLU 64	33	-140	5638	1616.47	-2.69	-10.7
351	SLU 65	36	-120	5711	1633.29	-2.75	-11.62
351	SLU 66	33	-142	5702	1635.6	-2.71	-10.64
351	SLU 67	35	-130	5746	1645.7	-2.75	-11.19
351	SLU 68	35	-122	5749	1644.73	-2.76	-11.44
351	SLU 69	32	-143	5740	1647.05	-2.72	-10.47
351	SLU 70	34	-132	5784	1657.14	-2.76	-11.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
351	SLU 71	32	-143	5714	1639.36	-2.7	-10.35
351	SLU 72	34	-131	5758	1649.45	-2.74	-10.9
351	SLU 73	36	-132	6240	1783.68	-3	-11.71
351	SLU 74	33	-154	6231	1785.99	-2.95	-10.74
351	SLU 75	35	-142	6275	1796.08	-2.99	-11.29
351	SLU 76	36	-133	6278	1795.12	-3	-11.54
351	SLU 77	33	-155	6269	1797.43	-2.96	-10.57
351	SLU 78	34	-143	6313	1807.53	-3	-11.12
351	SLU 79	32	-155	6243	1789.74	-2.94	-10.45
351	SLU 80	34	-143	6287	1799.84	-2.98	-11
351	SLU 81	33	-157	6394	1831.31	-3.03	-10.84
351	SLU 82	35	-145	6438	1841.4	-3.07	-11.39
351	SLU 83	33	-158	6432	1842.75	-3.04	-10.66
351	SLU 84	35	-146	6476	1852.84	-3.08	-11.21
351	SLE RA 1	25	-105	4215	1208.02	-1.99	-8.01
351	SLE RA 2	27	-92	4264	1219.24	-2.03	-8.62
351	SLE RA 3	25	-106	4258	1220.78	-2.01	-7.97
351	SLE RA 4	26	-98	4287	1227.51	-2.03	-8.34
351	SLE RA 5	26	-93	4289	1226.86	-2.04	-8.5
351	SLE RA 6	24	-107	4283	1228.41	-2.01	-7.86
351	SLE RA 7	25	-99	4312	1235.14	-2.04	-8.22
351	SLE RA 8	24	-107	4266	1223.28	-2	-7.78
351	SLE RA 9	25	-99	4295	1230.01	-2.03	-8.14
351	SLE RA 10	27	-99	4616	1319.49	-2.2	-8.68
351	SLE RA 11	25	-114	4610	1321.04	-2.17	-8.04
351	SLE RA 12	26	-106	4640	1327.76	-2.19	-8.4
351	SLE RA 13	26	-100	4642	1327.12	-2.2	-8.57
351	SLE RA 14	24	-115	4636	1328.66	-2.17	-7.92
351	SLE RA 15	26	-107	4665	1335.39	-2.2	-8.29
351	SLE RA 16	24	-115	4618	1323.54	-2.16	-7.84
351	SLE RA 17	25	-107	4648	1330.27	-2.19	-8.21
351	SLE RA 18	25	-116	4719	1351.25	-2.22	-8.1
351	SLE RA 19	26	-108	4748	1357.98	-2.25	-8.47
351	SLE RA 20	25	-117	4744	1358.88	-2.23	-7.98
351	SLE RA 21	26	-109	4773	1365.6	-2.25	-8.35
351	SLE FR 1	25	-105	4215	1208.02	-1.99	-8.01
351	SLE FR 2	25	-102	4225	1210.26	-2	-8.13
351	SLE FR 3	25	-105	4225	1211.07	-1.99	-7.96
351	SLE FR 4	25	-105	4376	1253.23	-2.07	-8.16
351	SLE FR 5	25	-108	4376	1254.04	-2.06	-7.99
351	SLE FR 6	25	-110	4467	1279.63	-2.11	-8.05
351	SLE QP 1	25	-105	4215	1208.02	-1.99	-8.01
351	SLE QP 2	25	-108	4366	1250.99	-2.06	-8.04
351	SLD 1	457	55	4719	1333.93	-1.37	-140.35
351	SLD 2	533	91	4756	1344.35	-1.48	-163.5
351	SLD 3	423	-200	3626	1079.29	-0.57	-129.77
351	SLD 4	500	-165	3663	1089.7	-0.68	-152.92
351	SLD 5	192	322	6124	1660.29	-3.05	-59.79
351	SLD 6	241	345	6147	1667	-3.12	-74.7
351	SLD 7	81	-529	2480	811.48	-0.38	-24.53
351	SLD 8	130	-506	2504	818.18	-0.45	-39.44
351	SLD 9	-80	290	6229	1683.8	-3.67	23.37
351	SLD 10	-31	313	6253	1690.5	-3.74	8.46
351	SLD 11	-191	-561	2585	834.98	-1	58.63
351	SLD 12	-142	-539	2609	841.68	-1.07	43.72
351	SLD 13	-450	-51	5070	1412.28	-3.44	136.85
351	SLD 14	-374	-16	5107	1422.69	-3.55	113.7
351	SLD 15	-483	-307	3977	1157.63	-2.64	147.43
351	SLD 16	-407	-272	4014	1168.05	-2.75	124.28
351	SLV 1	702	166	4996	1398.84	-1.04	-215.6
351	SLV 2	822	221	5054	1415.26	-1.21	-252.09
351	SLV 3	646	-270	3130	964.32	0.32	-197.57
351	SLV 4	766	-215	3189	980.74	0.16	-234.06
351	SLV 5	291	625	7373	1951.3	-3.8	-90.84
351	SLV 6	372	662	7412	1962.35	-3.91	-115.4
351	SLV 7	103	-828	1156	502.91	0.76	-30.75
351	SLV 8	184	-791	1195	513.96	0.65	-55.31
351	SLV 9	-134	575	7537	1988.02	-4.77	39.24
351	SLV 10	-53	612	7577	1999.07	-4.88	14.68
351	SLV 11	-323	-878	1320	539.63	-0.21	99.33
351	SLV 12	-242	-841	1360	550.68	-0.32	74.76
351	SLV 13	-716	-1	5544	1521.24	-4.28	217.99
351	SLV 14	-596	54	5602	1537.66	-4.45	181.5
351	SLV 15	-773	-437	3679	1086.72	-2.91	236.02
351	SLV 16	-652	-382	3737	1103.14	-3.08	199.53
351	SLV FO 1	770	193	5059	1413.62	-0.94	-236.36
351	SLV FO 2	902	254	5123	1431.68	-1.13	-276.5
351	SLV FO 3	708	-286	3007	935.65	0.56	-216.53
351	SLV FO 4	840	-225	3071	953.71	0.38	-256.67
351	SLV FO 5	318	698	7674	2021.33	-3.97	-99.12
351	SLV FO 6	407	739	7717	2033.49	-4.1	-126.14
351	SLV FO 7	111	-900	835	428.1	1.04	-33.02
351	SLV FO 8	200	-859	878	440.26	0.92	-60.04
351	SLV FO 9	-150	643	7855	2061.72	-5.04	43.97
351	SLV FO 10	-61	684	7898	2073.88	-5.16	16.95
351	SLV FO 11	-357	-955	1016	468.49	-0.02	110.07
351	SLV FO 12	-268	-914	1059	480.65	-0.15	83.04
351	SLV FO 13	-790	9	5661	1548.27	-4.5	240.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
351	SLV FO 14	-658	70	5726	1566.32	-4.68	200.45
351	SLV FO 15	-852	-470	3610	1070.3	-2.99	260.42
351	SLV FO 16	-720	-409	3674	1088.36	-3.18	220.28
351	CRTFP Ux+	0	0	0	0	0	0
351	CRTFP Ux-	0	0	0	0	0	0
351	CRTFP Uy+	0	0	0	0	0	0
351	CRTFP Uy-	0	0	0	0	0	0
415	SLU 1	-72	20	3181	83.76	-580.81	6.86
415	SLU 2	-75	37	3256	85.53	-595.08	11.03
415	SLU 3	-74	20	3240	85.34	-591	6.96
415	SLU 4	-76	30	3285	86.4	-599.56	9.47
415	SLU 5	-77	37	3292	86.51	-601.36	11.14
415	SLU 6	-75	21	3276	86.33	-597.28	7.07
415	SLU 7	-77	31	3321	87.39	-605.84	9.57
415	SLU 8	-75	21	3254	85.73	-593.38	7.06
415	SLU 9	-77	31	3299	86.8	-601.94	9.57
415	SLU 10	-81	40	3655	96	-666.58	12.01
415	SLU 11	-80	24	3639	95.82	-662.5	7.94
415	SLU 12	-82	34	3684	96.88	-671.06	10.45
415	SLU 13	-82	40	3692	96.99	-672.86	12.11
415	SLU 14	-81	24	3676	96.81	-668.78	8.04
415	SLU 15	-83	34	3721	97.87	-677.34	10.55
415	SLU 16	-80	24	3653	96.21	-664.88	8.04
415	SLU 17	-82	34	3698	97.27	-673.44	10.55
415	SLU 18	-80	25	3752	98.72	-682.95	8.25
415	SLU 19	-82	35	3797	99.78	-691.51	10.76
415	SLU 20	-81	25	3788	99.71	-689.24	8.35
415	SLU 21	-83	35	3833	100.77	-697.8	10.86
415	SLU 22	-83	22	3637	95.82	-661.66	7.46
415	SLU 23	-86	38	3712	97.59	-675.93	11.63
415	SLU 24	-85	22	3696	97.41	-671.85	7.56
415	SLU 25	-87	32	3741	98.47	-680.41	10.07
415	SLU 26	-87	38	3748	98.58	-682.21	11.73
415	SLU 27	-86	22	3732	98.39	-678.13	7.66
415	SLU 28	-88	32	3777	99.46	-686.69	10.17
415	SLU 29	-85	22	3710	97.8	-674.23	7.66
415	SLU 30	-87	32	3755	98.86	-682.79	10.17
415	SLU 31	-92	41	4111	108.06	-747.43	12.61
415	SLU 32	-91	25	4095	107.88	-743.35	8.54
415	SLU 33	-93	35	4140	108.94	-751.91	11.04
415	SLU 34	-93	42	4148	109.05	-753.71	12.71
415	SLU 35	-92	25	4132	108.87	-749.63	8.64
415	SLU 36	-94	35	4177	109.93	-758.19	11.15
415	SLU 37	-91	26	4109	108.27	-745.73	8.64
415	SLU 38	-93	35	4154	109.33	-754.29	11.14
415	SLU 39	-91	26	4208	110.78	-763.8	8.85
415	SLU 40	-93	36	4253	111.84	-772.36	11.36
415	SLU 41	-92	27	4244	111.77	-770.09	8.95
415	SLU 42	-94	36	4289	112.83	-778.65	11.46
415	SLU 43	-90	26	3979	104.75	-727.33	8.71
415	SLU 44	-93	42	4054	106.52	-741.6	12.89
415	SLU 45	-92	26	4038	106.33	-737.52	8.81
415	SLU 46	-94	36	4083	107.4	-746.08	11.32
415	SLU 47	-95	43	4090	107.51	-747.88	12.99
415	SLU 48	-93	26	4074	107.32	-743.8	8.92
415	SLU 49	-95	36	4119	108.39	-752.36	11.42
415	SLU 50	-93	26	4052	106.73	-739.9	8.91
415	SLU 51	-95	36	4097	107.79	-748.46	11.42
415	SLU 52	-99	46	4453	116.99	-813.1	13.86
415	SLU 53	-98	29	4437	116.81	-809.02	9.79
415	SLU 54	-100	39	4482	117.87	-817.58	12.3
415	SLU 55	-100	46	4490	117.98	-819.38	13.96
415	SLU 56	-99	30	4474	117.8	-815.3	9.89
415	SLU 57	-101	40	4519	118.86	-823.86	12.4
415	SLU 58	-98	30	4451	117.2	-811.4	9.89
415	SLU 59	-100	40	4496	118.26	-819.96	12.4
415	SLU 60	-98	31	4550	119.71	-829.47	10.1
415	SLU 61	-100	41	4595	120.77	-838.03	12.61
415	SLU 62	-99	31	4586	120.7	-835.76	10.21
415	SLU 63	-101	41	4631	121.76	-844.32	12.71
415	SLU 64	-101	27	4435	116.81	-808.18	9.31
415	SLU 65	-104	44	4510	118.58	-822.45	13.48
415	SLU 66	-103	27	4494	118.4	-818.37	9.41
415	SLU 67	-105	37	4538	119.46	-826.93	11.92
415	SLU 68	-105	44	4546	119.57	-828.73	13.59
415	SLU 69	-104	28	4530	119.39	-824.66	9.52
415	SLU 70	-106	38	4575	120.45	-833.22	12.02
415	SLU 71	-103	28	4508	118.79	-820.75	9.51
415	SLU 72	-105	38	4553	119.85	-829.31	12.02
415	SLU 73	-110	47	4909	129.05	-893.95	14.46
415	SLU 74	-108	31	4893	128.87	-889.87	10.39
415	SLU 75	-110	41	4938	129.93	-898.43	12.9
415	SLU 76	-111	47	4946	130.04	-900.23	14.56
415	SLU 77	-110	31	4930	129.86	-896.16	10.49
415	SLU 78	-112	41	4975	130.92	-904.72	13
415	SLU 79	-109	31	4907	129.26	-892.25	10.49
415	SLU 80	-111	41	4952	130.32	-900.81	13
415	SLU 81	-109	32	5006	131.77	-910.33	10.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
415	SLU 82	-111	42	5050	132.83	-918.89	13.21
415	SLU 83	-110	32	5042	132.76	-916.61	10.81
415	SLU 84	-112	42	5087	133.82	-925.17	13.31
415	SLE RA 1	-75	21	3311	87.2	-603.91	7.03
415	SLE RA 2	-77	32	3361	88.38	-613.42	9.81
415	SLE RA 3	-77	21	3350	88.26	-610.7	7.1
415	SLE RA 4	-78	27	3380	88.97	-616.41	8.77
415	SLE RA 5	-78	32	3385	89.04	-617.61	9.88
415	SLE RA 6	-77	21	3375	88.92	-614.89	7.17
415	SLE RA 7	-79	28	3405	89.63	-620.6	8.84
415	SLE RA 8	-77	21	3360	88.52	-612.29	7.16
415	SLE RA 9	-78	28	3390	89.23	-617.99	8.84
415	SLE RA 10	-81	34	3627	95.36	-661.09	10.46
415	SLE RA 11	-80	23	3617	95.24	-658.37	7.75
415	SLE RA 12	-82	30	3647	95.95	-664.07	9.42
415	SLE RA 13	-82	34	3652	96.02	-665.28	10.53
415	SLE RA 14	-81	23	3641	95.9	-662.56	7.82
415	SLE RA 15	-82	30	3671	96.61	-668.26	9.49
415	SLE RA 16	-81	23	3626	95.5	-659.95	7.82
415	SLE RA 17	-82	30	3656	96.21	-665.66	9.49
415	SLE RA 18	-81	24	3692	97.18	-672	7.96
415	SLE RA 19	-82	30	3722	97.89	-677.71	9.63
415	SLE RA 20	-81	24	3716	97.84	-676.19	8.03
415	SLE RA 21	-83	31	3746	98.54	-681.9	9.7
415	SLE FR 1	-75	21	3311	87.2	-603.91	7.03
415	SLE FR 2	-76	23	3321	87.44	-605.81	7.58
415	SLE FR 3	-76	21	3321	87.47	-605.58	7.06
415	SLE FR 4	-77	24	3435	90.43	-626.24	7.86
415	SLE FR 5	-77	22	3435	90.46	-626.01	7.33
415	SLE FR 6	-78	22	3501	92.19	-637.96	7.49
415	SLE QP 1	-75	21	3311	87.2	-603.91	7.03
415	SLE QP 2	-77	22	3425	90.19	-624.34	7.31
415	SLD 1	155	204	4961	129.24	-897.28	32.3
415	SLD 2	204	115	4873	127.16	-881.04	8.94
415	SLD 3	200	-6	3905	104	-700.94	-21.24
415	SLD 4	249	-95	3817	101.92	-684.7	-44.6
415	SLD 5	-84	411	5503	140.54	-1006.8	100.03
415	SLD 6	-52	353	5446	139.2	-996.34	84.98
415	SLD 7	66	-291	1983	56.42	-352.32	-78.45
415	SLD 8	98	-348	1926	55.08	-341.86	-93.49
415	SLD 9	-251	391	4925	125.31	-906.81	108.1
415	SLD 10	-219	334	4868	123.97	-896.35	93.06
415	SLD 11	-102	-310	1404	41.19	-252.33	-70.37
415	SLD 12	-70	-367	1348	39.85	-241.87	-85.41
415	SLD 13	-403	138	3033	78.46	-563.98	59.22
415	SLD 14	-353	50	2945	76.39	-547.74	35.85
415	SLD 15	-358	-72	1977	53.23	-367.64	5.68
415	SLD 16	-308	-161	1889	51.15	-351.39	-17.69
415	SLV 1	282	322	5900	152.97	-1064.67	50.36
415	SLV 2	361	183	5761	149.7	-1039.07	13.53
415	SLV 3	359	-36	4098	109.92	-729.7	-40.96
415	SLV 4	437	-176	3959	106.64	-704.09	-77.79
415	SLV 5	-100	682	6926	174.94	-1269.26	165.59
415	SLV 6	-47	588	6833	172.74	-1252.03	140.8
415	SLV 7	155	-514	920	31.42	-152.68	-138.8
415	SLV 8	208	-608	827	29.22	-135.44	-163.59
415	SLV 9	-361	651	6024	151.17	-1113.23	178.2
415	SLV 10	-309	557	5930	148.97	-1096	153.41
415	SLV 11	-107	-545	18	7.65	3.35	-126.19
415	SLV 12	-54	-639	-75	5.45	20.59	-150.98
415	SLV 13	-591	219	2891	73.75	-544.58	92.4
415	SLV 14	-512	80	2753	70.47	-518.98	55.57
415	SLV 15	-514	-139	1090	30.69	-209.6	1.08
415	SLV 16	-436	-279	951	27.42	-184	-35.74
415	SLV FO 1	318	352	6147	159.25	-1108.7	54.66
415	SLV FO 2	404	199	5995	155.65	-1080.54	14.15
415	SLV FO 3	402	-42	4165	111.89	-740.23	-45.79
415	SLV FO 4	488	-196	4013	108.29	-712.07	-86.3
415	SLV FO 5	-102	748	7276	183.41	-1333.75	181.42
415	SLV FO 6	-44	645	7174	180.99	-1314.8	154.15
415	SLV FO 7	178	-567	670	25.54	-105.51	-153.41
415	SLV FO 8	236	-671	567	23.12	-86.55	-180.68
415	SLV FO 9	-390	714	6283	157.27	-1162.12	195.29
415	SLV FO 10	-332	611	6181	154.85	-1143.17	168.03
415	SLV FO 11	-110	-601	-323	-0.6	66.12	-139.54
415	SLV FO 12	-52	-705	-426	-3.02	85.08	-166.81
415	SLV FO 13	-642	239	2838	72.1	-536.6	100.91
415	SLV FO 14	-556	85	2685	68.5	-508.44	60.4
415	SLV FO 15	-558	-156	856	24.74	-168.13	0.46
415	SLV FO 16	-472	-309	703	21.14	-139.97	-40.05
415	CRTFP Ux+	0	0	0	0	0	0
415	CRTFP Ux-	0	0	0	0	0	0
415	CRTFP Uy+	0	0	0	0	0	0
415	CRTFP Uy-	0	0	0	0	0	0
418	SLU 1	-105	-31	5614	152.21	-40.95	-0.42
418	SLU 2	-111	-4	5730	155.03	-40.4	-0.39
418	SLU 3	-108	-32	5710	154.9	-41.8	-0.42
418	SLU 4	-112	-15	5780	156.6	-41.47	-0.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
418	SLU 5	-113	-4	5790	156.7	-40.96	-0.4
418	SLU 6	-109	-32	5769	156.57	-42.37	-0.43
418	SLU 7	-113	-16	5839	158.27	-42.04	-0.41
418	SLU 8	-108	-32	5732	155.55	-42.08	-0.43
418	SLU 9	-112	-16	5802	157.24	-41.75	-0.41
418	SLU 10	-119	-7	6471	175.07	-47.06	-0.58
418	SLU 11	-115	-34	6451	174.94	-48.47	-0.61
418	SLU 12	-119	-18	6521	176.64	-48.14	-0.6
418	SLU 13	-120	-7	6530	176.74	-47.63	-0.59
418	SLU 14	-117	-35	6510	176.61	-49.03	-0.62
418	SLU 15	-121	-19	6580	178.31	-48.7	-0.6
418	SLU 16	-116	-35	6473	175.59	-48.74	-0.62
418	SLU 17	-119	-18	6543	177.28	-48.41	-0.6
418	SLU 18	-115	-35	6672	180.83	-50.47	-0.69
418	SLU 19	-119	-19	6742	182.53	-50.14	-0.68
418	SLU 20	-117	-35	6731	182.5	-51.03	-0.7
418	SLU 21	-121	-19	6801	184.2	-50.7	-0.68
418	SLU 22	-121	-34	6415	174.16	-47.37	-0.48
418	SLU 23	-128	-7	6532	176.98	-46.82	-0.45
418	SLU 24	-124	-35	6512	176.85	-48.22	-0.48
418	SLU 25	-128	-19	6581	178.55	-47.89	-0.46
418	SLU 26	-129	-8	6591	178.65	-47.38	-0.46
418	SLU 27	-126	-35	6571	178.52	-48.79	-0.48
418	SLU 28	-130	-19	6641	180.22	-48.46	-0.47
418	SLU 29	-125	-35	6534	177.5	-48.5	-0.49
418	SLU 30	-129	-19	6604	179.19	-48.17	-0.47
418	SLU 31	-135	-10	7273	197.02	-53.48	-0.64
418	SLU 32	-131	-38	7252	196.89	-54.89	-0.67
418	SLU 33	-135	-21	7322	198.59	-54.56	-0.65
418	SLU 34	-137	-10	7332	198.69	-54.05	-0.65
418	SLU 35	-133	-38	7311	198.56	-55.45	-0.67
418	SLU 36	-137	-22	7381	200.26	-55.12	-0.66
418	SLU 37	-132	-38	7274	197.54	-55.16	-0.68
418	SLU 38	-136	-22	7344	199.23	-54.83	-0.66
418	SLU 39	-131	-38	7473	202.78	-56.89	-0.75
418	SLU 40	-135	-22	7543	204.48	-56.56	-0.73
418	SLU 41	-133	-39	7533	204.45	-57.45	-0.75
418	SLU 42	-137	-22	7603	206.15	-57.12	-0.74
418	SLU 43	-131	-39	7023	190.34	-51.03	-0.53
418	SLU 44	-137	-12	7140	193.16	-50.48	-0.5
418	SLU 45	-134	-40	7119	193.04	-51.89	-0.53
418	SLU 46	-138	-24	7189	194.73	-51.56	-0.51
418	SLU 47	-139	-13	7199	194.83	-51.04	-0.5
418	SLU 48	-135	-40	7179	194.71	-52.45	-0.53
418	SLU 49	-139	-24	7249	196.4	-52.12	-0.52
418	SLU 50	-134	-40	7142	193.68	-52.16	-0.53
418	SLU 51	-138	-24	7212	195.38	-51.83	-0.52
418	SLU 52	-145	-15	7880	213.2	-57.14	-0.69
418	SLU 53	-141	-43	7860	213.08	-58.55	-0.72
418	SLU 54	-145	-26	7930	214.77	-58.22	-0.7
418	SLU 55	-146	-15	7940	214.87	-57.71	-0.69
418	SLU 56	-142	-43	7919	214.75	-59.12	-0.72
418	SLU 57	-146	-27	7989	216.44	-58.79	-0.71
418	SLU 58	-141	-43	7882	213.72	-58.83	-0.72
418	SLU 59	-145	-27	7952	215.42	-58.5	-0.71
418	SLU 60	-141	-43	8081	218.97	-60.55	-0.8
418	SLU 61	-145	-27	8151	220.66	-60.22	-0.78
418	SLU 62	-143	-44	8141	220.64	-61.11	-0.8
418	SLU 63	-147	-27	8210	222.33	-60.78	-0.79
418	SLU 64	-147	-43	7825	212.29	-57.45	-0.58
418	SLU 65	-154	-16	7941	215.11	-56.9	-0.56
418	SLU 66	-150	-43	7921	214.99	-58.31	-0.59
418	SLU 67	-154	-27	7991	216.68	-57.98	-0.57
418	SLU 68	-155	-16	8000	216.78	-57.46	-0.56
418	SLU 69	-151	-44	7980	216.66	-58.87	-0.59
418	SLU 70	-155	-27	8050	218.35	-58.54	-0.57
418	SLU 71	-150	-43	7943	215.63	-58.58	-0.59
418	SLU 72	-154	-27	8013	217.33	-58.25	-0.58
418	SLU 73	-161	-18	8682	235.15	-63.56	-0.75
418	SLU 74	-157	-46	8662	235.03	-64.97	-0.78
418	SLU 75	-161	-30	8732	236.72	-64.64	-0.76
418	SLU 76	-162	-19	8741	236.82	-64.13	-0.75
418	SLU 77	-159	-46	8721	236.7	-65.54	-0.78
418	SLU 78	-163	-30	8791	238.39	-65.21	-0.76
418	SLU 79	-158	-46	8684	235.67	-65.25	-0.78
418	SLU 80	-162	-30	8754	237.37	-64.92	-0.77
418	SLU 81	-157	-46	8883	240.92	-66.97	-0.86
418	SLU 82	-161	-30	8953	242.61	-66.64	-0.84
418	SLU 83	-159	-47	8942	242.59	-67.53	-0.86
418	SLU 84	-163	-31	9012	244.28	-67.2	-0.84
418	SLE RA 1	-109	-32	5843	158.48	-42.78	-0.44
418	SLE RA 2	-114	-14	5920	160.36	-42.41	-0.42
418	SLE RA 3	-111	-32	5907	160.28	-43.35	-0.44
418	SLE RA 4	-114	-22	5954	161.4	-43.13	-0.43
418	SLE RA 5	-115	-14	5960	161.47	-42.79	-0.42
418	SLE RA 6	-112	-33	5946	161.39	-43.73	-0.44
418	SLE RA 7	-115	-22	5993	162.52	-43.51	-0.43
418	SLE RA 8	-112	-33	5922	160.71	-43.54	-0.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
418	SLE RA 9	-114	-22	5968	161.83	-43.32	-0.43
418	SLE RA 10	-119	-16	6414	173.72	-46.86	-0.55
418	SLE RA 11	-116	-34	6401	173.64	-47.79	-0.56
418	SLE RA 12	-119	-23	6447	174.76	-47.57	-0.55
418	SLE RA 13	-120	-16	6454	174.83	-47.23	-0.55
418	SLE RA 14	-117	-35	6440	174.75	-48.17	-0.57
418	SLE RA 15	-120	-24	6487	175.88	-47.95	-0.56
418	SLE RA 16	-117	-34	6416	174.06	-47.98	-0.57
418	SLE RA 17	-119	-24	6462	175.19	-47.76	-0.56
418	SLE RA 18	-116	-35	6548	177.56	-49.13	-0.62
418	SLE RA 19	-119	-24	6595	178.69	-48.91	-0.61
418	SLE RA 20	-117	-35	6588	178.68	-49.5	-0.62
418	SLE RA 21	-120	-24	6634	179.8	-49.28	-0.61
418	SLE FR 1	-109	-32	5843	158.48	-42.78	-0.44
418	SLE FR 2	-110	-28	5858	158.85	-42.71	-0.43
418	SLE FR 3	-110	-32	5859	158.92	-42.93	-0.44
418	SLE FR 4	-112	-29	6070	164.58	-44.61	-0.49
418	SLE FR 5	-112	-33	6070	164.65	-44.83	-0.49
418	SLE FR 6	-113	-33	6196	168.02	-45.95	-0.53
418	SLE QP 1	-109	-32	5843	158.48	-42.78	-0.44
418	SLE QP 2	-111	-33	6054	164.2	-44.68	-0.49
418	SLD 1	381	121	7473	200.08	-25.56	-14.4
418	SLD 2	479	49	7385	197.89	-27	-15.76
418	SLD 3	449	-222	5820	159.79	-27.19	-14.82
418	SLD 4	547	-294	5732	157.6	-28.62	-16.18
418	SLD 5	-85	546	9003	236.45	-36.24	-3.79
418	SLD 6	-21	500	8945	235.04	-37.16	-4.67
418	SLD 7	144	-598	3492	102.15	-41.65	-5.2
418	SLD 8	207	-644	3435	100.74	-42.57	-6.07
418	SLD 9	-430	579	8674	227.67	-46.79	5.09
418	SLD 10	-367	532	8617	226.26	-47.72	4.21
418	SLD 11	-202	-565	3163	93.36	-52.21	3.68
418	SLD 12	-138	-612	3106	91.95	-53.13	2.8
418	SLD 13	-770	229	6377	170.81	-60.75	15.2
418	SLD 14	-672	156	6288	168.62	-62.18	13.84
418	SLD 15	-702	-114	4724	130.52	-62.37	14.78
418	SLD 16	-604	-187	4635	128.33	-63.8	13.41
418	SLV 1	653	233	8390	223.14	-14.74	-22.21
418	SLV 2	808	119	8250	219.69	-16.99	-24.36
418	SLV 3	770	-352	5570	154.4	-17.47	-22.92
418	SLV 4	925	-467	5430	150.94	-19.73	-25.07
418	SLV 5	-88	956	11059	286.79	-31.13	-5.53
418	SLV 6	17	879	10965	284.46	-32.65	-6.97
418	SLV 7	301	-995	1658	57.65	-40.25	-7.9
418	SLV 8	405	-1072	1563	55.32	-41.77	-9.35
418	SLV 9	-628	1006	10546	273.09	-47.6	8.36
418	SLV 10	-524	929	10451	270.76	-49.12	6.92
418	SLV 11	-240	-945	1144	43.94	-56.72	5.99
418	SLV 12	-135	-1022	1050	41.62	-58.24	4.55
418	SLV 13	-1148	401	6679	177.46	-69.64	24.09
418	SLV 14	-993	287	6539	174.01	-71.89	21.94
418	SLV 15	-1031	-184	3859	108.72	-72.37	23.38
418	SLV 16	-876	-299	3719	105.27	-74.63	21.23
418	SLV FO 1	730	259	8624	229.03	-11.74	-24.38
418	SLV FO 2	900	134	8469	225.24	-14.23	-26.75
418	SLV FO 3	858	-384	5521	153.42	-14.75	-25.17
418	SLV FO 4	1029	-510	5367	149.62	-17.24	-27.53
418	SLV FO 5	-85	1055	11559	299.05	-29.77	-6.03
418	SLV FO 6	30	970	11456	296.49	-31.44	-7.62
418	SLV FO 7	342	-1091	1218	46.99	-39.81	-8.64
418	SLV FO 8	457	-1176	1114	44.43	-41.48	-10.23
418	SLV FO 9	-680	1110	10995	283.97	-47.89	9.25
418	SLV FO 10	-565	1026	10891	281.42	-49.56	7.66
418	SLV FO 11	-253	-1036	653	31.92	-57.92	6.64
418	SLV FO 12	-138	-1120	550	29.36	-59.6	5.05
418	SLV FO 13	-1251	444	6742	178.79	-72.13	26.55
418	SLV FO 14	-1081	319	6588	174.99	-74.61	24.18
418	SLV FO 15	-1123	-199	3639	103.17	-75.14	25.76
418	SLV FO 16	-953	-325	3485	99.37	-77.62	23.4
418	CRTFP Ux+	0	0	0	0	0	0
418	CRTFP Ux-	0	0	0	0	0	0
418	CRTFP Uy+	0	0	0	0	0	0
418	CRTFP Uy-	0	0	0	0	0	0
421	SLU 1	49	-80	5603	151.46	39.51	-0.4
421	SLU 2	54	-53	5721	154.32	38.58	-0.41
421	SLU 3	50	-81	5690	153.92	40.34	-0.4
421	SLU 4	52	-65	5761	155.63	39.77	-0.4
421	SLU 5	53	-54	5771	155.73	39.18	-0.39
421	SLU 6	49	-82	5740	155.33	40.94	-0.38
421	SLU 7	52	-66	5811	157.05	40.37	-0.38
421	SLU 8	48	-82	5702	154.29	40.71	-0.37
421	SLU 9	51	-66	5773	156.01	40.15	-0.37
421	SLU 10	56	-62	6450	173.95	44.14	-0.32
421	SLU 11	52	-90	6419	173.55	45.9	-0.31
421	SLU 12	54	-74	6490	175.26	45.34	-0.31
421	SLU 13	55	-63	6500	175.37	44.74	-0.3
421	SLU 14	51	-91	6469	174.97	46.5	-0.29
421	SLU 15	54	-75	6540	176.68	45.94	-0.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
421	SLU 16	50	-90	6431	173.93	46.28	-0.28
421	SLU 17	53	-74	6502	175.64	45.72	-0.28
421	SLU 18	52	-92	6644	179.51	47.47	-0.28
421	SLU 19	55	-76	6715	181.22	46.9	-0.28
421	SLU 20	52	-93	6694	180.93	48.07	-0.26
421	SLU 21	54	-77	6765	182.64	47.5	-0.26
421	SLU 22	56	-90	6389	172.91	45.01	-0.46
421	SLU 23	61	-63	6507	175.77	44.08	-0.46
421	SLU 24	57	-91	6476	175.37	45.84	-0.45
421	SLU 25	59	-75	6547	177.08	45.28	-0.45
421	SLU 26	60	-64	6557	177.18	44.68	-0.44
421	SLU 27	56	-92	6526	176.78	46.44	-0.43
421	SLU 28	59	-76	6597	178.5	45.88	-0.43
421	SLU 29	55	-91	6488	175.74	46.22	-0.42
421	SLU 30	58	-75	6559	177.46	45.65	-0.42
421	SLU 31	63	-72	7236	195.4	49.65	-0.37
421	SLU 32	59	-100	7205	195	51.41	-0.36
421	SLU 33	61	-84	7276	196.71	50.84	-0.36
421	SLU 34	62	-72	7286	196.82	50.25	-0.35
421	SLU 35	58	-101	7255	196.42	52.01	-0.34
421	SLU 36	61	-85	7326	198.13	51.45	-0.34
421	SLU 37	57	-100	7217	195.38	51.78	-0.33
421	SLU 38	60	-84	7288	197.09	51.22	-0.33
421	SLU 39	59	-102	7430	200.96	52.97	-0.33
421	SLU 40	62	-86	7501	202.67	52.41	-0.33
421	SLU 41	59	-103	7480	202.38	53.57	-0.31
421	SLU 42	61	-87	7551	204.09	53.01	-0.31
421	SLU 43	62	-100	7014	189.55	49.48	-0.51
421	SLU 44	66	-74	7132	192.4	48.54	-0.51
421	SLU 45	62	-102	7102	192	50.3	-0.5
421	SLU 46	65	-86	7173	193.71	49.74	-0.5
421	SLU 47	66	-75	7182	193.82	49.14	-0.49
421	SLU 48	61	-103	7152	193.42	50.9	-0.48
421	SLU 49	64	-87	7222	195.13	50.34	-0.48
421	SLU 50	61	-102	7114	192.38	50.68	-0.47
421	SLU 51	63	-86	7185	194.09	50.12	-0.47
421	SLU 52	68	-82	7861	212.03	54.11	-0.42
421	SLU 53	64	-110	7831	211.63	55.87	-0.42
421	SLU 54	67	-94	7901	213.35	55.31	-0.42
421	SLU 55	68	-83	7911	213.45	54.71	-0.4
421	SLU 56	64	-111	7880	213.05	56.47	-0.4
421	SLU 57	66	-95	7951	214.76	55.91	-0.4
421	SLU 58	63	-111	7843	212.01	56.25	-0.38
421	SLU 59	65	-95	7914	213.73	55.69	-0.38
421	SLU 60	65	-113	8055	217.59	57.43	-0.38
421	SLU 61	67	-97	8126	219.31	56.87	-0.38
421	SLU 62	64	-113	8105	219.01	58.03	-0.36
421	SLU 63	67	-97	8176	220.72	57.47	-0.36
421	SLU 64	69	-110	7800	210.99	54.98	-0.56
421	SLU 65	73	-84	7918	213.85	54.04	-0.56
421	SLU 66	69	-112	7888	213.45	55.81	-0.55
421	SLU 67	72	-96	7959	215.16	55.24	-0.55
421	SLU 68	72	-84	7968	215.27	54.65	-0.54
421	SLU 69	68	-113	7937	214.87	56.41	-0.53
421	SLU 70	71	-97	8008	216.58	55.84	-0.54
421	SLU 71	68	-112	7900	213.83	56.18	-0.52
421	SLU 72	70	-96	7971	215.54	55.62	-0.52
421	SLU 73	75	-92	8647	233.48	59.61	-0.47
421	SLU 74	71	-120	8616	233.08	61.37	-0.47
421	SLU 75	74	-104	8687	234.8	60.81	-0.47
421	SLU 76	75	-93	8697	234.9	60.21	-0.45
421	SLU 77	70	-121	8666	234.5	61.97	-0.45
421	SLU 78	73	-105	8737	236.21	61.41	-0.45
421	SLU 79	70	-121	8629	233.46	61.75	-0.43
421	SLU 80	72	-105	8699	235.18	61.19	-0.43
421	SLU 81	72	-123	8841	239.04	62.93	-0.43
421	SLU 82	74	-106	8912	240.76	62.37	-0.44
421	SLU 83	71	-123	8891	240.46	63.54	-0.41
421	SLU 84	74	-107	8962	242.17	62.97	-0.42
421	SLE RA 1	51	-83	5827	157.59	41.08	-0.42
421	SLE RA 2	54	-65	5906	159.49	40.46	-0.42
421	SLE RA 3	52	-84	5886	159.23	41.63	-0.42
421	SLE RA 4	53	-73	5933	160.37	41.26	-0.42
421	SLE RA 5	54	-65	5939	160.44	40.86	-0.41
421	SLE RA 6	51	-84	5919	160.17	42.03	-0.4
421	SLE RA 7	53	-74	5966	161.31	41.66	-0.4
421	SLE RA 8	51	-84	5894	159.48	41.88	-0.39
421	SLE RA 9	52	-73	5941	160.62	41.51	-0.39
421	SLE RA 10	56	-71	6392	172.58	44.17	-0.36
421	SLE RA 11	53	-89	6372	172.32	45.35	-0.36
421	SLE RA 12	55	-79	6419	173.46	44.97	-0.36
421	SLE RA 13	55	-71	6425	173.53	44.57	-0.35
421	SLE RA 14	53	-90	6405	173.26	45.75	-0.34
421	SLE RA 15	54	-79	6452	174.4	45.37	-0.34
421	SLE RA 16	52	-90	6380	172.57	45.6	-0.33
421	SLE RA 17	54	-79	6427	173.71	45.22	-0.34
421	SLE RA 18	53	-91	6521	176.29	46.39	-0.34
421	SLE RA 19	55	-80	6569	177.43	46.01	-0.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
421	SLE RA 20	53	-91	6555	177.23	46.79	-0.32
421	SLE RA 21	55	-81	6602	178.37	46.41	-0.32
421	SLE FR 1	51	-83	5827	157.59	41.08	-0.42
421	SLE FR 2	52	-79	5843	157.97	40.96	-0.42
421	SLE FR 3	51	-83	5841	157.97	41.24	-0.41
421	SLE FR 4	53	-82	6051	163.58	42.55	-0.39
421	SLE FR 5	52	-85	6049	163.58	42.83	-0.39
421	SLE FR 6	52	-87	6174	166.94	43.73	-0.38
421	SLE QP 1	51	-83	5827	157.59	41.08	-0.42
421	SLE QP 2	52	-85	6036	163.2	42.67	-0.39
421	SLD 1	626	120	6303	168.81	52.27	-14.68
421	SLD 2	726	190	6392	170.99	50.24	-16.25
421	SLD 3	576	-229	4623	127.85	58.11	-14.45
421	SLD 4	676	-160	4712	130.02	56.07	-16.02
421	SLD 5	283	495	8648	226.64	37.05	-4.76
421	SLD 6	347	540	8705	228.04	35.74	-5.77
421	SLD 7	116	-671	3049	90.09	56.51	-3.99
421	SLD 8	180	-626	3106	91.49	55.2	-5
421	SLD 9	-76	456	8965	234.91	30.15	4.22
421	SLD 10	-12	500	9022	236.31	28.84	3.21
421	SLD 11	-243	-710	3366	98.36	49.61	4.98
421	SLD 12	-179	-665	3423	99.76	48.3	3.97
421	SLD 13	-572	-10	7359	196.38	29.27	15.23
421	SLD 14	-472	59	7448	198.55	27.24	13.66
421	SLD 15	-622	-360	5679	155.41	35.11	15.46
421	SLD 16	-522	-290	5768	157.58	33.08	13.89
421	SLV 1	953	260	6575	174.94	57.27	-22.75
421	SLV 2	1110	370	6715	178.37	54.07	-25.22
421	SLV 3	867	-336	3709	105.04	67.2	-22.37
421	SLV 4	1024	-226	3849	108.47	64	-24.84
421	SLV 5	422	903	10518	272.09	32.59	-7.21
421	SLV 6	528	977	10612	274.39	30.43	-8.88
421	SLV 7	137	-1086	965	39.11	65.69	-5.95
421	SLV 8	243	-1012	1059	41.42	63.53	-7.61
421	SLV 9	-139	841	11012	284.98	21.81	6.83
421	SLV 10	-33	915	11106	287.29	19.66	5.16
421	SLV 11	-425	-1147	1459	52	54.91	8.09
421	SLV 12	-319	-1073	1554	54.31	52.76	6.43
421	SLV 13	-921	56	8222	217.93	21.35	24.05
421	SLV 14	-763	166	8362	221.35	18.15	21.58
421	SLV 15	-1006	-540	5356	148.03	31.28	24.43
421	SLV 16	-849	-430	5496	151.46	28.08	21.96
421	SLV FO 1	1043	295	6629	176.11	58.73	-24.98
421	SLV FO 2	1216	416	6783	179.88	55.21	-27.7
421	SLV FO 3	948	-361	3476	99.23	69.65	-24.56
421	SLV FO 4	1122	-241	3630	103	66.13	-27.29
421	SLV FO 5	460	1001	10966	282.97	31.58	-7.89
421	SLV FO 6	576	1083	11070	285.51	29.21	-9.73
421	SLV FO 7	146	-1186	458	26.7	67.99	-6.51
421	SLV FO 8	263	-1104	562	29.24	65.62	-8.34
421	SLV FO 9	-159	934	11509	297.16	19.73	7.55
421	SLV FO 10	-42	1015	11613	299.7	17.36	5.72
421	SLV FO 11	-472	-1253	1002	40.89	56.14	8.94
421	SLV FO 12	-356	-1172	1105	43.42	53.77	7.11
421	SLV FO 13	-1018	70	8441	223.4	19.22	26.5
421	SLV FO 14	-845	191	8595	227.17	15.7	23.78
421	SLV FO 15	-1112	-586	5288	146.52	30.14	26.92
421	SLV FO 16	-939	-465	5443	150.29	26.62	24.19
421	CRTFP Ux+	0	0	0	0	0	0
421	CRTFP Ux-	0	0	0	0	0	0
421	CRTFP Uy+	0	0	0	0	0	0
421	CRTFP Uy-	0	0	0	0	0	0
424	SLU 1	50	44	3510	93.29	917.79	-16.52
424	SLU 2	52	62	3594	95.28	940.8	-23.06
424	SLU 3	50	45	3566	94.83	931.43	-16.93
424	SLU 4	52	56	3616	96.02	945.23	-20.86
424	SLU 5	52	64	3624	96.11	947.88	-23.47
424	SLU 6	51	46	3595	95.65	938.51	-17.34
424	SLU 7	52	57	3646	96.85	952.32	-21.27
424	SLU 8	50	46	3569	94.94	931.96	-17.34
424	SLU 9	51	57	3619	96.14	945.76	-21.26
424	SLU 10	56	67	4036	106.94	1053.65	-24.91
424	SLU 11	54	50	4008	106.49	1044.28	-18.78
424	SLU 12	56	61	4058	107.68	1058.08	-22.7
424	SLU 13	56	69	4065	107.77	1060.73	-25.32
424	SLU 14	54	51	4037	107.32	1051.36	-19.18
424	SLU 15	56	62	4087	108.51	1065.17	-23.11
424	SLU 16	53	51	4010	106.61	1044.81	-19.18
424	SLU 17	55	62	4061	107.8	1058.61	-23.11
424	SLU 18	55	51	4141	109.95	1079	-19.16
424	SLU 19	56	62	4191	111.15	1092.81	-23.08
424	SLU 20	55	52	4170	110.78	1086.09	-19.56
424	SLU 21	56	63	4221	111.97	1099.89	-23.49
424	SLU 22	57	47	4003	106.45	1042.52	-17.8
424	SLU 23	59	66	4087	108.43	1065.53	-24.34
424	SLU 24	57	48	4059	107.98	1056.16	-18.21
424	SLU 25	59	59	4109	109.17	1069.97	-22.14
424	SLU 26	59	67	4116	109.26	1072.61	-24.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
424	SLU 27	57	49	4088	108.81	1063.24	-18.62
424	SLU 28	59	60	4138	110	1077.05	-22.55
424	SLU 29	57	49	4061	108.1	1056.69	-18.62
424	SLU 30	58	61	4112	109.29	1070.5	-22.54
424	SLU 31	63	71	4528	120.1	1178.38	-26.19
424	SLU 32	61	53	4500	119.64	1169.01	-20.06
424	SLU 33	62	64	4550	120.84	1182.82	-23.98
424	SLU 34	63	72	4557	120.92	1185.47	-26.6
424	SLU 35	61	54	4529	120.47	1176.1	-20.46
424	SLU 36	63	66	4580	121.66	1189.9	-24.39
424	SLU 37	60	54	4503	119.76	1169.54	-20.46
424	SLU 38	62	66	4553	120.95	1183.35	-24.39
424	SLU 39	62	54	4633	123.11	1203.74	-20.44
424	SLU 40	63	65	4684	124.3	1217.54	-24.36
424	SLU 41	62	55	4663	123.93	1210.82	-20.84
424	SLU 42	63	67	4713	125.12	1224.63	-24.77
424	SLU 43	62	56	4395	116.77	1150.36	-21.04
424	SLU 44	65	74	4478	118.76	1173.37	-27.58
424	SLU 45	63	57	4450	118.31	1164	-21.45
424	SLU 46	65	68	4501	119.5	1177.8	-25.38
424	SLU 47	65	76	4508	119.58	1180.45	-27.99
424	SLU 48	63	58	4480	119.13	1171.08	-21.86
424	SLU 49	65	69	4530	120.32	1184.89	-25.78
424	SLU 50	62	58	4453	118.42	1164.53	-21.86
424	SLU 51	64	69	4504	119.61	1178.33	-25.78
424	SLU 52	68	80	4920	130.42	1286.22	-29.43
424	SLU 53	67	62	4892	129.97	1276.85	-23.29
424	SLU 54	68	73	4942	131.16	1290.65	-27.22
424	SLU 55	68	81	4949	131.25	1293.3	-29.83
424	SLU 56	67	63	4921	130.79	1283.93	-23.7
424	SLU 57	68	74	4971	131.99	1297.74	-27.63
424	SLU 58	66	63	4895	130.08	1277.38	-23.7
424	SLU 59	67	74	4945	131.28	1291.18	-27.62
424	SLU 60	67	63	5025	133.43	1311.57	-23.67
424	SLU 61	69	74	5076	134.63	1325.38	-27.6
424	SLU 62	67	64	5055	134.26	1318.66	-24.08
424	SLU 63	69	75	5105	135.45	1332.46	-28.01
424	SLU 64	69	59	4887	129.92	1275.09	-22.32
424	SLU 65	72	78	4971	131.91	1298.1	-28.86
424	SLU 66	70	60	4943	131.46	1288.73	-22.73
424	SLU 67	71	71	4993	132.65	1302.54	-26.66
424	SLU 68	72	79	5000	132.74	1305.19	-29.27
424	SLU 69	70	61	4972	132.28	1295.82	-23.14
424	SLU 70	72	73	5022	133.48	1309.62	-27.06
424	SLU 71	69	61	4946	131.57	1289.26	-23.14
424	SLU 72	71	73	4996	132.77	1303.07	-27.06
424	SLU 73	75	83	5412	143.57	1410.95	-30.71
424	SLU 74	74	65	5384	143.12	1401.58	-24.57
424	SLU 75	75	76	5435	144.31	1415.39	-28.5
424	SLU 76	75	84	5442	144.4	1418.04	-31.11
424	SLU 77	74	67	5414	143.95	1408.67	-24.98
424	SLU 78	75	78	5464	145.14	1422.47	-28.91
424	SLU 79	73	67	5387	143.24	1402.11	-24.98
424	SLU 80	74	78	5437	144.43	1415.92	-28.9
424	SLU 81	74	66	5518	146.58	1436.31	-24.95
424	SLU 82	76	77	5568	147.78	1450.11	-28.88
424	SLU 83	74	68	5547	147.41	1443.39	-25.36
424	SLU 84	76	79	5597	148.6	1457.2	-29.29
424	SLE RA 1	52	45	3651	97.05	953.42	-16.89
424	SLE RA 2	53	57	3707	98.38	968.76	-21.25
424	SLE RA 3	52	46	3688	98.07	962.52	-17.16
424	SLE RA 4	53	53	3722	98.87	971.72	-19.78
424	SLE RA 5	53	58	3727	98.93	973.49	-21.52
424	SLE RA 6	52	46	3708	98.62	967.24	-17.43
424	SLE RA 7	53	54	3741	99.42	976.45	-20.05
424	SLE RA 8	52	46	3690	98.15	962.87	-17.43
424	SLE RA 9	53	54	3724	98.95	972.08	-20.05
424	SLE RA 10	56	61	4001	106.15	1044	-22.48
424	SLE RA 11	55	49	3983	105.85	1037.75	-18.39
424	SLE RA 12	56	56	4016	106.64	1046.96	-21.01
424	SLE RA 13	56	61	4021	106.7	1048.72	-22.75
424	SLE RA 14	55	50	4002	106.4	1042.48	-18.66
424	SLE RA 15	56	57	4036	107.19	1051.68	-21.28
424	SLE RA 16	54	50	3984	105.93	1038.11	-18.66
424	SLE RA 17	55	57	4018	106.72	1047.31	-21.28
424	SLE RA 18	55	50	4072	108.16	1060.9	-18.64
424	SLE RA 19	56	57	4105	108.95	1070.11	-21.26
424	SLE RA 20	55	50	4091	108.71	1065.63	-18.92
424	SLE RA 21	56	58	4125	109.5	1074.83	-21.53
424	SLE FR 1	52	45	3651	97.05	953.42	-16.89
424	SLE FR 2	52	47	3662	97.32	956.49	-17.76
424	SLE FR 3	52	45	3659	97.27	955.31	-17
424	SLE FR 4	53	49	3788	100.65	988.74	-18.29
424	SLE FR 5	53	47	3785	100.6	987.56	-17.52
424	SLE FR 6	53	47	3861	102.6	1007.16	-17.77
424	SLE QP 1	52	45	3651	97.05	953.42	-16.89
424	SLE QP 2	53	46	3777	100.38	985.67	-17.41
424	SLD 1	387	79	3322	87.03	882.84	-56.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
424	SLD 2	446	181	3420	89.37	908.48	-93.42
424	SLD 3	345	-159	2138	58.71	568.66	27.89
424	SLD 4	404	-56	2236	61.05	594.29	-9.47
424	SLD 5	206	398	5420	138.92	1426.92	-149.91
424	SLD 6	244	464	5483	140.43	1443.43	-173.97
424	SLD 7	67	-393	1472	44.53	379.64	129.93
424	SLD 8	105	-327	1535	46.04	396.15	105.87
424	SLD 9	0	419	6019	154.73	1575.18	-140.7
424	SLD 10	39	485	6082	156.24	1591.69	-164.76
424	SLD 11	-139	-372	2071	60.34	527.9	139.14
424	SLD 12	-101	-306	2134	61.84	544.41	115.08
424	SLD 13	-299	149	5319	139.72	1377.04	-25.36
424	SLD 14	-239	251	5417	142.06	1402.68	-62.72
424	SLD 15	-341	-89	4134	111.4	1062.86	58.59
424	SLD 16	-281	14	4232	113.74	1088.5	21.23
424	SLV 1	578	113	3153	81.59	847.93	-83.71
424	SLV 2	671	274	3308	85.28	888.34	-142.6
424	SLV 3	507	-292	1132	33.28	311.97	59.56
424	SLV 4	600	-131	1287	36.97	352.39	0.66
424	SLV 5	301	650	6625	167.33	1749.67	-243.6
424	SLV 6	364	759	6730	169.81	1776.88	-283.24
424	SLV 7	63	-700	-110	6.3	-36.85	233.95
424	SLV 8	126	-591	-5	8.78	-9.64	194.3
424	SLV 9	-21	683	7560	191.99	1980.98	-229.13
424	SLV 10	42	792	7664	194.47	2008.18	-268.78
424	SLV 11	-258	-667	825	30.96	194.46	248.42
424	SLV 12	-195	-558	929	33.44	221.66	208.77
424	SLV 13	-495	223	6267	163.8	1618.95	-35.49
424	SLV 14	-401	385	6422	167.48	1659.36	-94.39
424	SLV 15	-566	-182	4247	115.49	1082.99	107.78
424	SLV 16	-472	-20	4402	119.18	1123.41	48.88
424	SLV FO 1	630	119	3090	79.71	834.16	-90.33
424	SLV FO 2	733	297	3261	83.77	878.61	-155.12
424	SLV FO 3	552	-326	867	26.57	244.6	67.26
424	SLV FO 4	655	-148	1038	30.63	289.06	2.47
424	SLV FO 5	326	711	6910	174.02	1826.07	-266.22
424	SLV FO 6	395	830	7025	176.75	1856	-309.83
424	SLV FO 7	64	-774	-499	-3.11	-139.1	259.09
424	SLV FO 8	134	-655	-384	-0.38	-109.17	215.48
424	SLV FO 9	-28	747	7938	201.15	2080.51	-250.3
424	SLV FO 10	41	867	8053	203.88	2110.43	-293.92
424	SLV FO 11	-289	-738	529	24.01	115.34	275
424	SLV FO 12	-220	-618	644	26.75	145.26	231.39
424	SLV FO 13	-549	241	6516	170.14	1682.28	-37.3
424	SLV FO 14	-447	419	6687	174.2	1726.73	-102.09
424	SLV FO 15	-628	-205	4294	117	1092.73	120.29
424	SLV FO 16	-525	-27	4464	121.05	1137.18	55.51
424	CRTFP Ux+	0	0	0	0	0	0
424	CRTFP Ux-	0	0	0	0	0	0
424	CRTFP Uy+	0	0	0	0	0	0
424	CRTFP Uy-	0	0	0	0	0	0
426	SLU 1	14	-46	3322	89.85	1002.64	15.53
426	SLU 2	16	-26	3378	91.16	1019.53	8.6
426	SLU 3	13	-47	3377	91.4	1019.22	15.95
426	SLU 4	15	-35	3411	92.19	1029.36	11.78
426	SLU 5	15	-27	3412	92.11	1029.7	8.93
426	SLU 6	13	-48	3412	92.36	1029.39	16.28
426	SLU 7	14	-36	3445	93.14	1039.53	12.12
426	SLU 8	13	-47	3390	91.76	1022.98	16.2
426	SLU 9	14	-36	3424	92.55	1033.12	12.04
426	SLU 10	15	-31	3823	103.16	1152.78	10.36
426	SLU 11	13	-52	3823	103.4	1152.47	17.71
426	SLU 12	14	-40	3856	104.19	1162.61	13.54
426	SLU 13	15	-32	3857	104.12	1162.95	10.69
426	SLU 14	12	-53	3857	104.36	1162.65	18.04
426	SLU 15	14	-41	3890	105.15	1172.78	13.88
426	SLU 16	12	-52	3835	103.77	1156.24	17.96
426	SLU 17	13	-41	3869	104.55	1166.37	13.8
426	SLU 18	13	-53	3958	106.99	1193	18.05
426	SLU 19	14	-41	3991	107.78	1203.13	13.89
426	SLU 20	12	-54	3992	107.95	1203.17	18.38
426	SLU 21	14	-42	4025	108.74	1213.31	14.22
426	SLU 22	15	-51	3773	102.17	1136.83	17.47
426	SLU 23	18	-32	3829	103.48	1153.72	10.53
426	SLU 24	15	-52	3829	103.72	1153.41	17.88
426	SLU 25	16	-41	3863	104.51	1163.55	13.72
426	SLU 26	17	-33	3863	104.44	1163.89	10.86
426	SLU 27	14	-53	3863	104.68	1163.59	18.21
426	SLU 28	16	-42	3897	105.47	1173.72	14.05
426	SLU 29	14	-53	3842	104.09	1157.18	18.13
426	SLU 30	16	-41	3875	104.87	1167.31	13.97
426	SLU 31	17	-37	4275	115.48	1286.97	12.29
426	SLU 32	14	-57	4274	115.73	1286.67	19.64
426	SLU 33	16	-46	4308	116.51	1296.8	15.48
426	SLU 34	16	-38	4309	116.44	1297.15	12.62
426	SLU 35	14	-58	4308	116.68	1296.84	19.97
426	SLU 36	15	-47	4342	117.47	1306.97	15.81
426	SLU 37	14	-58	4287	116.09	1290.43	19.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
426	SLU 38	15	-46	4320	116.87	1300.56	15.73
426	SLU 39	15	-58	4409	119.32	1327.19	19.98
426	SLU 40	16	-47	4443	120.1	1337.33	15.82
426	SLU 41	14	-59	4444	120.28	1337.37	20.31
426	SLU 42	15	-48	4477	121.06	1347.5	16.15
426	SLU 43	17	-57	4163	112.58	1257.42	19.53
426	SLU 44	20	-38	4219	113.89	1274.31	12.59
426	SLU 45	17	-59	4219	114.13	1274	19.95
426	SLU 46	18	-47	4253	114.92	1284.14	15.78
426	SLU 47	19	-39	4253	114.84	1284.48	12.93
426	SLU 48	16	-59	4253	115.09	1284.18	20.28
426	SLU 49	18	-48	4287	115.87	1294.31	16.11
426	SLU 50	16	-59	4232	114.49	1277.77	20.2
426	SLU 51	18	-47	4265	115.28	1287.9	16.03
426	SLU 52	19	-43	4665	125.89	1407.56	14.35
426	SLU 53	16	-64	4664	126.13	1407.26	21.71
426	SLU 54	18	-52	4698	126.92	1417.39	17.54
426	SLU 55	18	-44	4699	126.85	1417.74	14.69
426	SLU 56	16	-64	4698	127.09	1417.43	22.04
426	SLU 57	17	-53	4732	127.88	1427.56	17.88
426	SLU 58	16	-64	4677	126.5	1411.02	21.96
426	SLU 59	17	-52	4710	127.28	1421.15	17.79
426	SLU 60	17	-65	4799	129.72	1447.78	22.05
426	SLU 61	18	-53	4833	130.51	1457.92	17.88
426	SLU 62	16	-65	4834	130.68	1457.96	22.38
426	SLU 63	17	-54	4867	131.47	1468.09	18.22
426	SLU 64	19	-63	4615	124.9	1391.61	21.46
426	SLU 65	21	-43	4671	126.21	1408.5	14.53
426	SLU 66	18	-64	4671	126.45	1408.2	21.88
426	SLU 67	20	-52	4704	127.24	1418.33	17.71
426	SLU 68	21	-44	4705	127.17	1418.68	14.86
426	SLU 69	18	-65	4705	127.41	1418.37	22.21
426	SLU 70	19	-53	4738	128.2	1428.5	18.05
426	SLU 71	18	-65	4683	126.82	1411.96	22.13
426	SLU 72	19	-53	4717	127.6	1422.09	17.97
426	SLU 73	21	-48	5116	138.21	1541.76	16.29
426	SLU 74	18	-69	5116	138.46	1541.45	23.64
426	SLU 75	19	-57	5150	139.24	1551.58	19.47
426	SLU 76	20	-49	5150	139.17	1551.93	16.62
426	SLU 77	17	-70	5150	139.41	1551.62	23.97
426	SLU 78	19	-58	5184	140.2	1561.76	19.81
426	SLU 79	17	-70	5128	138.82	1545.21	23.89
426	SLU 80	19	-58	5162	139.6	1555.35	19.73
426	SLU 81	18	-70	5251	142.05	1581.97	23.98
426	SLU 82	19	-58	5285	142.83	1592.11	19.82
426	SLU 83	18	-71	5285	143.01	1592.15	24.31
426	SLU 84	19	-59	5319	143.79	1602.28	20.15
426	SLE RA 1	14	-47	3451	93.37	1040.98	16.09
426	SLE RA 2	16	-34	3488	94.24	1052.24	11.46
426	SLE RA 3	14	-48	3488	94.4	1052.03	16.36
426	SLE RA 4	15	-40	3510	94.93	1058.79	13.59
426	SLE RA 5	15	-35	3511	94.88	1059.02	11.68
426	SLE RA 6	14	-49	3511	95.04	1058.82	16.58
426	SLE RA 7	14	-41	3533	95.57	1065.57	13.81
426	SLE RA 8	13	-48	3496	94.65	1054.54	16.53
426	SLE RA 9	14	-41	3519	95.17	1061.3	13.75
426	SLE RA 10	15	-37	3785	102.24	1141.07	12.63
426	SLE RA 11	14	-51	3785	102.41	1140.87	17.54
426	SLE RA 12	14	-43	3807	102.93	1147.63	14.76
426	SLE RA 13	15	-38	3808	102.88	1147.86	12.86
426	SLE RA 14	13	-52	3807	103.04	1147.65	17.76
426	SLE RA 15	14	-44	3830	103.57	1154.41	14.98
426	SLE RA 16	13	-52	3793	102.65	1143.38	17.7
426	SLE RA 17	14	-44	3815	103.17	1150.13	14.93
426	SLE RA 18	14	-52	3875	104.8	1167.89	17.76
426	SLE RA 19	15	-44	3897	105.32	1174.64	14.99
426	SLE RA 20	13	-53	3898	105.44	1174.67	17.98
426	SLE RA 21	14	-45	3920	105.96	1181.42	15.21
426	SLE FR 1	14	-47	3451	93.37	1040.98	16.09
426	SLE FR 2	14	-45	3458	93.54	1043.23	15.16
426	SLE FR 3	14	-47	3460	93.62	1043.69	16.17
426	SLE FR 4	14	-46	3585	96.97	1081.3	15.66
426	SLE FR 5	14	-49	3587	97.05	1081.76	16.68
426	SLE FR 6	14	-50	3663	99.08	1104.43	16.92
426	SLE QP 1	14	-47	3451	93.37	1040.98	16.09
426	SLE QP 2	14	-49	3578	96.8	1079.05	16.59
426	SLD 1	354	66	4033	107.81	1223.94	-34.61
426	SLD 2	413	70	4048	108.2	1227.64	-37.46
426	SLD 3	328	-183	3163	87.3	960.16	53.23
426	SLD 4	386	-180	3178	87.69	963.87	50.38
426	SLD 5	146	363	5032	131.15	1521.93	-131.5
426	SLD 6	184	365	5042	131.4	1524.32	-133.33
426	SLD 7	58	-468	2131	62.77	642.69	161.29
426	SLD 8	95	-465	2141	63.02	645.08	159.45
426	SLD 9	-67	368	5015	130.58	1513.02	-126.27
426	SLD 10	-30	370	5025	130.83	1515.41	-128.11
426	SLD 11	-156	-463	2114	62.2	633.78	166.51
426	SLD 12	-118	-460	2124	62.45	636.17	164.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
426	SLD 13	-358	82	3978	105.91	1194.23	-17.2
426	SLD 14	-300	86	3993	106.3	1197.94	-20.05
426	SLD 15	-385	-167	3108	85.39	930.46	70.64
426	SLD 16	-326	-163	3123	85.78	934.17	67.79
426	SLV 1	548	148	4353	115.5	1324.5	-69.78
426	SLV 2	640	154	4376	116.11	1330.35	-74.28
426	SLV 3	503	-277	2868	80.49	874.42	80.03
426	SLV 4	594	-271	2891	81.11	880.26	75.54
426	SLV 5	226	654	6058	155.38	1834.23	-235.71
426	SLV 6	288	658	6074	155.8	1838.16	-238.73
426	SLV 7	75	-763	1108	38.7	333.94	263.69
426	SLV 8	136	-759	1124	39.12	337.88	260.66
426	SLV 9	-108	662	6032	154.48	1820.23	-227.48
426	SLV 10	-47	666	6048	154.9	1824.16	-230.51
426	SLV 11	-260	-755	1082	37.8	319.94	271.91
426	SLV 12	-198	-751	1098	38.21	323.88	268.89
426	SLV 13	-566	174	4265	112.49	1277.84	-42.36
426	SLV 14	-475	180	4288	113.11	1283.68	-46.86
426	SLV 15	-612	-251	2780	77.48	827.75	107.46
426	SLV 16	-520	-245	2803	78.1	833.6	102.96
426	SLV FO 1	601	167	4430	117.37	1349.05	-78.42
426	SLV FO 2	702	174	4456	118.05	1355.48	-83.37
426	SLV FO 3	551	-300	2797	78.86	853.96	86.38
426	SLV FO 4	652	-294	2823	79.54	860.38	81.43
426	SLV FO 5	247	724	6306	161.24	1909.74	-260.94
426	SLV FO 6	315	729	6324	161.7	1914.07	-264.27
426	SLV FO 7	81	-835	861	32.89	259.43	288.39
426	SLV FO 8	149	-830	879	33.35	263.76	285.07
426	SLV FO 9	-121	733	6277	160.25	1894.34	-251.89
426	SLV FO 10	-53	737	6295	160.71	1898.67	-255.22
426	SLV FO 11	-287	-826	832	31.9	244.03	297.44
426	SLV FO 12	-219	-821	850	32.35	248.36	294.12
426	SLV FO 13	-624	196	4333	114.06	1297.72	-48.26
426	SLV FO 14	-523	203	4359	114.74	1304.15	-53.2
426	SLV FO 15	-674	-271	2700	75.55	802.62	116.54
426	SLV FO 16	-573	-265	2726	76.23	809.05	111.6
426	CRTFP Ux+	0	0	0	0	0	0
426	CRTFP Ux-	0	0	0	0	0	0
426	CRTFP Uy+	0	0	0	0	0	0
426	CRTFP Uy-	0	0	0	0	0	0
429	SLU 1	-74	22	3507	-5.55	-537.2	5.11
429	SLU 2	-77	41	3581	-6	-548.8	9.86
429	SLU 3	-76	22	3574	-5.59	-546.67	5.15
429	SLU 4	-78	34	3618	-5.86	-553.63	8.01
429	SLU 5	-78	41	3622	-6.02	-554.68	9.93
429	SLU 6	-77	22	3615	-5.61	-552.56	5.22
429	SLU 7	-79	34	3659	-5.88	-559.52	8.08
429	SLU 8	-76	23	3590	-5.58	-548.97	5.25
429	SLU 9	-78	34	3634	-5.85	-555.93	8.1
429	SLU 10	-82	45	4020	-6.75	-613.65	10.76
429	SLU 11	-81	26	4013	-6.34	-611.52	6.05
429	SLU 12	-83	37	4057	-6.61	-618.48	8.9
429	SLU 13	-84	45	4061	-6.77	-619.53	10.83
429	SLU 14	-82	26	4054	-6.35	-617.41	6.12
429	SLU 15	-84	38	4098	-6.62	-624.37	8.97
429	SLU 16	-82	26	4029	-6.33	-613.82	6.14
429	SLU 17	-84	38	4073	-6.6	-620.78	9
429	SLU 18	-81	27	4134	-6.62	-629.84	6.39
429	SLU 19	-83	39	4178	-6.89	-636.8	9.24
429	SLU 20	-83	28	4176	-6.64	-635.73	6.46
429	SLU 21	-85	39	4220	-6.91	-642.69	9.31
429	SLU 22	-85	23	4013	-6.23	-611.19	5.37
429	SLU 23	-88	42	4086	-6.68	-622.79	10.13
429	SLU 24	-87	23	4080	-6.27	-620.67	5.42
429	SLU 25	-89	35	4124	-6.54	-627.63	8.27
429	SLU 26	-89	43	4128	-6.69	-628.68	10.2
429	SLU 27	-88	24	4121	-6.28	-626.56	5.49
429	SLU 28	-90	35	4165	-6.55	-633.52	8.34
429	SLU 29	-87	24	4096	-6.26	-622.97	5.51
429	SLU 30	-89	35	4140	-6.53	-629.93	8.36
429	SLU 31	-93	46	4525	-7.43	-687.64	11.02
429	SLU 32	-92	27	4518	-7.02	-685.52	6.31
429	SLU 33	-94	39	4562	-7.29	-692.48	9.16
429	SLU 34	-95	46	4567	-7.44	-693.53	11.09
429	SLU 35	-93	27	4560	-7.03	-691.41	6.38
429	SLU 36	-95	39	4604	-7.3	-698.37	9.23
429	SLU 37	-92	28	4535	-7.01	-687.82	6.41
429	SLU 38	-94	39	4579	-7.28	-694.78	9.26
429	SLU 39	-92	29	4640	-7.3	-703.84	6.65
429	SLU 40	-94	40	4684	-7.57	-710.8	9.5
429	SLU 41	-94	29	4681	-7.31	-709.72	6.72
429	SLU 42	-96	40	4725	-7.58	-716.69	9.57
429	SLU 43	-92	28	4386	-6.99	-672.98	6.55
429	SLU 44	-95	47	4459	-7.44	-684.58	11.31
429	SLU 45	-94	28	4453	-7.03	-682.46	6.6
429	SLU 46	-96	40	4497	-7.3	-689.42	9.45
429	SLU 47	-97	47	4501	-7.45	-690.47	11.38
429	SLU 48	-95	29	4494	-7.04	-688.35	6.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
429	SLU 49	-97	40	4538	-7.31	-695.31	9.52
429	SLU 50	-94	29	4469	-7.02	-684.76	6.69
429	SLU 51	-96	40	4513	-7.29	-691.72	9.55
429	SLU 52	-101	51	4898	-8.19	-749.43	12.2
429	SLU 53	-99	32	4891	-7.78	-747.31	7.49
429	SLU 54	-101	43	4936	-8.05	-754.27	10.34
429	SLU 55	-102	51	4940	-8.2	-755.32	12.27
429	SLU 56	-101	32	4933	-7.79	-753.2	7.56
429	SLU 57	-103	44	4977	-8.06	-760.16	10.41
429	SLU 58	-100	32	4908	-7.77	-749.61	7.59
429	SLU 59	-102	44	4952	-8.04	-756.57	10.44
429	SLU 60	-100	33	5013	-8.06	-765.63	7.83
429	SLU 61	-102	45	5057	-8.33	-772.59	10.68
429	SLU 62	-101	34	5054	-8.07	-771.51	7.9
429	SLU 63	-103	45	5099	-8.34	-778.47	10.75
429	SLU 64	-103	29	4892	-7.67	-746.98	6.82
429	SLU 65	-106	48	4965	-8.11	-758.58	11.57
429	SLU 66	-105	30	4958	-7.7	-756.46	6.86
429	SLU 67	-107	41	5002	-7.97	-763.42	9.71
429	SLU 68	-107	49	5007	-8.13	-764.47	11.64
429	SLU 69	-106	30	5000	-7.72	-762.35	6.93
429	SLU 70	-108	41	5044	-7.99	-769.31	9.78
429	SLU 71	-105	30	4975	-7.69	-758.76	6.96
429	SLU 72	-107	41	5019	-7.96	-765.72	9.81
429	SLU 73	-112	52	5404	-8.86	-823.43	12.46
429	SLU 74	-110	33	5397	-8.45	-821.31	7.75
429	SLU 75	-112	45	5441	-8.72	-828.27	10.6
429	SLU 76	-113	52	5446	-8.88	-829.32	12.53
429	SLU 77	-112	34	5439	-8.46	-827.2	7.82
429	SLU 78	-114	45	5483	-8.73	-834.16	10.67
429	SLU 79	-111	34	5414	-8.44	-823.61	7.85
429	SLU 80	-113	45	5458	-8.71	-830.57	10.7
429	SLU 81	-111	35	5519	-8.73	-839.62	8.09
429	SLU 82	-113	46	5563	-9	-846.58	10.94
429	SLU 83	-112	35	5560	-8.75	-845.51	8.16
429	SLU 84	-114	46	5604	-9.02	-852.47	11.01
429	SLE RA 1	-77	22	3652	-5.75	-558.34	5.19
429	SLE RA 2	-79	35	3701	-6.05	-566.07	8.35
429	SLE RA 3	-78	22	3696	-5.77	-564.66	5.21
429	SLE RA 4	-79	30	3726	-5.95	-569.3	7.12
429	SLE RA 5	-80	35	3728	-6.06	-570	8.4
429	SLE RA 6	-79	23	3724	-5.78	-568.58	5.26
429	SLE RA 7	-80	30	3753	-5.96	-573.22	7.16
429	SLE RA 8	-78	23	3707	-5.77	-566.19	5.28
429	SLE RA 9	-80	30	3736	-5.95	-570.83	7.18
429	SLE RA 10	-83	38	3993	-6.55	-609.3	8.95
429	SLE RA 11	-82	25	3989	-6.27	-607.89	5.81
429	SLE RA 12	-83	33	4018	-6.45	-612.53	7.71
429	SLE RA 13	-83	38	4021	-6.56	-613.23	9
429	SLE RA 14	-83	25	4016	-6.28	-611.82	5.86
429	SLE RA 15	-84	33	4046	-6.46	-616.46	7.76
429	SLE RA 16	-82	25	4000	-6.26	-609.42	5.87
429	SLE RA 17	-83	33	4029	-6.44	-614.06	7.78
429	SLE RA 18	-82	26	4070	-6.46	-620.1	6.04
429	SLE RA 19	-83	33	4099	-6.64	-624.74	7.94
429	SLE RA 20	-83	26	4097	-6.47	-624.03	6.08
429	SLE RA 21	-84	34	4127	-6.65	-628.67	7.98
429	SLE FR 1	-77	22	3652	-5.75	-558.34	5.19
429	SLE FR 2	-77	25	3661	-5.81	-559.88	5.82
429	SLE FR 3	-77	22	3663	-5.75	-559.91	5.2
429	SLE FR 4	-79	26	3787	-6.02	-578.41	6.07
429	SLE FR 5	-79	23	3788	-5.97	-578.44	5.46
429	SLE FR 6	-79	24	3861	-6.1	-589.22	5.61
429	SLE QP 1	-77	22	3652	-5.75	-558.34	5.19
429	SLE QP 2	-78	23	3777	-5.96	-576.87	5.44
429	SLD 1	190	236	5408	-10.88	-815.78	57.94
429	SLD 2	240	132	5322	-10.34	-802.74	32.41
429	SLD 3	231	-9	4359	-4.93	-655.87	-2.85
429	SLD 4	282	-112	4273	-4.4	-642.84	-28.38
429	SLD 5	-69	476	5872	-16.54	-893.31	117.77
429	SLD 6	-37	409	5816	-16.2	-884.92	101.34
429	SLD 7	68	-339	2376	3.27	-360.28	-84.85
429	SLD 8	101	-406	2320	3.61	-351.89	-101.29
429	SLD 9	-257	453	5234	-15.54	-801.85	112.17
429	SLD 10	-225	386	5178	-15.19	-793.45	95.73
429	SLD 11	-120	-362	1738	4.28	-268.82	-90.45
429	SLD 12	-88	-429	1682	4.62	-260.42	-106.89
429	SLD 13	-438	159	3281	-7.52	-510.9	39.26
429	SLD 14	-388	56	3195	-6.99	-497.86	13.73
429	SLD 15	-397	-86	2233	-1.58	-350.99	-21.53
429	SLD 16	-347	-189	2146	-1.05	-337.95	-47.06
429	SLV 1	339	373	6399	-14.07	-961.43	92.02
429	SLV 2	418	211	6263	-13.23	-940.88	51.78
429	SLV 3	409	-44	4609	-3.93	-688.6	-11.66
429	SLV 4	488	-207	4473	-3.09	-668.05	-51.9
429	SLV 5	-74	791	7303	-23.93	-1109.86	196.17
429	SLV 6	-21	682	7212	-23.36	-1096.03	169.08
429	SLV 7	160	-599	1338	9.87	-200.43	-149.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
429	SLV 8	213	-708	1246	10.43	-186.59	-176.52
429	SLV 9	-369	755	6308	-22.36	-967.14	187.4
429	SLV 10	-316	646	6216	-21.79	-953.3	160.31
429	SLV 11	-135	-635	343	11.44	-57.71	-158.2
429	SLV 12	-82	-744	251	12	-43.87	-185.29
429	SLV 13	-645	253	3081	-8.83	-485.69	62.79
429	SLV 14	-566	91	2945	-7.99	-465.14	22.55
429	SLV 15	-574	-164	1291	1.3	-212.86	-40.89
429	SLV 16	-495	-326	1155	2.15	-192.31	-81.14
429	SLV FO 1	380	408	6661	-14.88	-999.88	100.67
429	SLV FO 2	467	229	6512	-13.95	-977.28	56.41
429	SLV FO 3	458	-51	4693	-3.73	-699.77	-13.37
429	SLV FO 4	545	-229	4543	-2.8	-677.16	-57.64
429	SLV FO 5	-74	868	7656	-25.72	-1163.16	215.24
429	SLV FO 6	-15	748	7555	-25.1	-1147.94	185.45
429	SLV FO 7	183	-661	1094	11.45	-162.78	-164.92
429	SLV FO 8	242	-782	993	12.07	-147.57	-194.72
429	SLV FO 9	-399	828	6561	-24	-1006.16	205.6
429	SLV FO 10	-340	708	6460	-23.37	-990.95	175.8
429	SLV FO 11	-141	-701	-1	13.18	-5.79	-174.56
429	SLV FO 12	-83	-821	-102	13.8	9.43	-204.36
429	SLV FO 13	-701	276	3011	-9.12	-476.57	68.52
429	SLV FO 14	-614	97	2862	-8.19	-453.96	24.26
429	SLV FO 15	-624	-183	1043	2.03	-176.46	-45.53
429	SLV FO 16	-537	-361	893	2.96	-153.85	-89.79
429	CRTFP Ux+	0	0	0	0	0	0
429	CRTFP Ux-	0	0	0	0	0	0
429	CRTFP Uy+	0	0	0	0	0	0
429	CRTFP Uy-	0	0	0	0	0	0
432	SLU 1	-104	-32	6365	-4.5	-44.59	-3.32
432	SLU 2	-110	0	6482	-5.12	-43.95	-3.52
432	SLU 3	-107	-32	6478	-4.44	-45.54	-3.41
432	SLU 4	-111	-13	6548	-4.81	-45.16	-3.53
432	SLU 5	-112	-1	6552	-5.06	-44.58	-3.58
432	SLU 6	-108	-33	6548	-4.38	-46.17	-3.47
432	SLU 7	-112	-14	6618	-4.75	-45.79	-3.59
432	SLU 8	-107	-33	6505	-4.39	-45.85	-3.44
432	SLU 9	-111	-14	6575	-4.76	-45.46	-3.56
432	SLU 10	-117	-3	7320	-5.75	-51.29	-3.91
432	SLU 11	-113	-35	7316	-5.06	-52.89	-3.79
432	SLU 12	-117	-16	7386	-5.43	-52.5	-3.91
432	SLU 13	-118	-3	7390	-5.69	-51.92	-3.96
432	SLU 14	-115	-35	7386	-5.01	-53.52	-3.85
432	SLU 15	-119	-16	7456	-5.38	-53.13	-3.97
432	SLU 16	-113	-35	7343	-5.01	-53.19	-3.82
432	SLU 17	-117	-16	7413	-5.38	-52.81	-3.94
432	SLU 18	-113	-35	7562	-5.4	-55.08	-3.87
432	SLU 19	-117	-16	7632	-5.77	-54.69	-3.99
432	SLU 20	-114	-36	7632	-5.34	-55.71	-3.93
432	SLU 21	-118	-17	7703	-5.71	-55.32	-4.05
432	SLU 22	-120	-35	7284	-4.76	-51.65	-3.87
432	SLU 23	-126	-3	7401	-5.38	-51.01	-4.07
432	SLU 24	-122	-36	7397	-4.7	-52.6	-3.96
432	SLU 25	-126	-17	7467	-5.07	-52.22	-4.08
432	SLU 26	-128	-4	7471	-5.32	-51.64	-4.13
432	SLU 27	-124	-36	7467	-4.64	-53.24	-4.02
432	SLU 28	-128	-17	7537	-5.01	-52.85	-4.14
432	SLU 29	-123	-36	7424	-4.65	-52.91	-3.99
432	SLU 30	-127	-17	7494	-5.02	-52.52	-4.11
432	SLU 31	-133	-6	8239	-6.01	-58.35	-4.46
432	SLU 32	-129	-38	8235	-5.32	-59.95	-4.34
432	SLU 33	-133	-19	8305	-5.69	-59.56	-4.46
432	SLU 34	-134	-6	8309	-5.95	-58.98	-4.51
432	SLU 35	-130	-38	8305	-5.27	-60.58	-4.4
432	SLU 36	-134	-20	8375	-5.64	-60.19	-4.52
432	SLU 37	-129	-38	8262	-5.27	-60.25	-4.37
432	SLU 38	-133	-19	8332	-5.64	-59.87	-4.49
432	SLU 39	-129	-39	8481	-5.66	-62.14	-4.42
432	SLU 40	-133	-20	8551	-6.03	-61.75	-4.54
432	SLU 41	-130	-39	8551	-5.6	-62.77	-4.48
432	SLU 42	-134	-20	8622	-5.97	-62.38	-4.6
432	SLU 43	-129	-40	7959	-5.77	-55.55	-4.13
432	SLU 44	-136	-9	8076	-6.38	-54.9	-4.33
432	SLU 45	-132	-41	8072	-5.7	-56.5	-4.22
432	SLU 46	-136	-22	8142	-6.07	-56.11	-4.34
432	SLU 47	-138	-9	8146	-6.32	-55.53	-4.39
432	SLU 48	-134	-41	8142	-5.64	-57.13	-4.28
432	SLU 49	-138	-22	8212	-6.01	-56.74	-4.4
432	SLU 50	-133	-41	8099	-5.65	-56.81	-4.25
432	SLU 51	-137	-22	8169	-6.02	-56.42	-4.37
432	SLU 52	-142	-11	8914	-7.01	-62.24	-4.71
432	SLU 53	-138	-43	8910	-6.33	-63.84	-4.6
432	SLU 54	-142	-24	8981	-6.7	-63.46	-4.72
432	SLU 55	-144	-12	8984	-6.95	-62.87	-4.77
432	SLU 56	-140	-44	8980	-6.27	-64.47	-4.66
432	SLU 57	-144	-25	9051	-6.64	-64.09	-4.78
432	SLU 58	-139	-44	8937	-6.28	-64.15	-4.63
432	SLU 59	-143	-25	9008	-6.65	-63.76	-4.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
432	SLU 60	-138	-44	9156	-6.66	-66.04	-4.68
432	SLU 61	-142	-25	9227	-7.03	-65.65	-4.8
432	SLU 62	-140	-44	9227	-6.6	-66.67	-4.73
432	SLU 63	-144	-25	9297	-6.97	-66.28	-4.85
432	SLU 64	-145	-43	8878	-6.03	-62.61	-4.68
432	SLU 65	-152	-12	8995	-6.64	-61.96	-4.88
432	SLU 66	-148	-44	8991	-5.96	-63.56	-4.77
432	SLU 67	-152	-25	9061	-6.33	-63.17	-4.89
432	SLU 68	-154	-12	9065	-6.58	-62.59	-4.94
432	SLU 69	-150	-44	9061	-5.9	-64.19	-4.83
432	SLU 70	-154	-25	9131	-6.27	-63.8	-4.95
432	SLU 71	-149	-44	9018	-5.91	-63.87	-4.8
432	SLU 72	-153	-25	9088	-6.28	-63.48	-4.92
432	SLU 73	-158	-14	9833	-7.27	-69.3	-5.26
432	SLU 74	-154	-46	9829	-6.59	-70.9	-5.15
432	SLU 75	-158	-28	9900	-6.96	-70.52	-5.27
432	SLU 76	-160	-15	9903	-7.21	-69.94	-5.32
432	SLU 77	-156	-47	9899	-6.53	-71.53	-5.21
432	SLU 78	-160	-28	9970	-6.9	-71.15	-5.33
432	SLU 79	-155	-47	9856	-6.54	-71.21	-5.18
432	SLU 80	-159	-28	9927	-6.91	-70.82	-5.3
432	SLU 81	-154	-47	10075	-6.92	-73.1	-5.23
432	SLU 82	-158	-28	10146	-7.29	-72.71	-5.35
432	SLU 83	-156	-47	10146	-6.86	-73.73	-5.28
432	SLU 84	-160	-28	10216	-7.23	-73.34	-5.41
432	SLE RA 1	-108	-33	6627	-4.58	-46.61	-3.48
432	SLE RA 2	-113	-12	6705	-4.99	-46.18	-3.61
432	SLE RA 3	-110	-33	6703	-4.53	-47.24	-3.54
432	SLE RA 4	-113	-20	6749	-4.78	-46.99	-3.62
432	SLE RA 5	-114	-12	6752	-4.95	-46.6	-3.65
432	SLE RA 6	-111	-33	6749	-4.49	-47.66	-3.58
432	SLE RA 7	-114	-21	6796	-4.74	-47.41	-3.66
432	SLE RA 8	-111	-33	6721	-4.5	-47.45	-3.56
432	SLE RA 9	-113	-21	6767	-4.75	-47.19	-3.64
432	SLE RA 10	-117	-13	7264	-5.41	-51.07	-3.87
432	SLE RA 11	-114	-35	7261	-4.95	-52.14	-3.79
432	SLE RA 12	-117	-22	7308	-5.2	-51.88	-3.87
432	SLE RA 13	-118	-14	7311	-5.37	-51.49	-3.91
432	SLE RA 14	-115	-35	7308	-4.91	-52.56	-3.83
432	SLE RA 15	-118	-22	7355	-5.16	-52.3	-3.91
432	SLE RA 16	-115	-35	7280	-4.92	-52.34	-3.81
432	SLE RA 17	-117	-22	7326	-5.16	-52.09	-3.89
432	SLE RA 18	-114	-35	7426	-5.18	-53.6	-3.84
432	SLE RA 19	-117	-22	7472	-5.42	-53.34	-3.92
432	SLE RA 20	-115	-35	7472	-5.14	-54.02	-3.88
432	SLE RA 21	-118	-23	7519	-5.38	-53.76	-3.96
432	SLE FR 1	-108	-33	6627	-4.58	-46.61	-3.48
432	SLE FR 2	-109	-28	6643	-4.66	-46.52	-3.51
432	SLE FR 3	-109	-33	6646	-4.56	-46.78	-3.49
432	SLE FR 4	-111	-29	6882	-4.84	-48.62	-3.62
432	SLE FR 5	-110	-33	6885	-4.74	-48.87	-3.6
432	SLE FR 6	-111	-34	7026	-4.88	-50.1	-3.66
432	SLE QP 1	-108	-33	6627	-4.58	-46.61	-3.48
432	SLE QP 2	-110	-33	6867	-4.76	-48.71	-3.59
432	SLD 1	460	148	8362	-9.84	-25.83	-2.92
432	SLD 2	565	64	8271	-9.43	-27.42	-0.87
432	SLD 3	530	-252	6688	-1.51	-28.21	-0.93
432	SLD 4	635	-337	6597	-1.1	-29.8	1.12
432	SLD 5	-63	644	9870	-18.98	-37.97	-6.76
432	SLD 6	4	590	9811	-18.72	-38.99	-5.44
432	SLD 7	170	-693	4290	8.77	-45.88	-0.13
432	SLD 8	238	-747	4231	9.04	-46.91	1.2
432	SLD 9	-458	680	9502	-18.55	-50.5	-8.37
432	SLD 10	-390	626	9443	-18.29	-51.53	-7.05
432	SLD 11	-225	-656	3922	9.2	-58.42	-1.74
432	SLD 12	-157	-710	3863	9.46	-59.44	-0.42
432	SLD 13	-855	270	7136	-8.41	-67.62	-8.3
432	SLD 14	-750	186	7045	-8	-69.21	-6.25
432	SLD 15	-785	-131	5462	-0.09	-69.99	-6.31
432	SLD 16	-680	-215	5371	0.32	-71.58	-4.26
432	SLV 1	777	280	9323	-13.3	-12.85	-2.69
432	SLV 2	942	147	9180	-12.66	-15.35	0.54
432	SLV 3	896	-404	6467	0.9	-16.86	0.7
432	SLV 4	1061	-536	6324	1.55	-19.37	3.93
432	SLV 5	-55	1122	11962	-28.98	-31.38	-9.06
432	SLV 6	56	1033	11865	-28.55	-33.07	-6.89
432	SLV 7	341	-1157	2442	18.36	-44.78	2.23
432	SLV 8	453	-1246	2345	18.79	-46.47	4.41
432	SLV 9	-673	1179	11388	-28.31	-50.94	-11.59
432	SLV 10	-561	1090	11291	-27.88	-52.63	-9.41
432	SLV 11	-276	-1100	1868	19.03	-64.34	-0.29
432	SLV 12	-165	-1189	1771	19.46	-66.03	1.89
432	SLV 13	-1281	470	7410	-11.06	-78.04	-11.11
432	SLV 14	-1116	337	7266	-10.42	-80.55	-7.87
432	SLV 15	-1162	-214	4554	3.14	-82.06	-7.72
432	SLV 16	-997	-347	4410	3.78	-84.56	-4.49
432	SLV FO 1	866	311	9569	-14.15	-9.26	-2.6
432	SLV FO 2	1048	166	9411	-13.45	-12.02	0.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
432	SLV FO 3	997	-441	6427	1.47	-13.68	1.13
432	SLV FO 4	1178	-587	6269	2.18	-16.44	4.68
432	SLV FO 5	-50	1238	12472	-31.4	-29.65	-9.61
432	SLV FO 6	73	1140	12365	-30.93	-31.51	-7.21
432	SLV FO 7	386	-1269	2000	20.67	-44.39	2.82
432	SLV FO 8	509	-1367	1893	21.15	-46.24	5.21
432	SLV FO 9	-729	1301	11840	-30.66	-51.17	-12.39
432	SLV FO 10	-607	1202	11734	-30.19	-53.02	-9.99
432	SLV FO 11	-293	-1207	1368	21.41	-65.9	0.04
432	SLV FO 12	-170	-1305	1262	21.89	-67.76	2.43
432	SLV FO 13	-1399	520	7464	-11.69	-80.97	-11.86
432	SLV FO 14	-1217	374	7306	-10.99	-83.73	-8.3
432	SLV FO 15	-1268	-232	4322	3.93	-85.4	-8.13
432	SLV FO 16	-1086	-378	4164	4.64	-88.15	-4.57
432	CRTFP Ux+	0	0	0	0	0	0
432	CRTFP Ux-	0	0	0	0	0	0
432	CRTFP Uy+	0	0	0	0	0	0
432	CRTFP Uy-	0	0	0	0	0	0
435	SLU 1	56	-89	6331	-5.3	41.57	-0.21
435	SLU 2	60	-58	6449	-5.93	40.39	-0.06
435	SLU 3	56	-91	6434	-5.24	42.45	-0.23
435	SLU 4	59	-72	6505	-5.62	41.74	-0.14
435	SLU 5	59	-59	6509	-5.86	41.04	-0.08
435	SLU 6	55	-92	6493	-5.17	43.1	-0.25
435	SLU 7	58	-73	6564	-5.55	42.39	-0.16
435	SLU 8	55	-91	6450	-5.17	42.87	-0.25
435	SLU 9	57	-72	6521	-5.55	42.16	-0.16
435	SLU 10	62	-67	7270	-6.7	46.17	-0.06
435	SLU 11	58	-100	7254	-6	48.23	-0.23
435	SLU 12	61	-82	7326	-6.38	47.53	-0.14
435	SLU 13	61	-68	7330	-6.63	46.82	-0.08
435	SLU 14	57	-101	7314	-5.94	48.88	-0.25
435	SLU 15	60	-83	7385	-6.32	48.17	-0.16
435	SLU 16	57	-100	7270	-5.93	48.65	-0.25
435	SLU 17	59	-82	7342	-6.31	47.94	-0.16
435	SLU 18	59	-103	7503	-6.39	49.83	-0.2
435	SLU 19	61	-84	7575	-6.77	49.12	-0.11
435	SLU 20	58	-104	7563	-6.33	50.48	-0.22
435	SLU 21	61	-85	7634	-6.71	49.77	-0.13
435	SLU 22	63	-100	7228	-5.69	47.27	-0.21
435	SLU 23	68	-69	7347	-6.32	46.09	-0.06
435	SLU 24	64	-102	7331	-5.63	48.16	-0.23
435	SLU 25	66	-83	7402	-6.01	47.45	-0.14
435	SLU 26	67	-70	7406	-6.25	46.74	-0.08
435	SLU 27	63	-103	7391	-5.56	48.8	-0.25
435	SLU 28	66	-84	7462	-5.94	48.09	-0.17
435	SLU 29	62	-102	7347	-5.56	48.57	-0.25
435	SLU 30	65	-83	7418	-5.94	47.86	-0.17
435	SLU 31	70	-78	8168	-7.08	51.88	-0.06
435	SLU 32	66	-111	8152	-6.39	53.94	-0.23
435	SLU 33	68	-93	8223	-6.77	53.23	-0.14
435	SLU 34	69	-79	8227	-7.02	52.52	-0.08
435	SLU 35	65	-112	8212	-6.33	54.59	-0.25
435	SLU 36	68	-94	8283	-6.71	53.88	-0.16
435	SLU 37	64	-111	8168	-6.32	54.36	-0.25
435	SLU 38	67	-93	8239	-6.7	53.65	-0.16
435	SLU 39	66	-114	8401	-6.78	55.54	-0.2
435	SLU 40	69	-95	8472	-7.16	54.83	-0.11
435	SLU 41	66	-115	8460	-6.72	56.19	-0.22
435	SLU 42	68	-96	8532	-7.1	55.48	-0.14
435	SLU 43	70	-112	7922	-6.75	52.08	-0.27
435	SLU 44	74	-81	8041	-7.38	50.9	-0.12
435	SLU 45	70	-114	8025	-6.69	52.97	-0.29
435	SLU 46	73	-95	8096	-7.07	52.26	-0.2
435	SLU 47	73	-82	8100	-7.32	51.55	-0.15
435	SLU 48	70	-115	8084	-6.63	53.61	-0.31
435	SLU 49	72	-96	8156	-7.01	52.9	-0.23
435	SLU 50	69	-114	8041	-6.62	53.38	-0.31
435	SLU 51	71	-95	8112	-7	52.67	-0.23
435	SLU 52	76	-90	8862	-8.15	56.69	-0.12
435	SLU 53	72	-123	8846	-7.46	58.75	-0.29
435	SLU 54	75	-105	8917	-7.84	58.04	-0.2
435	SLU 55	76	-91	8921	-8.09	57.33	-0.14
435	SLU 56	72	-124	8905	-7.39	59.4	-0.31
435	SLU 57	74	-105	8977	-7.77	58.69	-0.22
435	SLU 58	71	-123	8862	-7.39	59.17	-0.31
435	SLU 59	73	-105	8933	-7.77	58.46	-0.22
435	SLU 60	73	-126	9095	-7.85	60.35	-0.26
435	SLU 61	75	-107	9166	-8.23	59.64	-0.17
435	SLU 62	72	-127	9154	-7.78	61	-0.28
435	SLU 63	75	-108	9225	-8.16	60.29	-0.2
435	SLU 64	78	-123	8820	-7.14	57.79	-0.27
435	SLU 65	82	-92	8938	-7.77	56.61	-0.13
435	SLU 66	78	-125	8923	-7.08	58.67	-0.29
435	SLU 67	80	-106	8994	-7.46	57.96	-0.21
435	SLU 68	81	-93	8998	-7.71	57.26	-0.15
435	SLU 69	77	-126	8982	-7.02	59.32	-0.32
435	SLU 70	80	-107	9053	-7.4	58.61	-0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
435	SLU 71	76	-125	8939	-7.01	59.09	-0.32
435	SLU 72	79	-106	9010	-7.39	58.38	-0.23
435	SLU 73	84	-101	9759	-8.54	62.39	-0.12
435	SLU 74	80	-134	9744	-7.85	64.45	-0.29
435	SLU 75	82	-116	9815	-8.23	63.74	-0.2
435	SLU 76	83	-102	9819	-8.48	63.04	-0.14
435	SLU 77	79	-135	9803	-7.78	65.1	-0.31
435	SLU 78	82	-116	9874	-8.16	64.39	-0.22
435	SLU 79	78	-134	9759	-7.78	64.87	-0.31
435	SLU 80	81	-116	9831	-8.16	64.16	-0.22
435	SLU 81	80	-137	9992	-8.24	66.05	-0.26
435	SLU 82	83	-118	10064	-8.62	65.34	-0.18
435	SLU 83	80	-138	10052	-8.17	66.7	-0.29
435	SLU 84	82	-119	10123	-8.55	65.99	-0.2
435	SLE RA 1	58	-92	6587	-5.41	43.2	-0.21
435	SLE RA 2	61	-71	6666	-5.83	42.41	-0.11
435	SLE RA 3	58	-93	6656	-5.37	43.79	-0.22
435	SLE RA 4	60	-81	6703	-5.62	43.31	-0.17
435	SLE RA 5	60	-72	6706	-5.79	42.84	-0.13
435	SLE RA 6	58	-94	6695	-5.32	44.22	-0.24
435	SLE RA 7	59	-82	6743	-5.58	43.75	-0.18
435	SLE RA 8	57	-94	6666	-5.32	44.06	-0.24
435	SLE RA 9	59	-81	6714	-5.58	43.59	-0.18
435	SLE RA 10	62	-78	7213	-6.34	46.27	-0.11
435	SLE RA 11	59	-100	7203	-5.88	47.64	-0.22
435	SLE RA 12	61	-87	7250	-6.13	47.17	-0.16
435	SLE RA 13	62	-78	7253	-6.3	46.7	-0.12
435	SLE RA 14	59	-100	7243	-5.84	48.08	-0.23
435	SLE RA 15	61	-88	7290	-6.09	47.6	-0.18
435	SLE RA 16	59	-100	7214	-5.83	47.92	-0.23
435	SLE RA 17	60	-87	7261	-6.09	47.45	-0.18
435	SLE RA 18	60	-101	7369	-6.14	48.71	-0.2
435	SLE RA 19	62	-89	7416	-6.39	48.24	-0.15
435	SLE RA 20	60	-102	7409	-6.09	49.14	-0.22
435	SLE RA 21	61	-89	7456	-6.35	48.67	-0.16
435	SLE FR 1	58	-92	6587	-5.41	43.2	-0.21
435	SLE FR 2	59	-88	6603	-5.49	43.04	-0.19
435	SLE FR 3	58	-93	6603	-5.39	43.37	-0.21
435	SLE FR 4	59	-91	6837	-5.71	44.69	-0.19
435	SLE FR 5	58	-95	6837	-5.61	45.03	-0.21
435	SLE FR 6	59	-97	6978	-5.77	45.95	-0.21
435	SLE QP 1	58	-92	6587	-5.41	43.2	-0.21
435	SLE QP 2	59	-95	6822	-5.63	44.85	-0.21
435	SLD 1	711	143	7051	-8.42	54.74	3.25
435	SLD 2	818	223	7141	-8.85	52.32	5.13
435	SLD 3	660	-265	5349	0.02	63.2	1.56
435	SLD 4	768	-185	5439	-0.42	60.78	3.44
435	SLD 5	312	581	9456	-19.19	35.41	3.08
435	SLD 6	381	633	9514	-19.47	33.85	4.29
435	SLD 7	144	-779	3783	8.94	63.6	-2.57
435	SLD 8	214	-727	3841	8.66	62.04	-1.36
435	SLD 9	-97	537	9802	-19.91	27.67	0.95
435	SLD 10	-27	589	9860	-20.19	26.11	2.16
435	SLD 11	-264	-823	4129	8.21	55.85	-4.7
435	SLD 12	-195	-771	4187	7.93	54.29	-3.49
435	SLD 13	-651	-5	8204	-10.84	28.93	-3.85
435	SLD 14	-543	75	8294	-11.27	26.51	-1.97
435	SLD 15	-701	-413	6502	-2.4	37.38	-5.55
435	SLD 16	-594	-333	6592	-2.83	34.96	-3.67
435	SLV 1	1081	305	7303	-10.58	59.74	5.31
435	SLV 2	1251	432	7446	-11.27	55.92	8.27
435	SLV 3	996	-391	4399	3.81	74.13	2.42
435	SLV 4	1165	-264	4542	3.13	70.31	5.38
435	SLV 5	464	1057	11343	-28.81	28.2	5.28
435	SLV 6	578	1143	11439	-29.28	25.63	7.27
435	SLV 7	178	-1263	1665	19.16	76.18	-4.36
435	SLV 8	293	-1177	1761	18.7	73.61	-2.37
435	SLV 9	-175	988	11883	-29.95	16.09	1.95
435	SLV 10	-61	1073	11979	-30.42	13.52	3.94
435	SLV 11	-461	-1333	2204	18.02	64.08	-7.69
435	SLV 12	-346	-1247	2300	17.56	61.51	-5.69
435	SLV 13	-1048	74	9101	-14.38	19.39	-5.79
435	SLV 14	-879	201	9244	-15.07	15.57	-2.83
435	SLV 15	-1134	-622	6198	0.01	33.78	-8.68
435	SLV 16	-964	-495	6340	-0.67	29.97	-5.72
435	SLV FO 1	1184	345	7351	-11.08	61.23	5.86
435	SLV FO 2	1370	485	7508	-11.83	57.03	9.11
435	SLV FO 3	1090	-420	4157	4.76	77.06	2.68
435	SLV FO 4	1276	-280	4314	4	72.86	5.93
435	SLV FO 5	504	1172	11795	-31.13	26.53	5.83
435	SLV FO 6	630	1266	11901	-31.64	23.71	8.02
435	SLV FO 7	190	-1380	1149	21.64	79.31	-4.77
435	SLV FO 8	316	-1286	1255	21.13	76.49	-2.58
435	SLV FO 9	-199	1096	12389	-32.39	13.22	2.17
435	SLV FO 10	-73	1190	12494	-32.89	10.39	4.36
435	SLV FO 11	-512	-1456	1742	20.39	66	-8.43
435	SLV FO 12	-387	-1362	1848	19.88	63.17	-6.24
435	SLV FO 13	-1159	91	9329	-15.26	16.84	-6.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
435	SLV FO 14	-973	231	9486	-16.01	12.64	-3.09
435	SLV FO 15	-1253	-675	6135	0.58	32.68	-9.53
435	SLV FO 16	-1067	-535	6292	-0.18	28.48	-6.27
435	CRTFP Ux+	0	0	0	0	0	0
435	CRTFP Ux-	0	0	0	0	0	0
435	CRTFP Uy+	0	0	0	0	0	0
435	CRTFP Uy-	0	0	0	0	0	0
438	SLU 1	49	50	3902	-5.24	903.19	-17.22
438	SLU 2	52	71	3984	-5.74	923.05	-24.75
438	SLU 3	50	51	3966	-5.23	916.92	-17.66
438	SLU 4	52	64	4016	-5.54	928.83	-22.19
438	SLU 5	52	73	4019	-5.71	930.38	-25.22
438	SLU 6	50	53	4001	-5.2	924.25	-18.13
438	SLU 7	52	65	4050	-5.5	936.16	-22.66
438	SLU 8	49	53	3971	-5.17	917.85	-18.16
438	SLU 9	51	66	4021	-5.48	929.76	-22.68
438	SLU 10	55	77	4472	-6.48	1031.98	-26.73
438	SLU 11	53	57	4454	-5.97	1025.86	-19.64
438	SLU 12	55	70	4504	-6.28	1037.77	-24.16
438	SLU 13	55	79	4507	-6.45	1039.31	-27.2
438	SLU 14	53	58	4489	-5.94	1033.18	-20.11
438	SLU 15	55	71	4538	-6.24	1045.1	-24.63
438	SLU 16	52	58	4459	-5.91	1026.78	-20.14
438	SLU 17	54	71	4509	-6.22	1038.7	-24.66
438	SLU 18	54	58	4599	-6.3	1058.82	-20.05
438	SLU 19	55	71	4648	-6.6	1070.73	-24.57
438	SLU 20	54	59	4634	-6.26	1066.14	-20.52
438	SLU 21	55	72	4683	-6.57	1078.06	-25.04
438	SLU 22	56	53	4453	-5.84	1024.99	-18.42
438	SLU 23	59	75	4535	-6.35	1044.85	-25.95
438	SLU 24	57	55	4517	-5.83	1038.72	-18.86
438	SLU 25	58	68	4566	-6.14	1050.63	-23.38
438	SLU 26	59	76	4570	-6.31	1052.18	-26.42
438	SLU 27	57	56	4552	-5.8	1046.05	-19.33
438	SLU 28	58	69	4601	-6.1	1057.96	-23.85
438	SLU 29	56	56	4522	-5.78	1039.65	-19.36
438	SLU 30	58	69	4571	-6.08	1051.56	-23.88
438	SLU 31	62	81	5023	-7.09	1153.78	-27.93
438	SLU 32	60	60	5005	-6.57	1147.66	-20.84
438	SLU 33	61	73	5054	-6.88	1159.57	-25.36
438	SLU 34	62	82	5058	-7.05	1161.11	-28.4
438	SLU 35	60	62	5040	-6.54	1154.98	-21.31
438	SLU 36	61	75	5089	-6.84	1166.9	-25.83
438	SLU 37	59	62	5010	-6.52	1148.58	-21.34
438	SLU 38	61	75	5059	-6.82	1160.5	-25.86
438	SLU 39	60	62	5150	-6.9	1180.62	-21.24
438	SLU 40	62	75	5199	-7.2	1192.53	-25.77
438	SLU 41	60	63	5184	-6.87	1187.94	-21.71
438	SLU 42	62	76	5234	-7.17	1199.86	-26.24
438	SLU 43	62	64	4884	-6.6	1132.39	-21.97
438	SLU 44	64	85	4966	-7.11	1152.25	-29.51
438	SLU 45	62	65	4948	-6.6	1146.12	-22.42
438	SLU 46	64	78	4997	-6.9	1158.03	-26.94
438	SLU 47	64	87	5001	-7.08	1159.57	-29.98
438	SLU 48	62	66	4983	-6.57	1153.45	-22.89
438	SLU 49	64	79	5032	-6.87	1165.36	-27.41
438	SLU 50	62	66	4953	-6.54	1147.05	-22.91
438	SLU 51	63	79	5002	-6.84	1158.96	-27.44
438	SLU 52	67	91	5454	-7.85	1261.18	-31.49
438	SLU 53	66	71	5436	-7.34	1255.06	-24.4
438	SLU 54	67	84	5485	-7.64	1266.97	-28.92
438	SLU 55	67	92	5489	-7.82	1268.51	-31.96
438	SLU 56	66	72	5471	-7.31	1262.38	-24.87
438	SLU 57	67	85	5520	-7.61	1274.29	-29.39
438	SLU 58	65	72	5441	-7.28	1255.98	-24.89
438	SLU 59	66	85	5490	-7.58	1267.9	-29.41
438	SLU 60	66	72	5581	-7.66	1288.02	-24.8
438	SLU 61	68	85	5630	-7.96	1299.93	-29.32
438	SLU 62	66	73	5615	-7.63	1295.34	-25.27
438	SLU 63	68	86	5665	-7.93	1307.26	-29.79
438	SLU 64	69	67	5434	-7.21	1254.19	-23.17
438	SLU 65	71	89	5517	-7.71	1274.05	-30.71
438	SLU 66	69	68	5499	-7.2	1267.92	-23.62
438	SLU 67	71	81	5548	-7.5	1279.83	-28.14
438	SLU 68	71	90	5551	-7.68	1281.37	-31.18
438	SLU 69	69	70	5533	-7.17	1275.25	-24.09
438	SLU 70	71	83	5583	-7.47	1287.16	-28.61
438	SLU 71	69	70	5504	-7.14	1268.85	-24.11
438	SLU 72	70	83	5553	-7.44	1280.76	-28.63
438	SLU 73	74	95	6005	-8.45	1382.98	-32.69
438	SLU 74	72	74	5987	-7.94	1376.86	-25.6
438	SLU 75	74	87	6036	-8.24	1388.77	-30.12
438	SLU 76	74	96	6039	-8.42	1390.31	-33.16
438	SLU 77	72	76	6021	-7.91	1384.18	-26.07
438	SLU 78	74	89	6071	-8.21	1396.09	-30.59
438	SLU 79	72	76	5992	-7.88	1377.78	-26.09
438	SLU 80	73	89	6041	-8.18	1389.7	-30.61
438	SLU 81	73	75	6131	-8.26	1409.82	-26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
438	SLU 82	74	88	6181	-8.57	1421.73	-30.52
438	SLU 83	73	77	6166	-8.23	1417.14	-26.47
438	SLU 84	74	90	6216	-8.53	1429.06	-30.99
438	SLE RA 1	51	51	4059	-5.41	937.99	-17.56
438	SLE RA 2	53	65	4114	-5.75	951.23	-22.58
438	SLE RA 3	52	52	4102	-5.41	947.15	-17.86
438	SLE RA 4	53	60	4135	-5.61	955.09	-20.87
438	SLE RA 5	53	66	4137	-5.73	956.12	-22.9
438	SLE RA 6	52	53	4125	-5.38	952.03	-18.17
438	SLE RA 7	53	61	4158	-5.59	959.97	-21.19
438	SLE RA 8	51	53	4105	-5.37	947.76	-18.19
438	SLE RA 9	52	61	4138	-5.57	955.71	-21.2
438	SLE RA 10	55	69	4439	-6.24	1023.85	-23.9
438	SLE RA 11	54	56	4427	-5.9	1019.77	-19.18
438	SLE RA 12	55	64	4460	-6.1	1027.71	-22.19
438	SLE RA 13	55	70	4463	-6.22	1028.74	-24.22
438	SLE RA 14	54	57	4451	-5.88	1024.65	-19.49
438	SLE RA 15	55	65	4484	-6.08	1032.6	-22.51
438	SLE RA 16	53	57	4431	-5.86	1020.39	-19.51
438	SLE RA 17	54	65	4464	-6.06	1028.33	-22.52
438	SLE RA 18	54	56	4524	-6.12	1041.74	-19.45
438	SLE RA 19	55	65	4557	-6.32	1049.68	-22.46
438	SLE RA 20	54	57	4547	-6.09	1046.63	-19.76
438	SLE RA 21	55	66	4580	-6.3	1054.57	-22.77
438	SLE FR 1	51	51	4059	-5.41	937.99	-17.56
438	SLE FR 2	52	54	4070	-5.48	940.64	-18.57
438	SLE FR 3	51	51	4068	-5.4	939.95	-17.69
438	SLE FR 4	52	55	4210	-5.69	971.77	-19.13
438	SLE FR 5	52	53	4208	-5.61	971.07	-18.25
438	SLE FR 6	53	54	4292	-5.76	989.87	-18.5
438	SLE QP 1	51	51	4059	-5.41	937.99	-17.56
438	SLE QP 2	52	53	4199	-5.62	969.12	-18.13
438	SLD 1	428	90	3636	-6.95	854.99	-31.27
438	SLD 2	489	209	3733	-7.53	876.91	-72.77
438	SLD 3	389	-186	2461	-0.16	585.55	64.99
438	SLD 4	450	-67	2558	-0.75	607.48	23.49
438	SLD 5	213	462	5795	-16.22	1339.75	-160.93
438	SLD 6	253	539	5857	-16.59	1353.87	-187.65
438	SLD 7	84	-458	1879	6.41	441.64	159.94
438	SLD 8	123	-381	1941	6.03	455.76	133.21
438	SLD 9	-19	486	6456	-17.28	1482.48	-169.47
438	SLD 10	20	563	6518	-17.65	1496.6	-196.19
438	SLD 11	-148	-433	2540	5.35	584.37	151.39
438	SLD 12	-109	-357	2602	4.97	598.49	124.67
438	SLD 13	-346	172	5839	-10.5	1330.76	-59.74
438	SLD 14	-285	291	5936	-11.08	1352.69	-101.24
438	SLD 15	-385	-104	4664	-3.71	1061.32	36.52
438	SLD 16	-324	15	4761	-4.29	1083.25	-4.98
438	SLV 1	643	130	3406	-8.19	810.51	-45.17
438	SLV 2	739	318	3559	-9.1	845.08	-110.59
438	SLV 3	576	-341	1401	3.39	350.9	119.09
438	SLV 4	672	-153	1554	2.48	385.47	53.68
438	SLV 5	312	755	6972	-23.78	1612.16	-263.18
438	SLV 6	377	881	7075	-24.4	1635.43	-307.21
438	SLV 7	91	-815	291	14.81	80.13	284.39
438	SLV 8	155	-688	394	14.2	103.4	240.35
438	SLV 9	-51	793	8003	-25.44	1834.84	-276.6
438	SLV 10	13	920	8106	-26.06	1858.11	-320.64
438	SLV 11	-273	-776	1322	13.15	302.81	270.96
438	SLV 12	-208	-650	1425	12.54	326.08	226.92
438	SLV 13	-568	258	6843	-13.72	1552.77	-89.93
438	SLV 14	-472	446	6996	-14.64	1587.34	-155.35
438	SLV 15	-635	-213	4839	-2.14	1093.16	74.34
438	SLV 16	-539	-25	4992	-3.06	1127.73	8.92
438	SLV FO 1	702	137	3326	-8.44	794.65	-47.88
438	SLV FO 2	807	344	3495	-9.45	832.67	-119.84
438	SLV FO 3	629	-380	1122	4.29	289.08	132.82
438	SLV FO 4	734	-174	1290	3.29	327.1	60.86
438	SLV FO 5	338	825	7249	-25.6	1676.46	-287.68
438	SLV FO 6	409	964	7362	-26.28	1702.06	-336.12
438	SLV FO 7	95	-901	-99	16.86	-8.77	314.64
438	SLV FO 8	166	-762	14	16.18	16.83	266.2
438	SLV FO 9	-62	867	8383	-27.42	1921.41	-302.45
438	SLV FO 10	10	1007	8497	-28.1	1947.01	-350.89
438	SLV FO 11	-305	-859	1035	15.03	236.18	299.87
438	SLV FO 12	-234	-720	1148	14.35	261.77	251.43
438	SLV FO 13	-630	279	7107	-14.53	1611.13	-97.11
438	SLV FO 14	-525	486	7276	-15.54	1649.16	-169.07
438	SLV FO 15	-703	-239	4903	-1.79	1105.57	83.58
438	SLV FO 16	-598	-32	5071	-2.8	1143.59	11.63
438	CRTFP Ux+	0	0	0	0	0	0
438	CRTFP Ux-	0	0	0	0	0	0
438	CRTFP Uy+	0	0	0	0	0	0
438	CRTFP Uy-	0	0	0	0	0	0
440	SLU 1	15	-54	3755	-2.6	1051.86	18.96
440	SLU 2	18	-31	3810	-2.93	1066.77	10.96
440	SLU 3	14	-55	3820	-2.57	1069.66	19.44
440	SLU 4	16	-42	3853	-2.77	1078.61	14.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
440	SLU 5	17	-32	3850	-2.91	1077.77	11.34
440	SLU 6	14	-57	3861	-2.54	1080.67	19.82
440	SLU 7	16	-43	3893	-2.75	1089.61	15.02
440	SLU 8	14	-56	3836	-2.54	1073.87	19.71
440	SLU 9	15	-43	3868	-2.75	1082.81	14.91
440	SLU 10	17	-37	4312	-3.32	1205.09	13.06
440	SLU 11	14	-61	4322	-2.96	1207.98	21.54
440	SLU 12	15	-48	4355	-3.16	1216.92	16.74
440	SLU 13	16	-38	4352	-3.3	1216.09	13.44
440	SLU 14	13	-63	4362	-2.93	1218.98	21.92
440	SLU 15	15	-49	4395	-3.13	1227.93	17.12
440	SLU 16	13	-62	4338	-2.93	1212.18	21.81
440	SLU 17	15	-48	4370	-3.13	1221.13	17.01
440	SLU 18	14	-63	4472	-3.15	1249.45	21.96
440	SLU 19	16	-49	4505	-3.36	1258.4	17.16
440	SLU 20	13	-64	4513	-3.13	1260.46	22.33
440	SLU 21	15	-50	4545	-3.33	1269.4	17.53
440	SLU 22	16	-61	4271	-2.77	1192.94	21.33
440	SLU 23	19	-38	4326	-3.11	1207.85	13.33
440	SLU 24	16	-62	4336	-2.74	1210.74	21.81
440	SLU 25	18	-48	4369	-2.94	1219.68	17.01
440	SLU 26	19	-39	4366	-3.08	1218.85	13.7
440	SLU 27	15	-63	4376	-2.72	1221.74	22.18
440	SLU 28	17	-50	4409	-2.92	1230.69	17.38
440	SLU 29	15	-63	4351	-2.72	1214.94	22.08
440	SLU 30	17	-49	4384	-2.92	1223.89	17.28
440	SLU 31	19	-44	4828	-3.49	1346.16	15.43
440	SLU 32	15	-68	4838	-3.13	1349.05	23.91
440	SLU 33	17	-54	4871	-3.33	1358	19.11
440	SLU 34	18	-45	4868	-3.47	1357.16	15.8
440	SLU 35	15	-69	4878	-3.1	1360.05	24.28
440	SLU 36	16	-56	4911	-3.31	1369	19.48
440	SLU 37	14	-69	4853	-3.1	1353.26	24.17
440	SLU 38	16	-55	4886	-3.31	1362.2	19.38
440	SLU 39	15	-69	4988	-3.32	1390.53	24.32
440	SLU 40	17	-56	5021	-3.53	1399.47	19.52
440	SLU 41	15	-70	5028	-3.3	1401.53	24.7
440	SLU 42	17	-57	5061	-3.5	1410.48	19.9
440	SLU 43	19	-68	4705	-3.32	1319.05	23.84
440	SLU 44	22	-45	4760	-3.65	1333.96	15.84
440	SLU 45	18	-69	4770	-3.29	1336.85	24.32
440	SLU 46	20	-56	4803	-3.49	1345.8	19.52
440	SLU 47	21	-46	4800	-3.63	1344.96	16.22
440	SLU 48	18	-70	4810	-3.26	1347.86	24.7
440	SLU 49	20	-57	4843	-3.47	1356.8	19.9
440	SLU 50	18	-70	4786	-3.26	1341.06	24.59
440	SLU 51	19	-56	4818	-3.47	1350	19.79
440	SLU 52	21	-51	5262	-4.04	1472.28	17.94
440	SLU 53	18	-75	5272	-3.68	1475.17	26.42
440	SLU 54	19	-62	5305	-3.88	1484.11	21.62
440	SLU 55	20	-52	5302	-4.02	1483.28	18.31
440	SLU 56	17	-76	5312	-3.65	1486.17	26.79
440	SLU 57	19	-63	5345	-3.86	1495.12	21.99
440	SLU 58	17	-76	5287	-3.65	1479.37	26.69
440	SLU 59	19	-62	5320	-3.86	1488.32	21.89
440	SLU 60	18	-77	5422	-3.87	1516.64	26.84
440	SLU 61	20	-63	5455	-4.08	1525.59	22.04
440	SLU 62	17	-78	5462	-3.85	1527.65	27.21
440	SLU 63	19	-64	5495	-4.05	1536.59	22.41
440	SLU 64	20	-75	5221	-3.49	1460.13	26.2
440	SLU 65	23	-52	5276	-3.83	1475.04	18.21
440	SLU 66	20	-76	5286	-3.46	1477.93	26.69
440	SLU 67	22	-62	5319	-3.66	1486.87	21.89
440	SLU 68	23	-53	5316	-3.8	1486.04	18.58
440	SLU 69	19	-77	5326	-3.44	1488.93	27.06
440	SLU 70	21	-63	5359	-3.64	1497.88	22.26
440	SLU 71	19	-77	5301	-3.44	1482.13	26.95
440	SLU 72	21	-63	5334	-3.64	1491.08	22.15
440	SLU 73	23	-58	5777	-4.21	1613.35	20.3
440	SLU 74	19	-82	5788	-3.85	1616.24	28.78
440	SLU 75	21	-68	5821	-4.05	1625.19	23.98
440	SLU 76	22	-59	5818	-4.19	1624.35	20.68
440	SLU 77	19	-83	5828	-3.82	1627.24	29.16
440	SLU 78	20	-69	5861	-4.03	1636.19	24.36
440	SLU 79	18	-83	5803	-3.82	1620.45	29.05
440	SLU 80	20	-69	5836	-4.03	1629.39	24.25
440	SLU 81	19	-83	5938	-4.04	1657.72	29.2
440	SLU 82	21	-70	5971	-4.25	1666.66	24.4
440	SLU 83	19	-84	5978	-4.02	1668.72	29.58
440	SLU 84	20	-71	6011	-4.22	1677.67	24.78
440	SLE RA 1	15	-56	3903	-2.65	1092.17	19.64
440	SLE RA 2	17	-41	3939	-2.87	1102.11	14.3
440	SLE RA 3	15	-57	3946	-2.63	1104.04	19.96
440	SLE RA 4	16	-48	3968	-2.76	1110	16.76
440	SLE RA 5	17	-41	3966	-2.85	1109.44	14.55
440	SLE RA 6	15	-58	3973	-2.61	1111.37	20.21
440	SLE RA 7	16	-49	3995	-2.75	1117.34	17.01
440	SLE RA 8	15	-57	3956	-2.61	1106.84	20.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
440	SLE RA 9	16	-48	3978	-2.75	1112.8	16.94
440	SLE RA 10	17	-45	4274	-3.13	1194.32	15.7
440	SLE RA 11	15	-61	4281	-2.89	1196.25	21.36
440	SLE RA 12	16	-52	4303	-3.02	1202.21	18.16
440	SLE RA 13	16	-45	4301	-3.11	1201.65	15.95
440	SLE RA 14	14	-62	4307	-2.87	1203.58	21.61
440	SLE RA 15	15	-52	4329	-3	1209.54	18.41
440	SLE RA 16	14	-61	4291	-2.87	1199.05	21.54
440	SLE RA 17	15	-52	4313	-3	1205.01	18.34
440	SLE RA 18	15	-62	4381	-3.02	1223.9	21.64
440	SLE RA 19	16	-53	4403	-3.15	1229.86	18.44
440	SLE RA 20	14	-62	4407	-3	1231.23	21.89
440	SLE RA 21	15	-53	4429	-3.13	1237.2	18.69
440	SLE FR 1	15	-56	3903	-2.65	1092.17	19.64
440	SLE FR 2	16	-53	3910	-2.69	1094.16	18.57
440	SLE FR 3	15	-56	3913	-2.64	1095.1	19.74
440	SLE FR 4	16	-55	4053	-2.8	1133.68	19.17
440	SLE FR 5	15	-58	4057	-2.75	1134.62	20.34
440	SLE FR 6	15	-59	4142	-2.83	1158.03	20.64
440	SLE QP 1	15	-56	3903	-2.65	1092.17	19.64
440	SLE QP 2	15	-58	4046	-2.76	1131.69	20.24
440	SLD 1	402	76	4503	-5.06	1265.93	-26.23
440	SLD 2	463	80	4520	-5.09	1269.58	-27.56
440	SLD 3	367	-215	3647	-0.01	1030.5	75.12
440	SLD 4	429	-210	3663	-0.04	1034.15	73.79
440	SLD 5	173	421	5479	-11.1	1528.4	-147.18
440	SLD 6	212	424	5490	-11.12	1530.75	-148.05
440	SLD 7	58	-545	2625	5.73	743.64	190.65
440	SLD 8	97	-543	2635	5.72	745.99	189.78
440	SLD 9	-67	427	5457	-11.23	1517.39	-149.31
440	SLD 10	-28	430	5468	-11.25	1519.74	-150.17
440	SLD 11	-182	-540	2602	5.61	732.63	188.52
440	SLD 12	-143	-537	2613	5.59	734.98	187.66
440	SLD 13	-398	94	4429	-5.48	1229.23	-33.31
440	SLD 14	-337	99	4445	-5.51	1232.88	-34.65
440	SLD 15	-433	-196	3573	-0.43	993.8	68.04
440	SLD 16	-372	-191	3589	-0.46	997.45	66.7
440	SLV 1	622	171	4823	-6.71	1358.44	-59.47
440	SLV 2	718	178	4848	-6.76	1364.19	-61.57
440	SLV 3	563	-324	3361	1.91	956.71	113.4
440	SLV 4	660	-317	3387	1.86	962.46	111.29
440	SLV 5	268	760	6491	-17.01	1807.93	-265.46
440	SLV 6	333	765	6508	-17.04	1811.8	-266.88
440	SLV 7	72	-889	1620	11.72	468.83	310.76
440	SLV 8	137	-884	1637	11.69	472.71	309.34
440	SLV 9	-107	769	6455	-17.21	1790.67	-268.86
440	SLV 10	-42	774	6473	-17.24	1794.54	-270.28
440	SLV 11	-303	-880	1584	11.52	451.58	307.35
440	SLV 12	-238	-875	1602	11.49	455.45	305.93
440	SLV 13	-629	201	4705	-7.38	1300.91	-70.82
440	SLV 14	-533	208	4731	-7.42	1306.66	-72.92
440	SLV 15	-688	-293	3244	1.24	899.18	102.05
440	SLV 16	-592	-286	3270	1.2	904.94	99.94
440	SLV FO 1	683	194	4900	-7.11	1381.11	-67.44
440	SLV FO 2	789	202	4929	-7.16	1387.44	-69.75
440	SLV FO 3	618	-351	3293	2.37	939.21	122.71
440	SLV FO 4	724	-343	3321	2.32	945.54	120.4
440	SLV FO 5	294	842	6735	-18.43	1875.55	-294.03
440	SLV FO 6	365	847	6754	-18.47	1879.81	-295.59
440	SLV FO 7	78	-972	1377	13.17	402.55	339.81
440	SLV FO 8	150	-967	1396	13.14	406.81	338.25
440	SLV FO 9	-119	852	6696	-18.65	1856.57	-297.77
440	SLV FO 10	-48	857	6715	-18.68	1860.83	-299.33
440	SLV FO 11	-335	-962	1338	12.95	383.56	336.06
440	SLV FO 12	-264	-957	1357	12.92	387.82	334.5
440	SLV FO 13	-694	227	4771	-7.84	1317.83	-79.92
440	SLV FO 14	-588	235	4799	-7.89	1324.16	-82.24
440	SLV FO 15	-759	-317	3164	1.64	875.93	110.23
440	SLV FO 16	-653	-309	3192	1.59	882.26	107.91
440	CRTFP Ux+	0	0	0	0	0	0
440	CRTFP Ux-	0	0	0	0	0	0
440	CRTFP Uy+	0	0	0	0	0	0
440	CRTFP Uy-	0	0	0	0	0	0
443	SLU 1	-62	20	3377	-2.99	-445.65	4.61
443	SLU 2	-65	39	3437	-3.39	-453.06	9.38
443	SLU 3	-64	20	3443	-2.98	-453.75	4.64
443	SLU 4	-66	31	3479	-3.22	-458.2	7.5
443	SLU 5	-66	39	3479	-3.37	-458.15	9.44
443	SLU 6	-65	20	3485	-2.96	-458.84	4.7
443	SLU 7	-67	32	3521	-3.2	-463.29	7.56
443	SLU 8	-64	20	3460	-2.96	-455.84	4.74
443	SLU 9	-66	32	3496	-3.19	-460.28	7.59
443	SLU 10	-70	42	3859	-3.79	-505.93	10.21
443	SLU 11	-68	24	3864	-3.38	-506.62	5.47
443	SLU 12	-70	35	3901	-3.61	-511.07	8.33
443	SLU 13	-71	43	3900	-3.77	-511.03	10.27
443	SLU 14	-69	24	3906	-3.36	-511.72	5.54
443	SLU 15	-71	35	3942	-3.59	-516.17	8.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
443	SLU 16	-69	24	3881	-3.35	-508.71	5.57
443	SLU 17	-70	35	3918	-3.59	-513.16	8.43
443	SLU 18	-68	25	3979	-3.56	-521.18	5.8
443	SLU 19	-70	36	4015	-3.8	-525.63	8.66
443	SLU 20	-69	25	4020	-3.54	-526.28	5.86
443	SLU 21	-71	37	4057	-3.78	-530.72	8.72
443	SLU 22	-71	21	3868	-3.27	-506.98	4.79
443	SLU 23	-74	40	3929	-3.66	-514.39	9.56
443	SLU 24	-73	21	3934	-3.25	-515.08	4.82
443	SLU 25	-75	32	3971	-3.49	-519.53	7.68
443	SLU 26	-75	40	3970	-3.64	-519.49	9.62
443	SLU 27	-74	21	3976	-3.23	-520.18	4.88
443	SLU 28	-76	33	4012	-3.47	-524.63	7.74
443	SLU 29	-73	21	3951	-3.23	-517.17	4.92
443	SLU 30	-75	33	3988	-3.46	-521.62	7.77
443	SLU 31	-79	43	4350	-4.06	-567.27	10.39
443	SLU 32	-77	24	4356	-3.65	-567.96	5.66
443	SLU 33	-79	36	4392	-3.88	-572.41	8.51
443	SLU 34	-80	44	4392	-4.04	-572.36	10.45
443	SLU 35	-78	25	4397	-3.63	-573.05	5.72
443	SLU 36	-80	36	4434	-3.87	-577.5	8.57
443	SLU 37	-78	25	4373	-3.62	-570.05	5.75
443	SLU 38	-79	36	4409	-3.86	-574.49	8.61
443	SLU 39	-78	26	4470	-3.83	-582.52	5.98
443	SLU 40	-79	37	4506	-4.07	-586.96	8.84
443	SLU 41	-78	26	4512	-3.81	-587.61	6.05
443	SLU 42	-80	38	4548	-4.05	-592.06	8.9
443	SLU 43	-78	26	4221	-3.8	-558.31	5.94
443	SLU 44	-81	45	4282	-4.19	-565.72	10.7
443	SLU 45	-80	26	4288	-3.79	-566.41	5.96
443	SLU 46	-81	37	4324	-4.02	-570.86	8.82
443	SLU 47	-82	45	4324	-4.18	-570.82	10.76
443	SLU 48	-81	26	4329	-3.77	-571.51	6.02
443	SLU 49	-82	37	4366	-4	-575.96	8.88
443	SLU 50	-80	26	4305	-3.76	-568.5	6.06
443	SLU 51	-82	38	4341	-4	-572.95	8.92
443	SLU 52	-85	48	4703	-4.59	-618.6	11.53
443	SLU 53	-84	29	4709	-4.18	-619.29	6.8
443	SLU 54	-86	41	4745	-4.42	-623.74	9.66
443	SLU 55	-86	48	4745	-4.57	-623.69	11.59
443	SLU 56	-85	29	4751	-4.16	-624.38	6.86
443	SLU 57	-87	41	4787	-4.4	-628.83	9.72
443	SLU 58	-84	30	4726	-4.16	-621.38	6.89
443	SLU 59	-86	41	4762	-4.4	-625.82	9.75
443	SLU 60	-84	30	4823	-4.37	-633.85	7.13
443	SLU 61	-86	42	4860	-4.6	-638.29	9.98
443	SLU 62	-85	31	4865	-4.35	-638.94	7.19
443	SLU 63	-87	42	4901	-4.58	-643.39	10.05
443	SLU 64	-87	26	4713	-4.07	-619.65	6.12
443	SLU 65	-90	46	4773	-4.46	-627.06	10.88
443	SLU 66	-89	27	4779	-4.06	-627.75	6.14
443	SLU 67	-90	38	4815	-4.29	-632.2	9
443	SLU 68	-91	46	4815	-4.45	-632.15	10.94
443	SLU 69	-90	27	4821	-4.04	-632.84	6.21
443	SLU 70	-91	38	4857	-4.27	-637.29	9.06
443	SLU 71	-89	27	4796	-4.03	-629.84	6.24
443	SLU 72	-91	38	4832	-4.27	-634.28	9.1
443	SLU 73	-94	49	5195	-4.86	-679.93	11.71
443	SLU 74	-93	30	5200	-4.45	-680.62	6.98
443	SLU 75	-95	42	5237	-4.69	-685.07	9.84
443	SLU 76	-95	49	5236	-4.84	-685.03	11.77
443	SLU 77	-94	30	5242	-4.44	-685.72	7.04
443	SLU 78	-96	42	5278	-4.67	-690.17	9.9
443	SLU 79	-93	31	5217	-4.43	-682.71	7.07
443	SLU 80	-95	42	5254	-4.67	-687.16	9.93
443	SLU 81	-93	31	5315	-4.64	-695.18	7.31
443	SLU 82	-95	43	5351	-4.87	-699.63	10.17
443	SLU 83	-94	32	5356	-4.62	-700.28	7.37
443	SLU 84	-96	43	5393	-4.86	-704.72	10.23
443	SLE RA 1	-65	20	3517	-3.07	-463.17	4.66
443	SLE RA 2	-67	33	3558	-3.33	-468.11	7.84
443	SLE RA 3	-66	20	3561	-3.06	-468.57	4.68
443	SLE RA 4	-67	28	3586	-3.22	-471.54	6.59
443	SLE RA 5	-68	33	3585	-3.32	-471.51	7.88
443	SLE RA 6	-67	20	3589	-3.05	-471.97	4.72
443	SLE RA 7	-68	28	3613	-3.21	-474.93	6.63
443	SLE RA 8	-66	21	3573	-3.05	-469.96	4.75
443	SLE RA 9	-68	28	3597	-3.2	-472.93	6.65
443	SLE RA 10	-70	35	3838	-3.6	-503.36	8.4
443	SLE RA 11	-69	23	3842	-3.33	-503.82	5.24
443	SLE RA 12	-70	30	3866	-3.48	-506.79	7.15
443	SLE RA 13	-70	35	3866	-3.59	-506.76	8.44
443	SLE RA 14	-70	23	3870	-3.31	-507.22	5.28
443	SLE RA 15	-71	30	3894	-3.47	-510.18	7.19
443	SLE RA 16	-69	23	3854	-3.31	-505.21	5.3
443	SLE RA 17	-70	30	3878	-3.47	-508.18	7.21
443	SLE RA 18	-69	23	3918	-3.45	-513.53	5.46
443	SLE RA 19	-70	31	3943	-3.61	-516.49	7.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
443	SLE RA 20	-70	24	3946	-3.44	-516.92	5.5
443	SLE RA 21	-71	31	3970	-3.59	-519.89	7.41
443	SLE FR 1	-65	20	3517	-3.07	-463.17	4.66
443	SLE FR 2	-65	23	3525	-3.12	-464.16	5.3
443	SLE FR 3	-65	20	3528	-3.07	-464.53	4.68
443	SLE FR 4	-67	24	3646	-3.24	-479.27	5.54
443	SLE FR 5	-66	21	3649	-3.18	-479.64	4.92
443	SLE FR 6	-67	22	3718	-3.26	-488.35	5.06
443	SLE QP 1	-65	20	3517	-3.07	-463.17	4.66
443	SLE QP 2	-66	21	3638	-3.19	-478.28	4.9
443	SLD 1	198	233	5137	-6.91	-659.95	57.47
443	SLD 2	241	130	5066	-6.43	-651.91	31.89
443	SLD 3	230	-11	4259	-1.7	-556.22	-3.37
443	SLD 4	273	-114	4188	-1.22	-548.18	-28.95
443	SLD 5	-43	473	5433	-12.29	-691.49	117.34
443	SLD 6	-16	407	5387	-11.98	-686.32	100.87
443	SLD 7	64	-341	2503	5.08	-345.71	-85.45
443	SLD 8	92	-408	2458	5.39	-340.53	-101.92
443	SLD 9	-224	450	4818	-11.76	-616.02	111.73
443	SLD 10	-197	384	4772	-11.45	-610.84	95.26
443	SLD 11	-117	-364	1888	5.61	-270.24	-91.07
443	SLD 12	-89	-431	1843	5.92	-265.06	-107.54
443	SLD 13	-405	157	3087	-5.15	-408.38	38.75
443	SLD 14	-363	53	3017	-4.67	-400.34	13.17
443	SLD 15	-373	-88	2209	0.06	-304.64	-22.09
443	SLD 16	-330	-191	2138	0.54	-296.6	-47.67
443	SLV 1	345	371	6042	-9.38	-769.39	91.6
443	SLV 2	412	208	5931	-8.63	-756.72	51.28
443	SLV 3	400	-46	4543	-0.49	-592.38	-12.17
443	SLV 4	467	-209	4431	0.26	-579.7	-52.49
443	SLV 5	-39	789	6654	-18.66	-836.44	195.81
443	SLV 6	7	679	6579	-18.16	-827.91	168.67
443	SLV 7	144	-601	1656	10.96	-246.41	-150.08
443	SLV 8	189	-710	1581	11.47	-237.87	-177.22
443	SLV 9	-322	753	5694	-17.84	-718.68	187.02
443	SLV 10	-277	643	5619	-17.33	-710.15	159.88
443	SLV 11	-139	-637	696	11.79	-128.64	-158.87
443	SLV 12	-94	-746	621	12.29	-120.11	-186.01
443	SLV 13	-599	251	2844	-6.63	-376.85	62.3
443	SLV 14	-532	88	2732	-5.88	-364.18	21.98
443	SLV 15	-545	-166	1344	2.26	-199.84	-41.47
443	SLV 16	-477	-329	1233	3.01	-187.16	-81.79
443	SLV FO 1	386	406	6283	-10	-798.5	100.27
443	SLV FO 2	460	227	6160	-9.18	-784.56	55.91
443	SLV FO 3	446	-52	4633	-0.22	-603.79	-13.88
443	SLV FO 4	520	-232	4511	0.6	-589.85	-58.23
443	SLV FO 5	-36	865	6956	-20.21	-872.26	214.91
443	SLV FO 6	14	745	6873	-19.66	-862.87	185.05
443	SLV FO 7	165	-663	1458	12.38	-223.22	-165.57
443	SLV FO 8	215	-783	1375	12.93	-213.83	-195.43
443	SLV FO 9	-347	826	5900	-19.3	-742.72	205.24
443	SLV FO 10	-298	705	5817	-18.75	-733.34	175.38
443	SLV FO 11	-147	-703	402	13.29	-93.68	-175.24
443	SLV FO 12	-97	-823	319	13.84	-84.3	-205.1
443	SLV FO 13	-653	274	2764	-6.97	-366.71	68.04
443	SLV FO 14	-579	95	2642	-6.15	-352.76	23.68
443	SLV FO 15	-593	-185	1115	2.81	-171.99	-46.11
443	SLV FO 16	-519	-364	992	3.63	-158.05	-90.46
443	CRTFP Ux+	0	0	0	0	0	0
443	CRTFP Ux-	0	0	0	0	0	0
443	CRTFP Uy+	0	0	0	0	0	0
443	CRTFP Uy-	0	0	0	0	0	0
446	SLU 1	-88	-27	6259	-2.48	-41.62	-2.57
446	SLU 2	-94	5	6358	-3.05	-40.96	-2.78
446	SLU 3	-91	-27	6375	-2.37	-42.53	-2.65
446	SLU 4	-94	-8	6434	-2.71	-42.14	-2.77
446	SLU 5	-95	5	6431	-2.96	-41.57	-2.83
446	SLU 6	-92	-28	6447	-2.29	-43.14	-2.7
446	SLU 7	-95	-8	6507	-2.63	-42.74	-2.82
446	SLU 8	-91	-27	6404	-2.31	-42.83	-2.67
446	SLU 9	-94	-8	6463	-2.65	-42.43	-2.8
446	SLU 10	-98	3	7182	-3.37	-47.92	-3.07
446	SLU 11	-95	-29	7199	-2.69	-49.49	-2.94
446	SLU 12	-98	-10	7258	-3.04	-49.09	-3.06
446	SLU 13	-100	3	7255	-3.29	-48.52	-3.12
446	SLU 14	-96	-29	7271	-2.61	-50.09	-2.99
446	SLU 15	-100	-10	7331	-2.95	-49.7	-3.12
446	SLU 16	-96	-29	7228	-2.63	-49.78	-2.97
446	SLU 17	-99	-10	7287	-2.97	-49.39	-3.09
446	SLU 18	-95	-29	7436	-2.94	-51.55	-2.99
446	SLU 19	-98	-10	7496	-3.28	-51.16	-3.11
446	SLU 20	-96	-30	7509	-2.86	-52.16	-3.04
446	SLU 21	-99	-11	7568	-3.2	-51.76	-3.16
446	SLU 22	-101	-29	7175	-2.41	-48.29	-3.05
446	SLU 23	-107	3	7275	-2.98	-47.63	-3.25
446	SLU 24	-104	-30	7291	-2.31	-49.2	-3.12
446	SLU 25	-107	-11	7351	-2.65	-48.81	-3.25
446	SLU 26	-108	2	7347	-2.9	-48.24	-3.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
446	SLU 27	-105	-30	7364	-2.22	-49.81	-3.17
446	SLU 28	-109	-11	7423	-2.56	-49.41	-3.3
446	SLU 29	-104	-30	7320	-2.24	-49.5	-3.15
446	SLU 30	-108	-11	7380	-2.59	-49.1	-3.27
446	SLU 31	-111	1	8099	-3.31	-54.59	-3.54
446	SLU 32	-108	-32	8115	-2.63	-56.16	-3.42
446	SLU 33	-112	-13	8175	-2.97	-55.76	-3.54
446	SLU 34	-113	0	8171	-3.22	-55.19	-3.59
446	SLU 35	-110	-32	8188	-2.55	-56.76	-3.47
446	SLU 36	-113	-13	8247	-2.89	-56.37	-3.59
446	SLU 37	-109	-32	8144	-2.57	-56.45	-3.44
446	SLU 38	-112	-13	8204	-2.91	-56.06	-3.56
446	SLU 39	-108	-32	8353	-2.88	-58.22	-3.47
446	SLU 40	-111	-13	8412	-3.22	-57.83	-3.59
446	SLU 41	-109	-32	8425	-2.79	-58.83	-3.52
446	SLU 42	-113	-13	8484	-3.13	-58.43	-3.64
446	SLU 43	-110	-34	7823	-3.24	-51.82	-3.18
446	SLU 44	-116	-2	7922	-3.81	-51.16	-3.38
446	SLU 45	-112	-34	7939	-3.13	-52.73	-3.26
446	SLU 46	-116	-15	7998	-3.48	-52.34	-3.38
446	SLU 47	-117	-2	7994	-3.73	-51.77	-3.44
446	SLU 48	-114	-35	8011	-3.05	-53.33	-3.31
446	SLU 49	-117	-16	8070	-3.39	-52.94	-3.43
446	SLU 50	-113	-35	7967	-3.07	-53.03	-3.28
446	SLU 51	-116	-16	8027	-3.41	-52.63	-3.41
446	SLU 52	-120	-4	8746	-4.13	-58.12	-3.68
446	SLU 53	-117	-36	8763	-3.46	-59.68	-3.55
446	SLU 54	-120	-17	8822	-3.8	-59.29	-3.67
446	SLU 55	-122	-4	8818	-4.05	-58.72	-3.73
446	SLU 56	-118	-37	8835	-3.37	-60.29	-3.6
446	SLU 57	-122	-18	8894	-3.72	-59.89	-3.72
446	SLU 58	-117	-36	8791	-3.4	-59.98	-3.58
446	SLU 59	-121	-17	8851	-3.74	-59.59	-3.7
446	SLU 60	-116	-37	9000	-3.7	-61.75	-3.6
446	SLU 61	-120	-18	9059	-4.05	-61.36	-3.72
446	SLU 62	-118	-37	9072	-3.62	-62.36	-3.65
446	SLU 63	-121	-18	9132	-3.96	-61.96	-3.77
446	SLU 64	-123	-36	8739	-3.18	-58.49	-3.66
446	SLU 65	-129	-5	8838	-3.75	-57.83	-3.86
446	SLU 66	-126	-37	8855	-3.07	-59.4	-3.73
446	SLU 67	-129	-18	8914	-3.41	-59.01	-3.85
446	SLU 68	-130	-5	8910	-3.66	-58.44	-3.91
446	SLU 69	-127	-37	8927	-2.99	-60	-3.78
446	SLU 70	-131	-18	8987	-3.33	-59.61	-3.91
446	SLU 71	-126	-37	8884	-3.01	-59.7	-3.76
446	SLU 72	-130	-18	8943	-3.35	-59.3	-3.88
446	SLU 73	-133	-6	9662	-4.07	-64.79	-4.15
446	SLU 74	-130	-39	9679	-3.4	-66.35	-4.03
446	SLU 75	-134	-20	9738	-3.74	-65.96	-4.15
446	SLU 76	-135	-7	9734	-3.99	-65.39	-4.2
446	SLU 77	-132	-39	9751	-3.31	-66.96	-4.08
446	SLU 78	-135	-20	9811	-3.65	-66.56	-4.2
446	SLU 79	-131	-39	9708	-3.33	-66.65	-4.05
446	SLU 80	-134	-20	9767	-3.67	-66.26	-4.17
446	SLU 81	-130	-39	9916	-3.64	-68.42	-4.08
446	SLU 82	-133	-20	9976	-3.98	-68.03	-4.2
446	SLU 83	-131	-39	9989	-3.56	-69.03	-4.13
446	SLU 84	-135	-20	10048	-3.9	-68.63	-4.25
446	SLE RA 1	-92	-27	6521	-2.46	-43.53	-2.71
446	SLE RA 2	-96	-6	6587	-2.84	-43.09	-2.84
446	SLE RA 3	-94	-28	6598	-2.39	-44.13	-2.76
446	SLE RA 4	-96	-15	6638	-2.61	-43.87	-2.84
446	SLE RA 5	-97	-6	6635	-2.78	-43.49	-2.88
446	SLE RA 6	-94	-28	6646	-2.33	-44.54	-2.79
446	SLE RA 7	-97	-15	6686	-2.56	-44.27	-2.87
446	SLE RA 8	-94	-28	6617	-2.35	-44.33	-2.78
446	SLE RA 9	-96	-15	6657	-2.57	-44.07	-2.86
446	SLE RA 10	-99	-8	7136	-3.05	-47.72	-3.04
446	SLE RA 11	-97	-29	7148	-2.6	-48.77	-2.95
446	SLE RA 12	-99	-16	7187	-2.83	-48.51	-3.04
446	SLE RA 13	-100	-8	7185	-3	-48.13	-3.07
446	SLE RA 14	-97	-29	7196	-2.55	-49.17	-2.99
446	SLE RA 15	-100	-17	7235	-2.77	-48.91	-3.07
446	SLE RA 16	-97	-29	7167	-2.56	-48.97	-2.97
446	SLE RA 17	-99	-16	7206	-2.79	-48.7	-3.05
446	SLE RA 18	-96	-29	7306	-2.77	-50.15	-2.99
446	SLE RA 19	-98	-17	7345	-3	-49.89	-3.07
446	SLE RA 20	-97	-29	7354	-2.71	-50.55	-3.02
446	SLE RA 21	-99	-17	7394	-2.94	-50.29	-3.1
446	SLE FR 1	-92	-27	6521	-2.46	-43.53	-2.71
446	SLE FR 2	-93	-23	6534	-2.53	-43.44	-2.74
446	SLE FR 3	-92	-27	6540	-2.44	-43.69	-2.72
446	SLE FR 4	-94	-24	6770	-2.63	-45.42	-2.82
446	SLE FR 5	-94	-28	6776	-2.53	-45.67	-2.81
446	SLE FR 6	-94	-28	6913	-2.61	-46.84	-2.85
446	SLE QP 1	-92	-27	6521	-2.46	-43.53	-2.71
446	SLE QP 2	-93	-28	6756	-2.55	-45.51	-2.79
446	SLD 1	472	157	8108	-7.03	-21.72	-1.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
446	SLD 2	565	73	8029	-6.65	-23.24	0.69
446	SLD 3	531	-246	6678	0.67	-24.72	0.41
446	SLD 4	624	-330	6599	1.06	-26.24	2.74
446	SLD 5	-29	653	9344	-15.64	-33.56	-5.96
446	SLD 6	31	599	9293	-15.4	-34.54	-4.46
446	SLD 7	168	-690	4578	10.04	-43.57	0.88
446	SLD 8	228	-744	4527	10.28	-44.55	2.38
446	SLD 9	-414	688	8986	-15.38	-46.48	-7.96
446	SLD 10	-354	634	8935	-15.14	-47.45	-6.47
446	SLD 11	-217	-655	4219	10.3	-56.49	-1.12
446	SLD 12	-157	-709	4168	10.54	-57.47	0.37
446	SLD 13	-810	274	6913	-6.16	-64.78	-8.33
446	SLD 14	-717	190	6834	-5.78	-66.3	-6
446	SLD 15	-751	-129	5484	1.54	-67.78	-6.27
446	SLD 16	-658	-213	5404	1.93	-69.3	-3.95
446	SLV 1	787	290	8971	-10.11	-8.17	-1.15
446	SLV 2	933	158	8846	-9.51	-10.57	2.52
446	SLV 3	887	-397	6531	3.03	-13.27	2.35
446	SLV 4	1034	-529	6406	3.63	-15.66	6.02
446	SLV 5	-9	1134	11144	-24.86	-26.13	-8.28
446	SLV 6	90	1045	11060	-24.46	-27.74	-5.81
446	SLV 7	326	-1156	3012	18.94	-43.12	3.36
446	SLV 8	425	-1245	2928	19.35	-44.74	5.83
446	SLV 9	-611	1189	10585	-24.45	-46.29	-11.42
446	SLV 10	-512	1100	10501	-24.05	-47.9	-8.95
446	SLV 11	-276	-1101	2452	19.36	-63.28	0.23
446	SLV 12	-177	-1190	2369	19.76	-64.89	2.7
446	SLV 13	-1220	473	7106	-8.74	-75.36	-11.6
446	SLV 14	-1073	341	6982	-8.13	-77.75	-7.93
446	SLV 15	-1120	-214	4667	4.41	-80.46	-8.11
446	SLV 16	-973	-346	4542	5.01	-82.85	-4.44
446	SLV FO 1	875	322	9192	-10.87	-4.44	-0.98
446	SLV FO 2	1036	176	9055	-10.2	-7.07	3.06
446	SLV FO 3	985	-434	6509	3.59	-10.05	2.86
446	SLV FO 4	1146	-579	6371	4.25	-12.68	6.9
446	SLV FO 5	-1	1250	11583	-27.09	-24.19	-8.83
446	SLV FO 6	108	1152	11491	-26.65	-25.97	-6.11
446	SLV FO 7	368	-1269	2637	21.09	-42.89	3.98
446	SLV FO 8	476	-1367	2545	21.54	-44.66	6.7
446	SLV FO 9	-663	1311	10968	-26.64	-46.37	-12.28
446	SLV FO 10	-554	1213	10875	-26.2	-48.14	-9.56
446	SLV FO 11	-294	-1208	2022	21.55	-65.06	0.53
446	SLV FO 12	-186	-1306	1930	21.99	-66.83	3.25
446	SLV FO 13	-1333	523	7141	-9.35	-78.35	-12.48
446	SLV FO 14	-1171	378	7004	-8.69	-80.98	-8.45
446	SLV FO 15	-1222	-232	4458	5.1	-83.95	-8.64
446	SLV FO 16	-1061	-378	4320	5.76	-86.59	-4.6
446	CRTFP Ux+	0	0	0	0	0	0
446	CRTFP Ux-	0	0	0	0	0	0
446	CRTFP Uy+	0	0	0	0	0	0
446	CRTFP Uy-	0	0	0	0	0	0
449	SLU 1	61	-85	6199	-3.4	37.1	-1.34
449	SLU 2	64	-53	6299	-3.98	35.81	-1.2
449	SLU 3	61	-86	6305	-3.3	37.91	-1.39
449	SLU 4	63	-68	6365	-3.65	37.13	-1.31
449	SLU 5	64	-54	6361	-3.9	36.41	-1.24
449	SLU 6	61	-87	6366	-3.22	38.5	-1.44
449	SLU 7	63	-68	6426	-3.57	37.73	-1.35
449	SLU 8	60	-87	6323	-3.23	38.3	-1.43
449	SLU 9	62	-68	6383	-3.58	37.52	-1.34
449	SLU 10	67	-62	7101	-4.47	40.88	-1.33
449	SLU 11	64	-95	7106	-3.79	42.98	-1.53
449	SLU 12	66	-76	7166	-4.14	42.2	-1.44
449	SLU 13	66	-63	7163	-4.39	41.48	-1.37
449	SLU 14	63	-96	7168	-3.71	43.58	-1.57
449	SLU 15	65	-77	7228	-4.06	42.8	-1.48
449	SLU 16	62	-95	7125	-3.72	43.37	-1.56
449	SLU 17	64	-77	7185	-4.07	42.6	-1.47
449	SLU 18	64	-97	7345	-4.1	44.35	-1.53
449	SLU 19	66	-79	7405	-4.45	43.57	-1.45
449	SLU 20	64	-98	7407	-4.01	44.95	-1.57
449	SLU 21	66	-80	7467	-4.36	44.17	-1.49
449	SLU 22	69	-95	7090	-3.5	42.09	-1.49
449	SLU 23	72	-64	7190	-4.08	40.8	-1.34
449	SLU 24	69	-97	7195	-3.4	42.89	-1.54
449	SLU 25	71	-78	7255	-3.75	42.12	-1.45
449	SLU 26	72	-65	7251	-4	41.4	-1.38
449	SLU 27	69	-98	7257	-3.32	43.49	-1.58
449	SLU 28	71	-79	7317	-3.67	42.72	-1.49
449	SLU 29	68	-97	7213	-3.33	43.29	-1.57
449	SLU 30	70	-78	7273	-3.68	42.51	-1.49
449	SLU 31	75	-73	7992	-4.57	45.87	-1.47
449	SLU 32	72	-106	7997	-3.89	47.97	-1.67
449	SLU 33	74	-87	8057	-4.24	47.19	-1.58
449	SLU 34	74	-74	8053	-4.49	46.47	-1.52
449	SLU 35	71	-106	8059	-3.81	48.57	-1.71
449	SLU 36	73	-88	8119	-4.16	47.79	-1.63
449	SLU 37	70	-106	8015	-3.82	48.36	-1.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
449	SLU 38	73	-87	8075	-4.17	47.59	-1.62
449	SLU 39	72	-108	8235	-4.19	49.34	-1.68
449	SLU 40	74	-89	8295	-4.55	48.56	-1.59
449	SLU 41	72	-109	8297	-4.11	49.94	-1.72
449	SLU 42	74	-90	8357	-4.46	49.16	-1.63
449	SLU 43	76	-107	7754	-4.38	46.52	-1.69
449	SLU 44	79	-75	7854	-4.97	45.23	-1.55
449	SLU 45	76	-108	7859	-4.29	47.33	-1.74
449	SLU 46	79	-89	7919	-4.64	46.55	-1.66
449	SLU 47	79	-76	7916	-4.88	45.83	-1.59
449	SLU 48	76	-109	7921	-4.21	47.92	-1.79
449	SLU 49	78	-90	7981	-4.56	47.15	-1.7
449	SLU 50	75	-108	7877	-4.21	47.72	-1.78
449	SLU 51	77	-90	7937	-4.57	46.94	-1.69
449	SLU 52	82	-84	8656	-5.46	50.3	-1.68
449	SLU 53	79	-117	8661	-4.78	52.4	-1.88
449	SLU 54	81	-98	8721	-5.13	51.62	-1.79
449	SLU 55	82	-85	8717	-5.37	50.9	-1.73
449	SLU 56	79	-118	8723	-4.69	53	-1.92
449	SLU 57	81	-99	8783	-5.05	52.22	-1.84
449	SLU 58	78	-117	8679	-4.7	52.79	-1.91
449	SLU 59	80	-98	8739	-5.05	52.02	-1.83
449	SLU 60	80	-119	8899	-5.08	53.77	-1.88
449	SLU 61	82	-101	8959	-5.43	52.99	-1.8
449	SLU 62	79	-120	8961	-5	54.37	-1.93
449	SLU 63	81	-101	9021	-5.35	53.59	-1.84
449	SLU 64	84	-117	8644	-4.48	51.51	-1.84
449	SLU 65	88	-86	8744	-5.07	50.22	-1.69
449	SLU 66	85	-119	8749	-4.39	52.31	-1.89
449	SLU 67	87	-100	8809	-4.74	51.54	-1.8
449	SLU 68	87	-87	8806	-4.98	50.82	-1.74
449	SLU 69	84	-119	8811	-4.3	52.91	-1.93
449	SLU 70	86	-101	8871	-4.66	52.14	-1.85
449	SLU 71	83	-119	8768	-4.31	52.71	-1.92
449	SLU 72	85	-100	8828	-4.66	51.93	-1.84
449	SLU 73	90	-95	9546	-5.55	55.29	-1.83
449	SLU 74	87	-127	9551	-4.88	57.39	-2.02
449	SLU 75	89	-109	9611	-5.23	56.61	-1.94
449	SLU 76	90	-95	9608	-5.47	55.89	-1.87
449	SLU 77	87	-128	9613	-4.79	57.99	-2.07
449	SLU 78	89	-110	9673	-5.14	57.21	-1.98
449	SLU 79	86	-128	9569	-4.8	57.78	-2.06
449	SLU 80	88	-109	9629	-5.15	57.01	-1.97
449	SLU 81	88	-130	9790	-5.18	58.76	-2.03
449	SLU 82	90	-111	9850	-5.53	57.98	-1.94
449	SLU 83	87	-131	9851	-5.1	59.36	-2.07
449	SLU 84	89	-112	9911	-5.45	58.58	-1.99
449	SLE RA 1	63	-88	6454	-3.43	38.53	-1.38
449	SLE RA 2	65	-67	6520	-3.81	37.67	-1.29
449	SLE RA 3	63	-89	6524	-3.36	39.06	-1.42
449	SLE RA 4	65	-76	6564	-3.6	38.55	-1.36
449	SLE RA 5	65	-67	6561	-3.76	38.06	-1.31
449	SLE RA 6	63	-89	6565	-3.31	39.46	-1.44
449	SLE RA 7	64	-77	6605	-3.54	38.94	-1.39
449	SLE RA 8	62	-89	6536	-3.31	39.33	-1.44
449	SLE RA 9	64	-76	6576	-3.55	38.81	-1.38
449	SLE RA 10	67	-73	7055	-4.14	41.05	-1.38
449	SLE RA 11	65	-95	7058	-3.69	42.45	-1.51
449	SLE RA 12	66	-82	7098	-3.92	41.93	-1.45
449	SLE RA 13	67	-73	7096	-4.09	41.45	-1.4
449	SLE RA 14	65	-95	7100	-3.63	42.84	-1.53
449	SLE RA 15	66	-83	7140	-3.87	42.33	-1.48
449	SLE RA 16	64	-95	7071	-3.64	42.71	-1.53
449	SLE RA 17	65	-82	7111	-3.87	42.19	-1.47
449	SLE RA 18	65	-96	7217	-3.89	43.36	-1.51
449	SLE RA 19	67	-84	7257	-4.12	42.84	-1.45
449	SLE RA 20	65	-97	7259	-3.84	43.76	-1.54
449	SLE RA 21	66	-84	7299	-4.07	43.24	-1.48
449	SLE FR 1	63	-88	6454	-3.43	38.53	-1.38
449	SLE FR 2	63	-84	6467	-3.5	38.36	-1.36
449	SLE FR 3	63	-88	6470	-3.4	38.69	-1.39
449	SLE FR 4	64	-86	6696	-3.64	39.81	-1.4
449	SLE FR 5	64	-90	6699	-3.54	40.14	-1.43
449	SLE FR 6	64	-92	6836	-3.66	40.94	-1.45
449	SLE QP 1	63	-88	6454	-3.43	38.53	-1.38
449	SLE QP 2	64	-90	6683	-3.56	39.98	-1.42
449	SLD 1	694	146	6825	-6.36	48.56	2.8
449	SLD 2	791	227	6902	-6.77	46.06	4.98
449	SLD 3	653	-263	5371	1.48	58.92	1.05
449	SLD 4	750	-183	5448	1.07	56.41	3.23
449	SLD 5	298	588	8917	-16.22	27.28	2.13
449	SLD 6	361	640	8967	-16.48	25.66	3.53
449	SLD 7	162	-777	4070	9.91	61.8	-3.71
449	SLD 8	224	-725	4120	9.64	60.18	-2.31
449	SLD 9	-97	545	9245	-16.77	19.77	-0.53
449	SLD 10	-35	596	9295	-17.04	18.16	0.87
449	SLD 11	-233	-820	4398	9.35	54.29	-6.37
449	SLD 12	-171	-768	4448	9.09	52.68	-4.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
449	SLD 13	-623	2	7917	-8.2	23.54	-6.07
449	SLD 14	-526	83	7995	-8.61	21.04	-3.89
449	SLD 15	-664	-407	6463	-0.36	33.9	-7.82
449	SLD 16	-567	-327	6541	-0.77	31.4	-5.64
449	SLV 1	1053	308	7010	-8.48	52.7	5.29
449	SLV 2	1205	435	7133	-9.12	48.75	8.72
449	SLV 3	983	-390	4529	4.89	70.34	2.3
449	SLV 4	1135	-263	4652	4.25	66.39	5.73
449	SLV 5	438	1065	10521	-25.2	17.78	4.49
449	SLV 6	540	1150	10603	-25.63	15.12	6.8
449	SLV 7	205	-1263	2251	19.37	76.58	-5.48
449	SLV 8	308	-1178	2333	18.94	73.92	-3.17
449	SLV 9	-180	997	11032	-26.07	6.04	0.33
449	SLV 10	-78	1083	11114	-26.5	3.38	2.64
449	SLV 11	-413	-1331	2762	18.5	64.84	-9.64
449	SLV 12	-310	-1246	2845	18.07	62.18	-7.33
449	SLV 13	-1008	83	8714	-11.38	13.56	-8.57
449	SLV 14	-856	210	8836	-12.02	9.61	-5.14
449	SLV 15	-1078	-616	6233	1.99	31.2	-11.56
449	SLV 16	-925	-489	6355	1.35	27.25	-8.13
449	SLV FO 1	1152	348	7043	-8.97	53.98	5.96
449	SLV FO 2	1319	488	7178	-9.68	49.63	9.74
449	SLV FO 3	1075	-420	4314	5.74	73.38	2.67
449	SLV FO 4	1242	-281	4448	5.03	69.04	6.45
449	SLV FO 5	475	1181	10905	-27.36	15.56	5.08
449	SLV FO 6	588	1274	10995	-27.84	12.63	7.62
449	SLV FO 7	219	-1381	1808	21.66	80.24	-5.88
449	SLV FO 8	332	-1287	1898	21.19	77.31	-3.34
449	SLV FO 9	-205	1106	11467	-28.32	2.64	0.5
449	SLV FO 10	-92	1200	11558	-28.79	-0.28	3.04
449	SLV FO 11	-460	-1455	2370	20.71	67.32	-10.46
449	SLV FO 12	-348	-1361	2461	20.23	64.4	-7.92
449	SLV FO 13	-1115	100	8917	-12.16	10.92	-9.29
449	SLV FO 14	-948	240	9052	-12.87	6.58	-5.51
449	SLV FO 15	-1192	-668	6188	2.55	30.33	-12.58
449	SLV FO 16	-1024	-529	6323	1.84	25.98	-8.8
449	CRTFP Ux+	0	0	0	0	0	0
449	CRTFP Ux-	0	0	0	0	0	0
449	CRTFP Uy+	0	0	0	0	0	0
449	CRTFP Uy-	0	0	0	0	0	0
452	SLU 1	43	49	3780	-2.7	795.26	-16.88
452	SLU 2	46	70	3848	-3.15	809.09	-24.42
452	SLU 3	44	50	3846	-2.65	807.96	-17.31
452	SLU 4	45	63	3886	-2.92	816.26	-21.84
452	SLU 5	46	72	3884	-3.09	816.13	-24.89
452	SLU 6	44	51	3882	-2.59	815	-17.78
452	SLU 7	45	64	3922	-2.86	823.3	-22.31
452	SLU 8	43	51	3852	-2.58	809.34	-17.81
452	SLU 9	45	64	3893	-2.85	817.64	-22.34
452	SLU 10	48	76	4319	-3.54	903.37	-26.36
452	SLU 11	46	55	4316	-3.04	902.24	-19.25
452	SLU 12	48	68	4357	-3.31	910.54	-23.78
452	SLU 13	48	77	4355	-3.48	910.41	-26.82
452	SLU 14	46	57	4352	-2.98	909.29	-19.71
452	SLU 15	48	70	4393	-3.25	917.58	-24.24
452	SLU 16	46	57	4323	-2.97	903.62	-19.74
452	SLU 17	47	70	4364	-3.24	911.92	-24.27
452	SLU 18	47	57	4453	-3.26	929.95	-19.64
452	SLU 19	48	70	4493	-3.52	938.24	-24.17
452	SLU 20	47	58	4489	-3.2	936.99	-20.1
452	SLU 21	48	71	4529	-3.47	945.29	-24.63
452	SLU 22	49	52	4319	-2.9	902.63	-18.01
452	SLU 23	52	74	4387	-3.35	916.46	-25.56
452	SLU 24	50	53	4384	-2.85	915.33	-18.45
452	SLU 25	51	66	4425	-3.12	923.63	-22.98
452	SLU 26	52	75	4423	-3.29	923.5	-26.03
452	SLU 27	50	55	4420	-2.79	922.38	-18.92
452	SLU 28	51	67	4461	-3.06	930.67	-23.45
452	SLU 29	49	55	4391	-2.79	916.72	-18.95
452	SLU 30	51	68	4432	-3.06	925.01	-23.48
452	SLU 31	54	79	4857	-3.74	1010.74	-27.49
452	SLU 32	52	59	4855	-3.24	1009.61	-20.38
452	SLU 33	54	72	4895	-3.51	1017.91	-24.91
452	SLU 34	54	80	4893	-3.68	1017.78	-27.96
452	SLU 35	52	60	4891	-3.18	1016.66	-20.85
452	SLU 36	54	73	4931	-3.45	1024.95	-25.38
452	SLU 37	52	60	4861	-3.18	1011	-20.88
452	SLU 38	53	73	4902	-3.45	1019.29	-25.41
452	SLU 39	53	60	4991	-3.46	1037.32	-20.77
452	SLU 40	54	73	5032	-3.73	1045.62	-25.3
452	SLU 41	53	61	5027	-3.4	1044.36	-21.24
452	SLU 42	54	74	5068	-3.67	1052.66	-25.77
452	SLU 43	55	62	4730	-3.44	997.03	-21.55
452	SLU 44	57	84	4798	-3.89	1010.85	-29.1
452	SLU 45	55	63	4795	-3.39	1009.73	-21.99
452	SLU 46	57	76	4836	-3.66	1018.03	-26.51
452	SLU 47	57	85	4834	-3.83	1017.9	-29.56
452	SLU 48	55	65	4831	-3.33	1016.77	-22.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
452	SLU 49	57	78	4872	-3.6	1025.07	-26.98
452	SLU 50	55	65	4802	-3.32	1011.11	-22.48
452	SLU 51	56	78	4843	-3.59	1019.41	-27.01
452	SLU 52	59	89	5268	-4.28	1105.13	-31.03
452	SLU 53	57	69	5266	-3.78	1104.01	-23.92
452	SLU 54	59	82	5307	-4.05	1112.31	-28.45
452	SLU 55	59	91	5304	-4.22	1112.18	-31.5
452	SLU 56	57	70	5302	-3.72	1111.05	-24.39
452	SLU 57	59	83	5343	-3.99	1119.35	-28.92
452	SLU 58	57	70	5273	-3.71	1105.39	-24.42
452	SLU 59	58	83	5313	-3.98	1113.69	-28.95
452	SLU 60	58	70	5402	-4	1131.71	-24.31
452	SLU 61	59	83	5443	-4.27	1140.01	-28.84
452	SLU 62	58	71	5438	-3.94	1138.75	-24.78
452	SLU 63	59	84	5479	-4.21	1147.05	-29.31
452	SLU 64	60	65	5268	-3.64	1104.4	-22.69
452	SLU 65	63	87	5336	-4.09	1118.23	-30.23
452	SLU 66	61	67	5334	-3.59	1117.1	-23.12
452	SLU 67	62	80	5374	-3.86	1125.4	-27.65
452	SLU 68	63	88	5372	-4.03	1125.27	-30.7
452	SLU 69	61	68	5370	-3.53	1124.14	-23.59
452	SLU 70	62	81	5410	-3.8	1132.44	-28.12
452	SLU 71	60	68	5340	-3.53	1118.48	-23.62
452	SLU 72	62	81	5381	-3.8	1126.78	-28.15
452	SLU 73	65	93	5807	-4.48	1212.51	-32.17
452	SLU 74	63	72	5804	-3.98	1211.38	-25.06
452	SLU 75	65	85	5845	-4.25	1219.68	-29.58
452	SLU 76	65	94	5843	-4.42	1219.55	-32.63
452	SLU 77	63	74	5840	-3.92	1218.42	-25.52
452	SLU 78	65	86	5881	-4.19	1226.72	-30.05
452	SLU 79	63	74	5811	-3.92	1212.76	-25.55
452	SLU 80	64	87	5852	-4.19	1221.06	-30.08
452	SLU 81	64	73	5941	-4.2	1239.08	-25.45
452	SLU 82	65	86	5981	-4.47	1247.38	-29.98
452	SLU 83	64	75	5977	-4.14	1246.13	-25.91
452	SLU 84	65	88	6017	-4.41	1254.42	-30.44
452	SLE RA 1	45	50	3934	-2.76	825.94	-17.2
452	SLE RA 2	47	64	3979	-3.06	835.16	-22.23
452	SLE RA 3	46	50	3978	-2.72	834.41	-17.49
452	SLE RA 4	46	59	4005	-2.9	839.94	-20.51
452	SLE RA 5	47	65	4003	-3.02	839.85	-22.54
452	SLE RA 6	46	51	4002	-2.68	839.1	-17.8
452	SLE RA 7	46	60	4029	-2.86	844.63	-20.82
452	SLE RA 8	45	51	3982	-2.68	835.33	-17.82
452	SLE RA 9	46	60	4009	-2.86	840.86	-20.84
452	SLE RA 10	48	68	4293	-3.32	898.01	-23.52
452	SLE RA 11	47	54	4291	-2.98	897.26	-18.78
452	SLE RA 12	48	63	4319	-3.16	902.79	-21.8
452	SLE RA 13	48	69	4317	-3.28	902.7	-23.83
452	SLE RA 14	47	55	4316	-2.94	901.95	-19.09
452	SLE RA 15	48	64	4343	-3.12	907.49	-22.11
452	SLE RA 16	47	55	4296	-2.94	898.18	-19.11
452	SLE RA 17	48	64	4323	-3.12	903.71	-22.13
452	SLE RA 18	47	55	4382	-3.13	915.73	-19.04
452	SLE RA 19	48	63	4410	-3.31	921.26	-22.06
452	SLE RA 20	47	56	4406	-3.09	920.42	-19.35
452	SLE RA 21	48	64	4434	-3.27	925.95	-22.37
452	SLE FR 1	45	50	3934	-2.76	825.94	-17.2
452	SLE FR 2	45	52	3943	-2.82	827.78	-18.21
452	SLE FR 3	45	50	3944	-2.74	827.82	-17.32
452	SLE FR 4	46	54	4078	-2.93	854.72	-18.76
452	SLE FR 5	46	51	4078	-2.85	854.75	-17.88
452	SLE FR 6	46	52	4158	-2.94	870.83	-18.12
452	SLE QP 1	45	50	3934	-2.76	825.94	-17.2
452	SLE QP 2	46	51	4069	-2.87	852.88	-17.75
452	SLD 1	408	88	3459	-4.61	734.91	-30.86
452	SLD 2	461	208	3539	-5.13	750.02	-72.42
452	SLD 3	377	-187	2480	1.44	547.51	65.44
452	SLD 4	430	-68	2560	0.92	562.62	23.88
452	SLD 5	192	460	5357	-12.48	1099.11	-160.59
452	SLD 6	226	537	5408	-12.81	1108.84	-187.35
452	SLD 7	89	-459	2093	7.69	474.44	160.4
452	SLD 8	123	-382	2145	7.36	484.17	133.64
452	SLD 9	-32	485	5992	-13.09	1221.58	-169.15
452	SLD 10	2	561	6044	-13.43	1231.31	-195.91
452	SLD 11	-135	-435	2729	7.08	596.91	151.85
452	SLD 12	-101	-358	2781	6.74	606.64	125.09
452	SLD 13	-338	170	5577	-6.66	1143.14	-59.38
452	SLD 14	-285	290	5657	-7.18	1158.24	-100.94
452	SLD 15	-369	-106	4598	-0.61	955.73	36.92
452	SLD 16	-316	14	4678	-1.13	970.84	-4.65
452	SLV 1	614	128	3188	-6.02	682.37	-44.74
452	SLV 2	697	316	3314	-6.84	706.18	-110.26
452	SLV 3	561	-343	1518	4.3	362.69	119.59
452	SLV 4	645	-154	1644	3.48	386.51	54.08
452	SLV 5	281	753	6314	-19.32	1282.12	-262.87
452	SLV 6	337	880	6399	-19.87	1298.15	-306.97
452	SLV 7	105	-816	747	15.09	216.54	284.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
452	SLV 8	161	-689	832	14.54	232.57	240.82
452	SLV 9	-70	791	7305	-20.28	1473.18	-276.32
452	SLV 10	-14	918	7390	-20.83	1489.21	-320.42
452	SLV 11	-245	-777	1738	14.13	407.6	271.47
452	SLV 12	-189	-651	1824	13.58	423.63	227.37
452	SLV 13	-553	257	6493	-9.22	1319.25	-89.59
452	SLV 14	-470	445	6619	-10.04	1343.06	-155.1
452	SLV 15	-606	-214	4823	1.1	999.57	74.75
452	SLV 16	-523	-26	4949	0.28	1023.38	9.24
452	SLV FO 1	671	136	3100	-6.34	665.32	-47.44
452	SLV FO 2	762	343	3239	-7.24	691.51	-119.51
452	SLV FO 3	613	-382	1263	5.02	313.67	133.33
452	SLV FO 4	704	-175	1402	4.12	339.87	61.26
452	SLV FO 5	304	823	6538	-20.96	1325.05	-287.38
452	SLV FO 6	366	962	6632	-21.57	1342.68	-335.89
452	SLV FO 7	111	-903	415	16.89	152.9	315.19
452	SLV FO 8	173	-763	508	16.28	170.54	266.68
452	SLV FO 9	-81	865	7629	-22.02	1535.22	-302.18
452	SLV FO 10	-20	1005	7722	-22.63	1552.85	-350.69
452	SLV FO 11	-274	-860	1505	15.83	363.07	300.39
452	SLV FO 12	-212	-721	1599	15.22	380.71	251.88
452	SLV FO 13	-613	277	6735	-9.86	1365.88	-96.77
452	SLV FO 14	-521	484	6874	-10.76	1392.08	-168.83
452	SLV FO 15	-671	-241	4898	1.5	1014.24	84
452	SLV FO 16	-579	-33	5037	0.6	1040.44	11.94
452	CRTFP Ux+	0	0	0	0	0	0
452	CRTFP Ux-	0	0	0	0	0	0
452	CRTFP Uy+	0	0	0	0	0	0
452	CRTFP Uy-	0	0	0	0	0	0
454	SLU 1	12	-56	3708	-0.53	1009.47	19.52
454	SLU 2	15	-33	3754	-0.81	1021.02	11.5
454	SLU 3	12	-57	3775	-0.47	1027.12	20.01
454	SLU 4	14	-43	3802	-0.64	1034.05	15.2
454	SLU 5	15	-34	3795	-0.76	1032.01	11.89
454	SLU 6	11	-58	3816	-0.42	1038.12	20.39
454	SLU 7	13	-44	3843	-0.59	1045.05	15.59
454	SLU 8	11	-58	3791	-0.43	1031.47	20.28
454	SLU 9	13	-44	3818	-0.6	1038.4	15.47
454	SLU 10	14	-39	4249	-0.89	1153.15	13.68
454	SLU 11	11	-63	4270	-0.55	1159.26	22.19
454	SLU 12	13	-50	4297	-0.72	1166.18	17.38
454	SLU 13	14	-40	4290	-0.85	1164.15	14.06
454	SLU 14	10	-64	4311	-0.5	1170.26	22.57
454	SLU 15	12	-51	4338	-0.67	1177.18	17.76
454	SLU 16	10	-64	4286	-0.51	1163.61	22.46
454	SLU 17	12	-50	4313	-0.68	1170.53	17.65
454	SLU 18	11	-65	4415	-0.65	1198.24	22.63
454	SLU 19	13	-51	4443	-0.82	1205.17	17.82
454	SLU 20	10	-66	4457	-0.6	1209.24	23.01
454	SLU 21	12	-52	4484	-0.77	1216.17	18.2
454	SLU 22	14	-63	4223	-0.39	1146.25	21.96
454	SLU 23	17	-40	4269	-0.68	1157.79	13.95
454	SLU 24	13	-64	4290	-0.33	1163.89	22.45
454	SLU 25	15	-50	4317	-0.5	1170.82	17.65
454	SLU 26	16	-41	4310	-0.63	1168.79	14.33
454	SLU 27	12	-65	4331	-0.28	1174.89	22.84
454	SLU 28	14	-51	4358	-0.45	1181.82	18.03
454	SLU 29	12	-65	4306	-0.3	1168.24	22.72
454	SLU 30	14	-51	4333	-0.46	1175.17	17.92
454	SLU 31	15	-46	4764	-0.76	1289.92	16.13
454	SLU 32	12	-70	4785	-0.41	1296.03	24.63
454	SLU 33	14	-56	4812	-0.58	1302.96	19.83
454	SLU 34	15	-47	4805	-0.71	1300.92	16.51
454	SLU 35	11	-71	4826	-0.36	1307.03	25.01
454	SLU 36	13	-58	4853	-0.53	1313.95	20.21
454	SLU 37	11	-71	4801	-0.38	1300.38	24.9
454	SLU 38	13	-57	4828	-0.55	1307.31	20.09
454	SLU 39	12	-72	4930	-0.51	1335.01	25.07
454	SLU 40	14	-58	4958	-0.68	1341.94	20.27
454	SLU 41	11	-73	4972	-0.46	1346.01	25.45
454	SLU 42	13	-59	4999	-0.63	1352.94	20.65
454	SLU 43	16	-70	4644	-0.73	1265.42	24.53
454	SLU 44	19	-47	4690	-1.02	1276.96	16.52
454	SLU 45	15	-71	4711	-0.67	1283.07	25.03
454	SLU 46	17	-58	4738	-0.84	1290	20.22
454	SLU 47	18	-48	4731	-0.97	1287.96	16.9
454	SLU 48	15	-72	4752	-0.62	1294.07	25.41
454	SLU 49	16	-59	4779	-0.79	1300.99	20.6
454	SLU 50	15	-72	4727	-0.64	1287.42	25.3
454	SLU 51	16	-58	4754	-0.81	1294.35	20.49
454	SLU 52	18	-53	5185	-1.1	1409.1	18.7
454	SLU 53	14	-78	5206	-0.75	1415.21	27.21
454	SLU 54	16	-64	5233	-0.92	1422.13	22.4
454	SLU 55	17	-54	5226	-1.05	1420.1	19.08
454	SLU 56	14	-79	5247	-0.71	1426.21	27.59
454	SLU 57	15	-65	5274	-0.88	1433.13	22.78
454	SLU 58	13	-78	5222	-0.72	1419.56	27.48
454	SLU 59	15	-65	5249	-0.89	1426.48	22.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
454	SLU 60	14	-79	5351	-0.85	1454.19	27.65
454	SLU 61	16	-65	5379	-1.02	1461.12	22.84
454	SLU 62	14	-80	5393	-0.8	1465.19	28.03
454	SLU 63	15	-66	5420	-0.97	1472.12	23.22
454	SLU 64	17	-77	5159	-0.6	1402.19	26.98
454	SLU 65	20	-54	5205	-0.88	1413.74	18.97
454	SLU 66	16	-78	5226	-0.54	1419.84	27.47
454	SLU 67	18	-65	5253	-0.7	1426.77	22.66
454	SLU 68	19	-55	5246	-0.83	1424.73	19.35
454	SLU 69	16	-79	5267	-0.49	1430.84	27.85
454	SLU 70	18	-66	5294	-0.66	1437.77	23.05
454	SLU 71	16	-79	5242	-0.5	1424.19	27.74
454	SLU 72	17	-65	5269	-0.67	1431.12	22.93
454	SLU 73	19	-60	5700	-0.96	1545.87	21.14
454	SLU 74	15	-85	5721	-0.62	1551.98	29.65
454	SLU 75	17	-71	5748	-0.79	1558.9	24.84
454	SLU 76	18	-61	5741	-0.92	1556.87	21.53
454	SLU 77	15	-86	5762	-0.57	1562.98	30.03
454	SLU 78	17	-72	5789	-0.74	1569.9	25.22
454	SLU 79	15	-85	5737	-0.58	1556.33	29.92
454	SLU 80	16	-72	5764	-0.75	1563.26	25.11
454	SLU 81	15	-86	5866	-0.72	1590.96	30.09
454	SLU 82	17	-72	5894	-0.89	1597.89	25.28
454	SLU 83	15	-87	5908	-0.67	1601.96	30.47
454	SLU 84	17	-73	5935	-0.84	1608.89	25.66
454	SLE RA 1	13	-58	3856	-0.49	1048.55	20.21
454	SLE RA 2	15	-42	3886	-0.68	1056.25	14.87
454	SLE RA 3	12	-59	3900	-0.45	1060.32	20.54
454	SLE RA 4	14	-49	3918	-0.56	1064.93	17.34
454	SLE RA 5	14	-43	3913	-0.65	1063.58	15.13
454	SLE RA 6	12	-59	3927	-0.42	1067.65	20.8
454	SLE RA 7	13	-50	3945	-0.53	1072.27	17.59
454	SLE RA 8	12	-59	3911	-0.42	1063.22	20.72
454	SLE RA 9	13	-50	3929	-0.54	1067.83	17.52
454	SLE RA 10	14	-46	4216	-0.73	1144.34	16.33
454	SLE RA 11	12	-63	4230	-0.5	1148.41	22
454	SLE RA 12	13	-54	4248	-0.62	1153.02	18.79
454	SLE RA 13	14	-47	4243	-0.7	1151.67	16.58
454	SLE RA 14	11	-63	4257	-0.47	1155.74	22.25
454	SLE RA 15	13	-54	4275	-0.58	1160.36	19.05
454	SLE RA 16	11	-63	4240	-0.48	1151.31	22.18
454	SLE RA 17	12	-54	4259	-0.59	1155.93	18.97
454	SLE RA 18	12	-64	4327	-0.57	1174.4	22.29
454	SLE RA 19	13	-54	4345	-0.68	1179.01	19.08
454	SLE RA 20	11	-64	4354	-0.54	1181.73	22.54
454	SLE RA 21	13	-55	4373	-0.65	1186.35	19.34
454	SLE FR 1	13	-58	3856	-0.49	1048.55	20.21
454	SLE FR 2	13	-55	3862	-0.53	1050.09	19.15
454	SLE FR 3	13	-58	3867	-0.48	1051.48	20.32
454	SLE FR 4	13	-56	4003	-0.55	1087.84	19.77
454	SLE FR 5	12	-60	4008	-0.5	1089.24	20.94
454	SLE FR 6	12	-61	4091	-0.53	1111.47	21.25
454	SLE QP 1	13	-58	3856	-0.49	1048.55	20.21
454	SLE QP 2	12	-59	3997	-0.51	1086.31	20.84
454	SLD 1	389	74	4386	-2.77	1193.54	-25.74
454	SLD 2	442	79	4401	-2.79	1196.82	-27.07
454	SLD 3	353	-217	3670	1.5	1009.18	75.77
454	SLD 4	406	-212	3685	1.47	1012.46	74.44
454	SLD 5	171	421	5197	-7.65	1397.53	-146.86
454	SLD 6	205	424	5207	-7.67	1399.64	-147.72
454	SLD 7	51	-548	2810	6.56	782.99	191.5
454	SLD 8	85	-545	2820	6.54	785.1	190.65
454	SLD 9	-60	426	5174	-7.57	1387.51	-148.97
454	SLD 10	-26	429	5184	-7.59	1389.62	-149.83
454	SLD 11	-180	-543	2787	6.64	772.97	189.39
454	SLD 12	-146	-540	2797	6.62	775.08	188.54
454	SLD 13	-381	93	4309	-2.5	1160.15	-32.77
454	SLD 14	-328	98	4324	-2.53	1163.43	-34.1
454	SLD 15	-417	-198	3593	1.76	975.79	68.74
454	SLD 16	-364	-193	3608	1.74	979.07	67.41
454	SLV 1	603	170	4656	-4.34	1267.2	-59.05
454	SLV 2	687	177	4681	-4.39	1272.36	-61.14
454	SLV 3	542	-326	3435	2.93	952.6	114.08
454	SLV 4	626	-319	3459	2.89	957.76	111.99
454	SLV 5	267	760	6044	-12.69	1616.75	-265.33
454	SLV 6	323	765	6060	-12.72	1620.23	-266.74
454	SLV 7	63	-893	1970	11.56	568.09	311.79
454	SLV 8	119	-888	1987	11.53	571.56	310.38
454	SLV 9	-94	769	6007	-12.56	1601.05	-268.71
454	SLV 10	-38	774	6024	-12.59	1604.52	-270.12
454	SLV 11	-298	-884	1934	11.69	552.38	308.41
454	SLV 12	-242	-879	1950	11.66	555.86	307.01
454	SLV 13	-601	200	4535	-3.92	1214.85	-70.32
454	SLV 14	-517	207	4559	-3.96	1220.01	-72.41
454	SLV 15	-662	-296	3313	3.36	900.25	102.82
454	SLV 16	-578	-289	3338	3.31	905.41	100.73
454	SLV FO 1	662	193	4722	-4.73	1285.28	-67.04
454	SLV FO 2	754	201	4749	-4.77	1290.97	-69.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
454	SLV FO 3	595	-353	3378	3.28	939.22	123.41
454	SLV FO 4	687	-345	3405	3.23	944.91	121.11
454	SLV FO 5	292	842	6248	-13.91	1669.8	-293.95
454	SLV FO 6	354	847	6266	-13.94	1673.62	-295.5
454	SLV FO 7	68	-976	1768	12.77	516.26	340.89
454	SLV FO 8	130	-971	1786	12.74	520.09	339.34
454	SLV FO 9	-105	852	6208	-13.77	1652.52	-297.66
454	SLV FO 10	-43	857	6226	-13.8	1656.35	-299.21
454	SLV FO 11	-329	-966	1728	12.91	498.99	337.17
454	SLV FO 12	-267	-961	1746	12.88	502.82	335.62
454	SLV FO 13	-662	226	4589	-4.26	1227.7	-79.43
454	SLV FO 14	-570	234	4616	-4.31	1233.39	-81.73
454	SLV FO 15	-729	-319	3245	3.74	881.64	111.02
454	SLV FO 16	-637	-312	3272	3.7	887.33	108.72
454	CRTFP Ux+	0	0	0	0	0	0
454	CRTFP Ux-	0	0	0	0	0	0
454	CRTFP Uy+	0	0	0	0	0	0
454	CRTFP Uy-	0	0	0	0	0	0
457	SLU 1	-280	-20	10286	-37.74	-25.45	12.2
457	SLU 2	-292	52	10386	-50.76	-25.86	11.62
457	SLU 3	-287	-20	10480	-35.5	-25.97	12.39
457	SLU 4	-294	23	10540	-43.31	-26.22	12.04
457	SLU 5	-296	51	10509	-48.94	-26.18	11.72
457	SLU 6	-291	-21	10603	-33.67	-26.29	12.49
457	SLU 7	-298	22	10664	-41.49	-26.54	12.14
457	SLU 8	-289	-22	10532	-34.09	-26.09	12.4
457	SLU 9	-296	21	10592	-41.91	-26.34	12.06
457	SLU 10	-314	48	11774	-59.3	-30.12	12.86
457	SLU 11	-309	-24	11868	-44.03	-30.23	13.63
457	SLU 12	-316	19	11928	-51.85	-30.48	13.28
457	SLU 13	-318	47	11897	-57.48	-30.44	12.97
457	SLU 14	-313	-25	11991	-42.21	-30.55	13.73
457	SLU 15	-320	18	12051	-50.02	-30.8	13.39
457	SLU 16	-311	-26	11919	-42.63	-30.35	13.65
457	SLU 17	-318	17	11980	-50.44	-30.6	13.3
457	SLU 18	-312	-26	12268	-49.94	-31.54	13.97
457	SLU 19	-319	18	12328	-57.75	-31.79	13.63
457	SLU 20	-316	-27	12391	-48.11	-31.86	14.08
457	SLU 21	-323	17	12451	-55.93	-32.1	13.73
457	SLU 22	-320	-18	11745	-36.28	-29.27	13.36
457	SLU 23	-332	54	11845	-49.3	-29.68	12.78
457	SLU 24	-327	-18	11939	-34.03	-29.78	13.55
457	SLU 25	-334	25	11999	-41.84	-30.03	13.2
457	SLU 26	-336	53	11968	-47.48	-30	12.89
457	SLU 27	-331	-19	12062	-32.21	-30.1	13.65
457	SLU 28	-338	24	12123	-40.02	-30.35	13.31
457	SLU 29	-329	-20	11991	-32.63	-29.9	13.57
457	SLU 30	-335	24	12051	-40.44	-30.15	13.22
457	SLU 31	-353	51	13233	-57.84	-33.94	14.03
457	SLU 32	-349	-22	13327	-42.57	-34.05	14.79
457	SLU 33	-356	21	13387	-50.38	-34.29	14.45
457	SLU 34	-358	50	13356	-56.01	-34.26	14.13
457	SLU 35	-353	-23	13450	-40.74	-34.36	14.89
457	SLU 36	-360	20	13510	-48.56	-34.61	14.55
457	SLU 37	-351	-23	13378	-41.17	-34.17	14.81
457	SLU 38	-357	20	13439	-48.98	-34.41	14.46
457	SLU 39	-351	-23	13727	-48.47	-35.35	15.14
457	SLU 40	-358	20	13787	-56.28	-35.6	14.79
457	SLU 41	-356	-24	13850	-46.65	-35.67	15.24
457	SLU 42	-363	19	13910	-54.46	-35.92	14.89
457	SLU 43	-351	-27	12871	-49.57	-31.78	15.46
457	SLU 44	-362	45	12971	-62.59	-32.19	14.88
457	SLU 45	-358	-27	13066	-47.32	-32.29	15.65
457	SLU 46	-364	16	13126	-55.14	-32.54	15.3
457	SLU 47	-366	44	13094	-60.77	-32.51	14.99
457	SLU 48	-362	-28	13189	-45.5	-32.61	15.75
457	SLU 49	-369	15	13249	-53.31	-32.86	15.41
457	SLU 50	-359	-29	13117	-45.92	-32.42	15.67
457	SLU 51	-366	14	13177	-53.73	-32.66	15.32
457	SLU 52	-384	41	14359	-71.13	-36.45	16.13
457	SLU 53	-380	-31	14453	-55.86	-36.56	16.89
457	SLU 54	-386	12	14513	-63.67	-36.8	16.55
457	SLU 55	-388	40	14482	-69.3	-36.77	16.23
457	SLU 56	-384	-32	14576	-54.03	-36.88	16.99
457	SLU 57	-391	11	14637	-61.85	-37.12	16.65
457	SLU 58	-381	-33	14505	-54.46	-36.68	16.91
457	SLU 59	-388	10	14565	-62.27	-36.92	16.56
457	SLU 60	-382	-32	14853	-61.76	-37.86	17.24
457	SLU 61	-389	11	14914	-69.58	-38.11	16.89
457	SLU 62	-386	-33	14976	-59.94	-38.18	17.34
457	SLU 63	-393	10	15037	-67.75	-38.43	16.99
457	SLU 64	-391	-24	14330	-48.1	-35.59	16.62
457	SLU 65	-402	48	14430	-61.12	-36.01	16.05
457	SLU 66	-397	-25	14525	-45.86	-36.11	16.81
457	SLU 67	-404	18	14585	-53.67	-36.36	16.47
457	SLU 68	-406	47	14553	-59.3	-36.33	16.15
457	SLU 69	-402	-26	14648	-44.03	-36.43	16.91
457	SLU 70	-408	17	14708	-51.85	-36.68	16.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
457	SLU 71	-399	-26	14576	-44.45	-36.23	16.83
457	SLU 72	-406	17	14636	-52.27	-36.48	16.48
457	SLU 73	-424	44	15818	-69.66	-40.27	17.29
457	SLU 74	-419	-29	15912	-54.39	-40.37	18.05
457	SLU 75	-426	15	15973	-62.21	-40.62	17.71
457	SLU 76	-428	43	15941	-67.84	-40.59	17.39
457	SLU 77	-424	-30	16035	-52.57	-40.69	18.16
457	SLU 78	-430	14	16096	-60.38	-40.94	17.81
457	SLU 79	-421	-30	15964	-52.99	-40.49	18.07
457	SLU 80	-428	13	16024	-60.8	-40.74	17.72
457	SLU 81	-422	-30	16312	-60.3	-41.68	18.4
457	SLU 82	-429	13	16373	-68.11	-41.93	18.05
457	SLU 83	-426	-31	16435	-58.47	-42	18.5
457	SLU 84	-433	12	16496	-66.29	-42.25	18.15
457	SLE RA 1	-292	-19	10702	-37.32	-26.54	12.53
457	SLE RA 2	-299	29	10769	-46.01	-26.82	12.15
457	SLE RA 3	-296	-20	10832	-35.83	-26.89	12.66
457	SLE RA 4	-301	9	10872	-41.04	-27.05	12.43
457	SLE RA 5	-302	28	10851	-44.79	-27.03	12.22
457	SLE RA 6	-299	-20	10914	-34.61	-27.1	12.73
457	SLE RA 7	-304	9	10954	-39.82	-27.26	12.5
457	SLE RA 8	-297	-21	10867	-34.89	-26.97	12.67
457	SLE RA 9	-302	8	10907	-40.1	-27.13	12.44
457	SLE RA 10	-314	26	11694	-51.7	-29.66	12.97
457	SLE RA 11	-311	-22	11757	-41.52	-29.73	13.49
457	SLE RA 12	-315	7	11797	-46.73	-29.89	13.25
457	SLE RA 13	-317	25	11776	-50.48	-29.87	13.04
457	SLE RA 14	-314	-23	11839	-40.3	-29.94	13.55
457	SLE RA 15	-318	6	11879	-45.51	-30.1	13.32
457	SLE RA 16	-312	-23	11792	-40.58	-29.81	13.5
457	SLE RA 17	-317	6	11832	-45.79	-29.97	13.26
457	SLE RA 18	-313	-23	12024	-45.45	-30.6	13.71
457	SLE RA 19	-317	6	12064	-50.66	-30.76	13.48
457	SLE RA 20	-315	-24	12106	-44.24	-30.81	13.78
457	SLE RA 21	-320	5	12146	-49.45	-30.98	13.55
457	SLE FR 1	-292	-19	10702	-37.32	-26.54	12.53
457	SLE FR 2	-293	-10	10716	-39.06	-26.6	12.46
457	SLE FR 3	-293	-20	10735	-36.84	-26.63	12.56
457	SLE FR 4	-300	-11	11112	-41.5	-27.81	12.81
457	SLE FR 5	-299	-21	11132	-39.28	-27.84	12.91
457	SLE FR 6	-302	-21	11363	-41.39	-28.57	13.12
457	SLE QP 1	-292	-19	10702	-37.32	-26.54	12.53
457	SLE QP 2	-298	-20	11099	-39.76	-27.76	12.89
457	SLD 1	814	413	11698	-162.77	-26.73	-8.82
457	SLD 2	980	369	11668	-160.68	-27	-2.05
457	SLD 3	927	-478	10045	29.65	-19.23	-2.63
457	SLD 4	1092	-522	10016	31.74	-19.5	4.14
457	SLD 5	-163	1468	13790	-368.86	-38.78	-4.18
457	SLD 6	-57	1439	13771	-367.52	-38.95	0.18
457	SLD 7	211	-1501	8282	272.54	-13.78	16.46
457	SLD 8	318	-1529	8263	273.89	-13.95	20.81
457	SLD 9	-914	1488	13935	-353.41	-41.56	4.96
457	SLD 10	-807	1460	13916	-352.07	-41.74	9.32
457	SLD 11	-539	-1480	8427	287.99	-16.56	25.59
457	SLD 12	-433	-1508	8408	289.34	-16.73	29.95
457	SLD 13	-1688	481	12182	-111.27	-36.01	21.64
457	SLD 14	-1523	437	12152	-109.18	-36.28	28.4
457	SLD 15	-1576	-409	10530	81.16	-28.51	27.83
457	SLD 16	-1410	-453	10500	83.25	-28.78	34.59
457	SLV 1	1434	719	12154	-245.81	-26.7	-21.62
457	SLV 2	1695	649	12108	-242.52	-27.13	-10.96
457	SLV 3	1625	-800	9334	82.5	-13.9	-11.08
457	SLV 4	1886	-870	9288	85.79	-14.33	-0.41
457	SLV 5	-117	2517	15701	-600.12	-46.77	-15.45
457	SLV 6	59	2471	15670	-597.91	-47.06	-8.27
457	SLV 7	520	-2545	6302	494.23	-4.11	19.7
457	SLV 8	695	-2591	6270	496.45	-4.4	26.88
457	SLV 9	-1291	2550	15928	-575.98	-51.12	-1.11
457	SLV 10	-1116	2504	15896	-573.76	-51.41	6.07
457	SLV 11	-655	-2512	6528	518.38	-8.45	34.04
457	SLV 12	-479	-2558	6497	520.6	-8.74	41.22
457	SLV 13	-2482	829	12910	-165.32	-41.19	26.19
457	SLV 14	-2221	759	12863	-162.02	-41.61	36.85
457	SLV 15	-2291	-690	10090	162.99	-28.39	36.73
457	SLV 16	-2030	-759	10044	166.29	-28.81	47.4
457	SLV FO 1	1607	792	12260	-266.41	-26.6	-25.07
457	SLV FO 2	1894	716	12208	-262.79	-27.07	-13.34
457	SLV FO 3	1817	-878	9158	94.72	-12.52	-13.47
457	SLV FO 4	2104	-954	9107	98.35	-12.99	-1.74
457	SLV FO 5	-98	2771	16161	-656.16	-48.68	-18.28
457	SLV FO 6	94	2720	16127	-653.72	-48.99	-10.39
457	SLV FO 7	602	-2797	5822	547.63	-1.74	20.38
457	SLV FO 8	795	-2848	5787	550.07	-2.06	28.28
457	SLV FO 9	-1391	2808	16411	-629.6	-53.46	-2.51
457	SLV FO 10	-1198	2756	16376	-627.16	-53.77	5.39
457	SLV FO 11	-691	-2761	6071	574.2	-6.52	36.16
457	SLV FO 12	-498	-2812	6037	576.63	-6.84	44.06
457	SLV FO 13	-2700	914	13091	-177.87	-42.53	27.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
457	SLV FO 14	-2413	837	13040	-174.25	-43	39.25
457	SLV FO 15	-2490	-757	9989	183.27	-28.45	39.12
457	SLV FO 16	-2203	-833	9938	186.89	-28.92	50.85
457	CRTFP Ux+	0	0	0	0	0	0
457	CRTFP Ux-	0	0	0	0	0	0
457	CRTFP Uy+	0	0	0	0	0	0
457	CRTFP Uy-	0	0	0	0	0	0
458	SLU 1	-52	18	3323	-0.57	-406.79	4.09
458	SLU 2	-55	37	3372	-0.91	-411.04	8.86
458	SLU 3	-54	18	3390	-0.5	-414.62	4.1
458	SLU 4	-55	29	3420	-0.71	-417.17	6.97
458	SLU 5	-56	37	3415	-0.86	-416.03	8.92
458	SLU 6	-54	18	3433	-0.45	-419.61	4.16
458	SLU 7	-56	29	3463	-0.66	-422.16	7.02
458	SLU 8	-54	18	3408	-0.47	-416.77	4.19
458	SLU 9	-55	30	3438	-0.67	-419.33	7.06
458	SLU 10	-58	40	3787	-0.98	-459.06	9.64
458	SLU 11	-57	21	3805	-0.57	-462.64	4.87
458	SLU 12	-58	32	3834	-0.77	-465.19	7.74
458	SLU 13	-59	40	3829	-0.93	-464.05	9.69
458	SLU 14	-57	21	3847	-0.52	-467.63	4.93
458	SLU 15	-59	33	3877	-0.72	-470.18	7.79
458	SLU 16	-57	21	3823	-0.53	-464.79	4.96
458	SLU 17	-58	33	3852	-0.74	-467.34	7.83
458	SLU 18	-57	22	3915	-0.66	-475.39	5.19
458	SLU 19	-58	34	3944	-0.87	-477.94	8.06
458	SLU 20	-58	22	3957	-0.61	-480.38	5.24
458	SLU 21	-59	34	3987	-0.81	-482.93	8.11
458	SLU 22	-60	18	3812	-0.45	-463.72	4.19
458	SLU 23	-62	37	3861	-0.8	-467.97	8.96
458	SLU 24	-61	18	3879	-0.39	-471.55	4.2
458	SLU 25	-62	30	3909	-0.6	-474.1	7.06
458	SLU 26	-63	38	3904	-0.75	-472.96	9.01
458	SLU 27	-62	19	3922	-0.34	-476.54	4.25
458	SLU 28	-63	30	3951	-0.54	-479.09	7.11
458	SLU 29	-61	19	3897	-0.35	-473.7	4.29
458	SLU 30	-63	30	3927	-0.56	-476.25	7.15
458	SLU 31	-65	41	4275	-0.86	-515.99	9.73
458	SLU 32	-64	22	4294	-0.45	-519.56	4.97
458	SLU 33	-65	33	4323	-0.66	-522.11	7.83
458	SLU 34	-66	41	4318	-0.81	-520.98	9.78
458	SLU 35	-65	22	4336	-0.4	-524.56	5.02
458	SLU 36	-66	33	4366	-0.61	-527.11	7.89
458	SLU 37	-64	22	4311	-0.42	-521.72	5.06
458	SLU 38	-66	33	4341	-0.62	-524.27	7.92
458	SLU 39	-64	23	4404	-0.54	-532.32	5.29
458	SLU 40	-65	34	4433	-0.75	-534.87	8.15
458	SLU 41	-65	23	4446	-0.49	-537.31	5.34
458	SLU 42	-66	35	4476	-0.7	-539.86	8.2
458	SLU 43	-66	23	4152	-0.78	-509.31	5.29
458	SLU 44	-68	42	4201	-1.12	-513.56	10.06
458	SLU 45	-67	23	4219	-0.71	-517.14	5.3
458	SLU 46	-68	34	4249	-0.92	-519.69	8.16
458	SLU 47	-69	42	4244	-1.07	-518.55	10.11
458	SLU 48	-68	23	4262	-0.66	-522.13	5.35
458	SLU 49	-69	34	4292	-0.87	-524.68	8.21
458	SLU 50	-67	23	4237	-0.68	-519.29	5.39
458	SLU 51	-69	35	4267	-0.88	-521.84	8.25
458	SLU 52	-71	45	4616	-1.19	-561.58	10.83
458	SLU 53	-70	26	4634	-0.78	-565.15	6.07
458	SLU 54	-71	37	4663	-0.98	-567.7	8.93
458	SLU 55	-72	45	4658	-1.13	-566.57	10.88
458	SLU 56	-71	26	4676	-0.73	-570.15	6.12
458	SLU 57	-72	38	4706	-0.93	-572.7	8.98
458	SLU 58	-70	26	4652	-0.74	-567.31	6.16
458	SLU 59	-72	38	4681	-0.95	-569.86	9.02
458	SLU 60	-70	27	4744	-0.87	-577.91	6.39
458	SLU 61	-71	39	4774	-1.07	-580.46	9.25
458	SLU 62	-71	27	4787	-0.82	-582.9	6.44
458	SLU 63	-72	39	4816	-1.02	-585.45	9.3
458	SLU 64	-73	23	4641	-0.66	-566.24	5.38
458	SLU 65	-75	42	4690	-1.01	-570.49	10.15
458	SLU 66	-74	23	4708	-0.6	-574.07	5.39
458	SLU 67	-76	35	4738	-0.8	-576.62	8.26
458	SLU 68	-76	43	4733	-0.96	-575.48	10.21
458	SLU 69	-75	24	4751	-0.55	-579.06	5.45
458	SLU 70	-76	35	4781	-0.75	-581.61	8.31
458	SLU 71	-74	24	4726	-0.56	-576.22	5.48
458	SLU 72	-76	35	4756	-0.77	-578.77	8.35
458	SLU 73	-78	46	5105	-1.07	-618.51	10.93
458	SLU 74	-77	27	5123	-0.66	-622.08	6.16
458	SLU 75	-79	38	5152	-0.87	-624.63	9.03
458	SLU 76	-79	46	5147	-1.02	-623.5	10.98
458	SLU 77	-78	27	5165	-0.61	-627.07	6.22
458	SLU 78	-79	38	5195	-0.82	-629.63	9.08
458	SLU 79	-77	27	5141	-0.63	-624.24	6.25
458	SLU 80	-79	38	5170	-0.83	-626.79	9.12
458	SLU 81	-77	28	5233	-0.75	-634.84	6.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
458	SLU 82	-79	39	5263	-0.96	-637.39	9.35
458	SLU 83	-78	28	5276	-0.7	-639.83	6.53
458	SLU 84	-79	40	5305	-0.91	-642.38	9.4
458	SLE RA 1	-54	18	3462	-0.53	-423.06	4.12
458	SLE RA 2	-56	31	3495	-0.76	-425.89	7.3
458	SLE RA 3	-55	18	3507	-0.49	-428.27	4.13
458	SLE RA 4	-56	25	3527	-0.63	-429.97	6.04
458	SLE RA 5	-57	31	3524	-0.73	-429.22	7.34
458	SLE RA 6	-56	18	3536	-0.46	-431.6	4.16
458	SLE RA 7	-57	26	3556	-0.6	-433.3	6.07
458	SLE RA 8	-55	18	3519	-0.47	-429.71	4.19
458	SLE RA 9	-56	26	3539	-0.61	-431.41	6.1
458	SLE RA 10	-58	33	3772	-0.81	-457.9	7.81
458	SLE RA 11	-57	20	3784	-0.53	-460.29	4.64
458	SLE RA 12	-58	28	3803	-0.67	-461.99	6.55
458	SLE RA 13	-59	33	3800	-0.77	-461.23	7.85
458	SLE RA 14	-58	20	3812	-0.5	-463.61	4.67
458	SLE RA 15	-59	28	3832	-0.64	-465.31	6.58
458	SLE RA 16	-57	20	3796	-0.51	-461.72	4.7
458	SLE RA 17	-58	28	3815	-0.65	-463.42	6.61
458	SLE RA 18	-57	21	3857	-0.6	-468.79	4.85
458	SLE RA 19	-58	28	3877	-0.73	-470.49	6.76
458	SLE RA 20	-58	21	3886	-0.56	-472.12	4.89
458	SLE RA 21	-59	29	3905	-0.7	-473.82	6.8
458	SLE FR 1	-54	18	3462	-0.53	-423.06	4.12
458	SLE FR 2	-55	20	3469	-0.58	-423.62	4.75
458	SLE FR 3	-55	18	3474	-0.52	-424.39	4.13
458	SLE FR 4	-56	21	3587	-0.6	-437.34	4.98
458	SLE FR 5	-55	19	3592	-0.54	-438.11	4.35
458	SLE FR 6	-56	19	3660	-0.57	-445.92	4.49
458	SLE QP 1	-54	18	3462	-0.53	-423.06	4.12
458	SLE QP 2	-55	19	3581	-0.55	-436.78	4.34
458	SLD 1	204	231	4985	-3.28	-585.48	56.98
458	SLD 2	240	128	4928	-2.86	-581.32	31.36
458	SLD 3	229	-13	4256	1.3	-523.15	-3.86
458	SLD 4	265	-117	4199	1.72	-518.99	-29.48
458	SLD 5	-23	470	5119	-8.39	-576.62	116.81
458	SLD 6	0	404	5082	-8.12	-573.94	100.32
458	SLD 7	63	-343	2686	6.87	-368.88	-85.99
458	SLD 8	86	-410	2650	7.15	-366.2	-102.49
458	SLD 9	-197	447	4512	-8.25	-507.35	111.17
458	SLD 10	-173	381	4475	-7.98	-504.67	94.67
458	SLD 11	-111	-366	2080	7.01	-299.61	-91.64
458	SLD 12	-88	-433	2043	7.28	-296.93	-108.14
458	SLD 13	-376	154	2963	-2.82	-354.56	38.16
458	SLD 14	-340	51	2906	-2.4	-350.4	12.53
458	SLD 15	-350	-90	2234	1.75	-292.24	-22.69
458	SLD 16	-314	-194	2176	2.18	-288.08	-48.31
458	SLV 1	348	369	5826	-5.15	-673.39	91.15
458	SLV 2	405	206	5736	-4.49	-666.83	50.77
458	SLV 3	392	-48	4581	2.66	-567.02	-12.62
458	SLV 4	448	-211	4491	3.32	-560.46	-53.01
458	SLV 5	-11	785	6160	-13.9	-670.32	195.3
458	SLV 6	27	676	6099	-13.45	-665.91	168.12
458	SLV 7	134	-602	2009	12.13	-315.74	-150.6
458	SLV 8	173	-712	1949	12.58	-311.32	-177.79
458	SLV 9	-283	749	5213	-13.69	-562.23	186.46
458	SLV 10	-245	640	5152	-13.24	-557.82	159.28
458	SLV 11	-138	-638	1063	12.35	-207.65	-159.44
458	SLV 12	-100	-748	1002	12.8	-203.23	-186.63
458	SLV 13	-559	248	2671	-4.43	-313.09	61.68
458	SLV 14	-502	85	2581	-3.77	-306.54	21.3
458	SLV 15	-515	-168	1426	3.38	-206.72	-42.09
458	SLV 16	-459	-331	1335	4.05	-200.16	-82.48
458	SLV FO 1	389	403	6051	-5.61	-697.05	99.83
458	SLV FO 2	451	224	5952	-4.88	-689.84	55.41
458	SLV FO 3	437	-54	4681	2.98	-580.04	-14.31
458	SLV FO 4	499	-234	4582	3.71	-572.83	-58.74
458	SLV FO 5	-7	862	6418	-15.24	-693.68	214.4
458	SLV FO 6	35	741	6351	-14.74	-688.82	184.5
458	SLV FO 7	153	-664	1852	13.4	-303.63	-166.09
458	SLV FO 8	195	-785	1785	13.89	-298.77	-196
458	SLV FO 9	-306	822	5376	-15	-574.78	204.68
458	SLV FO 10	-264	702	5310	-14.51	-569.92	174.77
458	SLV FO 11	-146	-704	811	13.64	-184.73	-175.82
458	SLV FO 12	-104	-825	744	14.13	-179.88	-205.72
458	SLV FO 13	-609	271	2580	-4.82	-300.73	67.42
458	SLV FO 14	-547	92	2481	-4.09	-293.51	22.99
458	SLV FO 15	-561	-187	1210	3.77	-183.71	-46.73
458	SLV FO 16	-499	-366	1111	4.51	-176.5	-91.16
458	CRTFP Ux+	0	0	0	0	0	0
458	CRTFP Ux-	0	0	0	0	0	0
458	CRTFP Uy+	0	0	0	0	0	0
458	CRTFP Uy-	0	0	0	0	0	0
461	SLU 1	-76	-21	6208	-0.94	-38.69	-1.9
461	SLU 2	-81	10	6290	-1.47	-38.02	-2.1
461	SLU 3	-78	-22	6327	-0.8	-39.56	-1.96
461	SLU 4	-81	-3	6377	-1.12	-39.16	-2.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
461	SLU 5	-82	10	6365	-1.37	-38.6	-2.14
461	SLU 6	-80	-22	6403	-0.69	-40.14	-2.01
461	SLU 7	-82	-3	6452	-1.02	-39.73	-2.12
461	SLU 8	-79	-22	6358	-0.73	-39.84	-1.98
461	SLU 9	-82	-3	6408	-1.05	-39.44	-2.1
461	SLU 10	-84	9	7108	-1.56	-44.59	-2.31
461	SLU 11	-82	-23	7145	-0.89	-46.13	-2.18
461	SLU 12	-84	-4	7195	-1.21	-45.73	-2.3
461	SLU 13	-85	9	7183	-1.46	-45.17	-2.35
461	SLU 14	-83	-23	7220	-0.78	-46.71	-2.22
461	SLU 15	-86	-4	7270	-1.1	-46.31	-2.34
461	SLU 16	-82	-23	7176	-0.81	-46.41	-2.2
461	SLU 17	-85	-4	7225	-1.14	-46.01	-2.32
461	SLU 18	-81	-23	7376	-1.06	-48.07	-2.2
461	SLU 19	-84	-4	7426	-1.38	-47.67	-2.32
461	SLU 20	-82	-23	7451	-0.96	-48.65	-2.25
461	SLU 21	-85	-4	7501	-1.28	-48.25	-2.37
461	SLU 22	-87	-23	7130	-0.62	-44.97	-2.3
461	SLU 23	-92	9	7212	-1.16	-44.3	-2.49
461	SLU 24	-89	-24	7250	-0.48	-45.84	-2.36
461	SLU 25	-92	-4	7299	-0.81	-45.44	-2.48
461	SLU 26	-93	8	7287	-1.05	-44.88	-2.54
461	SLU 27	-91	-24	7325	-0.38	-46.42	-2.4
461	SLU 28	-93	-5	7374	-0.7	-46.02	-2.52
461	SLU 29	-90	-24	7280	-0.41	-46.13	-2.38
461	SLU 30	-92	-5	7330	-0.73	-45.73	-2.5
461	SLU 31	-95	7	8030	-1.25	-50.88	-2.71
461	SLU 32	-92	-25	8067	-0.57	-52.41	-2.58
461	SLU 33	-95	-6	8117	-0.89	-52.01	-2.69
461	SLU 34	-96	7	8105	-1.14	-51.45	-2.75
461	SLU 35	-94	-25	8143	-0.46	-52.99	-2.62
461	SLU 36	-96	-6	8192	-0.79	-52.59	-2.74
461	SLU 37	-93	-25	8098	-0.5	-52.7	-2.6
461	SLU 38	-96	-6	8148	-0.82	-52.3	-2.72
461	SLU 39	-92	-25	8298	-0.75	-54.36	-2.6
461	SLU 40	-95	-6	8348	-1.07	-53.96	-2.72
461	SLU 41	-93	-25	8374	-0.64	-54.94	-2.65
461	SLU 42	-96	-6	8423	-0.96	-54.54	-2.77
461	SLU 43	-96	-27	7754	-1.33	-48.14	-2.33
461	SLU 44	-100	5	7836	-1.86	-47.47	-2.53
461	SLU 45	-98	-28	7874	-1.19	-49.01	-2.39
461	SLU 46	-100	-9	7923	-1.51	-48.61	-2.51
461	SLU 47	-101	4	7911	-1.76	-48.05	-2.57
461	SLU 48	-99	-28	7949	-1.08	-49.59	-2.44
461	SLU 49	-102	-9	7998	-1.41	-49.19	-2.56
461	SLU 50	-98	-28	7904	-1.12	-49.29	-2.42
461	SLU 51	-101	-9	7954	-1.44	-48.89	-2.54
461	SLU 52	-103	3	8654	-1.95	-54.04	-2.74
461	SLU 53	-101	-29	8691	-1.27	-55.58	-2.61
461	SLU 54	-104	-10	8741	-1.6	-55.18	-2.73
461	SLU 55	-105	3	8729	-1.84	-54.62	-2.79
461	SLU 56	-102	-29	8767	-1.17	-56.16	-2.65
461	SLU 57	-105	-10	8816	-1.49	-55.76	-2.77
461	SLU 58	-101	-29	8722	-1.2	-55.86	-2.63
461	SLU 59	-104	-10	8772	-1.52	-55.46	-2.75
461	SLU 60	-100	-29	8922	-1.45	-57.52	-2.64
461	SLU 61	-103	-10	8972	-1.77	-57.12	-2.76
461	SLU 62	-101	-29	8998	-1.34	-58.1	-2.68
461	SLU 63	-104	-10	9047	-1.67	-57.7	-2.8
461	SLU 64	-107	-29	8676	-1.01	-54.42	-2.73
461	SLU 65	-111	3	8758	-1.55	-53.75	-2.93
461	SLU 66	-109	-29	8796	-0.87	-55.29	-2.79
461	SLU 67	-111	-10	8845	-1.2	-54.89	-2.91
461	SLU 68	-112	3	8834	-1.44	-54.33	-2.97
461	SLU 69	-110	-30	8871	-0.77	-55.87	-2.84
461	SLU 70	-112	-11	8920	-1.09	-55.47	-2.96
461	SLU 71	-109	-30	8827	-0.8	-55.58	-2.81
461	SLU 72	-112	-11	8876	-1.12	-55.18	-2.93
461	SLU 73	-114	2	9576	-1.63	-60.33	-3.14
461	SLU 74	-112	-31	9614	-0.96	-61.87	-3.01
461	SLU 75	-114	-12	9663	-1.28	-61.46	-3.13
461	SLU 76	-115	1	9651	-1.53	-60.9	-3.19
461	SLU 77	-113	-31	9689	-0.85	-62.44	-3.05
461	SLU 78	-116	-12	9738	-1.18	-62.04	-3.17
461	SLU 79	-112	-31	9644	-0.89	-62.15	-3.03
461	SLU 80	-115	-12	9694	-1.21	-61.75	-3.15
461	SLU 81	-111	-31	9844	-1.14	-63.81	-3.04
461	SLU 82	-114	-12	9894	-1.46	-63.41	-3.15
461	SLU 83	-112	-31	9920	-1.03	-64.39	-3.08
461	SLU 84	-115	-12	9969	-1.35	-63.99	-3.2
461	SLE RA 1	-80	-22	6471	-0.85	-40.48	-2.01
461	SLE RA 2	-83	-1	6526	-1.21	-40.04	-2.14
461	SLE RA 3	-81	-22	6551	-0.76	-41.06	-2.05
461	SLE RA 4	-83	-9	6584	-0.97	-40.8	-2.13
461	SLE RA 5	-83	-1	6576	-1.14	-40.42	-2.17
461	SLE RA 6	-82	-22	6601	-0.69	-41.45	-2.08
461	SLE RA 7	-84	-10	6634	-0.9	-41.18	-2.16
461	SLE RA 8	-81	-22	6572	-0.71	-41.25	-2.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
461	SLE RA 9	-83	-10	6604	-0.92	-40.99	-2.15
461	SLE RA 10	-85	-2	7071	-1.26	-44.42	-2.29
461	SLE RA 11	-83	-23	7096	-0.81	-45.44	-2.2
461	SLE RA 12	-85	-10	7129	-1.03	-45.18	-2.28
461	SLE RA 13	-85	-2	7122	-1.19	-44.8	-2.32
461	SLE RA 14	-84	-23	7146	-0.74	-45.83	-2.23
461	SLE RA 15	-86	-10	7179	-0.96	-45.56	-2.31
461	SLE RA 16	-83	-23	7117	-0.77	-45.63	-2.21
461	SLE RA 17	-85	-10	7150	-0.98	-45.37	-2.29
461	SLE RA 18	-83	-23	7250	-0.93	-46.74	-2.22
461	SLE RA 19	-84	-10	7283	-1.14	-46.47	-2.3
461	SLE RA 20	-83	-23	7300	-0.86	-47.13	-2.25
461	SLE RA 21	-85	-11	7333	-1.07	-46.86	-2.32
461	SLE FR 1	-80	-22	6471	-0.85	-40.48	-2.01
461	SLE FR 2	-80	-18	6482	-0.92	-40.39	-2.04
461	SLE FR 3	-80	-22	6491	-0.82	-40.64	-2.02
461	SLE FR 4	-81	-18	6716	-0.94	-42.27	-2.1
461	SLE FR 5	-81	-22	6725	-0.84	-42.51	-2.08
461	SLE FR 6	-81	-23	6861	-0.89	-43.61	-2.11
461	SLE QP 1	-80	-22	6471	-0.85	-40.48	-2.01
461	SLE QP 2	-80	-22	6705	-0.87	-42.36	-2.07
461	SLD 1	478	165	7930	-4.98	-17.59	-0.76
461	SLD 2	558	81	7862	-4.6	-19.04	1.73
461	SLD 3	526	-239	6728	2.33	-21.27	1.28
461	SLD 4	606	-323	6661	2.7	-22.72	3.77
461	SLD 5	0	661	8906	-13.25	-29.1	-5.2
461	SLD 6	52	608	8862	-13.01	-30.03	-3.6
461	SLD 7	161	-686	4902	11.1	-41.37	1.6
461	SLD 8	212	-740	4858	11.34	-42.3	3.2
461	SLD 9	-373	696	8552	-13.09	-42.42	-7.35
461	SLD 10	-322	642	8508	-12.85	-43.35	-5.74
461	SLD 11	-213	-652	4548	11.26	-54.69	-0.55
461	SLD 12	-161	-706	4504	11.5	-55.62	1.06
461	SLD 13	-767	278	6749	-4.45	-62	-7.92
461	SLD 14	-687	195	6682	-4.08	-63.45	-5.43
461	SLD 15	-719	-126	5548	2.86	-65.68	-5.88
461	SLD 16	-639	-210	5480	3.23	-67.13	-3.39
461	SLV 1	790	300	8704	-7.82	-3.44	-0.18
461	SLV 2	916	168	8597	-7.23	-5.73	3.75
461	SLV 3	871	-390	6654	4.64	-9.7	3.29
461	SLV 4	997	-522	6547	5.23	-11.99	7.22
461	SLV 5	33	1145	10433	-21.97	-20.77	-7.5
461	SLV 6	118	1056	10361	-21.57	-22.3	-4.86
461	SLV 7	306	-1154	3601	19.58	-41.63	4.07
461	SLV 8	391	-1243	3529	19.97	-43.17	6.71
461	SLV 9	-551	1198	9881	-21.71	-41.55	-10.86
461	SLV 10	-467	1109	9809	-21.32	-43.09	-8.22
461	SLV 11	-279	-1101	3049	19.83	-62.41	0.72
461	SLV 12	-194	-1189	2977	20.22	-63.95	3.36
461	SLV 13	-1158	477	6863	-6.98	-72.73	-11.37
461	SLV 14	-1032	345	6756	-6.39	-75.02	-7.44
461	SLV 15	-1076	-213	4813	5.49	-78.99	-7.89
461	SLV 16	-950	-344	4706	6.07	-81.28	-3.97
461	SLV FO 1	877	332	8904	-8.51	0.45	0.01
461	SLV FO 2	1015	187	8786	-7.87	-2.07	4.33
461	SLV FO 3	967	-426	6649	5.2	-6.43	3.83
461	SLV FO 4	1105	-572	6532	5.84	-8.95	8.15
461	SLV FO 5	44	1261	10806	-24.08	-18.61	-8.05
461	SLV FO 6	138	1164	10727	-23.64	-20.3	-5.14
461	SLV FO 7	344	-1267	3290	21.62	-41.55	4.69
461	SLV FO 8	438	-1365	3212	22.05	-43.25	7.59
461	SLV FO 9	-599	1320	10198	-23.8	-41.47	-11.74
461	SLV FO 10	-505	1222	10119	-23.37	-43.16	-8.83
461	SLV FO 11	-298	-1208	2683	21.9	-64.42	0.99
461	SLV FO 12	-205	-1306	2604	22.33	-66.11	3.9
461	SLV FO 13	-1266	527	6878	-7.59	-75.77	-12.29
461	SLV FO 14	-1127	382	6761	-6.94	-78.28	-7.98
461	SLV FO 15	-1176	-232	4624	6.12	-82.65	-8.47
461	SLV FO 16	-1037	-377	4506	6.77	-85.17	-4.16
461	CRTFP Ux+	0	0	0	0	0	0
461	CRTFP Ux-	0	0	0	0	0	0
461	CRTFP Uy+	0	0	0	0	0	0
461	CRTFP Uy-	0	0	0	0	0	0
464	SLU 1	70	-80	6118	-2	32.68	-2.08
464	SLU 2	73	-49	6200	-2.55	31.27	-1.95
464	SLU 3	71	-82	6226	-1.88	33.41	-2.15
464	SLU 4	73	-63	6276	-2.22	32.56	-2.07
464	SLU 5	73	-50	6265	-2.46	31.82	-2.01
464	SLU 6	71	-83	6291	-1.79	33.96	-2.21
464	SLU 7	73	-64	6340	-2.12	33.11	-2.13
464	SLU 8	70	-82	6247	-1.81	33.78	-2.2
464	SLU 9	72	-63	6296	-2.14	32.94	-2.12
464	SLU 10	77	-57	6991	-2.83	35.64	-2.17
464	SLU 11	75	-90	7016	-2.16	37.77	-2.38
464	SLU 12	76	-71	7066	-2.5	36.93	-2.3
464	SLU 13	77	-58	7055	-2.74	36.19	-2.23
464	SLU 14	75	-91	7081	-2.07	38.32	-2.44
464	SLU 15	76	-72	7131	-2.4	37.48	-2.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
464	SLU 16	74	-90	7037	-2.08	38.15	-2.42
464	SLU 17	75	-71	7087	-2.42	37.3	-2.34
464	SLU 18	75	-92	7247	-2.4	38.92	-2.41
464	SLU 19	77	-73	7296	-2.73	38.08	-2.32
464	SLU 20	75	-93	7311	-2.3	39.47	-2.46
464	SLU 21	77	-74	7361	-2.63	38.63	-2.38
464	SLU 22	80	-90	7008	-1.89	36.96	-2.32
464	SLU 23	82	-59	7091	-2.44	35.55	-2.19
464	SLU 24	81	-91	7117	-1.77	37.69	-2.39
464	SLU 25	82	-73	7167	-2.1	36.84	-2.31
464	SLU 26	82	-59	7156	-2.34	36.1	-2.24
464	SLU 27	81	-92	7181	-1.67	38.23	-2.45
464	SLU 28	82	-73	7231	-2	37.39	-2.37
464	SLU 29	80	-92	7137	-1.69	38.06	-2.44
464	SLU 30	81	-73	7187	-2.02	37.21	-2.36
464	SLU 31	86	-67	7881	-2.72	39.92	-2.41
464	SLU 32	84	-100	7907	-2.05	42.05	-2.62
464	SLU 33	86	-81	7957	-2.38	41.21	-2.54
464	SLU 34	86	-68	7946	-2.62	40.47	-2.47
464	SLU 35	84	-101	7972	-1.95	42.6	-2.68
464	SLU 36	86	-82	8021	-2.28	41.76	-2.59
464	SLU 37	83	-100	7928	-1.97	42.43	-2.66
464	SLU 38	85	-81	7977	-2.3	41.58	-2.58
464	SLU 39	85	-102	8137	-2.28	43.2	-2.64
464	SLU 40	86	-83	8187	-2.62	42.36	-2.56
464	SLU 41	85	-103	8202	-2.19	43.75	-2.7
464	SLU 42	86	-84	8251	-2.52	42.91	-2.62
464	SLU 43	88	-101	7648	-2.64	41.02	-2.63
464	SLU 44	91	-70	7730	-3.2	39.61	-2.49
464	SLU 45	89	-102	7756	-2.53	41.74	-2.7
464	SLU 46	91	-84	7806	-2.86	40.9	-2.62
464	SLU 47	91	-70	7795	-3.1	40.16	-2.55
464	SLU 48	89	-103	7821	-2.43	42.29	-2.75
464	SLU 49	91	-84	7870	-2.76	41.45	-2.67
464	SLU 50	88	-103	7777	-2.45	42.12	-2.74
464	SLU 51	90	-84	7826	-2.78	41.27	-2.66
464	SLU 52	95	-78	8521	-3.47	43.98	-2.72
464	SLU 53	93	-111	8546	-2.8	46.11	-2.92
464	SLU 54	94	-92	8596	-3.14	45.27	-2.84
464	SLU 55	95	-79	8585	-3.38	44.53	-2.77
464	SLU 56	93	-112	8611	-2.71	46.66	-2.98
464	SLU 57	94	-93	8661	-3.04	45.82	-2.9
464	SLU 58	92	-111	8567	-2.73	46.49	-2.97
464	SLU 59	93	-92	8616	-3.06	45.64	-2.89
464	SLU 60	93	-113	8777	-3.04	47.26	-2.95
464	SLU 61	95	-94	8826	-3.37	46.41	-2.87
464	SLU 62	93	-114	8841	-2.94	47.81	-3.01
464	SLU 63	95	-95	8891	-3.28	46.96	-2.92
464	SLU 64	98	-111	8538	-2.53	45.3	-2.86
464	SLU 65	100	-79	8621	-3.08	43.89	-2.73
464	SLU 66	99	-112	8647	-2.41	46.02	-2.94
464	SLU 67	100	-93	8696	-2.74	45.18	-2.85
464	SLU 68	100	-80	8685	-2.98	44.44	-2.79
464	SLU 69	98	-113	8711	-2.31	46.57	-2.99
464	SLU 70	100	-94	8761	-2.64	45.73	-2.91
464	SLU 71	98	-112	8667	-2.33	46.4	-2.98
464	SLU 72	99	-94	8717	-2.66	45.55	-2.9
464	SLU 73	104	-88	9411	-3.36	48.26	-2.96
464	SLU 74	102	-120	9437	-2.69	50.39	-3.16
464	SLU 75	104	-102	9487	-3.02	49.55	-3.08
464	SLU 76	104	-88	9476	-3.26	48.81	-3.01
464	SLU 77	102	-121	9502	-2.59	50.94	-3.22
464	SLU 78	104	-102	9551	-2.92	50.1	-3.14
464	SLU 79	101	-121	9458	-2.61	50.77	-3.21
464	SLU 80	103	-102	9507	-2.94	49.92	-3.13
464	SLU 81	103	-122	9667	-2.93	51.54	-3.19
464	SLU 82	104	-104	9717	-3.26	50.69	-3.11
464	SLU 83	103	-123	9732	-2.83	52.09	-3.25
464	SLU 84	104	-104	9781	-3.16	51.24	-3.16
464	SLE RA 1	73	-83	6372	-1.97	33.9	-2.15
464	SLE RA 2	75	-62	6427	-2.34	32.97	-2.06
464	SLE RA 3	74	-84	6445	-1.89	34.39	-2.2
464	SLE RA 4	75	-71	6478	-2.11	33.82	-2.14
464	SLE RA 5	75	-63	6470	-2.27	33.33	-2.1
464	SLE RA 6	74	-85	6488	-1.82	34.75	-2.24
464	SLE RA 7	75	-72	6521	-2.05	34.19	-2.18
464	SLE RA 8	73	-84	6458	-1.84	34.64	-2.23
464	SLE RA 9	74	-72	6491	-2.06	34.07	-2.17
464	SLE RA 10	77	-68	6954	-2.52	35.88	-2.21
464	SLE RA 11	76	-90	6971	-2.08	37.3	-2.35
464	SLE RA 12	77	-77	7004	-2.3	36.74	-2.29
464	SLE RA 13	77	-68	6997	-2.46	36.24	-2.25
464	SLE RA 14	76	-90	7014	-2.01	37.67	-2.39
464	SLE RA 15	77	-78	7047	-2.23	37.1	-2.33
464	SLE RA 16	75	-90	6985	-2.02	37.55	-2.38
464	SLE RA 17	76	-77	7018	-2.24	36.99	-2.32
464	SLE RA 18	76	-91	7125	-2.24	38.07	-2.37
464	SLE RA 19	78	-78	7158	-2.46	37.5	-2.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
464	SLE RA 20	76	-91	7168	-2.17	38.43	-2.4
464	SLE RA 21	77	-79	7201	-2.39	37.87	-2.35
464	SLE FR 1	73	-83	6372	-1.97	33.9	-2.15
464	SLE FR 2	73	-79	6383	-2.04	33.72	-2.13
464	SLE FR 3	73	-83	6389	-1.94	34.05	-2.17
464	SLE FR 4	74	-81	6609	-2.12	34.96	-2.2
464	SLE FR 5	74	-86	6615	-2.02	35.3	-2.23
464	SLE FR 6	75	-87	6748	-2.1	35.98	-2.26
464	SLE QP 1	73	-83	6372	-1.97	33.9	-2.15
464	SLE QP 2	74	-85	6598	-2.05	35.15	-2.22
464	SLD 1	681	150	6652	-4.89	42.45	2.23
464	SLD 2	765	230	6717	-5.29	39.85	4.61
464	SLD 3	649	-261	5431	2.58	54.73	0.54
464	SLD 4	734	-180	5496	2.18	52.14	2.91
464	SLD 5	290	594	8455	-14.17	19.16	1.28
464	SLD 6	344	646	8497	-14.43	17.49	2.81
464	SLD 7	184	-774	4385	10.75	60.1	-4.37
464	SLD 8	238	-723	4427	10.49	58.43	-2.84
464	SLD 9	-90	552	8769	-14.59	11.88	-1.59
464	SLD 10	-36	604	8811	-14.84	10.21	-0.06
464	SLD 11	-196	-816	4699	10.33	52.82	-7.24
464	SLD 12	-142	-765	4741	10.07	51.15	-5.72
464	SLD 13	-585	10	7700	-6.28	18.17	-7.34
464	SLD 14	-501	90	7765	-6.68	15.58	-4.97
464	SLD 15	-617	-401	6479	1.2	30.45	-9.04
464	SLD 16	-533	-321	6544	0.8	27.86	-6.67
464	SLV 1	1025	311	6771	-7.02	45.75	4.84
464	SLV 2	1158	438	6874	-7.65	41.66	8.58
464	SLV 3	971	-389	4688	5.74	66.68	1.94
464	SLV 4	1104	-263	4791	5.1	62.59	5.68
464	SLV 5	417	1072	9790	-22.76	7.35	3.59
464	SLV 6	506	1157	9859	-23.19	4.6	6.11
464	SLV 7	237	-1263	2846	19.74	77.11	-6.05
464	SLV 8	326	-1177	2916	19.32	74.36	-3.54
464	SLV 9	-178	1007	10280	-23.42	-4.05	-0.89
464	SLV 10	-88	1092	10350	-23.84	-6.81	1.62
464	SLV 11	-358	-1328	3336	19.09	65.7	-10.54
464	SLV 12	-268	-1243	3406	18.66	62.95	-8.02
464	SLV 13	-956	92	8405	-9.2	7.72	-10.11
464	SLV 14	-823	219	8508	-9.83	3.63	-6.38
464	SLV 15	-1010	-608	6322	3.55	28.64	-13.01
464	SLV 16	-877	-482	6425	2.92	24.56	-9.27
464	SLV FO 1	1121	351	6789	-7.51	46.81	5.54
464	SLV FO 2	1267	490	6902	-8.21	42.31	9.66
464	SLV FO 3	1061	-420	4497	6.51	69.83	2.36
464	SLV FO 4	1207	-281	4610	5.82	65.33	6.47
464	SLV FO 5	451	1188	10109	-24.83	4.57	4.17
464	SLV FO 6	549	1282	10186	-25.3	1.55	6.94
464	SLV FO 7	253	-1380	2471	21.92	81.31	-6.44
464	SLV FO 8	351	-1287	2547	21.46	78.28	-3.67
464	SLV FO 9	-203	1116	10649	-25.55	-7.98	-0.76
464	SLV FO 10	-105	1209	10725	-26.02	-11	2.01
464	SLV FO 11	-401	-1453	3010	21.2	68.76	-11.37
464	SLV FO 12	-303	-1359	3086	20.73	65.73	-8.61
464	SLV FO 13	-1059	110	8586	-9.91	4.97	-10.9
464	SLV FO 14	-913	249	8699	-10.61	0.48	-6.79
464	SLV FO 15	-1118	-661	6294	4.11	27.99	-14.09
464	SLV FO 16	-972	-522	6407	3.42	23.5	-9.98
464	CRTFP Ux+	0	0	0	0	0	0
464	CRTFP Ux-	0	0	0	0	0	0
464	CRTFP Uy+	0	0	0	0	0	0
464	CRTFP Uy-	0	0	0	0	0	0
467	SLU 1	41	47	3737	-0.12	752.29	-16.51
467	SLU 2	43	69	3792	-0.51	761.35	-24.07
467	SLU 3	42	48	3805	-0.02	765.19	-16.94
467	SLU 4	43	61	3838	-0.25	770.63	-21.48
467	SLU 5	43	70	3831	-0.43	768.79	-24.54
467	SLU 6	42	50	3843	0.07	772.62	-17.4
467	SLU 7	43	63	3876	-0.17	778.06	-21.94
467	SLU 8	41	50	3814	0.05	767.15	-17.44
467	SLU 9	43	63	3847	-0.18	772.59	-21.98
467	SLU 10	45	74	4257	-0.54	849.85	-25.96
467	SLU 11	44	54	4269	-0.05	853.68	-18.82
467	SLU 12	45	67	4302	-0.28	859.12	-23.36
467	SLU 13	45	76	4295	-0.46	857.28	-26.42
467	SLU 14	44	55	4308	0.04	861.12	-19.29
467	SLU 15	45	68	4341	-0.2	866.56	-23.82
467	SLU 16	43	55	4278	0.02	855.65	-19.32
467	SLU 17	45	68	4311	-0.22	861.09	-23.86
467	SLU 18	44	55	4401	-0.16	878.71	-19.2
467	SLU 19	45	68	4434	-0.4	884.15	-23.74
467	SLU 20	44	56	4439	-0.08	886.14	-19.67
467	SLU 21	45	69	4472	-0.31	891.58	-24.2
467	SLU 22	46	50	4276	0.09	855.35	-17.59
467	SLU 23	48	72	4331	-0.31	864.42	-25.15
467	SLU 24	47	52	4343	0.19	868.26	-18.01
467	SLU 25	48	65	4376	-0.05	873.7	-22.55
467	SLU 26	49	73	4369	-0.22	871.85	-25.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
467	SLU 27	47	53	4382	0.27	875.69	-18.48
467	SLU 28	48	66	4415	0.04	881.13	-23.01
467	SLU 29	47	53	4352	0.26	870.22	-18.51
467	SLU 30	48	66	4385	0.02	875.66	-23.05
467	SLU 31	50	77	4795	-0.34	952.91	-27.03
467	SLU 32	49	57	4808	0.16	956.75	-19.9
467	SLU 33	50	70	4841	-0.08	962.19	-24.43
467	SLU 34	50	79	4833	-0.25	960.35	-27.5
467	SLU 35	49	58	4846	0.24	964.19	-20.36
467	SLU 36	50	71	4879	0	969.62	-24.9
467	SLU 37	48	58	4816	0.23	958.72	-20.4
467	SLU 38	50	71	4849	-0.01	964.15	-24.93
467	SLU 39	49	58	4939	0.04	981.77	-20.28
467	SLU 40	50	71	4972	-0.2	987.21	-24.82
467	SLU 41	49	59	4977	0.13	989.21	-20.74
467	SLU 42	50	72	5010	-0.11	994.65	-25.28
467	SLU 43	52	60	4674	-0.22	942.64	-21.1
467	SLU 44	54	82	4729	-0.62	951.7	-28.66
467	SLU 45	52	62	4742	-0.12	955.54	-21.52
467	SLU 46	54	75	4775	-0.36	960.98	-26.06
467	SLU 47	54	83	4767	-0.53	959.13	-29.12
467	SLU 48	52	63	4780	-0.04	962.97	-21.99
467	SLU 49	54	76	4813	-0.27	968.41	-26.52
467	SLU 50	52	63	4750	-0.05	957.5	-22.02
467	SLU 51	53	76	4783	-0.29	962.94	-26.56
467	SLU 52	56	87	5193	-0.65	1040.19	-30.54
467	SLU 53	54	67	5206	-0.15	1044.03	-23.41
467	SLU 54	56	80	5239	-0.39	1049.47	-27.95
467	SLU 55	56	89	5232	-0.56	1047.63	-31.01
467	SLU 56	54	68	5244	-0.07	1051.47	-23.87
467	SLU 57	56	81	5277	-0.3	1056.91	-28.41
467	SLU 58	54	68	5215	-0.08	1046	-23.91
467	SLU 59	55	81	5248	-0.32	1051.44	-28.45
467	SLU 60	54	68	5337	-0.27	1069.06	-23.79
467	SLU 61	56	81	5370	-0.5	1074.49	-28.33
467	SLU 62	55	69	5375	-0.18	1076.49	-24.25
467	SLU 63	56	82	5408	-0.42	1081.93	-28.79
467	SLU 64	57	63	5212	-0.02	1045.7	-22.17
467	SLU 65	59	85	5267	-0.41	1054.77	-29.73
467	SLU 66	58	65	5280	0.08	1058.61	-22.6
467	SLU 67	59	78	5313	-0.15	1064.05	-27.14
467	SLU 68	59	86	5306	-0.33	1062.2	-30.2
467	SLU 69	58	66	5318	0.17	1066.04	-23.06
467	SLU 70	59	79	5351	-0.07	1071.48	-27.6
467	SLU 71	57	66	5289	0.15	1060.57	-23.1
467	SLU 72	58	79	5322	-0.09	1066.01	-27.63
467	SLU 73	61	90	5732	-0.44	1143.26	-31.62
467	SLU 74	59	70	5744	0.05	1147.1	-24.48
467	SLU 75	61	83	5777	-0.19	1152.54	-29.02
467	SLU 76	61	92	5770	-0.36	1150.7	-32.08
467	SLU 77	60	71	5783	0.14	1154.53	-24.95
467	SLU 78	61	84	5816	-0.1	1159.97	-29.48
467	SLU 79	59	71	5753	0.12	1149.06	-24.98
467	SLU 80	60	84	5786	-0.12	1154.5	-29.52
467	SLU 81	60	71	5876	-0.06	1172.12	-24.86
467	SLU 82	61	84	5909	-0.3	1177.56	-29.4
467	SLU 83	60	72	5914	0.02	1179.56	-25.33
467	SLU 84	61	85	5947	-0.22	1185	-29.86
467	SLE RA 1	43	48	3891	-0.06	781.73	-16.82
467	SLE RA 2	44	63	3928	-0.32	787.78	-21.86
467	SLE RA 3	43	49	3936	0.01	790.34	-17.1
467	SLE RA 4	44	58	3958	-0.15	793.96	-20.13
467	SLE RA 5	44	63	3953	-0.27	792.73	-22.17
467	SLE RA 6	43	50	3962	0.06	795.29	-17.41
467	SLE RA 7	44	58	3984	-0.09	798.92	-20.44
467	SLE RA 8	43	50	3942	0.05	791.65	-17.44
467	SLE RA 9	44	59	3964	-0.1	795.27	-20.46
467	SLE RA 10	45	66	4237	-0.34	846.77	-23.12
467	SLE RA 11	44	53	4246	-0.01	849.33	-18.36
467	SLE RA 12	45	61	4268	-0.17	852.96	-21.38
467	SLE RA 13	45	67	4263	-0.29	851.73	-23.43
467	SLE RA 14	44	53	4271	0.04	854.29	-18.67
467	SLE RA 15	45	62	4293	-0.11	857.91	-21.69
467	SLE RA 16	44	53	4252	0.03	850.64	-18.69
467	SLE RA 17	45	62	4274	-0.12	854.27	-21.72
467	SLE RA 18	44	53	4333	-0.09	866.01	-18.61
467	SLE RA 19	45	62	4355	-0.25	869.64	-21.64
467	SLE RA 20	45	54	4359	-0.03	870.97	-18.92
467	SLE RA 21	45	63	4381	-0.19	874.6	-21.95
467	SLE FR 1	43	48	3891	-0.06	781.73	-16.82
467	SLE FR 2	43	51	3899	-0.11	782.94	-17.83
467	SLE FR 3	43	48	3901	-0.04	783.72	-16.94
467	SLE FR 4	43	53	4031	-0.12	808.23	-18.37
467	SLE FR 5	43	50	4034	-0.05	809	-17.48
467	SLE FR 6	44	51	4112	-0.07	823.87	-17.72
467	SLE QP 1	43	48	3891	-0.06	781.73	-16.82
467	SLE QP 2	43	50	4024	-0.07	807.02	-17.36
467	SLD 1	392	87	3353	-2.23	675.08	-30.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
467	SLD 2	437	206	3419	-2.69	684.8	-72.03
467	SLD 3	367	-189	2549	3.14	551.33	65.88
467	SLD 4	412	-69	2614	2.67	561.05	24.26
467	SLD 5	178	458	5032	-8.77	953.45	-160.17
467	SLD 6	207	535	5074	-9.07	959.71	-186.97
467	SLD 7	95	-460	2349	9.1	540.95	160.82
467	SLD 8	124	-383	2391	8.81	547.21	134.02
467	SLD 9	-38	483	5656	-8.94	1066.83	-168.74
467	SLD 10	-8	560	5698	-9.24	1073.09	-195.54
467	SLD 11	-120	-436	2973	8.93	654.32	152.25
467	SLD 12	-91	-359	3015	8.63	660.58	125.45
467	SLD 13	-326	169	5434	-2.81	1052.99	-58.98
467	SLD 14	-280	288	5499	-3.27	1062.71	-100.6
467	SLD 15	-351	-107	4629	2.55	929.24	37.32
467	SLD 16	-305	13	4694	2.09	938.96	-4.3
467	SLV 1	590	126	3036	-3.82	610.11	-44.27
467	SLV 2	661	315	3139	-4.55	625.44	-109.87
467	SLV 3	548	-344	1663	5.33	399.02	120.06
467	SLV 4	619	-156	1766	4.6	414.34	54.46
467	SLV 5	258	751	5791	-14.93	1065.25	-262.43
467	SLV 6	306	878	5860	-15.42	1075.57	-306.59
467	SLV 7	117	-817	1214	15.56	361.6	285.35
467	SLV 8	165	-690	1283	15.07	371.91	241.19
467	SLV 9	-79	789	6765	-15.21	1242.12	-275.9
467	SLV 10	-31	916	6834	-15.7	1252.44	-320.06
467	SLV 11	-220	-778	2187	15.28	538.47	271.88
467	SLV 12	-172	-651	2257	14.79	548.79	227.72
467	SLV 13	-532	255	6282	-4.74	1199.69	-89.18
467	SLV 14	-461	443	6385	-5.46	1215.02	-154.78
467	SLV 15	-575	-215	4909	4.41	988.6	75.16
467	SLV 16	-504	-27	5012	3.68	1003.92	9.56
467	SLV FO 1	645	134	2937	-4.19	590.42	-46.96
467	SLV FO 2	723	341	3050	-5	607.28	-119.12
467	SLV FO 3	598	-383	1427	5.87	358.22	133.8
467	SLV FO 4	676	-176	1540	5.07	375.08	61.64
467	SLV FO 5	280	821	5968	-16.42	1091.07	-286.94
467	SLV FO 6	332	960	6044	-16.96	1102.42	-335.52
467	SLV FO 7	124	-904	933	17.12	317.06	315.62
467	SLV FO 8	177	-764	1009	16.58	328.4	267.04
467	SLV FO 9	-91	863	7039	-16.72	1285.63	-301.76
467	SLV FO 10	-38	1003	7115	-17.26	1296.98	-350.33
467	SLV FO 11	-246	-861	2004	16.82	511.62	300.8
467	SLV FO 12	-193	-722	2080	16.28	522.96	252.23
467	SLV FO 13	-590	275	6508	-5.2	1238.96	-96.36
467	SLV FO 14	-512	483	6621	-6	1255.82	-168.52
467	SLV FO 15	-637	-242	4997	4.86	1006.76	84.41
467	SLV FO 16	-558	-35	5110	4.06	1023.61	12.25
467	CRTFP Ux+	0	0	0	0	0	0
467	CRTFP Ux-	0	0	0	0	0	0
467	CRTFP Uy+	0	0	0	0	0	0
467	CRTFP Uy-	0	0	0	0	0	0
469	SLU 1	11	-57	3720	1.23	1030.68	20.04
469	SLU 2	14	-34	3758	0.99	1039.97	12.02
469	SLU 3	10	-59	3789	1.33	1049.38	20.55
469	SLU 4	12	-45	3811	1.18	1054.95	15.74
469	SLU 5	13	-35	3801	1.06	1051.72	12.41
469	SLU 6	10	-60	3832	1.4	1061.13	20.93
469	SLU 7	11	-46	3854	1.25	1066.7	16.12
469	SLU 8	9	-60	3806	1.37	1054.18	20.82
469	SLU 9	11	-46	3829	1.23	1059.75	16
469	SLU 10	12	-41	4254	1.17	1175.28	14.28
469	SLU 11	9	-65	4285	1.51	1184.69	22.8
469	SLU 12	11	-51	4308	1.36	1190.26	17.99
469	SLU 13	12	-42	4297	1.24	1187.03	14.66
469	SLU 14	8	-66	4328	1.58	1196.44	23.19
469	SLU 15	10	-53	4351	1.43	1202.01	18.38
469	SLU 16	8	-66	4303	1.55	1189.49	23.07
469	SLU 17	10	-52	4325	1.41	1195.06	18.26
469	SLU 18	9	-67	4429	1.49	1223.98	23.26
469	SLU 19	11	-53	4452	1.34	1229.55	18.45
469	SLU 20	8	-68	4472	1.56	1235.73	23.65
469	SLU 21	10	-54	4495	1.41	1241.3	18.84
469	SLU 22	11	-65	4243	1.64	1172.7	22.56
469	SLU 23	14	-42	4281	1.4	1181.99	14.54
469	SLU 24	11	-66	4312	1.74	1191.4	23.06
469	SLU 25	13	-52	4335	1.59	1196.97	18.25
469	SLU 26	14	-43	4324	1.47	1193.74	14.92
469	SLU 27	10	-67	4355	1.81	1203.15	23.45
469	SLU 28	12	-53	4378	1.66	1208.72	18.64
469	SLU 29	10	-67	4330	1.78	1196.2	23.33
469	SLU 30	12	-53	4352	1.63	1201.77	18.52
469	SLU 31	13	-48	4777	1.58	1317.3	16.79
469	SLU 32	10	-72	4809	1.92	1326.71	25.32
469	SLU 33	11	-59	4831	1.77	1332.28	20.5
469	SLU 34	12	-49	4820	1.65	1329.04	17.18
469	SLU 35	9	-74	4852	1.99	1338.46	25.7
469	SLU 36	11	-60	4874	1.84	1344.03	20.89
469	SLU 37	9	-73	4826	1.96	1331.51	25.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
469	SLU 38	11	-59	4848	1.81	1337.08	20.77
469	SLU 39	10	-74	4953	1.9	1366	25.78
469	SLU 40	11	-60	4975	1.75	1371.57	20.97
469	SLU 41	9	-75	4996	1.97	1377.75	26.16
469	SLU 42	11	-61	5018	1.82	1383.32	21.35
469	SLU 43	14	-72	4657	1.46	1291.19	25.19
469	SLU 44	16	-49	4694	1.22	1300.48	17.17
469	SLU 45	13	-74	4726	1.56	1309.89	25.7
469	SLU 46	15	-60	4748	1.41	1315.47	20.89
469	SLU 47	16	-50	4737	1.29	1312.23	17.56
469	SLU 48	12	-75	4769	1.63	1321.64	26.09
469	SLU 49	14	-61	4791	1.48	1327.22	21.27
469	SLU 50	12	-74	4743	1.6	1314.69	25.97
469	SLU 51	14	-60	4765	1.46	1320.26	21.16
469	SLU 52	15	-56	5191	1.4	1435.79	19.43
469	SLU 53	12	-80	5222	1.74	1445.2	27.95
469	SLU 54	14	-66	5244	1.59	1450.78	23.14
469	SLU 55	15	-57	5234	1.47	1447.54	19.81
469	SLU 56	11	-81	5265	1.81	1456.95	28.34
469	SLU 57	13	-67	5287	1.66	1462.52	23.53
469	SLU 58	11	-81	5239	1.78	1450	28.22
469	SLU 59	13	-67	5262	1.64	1455.57	23.41
469	SLU 60	12	-81	5366	1.72	1484.49	28.41
469	SLU 61	14	-67	5388	1.57	1490.06	23.6
469	SLU 62	11	-82	5409	1.79	1496.24	28.8
469	SLU 63	13	-69	5431	1.64	1501.81	23.99
469	SLU 64	14	-79	5180	1.87	1433.21	27.71
469	SLU 65	17	-56	5218	1.63	1442.5	19.69
469	SLU 66	14	-81	5249	1.97	1451.91	28.21
469	SLU 67	16	-67	5271	1.82	1457.49	23.4
469	SLU 68	17	-57	5261	1.7	1454.25	20.07
469	SLU 69	13	-82	5292	2.04	1463.66	28.6
469	SLU 70	15	-68	5314	1.89	1469.23	23.79
469	SLU 71	13	-81	5266	2.01	1456.71	28.48
469	SLU 72	15	-68	5289	1.86	1462.28	23.67
469	SLU 73	16	-63	5714	1.81	1577.81	21.94
469	SLU 74	13	-87	5745	2.15	1587.22	30.47
469	SLU 75	14	-73	5768	2	1592.8	25.65
469	SLU 76	15	-64	5757	1.88	1589.56	22.33
469	SLU 77	12	-88	5788	2.22	1598.97	30.85
469	SLU 78	14	-74	5811	2.07	1604.54	26.04
469	SLU 79	12	-88	5763	2.19	1592.02	30.74
469	SLU 80	14	-74	5785	2.04	1597.59	25.92
469	SLU 81	13	-88	5889	2.13	1626.51	30.93
469	SLU 82	14	-75	5912	1.98	1632.08	26.12
469	SLU 83	12	-90	5932	2.2	1638.26	31.32
469	SLU 84	14	-76	5955	2.05	1643.83	26.5
469	SLE RA 1	11	-59	3870	1.35	1071.26	20.76
469	SLE RA 2	13	-44	3895	1.19	1077.45	15.41
469	SLE RA 3	11	-60	3915	1.41	1083.73	21.1
469	SLE RA 4	12	-51	3930	1.32	1087.44	17.89
469	SLE RA 5	12	-45	3923	1.23	1085.28	15.67
469	SLE RA 6	10	-61	3944	1.46	1091.56	21.36
469	SLE RA 7	11	-52	3959	1.36	1095.27	18.15
469	SLE RA 8	10	-61	3927	1.44	1086.92	21.28
469	SLE RA 9	11	-52	3942	1.34	1090.64	18.07
469	SLE RA 10	12	-48	4226	1.31	1167.65	16.92
469	SLE RA 11	10	-65	4246	1.53	1173.93	22.6
469	SLE RA 12	11	-55	4261	1.44	1177.65	19.39
469	SLE RA 13	12	-49	4254	1.35	1175.49	17.17
469	SLE RA 14	9	-65	4275	1.58	1181.76	22.86
469	SLE RA 15	10	-56	4290	1.48	1185.48	19.65
469	SLE RA 16	9	-65	4258	1.56	1177.13	22.78
469	SLE RA 17	10	-56	4273	1.46	1180.84	19.57
469	SLE RA 18	10	-66	4342	1.52	1200.12	22.91
469	SLE RA 19	11	-56	4357	1.42	1203.84	19.7
469	SLE RA 20	9	-66	4371	1.57	1207.96	23.17
469	SLE RA 21	10	-57	4386	1.47	1211.67	19.96
469	SLE FR 1	11	-59	3870	1.35	1071.26	20.76
469	SLE FR 2	11	-56	3875	1.32	1072.5	19.69
469	SLE FR 3	11	-60	3881	1.37	1074.39	20.86
469	SLE FR 4	11	-58	4016	1.37	1111.16	20.34
469	SLE FR 5	10	-62	4023	1.42	1113.05	21.51
469	SLE FR 6	10	-62	4106	1.44	1135.69	21.83
469	SLE QP 1	11	-59	3870	1.35	1071.26	20.76
469	SLE QP 2	11	-61	4011	1.4	1109.92	21.41
469	SLD 1	376	73	4339	-0.6	1196.55	-25.28
469	SLD 2	421	77	4354	-0.63	1199.53	-26.62
469	SLD 3	341	-218	3743	3.09	1046.25	76.33
469	SLD 4	386	-214	3757	3.05	1049.22	74.99
469	SLD 5	166	420	5012	-4.79	1363.36	-146.48
469	SLD 6	194	423	5022	-4.81	1365.27	-147.35
469	SLD 7	49	-551	3023	7.51	862.34	192.23
469	SLD 8	78	-548	3033	7.48	864.26	191.36
469	SLD 9	-57	425	4990	-4.68	1355.58	-148.55
469	SLD 10	-28	428	5000	-4.7	1357.49	-149.42
469	SLD 11	-173	-545	3001	7.61	854.56	190.16
469	SLD 12	-144	-542	3011	7.59	856.47	189.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
469	SLD 13	-365	91	4266	-0.25	1170.61	-32.18
469	SLD 14	-320	96	4280	-0.29	1173.58	-33.52
469	SLD 15	-400	-200	3669	3.44	1020.3	69.43
469	SLD 16	-355	-195	3684	3.4	1023.28	68.09
469	SLV 1	584	168	4567	-1.99	1256.22	-58.66
469	SLV 2	655	176	4590	-2.05	1260.91	-60.77
469	SLV 3	524	-328	3549	4.3	999.73	114.66
469	SLV 4	595	-321	3572	4.25	1004.42	112.54
469	SLV 5	260	760	5718	-9.15	1541.94	-265.08
469	SLV 6	307	765	5733	-9.19	1545.1	-266.5
469	SLV 7	61	-896	2324	11.82	686.98	312.63
469	SLV 8	108	-891	2340	11.79	690.13	311.21
469	SLV 9	-87	769	5683	-8.99	1529.7	-268.4
469	SLV 10	-40	774	5699	-9.02	1532.86	-269.82
469	SLV 11	-286	-887	2290	11.99	674.74	309.31
469	SLV 12	-239	-882	2305	11.95	677.89	307.89
469	SLV 13	-574	199	4451	-1.44	1215.42	-69.73
469	SLV 14	-503	206	4474	-1.5	1220.1	-71.85
469	SLV 15	-634	-298	3433	4.85	958.93	103.58
469	SLV 16	-563	-291	3456	4.8	963.62	101.47
469	SLV FO 1	642	191	4622	-2.33	1270.85	-66.66
469	SLV FO 2	719	199	4648	-2.39	1276.01	-68.99
469	SLV FO 3	576	-355	3503	4.59	988.71	123.98
469	SLV FO 4	653	-347	3528	4.53	993.87	121.66
469	SLV FO 5	285	842	5889	-10.21	1585.14	-293.72
469	SLV FO 6	337	847	5906	-10.25	1588.61	-295.29
469	SLV FO 7	66	-980	2156	12.87	644.68	341.75
469	SLV FO 8	118	-974	2173	12.83	648.16	340.19
469	SLV FO 9	-97	852	5850	-10.02	1571.68	-297.38
469	SLV FO 10	-45	857	5867	-10.06	1575.15	-298.94
469	SLV FO 11	-316	-970	2117	13.05	631.22	338.1
469	SLV FO 12	-264	-964	2134	13.01	634.69	336.53
469	SLV FO 13	-632	225	4495	-1.73	1225.97	-78.85
469	SLV FO 14	-555	233	4520	-1.79	1231.12	-81.17
469	SLV FO 15	-698	-322	3375	5.19	943.83	111.8
469	SLV FO 16	-620	-314	3401	5.14	948.99	109.47
469	CRTFP Ux+	0	0	0	0	0	0
469	CRTFP Ux-	0	0	0	0	0	0
469	CRTFP Uy+	0	0	0	0	0	0
469	CRTFP Uy-	0	0	0	0	0	0
472	SLU 1	-44	15	3339	1.62	-415.84	3.55
472	SLU 2	-47	34	3379	1.31	-417.79	8.33
472	SLU 3	-45	15	3410	1.73	-424.41	3.54
472	SLU 4	-47	27	3433	1.54	-425.58	6.41
472	SLU 5	-47	34	3424	1.39	-423.32	8.37
472	SLU 6	-46	15	3454	1.8	-429.93	3.58
472	SLU 7	-47	27	3478	1.62	-431.11	6.45
472	SLU 8	-46	15	3429	1.77	-426.9	3.63
472	SLU 9	-47	27	3452	1.59	-428.07	6.5
472	SLU 10	-49	37	3796	1.55	-467.41	9.03
472	SLU 11	-47	18	3827	1.96	-474.03	4.25
472	SLU 12	-49	30	3850	1.78	-475.2	7.12
472	SLU 13	-49	37	3841	1.63	-472.94	9.07
472	SLU 14	-48	18	3871	2.04	-479.56	4.29
472	SLU 15	-49	30	3895	1.86	-480.73	7.16
472	SLU 16	-48	18	3846	2.01	-476.52	4.33
472	SLU 17	-49	30	3870	1.83	-477.69	7.2
472	SLU 18	-47	19	3935	1.95	-486.73	4.55
472	SLU 19	-49	31	3959	1.77	-487.9	7.42
472	SLU 20	-48	19	3980	2.03	-492.26	4.59
472	SLU 21	-49	31	4004	1.85	-493.43	7.46
472	SLU 22	-50	15	3837	2.08	-475.91	3.56
472	SLU 23	-52	34	3877	1.78	-477.87	8.34
472	SLU 24	-51	15	3907	2.19	-484.48	3.55
472	SLU 25	-52	27	3931	2.01	-485.65	6.42
472	SLU 26	-53	35	3921	1.86	-483.4	8.38
472	SLU 27	-51	16	3952	2.27	-490.01	3.59
472	SLU 28	-53	27	3976	2.09	-491.18	6.46
472	SLU 29	-51	16	3927	2.24	-486.97	3.64
472	SLU 30	-52	27	3950	2.06	-488.14	6.5
472	SLU 31	-54	37	4294	2.01	-527.49	9.04
472	SLU 32	-53	18	4324	2.43	-534.11	4.26
472	SLU 33	-54	30	4348	2.24	-535.28	7.12
472	SLU 34	-55	38	4339	2.09	-533.02	9.08
472	SLU 35	-53	18	4369	2.51	-539.63	4.3
472	SLU 36	-55	30	4393	2.32	-540.81	7.16
472	SLU 37	-53	19	4344	2.47	-536.6	4.34
472	SLU 38	-54	30	4367	2.29	-537.77	7.21
472	SLU 39	-53	20	4433	2.42	-546.8	4.56
472	SLU 40	-54	31	4457	2.24	-547.98	7.43
472	SLU 41	-53	20	4478	2.5	-552.33	4.6
472	SLU 42	-55	31	4501	2.32	-553.51	7.47
472	SLU 43	-56	20	4171	1.94	-519.99	4.61
472	SLU 44	-58	39	4210	1.64	-521.94	9.39
472	SLU 45	-57	20	4241	2.05	-528.56	4.6
472	SLU 46	-58	31	4264	1.87	-529.73	7.47
472	SLU 47	-59	39	4255	1.72	-527.47	9.43
472	SLU 48	-57	20	4285	2.13	-534.09	4.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
472	SLU 49	-59	31	4309	1.95	-535.26	7.51
472	SLU 50	-57	20	4260	2.1	-531.05	4.69
472	SLU 51	-58	31	4284	1.92	-532.22	7.56
472	SLU 52	-60	42	4627	1.87	-571.57	10.09
472	SLU 53	-59	22	4658	2.29	-578.18	5.31
472	SLU 54	-60	34	4681	2.11	-579.36	8.18
472	SLU 55	-61	42	4672	1.95	-577.1	10.13
472	SLU 56	-59	23	4702	2.37	-583.71	5.35
472	SLU 57	-61	34	4726	2.18	-584.88	8.22
472	SLU 58	-59	23	4677	2.34	-580.67	5.39
472	SLU 59	-60	34	4701	2.15	-581.85	8.26
472	SLU 60	-59	24	4766	2.28	-590.88	5.61
472	SLU 61	-60	35	4790	2.1	-592.05	8.48
472	SLU 62	-59	24	4811	2.36	-596.41	5.66
472	SLU 63	-61	35	4835	2.18	-597.58	8.52
472	SLU 64	-61	20	4668	2.4	-580.07	4.62
472	SLU 65	-63	39	4708	2.1	-582.02	9.4
472	SLU 66	-62	20	4738	2.51	-588.63	4.61
472	SLU 67	-64	31	4762	2.33	-589.81	7.48
472	SLU 68	-64	39	4753	2.18	-587.55	9.44
472	SLU 69	-63	20	4783	2.59	-594.16	4.65
472	SLU 70	-64	31	4807	2.41	-595.34	7.52
472	SLU 71	-62	20	4758	2.56	-591.12	4.7
472	SLU 72	-64	32	4781	2.38	-592.3	7.57
472	SLU 73	-65	42	5125	2.34	-631.64	10.1
472	SLU 74	-64	23	5156	2.75	-638.26	5.32
472	SLU 75	-66	34	5179	2.57	-639.43	8.18
472	SLU 76	-66	42	5170	2.42	-637.17	10.14
472	SLU 77	-65	23	5200	2.83	-643.79	5.36
472	SLU 78	-66	34	5224	2.65	-644.96	8.23
472	SLU 79	-64	23	5175	2.8	-640.75	5.4
472	SLU 80	-66	35	5199	2.62	-641.92	8.27
472	SLU 81	-64	24	5264	2.74	-650.96	5.62
472	SLU 82	-65	35	5288	2.56	-652.13	8.49
472	SLU 83	-65	24	5309	2.82	-656.49	5.66
472	SLU 84	-66	36	5333	2.64	-657.66	8.53
472	SLE RA 1	-46	15	3482	1.75	-433	3.55
472	SLE RA 2	-47	28	3508	1.55	-434.3	6.74
472	SLE RA 3	-47	15	3528	1.82	-438.71	3.55
472	SLE RA 4	-47	23	3544	1.7	-439.5	5.46
472	SLE RA 5	-48	28	3538	1.6	-437.99	6.76
472	SLE RA 6	-47	15	3558	1.87	-442.4	3.57
472	SLE RA 7	-48	23	3574	1.75	-443.18	5.49
472	SLE RA 8	-47	15	3541	1.85	-440.37	3.6
472	SLE RA 9	-48	23	3557	1.73	-441.16	5.52
472	SLE RA 10	-49	30	3786	1.7	-467.39	7.21
472	SLE RA 11	-48	17	3806	1.98	-471.8	4.02
472	SLE RA 12	-49	25	3822	1.86	-472.58	5.93
472	SLE RA 13	-49	30	3816	1.76	-471.07	7.23
472	SLE RA 14	-48	17	3836	2.03	-475.48	4.04
472	SLE RA 15	-49	25	3852	1.91	-476.26	5.96
472	SLE RA 16	-48	17	3819	2.01	-473.46	4.07
472	SLE RA 17	-49	25	3835	1.89	-474.24	5.99
472	SLE RA 18	-48	18	3879	1.97	-480.26	4.22
472	SLE RA 19	-49	26	3895	1.85	-481.04	6.13
472	SLE RA 20	-48	18	3909	2.03	-483.95	4.25
472	SLE RA 21	-49	26	3924	1.9	-484.73	6.16
472	SLE FR 1	-46	15	3482	1.75	-433	3.55
472	SLE FR 2	-46	18	3487	1.71	-433.26	4.19
472	SLE FR 3	-46	15	3494	1.77	-434.48	3.56
472	SLE FR 4	-47	19	3606	1.77	-447.44	4.39
472	SLE FR 5	-47	16	3613	1.84	-448.65	3.76
472	SLE FR 6	-47	17	3680	1.86	-456.63	3.88
472	SLE QP 1	-46	15	3482	1.75	-433	3.55
472	SLE QP 2	-46	16	3601	1.82	-447.18	3.75
472	SLD 1	208	228	4943	0.28	-584.17	56.47
472	SLD 2	238	125	4898	0.65	-582.96	30.81
472	SLD 3	229	-16	4345	4.33	-551.14	-4.33
472	SLD 4	259	-119	4299	4.71	-549.92	-29.98
472	SLD 5	-7	467	4918	-4.87	-538.59	116.18
472	SLD 6	12	400	4889	-4.62	-537.8	99.66
472	SLD 7	63	-345	2924	8.66	-428.47	-86.47
472	SLD 8	82	-412	2895	8.91	-427.69	-102.98
472	SLD 9	-175	444	4306	-5.27	-466.67	110.49
472	SLD 10	-156	377	4277	-5.03	-465.88	93.97
472	SLD 11	-105	-368	2312	8.25	-356.55	-92.16
472	SLD 12	-86	-435	2283	8.5	-355.77	-108.68
472	SLD 13	-352	151	2902	-1.08	-344.43	37.48
472	SLD 14	-322	47	2857	-0.7	-343.22	11.83
472	SLD 15	-331	-93	2304	2.98	-311.4	-23.31
472	SLD 16	-301	-196	2259	3.35	-310.19	-48.96
472	SLV 1	350	366	5739	-0.88	-663.37	90.67
472	SLV 2	397	203	5668	-0.29	-661.45	50.23
472	SLV 3	386	-50	4718	6.04	-606.95	-13.02
472	SLV 4	433	-213	4647	6.63	-605.03	-53.46
472	SLV 5	9	782	5804	-9.61	-597.97	194.64
472	SLV 6	41	672	5756	-9.2	-596.68	167.42
472	SLV 7	129	-604	2401	13.47	-409.89	-151

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
472	SLV 8	161	-713	2353	13.87	-408.6	-178.22
472	SLV 9	-254	745	4848	-10.24	-485.76	185.72
472	SLV 10	-222	636	4801	-9.84	-484.47	158.51
472	SLV 11	-134	-640	1446	12.83	-297.68	-159.92
472	SLV 12	-102	-750	1398	13.24	-296.39	-187.13
472	SLV 13	-526	245	2555	-3	-289.33	60.96
472	SLV 14	-479	82	2484	-2.41	-287.41	20.53
472	SLV 15	-490	-171	1534	3.92	-232.9	-42.73
472	SLV 16	-443	-334	1463	4.52	-230.99	-83.17
472	SLV FO 1	390	401	5952	-1.15	-684.99	99.36
472	SLV FO 2	442	221	5874	-0.5	-682.88	54.88
472	SLV FO 3	430	-56	4830	6.46	-622.92	-14.7
472	SLV FO 4	481	-236	4751	7.12	-620.82	-59.18
472	SLV FO 5	15	858	6024	-10.75	-613.05	213.72
472	SLV FO 6	50	737	5971	-10.31	-611.63	183.78
472	SLV FO 7	147	-666	2281	14.64	-406.16	-166.48
472	SLV FO 8	182	-786	2228	15.08	-404.74	-196.42
472	SLV FO 9	-275	818	4973	-11.45	-489.61	203.92
472	SLV FO 10	-240	698	4921	-11.01	-488.2	173.98
472	SLV FO 11	-143	-706	1230	13.94	-282.73	-176.28
472	SLV FO 12	-108	-826	1178	14.38	-281.31	-206.22
472	SLV FO 13	-574	268	2450	-3.49	-273.54	66.68
472	SLV FO 14	-523	88	2372	-2.83	-271.44	22.2
472	SLV FO 15	-535	-189	1327	4.13	-211.48	-47.38
472	SLV FO 16	-483	-369	1249	4.79	-209.37	-91.86
472	CRTFP Ux+	0	0	0	0	0	0
472	CRTFP Ux-	0	0	0	0	0	0
472	CRTFP Uy+	0	0	0	0	0	0
472	CRTFP Uy-	0	0	0	0	0	0
475	SLU 1	-68	-16	6199	0.32	-35.77	-1.3
475	SLU 2	-72	16	6265	-0.19	-35.09	-1.49
475	SLU 3	-70	-17	6323	0.49	-36.61	-1.36
475	SLU 4	-72	3	6363	0.18	-36.2	-1.47
475	SLU 5	-73	15	6344	-0.07	-35.65	-1.53
475	SLU 6	-71	-17	6402	0.61	-37.16	-1.39
475	SLU 7	-73	2	6442	0.3	-36.75	-1.5
475	SLU 8	-70	-17	6356	0.57	-36.88	-1.37
475	SLU 9	-72	2	6396	0.26	-36.47	-1.49
475	SLU 10	-74	15	7083	-0.08	-41.29	-1.64
475	SLU 11	-72	-17	7141	0.6	-42.8	-1.5
475	SLU 12	-74	2	7181	0.29	-42.39	-1.62
475	SLU 13	-75	15	7162	0.05	-41.84	-1.68
475	SLU 14	-73	-17	7220	0.73	-43.35	-1.54
475	SLU 15	-75	2	7260	0.42	-42.94	-1.65
475	SLU 16	-72	-17	7175	0.68	-43.07	-1.52
475	SLU 17	-74	2	7214	0.38	-42.66	-1.64
475	SLU 18	-71	-17	7368	0.49	-44.62	-1.52
475	SLU 19	-73	2	7408	0.18	-44.21	-1.63
475	SLU 20	-72	-17	7447	0.61	-45.18	-1.55
475	SLU 21	-74	2	7486	0.3	-44.77	-1.66
475	SLU 22	-77	-17	7134	0.85	-41.68	-1.63
475	SLU 23	-81	15	7200	0.34	-41	-1.81
475	SLU 24	-79	-18	7258	1.01	-42.51	-1.68
475	SLU 25	-81	2	7298	0.71	-42.1	-1.79
475	SLU 26	-82	14	7279	0.46	-41.55	-1.85
475	SLU 27	-80	-18	7337	1.14	-43.06	-1.71
475	SLU 28	-82	1	7377	0.83	-42.65	-1.83
475	SLU 29	-79	-18	7291	1.09	-42.78	-1.7
475	SLU 30	-81	1	7331	0.79	-42.38	-1.81
475	SLU 31	-83	14	8018	0.45	-47.19	-1.96
475	SLU 32	-81	-18	8076	1.13	-48.7	-1.83
475	SLU 33	-83	1	8116	0.82	-48.3	-1.94
475	SLU 34	-84	14	8097	0.57	-47.74	-2
475	SLU 35	-82	-18	8155	1.25	-49.26	-1.86
475	SLU 36	-84	1	8195	0.95	-48.85	-1.98
475	SLU 37	-81	-18	8110	1.21	-48.98	-1.85
475	SLU 38	-83	1	8149	0.9	-48.57	-1.96
475	SLU 39	-80	-18	8303	1.01	-50.53	-1.84
475	SLU 40	-82	1	8343	0.71	-50.12	-1.95
475	SLU 41	-81	-18	8382	1.14	-51.08	-1.87
475	SLU 42	-83	1	8421	0.83	-50.67	-1.99
475	SLU 43	-85	-21	7738	0.24	-44.48	-1.58
475	SLU 44	-89	11	7804	-0.28	-43.8	-1.77
475	SLU 45	-87	-21	7862	0.4	-45.31	-1.63
475	SLU 46	-89	-2	7902	0.09	-44.9	-1.75
475	SLU 47	-90	11	7883	-0.15	-44.35	-1.81
475	SLU 48	-88	-21	7941	0.53	-45.87	-1.67
475	SLU 49	-90	-2	7981	0.22	-45.46	-1.78
475	SLU 50	-87	-21	7895	0.48	-45.59	-1.65
475	SLU 51	-90	-2	7935	0.18	-45.18	-1.77
475	SLU 52	-91	11	8623	-0.16	-49.99	-1.92
475	SLU 53	-89	-22	8681	0.52	-51.51	-1.78
475	SLU 54	-91	-2	8720	0.21	-51.1	-1.9
475	SLU 55	-92	10	8701	-0.04	-50.55	-1.96
475	SLU 56	-90	-22	8759	0.64	-52.06	-1.82
475	SLU 57	-92	-3	8799	0.33	-51.65	-1.93
475	SLU 58	-90	-22	8714	0.6	-51.78	-1.8
475	SLU 59	-92	-3	8753	0.29	-51.37	-1.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLU 60	-89	-22	8907	0.4	-53.33	-1.8
475	SLU 61	-91	-2	8947	0.09	-52.92	-1.91
475	SLU 62	-90	-22	8986	0.52	-53.88	-1.83
475	SLU 63	-92	-3	9025	0.22	-53.47	-1.94
475	SLU 64	-94	-22	8673	0.76	-50.39	-1.9
475	SLU 65	-98	10	8739	0.25	-49.71	-2.09
475	SLU 66	-96	-22	8797	0.93	-51.22	-1.96
475	SLU 67	-98	-3	8837	0.62	-50.81	-2.07
475	SLU 68	-99	10	8818	0.37	-50.26	-2.13
475	SLU 69	-97	-22	8876	1.05	-51.77	-1.99
475	SLU 70	-99	-3	8916	0.75	-51.36	-2.11
475	SLU 71	-96	-22	8830	1.01	-51.49	-1.98
475	SLU 72	-99	-3	8870	0.7	-51.08	-2.09
475	SLU 73	-100	10	9558	0.37	-55.9	-2.24
475	SLU 74	-98	-23	9616	1.05	-57.41	-2.11
475	SLU 75	-100	-4	9655	0.74	-57	-2.22
475	SLU 76	-101	9	9636	0.49	-56.45	-2.28
475	SLU 77	-99	-23	9694	1.17	-57.96	-2.14
475	SLU 78	-101	-4	9734	0.86	-57.56	-2.26
475	SLU 79	-99	-23	9649	1.13	-57.69	-2.13
475	SLU 80	-101	-4	9688	0.82	-57.28	-2.24
475	SLU 81	-98	-23	9842	0.93	-59.24	-2.12
475	SLU 82	-100	-3	9882	0.62	-58.83	-2.23
475	SLU 83	-99	-23	9921	1.05	-59.79	-2.15
475	SLU 84	-101	-4	9960	0.74	-59.38	-2.27
475	SLE RA 1	-71	-17	6466	0.47	-37.46	-1.39
475	SLE RA 2	-73	5	6510	0.13	-37.01	-1.52
475	SLE RA 3	-72	-17	6549	0.58	-38.02	-1.43
475	SLE RA 4	-73	-4	6575	0.38	-37.74	-1.51
475	SLE RA 5	-74	5	6563	0.21	-37.38	-1.54
475	SLE RA 6	-72	-17	6601	0.66	-38.38	-1.45
475	SLE RA 7	-74	-4	6628	0.46	-38.11	-1.53
475	SLE RA 8	-72	-17	6571	0.64	-38.2	-1.44
475	SLE RA 9	-73	-4	6597	0.43	-37.93	-1.52
475	SLE RA 10	-74	4	7056	0.21	-41.14	-1.62
475	SLE RA 11	-73	-17	7094	0.66	-42.14	-1.53
475	SLE RA 12	-75	-4	7121	0.45	-41.87	-1.6
475	SLE RA 13	-75	4	7108	0.29	-41.5	-1.64
475	SLE RA 14	-74	-17	7147	0.74	-42.51	-1.55
475	SLE RA 15	-75	-4	7173	0.54	-42.24	-1.63
475	SLE RA 16	-73	-17	7117	0.71	-42.33	-1.54
475	SLE RA 17	-75	-4	7143	0.51	-42.06	-1.62
475	SLE RA 18	-73	-17	7245	0.58	-43.36	-1.54
475	SLE RA 19	-74	-4	7272	0.38	-43.09	-1.61
475	SLE RA 20	-73	-17	7298	0.66	-43.73	-1.56
475	SLE RA 21	-75	-4	7324	0.46	-43.46	-1.64
475	SLE FR 1	-71	-17	6466	0.47	-37.46	-1.39
475	SLE FR 2	-71	-12	6475	0.4	-37.37	-1.42
475	SLE FR 3	-71	-17	6487	0.5	-37.61	-1.4
475	SLE FR 4	-72	-12	6709	0.44	-39.14	-1.46
475	SLE FR 5	-72	-17	6721	0.54	-39.38	-1.45
475	SLE FR 6	-72	-17	6856	0.53	-40.41	-1.47
475	SLE QP 1	-71	-17	6466	0.47	-37.46	-1.39
475	SLE QP 2	-71	-17	6700	0.5	-39.23	-1.44
475	SLD 1	480	173	7809	-3.43	-13.43	-0.21
475	SLD 2	547	89	7752	-3.07	-14.82	2.34
475	SLD 3	518	-233	6826	3.6	-17.82	1.75
475	SLD 4	584	-316	6770	3.97	-19.21	4.3
475	SLD 5	26	669	8533	-11.41	-24.59	-4.48
475	SLD 6	69	616	8496	-11.17	-25.49	-2.84
475	SLD 7	151	-682	5257	12.04	-39.23	2.05
475	SLD 8	194	-736	5221	12.28	-40.12	3.69
475	SLD 9	-336	702	8179	-11.27	-38.34	-6.57
475	SLD 10	-294	649	8143	-11.03	-39.23	-4.93
475	SLD 11	-211	-649	4903	12.18	-52.98	-0.04
475	SLD 12	-168	-703	4867	12.42	-53.87	1.61
475	SLD 13	-727	283	6630	-2.96	-59.25	-7.17
475	SLD 14	-660	199	6574	-2.59	-60.64	-4.62
475	SLD 15	-689	-123	5647	4.08	-63.65	-5.21
475	SLD 16	-623	-206	5591	4.44	-65.03	-2.66
475	SLV 1	789	309	8502	-6.16	1.35	0.32
475	SLV 2	893	178	8413	-5.58	-0.83	4.34
475	SLV 3	853	-382	6825	5.84	-6.12	3.65
475	SLV 4	957	-514	6736	6.42	-8.31	7.68
475	SLV 5	71	1154	9800	-19.8	-15.31	-6.72
475	SLV 6	141	1066	9740	-19.41	-16.78	-4.01
475	SLV 7	283	-1151	4211	20.2	-40.23	4.4
475	SLV 8	353	-1239	4151	20.59	-41.7	7.11
475	SLV 9	-496	1206	9249	-19.58	-36.77	-9.98
475	SLV 10	-426	1117	9189	-19.19	-38.24	-7.27
475	SLV 11	-284	-1099	3659	20.42	-61.68	1.14
475	SLV 12	-213	-1188	3599	20.81	-63.15	3.85
475	SLV 13	-1100	480	6663	-5.41	-70.15	-10.55
475	SLV 14	-995	349	6574	-4.83	-72.34	-6.53
475	SLV 15	-1036	-211	4987	6.59	-77.63	-7.21
475	SLV 16	-931	-343	4898	7.17	-79.81	-3.19
475	SLV FO 1	875	342	8682	-6.83	5.41	0.49
475	SLV FO 2	990	197	8584	-6.19	3.01	4.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLV FO 3	945	-419	6838	6.37	-2.81	4.16
475	SLV FO 4	1060	-564	6740	7.01	-5.22	8.59
475	SLV FO 5	85	1272	10110	-21.83	-12.92	-7.25
475	SLV FO 6	162	1174	10044	-21.4	-14.54	-4.27
475	SLV FO 7	318	-1264	3962	22.16	-40.33	4.98
475	SLV FO 8	396	-1361	3896	22.59	-41.94	7.96
475	SLV FO 9	-538	1328	9503	-21.59	-36.52	-10.84
475	SLV FO 10	-461	1231	9438	-21.16	-38.14	-7.86
475	SLV FO 11	-305	-1208	3355	22.41	-63.92	1.4
475	SLV FO 12	-227	-1305	3289	22.84	-65.54	4.38
475	SLV FO 13	-1203	530	6660	-6	-73.25	-11.46
475	SLV FO 14	-1088	385	6562	-5.36	-75.65	-7.04
475	SLV FO 15	-1132	-231	4815	7.2	-81.47	-7.79
475	SLV FO 16	-1017	-375	4717	7.84	-83.87	-3.37
475	CRTFP Ux+	0	0	0	0	0	0
475	CRTFP Ux-	0	0	0	0	0	0
475	CRTFP Uy+	0	0	0	0	0	0
475	CRTFP Uy-	0	0	0	0	0	0
478	SLU 1	83	-76	6074	-0.92	28.29	-2.43
478	SLU 2	85	-44	6140	-1.45	26.77	-2.31
478	SLU 3	84	-77	6186	-0.78	28.94	-2.51
478	SLU 4	86	-58	6226	-1.1	28.02	-2.44
478	SLU 5	85	-45	6207	-1.34	27.27	-2.37
478	SLU 6	85	-78	6254	-0.67	29.44	-2.57
478	SLU 7	86	-59	6293	-0.99	28.53	-2.5
478	SLU 8	84	-77	6209	-0.69	29.3	-2.56
478	SLU 9	85	-58	6249	-1.01	28.38	-2.49
478	SLU 10	90	-52	6924	-1.56	30.44	-2.58
478	SLU 11	89	-85	6970	-0.89	32.61	-2.78
478	SLU 12	91	-66	7010	-1.21	31.69	-2.71
478	SLU 13	90	-53	6992	-1.45	30.94	-2.64
478	SLU 14	90	-85	7038	-0.78	33.11	-2.84
478	SLU 15	91	-67	7078	-1.1	32.19	-2.77
478	SLU 16	89	-85	6993	-0.81	32.96	-2.83
478	SLU 17	90	-66	7033	-1.12	32.05	-2.76
478	SLU 18	90	-86	7194	-1.08	33.53	-2.81
478	SLU 19	91	-68	7234	-1.39	32.62	-2.74
478	SLU 20	91	-87	7262	-0.97	34.03	-2.88
478	SLU 21	92	-68	7302	-1.28	33.12	-2.81
478	SLU 22	94	-85	6971	-0.63	31.87	-2.71
478	SLU 23	96	-53	7037	-1.16	30.34	-2.59
478	SLU 24	95	-86	7083	-0.49	32.51	-2.79
478	SLU 25	97	-67	7123	-0.81	31.6	-2.72
478	SLU 26	96	-54	7104	-1.05	30.84	-2.66
478	SLU 27	96	-87	7151	-0.38	33.01	-2.86
478	SLU 28	97	-68	7190	-0.7	32.1	-2.79
478	SLU 29	95	-86	7106	-0.41	32.87	-2.84
478	SLU 30	96	-67	7146	-0.72	31.95	-2.77
478	SLU 31	101	-61	7821	-1.27	34.01	-2.86
478	SLU 32	100	-94	7867	-0.6	36.18	-3.06
478	SLU 33	101	-75	7907	-0.92	35.26	-2.99
478	SLU 34	101	-62	7889	-1.16	34.51	-2.93
478	SLU 35	100	-94	7935	-0.49	36.68	-3.13
478	SLU 36	102	-76	7975	-0.81	35.77	-3.06
478	SLU 37	99	-94	7890	-0.52	36.54	-3.11
478	SLU 38	101	-75	7930	-0.84	35.62	-3.04
478	SLU 39	101	-96	8091	-0.79	37.11	-3.1
478	SLU 40	102	-77	8131	-1.11	36.19	-3.03
478	SLU 41	101	-96	8159	-0.68	37.61	-3.16
478	SLU 42	103	-77	8198	-0.99	36.69	-3.09
478	SLU 43	105	-95	7588	-1.29	35.56	-3.06
478	SLU 44	107	-64	7654	-1.82	34.03	-2.94
478	SLU 45	106	-97	7701	-1.15	36.2	-3.14
478	SLU 46	107	-78	7740	-1.47	35.29	-3.07
478	SLU 47	107	-65	7722	-1.71	34.53	-3
478	SLU 48	106	-97	7768	-1.04	36.7	-3.21
478	SLU 49	107	-78	7808	-1.36	35.79	-3.13
478	SLU 50	105	-97	7723	-1.07	36.56	-3.19
478	SLU 51	106	-78	7763	-1.39	35.64	-3.12
478	SLU 52	111	-71	8439	-1.93	37.7	-3.21
478	SLU 53	111	-104	8485	-1.27	39.87	-3.41
478	SLU 54	112	-85	8525	-1.58	38.96	-3.34
478	SLU 55	112	-72	8506	-1.82	38.2	-3.27
478	SLU 56	111	-105	8553	-1.15	40.37	-3.48
478	SLU 57	112	-86	8592	-1.47	39.46	-3.4
478	SLU 58	110	-104	8508	-1.18	40.23	-3.46
478	SLU 59	111	-85	8548	-1.5	39.31	-3.39
478	SLU 60	112	-106	8709	-1.45	40.8	-3.45
478	SLU 61	113	-87	8748	-1.77	39.88	-3.37
478	SLU 62	112	-107	8776	-1.34	41.3	-3.51
478	SLU 63	113	-88	8816	-1.66	40.38	-3.44
478	SLU 64	115	-104	8485	-1	39.13	-3.34
478	SLU 65	117	-73	8551	-1.53	37.6	-3.22
478	SLU 66	117	-106	8597	-0.86	39.78	-3.42
478	SLU 67	118	-87	8637	-1.18	38.86	-3.35
478	SLU 68	118	-74	8619	-1.42	38.1	-3.29
478	SLU 69	117	-106	8665	-0.75	40.28	-3.49
478	SLU 70	118	-88	8705	-1.07	39.36	-3.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
478	SLU 71	116	-106	8620	-0.78	40.13	-3.48
478	SLU 72	117	-87	8660	-1.1	39.22	-3.4
478	SLU 73	122	-80	9336	-1.64	41.27	-3.49
478	SLU 74	121	-113	9382	-0.98	43.44	-3.69
478	SLU 75	123	-94	9422	-1.29	42.53	-3.62
478	SLU 76	122	-81	9403	-1.53	41.77	-3.56
478	SLU 77	122	-114	9450	-0.86	43.94	-3.76
478	SLU 78	123	-95	9489	-1.18	43.03	-3.69
478	SLU 79	121	-113	9405	-0.89	43.8	-3.75
478	SLU 80	122	-95	9445	-1.21	42.88	-3.67
478	SLU 81	122	-115	9606	-1.16	44.37	-3.73
478	SLU 82	124	-96	9645	-1.48	43.45	-3.66
478	SLU 83	123	-116	9673	-1.05	44.87	-3.8
478	SLU 84	124	-97	9713	-1.37	43.95	-3.72
478	SLE RA 1	86	-78	6330	-0.83	29.31	-2.51
478	SLE RA 2	88	-57	6374	-1.19	28.3	-2.43
478	SLE RA 3	87	-79	6405	-0.74	29.75	-2.56
478	SLE RA 4	88	-67	6431	-0.95	29.13	-2.52
478	SLE RA 5	88	-58	6419	-1.11	28.63	-2.47
478	SLE RA 6	87	-80	6450	-0.67	30.08	-2.61
478	SLE RA 7	88	-67	6476	-0.88	29.47	-2.56
478	SLE RA 8	87	-79	6420	-0.69	29.98	-2.6
478	SLE RA 9	87	-67	6447	-0.9	29.37	-2.55
478	SLE RA 10	91	-62	6897	-1.26	30.74	-2.61
478	SLE RA 11	90	-84	6928	-0.82	32.19	-2.74
478	SLE RA 12	91	-72	6954	-1.03	31.58	-2.7
478	SLE RA 13	91	-63	6942	-1.19	31.08	-2.65
478	SLE RA 14	91	-85	6973	-0.74	32.52	-2.79
478	SLE RA 15	91	-72	6999	-0.96	31.91	-2.74
478	SLE RA 16	90	-84	6943	-0.76	32.43	-2.78
478	SLE RA 17	91	-72	6969	-0.97	31.82	-2.73
478	SLE RA 18	91	-85	7077	-0.94	32.81	-2.77
478	SLE RA 19	92	-73	7103	-1.15	32.2	-2.72
478	SLE RA 20	91	-86	7122	-0.87	33.14	-2.81
478	SLE RA 21	92	-73	7148	-1.08	32.53	-2.76
478	SLE FR 1	86	-78	6330	-0.83	29.31	-2.51
478	SLE FR 2	87	-74	6339	-0.91	29.11	-2.49
478	SLE FR 3	86	-78	6348	-0.8	29.45	-2.53
478	SLE FR 4	88	-76	6563	-0.94	30.16	-2.57
478	SLE FR 5	88	-81	6572	-0.84	30.5	-2.6
478	SLE FR 6	89	-82	6703	-0.89	31.06	-2.64
478	SLE QP 1	86	-78	6330	-0.83	29.31	-2.51
478	SLE QP 2	88	-80	6554	-0.87	30.36	-2.59
478	SLD 1	671	153	6518	-3.79	36.38	1.63
478	SLD 2	742	233	6571	-4.2	33.7	4.1
478	SLD 3	648	-258	5522	3.47	50.62	0.1
478	SLD 4	719	-178	5575	3.07	47.93	2.57
478	SLD 5	286	600	8045	-12.7	11.04	0.58
478	SLD 6	332	651	8079	-12.96	9.31	2.17
478	SLD 7	208	-771	4724	11.53	58.49	-4.53
478	SLD 8	254	-720	4758	11.27	56.76	-2.94
478	SLD 9	-79	559	8350	-13	3.96	-2.23
478	SLD 10	-33	611	8384	-13.26	2.23	-0.65
478	SLD 11	-156	-812	5029	11.22	51.41	-7.34
478	SLD 12	-110	-761	5063	10.97	49.68	-5.75
478	SLD 13	-544	17	7533	-4.8	12.79	-7.74
478	SLD 14	-473	97	7586	-5.2	10.1	-5.28
478	SLD 15	-567	-394	6537	2.47	27.02	-9.27
478	SLD 16	-496	-314	6590	2.06	24.34	-6.81
478	SLV 1	1002	314	6571	-5.96	38.86	4.1
478	SLV 2	1114	440	6654	-6.59	34.63	7.98
478	SLV 3	962	-388	4871	6.44	63.12	1.48
478	SLV 4	1075	-262	4954	5.81	58.89	5.37
478	SLV 5	401	1079	9122	-21.08	-3.09	2.66
478	SLV 6	476	1164	9178	-21.5	-5.94	5.27
478	SLV 7	269	-1261	3455	20.25	77.77	-6.05
478	SLV 8	345	-1176	3511	19.82	74.92	-3.44
478	SLV 9	-169	1015	9597	-21.55	-14.2	-1.73
478	SLV 10	-94	1100	9653	-21.98	-17.05	0.88
478	SLV 11	-301	-1325	3930	19.77	66.67	-10.45
478	SLV 12	-225	-1240	3986	19.35	63.82	-7.83
478	SLV 13	-899	101	8154	-7.54	1.84	-10.54
478	SLV 14	-787	227	8237	-8.17	-2.4	-6.66
478	SLV 15	-939	-601	6454	4.86	26.1	-13.15
478	SLV 16	-826	-475	6537	4.22	21.86	-9.27
478	SLV FO 1	1093	354	6572	-6.47	39.71	4.77
478	SLV FO 2	1217	492	6664	-7.16	35.05	9.04
478	SLV FO 3	1050	-419	4702	7.17	66.39	1.89
478	SLV FO 4	1173	-280	4794	6.47	61.74	6.16
478	SLV FO 5	432	1195	9378	-23.1	-6.44	3.18
478	SLV FO 6	515	1288	9440	-23.57	-9.57	6.06
478	SLV FO 7	288	-1379	3145	22.36	82.51	-6.4
478	SLV FO 8	371	-1285	3207	21.89	79.38	-3.53
478	SLV FO 9	-195	1125	9901	-23.62	-18.66	-1.65
478	SLV FO 10	-112	1218	9963	-24.09	-21.79	1.23
478	SLV FO 11	-340	-1449	3668	21.84	70.3	-11.23
478	SLV FO 12	-257	-1356	3729	21.37	67.16	-8.36
478	SLV FO 13	-998	119	8314	-8.21	-1.01	-11.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
478	SLV FO 14	-874	258	8406	-8.9	-5.67	-7.06
478	SLV FO 15	-1041	-653	6444	5.43	25.67	-14.21
478	SLV FO 16	-918	-514	6536	4.73	21.01	-9.94
478	CRTFP Ux+	0	0	0	0	0	0
478	CRTFP Ux-	0	0	0	0	0	0
478	CRTFP Uy+	0	0	0	0	0	0
478	CRTFP Uy-	0	0	0	0	0	0
481	SLU 1	42	46	3772	2.33	770.81	-16.14
481	SLU 2	44	68	3815	1.99	776.25	-23.71
481	SLU 3	43	47	3843	2.48	785.1	-16.55
481	SLU 4	44	60	3869	2.27	788.36	-21.1
481	SLU 5	44	69	3857	2.1	784.74	-24.17
481	SLU 6	43	48	3884	2.59	793.59	-17.01
481	SLU 7	44	61	3911	2.38	796.85	-21.55
481	SLU 8	43	48	3854	2.55	787.79	-17.05
481	SLU 9	44	61	3880	2.35	791.05	-21.6
481	SLU 10	46	73	4284	2.29	867.35	-25.54
481	SLU 11	45	52	4312	2.79	876.21	-18.39
481	SLU 12	46	65	4338	2.58	879.47	-22.93
481	SLU 13	46	74	4325	2.41	875.84	-26
481	SLU 14	45	54	4353	2.9	884.7	-18.84
481	SLU 15	46	67	4379	2.69	887.96	-23.39
481	SLU 16	44	54	4323	2.86	878.9	-18.89
481	SLU 17	46	67	4349	2.66	882.16	-23.43
481	SLU 18	45	53	4441	2.77	900.96	-18.76
481	SLU 19	46	66	4467	2.56	904.22	-23.3
481	SLU 20	45	55	4482	2.88	909.45	-19.21
481	SLU 21	46	68	4508	2.68	912.71	-23.76
481	SLU 22	47	49	4322	2.92	879.23	-17.14
481	SLU 23	49	70	4366	2.58	884.66	-24.72
481	SLU 24	48	50	4394	3.07	893.52	-17.56
481	SLU 25	49	63	4420	2.87	896.78	-22.1
481	SLU 26	49	72	4407	2.69	893.15	-25.18
481	SLU 27	48	51	4435	3.18	902.01	-18.02
481	SLU 28	49	64	4461	2.98	905.27	-22.56
481	SLU 29	48	51	4405	3.15	896.21	-18.06
481	SLU 30	49	64	4431	2.94	899.47	-22.6
481	SLU 31	51	76	4834	2.89	975.77	-26.55
481	SLU 32	50	55	4862	3.38	984.62	-19.4
481	SLU 33	51	68	4888	3.17	987.88	-23.94
481	SLU 34	51	77	4876	3	984.26	-27.01
481	SLU 35	50	56	4903	3.49	993.11	-19.85
481	SLU 36	51	69	4930	3.29	996.37	-24.4
481	SLU 37	50	57	4873	3.46	987.31	-19.89
481	SLU 38	51	70	4899	3.25	990.57	-24.44
481	SLU 39	50	56	4992	3.36	1009.38	-19.77
481	SLU 40	51	69	5018	3.16	1012.64	-24.31
481	SLU 41	50	58	5033	3.48	1017.87	-20.22
481	SLU 42	51	70	5059	3.27	1021.13	-24.77
481	SLU 43	53	59	4714	2.83	964.88	-20.63
481	SLU 44	55	80	4758	2.48	970.32	-28.2
481	SLU 45	54	60	4786	2.98	979.17	-21.05
481	SLU 46	55	73	4812	2.77	982.43	-25.59
481	SLU 47	55	82	4799	2.59	978.81	-28.66
481	SLU 48	54	61	4827	3.09	987.66	-21.5
481	SLU 49	55	74	4853	2.88	990.93	-26.05
481	SLU 50	54	61	4797	3.05	981.87	-21.55
481	SLU 51	55	74	4823	2.84	985.13	-26.09
481	SLU 52	57	86	5227	2.79	1061.42	-30.04
481	SLU 53	56	65	5254	3.28	1070.28	-22.88
481	SLU 54	57	78	5281	3.08	1073.54	-27.43
481	SLU 55	57	87	5268	2.9	1069.91	-30.5
481	SLU 56	56	66	5296	3.4	1078.77	-23.34
481	SLU 57	57	79	5322	3.19	1082.03	-27.88
481	SLU 58	55	66	5265	3.36	1072.97	-23.38
481	SLU 59	57	79	5292	3.15	1076.23	-27.93
481	SLU 60	56	66	5384	3.27	1095.04	-23.25
481	SLU 61	57	79	5410	3.06	1098.3	-27.8
481	SLU 62	56	67	5425	3.38	1103.53	-23.71
481	SLU 63	57	80	5451	3.17	1106.79	-28.25
481	SLU 64	58	62	5265	3.42	1073.3	-21.64
481	SLU 65	60	83	5309	3.07	1078.73	-29.21
481	SLU 66	59	63	5336	3.57	1087.59	-22.06
481	SLU 67	60	76	5363	3.36	1090.85	-26.6
481	SLU 68	60	84	5350	3.19	1087.22	-29.67
481	SLU 69	59	64	5378	3.68	1096.08	-22.51
481	SLU 70	60	77	5404	3.47	1099.34	-27.06
481	SLU 71	59	64	5347	3.64	1090.28	-22.55
481	SLU 72	60	77	5374	3.44	1093.54	-27.1
481	SLU 73	62	88	5777	3.38	1169.84	-31.05
481	SLU 74	61	68	5805	3.88	1178.7	-23.89
481	SLU 75	62	81	5831	3.67	1181.96	-28.43
481	SLU 76	62	90	5818	3.49	1178.33	-31.51
481	SLU 77	61	69	5846	3.99	1187.19	-24.35
481	SLU 78	62	82	5872	3.78	1190.45	-28.89
481	SLU 79	60	69	5816	3.95	1181.39	-24.39
481	SLU 80	62	82	5842	3.74	1184.65	-28.93
481	SLU 81	61	69	5934	3.86	1203.45	-24.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
481	SLU 82	62	82	5961	3.65	1206.71	-28.8
481	SLU 83	61	70	5976	3.97	1211.94	-24.72
481	SLU 84	62	83	6002	3.77	1215.2	-29.26
481	SLE RA 1	44	47	3929	2.5	801.79	-16.42
481	SLE RA 2	45	61	3958	2.27	805.41	-21.47
481	SLE RA 3	44	47	3977	2.6	811.31	-16.7
481	SLE RA 4	45	56	3994	2.46	813.49	-19.73
481	SLE RA 5	45	62	3986	2.34	811.07	-21.78
481	SLE RA 6	44	48	4004	2.67	816.98	-17.01
481	SLE RA 7	45	57	4022	2.54	819.15	-20.04
481	SLE RA 8	44	48	3984	2.65	813.11	-17.03
481	SLE RA 9	45	57	4001	2.51	815.28	-20.06
481	SLE RA 10	46	65	4270	2.48	866.15	-22.7
481	SLE RA 11	45	51	4289	2.8	872.05	-17.92
481	SLE RA 12	46	60	4306	2.67	874.23	-20.95
481	SLE RA 13	46	65	4298	2.55	871.81	-23
481	SLE RA 14	45	52	4316	2.88	877.71	-18.23
481	SLE RA 15	46	60	4334	2.74	879.89	-21.26
481	SLE RA 16	45	52	4296	2.86	873.85	-18.26
481	SLE RA 17	46	61	4314	2.72	876.02	-21.29
481	SLE RA 18	45	52	4375	2.79	888.56	-18.17
481	SLE RA 19	46	60	4393	2.66	890.73	-21.2
481	SLE RA 20	46	53	4403	2.87	894.22	-18.48
481	SLE RA 21	46	61	4420	2.73	896.39	-21.51
481	SLE FR 1	44	47	3929	2.5	801.79	-16.42
481	SLE FR 2	44	50	3935	2.45	802.51	-17.43
481	SLE FR 3	44	47	3940	2.53	804.05	-16.55
481	SLE FR 4	44	51	4069	2.54	828.54	-17.96
481	SLE FR 5	44	49	4074	2.62	830.08	-17.07
481	SLE FR 6	44	49	4152	2.65	845.17	-17.3
481	SLE QP 1	44	47	3929	2.5	801.79	-16.42
481	SLE QP 2	44	48	4063	2.59	827.82	-16.95
481	SLD 1	381	85	3318	-0.12	671.56	-29.95
481	SLD 2	419	205	3370	-0.53	677.15	-71.62
481	SLD 3	360	-190	2667	4.64	595.57	66.3
481	SLD 4	398	-71	2719	4.23	601.17	24.64
481	SLD 5	170	456	4817	-5.36	895.22	-159.67
481	SLD 6	194	533	4851	-5.62	898.83	-186.5
481	SLD 7	101	-462	2648	10.48	641.94	161.18
481	SLD 8	126	-384	2681	10.22	645.54	134.35
481	SLD 9	-38	481	5444	-5.04	1010.1	-168.25
481	SLD 10	-13	558	5478	-5.3	1013.7	-195.07
481	SLD 11	-106	-437	3275	10.8	756.81	152.6
481	SLD 12	-81	-360	3308	10.54	760.41	125.78
481	SLD 13	-310	167	5407	0.95	1054.47	-58.54
481	SLD 14	-272	287	5459	0.54	1060.06	-100.2
481	SLD 15	-331	-108	4756	5.7	978.48	37.72
481	SLD 16	-293	11	4808	5.29	984.08	-3.94
481	SLV 1	572	124	2947	-1.98	589.52	-43.78
481	SLV 2	632	313	3029	-2.62	598.34	-109.45
481	SLV 3	537	-345	1837	6.13	459.91	120.49
481	SLV 4	597	-157	1919	5.48	468.73	54.81
481	SLV 5	244	749	5397	-10.96	951.26	-261.88
481	SLV 6	285	875	5452	-11.39	957.2	-306.08
481	SLV 7	128	-818	1696	16.07	519.22	285.67
481	SLV 8	168	-691	1751	15.63	525.16	241.46
481	SLV 9	-80	787	6375	-10.46	1130.48	-275.36
481	SLV 10	-40	914	6430	-10.89	1136.41	-319.56
481	SLV 11	-197	-779	2674	16.57	698.44	272.19
481	SLV 12	-156	-652	2729	16.13	704.37	227.98
481	SLV 13	-509	253	6207	-0.31	1186.91	-88.71
481	SLV 14	-449	442	6289	-0.95	1195.72	-154.38
481	SLV 15	-544	-217	5096	7.8	1057.3	75.55
481	SLV 16	-484	-28	5178	7.15	1066.11	9.88
481	SLV FO 1	625	132	2836	-2.43	565.7	-46.46
481	SLV FO 2	691	340	2926	-3.14	575.39	-118.7
481	SLV FO 3	586	-385	1614	6.49	423.12	134.23
481	SLV FO 4	653	-177	1705	5.77	432.82	61.99
481	SLV FO 5	264	819	5530	-12.31	963.61	-286.37
481	SLV FO 6	309	958	5591	-12.79	970.14	-335
481	SLV FO 7	136	-904	1459	17.42	488.36	315.93
481	SLV FO 8	181	-765	1520	16.94	494.89	267.3
481	SLV FO 9	-92	861	6606	-11.76	1160.74	-301.2
481	SLV FO 10	-48	1001	6666	-12.24	1167.27	-349.83
481	SLV FO 11	-221	-862	2535	17.97	685.5	301.1
481	SLV FO 12	-176	-722	2595	17.49	692.03	252.47
481	SLV FO 13	-564	274	6421	-0.6	1222.82	-95.89
481	SLV FO 14	-498	481	6511	-1.31	1232.51	-168.13
481	SLV FO 15	-603	-243	5200	8.32	1080.24	84.8
481	SLV FO 16	-537	-36	5290	7.61	1089.94	12.56
481	CRTFP Ux+	0	0	0	0	0	0
481	CRTFP Ux-	0	0	0	0	0	0
481	CRTFP Uy+	0	0	0	0	0	0
481	CRTFP Uy-	0	0	0	0	0	0
484	SLU 1	10	-55	3541	-42.06	1038.07	19.34
484	SLU 2	13	-34	3570	-42.6	1045.33	11.83
484	SLU 3	10	-57	3608	-42.8	1057.64	19.81
484	SLU 4	11	-44	3626	-43.12	1061.99	15.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
484	SLU 5	12	-35	3612	-43.06	1057.71	12.2
484	SLU 6	9	-58	3651	-43.25	1070.02	20.17
484	SLU 7	11	-45	3668	-43.58	1074.37	15.67
484	SLU 8	9	-57	3626	-42.97	1062.84	20.06
484	SLU 9	11	-44	3643	-43.3	1067.19	15.56
484	SLU 10	11	-40	4043	-48.19	1182.86	14
484	SLU 11	9	-63	4082	-48.39	1195.17	21.97
484	SLU 12	10	-50	4099	-48.71	1199.52	17.47
484	SLU 13	11	-41	4085	-48.65	1195.24	14.36
484	SLU 14	8	-64	4124	-48.85	1207.55	22.34
484	SLU 15	10	-51	4141	-49.17	1211.9	17.83
484	SLU 16	8	-64	4099	-48.56	1200.36	22.22
484	SLU 17	9	-51	4116	-48.89	1204.71	17.72
484	SLU 18	9	-64	4217	-50.04	1234.54	22.42
484	SLU 19	10	-51	4234	-50.37	1238.89	17.92
484	SLU 20	8	-65	4260	-50.5	1246.92	22.79
484	SLU 21	9	-52	4277	-50.83	1251.28	18.28
484	SLU 22	11	-62	4046	-47.84	1184.11	21.76
484	SLU 23	13	-40	4075	-48.39	1191.37	14.25
484	SLU 24	10	-63	4113	-48.58	1203.68	22.23
484	SLU 25	12	-50	4131	-48.91	1208.03	17.73
484	SLU 26	13	-42	4117	-48.85	1203.75	14.61
484	SLU 27	10	-64	4156	-49.04	1216.06	22.59
484	SLU 28	11	-52	4173	-49.37	1220.41	18.09
484	SLU 29	10	-64	4131	-48.76	1208.87	22.48
484	SLU 30	11	-51	4148	-49.09	1213.23	17.98
484	SLU 31	12	-47	4548	-53.98	1328.9	16.41
484	SLU 32	9	-70	4587	-54.17	1341.21	24.39
484	SLU 33	11	-57	4604	-54.5	1345.56	19.89
484	SLU 34	12	-48	4590	-54.44	1341.28	16.77
484	SLU 35	9	-71	4629	-54.63	1353.59	24.75
484	SLU 36	10	-58	4646	-54.96	1357.94	20.25
484	SLU 37	9	-70	4604	-54.35	1346.4	24.64
484	SLU 38	10	-57	4621	-54.68	1350.75	20.14
484	SLU 39	9	-71	4722	-55.83	1380.58	24.84
484	SLU 40	11	-58	4739	-56.16	1384.93	20.34
484	SLU 41	9	-72	4764	-56.29	1392.96	25.2
484	SLU 42	10	-59	4782	-56.61	1397.31	20.7
484	SLU 43	13	-69	4430	-52.69	1299.43	24.31
484	SLU 44	15	-48	4459	-53.23	1306.68	16.81
484	SLU 45	12	-71	4498	-53.43	1318.99	24.79
484	SLU 46	14	-58	4515	-53.75	1323.35	20.28
484	SLU 47	15	-49	4501	-53.69	1319.06	17.17
484	SLU 48	12	-72	4540	-53.89	1331.37	25.15
484	SLU 49	13	-59	4557	-54.21	1335.73	20.64
484	SLU 50	12	-71	4515	-53.61	1324.19	25.03
484	SLU 51	13	-58	4532	-53.93	1328.54	20.53
484	SLU 52	14	-54	4932	-58.82	1444.21	18.97
484	SLU 53	11	-77	4971	-59.02	1456.52	26.95
484	SLU 54	13	-64	4988	-59.35	1460.87	22.44
484	SLU 55	14	-55	4975	-59.28	1456.59	19.33
484	SLU 56	11	-78	5013	-59.48	1468.9	27.31
484	SLU 57	12	-65	5031	-59.8	1473.25	22.81
484	SLU 58	11	-78	4988	-59.2	1461.71	27.19
484	SLU 59	12	-65	5006	-59.52	1466.07	22.69
484	SLU 60	11	-78	5106	-60.68	1495.9	27.4
484	SLU 61	13	-65	5124	-61	1500.25	22.89
484	SLU 62	11	-79	5149	-61.13	1508.28	27.76
484	SLU 63	12	-66	5166	-61.46	1512.63	23.26
484	SLU 64	14	-76	4935	-58.48	1445.47	26.73
484	SLU 65	16	-55	4964	-59.02	1452.72	19.23
484	SLU 66	13	-78	5002	-59.22	1465.03	27.2
484	SLU 67	15	-65	5020	-59.54	1469.39	22.7
484	SLU 68	15	-56	5006	-59.48	1465.1	19.59
484	SLU 69	13	-79	5045	-59.67	1477.41	27.57
484	SLU 70	14	-66	5062	-60	1481.77	23.06
484	SLU 71	13	-78	5020	-59.39	1470.23	27.45
484	SLU 72	14	-65	5037	-59.72	1474.58	22.95
484	SLU 73	15	-61	5437	-64.61	1590.25	21.39
484	SLU 74	12	-84	5476	-64.81	1602.56	29.37
484	SLU 75	14	-71	5493	-65.13	1606.91	24.86
484	SLU 76	14	-62	5480	-65.07	1602.63	21.75
484	SLU 77	12	-85	5518	-65.26	1614.94	29.73
484	SLU 78	13	-72	5535	-65.59	1619.29	25.22
484	SLU 79	11	-85	5493	-64.98	1607.75	29.61
484	SLU 80	13	-72	5511	-65.31	1612.11	25.11
484	SLU 81	12	-85	5611	-66.46	1641.93	29.82
484	SLU 82	13	-72	5628	-66.79	1646.29	25.31
484	SLU 83	12	-86	5654	-66.92	1654.31	30.18
484	SLU 84	13	-73	5671	-67.25	1658.67	25.67
484	SLE RA 1	10	-57	3685	-43.71	1079.8	20.03
484	SLE RA 2	12	-43	3704	-44.07	1084.64	15.03
484	SLE RA 3	10	-58	3730	-44.2	1092.85	20.35
484	SLE RA 4	11	-49	3742	-44.42	1095.75	17.34
484	SLE RA 5	12	-43	3733	-44.38	1092.89	15.27
484	SLE RA 6	10	-59	3759	-44.51	1101.1	20.59
484	SLE RA 7	11	-50	3770	-44.73	1104	17.59
484	SLE RA 8	10	-59	3742	-44.32	1096.31	20.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
484	SLE RA 9	11	-50	3753	-44.54	1099.21	17.51
484	SLE RA 10	11	-47	4020	-47.8	1176.32	16.47
484	SLE RA 11	9	-62	4046	-47.93	1184.53	21.79
484	SLE RA 12	10	-54	4057	-48.15	1187.43	18.79
484	SLE RA 13	11	-48	4048	-48.1	1184.57	16.71
484	SLE RA 14	9	-63	4074	-48.24	1192.78	22.03
484	SLE RA 15	10	-54	4086	-48.45	1195.69	19.03
484	SLE RA 16	9	-63	4057	-48.05	1187.99	21.95
484	SLE RA 17	10	-54	4069	-48.27	1190.89	18.95
484	SLE RA 18	9	-63	4136	-49.03	1210.78	22.09
484	SLE RA 19	10	-54	4147	-49.25	1213.68	19.09
484	SLE RA 20	9	-64	4164	-49.34	1219.03	22.33
484	SLE RA 21	10	-55	4176	-49.56	1221.93	19.33
484	SLE FR 1	10	-57	3685	-43.71	1079.8	20.03
484	SLE FR 2	11	-54	3689	-43.78	1080.77	19.03
484	SLE FR 3	10	-57	3697	-43.83	1083.1	20.13
484	SLE FR 4	10	-56	3824	-45.38	1120.06	19.65
484	SLE FR 5	10	-59	3832	-45.43	1122.4	20.74
484	SLE FR 6	10	-60	3911	-46.37	1145.29	21.06
484	SLE QP 1	10	-57	3685	-43.71	1079.8	20.03
484	SLE QP 2	10	-59	3820	-45.31	1119.09	20.65
484	SLD 1	344	67	4077	-50	1186.31	-20.09
484	SLD 2	378	71	4089	-50.2	1188.7	-20.98
484	SLD 3	313	-207	3614	-41.44	1066.5	74.97
484	SLD 4	348	-202	3626	-41.64	1068.88	74.07
484	SLD 5	150	393	4598	-59.66	1320.57	-135.59
484	SLD 6	172	396	4606	-59.78	1322.11	-136.16
484	SLD 7	49	-519	3054	-31.14	921.18	181.26
484	SLD 8	71	-516	3062	-31.27	922.72	180.69
484	SLD 9	-51	398	4579	-59.35	1315.47	-139.4
484	SLD 10	-29	401	4587	-59.48	1317.01	-139.97
484	SLD 11	-152	-514	3035	-30.83	916.08	177.46
484	SLD 12	-130	-511	3043	-30.96	917.62	176.88
484	SLD 13	-328	84	4015	-48.97	1169.31	-32.78
484	SLD 14	-293	89	4027	-49.17	1171.69	-33.67
484	SLD 15	-358	-189	3551	-40.42	1049.49	62.28
484	SLD 16	-324	-185	3564	-40.61	1051.88	61.38
484	SLV 1	534	157	4255	-53.26	1232.95	-49.76
484	SLV 2	588	164	4275	-53.57	1236.72	-51.16
484	SLV 3	482	-310	3465	-38.66	1028.48	112.37
484	SLV 4	537	-303	3485	-38.97	1032.24	110.97
484	SLV 5	235	712	5146	-69.77	1462.67	-246.11
484	SLV 6	272	717	5159	-69.99	1465.2	-247.05
484	SLV 7	63	-843	2511	-21.11	781.09	294.32
484	SLV 8	100	-839	2525	-21.32	783.62	293.38
484	SLV 9	-80	721	5116	-69.29	1454.57	-252.08
484	SLV 10	-43	725	5129	-69.5	1457.1	-253.03
484	SLV 11	-252	-835	2482	-20.63	772.99	288.35
484	SLV 12	-215	-830	2495	-20.84	775.52	287.4
484	SLV 13	-517	185	4156	-51.64	1205.95	-69.67
484	SLV 14	-462	192	4176	-51.95	1209.71	-71.08
484	SLV 15	-568	-282	3366	-37.04	1001.47	92.45
484	SLV 16	-514	-275	3386	-37.36	1005.23	91.05
484	SLV FO 1	586	179	4299	-54.05	1244.34	-56.8
484	SLV FO 2	646	186	4320	-54.4	1248.48	-58.34
484	SLV FO 3	529	-335	3429	-37.99	1019.42	121.55
484	SLV FO 4	589	-327	3451	-38.34	1023.56	120
484	SLV FO 5	258	790	5278	-72.22	1497.02	-272.78
484	SLV FO 6	298	795	5293	-72.45	1499.81	-273.82
484	SLV FO 7	68	-922	2381	-18.69	747.29	321.69
484	SLV FO 8	109	-917	2395	-18.92	750.08	320.65
484	SLV FO 9	-89	799	5246	-71.69	1488.11	-279.36
484	SLV FO 10	-48	804	5260	-71.92	1490.9	-280.4
484	SLV FO 11	-278	-912	2348	-18.16	738.38	315.12
484	SLV FO 12	-238	-907	2363	-18.39	741.16	314.08
484	SLV FO 13	-569	209	4190	-52.27	1214.63	-78.71
484	SLV FO 14	-509	217	4212	-52.62	1218.77	-80.25
484	SLV FO 15	-626	-304	3321	-36.22	989.71	99.63
484	SLV FO 16	-566	-296	3342	-36.56	993.85	98.09
484	CRTFP Ux+	0	0	0	0	0	0
484	CRTFP Ux-	0	0	0	0	0	0
484	CRTFP Uy+	0	0	0	0	0	0
484	CRTFP Uy-	0	0	0	0	0	0
487	SLU 1	-39	12	3417	3.42	-466.94	2.99
487	SLU 2	-41	32	3448	3.16	-467.31	7.77
487	SLU 3	-40	12	3491	3.57	-477.16	2.97
487	SLU 4	-41	24	3510	3.41	-477.38	5.84
487	SLU 5	-41	32	3496	3.26	-473.96	7.8
487	SLU 6	-40	13	3539	3.68	-483.8	2.99
487	SLU 7	-41	24	3557	3.51	-484.02	5.87
487	SLU 8	-40	13	3512	3.63	-480.22	3.05
487	SLU 9	-41	24	3531	3.47	-480.45	5.92
487	SLU 10	-42	34	3876	3.64	-524.2	8.41
487	SLU 11	-41	15	3920	4.06	-534.05	3.6
487	SLU 12	-42	27	3938	3.9	-534.27	6.47
487	SLU 13	-43	34	3924	3.74	-530.84	8.44
487	SLU 14	-42	15	3967	4.16	-540.69	3.63
487	SLU 15	-43	27	3986	4	-540.91	6.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
487	SLU 16	-41	15	3940	4.12	-537.11	3.68
487	SLU 17	-42	27	3959	3.96	-537.34	6.55
487	SLU 18	-41	16	4029	4.12	-548.21	3.89
487	SLU 19	-42	28	4048	3.96	-548.43	6.77
487	SLU 20	-41	16	4077	4.22	-554.85	3.92
487	SLU 21	-42	28	4095	4.06	-555.08	6.79
487	SLU 22	-43	12	3934	4.18	-536.82	2.9
487	SLU 23	-45	31	3965	3.91	-537.19	7.69
487	SLU 24	-44	12	4008	4.33	-547.04	2.88
487	SLU 25	-45	24	4026	4.17	-547.26	5.75
487	SLU 26	-46	32	4012	4.01	-543.83	7.72
487	SLU 27	-44	12	4055	4.43	-553.68	2.91
487	SLU 28	-46	24	4074	4.27	-553.9	5.78
487	SLU 29	-44	13	4029	4.39	-550.1	2.96
487	SLU 30	-45	24	4047	4.22	-550.32	5.83
487	SLU 31	-46	34	4393	4.4	-594.08	8.32
487	SLU 32	-45	15	4436	4.81	-603.93	3.52
487	SLU 33	-46	26	4455	4.65	-604.15	6.39
487	SLU 34	-47	34	4440	4.5	-600.72	8.35
487	SLU 35	-46	15	4484	4.91	-610.57	3.55
487	SLU 36	-47	26	4502	4.75	-610.79	6.42
487	SLU 37	-45	15	4457	4.87	-606.99	3.6
487	SLU 38	-47	27	4476	4.71	-607.21	6.47
487	SLU 39	-45	16	4546	4.87	-618.09	3.81
487	SLU 40	-46	28	4564	4.71	-618.31	6.68
487	SLU 41	-45	16	4593	4.97	-624.73	3.84
487	SLU 42	-47	28	4612	4.81	-624.95	6.71
487	SLU 43	-49	16	4265	4.19	-583.06	3.91
487	SLU 44	-51	35	4296	3.92	-583.44	8.7
487	SLU 45	-50	16	4339	4.34	-593.28	3.89
487	SLU 46	-51	28	4358	4.18	-593.51	6.76
487	SLU 47	-52	36	4344	4.03	-590.08	8.72
487	SLU 48	-51	16	4387	4.44	-599.92	3.92
487	SLU 49	-52	28	4405	4.28	-600.15	6.79
487	SLU 50	-50	17	4360	4.4	-596.35	3.97
487	SLU 51	-51	28	4379	4.24	-596.57	6.84
487	SLU 52	-52	38	4724	4.41	-640.33	9.33
487	SLU 53	-51	19	4768	4.83	-650.17	4.53
487	SLU 54	-52	30	4786	4.66	-650.4	7.4
487	SLU 55	-53	38	4772	4.51	-646.97	9.36
487	SLU 56	-52	19	4815	4.93	-656.81	4.55
487	SLU 57	-53	30	4834	4.77	-657.04	7.43
487	SLU 58	-51	19	4788	4.88	-653.23	4.61
487	SLU 59	-53	31	4807	4.72	-653.46	7.48
487	SLU 60	-51	20	4877	4.89	-664.33	4.82
487	SLU 61	-52	32	4896	4.72	-664.56	7.69
487	SLU 62	-52	20	4925	4.99	-670.97	4.85
487	SLU 63	-53	32	4943	4.83	-671.2	7.72
487	SLU 64	-53	16	4782	4.95	-652.94	3.83
487	SLU 65	-55	35	4813	4.68	-653.32	8.61
487	SLU 66	-54	16	4856	5.09	-663.16	3.81
487	SLU 67	-55	28	4874	4.93	-663.39	6.68
487	SLU 68	-56	35	4860	4.78	-659.96	8.64
487	SLU 69	-55	16	4903	5.2	-669.8	3.84
487	SLU 70	-56	28	4922	5.04	-670.03	6.71
487	SLU 71	-54	16	4877	5.15	-666.22	3.89
487	SLU 72	-56	28	4895	4.99	-666.45	6.76
487	SLU 73	-57	38	5241	5.16	-710.21	9.25
487	SLU 74	-56	19	5284	5.58	-720.05	4.44
487	SLU 75	-57	30	5303	5.42	-720.27	7.31
487	SLU 76	-57	38	5288	5.27	-716.85	9.28
487	SLU 77	-56	19	5332	5.68	-726.69	4.47
487	SLU 78	-57	30	5350	5.52	-726.91	7.34
487	SLU 79	-56	19	5305	5.64	-723.11	4.52
487	SLU 80	-57	30	5324	5.48	-723.34	7.39
487	SLU 81	-55	20	5394	5.64	-734.21	4.74
487	SLU 82	-56	31	5412	5.48	-734.44	7.61
487	SLU 83	-56	20	5441	5.74	-740.85	4.77
487	SLU 84	-57	31	5460	5.58	-741.08	7.64
487	SLE RA 1	-40	12	3565	3.64	-486.91	2.96
487	SLE RA 2	-41	25	3585	3.46	-487.16	6.15
487	SLE RA 3	-41	12	3614	3.74	-493.72	2.95
487	SLE RA 4	-41	20	3627	3.63	-493.87	4.86
487	SLE RA 5	-42	25	3617	3.53	-491.58	6.17
487	SLE RA 6	-41	12	3646	3.81	-498.14	2.97
487	SLE RA 7	-42	20	3658	3.7	-498.29	4.88
487	SLE RA 8	-41	13	3628	3.78	-495.76	3
487	SLE RA 9	-42	20	3640	3.67	-495.91	4.92
487	SLE RA 10	-42	27	3871	3.78	-525.08	6.58
487	SLE RA 11	-42	14	3900	4.06	-531.64	3.37
487	SLE RA 12	-42	22	3912	3.95	-531.79	5.29
487	SLE RA 13	-43	27	3903	3.85	-529.51	6.6
487	SLE RA 14	-42	14	3931	4.13	-536.07	3.39
487	SLE RA 15	-43	22	3944	4.02	-536.22	5.31
487	SLE RA 16	-42	14	3914	4.1	-533.69	3.43
487	SLE RA 17	-42	22	3926	3.99	-533.84	5.34
487	SLE RA 18	-41	15	3973	4.1	-541.09	3.57
487	SLE RA 19	-42	23	3985	3.99	-541.23	5.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
487	SLE RA 20	-42	15	4004	4.17	-545.51	3.59
487	SLE RA 21	-42	23	4017	4.06	-545.66	5.5
487	SLE FR 1	-40	12	3565	3.64	-486.91	2.96
487	SLE FR 2	-40	15	3569	3.6	-486.96	3.6
487	SLE FR 3	-40	12	3577	3.67	-488.68	2.97
487	SLE FR 4	-41	16	3691	3.74	-503.21	3.78
487	SLE FR 5	-41	13	3700	3.81	-504.93	3.15
487	SLE FR 6	-41	14	3769	3.87	-514	3.27
487	SLE QP 1	-40	12	3565	3.64	-486.91	2.96
487	SLE QP 2	-41	13	3687	3.78	-503.16	3.14
487	SLD 1	212	225	4994	3.04	-646.61	55.9
487	SLD 2	236	122	4960	3.38	-647.55	30.24
487	SLD 3	230	-18	4513	6.69	-632.94	-4.8
487	SLD 4	254	-121	4479	7.03	-633.88	-30.46
487	SLD 5	3	463	4815	-2.03	-566.76	115.45
487	SLD 6	19	397	4793	-1.81	-567.37	98.92
487	SLD 7	64	-347	3212	10.12	-521.2	-86.89
487	SLD 8	79	-414	3190	10.34	-521.81	-103.41
487	SLD 9	-161	440	4185	-2.78	-484.51	109.7
487	SLD 10	-145	373	4163	-2.56	-485.12	93.18
487	SLD 11	-100	-370	2582	9.36	-438.95	-92.63
487	SLD 12	-85	-437	2560	9.58	-439.56	-109.16
487	SLD 13	-335	148	2895	0.53	-372.44	36.75
487	SLD 14	-311	44	2861	0.87	-373.38	11.09
487	SLD 15	-317	-96	2414	4.17	-358.77	-23.95
487	SLD 16	-293	-199	2380	4.51	-359.71	-49.61
487	SLV 1	353	363	5762	2.36	-727.98	90.12
487	SLV 2	391	200	5708	2.9	-729.47	49.67
487	SLV 3	384	-52	4941	8.58	-704.6	-13.41
487	SLV 4	422	-215	4887	9.12	-706.09	-53.86
487	SLV 5	24	777	5564	-6.17	-605.78	193.8
487	SLV 6	49	668	5528	-5.81	-606.79	166.57
487	SLV 7	126	-605	2829	14.54	-527.86	-151.29
487	SLV 8	152	-715	2792	14.91	-528.86	-178.52
487	SLV 9	-233	741	4582	-7.35	-477.46	184.81
487	SLV 10	-207	631	4546	-6.99	-478.46	157.58
487	SLV 11	-131	-641	1846	13.37	-399.53	-160.28
487	SLV 12	-105	-751	1810	13.73	-400.54	-187.51
487	SLV 13	-503	241	2487	-1.56	-300.23	60.15
487	SLV 14	-465	78	2433	-1.02	-301.72	19.7
487	SLV 15	-472	-173	1666	4.65	-276.85	-43.38
487	SLV 16	-434	-336	1612	5.19	-278.34	-83.83
487	SLV FO 1	392	398	5969	2.22	-750.46	98.82
487	SLV FO 2	434	218	5910	2.81	-752.1	54.32
487	SLV FO 3	426	-59	5067	9.06	-724.74	-15.06
487	SLV FO 4	468	-238	5007	9.65	-726.38	-59.56
487	SLV FO 5	30	854	5752	-7.17	-616.05	212.87
487	SLV FO 6	58	733	5712	-6.77	-617.15	182.92
487	SLV FO 7	143	-667	2743	15.62	-530.32	-166.74
487	SLV FO 8	171	-787	2703	16.02	-531.43	-196.69
487	SLV FO 9	-252	814	4671	-8.46	-474.89	202.98
487	SLV FO 10	-224	693	4632	-8.06	-475.99	173.03
487	SLV FO 11	-140	-707	1662	14.33	-389.17	-176.63
487	SLV FO 12	-111	-827	1622	14.72	-390.27	-206.58
487	SLV FO 13	-549	264	2367	-2.09	-279.94	65.85
487	SLV FO 14	-507	85	2308	-1.5	-281.58	21.35
487	SLV FO 15	-515	-192	1464	4.74	-254.22	-48.03
487	SLV FO 16	-473	-371	1405	5.33	-255.86	-92.53
487	CRTFP Ux+	0	0	0	0	0	0
487	CRTFP Ux-	0	0	0	0	0	0
487	CRTFP Uy+	0	0	0	0	0	0
487	CRTFP Uy-	0	0	0	0	0	0
490	SLU 1	-63	-11	6225	1.39	-32.87	-0.79
490	SLU 2	-65	21	6276	0.9	-32.18	-0.96
490	SLU 3	-64	-11	6355	1.58	-33.67	-0.83
490	SLU 4	-66	8	6386	1.28	-33.25	-0.94
490	SLU 5	-66	21	6359	1.03	-32.71	-0.99
490	SLU 6	-65	-11	6438	1.72	-34.19	-0.86
490	SLU 7	-66	8	6468	1.42	-33.77	-0.97
490	SLU 8	-64	-11	6391	1.67	-33.93	-0.85
490	SLU 9	-66	8	6421	1.37	-33.51	-0.95
490	SLU 10	-67	21	7101	1.19	-38	-1.06
490	SLU 11	-66	-11	7180	1.87	-39.49	-0.93
490	SLU 12	-67	8	7210	1.57	-39.07	-1.03
490	SLU 13	-68	21	7183	1.32	-38.53	-1.09
490	SLU 14	-67	-11	7262	2.01	-40.01	-0.96
490	SLU 15	-68	8	7293	1.71	-39.59	-1.06
490	SLU 16	-66	-11	7215	1.96	-39.75	-0.94
490	SLU 17	-67	8	7246	1.66	-39.33	-1.05
490	SLU 18	-65	-11	7403	1.8	-41.19	-0.93
490	SLU 19	-66	8	7434	1.51	-40.77	-1.03
490	SLU 20	-66	-11	7486	1.94	-41.72	-0.96
490	SLU 21	-67	8	7517	1.65	-41.3	-1.06
490	SLU 22	-70	-12	7179	2.1	-38.4	-1.04
490	SLU 23	-73	20	7230	1.61	-37.7	-1.21
490	SLU 24	-72	-12	7309	2.29	-39.19	-1.08
490	SLU 25	-73	7	7340	1.99	-38.77	-1.19
490	SLU 26	-74	20	7313	1.75	-38.23	-1.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
490	SLU 27	-72	-12	7392	2.43	-39.72	-1.11
490	SLU 28	-74	7	7422	2.13	-39.3	-1.22
490	SLU 29	-72	-12	7345	2.38	-39.45	-1.1
490	SLU 30	-73	7	7375	2.08	-39.04	-1.2
490	SLU 31	-74	21	8055	1.9	-43.52	-1.31
490	SLU 32	-73	-12	8134	2.58	-45.01	-1.18
490	SLU 33	-75	8	8164	2.28	-44.59	-1.28
490	SLU 34	-75	20	8137	2.04	-44.05	-1.34
490	SLU 35	-74	-12	8216	2.72	-45.54	-1.21
490	SLU 36	-75	7	8247	2.42	-45.12	-1.31
490	SLU 37	-73	-12	8169	2.67	-45.27	-1.19
490	SLU 38	-75	7	8200	2.37	-44.86	-1.3
490	SLU 39	-72	-12	8357	2.51	-46.71	-1.18
490	SLU 40	-74	8	8388	2.22	-46.3	-1.28
490	SLU 41	-73	-12	8440	2.65	-47.24	-1.21
490	SLU 42	-75	8	8470	2.36	-46.82	-1.31
490	SLU 43	-79	-14	7766	1.56	-40.84	-0.94
490	SLU 44	-82	18	7817	1.07	-40.15	-1.12
490	SLU 45	-80	-15	7895	1.75	-41.63	-0.99
490	SLU 46	-82	5	7926	1.46	-41.22	-1.09
490	SLU 47	-82	18	7899	1.21	-40.67	-1.15
490	SLU 48	-81	-15	7978	1.89	-42.16	-1.01
490	SLU 49	-83	5	8009	1.59	-41.74	-1.12
490	SLU 50	-81	-15	7931	1.84	-41.9	-1
490	SLU 51	-82	5	7962	1.54	-41.48	-1.11
490	SLU 52	-83	18	8641	1.36	-45.97	-1.21
490	SLU 53	-82	-14	8720	2.04	-47.45	-1.08
490	SLU 54	-83	5	8751	1.75	-47.04	-1.18
490	SLU 55	-84	18	8724	1.5	-46.49	-1.24
490	SLU 56	-83	-15	8803	2.18	-47.98	-1.11
490	SLU 57	-84	5	8833	1.88	-47.56	-1.21
490	SLU 58	-82	-15	8756	2.13	-47.72	-1.1
490	SLU 59	-84	5	8786	1.83	-47.3	-1.2
490	SLU 60	-81	-14	8944	1.98	-49.16	-1.08
490	SLU 61	-83	5	8974	1.68	-48.74	-1.18
490	SLU 62	-82	-14	9026	2.11	-49.68	-1.11
490	SLU 63	-84	5	9057	1.82	-49.27	-1.21
490	SLU 64	-86	-15	8720	2.27	-46.37	-1.19
490	SLU 65	-89	17	8771	1.78	-45.67	-1.37
490	SLU 66	-88	-15	8849	2.46	-47.16	-1.24
490	SLU 67	-89	4	8880	2.17	-46.74	-1.34
490	SLU 68	-90	17	8853	1.92	-46.2	-1.4
490	SLU 69	-89	-15	8932	2.6	-47.69	-1.26
490	SLU 70	-90	4	8963	2.31	-47.27	-1.37
490	SLU 71	-88	-15	8885	2.55	-47.42	-1.25
490	SLU 72	-90	4	8916	2.25	-47.01	-1.36
490	SLU 73	-91	17	9595	2.07	-51.49	-1.46
490	SLU 74	-89	-15	9674	2.75	-52.98	-1.33
490	SLU 75	-91	4	9705	2.46	-52.56	-1.43
490	SLU 76	-91	17	9678	2.21	-52.02	-1.49
490	SLU 77	-90	-15	9757	2.89	-53.51	-1.36
490	SLU 78	-92	4	9787	2.6	-53.09	-1.46
490	SLU 79	-90	-15	9710	2.84	-53.24	-1.35
490	SLU 80	-91	4	9740	2.54	-52.83	-1.45
490	SLU 81	-89	-15	9898	2.69	-54.68	-1.33
490	SLU 82	-90	5	9928	2.39	-54.26	-1.43
490	SLU 83	-89	-15	9980	2.83	-55.21	-1.36
490	SLU 84	-91	4	10011	2.53	-54.79	-1.46
490	SLE RA 1	-65	-11	6498	1.59	-34.45	-0.86
490	SLE RA 2	-67	10	6532	1.26	-33.99	-0.98
490	SLE RA 3	-66	-11	6584	1.72	-34.98	-0.89
490	SLE RA 4	-67	1	6605	1.52	-34.7	-0.96
490	SLE RA 5	-67	10	6587	1.36	-34.34	-1
490	SLE RA 6	-66	-11	6639	1.81	-35.33	-0.91
490	SLE RA 7	-67	1	6660	1.61	-35.05	-0.98
490	SLE RA 8	-66	-11	6608	1.78	-35.16	-0.9
490	SLE RA 9	-67	1	6629	1.58	-34.88	-0.97
490	SLE RA 10	-68	10	7081	1.46	-37.87	-1.04
490	SLE RA 11	-67	-11	7134	1.91	-38.86	-0.95
490	SLE RA 12	-68	1	7154	1.71	-38.58	-1.02
490	SLE RA 13	-68	10	7137	1.55	-38.22	-1.06
490	SLE RA 14	-67	-11	7189	2	-39.21	-0.97
490	SLE RA 15	-68	1	7210	1.81	-38.93	-1.04
490	SLE RA 16	-67	-11	7158	1.97	-39.04	-0.97
490	SLE RA 17	-68	1	7178	1.77	-38.76	-1.03
490	SLE RA 18	-66	-11	7283	1.87	-40	-0.95
490	SLE RA 19	-67	2	7304	1.67	-39.72	-1.02
490	SLE RA 20	-67	-11	7338	1.96	-40.35	-0.97
490	SLE RA 21	-68	1	7359	1.76	-40.07	-1.04
490	SLE FR 1	-65	-11	6498	1.59	-34.45	-0.86
490	SLE FR 2	-65	-7	6505	1.53	-34.36	-0.89
490	SLE FR 3	-65	-11	6520	1.63	-34.59	-0.87
490	SLE FR 4	-66	-7	6740	1.61	-36.02	-0.91
490	SLE FR 5	-65	-11	6756	1.71	-36.26	-0.9
490	SLE FR 6	-66	-11	6891	1.73	-37.22	-0.91
490	SLE QP 1	-65	-11	6498	1.59	-34.45	-0.86
490	SLE QP 2	-65	-11	6733	1.67	-36.12	-0.89
490	SLD 1	481	180	7736	-1.59	-9.23	0.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
490	SLD 2	533	97	7691	-1.23	-10.56	2.59
490	SLD 3	508	-226	6964	5.22	-14.36	1.88
490	SLD 4	561	-309	6919	5.59	-15.68	4.41
490	SLD 5	48	677	8212	-9.71	-20.05	-3.79
490	SLD 6	82	623	8183	-9.47	-20.9	-2.17
490	SLD 7	140	-677	5640	13.01	-37.14	2.26
490	SLD 8	173	-731	5611	13.25	-37.99	3.89
490	SLD 9	-304	708	7856	-9.9	-34.24	-5.67
490	SLD 10	-270	655	7826	-9.66	-35.1	-4.04
490	SLD 11	-212	-646	5284	12.82	-51.33	0.39
490	SLD 12	-178	-699	5255	13.05	-52.18	2.01
490	SLD 13	-691	286	6548	-2.24	-56.55	-6.19
490	SLD 14	-639	203	6503	-1.87	-57.87	-3.66
490	SLD 15	-664	-120	5776	4.58	-61.68	-4.37
490	SLD 16	-611	-203	5731	4.94	-63	-1.85
490	SLV 1	787	318	8354	-3.92	6.21	0.46
490	SLV 2	870	187	8283	-3.34	4.13	4.43
490	SLV 3	834	-375	7037	7.71	-2.52	3.55
490	SLV 4	917	-506	6966	8.28	-4.61	7.53
490	SLV 5	104	1163	9230	-17.74	-9.79	-5.92
490	SLV 6	160	1075	9182	-17.36	-11.19	-3.24
490	SLV 7	260	-1147	4841	21.01	-38.89	4.39
490	SLV 8	316	-1235	4793	21.4	-40.29	7.07
490	SLV 9	-446	1212	8674	-18.05	-31.94	-8.85
490	SLV 10	-390	1124	8626	-17.66	-33.34	-6.17
490	SLV 11	-290	-1097	4285	20.71	-61.04	1.46
490	SLV 12	-234	-1185	4237	21.09	-62.45	4.14
490	SLV 13	-1047	483	6501	-4.93	-67.63	-9.31
490	SLV 14	-964	352	6430	-4.36	-69.71	-5.33
490	SLV 15	-1000	-209	5184	6.69	-76.36	-6.21
490	SLV 16	-917	-340	5113	7.27	-78.44	-2.24
490	SLV FO 1	872	351	8516	-4.48	10.44	0.59
490	SLV FO 2	963	207	8438	-3.84	8.15	4.97
490	SLV FO 3	923	-411	7068	8.31	0.84	3.99
490	SLV FO 4	1015	-555	6989	8.94	-1.45	8.37
490	SLV FO 5	121	1280	9479	-19.69	-7.15	-6.42
490	SLV FO 6	182	1183	9426	-19.26	-8.7	-3.48
490	SLV FO 7	292	-1260	4652	22.94	-39.17	4.92
490	SLV FO 8	354	-1357	4599	23.37	-40.71	7.86
490	SLV FO 9	-484	1335	8868	-20.02	-31.52	-9.64
490	SLV FO 10	-423	1238	8815	-19.59	-33.07	-6.7
490	SLV FO 11	-313	-1206	4040	22.61	-63.53	1.7
490	SLV FO 12	-251	-1303	3988	23.04	-65.08	4.64
490	SLV FO 13	-1145	533	6477	-5.6	-70.78	-10.15
490	SLV FO 14	-1054	389	6399	-4.96	-73.07	-5.78
490	SLV FO 15	-1094	-229	5029	7.19	-80.38	-6.75
490	SLV FO 16	-1002	-373	4951	7.83	-82.68	-2.37
490	CRTFP Ux+	0	0	0	0	0	0
490	CRTFP Ux-	0	0	0	0	0	0
490	CRTFP Uy+	0	0	0	0	0	0
490	CRTFP Uy-	0	0	0	0	0	0
493	SLU 1	97	-71	6060	0.02	23.93	-2.37
493	SLU 2	98	-40	6110	-0.5	22.28	-2.27
493	SLU 3	98	-72	6177	0.17	24.5	-2.45
493	SLU 4	99	-53	6207	-0.14	23.51	-2.39
493	SLU 5	99	-40	6182	-0.38	22.73	-2.34
493	SLU 6	99	-73	6248	0.3	24.95	-2.52
493	SLU 7	100	-54	6278	-0.01	23.96	-2.46
493	SLU 8	98	-72	6203	0.26	24.83	-2.5
493	SLU 9	99	-54	6233	-0.05	23.85	-2.44
493	SLU 10	105	-47	6894	-0.46	25.25	-2.54
493	SLU 11	105	-79	6960	0.21	27.47	-2.72
493	SLU 12	106	-60	6990	-0.1	26.48	-2.66
493	SLU 13	105	-47	6965	-0.34	25.7	-2.6
493	SLU 14	106	-80	7031	0.33	27.92	-2.78
493	SLU 15	106	-61	7062	0.02	26.93	-2.72
493	SLU 16	104	-79	6986	0.3	27.8	-2.77
493	SLU 17	105	-61	7016	-0.01	26.82	-2.71
493	SLU 18	106	-81	7179	0.07	28.17	-2.75
493	SLU 19	107	-62	7209	-0.24	27.18	-2.69
493	SLU 20	107	-82	7250	0.19	28.62	-2.82
493	SLU 21	107	-63	7280	-0.12	27.63	-2.76
493	SLU 22	109	-80	6968	0.46	26.79	-2.65
493	SLU 23	111	-48	7018	-0.06	25.15	-2.55
493	SLU 24	111	-81	7085	0.62	27.36	-2.73
493	SLU 25	112	-62	7115	0.31	26.38	-2.67
493	SLU 26	111	-49	7090	0.07	25.6	-2.62
493	SLU 27	111	-82	7156	0.74	27.82	-2.8
493	SLU 28	112	-63	7187	0.43	26.83	-2.74
493	SLU 29	110	-81	7111	0.71	27.7	-2.78
493	SLU 30	111	-62	7141	0.4	26.71	-2.72
493	SLU 31	117	-55	7802	-0.02	28.12	-2.82
493	SLU 32	117	-88	7868	0.65	30.33	-3
493	SLU 33	118	-69	7899	0.34	29.35	-2.94
493	SLU 34	118	-56	7873	0.1	28.57	-2.88
493	SLU 35	118	-89	7940	0.78	30.79	-3.06
493	SLU 36	119	-70	7970	0.47	29.8	-3
493	SLU 37	117	-88	7894	0.74	30.67	-3.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
493	SLU 38	118	-69	7924	0.43	29.68	-2.99
493	SLU 39	118	-90	8087	0.51	31.04	-3.03
493	SLU 40	119	-71	8117	0.2	30.05	-2.97
493	SLU 41	119	-90	8158	0.64	31.49	-3.1
493	SLU 42	120	-71	8189	0.33	30.5	-3.04
493	SLU 43	122	-89	7567	-0.13	30.12	-2.98
493	SLU 44	123	-58	7617	-0.65	28.48	-2.88
493	SLU 45	123	-91	7684	0.03	30.69	-3.06
493	SLU 46	124	-72	7714	-0.28	29.7	-3
493	SLU 47	124	-59	7688	-0.52	28.93	-2.95
493	SLU 48	124	-91	7755	0.15	31.14	-3.13
493	SLU 49	125	-73	7785	-0.16	30.16	-3.07
493	SLU 50	123	-91	7709	0.12	31.03	-3.12
493	SLU 51	124	-72	7739	-0.19	30.04	-3.06
493	SLU 52	129	-65	8400	-0.61	31.45	-3.15
493	SLU 53	130	-98	8467	0.06	33.66	-3.33
493	SLU 54	131	-79	8497	-0.25	32.67	-3.27
493	SLU 55	130	-66	8471	-0.49	31.9	-3.22
493	SLU 56	130	-98	8538	0.19	34.11	-3.4
493	SLU 57	131	-80	8568	-0.12	33.13	-3.34
493	SLU 58	129	-98	8492	0.15	34	-3.38
493	SLU 59	130	-79	8523	-0.16	33.01	-3.32
493	SLU 60	131	-99	8686	-0.08	34.36	-3.37
493	SLU 61	132	-81	8716	-0.39	33.38	-3.31
493	SLU 62	131	-100	8757	0.05	34.82	-3.43
493	SLU 63	132	-81	8787	-0.26	33.83	-3.37
493	SLU 64	134	-98	8475	0.31	32.99	-3.26
493	SLU 65	135	-66	8525	-0.2	31.34	-3.16
493	SLU 66	136	-99	8592	0.47	33.56	-3.34
493	SLU 67	137	-80	8622	0.16	32.57	-3.28
493	SLU 68	136	-67	8596	-0.08	31.8	-3.23
493	SLU 69	136	-100	8663	0.59	34.01	-3.41
493	SLU 70	137	-81	8693	0.28	33.02	-3.35
493	SLU 71	135	-99	8617	0.56	33.89	-3.4
493	SLU 72	136	-80	8648	0.25	32.91	-3.34
493	SLU 73	142	-73	9308	-0.17	34.31	-3.43
493	SLU 74	142	-106	9375	0.51	36.53	-3.61
493	SLU 75	143	-87	9405	0.2	35.54	-3.55
493	SLU 76	142	-74	9380	-0.04	34.77	-3.5
493	SLU 77	143	-107	9446	0.63	36.98	-3.68
493	SLU 78	144	-88	9476	0.32	35.99	-3.62
493	SLU 79	142	-106	9401	0.6	36.86	-3.66
493	SLU 80	142	-87	9431	0.29	35.88	-3.6
493	SLU 81	143	-108	9594	0.37	37.23	-3.65
493	SLU 82	144	-89	9624	0.06	36.24	-3.59
493	SLU 83	144	-109	9665	0.49	37.68	-3.71
493	SLU 84	145	-90	9695	0.18	36.7	-3.65
493	SLE RA 1	100	-73	6320	0.14	24.75	-2.45
493	SLE RA 2	101	-53	6353	-0.2	23.65	-2.38
493	SLE RA 3	101	-74	6397	0.25	25.13	-2.5
493	SLE RA 4	102	-62	6418	0.04	24.47	-2.46
493	SLE RA 5	102	-53	6401	-0.12	23.95	-2.43
493	SLE RA 6	102	-75	6445	0.33	25.43	-2.55
493	SLE RA 7	102	-62	6465	0.12	24.77	-2.51
493	SLE RA 8	101	-74	6415	0.31	25.35	-2.54
493	SLE RA 9	102	-62	6435	0.1	24.69	-2.5
493	SLE RA 10	106	-57	6875	-0.18	25.63	-2.56
493	SLE RA 11	106	-79	6920	0.27	27.11	-2.68
493	SLE RA 12	106	-66	6940	0.07	26.45	-2.64
493	SLE RA 13	106	-58	6923	-0.09	25.93	-2.6
493	SLE RA 14	106	-79	6967	0.36	27.41	-2.73
493	SLE RA 15	107	-67	6987	0.15	26.75	-2.69
493	SLE RA 16	105	-79	6937	0.33	27.33	-2.72
493	SLE RA 17	106	-66	6957	0.13	26.67	-2.68
493	SLE RA 18	106	-80	7065	0.18	27.57	-2.7
493	SLE RA 19	107	-68	7086	-0.03	26.92	-2.66
493	SLE RA 20	107	-81	7113	0.26	27.88	-2.75
493	SLE RA 21	107	-68	7133	0.05	27.22	-2.71
493	SLE FR 1	100	-73	6320	0.14	24.75	-2.45
493	SLE FR 2	101	-69	6326	0.08	24.53	-2.44
493	SLE FR 3	100	-74	6339	0.18	24.87	-2.47
493	SLE FR 4	102	-71	6550	0.09	25.37	-2.51
493	SLE FR 5	102	-76	6562	0.19	25.72	-2.54
493	SLE FR 6	103	-77	6693	0.16	26.16	-2.58
493	SLE QP 1	100	-73	6320	0.14	24.75	-2.45
493	SLE QP 2	102	-75	6543	0.16	25.59	-2.53
493	SLD 1	665	157	6415	-2.88	30.36	1.1
493	SLD 2	723	236	6456	-3.28	27.58	3.57
493	SLD 3	649	-255	5639	4.27	46.58	-0.17
493	SLD 4	707	-175	5679	3.87	43.8	2.3
493	SLD 5	285	605	7676	-11.53	2.91	0.05
493	SLD 6	323	656	7702	-11.79	1.12	1.64
493	SLD 7	232	-768	5087	12.31	56.96	-4.16
493	SLD 8	269	-716	5113	12.04	55.17	-2.57
493	SLD 9	-65	565	7973	-11.73	-3.99	-2.48
493	SLD 10	-27	617	7999	-12	-5.78	-0.89
493	SLD 11	-118	-807	5385	12.1	50.07	-6.69
493	SLD 12	-81	-756	5411	11.84	48.28	-5.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
493	SLD 13	-502	24	7407	-3.56	7.39	-7.35
493	SLD 14	-444	104	7448	-3.96	4.61	-4.88
493	SLD 15	-518	-387	6631	3.59	23.61	-8.62
493	SLD 16	-460	-308	6672	3.19	20.82	-6.15
493	SLV 1	983	317	6400	-5.09	32.03	3.2
493	SLV 2	1075	442	6464	-5.73	27.64	7.09
493	SLV 3	956	-386	5075	7.11	59.67	1.05
493	SLV 4	1047	-261	5139	6.47	55.28	4.94
493	SLV 5	391	1085	8498	-19.8	-13.58	1.73
493	SLV 6	452	1169	8541	-20.23	-16.53	4.35
493	SLV 7	300	-1258	4081	20.86	78.56	-5.45
493	SLV 8	362	-1173	4124	20.43	75.6	-2.83
493	SLV 9	-157	1022	8963	-20.12	-24.42	-2.23
493	SLV 10	-96	1107	9006	-20.55	-27.37	0.39
493	SLV 11	-248	-1320	4545	20.54	67.72	-9.4
493	SLV 12	-186	-1236	4589	20.11	64.77	-6.78
493	SLV 13	-843	110	7948	-6.16	-4.09	-9.99
493	SLV 14	-752	235	8012	-6.8	-8.48	-6.1
493	SLV 15	-870	-593	6623	6.04	23.55	-12.14
493	SLV 16	-779	-468	6687	5.4	19.16	-8.25
493	SLV FO 1	1071	356	6385	-5.61	32.67	3.77
493	SLV FO 2	1172	494	6456	-6.32	27.84	8.06
493	SLV FO 3	1041	-417	4928	7.8	63.07	1.41
493	SLV FO 4	1142	-279	4998	7.1	58.25	5.69
493	SLV FO 5	419	1201	8694	-21.8	-17.5	2.16
493	SLV FO 6	487	1293	8741	-22.27	-20.75	5.04
493	SLV FO 7	320	-1376	3835	22.93	83.85	-5.74
493	SLV FO 8	387	-1283	3882	22.46	80.61	-2.86
493	SLV FO 9	-183	1132	9205	-22.15	-29.42	-2.2
493	SLV FO 10	-116	1225	9252	-22.62	-32.66	0.69
493	SLV FO 11	-283	-1444	4346	22.58	71.93	-10.09
493	SLV FO 12	-215	-1352	4393	22.11	68.69	-7.21
493	SLV FO 13	-938	128	8088	-6.79	-7.06	-10.74
493	SLV FO 14	-837	266	8159	-7.49	-11.88	-6.46
493	SLV FO 15	-967	-645	6631	6.63	23.34	-13.11
493	SLV FO 16	-867	-507	6701	5.92	18.52	-8.82
493	CRTFP Ux+	0	0	0	0	0	0
493	CRTFP Ux-	0	0	0	0	0	0
493	CRTFP Uy+	0	0	0	0	0	0
493	CRTFP Uy-	0	0	0	0	0	0
496	SLU 1	46	45	3876	4.46	845.19	-15.76
496	SLU 2	48	66	3910	4.15	847.97	-23.34
496	SLU 3	47	46	3953	4.64	861.96	-16.16
496	SLU 4	48	59	3973	4.46	863.63	-20.71
496	SLU 5	48	67	3955	4.29	858.14	-23.79
496	SLU 6	47	47	3998	4.78	872.13	-16.61
496	SLU 7	48	60	4018	4.6	873.8	-21.16
496	SLU 8	47	47	3966	4.73	865.52	-16.66
496	SLU 9	48	60	3986	4.54	867.19	-21.21
496	SLU 10	50	71	4393	4.75	949.3	-25.12
496	SLU 11	49	51	4435	5.25	963.29	-17.95
496	SLU 12	50	64	4456	5.07	964.96	-22.5
496	SLU 13	50	73	4438	4.89	959.47	-25.58
496	SLU 14	50	52	4480	5.38	973.46	-18.4
496	SLU 15	51	65	4501	5.2	975.13	-22.95
496	SLU 16	49	52	4449	5.33	966.85	-18.44
496	SLU 17	50	65	4469	5.15	968.52	-22.99
496	SLU 18	49	52	4566	5.32	989.94	-18.31
496	SLU 19	50	65	4586	5.13	991.61	-22.86
496	SLU 20	50	53	4611	5.45	1000.11	-18.76
496	SLU 21	51	66	4631	5.27	1001.78	-23.31
496	SLU 22	51	47	4450	5.39	967.75	-16.7
496	SLU 23	53	69	4484	5.08	970.53	-24.28
496	SLU 24	52	48	4527	5.58	984.52	-17.1
496	SLU 25	53	61	4547	5.39	986.19	-21.65
496	SLU 26	53	70	4529	5.22	980.7	-24.73
496	SLU 27	53	50	4572	5.71	994.69	-17.56
496	SLU 28	54	63	4592	5.53	996.36	-22.11
496	SLU 29	52	50	4540	5.66	988.09	-17.6
496	SLU 30	53	63	4560	5.48	989.76	-22.15
496	SLU 31	55	74	4967	5.69	1071.86	-26.07
496	SLU 32	54	53	5009	6.18	1085.85	-18.89
496	SLU 33	55	66	5030	6	1087.52	-23.44
496	SLU 34	56	75	5012	5.82	1082.03	-26.52
496	SLU 35	55	55	5054	6.31	1096.02	-19.34
496	SLU 36	56	68	5075	6.13	1097.69	-23.89
496	SLU 37	54	55	5023	6.26	1089.42	-19.39
496	SLU 38	55	68	5043	6.08	1091.09	-23.94
496	SLU 39	54	54	5140	6.25	1112.51	-19.25
496	SLU 40	55	67	5160	6.07	1114.18	-23.8
496	SLU 41	55	56	5185	6.38	1122.68	-19.7
496	SLU 42	56	69	5205	6.2	1124.35	-24.25
496	SLU 43	58	57	4842	5.47	1056.72	-20.16
496	SLU 44	60	79	4876	5.17	1059.5	-27.74
496	SLU 45	59	58	4919	5.66	1073.49	-20.57
496	SLU 46	60	71	4939	5.48	1075.16	-25.12
496	SLU 47	60	80	4921	5.3	1069.67	-28.2
496	SLU 48	59	59	4964	5.8	1083.66	-21.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
496	SLU 49	60	72	4984	5.62	1085.33	-25.57
496	SLU 50	59	60	4932	5.74	1077.06	-21.06
496	SLU 51	60	73	4953	5.56	1078.73	-25.61
496	SLU 52	62	84	5359	5.77	1160.83	-29.53
496	SLU 53	61	63	5401	6.26	1174.82	-22.35
496	SLU 54	62	76	5422	6.08	1176.49	-26.9
496	SLU 55	62	85	5404	5.91	1171	-29.98
496	SLU 56	62	64	5446	6.4	1184.99	-22.8
496	SLU 57	63	77	5467	6.22	1186.66	-27.35
496	SLU 58	61	65	5415	6.35	1178.39	-22.85
496	SLU 59	62	78	5435	6.16	1180.06	-27.4
496	SLU 60	61	64	5532	6.33	1201.48	-22.71
496	SLU 61	62	77	5552	6.15	1203.15	-27.26
496	SLU 62	62	65	5577	6.47	1211.65	-23.16
496	SLU 63	63	78	5597	6.29	1213.32	-27.71
496	SLU 64	63	60	5416	6.4	1179.28	-21.1
496	SLU 65	65	81	5450	6.1	1182.07	-28.69
496	SLU 66	64	61	5493	6.59	1196.06	-21.51
496	SLU 67	65	74	5513	6.41	1197.73	-26.06
496	SLU 68	65	83	5495	6.24	1192.23	-29.14
496	SLU 69	65	62	5538	6.73	1206.23	-21.96
496	SLU 70	66	75	5558	6.55	1207.89	-26.51
496	SLU 71	64	62	5506	6.68	1199.62	-22.01
496	SLU 72	65	75	5527	6.49	1201.29	-26.56
496	SLU 73	67	86	5933	6.7	1283.4	-30.47
496	SLU 74	66	66	5975	7.2	1297.39	-23.29
496	SLU 75	67	79	5996	7.01	1299.06	-27.84
496	SLU 76	68	88	5978	6.84	1293.56	-30.92
496	SLU 77	67	67	6020	7.33	1307.56	-23.74
496	SLU 78	68	80	6041	7.15	1309.22	-28.29
496	SLU 79	66	67	5989	7.28	1300.95	-23.79
496	SLU 80	67	80	6009	7.1	1302.62	-28.34
496	SLU 81	66	67	6106	7.27	1324.04	-23.65
496	SLU 82	68	80	6126	7.08	1325.71	-28.2
496	SLU 83	67	68	6151	7.4	1334.21	-24.1
496	SLU 84	68	81	6171	7.22	1335.88	-28.65
496	SLE RA 1	48	45	4040	4.72	880.2	-16.03
496	SLE RA 2	49	60	4063	4.52	882.06	-21.08
496	SLE RA 3	48	46	4091	4.85	891.39	-16.3
496	SLE RA 4	49	55	4105	4.73	892.5	-19.33
496	SLE RA 5	49	61	4093	4.61	888.84	-21.38
496	SLE RA 6	48	47	4121	4.94	898.17	-16.6
496	SLE RA 7	49	56	4135	4.82	899.28	-19.63
496	SLE RA 8	48	47	4100	4.9	893.76	-16.63
496	SLE RA 9	49	56	4114	4.78	894.87	-19.66
496	SLE RA 10	50	63	4384	4.92	949.61	-22.27
496	SLE RA 11	50	49	4413	5.25	958.94	-17.49
496	SLE RA 12	50	58	4426	5.13	960.05	-20.52
496	SLE RA 13	50	64	4414	5.01	956.39	-22.57
496	SLE RA 14	50	50	4443	5.34	965.72	-17.79
496	SLE RA 15	51	59	4456	5.22	966.83	-20.82
496	SLE RA 16	50	50	4422	5.3	961.32	-17.82
496	SLE RA 17	50	59	4435	5.18	962.43	-20.85
496	SLE RA 18	50	50	4500	5.3	976.71	-17.73
496	SLE RA 19	50	59	4513	5.17	977.82	-20.76
496	SLE RA 20	50	51	4530	5.39	983.49	-18.03
496	SLE RA 21	51	60	4543	5.26	984.6	-21.06
496	SLE FR 1	48	45	4040	4.72	880.2	-16.03
496	SLE FR 2	48	48	4045	4.68	880.58	-17.04
496	SLE FR 3	48	46	4052	4.76	882.92	-16.15
496	SLE FR 4	48	50	4183	4.85	909.53	-17.55
496	SLE FR 5	48	47	4190	4.93	911.87	-16.66
496	SLE FR 6	49	48	4270	5.01	928.46	-16.88
496	SLE QP 1	48	45	4040	4.72	880.2	-16.03
496	SLE QP 2	48	47	4178	4.89	909.16	-16.54
496	SLD 1	375	83	3345	1.79	718.72	-29.48
496	SLD 2	407	203	3385	1.43	721.27	-71.18
496	SLD 3	358	-192	2831	6.03	677.02	66.69
496	SLD 4	389	-72	2871	5.66	679.57	25
496	SLD 5	167	454	4701	-2.4	914.83	-159.11
496	SLD 6	188	531	4726	-2.63	916.47	-185.96
496	SLD 7	109	-462	2987	11.72	775.83	161.47
496	SLD 8	130	-385	3013	11.48	777.48	134.62
496	SLD 9	-33	479	5343	-1.7	1040.84	-167.69
496	SLD 10	-13	556	5369	-1.93	1042.48	-194.54
496	SLD 11	-91	-438	3630	12.42	901.84	152.89
496	SLD 12	-71	-361	3655	12.18	903.48	126.04
496	SLD 13	-293	165	5485	4.13	1138.74	-58.07
496	SLD 14	-261	285	5525	3.76	1141.29	-99.77
496	SLD 15	-310	-110	4971	8.36	1097.04	38.1
496	SLD 16	-279	10	5011	8	1099.59	-3.59
496	SLV 1	561	123	2915	-0.25	615.06	-43.26
496	SLV 2	611	311	2978	-0.83	619.08	-108.99
496	SLV 3	531	-347	2038	6.97	543.94	120.86
496	SLV 4	581	-158	2101	6.4	547.96	55.14
496	SLV 5	238	746	5117	-7.5	928.03	-261.21
496	SLV 6	271	873	5160	-7.89	930.74	-305.45
496	SLV 7	139	-818	2195	16.58	690.98	285.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
496	SLV 8	172	-691	2237	16.19	693.69	241.62
496	SLV 9	-76	785	6119	-6.41	1124.62	-274.7
496	SLV 10	-43	912	6161	-6.79	1127.33	-318.94
496	SLV 11	-175	-780	3196	17.67	887.57	272.38
496	SLV 12	-141	-653	3239	17.29	890.28	228.14
496	SLV 13	-485	251	6255	3.39	1270.35	-88.21
496	SLV 14	-435	440	6318	2.82	1274.37	-153.93
496	SLV 15	-514	-218	5378	10.62	1199.23	75.91
496	SLV 16	-465	-29	5441	10.04	1203.26	10.19
496	SLV FO 1	612	130	2789	-0.77	585.65	-45.93
496	SLV FO 2	667	338	2858	-1.4	590.07	-118.23
496	SLV FO 3	580	-386	1824	7.18	507.42	134.6
496	SLV FO 4	634	-178	1894	6.55	511.84	62.3
496	SLV FO 5	257	816	5211	-8.74	929.92	-285.68
496	SLV FO 6	293	956	5258	-9.16	932.9	-334.35
496	SLV FO 7	148	-905	1996	17.75	669.17	316.11
496	SLV FO 8	185	-765	2043	17.32	672.14	267.44
496	SLV FO 9	-88	859	6313	-7.54	1146.17	-300.51
496	SLV FO 10	-52	998	6360	-7.96	1149.15	-349.18
496	SLV FO 11	-197	-862	3098	18.95	885.41	301.27
496	SLV FO 12	-160	-723	3145	18.53	888.39	252.61
496	SLV FO 13	-538	272	6462	3.24	1306.47	-95.38
496	SLV FO 14	-483	480	6532	2.61	1310.89	-167.67
496	SLV FO 15	-570	-244	5498	11.19	1228.24	85.16
496	SLV FO 16	-516	-37	5567	10.56	1232.67	12.86
496	CRTFP Ux+	0	0	0	0	0	0
496	CRTFP Ux-	0	0	0	0	0	0
496	CRTFP Uy+	0	0	0	0	0	0
496	CRTFP Uy-	0	0	0	0	0	0
498	SLU 1	18	-80	5155	229.33	1674.04	26.85
498	SLU 2	21	-49	5186	230.1	1682.32	16.01
498	SLU 3	18	-82	5257	234.04	1707.02	27.55
498	SLU 4	19	-63	5275	234.5	1711.99	21.05
498	SLU 5	20	-51	5250	233.1	1703.34	16.55
498	SLU 6	17	-83	5322	237.05	1728.03	28.09
498	SLU 7	19	-65	5340	237.51	1733	21.59
498	SLU 8	17	-83	5284	235.35	1716.07	27.93
498	SLU 9	19	-64	5303	235.81	1721.04	21.43
498	SLU 10	20	-58	5877	260.94	1907.36	19.18
498	SLU 11	17	-91	5948	264.88	1932.06	30.72
498	SLU 12	18	-72	5966	265.34	1937.03	24.21
498	SLU 13	19	-60	5941	263.95	1928.38	19.72
498	SLU 14	16	-92	6012	267.89	1953.08	31.26
498	SLU 15	18	-74	6031	268.35	1958.05	24.76
498	SLU 16	16	-92	5975	266.19	1941.11	31.1
498	SLU 17	18	-74	5994	266.65	1946.08	24.6
498	SLU 18	17	-93	6142	273.4	1995.53	31.37
498	SLU 19	18	-74	6161	273.85	2000.5	24.87
498	SLU 20	16	-94	6207	276.4	2016.55	31.92
498	SLU 21	18	-76	6225	276.86	2021.52	25.41
498	SLU 22	20	-90	5902	263.21	1915.93	30.24
498	SLU 23	22	-59	5933	263.98	1924.22	19.4
498	SLU 24	19	-92	6004	267.92	1948.91	30.94
498	SLU 25	21	-73	6022	268.38	1953.88	24.43
498	SLU 26	22	-61	5997	266.98	1945.23	19.94
498	SLU 27	19	-93	6069	270.93	1969.93	31.48
498	SLU 28	20	-75	6087	271.39	1974.9	24.98
498	SLU 29	18	-93	6031	269.23	1957.97	31.32
498	SLU 30	20	-74	6050	269.69	1962.94	24.82
498	SLU 31	21	-68	6624	294.82	2149.26	22.56
498	SLU 32	18	-101	6695	298.77	2173.96	34.1
498	SLU 33	20	-82	6713	299.22	2178.93	27.6
498	SLU 34	21	-70	6688	297.83	2170.28	23.1
498	SLU 35	18	-102	6760	301.77	2194.97	34.65
498	SLU 36	19	-84	6778	302.23	2199.94	28.14
498	SLU 37	18	-102	6722	300.07	2183.01	34.49
498	SLU 38	19	-84	6741	300.53	2187.98	27.98
498	SLU 39	18	-103	6890	307.28	2237.43	34.76
498	SLU 40	20	-84	6908	307.73	2242.4	28.26
498	SLU 41	18	-104	6954	310.29	2258.44	35.3
498	SLU 42	19	-86	6972	310.74	2263.41	28.8
498	SLU 43	23	-100	6446	286.52	2093.31	33.75
498	SLU 44	26	-70	6476	287.28	2101.59	22.9
498	SLU 45	22	-102	6548	291.22	2126.29	34.45
498	SLU 46	24	-84	6566	291.68	2131.26	27.94
498	SLU 47	25	-71	6541	290.29	2122.61	23.45
498	SLU 48	22	-104	6612	294.23	2147.31	34.99
498	SLU 49	24	-85	6630	294.69	2152.28	28.48
498	SLU 50	22	-103	6575	292.53	2135.34	34.83
498	SLU 51	23	-85	6593	292.99	2140.31	28.32
498	SLU 52	25	-79	7167	318.12	2326.64	26.07
498	SLU 53	22	-111	7238	322.07	2351.34	37.61
498	SLU 54	23	-93	7257	322.53	2356.31	31.11
498	SLU 55	24	-80	7232	321.13	2347.66	26.61
498	SLU 56	21	-113	7303	325.08	2372.35	38.15
498	SLU 57	23	-95	7321	325.53	2377.32	31.65
498	SLU 58	21	-113	7266	323.38	2360.39	38
498	SLU 59	23	-94	7284	323.83	2365.36	31.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
498	SLU 60	22	-113	7433	330.58	2414.81	38.27
498	SLU 61	23	-95	7451	331.04	2419.77	31.76
498	SLU 62	21	-115	7497	333.59	2435.82	38.81
498	SLU 63	23	-96	7516	334.04	2440.79	32.31
498	SLU 64	24	-110	7193	320.4	2335.21	37.13
498	SLU 65	27	-80	7223	321.16	2343.49	26.29
498	SLU 66	24	-112	7295	325.11	2368.19	37.83
498	SLU 67	26	-94	7313	325.56	2373.16	31.33
498	SLU 68	27	-81	7288	324.17	2364.51	26.83
498	SLU 69	23	-114	7359	328.11	2389.2	38.37
498	SLU 70	25	-95	7377	328.57	2394.17	31.87
498	SLU 71	23	-113	7322	326.41	2377.24	38.22
498	SLU 72	25	-95	7340	326.87	2382.21	31.71
498	SLU 73	26	-89	7914	352	2568.54	29.46
498	SLU 74	23	-121	7986	355.95	2593.23	41
498	SLU 75	25	-103	8004	356.41	2598.2	34.49
498	SLU 76	26	-90	7979	355.01	2589.55	30
498	SLU 77	23	-123	8050	358.96	2614.25	41.54
498	SLU 78	24	-105	8068	359.41	2619.22	35.04
498	SLU 79	23	-123	8013	357.26	2602.29	41.38
498	SLU 80	24	-104	8031	357.71	2607.26	34.88
498	SLU 81	23	-123	8180	364.46	2656.7	41.65
498	SLU 82	25	-105	8198	364.92	2661.67	35.15
498	SLU 83	23	-125	8244	367.47	2677.72	42.2
498	SLU 84	24	-106	8263	367.93	2682.69	35.69
498	SLE RA 1	18	-83	5369	239.01	1743.15	27.82
498	SLE RA 2	20	-62	5389	239.52	1748.67	20.59
498	SLE RA 3	18	-84	5437	242.15	1765.14	28.29
498	SLE RA 4	19	-72	5449	242.46	1768.45	23.95
498	SLE RA 5	20	-63	5432	241.53	1762.68	20.95
498	SLE RA 6	18	-85	5480	244.16	1779.15	28.65
498	SLE RA 7	19	-73	5492	244.46	1782.46	24.31
498	SLE RA 8	18	-85	5455	243.02	1771.17	28.54
498	SLE RA 9	19	-72	5467	243.33	1774.48	24.2
498	SLE RA 10	20	-68	5850	260.08	1898.7	22.7
498	SLE RA 11	18	-90	5897	262.71	1915.17	30.4
498	SLE RA 12	19	-78	5909	263.02	1918.48	26.06
498	SLE RA 13	19	-69	5893	262.09	1912.71	23.06
498	SLE RA 14	17	-91	5940	264.72	1929.18	30.76
498	SLE RA 15	18	-79	5952	265.02	1932.49	26.42
498	SLE RA 16	17	-91	5915	263.59	1921.2	30.65
498	SLE RA 17	18	-78	5928	263.89	1924.51	26.32
498	SLE RA 18	18	-91	6027	268.39	1957.48	30.83
498	SLE RA 19	19	-79	6039	268.69	1960.79	26.5
498	SLE RA 20	17	-92	6070	270.39	1971.49	31.19
498	SLE RA 21	18	-80	6082	270.7	1974.8	26.86
498	SLE FR 1	18	-83	5369	239.01	1743.15	27.82
498	SLE FR 2	19	-79	5373	239.12	1744.26	26.37
498	SLE FR 3	18	-83	5386	239.82	1748.76	27.96
498	SLE FR 4	19	-81	5570	247.93	1808.55	27.28
498	SLE FR 5	18	-86	5583	248.63	1813.05	28.87
498	SLE FR 6	18	-87	5698	253.7	1850.32	29.33
498	SLE QP 1	18	-83	5369	239.01	1743.15	27.82
498	SLE QP 2	18	-85	5566	247.83	1807.45	28.72
498	SLD 1	481	94	5849	255.85	1888.22	-56.48
498	SLD 2	519	101	5864	256.31	1890.5	-59.78
498	SLD 3	445	-296	5345	242.22	1744.76	80.85
498	SLD 4	482	-289	5360	242.68	1747.04	77.54
498	SLD 5	205	559	6413	270.82	2048.87	-204.55
498	SLD 6	230	563	6423	271.12	2050.34	-206.67
498	SLD 7	85	-741	4733	225.4	1570.67	253.21
498	SLD 8	109	-737	4742	225.7	1572.14	251.08
498	SLD 9	-73	567	6390	269.96	2042.76	-193.63
498	SLD 10	-48	571	6400	270.25	2044.23	-195.76
498	SLD 11	-193	-734	4710	224.54	1564.56	264.12
498	SLD 12	-169	-730	4719	224.83	1566.03	261.99
498	SLD 13	-446	119	5772	252.97	1867.86	-20.1
498	SLD 14	-408	125	5787	253.43	1870.14	-23.4
498	SLD 15	-482	-271	5268	239.34	1724.4	117.23
498	SLD 16	-444	-265	5283	239.8	1726.68	113.92
498	SLV 1	744	223	6046	261.43	1944.47	-114.38
498	SLV 2	804	233	6070	262.15	1948.07	-119.59
498	SLV 3	682	-443	5186	238.17	1699.62	119.85
498	SLV 4	742	-433	5209	238.89	1703.22	114.64
498	SLV 5	318	1015	7011	287.05	2219.24	-368.48
498	SLV 6	359	1021	7027	287.53	2221.66	-371.99
498	SLV 7	113	-1204	4143	209.52	1403.07	412.28
498	SLV 8	153	-1197	4159	210.01	1405.49	408.77
498	SLV 9	-116	1026	6974	285.65	2209.41	-351.32
498	SLV 10	-76	1033	6990	286.13	2211.83	-354.83
498	SLV 11	-322	-1192	4106	208.12	1393.24	429.43
498	SLV 12	-282	-1185	4122	208.61	1395.66	425.92
498	SLV 13	-705	262	5923	256.76	1911.68	-57.19
498	SLV 14	-646	272	5947	257.49	1915.28	-62.4
498	SLV 15	-767	-403	5063	233.5	1666.83	177.03
498	SLV 16	-708	-393	5086	234.23	1670.42	171.82
498	SLV FO 1	817	254	6094	262.79	1958.18	-128.69
498	SLV FO 2	882	265	6120	263.58	1962.13	-134.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
498	SLV FO 3	749	-478	5148	237.2	1688.84	128.96
498	SLV FO 4	814	-467	5174	238	1692.79	123.23
498	SLV FO 5	349	1124	7155	290.97	2260.42	-408.2
498	SLV FO 6	393	1132	7173	291.5	2263.08	-412.06
498	SLV FO 7	122	-1316	4000	205.69	1362.64	450.63
498	SLV FO 8	166	-1308	4018	206.22	1365.3	446.77
498	SLV FO 9	-130	1137	7115	289.43	2249.6	-389.33
498	SLV FO 10	-86	1145	7132	289.97	2252.26	-393.19
498	SLV FO 11	-356	-1303	3960	204.15	1351.81	469.5
498	SLV FO 12	-312	-1295	3977	204.68	1354.48	465.64
498	SLV FO 13	-778	297	5959	257.66	1922.1	-65.78
498	SLV FO 14	-712	308	5985	258.45	1926.06	-71.52
498	SLV FO 15	-846	-435	5012	232.07	1652.77	191.87
498	SLV FO 16	-780	-424	5038	232.87	1656.72	186.13
498	CRTFP Ux+	0	0	0	0	0	0
498	CRTFP Ux-	0	0	0	0	0	0
498	CRTFP Uy+	0	0	0	0	0	0
498	CRTFP Uy-	0	0	0	0	0	0
513	SLU 1	-37	10	3542	4.68	-551.88	2.41
513	SLU 2	-38	29	3566	4.45	-551.27	7.2
513	SLU 3	-38	10	3621	4.86	-564.48	2.37
513	SLU 4	-38	21	3635	4.72	-564.11	5.24
513	SLU 5	-39	29	3616	4.57	-559.48	7.21
513	SLU 6	-38	10	3672	4.98	-572.7	2.39
513	SLU 7	-39	21	3686	4.83	-572.33	5.26
513	SLU 8	-38	10	3644	4.92	-568.32	2.45
513	SLU 9	-39	21	3658	4.78	-567.95	5.32
513	SLU 10	-39	31	4011	5.1	-619.93	7.76
513	SLU 11	-38	12	4067	5.52	-633.14	2.94
513	SLU 12	-39	23	4081	5.37	-632.77	5.81
513	SLU 13	-40	31	4062	5.22	-628.14	7.78
513	SLU 14	-39	12	4118	5.64	-641.36	2.95
513	SLU 15	-40	23	4132	5.49	-640.99	5.83
513	SLU 16	-38	12	4090	5.58	-636.98	3.01
513	SLU 17	-39	24	4104	5.44	-636.6	5.88
513	SLU 18	-38	13	4179	5.62	-649.97	3.22
513	SLU 19	-39	25	4193	5.48	-649.6	6.09
513	SLU 20	-38	13	4230	5.74	-658.19	3.24
513	SLU 21	-39	25	4244	5.6	-657.81	6.11
513	SLU 22	-40	9	4085	5.64	-636.89	2.24
513	SLU 23	-42	28	4108	5.4	-636.27	7.02
513	SLU 24	-41	9	4164	5.81	-649.48	2.2
513	SLU 25	-42	20	4178	5.67	-649.11	5.07
513	SLU 26	-42	28	4159	5.52	-644.48	7.04
513	SLU 27	-41	9	4215	5.93	-657.7	2.22
513	SLU 28	-42	21	4229	5.79	-657.33	5.09
513	SLU 29	-41	9	4187	5.88	-653.32	2.27
513	SLU 30	-42	21	4201	5.73	-652.95	5.14
513	SLU 31	-42	31	4554	6.06	-704.93	7.59
513	SLU 32	-42	11	4610	6.47	-718.14	2.76
513	SLU 33	-43	23	4624	6.33	-717.77	5.63
513	SLU 34	-43	31	4605	6.18	-713.14	7.61
513	SLU 35	-42	11	4661	6.59	-726.36	2.78
513	SLU 36	-43	23	4675	6.45	-725.99	5.65
513	SLU 37	-42	12	4633	6.54	-721.98	2.84
513	SLU 38	-43	23	4647	6.39	-721.61	5.71
513	SLU 39	-41	12	4722	6.58	-734.97	3.05
513	SLU 40	-42	24	4736	6.43	-734.6	5.92
513	SLU 41	-42	12	4773	6.7	-743.19	3.06
513	SLU 42	-43	24	4787	6.55	-742.82	5.93
513	SLU 43	-47	13	4419	5.76	-688.31	3.19
513	SLU 44	-48	32	4442	5.52	-687.69	7.98
513	SLU 45	-47	13	4498	5.94	-700.9	3.16
513	SLU 46	-48	24	4512	5.79	-700.53	6.03
513	SLU 47	-49	32	4493	5.64	-695.9	8
513	SLU 48	-48	13	4549	6.06	-709.12	3.17
513	SLU 49	-49	24	4563	5.91	-708.75	6.04
513	SLU 50	-47	13	4521	6	-704.74	3.23
513	SLU 51	-48	25	4535	5.86	-704.37	6.1
513	SLU 52	-49	34	4888	6.18	-756.35	8.55
513	SLU 53	-48	15	4944	6.59	-769.56	3.72
513	SLU 54	-49	27	4958	6.45	-769.19	6.59
513	SLU 55	-49	34	4939	6.3	-764.56	8.56
513	SLU 56	-49	15	4995	6.71	-777.78	3.74
513	SLU 57	-50	27	5009	6.57	-777.41	6.61
513	SLU 58	-48	15	4967	6.66	-773.4	3.79
513	SLU 59	-49	27	4981	6.52	-773.03	6.67
513	SLU 60	-48	16	5056	6.7	-786.39	4
513	SLU 61	-49	28	5070	6.56	-786.02	6.87
513	SLU 62	-48	16	5107	6.82	-794.61	4.02
513	SLU 63	-49	28	5121	6.68	-794.24	6.89
513	SLU 64	-50	12	4962	6.72	-773.31	3.02
513	SLU 65	-52	31	4985	6.48	-772.69	7.81
513	SLU 66	-51	12	5041	6.89	-785.9	2.98
513	SLU 67	-52	24	5055	6.75	-785.53	5.85
513	SLU 68	-52	31	5036	6.6	-780.91	7.82
513	SLU 69	-51	12	5092	7.01	-794.12	3
513	SLU 70	-52	24	5106	6.87	-793.75	5.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
513	SLU 71	-51	12	5064	6.96	-789.74	3.06
513	SLU 72	-52	24	5078	6.81	-789.37	5.93
513	SLU 73	-52	34	5431	7.14	-841.35	8.37
513	SLU 74	-51	14	5487	7.55	-854.56	3.55
513	SLU 75	-52	26	5501	7.4	-854.19	6.42
513	SLU 76	-53	34	5482	7.25	-849.57	8.39
513	SLU 77	-52	14	5538	7.67	-862.78	3.56
513	SLU 78	-53	26	5552	7.52	-862.41	6.43
513	SLU 79	-52	15	5510	7.61	-858.4	3.62
513	SLU 80	-53	26	5523	7.47	-858.03	6.49
513	SLU 81	-51	16	5599	7.66	-871.39	3.83
513	SLU 82	-52	27	5613	7.51	-871.02	6.7
513	SLU 83	-52	16	5650	7.78	-879.61	3.85
513	SLU 84	-52	27	5664	7.63	-879.24	6.72
513	SLE RA 1	-38	10	3698	4.96	-576.17	2.36
513	SLE RA 2	-39	22	3713	4.8	-575.76	5.55
513	SLE RA 3	-38	9	3750	5.07	-584.57	2.34
513	SLE RA 4	-39	17	3759	4.98	-584.32	4.25
513	SLE RA 5	-39	22	3747	4.88	-581.24	5.56
513	SLE RA 6	-38	9	3784	5.15	-590.05	2.35
513	SLE RA 7	-39	17	3793	5.06	-589.8	4.26
513	SLE RA 8	-38	10	3765	5.12	-587.12	2.39
513	SLE RA 9	-39	17	3775	5.02	-586.88	4.3
513	SLE RA 10	-39	24	4010	5.24	-621.53	5.93
513	SLE RA 11	-39	11	4047	5.51	-630.34	2.71
513	SLE RA 12	-39	19	4057	5.42	-630.09	4.63
513	SLE RA 13	-40	24	4044	5.32	-627.01	5.94
513	SLE RA 14	-39	11	4081	5.59	-635.82	2.72
513	SLE RA 15	-40	19	4091	5.5	-635.57	4.64
513	SLE RA 16	-39	11	4063	5.56	-632.9	2.76
513	SLE RA 17	-39	19	4072	5.46	-632.65	4.68
513	SLE RA 18	-38	12	4122	5.58	-641.56	2.9
513	SLE RA 19	-39	19	4131	5.49	-641.31	4.81
513	SLE RA 20	-39	12	4156	5.66	-647.04	2.91
513	SLE RA 21	-39	19	4165	5.57	-646.79	4.83
513	SLE FR 1	-38	10	3698	4.96	-576.17	2.36
513	SLE FR 2	-38	12	3701	4.93	-576.09	3
513	SLE FR 3	-38	10	3711	4.99	-578.36	2.37
513	SLE FR 4	-38	13	3828	5.11	-595.7	3.16
513	SLE FR 5	-38	10	3839	5.18	-597.98	2.53
513	SLE FR 6	-38	11	3910	5.27	-608.87	2.63
513	SLE QP 1	-38	10	3698	4.96	-576.17	2.36
513	SLE QP 2	-38	10	3825	5.15	-595.79	2.52
513	SLD 1	214	222	5119	5	-760.81	55.29
513	SLD 2	233	119	5095	5.31	-763.22	29.63
513	SLD 3	230	-20	4744	8.31	-757.12	-5.27
513	SLD 4	249	-124	4720	8.62	-759.53	-30.92
513	SLD 5	10	459	4786	0.03	-650.49	114.61
513	SLD 6	23	393	4771	0.23	-652.04	98.09
513	SLD 7	63	-349	3536	11.06	-638.16	-87.24
513	SLD 8	75	-416	3520	11.26	-639.72	-103.76
513	SLD 9	-151	436	4130	-0.97	-551.86	108.81
513	SLD 10	-139	369	4114	-0.77	-553.41	92.29
513	SLD 11	-99	-372	2879	10.06	-539.53	-93.04
513	SLD 12	-86	-439	2864	10.26	-541.09	-109.56
513	SLD 13	-325	144	2930	1.67	-432.05	35.97
513	SLD 14	-306	41	2906	1.98	-434.46	10.31
513	SLD 15	-309	-98	2555	4.98	-428.35	-24.59
513	SLD 16	-290	-202	2531	5.29	-430.76	-50.24
513	SLV 1	356	359	5872	4.68	-853.44	89.5
513	SLV 2	386	197	5833	5.17	-857.24	49.06
513	SLV 3	383	-54	5231	10.32	-847.24	-13.78
513	SLV 4	413	-217	5193	10.81	-851.04	-54.22
513	SLV 5	34	773	5417	-3.64	-681.78	192.81
513	SLV 6	54	663	5391	-3.32	-684.34	165.59
513	SLV 7	123	-606	3283	15.17	-661.11	-151.47
513	SLV 8	144	-716	3257	15.49	-663.66	-178.69
513	SLV 9	-220	736	4393	-5.2	-527.91	183.74
513	SLV 10	-199	626	4367	-4.87	-530.47	156.52
513	SLV 11	-130	-643	2258	13.61	-507.23	-160.54
513	SLV 12	-110	-752	2233	13.93	-509.79	-187.76
513	SLV 13	-489	237	2457	-0.52	-340.54	59.27
513	SLV 14	-458	75	2419	-0.03	-344.34	18.83
513	SLV 15	-462	-176	1816	5.12	-334.33	-44.01
513	SLV 16	-432	-339	1778	5.61	-338.13	-84.45
513	SLV FO 1	395	394	6076	4.63	-879.21	98.2
513	SLV FO 2	428	215	6034	5.17	-883.38	53.71
513	SLV FO 3	425	-61	5372	10.84	-872.38	-15.41
513	SLV FO 4	458	-240	5330	11.37	-876.56	-59.9
513	SLV FO 5	41	849	5576	-4.52	-690.38	211.84
513	SLV FO 6	63	728	5548	-4.16	-693.19	181.89
513	SLV FO 7	139	-668	3229	16.17	-667.64	-166.87
513	SLV FO 8	162	-788	3200	16.53	-670.45	-196.81
513	SLV FO 9	-238	809	4449	-6.24	-521.12	201.86
513	SLV FO 10	-215	688	4421	-5.88	-523.94	171.92
513	SLV FO 11	-139	-708	2102	14.45	-498.38	-176.84
513	SLV FO 12	-117	-828	2074	14.81	-501.19	-206.79
513	SLV FO 13	-534	260	2320	-1.08	-315.01	64.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
513	SLV FO 14	-501	81	2278	-0.55	-319.19	20.46
513	SLV FO 15	-504	-195	1616	5.12	-308.19	-48.67
513	SLV FO 16	-471	-374	1574	5.66	-312.37	-93.15
513	CRTFP Ux+	0	0	0	0	0	0
513	CRTFP Ux-	0	0	0	0	0	0
513	CRTFP Uy+	0	0	0	0	0	0
513	CRTFP Uy-	0	0	0	0	0	0
516	SLU 1	-60	-6	6282	2.28	-29.98	-0.37
516	SLU 2	-61	26	6318	1.8	-29.27	-0.52
516	SLU 3	-61	-6	6417	2.48	-30.73	-0.4
516	SLU 4	-62	13	6439	2.2	-30.31	-0.49
516	SLU 5	-62	26	6405	1.96	-29.77	-0.54
516	SLU 6	-62	-7	6505	2.64	-31.23	-0.42
516	SLU 7	-63	13	6526	2.35	-30.81	-0.51
516	SLU 8	-61	-7	6456	2.58	-30.99	-0.41
516	SLU 9	-62	13	6478	2.29	-30.56	-0.51
516	SLU 10	-63	26	7153	2.24	-34.72	-0.57
516	SLU 11	-62	-6	7253	2.92	-36.18	-0.45
516	SLU 12	-63	13	7275	2.64	-35.75	-0.54
516	SLU 13	-63	26	7241	2.39	-35.22	-0.59
516	SLU 14	-63	-6	7340	3.07	-36.68	-0.47
516	SLU 15	-64	13	7362	2.79	-36.26	-0.56
516	SLU 16	-62	-6	7292	3.01	-36.44	-0.46
516	SLU 17	-63	13	7313	2.73	-36.01	-0.56
516	SLU 18	-61	-5	7475	2.9	-37.77	-0.44
516	SLU 19	-63	14	7497	2.61	-37.34	-0.53
516	SLU 20	-62	-6	7563	3.05	-38.27	-0.46
516	SLU 21	-63	14	7584	2.76	-37.84	-0.56
516	SLU 22	-66	-6	7260	3.14	-35.13	-0.55
516	SLU 23	-68	26	7296	2.67	-34.42	-0.7
516	SLU 24	-67	-6	7396	3.35	-35.88	-0.58
516	SLU 25	-68	13	7417	3.06	-35.45	-0.67
516	SLU 26	-68	26	7383	2.82	-34.92	-0.72
516	SLU 27	-68	-6	7483	3.5	-36.38	-0.6
516	SLU 28	-69	13	7504	3.22	-35.95	-0.69
516	SLU 29	-67	-6	7434	3.44	-36.13	-0.59
516	SLU 30	-68	13	7456	3.16	-35.71	-0.68
516	SLU 31	-69	26	8132	3.1	-39.87	-0.75
516	SLU 32	-69	-6	8231	3.78	-41.33	-0.63
516	SLU 33	-70	14	8253	3.5	-40.9	-0.72
516	SLU 34	-70	26	8219	3.25	-40.37	-0.77
516	SLU 35	-69	-6	8318	3.93	-41.83	-0.65
516	SLU 36	-70	13	8340	3.65	-41.4	-0.74
516	SLU 37	-69	-6	8270	3.87	-41.58	-0.64
516	SLU 38	-70	13	8291	3.59	-41.16	-0.74
516	SLU 39	-68	-5	8454	3.76	-42.91	-0.62
516	SLU 40	-69	14	8475	3.48	-42.49	-0.71
516	SLU 41	-68	-5	8541	3.91	-43.42	-0.64
516	SLU 42	-69	14	8562	3.63	-42.99	-0.73
516	SLU 43	-76	-8	7831	2.66	-37.21	-0.42
516	SLU 44	-77	24	7867	2.19	-36.5	-0.57
516	SLU 45	-77	-8	7967	2.87	-37.96	-0.45
516	SLU 46	-78	11	7988	2.59	-37.54	-0.54
516	SLU 47	-78	24	7954	2.34	-37	-0.59
516	SLU 48	-77	-9	8054	3.02	-38.46	-0.47
516	SLU 49	-79	11	8075	2.74	-38.04	-0.56
516	SLU 50	-77	-9	8005	2.96	-38.22	-0.46
516	SLU 51	-78	11	8027	2.68	-37.79	-0.55
516	SLU 52	-78	24	8703	2.62	-41.95	-0.62
516	SLU 53	-78	-8	8802	3.3	-43.41	-0.5
516	SLU 54	-79	11	8824	3.02	-42.98	-0.59
516	SLU 55	-79	24	8790	2.78	-42.45	-0.64
516	SLU 56	-79	-8	8889	3.46	-43.91	-0.52
516	SLU 57	-80	11	8911	3.17	-43.49	-0.61
516	SLU 58	-78	-8	8841	3.4	-43.67	-0.51
516	SLU 59	-79	11	8862	3.12	-43.24	-0.61
516	SLU 60	-77	-7	9025	3.28	-45	-0.49
516	SLU 61	-78	12	9046	3	-44.57	-0.58
516	SLU 62	-78	-8	9112	3.43	-45.5	-0.51
516	SLU 63	-79	12	9133	3.15	-45.07	-0.6
516	SLU 64	-82	-8	8809	3.52	-42.36	-0.6
516	SLU 65	-84	24	8845	3.05	-41.65	-0.75
516	SLU 66	-83	-8	8945	3.73	-43.11	-0.63
516	SLU 67	-84	11	8966	3.45	-42.68	-0.72
516	SLU 68	-84	24	8932	3.2	-42.15	-0.77
516	SLU 69	-84	-8	9032	3.88	-43.61	-0.65
516	SLU 70	-85	11	9054	3.6	-43.18	-0.74
516	SLU 71	-83	-8	8983	3.83	-43.36	-0.64
516	SLU 72	-84	11	9005	3.54	-42.94	-0.73
516	SLU 73	-85	25	9681	3.49	-47.1	-0.8
516	SLU 74	-84	-8	9780	4.17	-48.56	-0.68
516	SLU 75	-85	12	9802	3.88	-48.13	-0.77
516	SLU 76	-85	24	9768	3.64	-47.6	-0.82
516	SLU 77	-85	-8	9868	4.32	-49.06	-0.7
516	SLU 78	-86	12	9889	4.04	-48.63	-0.79
516	SLU 79	-84	-8	9819	4.26	-48.81	-0.69
516	SLU 80	-85	11	9841	3.98	-48.39	-0.78
516	SLU 81	-84	-7	10003	4.14	-50.14	-0.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
516	SLU 82	-85	12	10024	3.86	-49.72	-0.76
516	SLU 83	-84	-7	10090	4.3	-50.65	-0.69
516	SLU 84	-85	12	10112	4.01	-50.22	-0.78
516	SLE RA 1	-62	-6	6561	2.52	-31.45	-0.42
516	SLE RA 2	-63	15	6585	2.21	-30.98	-0.52
516	SLE RA 3	-62	-6	6652	2.66	-31.95	-0.44
516	SLE RA 4	-63	6	6666	2.47	-31.67	-0.5
516	SLE RA 5	-63	15	6643	2.31	-31.31	-0.54
516	SLE RA 6	-63	-6	6710	2.76	-32.29	-0.46
516	SLE RA 7	-64	6	6724	2.57	-32	-0.52
516	SLE RA 8	-62	-6	6677	2.72	-32.12	-0.45
516	SLE RA 9	-63	6	6692	2.53	-31.84	-0.51
516	SLE RA 10	-63	15	7142	2.5	-34.61	-0.56
516	SLE RA 11	-63	-6	7209	2.95	-35.59	-0.47
516	SLE RA 12	-64	7	7223	2.76	-35.3	-0.54
516	SLE RA 13	-64	15	7200	2.6	-34.95	-0.57
516	SLE RA 14	-64	-6	7267	3.05	-35.92	-0.49
516	SLE RA 15	-64	7	7281	2.86	-35.64	-0.55
516	SLE RA 16	-63	-6	7234	3.01	-35.75	-0.48
516	SLE RA 17	-64	7	7249	2.82	-35.47	-0.55
516	SLE RA 18	-63	-6	7357	2.94	-36.64	-0.47
516	SLE RA 19	-63	7	7371	2.75	-36.36	-0.53
516	SLE RA 20	-63	-6	7415	3.04	-36.98	-0.48
516	SLE RA 21	-64	7	7430	2.85	-36.69	-0.54
516	SLE FR 1	-62	-6	6561	2.52	-31.45	-0.42
516	SLE FR 2	-62	-2	6566	2.46	-31.36	-0.44
516	SLE FR 3	-62	-6	6584	2.56	-31.59	-0.43
516	SLE FR 4	-62	-2	6805	2.58	-32.92	-0.46
516	SLE FR 5	-62	-6	6823	2.69	-33.14	-0.44
516	SLE FR 6	-62	-6	6959	2.73	-34.05	-0.45
516	SLE QP 1	-62	-6	6561	2.52	-31.45	-0.42
516	SLE QP 2	-62	-6	6800	2.65	-33.01	-0.44
516	SLD 1	480	187	7704	-0.38	-4.99	0.16
516	SLD 2	519	105	7670	-0.03	-6.26	2.57
516	SLD 3	499	-219	7137	6.19	-10.88	1.77
516	SLD 4	538	-302	7103	6.55	-12.14	4.18
516	SLD 5	65	683	7937	-8.29	-15.47	-3.12
516	SLD 6	91	629	7915	-8.06	-16.28	-1.57
516	SLD 7	128	-672	6047	13.62	-35.07	2.26
516	SLD 8	153	-726	6025	13.85	-35.88	3.81
516	SLD 9	-277	714	7575	-8.55	-30.13	-4.68
516	SLD 10	-252	660	7553	-8.32	-30.95	-3.13
516	SLD 11	-215	-642	5685	13.35	-49.74	0.7
516	SLD 12	-189	-695	5663	13.58	-50.55	2.25
516	SLD 13	-662	290	6497	-1.25	-53.88	-5.05
516	SLD 14	-623	207	6463	-0.9	-55.14	-2.64
516	SLD 15	-643	-117	5930	5.32	-59.76	-3.44
516	SLD 16	-604	-200	5896	5.67	-61.02	-1.03
516	SLV 1	785	326	8252	-2.56	11.14	0.36
516	SLV 2	847	195	8198	-2	9.15	4.16
516	SLV 3	816	-368	7284	8.65	1.12	3.11
516	SLV 4	879	-498	7230	9.22	-0.87	6.9
516	SLV 5	132	1170	8714	-16.03	-4.19	-5.08
516	SLV 6	174	1082	8677	-15.65	-5.53	-2.52
516	SLV 7	238	-1142	5487	21.35	-37.6	4.09
516	SLV 8	280	-1230	5451	21.73	-38.94	6.64
516	SLV 9	-404	1217	8149	-16.44	-27.08	-7.52
516	SLV 10	-362	1130	8113	-16.06	-28.42	-4.96
516	SLV 11	-298	-1094	4922	20.94	-60.49	1.65
516	SLV 12	-256	-1182	4886	21.32	-61.83	4.2
516	SLV 13	-1002	486	6370	-3.92	-65.15	-7.78
516	SLV 14	-940	355	6316	-3.36	-67.14	-3.98
516	SLV 15	-971	-208	5402	7.29	-75.17	-5.03
516	SLV 16	-909	-338	5348	7.85	-77.16	-1.23
516	SLV FO 1	869	359	8397	-3.08	15.56	0.44
516	SLV FO 2	938	215	8338	-2.46	13.37	4.61
516	SLV FO 3	904	-404	7332	9.25	4.53	3.46
516	SLV FO 4	973	-547	7273	9.87	2.34	7.64
516	SLV FO 5	152	1287	8905	-17.89	-1.31	-5.54
516	SLV FO 6	198	1190	8865	-17.48	-2.79	-2.73
516	SLV FO 7	268	-1255	5356	23.22	-38.06	4.54
516	SLV FO 8	314	-1352	5316	23.63	-39.53	7.35
516	SLV FO 9	-438	1340	8284	-18.34	-26.49	-8.22
516	SLV FO 10	-392	1243	8244	-17.93	-27.96	-5.41
516	SLV FO 11	-322	-1203	4735	22.77	-63.23	1.86
516	SLV FO 12	-276	-1299	4695	23.18	-64.71	4.67
516	SLV FO 13	-1097	535	6326	-4.58	-68.36	-8.51
516	SLV FO 14	-1028	391	6267	-3.96	-70.55	-4.33
516	SLV FO 15	-1062	-228	5262	7.75	-79.39	-5.48
516	SLV FO 16	-993	-371	5203	8.37	-81.58	-1.31
516	CRTFP Ux+	0	0	0	0	0	0
516	CRTFP Ux-	0	0	0	0	0	0
516	CRTFP Uy+	0	0	0	0	0	0
516	CRTFP Uy-	0	0	0	0	0	0
519	SLU 1	109	-67	6074	0.89	19.58	-1.89
519	SLU 2	110	-35	6109	0.38	17.81	-1.82
519	SLU 3	111	-68	6196	1.06	20.07	-1.97
519	SLU 4	112	-49	6217	0.76	19.01	-1.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
519	SLU 5	111	-36	6184	0.51	18.21	-1.88
519	SLU 6	112	-68	6271	1.2	20.47	-2.03
519	SLU 7	113	-50	6292	0.89	19.41	-1.98
519	SLU 8	111	-68	6224	1.16	20.39	-2.02
519	SLU 9	111	-49	6245	0.85	19.33	-1.97
519	SLU 10	118	-42	6895	0.56	20.08	-2.04
519	SLU 11	119	-74	6982	1.24	22.34	-2.18
519	SLU 12	119	-55	7003	0.93	21.28	-2.14
519	SLU 13	119	-42	6970	0.69	20.49	-2.1
519	SLU 14	120	-75	7058	1.37	22.75	-2.24
519	SLU 15	120	-56	7078	1.07	21.69	-2.2
519	SLU 16	119	-74	7011	1.33	22.66	-2.23
519	SLU 17	119	-55	7032	1.03	21.6	-2.19
519	SLU 18	120	-76	7198	1.14	22.82	-2.2
519	SLU 19	121	-57	7218	0.83	21.76	-2.16
519	SLU 20	121	-76	7273	1.27	23.23	-2.27
519	SLU 21	122	-58	7293	0.97	22.17	-2.22
519	SLU 22	123	-75	6998	1.48	21.74	-2.12
519	SLU 23	124	-43	7032	0.97	19.97	-2.05
519	SLU 24	125	-76	7120	1.65	22.23	-2.19
519	SLU 25	125	-57	7141	1.35	21.17	-2.15
519	SLU 26	125	-44	7108	1.1	20.38	-2.11
519	SLU 27	126	-76	7195	1.79	22.64	-2.25
519	SLU 28	126	-57	7216	1.48	21.58	-2.21
519	SLU 29	125	-76	7148	1.75	22.55	-2.24
519	SLU 30	125	-57	7169	1.44	21.49	-2.2
519	SLU 31	132	-49	7819	1.15	22.24	-2.26
519	SLU 32	133	-82	7906	1.83	24.5	-2.41
519	SLU 33	133	-63	7927	1.52	23.44	-2.36
519	SLU 34	132	-50	7894	1.28	22.65	-2.32
519	SLU 35	134	-83	7982	1.96	24.91	-2.47
519	SLU 36	134	-64	8002	1.66	23.85	-2.42
519	SLU 37	132	-82	7935	1.92	24.82	-2.46
519	SLU 38	133	-63	7956	1.62	23.76	-2.41
519	SLU 39	134	-84	8121	1.73	24.98	-2.43
519	SLU 40	135	-65	8142	1.42	23.92	-2.39
519	SLU 41	135	-84	8197	1.86	25.39	-2.49
519	SLU 42	135	-65	8217	1.56	24.33	-2.45
519	SLU 43	137	-84	7579	0.95	24.71	-2.39
519	SLU 44	138	-52	7614	0.44	22.94	-2.31
519	SLU 45	139	-85	7701	1.13	25.2	-2.46
519	SLU 46	140	-66	7722	0.82	24.14	-2.41
519	SLU 47	139	-53	7689	0.58	23.34	-2.37
519	SLU 48	140	-86	7776	1.26	25.61	-2.52
519	SLU 49	140	-67	7797	0.96	24.54	-2.47
519	SLU 50	139	-85	7730	1.22	25.52	-2.51
519	SLU 51	139	-66	7750	0.92	24.46	-2.46
519	SLU 52	146	-59	8400	0.62	25.21	-2.53
519	SLU 53	147	-92	8488	1.3	27.47	-2.67
519	SLU 54	147	-73	8509	1	26.41	-2.63
519	SLU 55	147	-59	8476	0.75	25.62	-2.59
519	SLU 56	148	-92	8563	1.44	27.88	-2.73
519	SLU 57	148	-73	8584	1.13	26.82	-2.69
519	SLU 58	147	-92	8516	1.4	27.79	-2.72
519	SLU 59	147	-73	8537	1.09	26.73	-2.68
519	SLU 60	148	-93	8703	1.2	27.95	-2.7
519	SLU 61	149	-74	8724	0.9	26.89	-2.65
519	SLU 62	149	-94	8778	1.34	28.36	-2.76
519	SLU 63	150	-75	8799	1.03	27.3	-2.71
519	SLU 64	151	-92	8503	1.54	26.87	-2.61
519	SLU 65	152	-60	8538	1.03	25.1	-2.54
519	SLU 66	153	-93	8625	1.72	27.36	-2.68
519	SLU 67	153	-74	8646	1.41	26.3	-2.64
519	SLU 68	153	-61	8613	1.17	25.51	-2.6
519	SLU 69	154	-94	8700	1.85	27.77	-2.74
519	SLU 70	154	-75	8721	1.55	26.71	-2.7
519	SLU 71	153	-93	8654	1.81	27.68	-2.73
519	SLU 72	153	-74	8674	1.51	26.62	-2.69
519	SLU 73	159	-67	9324	1.21	27.37	-2.75
519	SLU 74	161	-99	9412	1.89	29.64	-2.9
519	SLU 75	161	-81	9432	1.59	28.58	-2.85
519	SLU 76	160	-67	9400	1.34	27.78	-2.81
519	SLU 77	162	-100	9487	2.03	30.04	-2.96
519	SLU 78	162	-81	9508	1.72	28.98	-2.91
519	SLU 79	160	-100	9440	1.99	29.95	-2.95
519	SLU 80	161	-81	9461	1.68	28.89	-2.9
519	SLU 81	162	-101	9627	1.79	30.12	-2.92
519	SLU 82	162	-82	9648	1.49	29.06	-2.88
519	SLU 83	163	-102	9702	1.93	30.52	-2.98
519	SLU 84	163	-83	9723	1.62	29.46	-2.94
519	SLE RA 1	113	-69	6338	1.06	20.19	-1.96
519	SLE RA 2	114	-48	6361	0.72	19.01	-1.91
519	SLE RA 3	114	-70	6419	1.17	20.52	-2.01
519	SLE RA 4	115	-57	6433	0.97	19.82	-1.98
519	SLE RA 5	114	-48	6411	0.81	19.29	-1.95
519	SLE RA 6	115	-70	6469	1.26	20.79	-2.05
519	SLE RA 7	115	-58	6483	1.06	20.09	-2.02
519	SLE RA 8	114	-70	6438	1.24	20.73	-2.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
519	SLE RA 9	115	-57	6452	1.03	20.03	-2.01
519	SLE RA 10	119	-52	6885	0.84	20.53	-2.05
519	SLE RA 11	120	-74	6944	1.29	22.04	-2.15
519	SLE RA 12	120	-61	6957	1.09	21.33	-2.12
519	SLE RA 13	119	-53	6935	0.92	20.8	-2.09
519	SLE RA 14	120	-74	6994	1.38	22.31	-2.19
519	SLE RA 15	121	-62	7008	1.18	21.6	-2.16
519	SLE RA 16	119	-74	6963	1.35	22.25	-2.18
519	SLE RA 17	120	-61	6976	1.15	21.54	-2.15
519	SLE RA 18	120	-75	7087	1.22	22.36	-2.17
519	SLE RA 19	121	-62	7101	1.02	21.65	-2.14
519	SLE RA 20	121	-75	7137	1.31	22.63	-2.21
519	SLE RA 21	121	-63	7151	1.11	21.92	-2.18
519	SLE FR 1	113	-69	6338	1.06	20.19	-1.96
519	SLE FR 2	113	-65	6343	0.99	19.96	-1.95
519	SLE FR 3	113	-69	6358	1.09	20.3	-1.97
519	SLE FR 4	115	-67	6567	1.04	20.61	-2.01
519	SLE FR 5	115	-71	6583	1.14	20.95	-2.04
519	SLE FR 6	117	-72	6712	1.14	21.28	-2.06
519	SLE QP 1	113	-69	6338	1.06	20.19	-1.96
519	SLE QP 2	115	-71	6563	1.11	20.84	-2.02
519	SLD 1	661	160	6338	-2.01	24.38	0.71
519	SLD 2	706	239	6366	-2.43	21.5	3.1
519	SLD 3	650	-252	5779	5.08	42.61	-0.18
519	SLD 4	695	-173	5807	4.66	39.73	2.21
519	SLD 5	288	610	7339	-10.51	-5.25	-0.26
519	SLD 6	317	661	7357	-10.78	-7.11	1.28
519	SLD 7	251	-764	5474	13.12	55.52	-3.23
519	SLD 8	280	-713	5492	12.86	53.66	-1.69
519	SLD 9	-50	571	7633	-10.64	-11.98	-2.35
519	SLD 10	-21	622	7651	-10.91	-13.83	-0.81
519	SLD 11	-86	-802	5768	12.99	48.79	-5.32
519	SLD 12	-57	-751	5786	12.72	46.94	-3.78
519	SLD 13	-465	31	7318	-2.45	1.96	-6.26
519	SLD 14	-420	110	7346	-2.86	-0.92	-3.86
519	SLD 15	-476	-381	6759	4.64	20.19	-7.15
519	SLD 16	-431	-302	6787	4.23	17.31	-4.75
519	SLV 1	970	319	6254	-4.26	25.24	2.29
519	SLV 2	1041	444	6298	-4.92	20.69	6.06
519	SLV 3	952	-384	5299	7.83	56.31	0.77
519	SLV 4	1022	-259	5343	7.18	51.77	4.54
519	SLV 5	386	1089	7910	-18.73	-24.12	0.87
519	SLV 6	434	1173	7940	-19.17	-27.18	3.41
519	SLV 7	325	-1254	4727	21.59	79.46	-4.19
519	SLV 8	373	-1170	4757	21.15	76.41	-1.65
519	SLV 9	-142	1029	8369	-18.94	-34.72	-2.39
519	SLV 10	-95	1113	8398	-19.38	-37.78	0.15
519	SLV 11	-204	-1315	5185	21.38	68.87	-7.45
519	SLV 12	-156	-1231	5215	20.94	65.81	-4.91
519	SLV 13	-792	118	7782	-4.96	-10.08	-8.59
519	SLV 14	-721	242	7827	-5.62	-14.63	-4.81
519	SLV 15	-810	-585	6827	7.13	20.99	-10.1
519	SLV 16	-740	-460	6872	6.48	16.45	-6.33
519	SLV FO 1	1055	358	6223	-4.8	25.68	2.72
519	SLV FO 2	1133	495	6271	-5.52	20.68	6.87
519	SLV FO 3	1035	-415	5172	8.5	59.86	1.05
519	SLV FO 4	1113	-278	5221	7.78	54.86	5.2
519	SLV FO 5	413	1205	8045	-20.71	-28.62	1.16
519	SLV FO 6	466	1298	8078	-21.19	-31.99	3.95
519	SLV FO 7	346	-1373	4543	23.64	85.33	-4.41
519	SLV FO 8	398	-1280	4576	23.16	81.96	-1.61
519	SLV FO 9	-168	1139	8549	-20.94	-40.28	-2.43
519	SLV FO 10	-116	1231	8582	-21.42	-43.64	0.37
519	SLV FO 11	-235	-1439	5048	23.41	73.67	-8
519	SLV FO 12	-183	-1347	5080	22.92	70.31	-5.2
519	SLV FO 13	-883	136	7904	-5.57	-13.18	-9.24
519	SLV FO 14	-805	274	7953	-6.29	-18.18	-5.09
519	SLV FO 15	-903	-637	6854	7.73	21.01	-10.91
519	SLV FO 16	-825	-499	6903	7.02	16.01	-6.76
519	CRTFP Ux+	0	0	0	0	0	0
519	CRTFP Ux-	0	0	0	0	0	0
519	CRTFP Uy+	0	0	0	0	0	0
519	CRTFP Uy-	0	0	0	0	0	0
522	SLU 1	52	43	4038	6.02	965.76	-15.38
522	SLU 2	54	65	4063	5.75	966.72	-22.97
522	SLU 3	54	44	4120	6.24	985.92	-15.77
522	SLU 4	54	57	4135	6.08	986.5	-20.33
522	SLU 5	54	66	4112	5.9	979.09	-23.42
522	SLU 6	54	46	4170	6.39	998.29	-16.22
522	SLU 7	55	59	4185	6.23	998.87	-20.77
522	SLU 8	54	46	4136	6.32	990.49	-16.27
522	SLU 9	54	59	4151	6.16	991.07	-20.83
522	SLU 10	57	70	4567	6.57	1084.55	-24.71
522	SLU 11	56	49	4625	7.06	1103.75	-17.51
522	SLU 12	57	62	4640	6.9	1104.33	-22.06
522	SLU 13	57	71	4617	6.72	1096.91	-25.15
522	SLU 14	57	51	4674	7.21	1116.12	-17.95
522	SLU 15	58	64	4689	7.05	1116.7	-22.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
522	SLU 16	56	51	4641	7.14	1108.32	-18.01
522	SLU 17	57	64	4656	6.98	1108.9	-22.56
522	SLU 18	56	50	4758	7.19	1134.08	-17.86
522	SLU 19	57	63	4773	7.03	1134.66	-22.41
522	SLU 20	57	52	4808	7.34	1146.45	-18.3
522	SLU 21	58	65	4823	7.18	1147.03	-22.86
522	SLU 22	58	46	4644	7.2	1109.73	-16.26
522	SLU 23	60	67	4669	6.93	1110.69	-23.85
522	SLU 24	59	47	4727	7.42	1129.9	-16.65
522	SLU 25	60	60	4742	7.26	1130.48	-21.21
522	SLU 26	60	69	4719	7.08	1123.06	-24.29
522	SLU 27	60	48	4776	7.57	1142.26	-17.1
522	SLU 28	61	61	4791	7.41	1142.84	-21.65
522	SLU 29	59	48	4743	7.5	1134.46	-17.15
522	SLU 30	60	61	4758	7.34	1135.04	-21.7
522	SLU 31	62	72	5174	7.75	1228.52	-25.58
522	SLU 32	62	52	5231	8.23	1247.73	-18.39
522	SLU 33	63	65	5246	8.07	1248.3	-22.94
522	SLU 34	63	74	5223	7.9	1240.89	-26.03
522	SLU 35	63	53	5281	8.39	1260.09	-18.83
522	SLU 36	64	66	5296	8.23	1260.67	-23.38
522	SLU 37	62	53	5247	8.32	1252.29	-18.88
522	SLU 38	63	66	5262	8.16	1252.87	-23.44
522	SLU 39	62	53	5365	8.37	1278.06	-18.74
522	SLU 40	63	66	5380	8.21	1278.63	-23.29
522	SLU 41	63	54	5414	8.52	1290.42	-19.18
522	SLU 42	64	67	5429	8.36	1291	-23.73
522	SLU 43	66	55	5041	7.42	1206.12	-19.7
522	SLU 44	68	77	5066	7.15	1207.08	-27.29
522	SLU 45	67	57	5124	7.64	1226.29	-20.09
522	SLU 46	68	70	5139	7.48	1226.87	-24.64
522	SLU 47	68	78	5115	7.31	1219.45	-27.73
522	SLU 48	68	58	5173	7.79	1238.66	-20.53
522	SLU 49	69	71	5188	7.63	1239.23	-25.09
522	SLU 50	67	58	5140	7.73	1230.86	-20.59
522	SLU 51	68	71	5155	7.56	1231.43	-25.14
522	SLU 52	70	82	5570	7.97	1324.91	-29.02
522	SLU 53	70	61	5628	8.46	1344.12	-21.82
522	SLU 54	71	74	5643	8.3	1344.69	-26.38
522	SLU 55	71	83	5620	8.12	1337.28	-29.47
522	SLU 56	70	63	5678	8.61	1356.48	-22.27
522	SLU 57	71	76	5693	8.45	1357.06	-26.82
522	SLU 58	70	63	5644	8.54	1348.68	-22.32
522	SLU 59	71	76	5659	8.38	1349.26	-26.87
522	SLU 60	70	62	5762	8.59	1374.45	-22.17
522	SLU 61	71	75	5777	8.43	1375.03	-26.73
522	SLU 62	71	64	5811	8.74	1386.82	-22.62
522	SLU 63	71	77	5826	8.58	1387.39	-27.17
522	SLU 64	72	58	5647	8.6	1350.1	-20.58
522	SLU 65	73	80	5672	8.33	1351.06	-28.16
522	SLU 66	73	59	5730	8.82	1370.26	-20.97
522	SLU 67	74	72	5745	8.66	1370.84	-25.52
522	SLU 68	74	81	5722	8.48	1363.42	-28.61
522	SLU 69	74	60	5780	8.97	1382.63	-21.41
522	SLU 70	75	73	5795	8.81	1383.21	-25.96
522	SLU 71	73	60	5746	8.9	1374.83	-21.46
522	SLU 72	74	73	5761	8.74	1375.41	-26.02
522	SLU 73	76	84	6177	9.15	1468.89	-29.9
522	SLU 74	76	64	6235	9.64	1488.09	-22.7
522	SLU 75	77	77	6250	9.48	1488.67	-27.25
522	SLU 76	77	86	6226	9.3	1481.25	-30.34
522	SLU 77	76	65	6284	9.79	1500.46	-23.14
522	SLU 78	77	78	6299	9.63	1501.03	-27.7
522	SLU 79	76	65	6251	9.72	1492.66	-23.2
522	SLU 80	77	78	6266	9.56	1493.23	-27.75
522	SLU 81	76	65	6368	9.77	1518.42	-23.05
522	SLU 82	77	78	6383	9.61	1519	-27.61
522	SLU 83	76	66	6417	9.92	1530.79	-23.5
522	SLU 84	77	79	6432	9.76	1531.37	-28.05
522	SLE RA 1	54	44	4211	6.36	1006.89	-15.63
522	SLE RA 2	55	58	4228	6.18	1007.53	-20.69
522	SLE RA 3	55	45	4266	6.5	1020.34	-15.9
522	SLE RA 4	55	53	4276	6.39	1020.72	-18.93
522	SLE RA 5	55	59	4260	6.28	1015.78	-20.99
522	SLE RA 6	55	46	4299	6.6	1028.58	-16.19
522	SLE RA 7	56	54	4309	6.5	1028.97	-19.23
522	SLE RA 8	55	46	4277	6.56	1023.38	-16.23
522	SLE RA 9	55	54	4287	6.45	1023.77	-19.26
522	SLE RA 10	57	62	4564	6.72	1086.09	-21.85
522	SLE RA 11	57	48	4602	7.05	1098.89	-17.05
522	SLE RA 12	57	57	4612	6.94	1099.27	-20.09
522	SLE RA 13	57	63	4597	6.82	1094.33	-22.15
522	SLE RA 14	57	49	4635	7.15	1107.13	-17.35
522	SLE RA 15	58	57	4645	7.04	1107.52	-20.38
522	SLE RA 16	57	49	4613	7.1	1101.93	-17.38
522	SLE RA 17	57	58	4623	7	1102.32	-20.42
522	SLE RA 18	57	49	4691	7.14	1119.11	-17.29
522	SLE RA 19	57	57	4701	7.03	1119.5	-20.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
522	SLE RA 20	57	49	4724	7.24	1127.36	-17.58
522	SLE RA 21	58	58	4734	7.13	1127.74	-20.62
522	SLE FR 1	54	44	4211	6.36	1006.89	-15.63
522	SLE FR 2	54	47	4214	6.32	1007.02	-16.65
522	SLE FR 3	54	44	4224	6.4	1010.19	-15.75
522	SLE FR 4	55	48	4358	6.55	1040.69	-17.14
522	SLE FR 5	55	46	4368	6.63	1043.86	-16.25
522	SLE FR 6	55	46	4451	6.75	1063	-16.46
522	SLE QP 1	54	44	4211	6.36	1006.89	-15.63
522	SLE QP 2	55	45	4355	6.59	1040.56	-16.13
522	SLD 1	375	82	3422	3.2	807.78	-29
522	SLD 2	400	202	3452	2.87	808.22	-70.71
522	SLD 3	360	-193	3031	7	789.15	67.05
522	SLD 4	385	-73	3060	6.68	789.6	25.34
522	SLD 5	169	452	4664	-0.14	998.9	-158.49
522	SLD 6	185	529	4683	-0.35	999.18	-185.35
522	SLD 7	119	-463	3359	12.54	936.81	161.67
522	SLD 8	135	-386	3378	12.33	937.1	134.81
522	SLD 9	-26	477	5332	0.85	1144.02	-167.07
522	SLD 10	-10	554	5351	0.64	1144.31	-193.93
522	SLD 11	-76	-439	4027	13.53	1081.93	153.1
522	SLD 12	-60	-362	4046	13.32	1082.22	126.23
522	SLD 13	-275	164	5649	6.5	1291.52	-57.6
522	SLD 14	-250	284	5679	6.18	1291.97	-99.31
522	SLD 15	-290	-111	5258	10.31	1272.89	38.46
522	SLD 16	-265	9	5287	9.98	1273.34	-3.26
522	SLV 1	556	121	2928	1.02	678.71	-42.73
522	SLV 2	596	310	2975	0.51	679.42	-108.49
522	SLV 3	531	-348	2260	7.51	646.99	121.18
522	SLV 4	571	-159	2307	7	647.69	55.43
522	SLV 5	237	744	4931	-4.82	979.99	-260.44
522	SLV 6	263	871	4963	-5.17	980.47	-304.71
522	SLV 7	152	-819	2705	16.8	874.24	285.93
522	SLV 8	178	-692	2736	16.46	874.71	241.67
522	SLV 9	-69	782	5974	-3.28	1206.41	-273.93
522	SLV 10	-42	909	6005	-3.62	1206.88	-318.19
522	SLV 11	-154	-780	3747	18.35	1100.65	272.45
522	SLV 12	-127	-653	3779	18	1101.13	228.18
522	SLV 13	-461	250	6403	6.18	1433.43	-87.69
522	SLV 14	-421	439	6450	5.67	1434.13	-153.44
522	SLV 15	-486	-219	5735	12.67	1401.7	76.23
522	SLV 16	-447	-30	5782	12.16	1402.41	10.47
522	SLV FO 1	606	128	2786	0.47	642.53	-45.39
522	SLV FO 2	650	336	2837	-0.1	643.3	-117.72
522	SLV FO 3	578	-387	2051	7.6	607.63	134.91
522	SLV FO 4	622	-179	2102	7.04	608.41	62.58
522	SLV FO 5	255	813	4989	-5.96	973.94	-284.87
522	SLV FO 6	284	953	5023	-6.34	974.46	-333.56
522	SLV FO 7	161	-905	2540	17.82	857.6	316.14
522	SLV FO 8	191	-765	2574	17.44	858.13	267.45
522	SLV FO 9	-81	856	6135	-4.26	1222.99	-299.71
522	SLV FO 10	-51	996	6170	-4.64	1223.51	-348.4
522	SLV FO 11	-174	-863	3686	19.52	1106.66	301.31
522	SLV FO 12	-145	-723	3721	19.15	1107.18	252.62
522	SLV FO 13	-512	270	6608	6.14	1472.71	-94.84
522	SLV FO 14	-469	478	6659	5.58	1473.49	-167.17
522	SLV FO 15	-541	-245	5873	13.28	1437.81	85.46
522	SLV FO 16	-497	-38	5924	12.71	1438.59	13.13
522	CRTFP Ux+	0	0	0	0	0	0
522	CRTFP Ux-	0	0	0	0	0	0
522	CRTFP Uy+	0	0	0	0	0	0
522	CRTFP Uy-	0	0	0	0	0	0
524	SLU 1	-261	-28	9795	-70.23	-5.68	-16.61
524	SLU 2	-263	43	9798	-77.33	-5.24	-17.64
524	SLU 3	-266	-29	10009	-68.6	-5.8	-17.05
524	SLU 4	-268	14	10011	-72.86	-5.53	-17.67
524	SLU 5	-267	42	9937	-76	-5.32	-17.92
524	SLU 6	-270	-30	10149	-67.27	-5.88	-17.34
524	SLU 7	-271	13	10150	-71.54	-5.61	-17.95
524	SLU 8	-268	-31	10073	-67.57	-5.84	-17.18
524	SLU 9	-269	12	10075	-71.83	-5.58	-17.79
524	SLU 10	-284	38	11125	-82.49	-6.21	-19.12
524	SLU 11	-287	-35	11336	-73.76	-6.78	-18.54
524	SLU 12	-289	8	11338	-78.02	-6.51	-19.16
524	SLU 13	-288	36	11264	-81.16	-6.29	-19.41
524	SLU 14	-291	-36	11475	-72.43	-6.86	-18.82
524	SLU 15	-292	7	11477	-76.69	-6.59	-19.44
524	SLU 16	-288	-36	11400	-72.72	-6.82	-18.67
524	SLU 17	-290	7	11402	-76.99	-6.55	-19.28
524	SLU 18	-291	-36	11690	-77.59	-7.08	-18.74
524	SLU 19	-292	7	11692	-81.86	-6.81	-19.35
524	SLU 20	-294	-38	11829	-76.26	-7.16	-19.02
524	SLU 21	-296	5	11831	-80.53	-6.89	-19.64
524	SLU 22	-293	-28	11281	-67.38	-6.16	-19.26
524	SLU 23	-296	43	11284	-74.49	-5.72	-20.28
524	SLU 24	-299	-29	11495	-65.76	-6.28	-19.7
524	SLU 25	-300	14	11497	-70.02	-6.01	-20.31
524	SLU 26	-299	42	11423	-73.16	-5.8	-20.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
524	SLU 27	-302	-30	11634	-64.43	-6.36	-19.98
524	SLU 28	-304	13	11636	-68.7	-6.09	-20.6
524	SLU 29	-300	-30	11559	-64.73	-6.32	-19.83
524	SLU 30	-301	12	11561	-68.99	-6.06	-20.44
524	SLU 31	-317	38	12611	-79.65	-6.69	-21.77
524	SLU 32	-320	-34	12822	-70.92	-7.26	-21.19
524	SLU 33	-321	9	12824	-75.18	-6.99	-21.8
524	SLU 34	-320	37	12750	-78.32	-6.77	-22.06
524	SLU 35	-323	-35	12961	-69.59	-7.34	-21.47
524	SLU 36	-324	7	12963	-73.85	-7.07	-22.09
524	SLU 37	-321	-36	12885	-69.88	-7.3	-21.32
524	SLU 38	-322	7	12887	-74.15	-7.03	-21.93
524	SLU 39	-323	-36	13176	-74.75	-7.56	-21.38
524	SLU 40	-325	7	13178	-79.02	-7.29	-22
524	SLU 41	-326	-37	13315	-73.42	-7.64	-21.67
524	SLU 42	-328	6	13317	-77.69	-7.37	-22.29
524	SLU 43	-328	-37	12224	-92.27	-7.22	-20.68
524	SLU 44	-331	34	12227	-99.37	-6.78	-21.71
524	SLU 45	-334	-38	12439	-90.64	-7.34	-21.12
524	SLU 46	-335	5	12441	-94.91	-7.07	-21.74
524	SLU 47	-334	33	12366	-98.05	-6.86	-21.99
524	SLU 48	-337	-39	12578	-89.31	-7.42	-21.41
524	SLU 49	-338	4	12580	-93.58	-7.15	-22.03
524	SLU 50	-335	-39	12502	-89.61	-7.38	-21.25
524	SLU 51	-336	4	12504	-93.87	-7.12	-21.87
524	SLU 52	-352	29	13554	-104.53	-7.75	-23.2
524	SLU 53	-355	-43	13765	-95.8	-8.32	-22.61
524	SLU 54	-356	0	13767	-100.06	-8.05	-23.23
524	SLU 55	-355	28	13693	-103.2	-7.83	-23.48
524	SLU 56	-358	-44	13904	-94.47	-8.4	-22.9
524	SLU 57	-359	-1	13906	-98.73	-8.13	-23.52
524	SLU 58	-356	-45	13829	-94.76	-8.36	-22.74
524	SLU 59	-357	-2	13831	-99.03	-8.09	-23.36
524	SLU 60	-358	-45	14119	-99.63	-8.62	-22.81
524	SLU 61	-360	-2	14121	-103.9	-8.35	-23.43
524	SLU 62	-361	-46	14258	-98.3	-8.7	-23.1
524	SLU 63	-363	-3	14260	-102.57	-8.43	-23.71
524	SLU 64	-360	-37	13710	-89.43	-7.7	-23.33
524	SLU 65	-363	35	13713	-96.53	-7.26	-24.36
524	SLU 66	-366	-37	13924	-87.8	-7.82	-23.77
524	SLU 67	-367	6	13926	-92.07	-7.55	-24.39
524	SLU 68	-366	34	13852	-95.21	-7.34	-24.64
524	SLU 69	-369	-38	14063	-86.47	-7.9	-24.06
524	SLU 70	-371	4	14065	-90.74	-7.63	-24.67
524	SLU 71	-367	-39	13988	-86.77	-7.86	-23.9
524	SLU 72	-369	4	13990	-91.03	-7.6	-24.52
524	SLU 73	-384	29	15040	-101.69	-8.23	-25.85
524	SLU 74	-387	-43	15251	-92.96	-8.8	-25.26
524	SLU 75	-388	0	15253	-97.22	-8.53	-25.88
524	SLU 76	-387	28	15179	-100.36	-8.31	-26.13
524	SLU 77	-390	-44	15390	-91.63	-8.88	-25.55
524	SLU 78	-392	-1	15392	-95.89	-8.61	-26.16
524	SLU 79	-388	-45	15315	-91.92	-8.84	-25.39
524	SLU 80	-389	-2	15316	-96.19	-8.57	-26.01
524	SLU 81	-390	-45	15605	-96.79	-9.1	-25.46
524	SLU 82	-392	-2	15607	-101.06	-8.83	-26.08
524	SLU 83	-394	-46	15744	-95.46	-9.18	-25.74
524	SLU 84	-395	-3	15746	-99.73	-8.91	-26.36
524	SLE RA 1	-270	-28	10220	-69.41	-5.82	-17.37
524	SLE RA 2	-272	19	10222	-74.15	-5.52	-18.05
524	SLE RA 3	-274	-29	10363	-68.33	-5.9	-17.66
524	SLE RA 4	-275	0	10364	-71.17	-5.72	-18.07
524	SLE RA 5	-274	19	10314	-73.27	-5.58	-18.24
524	SLE RA 6	-276	-29	10455	-67.44	-5.95	-17.85
524	SLE RA 7	-277	-1	10457	-70.29	-5.77	-18.26
524	SLE RA 8	-275	-30	10405	-67.64	-5.93	-17.75
524	SLE RA 9	-276	-1	10406	-70.49	-5.75	-18.16
524	SLE RA 10	-286	16	11106	-77.59	-6.17	-19.04
524	SLE RA 11	-288	-32	11247	-71.77	-6.55	-18.65
524	SLE RA 12	-289	-4	11248	-74.61	-6.37	-19.06
524	SLE RA 13	-288	15	11199	-76.7	-6.23	-19.23
524	SLE RA 14	-290	-33	11340	-70.88	-6.6	-18.84
524	SLE RA 15	-291	-5	11341	-73.72	-6.42	-19.25
524	SLE RA 16	-289	-34	11289	-71.08	-6.58	-18.74
524	SLE RA 17	-290	-5	11291	-73.92	-6.4	-19.15
524	SLE RA 18	-290	-34	11483	-74.32	-6.75	-18.78
524	SLE RA 19	-291	-5	11484	-77.17	-6.57	-19.19
524	SLE RA 20	-292	-34	11576	-73.44	-6.8	-18.97
524	SLE RA 21	-293	-6	11577	-76.28	-6.62	-19.38
524	SLE FR 1	-270	-28	10220	-69.41	-5.82	-17.37
524	SLE FR 2	-270	-19	10220	-70.36	-5.76	-17.5
524	SLE FR 3	-271	-29	10257	-69.06	-5.84	-17.44
524	SLE FR 4	-276	-20	10599	-71.83	-6.04	-17.93
524	SLE FR 5	-277	-30	10636	-70.53	-6.12	-17.87
524	SLE FR 6	-280	-31	10851	-71.87	-6.28	-18.07
524	SLE QP 1	-270	-28	10220	-69.41	-5.82	-17.37
524	SLE QP 2	-276	-30	10599	-70.89	-6.1	-17.79
524	SLD 1	811	467	10325	-129.52	-1.21	8.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
524	SLD 2	881	423	10310	-128.63	-1.35	20.9
524	SLD 3	834	-418	10132	-18.31	-6.76	19.29
524	SLD 4	904	-461	10117	-17.42	-6.9	31.33
524	SLD 5	3	1467	10812	-257.3	3.81	-27.67
524	SLD 6	48	1439	10802	-256.73	3.72	-19.92
524	SLD 7	80	-1479	10169	113.41	-14.69	7.07
524	SLD 8	125	-1508	10159	113.98	-14.78	14.82
524	SLD 9	-678	1448	11038	-255.75	2.58	-50.4
524	SLD 10	-633	1420	11029	-255.18	2.5	-42.66
524	SLD 11	-600	-1499	10395	114.96	-15.92	-15.66
524	SLD 12	-555	-1527	10385	115.53	-16	-7.91
524	SLD 13	-1456	402	11080	-124.35	-5.3	-66.91
524	SLD 14	-1387	358	11065	-123.46	-5.43	-54.88
524	SLD 15	-1433	-482	10887	-13.14	-10.85	-56.49
524	SLD 16	-1363	-526	10872	-12.25	-10.98	-44.45
524	SLV 1	1424	811	10186	-170.64	1.96	23.14
524	SLV 2	1534	742	10162	-169.23	1.75	42.1
524	SLV 3	1463	-697	9856	19.13	-7.51	40.88
524	SLV 4	1573	-766	9832	20.54	-7.72	59.85
524	SLV 5	154	2522	10980	-388.89	10.72	-35.96
524	SLV 6	228	2475	10964	-387.94	10.58	-23.19
524	SLV 7	284	-2504	9880	243.67	-20.84	23.18
524	SLV 8	358	-2550	9864	244.62	-20.99	35.95
524	SLV 9	-911	2491	11333	-386.39	8.79	-71.53
524	SLV 10	-837	2444	11317	-385.45	8.65	-58.76
524	SLV 11	-780	-2535	10234	246.17	-22.77	-12.39
524	SLV 12	-706	-2582	10218	247.12	-22.92	0.38
524	SLV 13	-2125	706	11365	-162.31	-4.48	-95.43
524	SLV 14	-2015	637	11341	-160.91	-4.69	-76.46
524	SLV 15	-2086	-801	11035	27.46	-13.95	-77.69
524	SLV 16	-1976	-871	11011	28.86	-14.16	-58.72
524	SLV FO 1	1594	895	10145	-180.61	2.77	27.23
524	SLV FO 2	1715	819	10119	-179.07	2.54	48.09
524	SLV FO 3	1637	-764	9782	28.13	-7.65	46.75
524	SLV FO 4	1758	-840	9756	29.68	-7.88	67.61
524	SLV FO 5	197	2777	11018	-420.69	12.4	-37.78
524	SLV FO 6	278	2726	11000	-419.65	12.25	-23.73
524	SLV FO 7	340	-2751	9808	275.13	-22.32	27.28
524	SLV FO 8	422	-2802	9791	276.17	-22.47	41.32
524	SLV FO 9	-974	2743	11407	-417.94	10.28	-76.9
524	SLV FO 10	-893	2691	11389	-416.9	10.12	-62.86
524	SLV FO 11	-831	-2786	10197	277.88	-24.44	-11.85
524	SLV FO 12	-749	-2837	10179	278.92	-24.6	2.2
524	SLV FO 13	-2310	780	11441	-171.45	-4.31	-103.19
524	SLV FO 14	-2189	704	11415	-169.91	-4.55	-82.33
524	SLV FO 15	-2267	-879	11079	37.29	-14.73	-83.67
524	SLV FO 16	-2146	-955	11052	38.84	-14.96	-62.81
524	CRTFP Ux+	0	0	0	0	0	0
524	CRTFP Ux-	0	0	0	0	0	0
524	CRTFP Uy+	0	0	0	0	0	0
524	CRTFP Uy-	0	0	0	0	0	0
526	SLU 1	48	-179	11303	-188.89	4545.1	74.28
526	SLU 2	52	-113	11342	-193.33	4559.55	47.53
526	SLU 3	48	-183	11535	-191.51	4638.27	76.03
526	SLU 4	50	-144	11558	-194.17	4646.94	59.98
526	SLU 5	52	-116	11490	-194.86	4619.17	48.85
526	SLU 6	47	-187	11683	-193.04	4697.89	77.35
526	SLU 7	50	-147	11707	-195.71	4706.56	61.3
526	SLU 8	47	-186	11600	-191.96	4664.35	76.92
526	SLU 9	50	-146	11623	-194.62	4673.02	60.87
526	SLU 10	52	-134	12863	-219.74	5173.36	56.16
526	SLU 11	48	-204	13056	-217.93	5252.08	84.67
526	SLU 12	50	-165	13079	-220.59	5260.75	68.61
526	SLU 13	52	-137	13011	-221.28	5232.99	57.48
526	SLU 14	47	-208	13204	-219.46	5311.71	85.99
526	SLU 15	50	-168	13228	-222.13	5320.38	69.93
526	SLU 16	47	-206	13121	-218.38	5278.17	85.56
526	SLU 17	50	-167	13144	-221.04	5286.83	69.5
526	SLU 18	48	-209	13476	-226.62	5421.98	86.62
526	SLU 19	51	-169	13500	-229.29	5430.65	70.56
526	SLU 20	47	-212	13624	-228.16	5481.6	87.94
526	SLU 21	50	-172	13648	-230.83	5490.27	71.88
526	SLU 22	53	-201	12973	-213.15	5216.42	83.48
526	SLU 23	57	-135	13012	-217.59	5230.87	56.72
526	SLU 24	53	-206	13205	-215.77	5309.59	85.23
526	SLU 25	55	-166	13228	-218.43	5318.26	69.18
526	SLU 26	57	-138	13160	-219.12	5290.49	58.04
526	SLU 27	52	-209	13353	-217.3	5369.22	86.55
526	SLU 28	55	-169	13376	-219.97	5377.88	70.5
526	SLU 29	52	-208	13269	-216.22	5335.67	86.12
526	SLU 30	55	-168	13292	-218.88	5344.34	70.07
526	SLU 31	57	-156	14533	-244	5844.68	65.36
526	SLU 32	53	-227	14726	-242.18	5923.41	93.87
526	SLU 33	56	-187	14749	-244.85	5932.07	77.81
526	SLU 34	57	-159	14681	-245.54	5904.31	66.68
526	SLU 35	52	-230	14874	-243.72	5983.03	95.19
526	SLU 36	55	-190	14897	-246.39	5991.7	79.13
526	SLU 37	52	-229	14790	-242.63	5949.49	94.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
526	SLU 38	55	-189	14813	-245.3	5958.16	78.7
526	SLU 39	53	-231	15146	-250.88	6093.3	95.82
526	SLU 40	56	-191	15169	-253.55	6101.97	79.76
526	SLU 41	53	-234	15294	-252.42	6152.93	97.14
526	SLU 42	55	-195	15317	-255.08	6161.59	81.08
526	SLU 43	61	-225	14122	-237.24	5678.46	93.41
526	SLU 44	65	-159	14161	-241.68	5692.91	66.66
526	SLU 45	60	-229	14354	-239.86	5771.63	95.16
526	SLU 46	63	-190	14377	-242.52	5780.3	79.11
526	SLU 47	64	-162	14309	-243.21	5752.53	67.98
526	SLU 48	60	-233	14502	-241.39	5831.26	96.48
526	SLU 49	62	-193	14525	-244.06	5839.92	80.43
526	SLU 50	60	-232	14418	-240.31	5797.71	96.05
526	SLU 51	62	-192	14441	-242.97	5806.38	80
526	SLU 52	65	-180	15682	-268.09	6306.72	75.29
526	SLU 53	60	-250	15875	-266.27	6385.44	103.8
526	SLU 54	63	-211	15898	-268.94	6394.11	87.74
526	SLU 55	64	-183	15830	-269.63	6366.35	76.61
526	SLU 56	60	-254	16023	-267.81	6445.07	105.12
526	SLU 57	62	-214	16046	-270.47	6453.74	89.06
526	SLU 58	60	-253	15939	-266.72	6411.53	104.69
526	SLU 59	62	-213	15962	-269.39	6420.19	88.63
526	SLU 60	61	-255	16295	-274.97	6555.34	105.75
526	SLU 61	63	-215	16318	-277.64	6564.01	89.69
526	SLU 62	60	-258	16443	-276.51	6614.97	107.07
526	SLU 63	63	-218	16466	-279.17	6623.63	91.01
526	SLU 64	66	-247	15792	-261.49	6349.78	102.61
526	SLU 65	70	-181	15830	-265.94	6364.23	75.86
526	SLU 66	65	-252	16023	-264.12	6442.95	104.36
526	SLU 67	68	-212	16047	-266.78	6451.62	88.31
526	SLU 68	70	-184	15978	-267.47	6423.86	77.18
526	SLU 69	65	-255	16171	-265.65	6502.58	105.68
526	SLU 70	68	-215	16195	-268.32	6511.25	89.63
526	SLU 71	65	-254	16088	-264.57	6469.04	105.25
526	SLU 72	67	-214	16111	-267.23	6477.7	89.2
526	SLU 73	70	-202	17351	-292.35	6978.04	84.49
526	SLU 74	65	-273	17544	-290.53	7056.77	113
526	SLU 75	68	-233	17568	-293.2	7065.43	96.94
526	SLU 76	70	-205	17500	-293.89	7037.67	85.81
526	SLU 77	65	-276	17692	-292.07	7116.39	114.32
526	SLU 78	68	-236	17716	-294.73	7125.06	98.26
526	SLU 79	65	-275	17609	-290.98	7082.85	113.89
526	SLU 80	67	-235	17632	-293.65	7091.52	97.83
526	SLU 81	66	-277	17964	-299.23	7226.66	114.95
526	SLU 82	68	-237	17988	-301.9	7235.33	98.89
526	SLU 83	65	-280	18113	-300.77	7286.29	116.27
526	SLU 84	68	-241	18136	-303.43	7294.96	100.21
526	SLE RA 1	49	-185	11780	-195.82	4736.91	76.91
526	SLE RA 2	52	-141	11806	-198.78	4746.54	59.07
526	SLE RA 3	49	-188	11935	-197.57	4799.02	78.08
526	SLE RA 4	51	-162	11950	-199.34	4804.8	67.38
526	SLE RA 5	52	-143	11905	-199.8	4786.29	59.95
526	SLE RA 6	49	-190	12034	-198.59	4838.77	78.96
526	SLE RA 7	51	-164	12049	-200.37	4844.55	68.26
526	SLE RA 8	49	-190	11978	-197.87	4816.41	78.67
526	SLE RA 9	50	-163	11993	-199.64	4822.18	67.97
526	SLE RA 10	52	-155	12820	-216.39	5155.75	64.83
526	SLE RA 11	49	-202	12949	-215.18	5208.23	83.83
526	SLE RA 12	51	-176	12964	-216.95	5214.01	73.13
526	SLE RA 13	52	-157	12919	-217.41	5195.5	65.71
526	SLE RA 14	49	-204	13048	-216.2	5247.98	84.71
526	SLE RA 15	51	-178	13063	-217.98	5253.76	74.01
526	SLE RA 16	49	-204	12992	-215.48	5225.62	84.43
526	SLE RA 17	50	-177	13007	-217.25	5231.39	73.72
526	SLE RA 18	49	-205	13229	-220.98	5321.49	85.13
526	SLE RA 19	51	-179	13245	-222.75	5327.27	74.43
526	SLE RA 20	49	-207	13328	-222	5361.24	86.01
526	SLE RA 21	51	-181	13343	-223.78	5367.02	75.31
526	SLE FR 1	49	-185	11780	-195.82	4736.91	76.91
526	SLE FR 2	50	-176	11786	-196.41	4738.83	73.34
526	SLE FR 3	49	-186	11820	-196.23	4752.81	77.26
526	SLE FR 4	50	-182	12220	-203.96	4914.21	75.81
526	SLE FR 5	49	-192	12254	-203.78	4928.18	79.73
526	SLE FR 6	49	-195	12505	-208.4	5029.2	81.02
526	SLE QP 1	49	-185	11780	-195.82	4736.91	76.91
526	SLE QP 2	49	-191	12215	-203.37	4912.28	79.38
526	SLD 1	1016	195	12619	-233.49	5018.24	-65.91
526	SLD 2	1073	210	12641	-235.11	5024.33	-69.8
526	SLD 3	958	-642	11925	-166.82	4753.95	272.48
526	SLD 4	1014	-627	11947	-168.44	4760.04	268.59
526	SLD 5	418	1192	13386	-313.24	5343.86	-476.76
526	SLD 6	454	1202	13400	-314.28	5347.78	-479.27
526	SLD 7	224	-1599	11071	-91.01	4462.9	651.2
526	SLD 8	261	-1589	11085	-92.05	4466.81	648.69
526	SLD 9	-162	1207	13345	-314.68	5357.75	-489.94
526	SLD 10	-125	1217	13359	-315.72	5361.67	-492.44
526	SLD 11	-355	-1584	11030	-92.45	4476.78	638.02
526	SLD 12	-319	-1575	11044	-93.49	4480.7	635.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
526	SLD 13	-916	245	12483	-238.29	5064.53	-109.83
526	SLD 14	-859	260	12505	-239.91	5070.61	-113.73
526	SLD 15	-974	-592	11789	-171.62	4800.24	228.56
526	SLD 16	-917	-578	11811	-173.24	4806.32	224.66
526	SLV 1	1565	471	12901	-255.19	5095.1	-171.63
526	SLV 2	1654	494	12936	-257.74	5104.69	-177.77
526	SLV 3	1466	-958	11716	-141.44	4643.95	405.52
526	SLV 4	1555	-934	11750	-143.99	4653.55	399.39
526	SLV 5	637	2169	14212	-390.96	5649.57	-870.14
526	SLV 6	698	2185	14235	-392.67	5656.03	-874.27
526	SLV 7	307	-2592	10261	-11.79	4145.76	1053.72
526	SLV 8	368	-2576	10284	-13.51	4152.22	1049.59
526	SLV 9	-269	2193	14146	-393.22	5672.35	-890.83
526	SLV 10	-209	2209	14169	-394.94	5678.8	-894.97
526	SLV 11	-599	-2567	10195	-14.06	4168.54	1033.02
526	SLV 12	-539	-2551	10218	-15.77	4174.99	1028.89
526	SLV 13	-1456	552	12680	-262.74	5171.02	-240.63
526	SLV 14	-1367	575	12714	-265.29	5180.61	-246.77
526	SLV 15	-1555	-877	11494	-148.99	4719.87	336.53
526	SLV 16	-1466	-853	11529	-151.54	4729.47	330.39
526	SLV FO 1	1716	537	12970	-260.37	5113.38	-196.73
526	SLV FO 2	1815	563	13008	-263.18	5123.93	-203.49
526	SLV FO 3	1607	-1034	11666	-135.25	4617.12	438.14
526	SLV FO 4	1706	-1008	11704	-138.05	4627.67	431.39
526	SLV FO 5	696	2405	14412	-409.72	5723.3	-965.09
526	SLV FO 6	763	2422	14437	-411.6	5730.4	-969.63
526	SLV FO 7	333	-2832	10066	7.37	4069.11	1151.16
526	SLV FO 8	400	-2814	10091	5.48	4076.21	1146.61
526	SLV FO 9	-301	2432	14339	-412.21	5748.35	-987.86
526	SLV FO 10	-234	2449	14364	-414.1	5755.46	-992.4
526	SLV FO 11	-664	-2805	9993	4.87	4094.16	1128.39
526	SLV FO 12	-597	-2788	10018	2.99	4101.26	1123.84
526	SLV FO 13	-1607	626	12726	-268.68	5196.89	-272.63
526	SLV FO 14	-1508	652	12764	-271.48	5207.44	-279.38
526	SLV FO 15	-1716	-945	11422	-143.56	4700.63	362.24
526	SLV FO 16	-1617	-919	11460	-146.36	4711.19	355.49
526	CRTFP Ux+	0	0	0	0	0	0
526	CRTFP Ux-	0	0	0	0	0	0
526	CRTFP Uy+	0	0	0	0	0	0
526	CRTFP Uy-	0	0	0	0	0	0
527	SLU 1	12	-80	4034	-40.21	-723.61	-14.54
527	SLU 2	14	-58	4046	-42.48	-725.67	-10.53
527	SLU 3	12	-81	4120	-39.47	-739	-14.72
527	SLU 4	13	-67	4127	-40.84	-740.24	-12.31
527	SLU 5	13	-58	4101	-41.93	-735.62	-10.66
527	SLU 6	12	-82	4176	-38.92	-748.95	-14.85
527	SLU 7	13	-68	4183	-40.29	-750.19	-12.44
527	SLU 8	12	-81	4145	-39.11	-743.51	-14.8
527	SLU 9	13	-68	4152	-40.47	-744.75	-12.4
527	SLU 10	13	-69	4620	-58.36	-828.62	-12.7
527	SLU 11	12	-93	4694	-55.36	-841.95	-16.88
527	SLU 12	12	-79	4701	-56.72	-843.19	-14.48
527	SLU 13	13	-70	4675	-57.81	-838.57	-12.83
527	SLU 14	11	-93	4750	-54.81	-851.91	-17.02
527	SLU 15	12	-80	4757	-56.17	-853.14	-14.61
527	SLU 16	11	-93	4720	-54.99	-846.47	-16.97
527	SLU 17	12	-80	4726	-56.35	-847.7	-14.57
527	SLU 18	12	-97	4854	-62.9	-870.69	-17.63
527	SLU 19	12	-83	4861	-64.26	-871.92	-15.23
527	SLU 20	11	-98	4910	-62.35	-880.64	-17.77
527	SLU 21	12	-84	4917	-63.71	-881.87	-15.36
527	SLU 22	13	-87	4649	-45.66	-833.74	-15.9
527	SLU 23	15	-65	4660	-47.94	-835.8	-11.89
527	SLU 24	13	-88	4735	-44.93	-849.13	-16.08
527	SLU 25	14	-75	4742	-46.29	-850.37	-13.67
527	SLU 26	14	-66	4716	-47.39	-845.75	-12.03
527	SLU 27	13	-89	4790	-44.38	-859.08	-16.21
527	SLU 28	14	-75	4797	-45.74	-860.32	-13.81
527	SLU 29	13	-89	4760	-44.56	-853.64	-16.17
527	SLU 30	14	-75	4767	-45.93	-854.88	-13.76
527	SLU 31	14	-77	5234	-63.82	-938.75	-14.06
527	SLU 32	13	-100	5309	-60.81	-952.09	-18.24
527	SLU 33	13	-87	5316	-62.18	-953.32	-15.84
527	SLU 34	14	-78	5290	-63.27	-948.7	-14.19
527	SLU 35	12	-101	5365	-60.26	-962.04	-18.38
527	SLU 36	13	-87	5372	-61.63	-963.27	-15.97
527	SLU 37	12	-101	5334	-60.45	-956.6	-18.33
527	SLU 38	13	-87	5341	-61.81	-957.83	-15.93
527	SLU 39	13	-104	5469	-68.36	-980.82	-19
527	SLU 40	13	-91	5476	-69.72	-982.05	-16.59
527	SLU 41	12	-105	5525	-67.81	-990.77	-19.13
527	SLU 42	13	-92	5532	-69.17	-992	-16.72
527	SLU 43	16	-101	5033	-50.4	-902.93	-18.43
527	SLU 44	17	-79	5045	-52.67	-904.99	-14.43
527	SLU 45	15	-102	5119	-49.66	-918.33	-18.61
527	SLU 46	16	-89	5126	-51.03	-919.56	-16.21
527	SLU 47	17	-80	5101	-52.12	-914.94	-14.56
527	SLU 48	15	-103	5175	-49.11	-928.28	-18.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
527	SLU 49	16	-90	5182	-50.48	-929.51	-16.34
527	SLU 50	15	-103	5145	-49.3	-922.84	-18.7
527	SLU 51	16	-89	5152	-50.66	-924.07	-16.29
527	SLU 52	16	-91	5619	-68.56	-1007.94	-16.59
527	SLU 53	15	-114	5694	-65.55	-1021.28	-20.78
527	SLU 54	16	-101	5701	-66.91	-1022.51	-18.37
527	SLU 55	16	-92	5675	-68	-1017.9	-16.73
527	SLU 56	15	-115	5749	-65	-1031.23	-20.91
527	SLU 57	16	-101	5756	-66.36	-1032.47	-18.51
527	SLU 58	15	-115	5719	-65.18	-1025.79	-20.87
527	SLU 59	15	-101	5726	-66.54	-1027.03	-18.46
527	SLU 60	15	-118	5854	-73.09	-1050.01	-21.53
527	SLU 61	16	-105	5861	-74.45	-1051.24	-19.12
527	SLU 62	15	-119	5909	-72.54	-1059.96	-21.66
527	SLU 63	16	-106	5916	-73.9	-1061.2	-19.26
527	SLU 64	17	-109	5648	-55.85	-1013.06	-19.8
527	SLU 65	18	-86	5660	-58.13	-1015.12	-15.79
527	SLU 66	16	-110	5734	-55.12	-1028.46	-19.97
527	SLU 67	17	-96	5741	-56.48	-1029.69	-17.57
527	SLU 68	18	-87	5715	-57.58	-1025.07	-15.92
527	SLU 69	16	-110	5790	-54.57	-1038.41	-20.11
527	SLU 70	17	-97	5797	-55.93	-1039.64	-17.7
527	SLU 71	16	-110	5759	-54.75	-1032.97	-20.06
527	SLU 72	17	-97	5766	-56.12	-1034.2	-17.66
527	SLU 73	18	-98	6234	-74.01	-1118.07	-17.95
527	SLU 74	16	-121	6308	-71.01	-1131.41	-22.14
527	SLU 75	17	-108	6315	-72.37	-1132.64	-19.73
527	SLU 76	17	-99	6290	-73.46	-1128.03	-18.09
527	SLU 77	16	-122	6364	-70.45	-1141.36	-22.27
527	SLU 78	17	-109	6371	-71.82	-1142.6	-19.87
527	SLU 79	16	-122	6334	-70.64	-1135.92	-22.23
527	SLU 80	17	-109	6341	-72	-1137.16	-19.82
527	SLU 81	16	-126	6469	-78.55	-1160.14	-22.89
527	SLU 82	17	-112	6475	-79.91	-1161.37	-20.49
527	SLU 83	16	-126	6524	-78	-1170.09	-23.02
527	SLU 84	17	-113	6531	-79.36	-1171.33	-20.62
527	SLE RA 1	13	-82	4210	-41.77	-755.08	-14.93
527	SLE RA 2	13	-67	4217	-43.28	-756.45	-12.26
527	SLE RA 3	12	-83	4267	-41.28	-765.34	-15.05
527	SLE RA 4	13	-74	4272	-42.19	-766.16	-13.44
527	SLE RA 5	13	-68	4254	-42.91	-763.08	-12.34
527	SLE RA 6	12	-83	4304	-40.91	-771.97	-15.13
527	SLE RA 7	13	-74	4309	-41.82	-772.79	-13.53
527	SLE RA 8	12	-83	4284	-41.03	-768.35	-15.11
527	SLE RA 9	13	-74	4288	-41.94	-769.17	-13.5
527	SLE RA 10	13	-75	4600	-53.87	-825.08	-13.7
527	SLE RA 11	12	-91	4650	-51.87	-833.97	-16.49
527	SLE RA 12	13	-82	4654	-52.78	-834.8	-14.89
527	SLE RA 13	13	-75	4637	-53.5	-831.72	-13.79
527	SLE RA 14	12	-91	4687	-51.5	-840.61	-16.58
527	SLE RA 15	13	-82	4692	-52.41	-841.43	-14.98
527	SLE RA 16	12	-91	4667	-51.62	-836.98	-16.55
527	SLE RA 17	12	-82	4671	-52.53	-837.8	-14.95
527	SLE RA 18	12	-93	4757	-56.89	-853.13	-16.99
527	SLE RA 19	13	-84	4761	-57.8	-853.95	-15.39
527	SLE RA 20	12	-94	4794	-56.53	-859.76	-17.08
527	SLE RA 21	13	-85	4798	-57.44	-860.58	-15.48
527	SLE FR 1	13	-82	4210	-41.77	-755.08	-14.93
527	SLE FR 2	13	-79	4211	-42.07	-755.35	-14.39
527	SLE FR 3	12	-82	4224	-41.62	-757.73	-14.96
527	SLE FR 4	13	-82	4375	-46.61	-784.76	-15.01
527	SLE FR 5	12	-86	4389	-46.16	-787.14	-15.58
527	SLE FR 6	12	-88	4483	-49.33	-804.1	-15.96
527	SLE QP 1	13	-82	4210	-41.77	-755.08	-14.93
527	SLE QP 2	12	-85	4374	-46.3	-784.49	-15.55
527	SLD 1	313	23	4383	-66.34	-786.02	4.1
527	SLD 2	330	9	4375	-66.55	-784.57	1.76
527	SLD 3	295	-252	4162	-33.27	-746.36	-45.23
527	SLD 4	312	-265	4154	-33.48	-744.91	-47.57
527	SLD 5	127	365	4714	-102.44	-845.36	65.55
527	SLD 6	138	357	4709	-102.58	-844.42	64.05
527	SLD 7	67	-549	3975	7.81	-713.14	-98.85
527	SLD 8	78	-558	3970	7.67	-712.21	-100.36
527	SLD 9	-54	387	4777	-100.28	-856.77	69.27
527	SLD 10	-42	378	4772	-100.42	-855.84	67.76
527	SLD 11	-113	-527	4038	9.97	-724.56	-95.14
527	SLD 12	-102	-536	4033	9.83	-723.63	-96.65
527	SLD 13	-288	94	4594	-59.13	-824.07	16.47
527	SLD 14	-270	81	4586	-59.34	-822.62	14.13
527	SLD 15	-306	-180	4372	-26.05	-784.41	-32.85
527	SLD 16	-288	-193	4364	-26.27	-782.96	-35.19
527	SLV 1	483	103	4405	-79.99	-789.78	18.68
527	SLV 2	511	82	4392	-80.32	-787.5	14.99
527	SLV 3	453	-365	4027	-23.56	-722.1	-65.44
527	SLV 4	481	-386	4014	-23.89	-719.82	-69.13
527	SLV 5	195	684	4959	-141.93	-889.15	122.99
527	SLV 6	213	670	4951	-142.16	-887.61	120.51
527	SLV 7	93	-875	3698	46.17	-663.55	-157.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
527	SLV 8	112	-889	3690	45.94	-662.01	-159.89
527	SLV 9	-87	718	5058	-138.55	-906.97	128.8
527	SLV 10	-68	704	5049	-138.78	-905.43	126.31
527	SLV 11	-189	-841	3797	49.55	-681.37	-151.6
527	SLV 12	-170	-855	3788	49.32	-679.83	-154.09
527	SLV 13	-456	215	4734	-68.71	-849.17	38.03
527	SLV 14	-428	194	4721	-69.05	-846.88	34.34
527	SLV 15	-486	-252	4355	-12.29	-781.49	-46.09
527	SLV 16	-459	-274	4343	-12.62	-779.2	-49.78
527	SLV FO 1	531	122	4408	-83.35	-790.31	22.11
527	SLV FO 2	561	98	4394	-83.72	-787.8	18.05
527	SLV FO 3	497	-393	3992	-21.28	-715.86	-70.42
527	SLV FO 4	527	-416	3978	-21.65	-713.35	-74.48
527	SLV FO 5	213	761	5018	-151.49	-899.62	136.85
527	SLV FO 6	233	746	5008	-151.74	-897.93	134.11
527	SLV FO 7	101	-953	3631	55.41	-651.46	-171.59
527	SLV FO 8	122	-969	3621	55.16	-649.77	-174.32
527	SLV FO 9	-97	798	5126	-147.77	-919.21	143.23
527	SLV FO 10	-77	783	5117	-148.02	-917.52	140.5
527	SLV FO 11	-209	-916	3739	59.13	-671.05	-165.21
527	SLV FO 12	-188	-932	3730	58.88	-669.36	-167.94
527	SLV FO 13	-503	245	4770	-70.96	-855.63	43.39
527	SLV FO 14	-472	222	4756	-71.33	-853.12	39.33
527	SLV FO 15	-536	-269	4353	-8.88	-781.18	-49.14
527	SLV FO 16	-506	-292	4339	-9.25	-778.67	-53.2
527	CRTFP Ux+	0	0	0	0	0	0
527	CRTFP Ux-	0	0	0	0	0	0
527	CRTFP Uy+	0	0	0	0	0	0
527	CRTFP Uy-	0	0	0	0	0	0
528	SLU 1	20	-135	6140	-122.06	13.34	-0.36
528	SLU 2	22	-101	6157	-126.08	13.39	-0.41
528	SLU 3	19	-137	6268	-121.44	13.73	-0.38
528	SLU 4	21	-117	6279	-123.86	13.76	-0.41
528	SLU 5	21	-102	6240	-125.57	13.65	-0.43
528	SLU 6	19	-139	6351	-120.93	13.99	-0.4
528	SLU 7	20	-118	6362	-123.35	14.02	-0.43
528	SLU 8	19	-138	6306	-121.03	13.86	-0.39
528	SLU 9	20	-117	6316	-123.45	13.89	-0.42
528	SLU 10	21	-121	7025	-167.36	15.68	-0.44
528	SLU 11	19	-157	7137	-162.72	16.02	-0.42
528	SLU 12	20	-136	7147	-165.14	16.05	-0.45
528	SLU 13	21	-122	7108	-166.85	15.94	-0.46
528	SLU 14	18	-158	7220	-162.21	16.28	-0.43
528	SLU 15	20	-138	7230	-164.63	16.31	-0.46
528	SLU 16	18	-158	7174	-162.31	16.15	-0.42
528	SLU 17	20	-137	7185	-164.73	16.18	-0.45
528	SLU 18	19	-164	7381	-181.03	16.61	-0.4
528	SLU 19	20	-143	7391	-183.44	16.64	-0.44
528	SLU 20	18	-165	7464	-180.52	16.87	-0.42
528	SLU 21	20	-144	7474	-182.93	16.9	-0.45
528	SLU 22	21	-149	7067	-140.89	15.81	-0.49
528	SLU 23	23	-115	7084	-144.91	15.86	-0.54
528	SLU 24	21	-151	7195	-140.28	16.19	-0.51
528	SLU 25	22	-131	7206	-142.69	16.22	-0.55
528	SLU 26	23	-116	7167	-144.4	16.11	-0.56
528	SLU 27	21	-153	7279	-139.76	16.45	-0.53
528	SLU 28	22	-132	7289	-142.18	16.48	-0.56
528	SLU 29	21	-152	7233	-139.87	16.32	-0.52
528	SLU 30	22	-132	7243	-142.28	16.35	-0.55
528	SLU 31	23	-135	7953	-186.19	18.15	-0.57
528	SLU 32	20	-171	8064	-181.56	18.48	-0.55
528	SLU 33	22	-151	8074	-183.97	18.51	-0.58
528	SLU 34	22	-136	8036	-185.68	18.4	-0.59
528	SLU 35	20	-173	8147	-181.04	18.74	-0.56
528	SLU 36	21	-152	8158	-183.46	18.77	-0.59
528	SLU 37	20	-172	8102	-181.15	18.61	-0.55
528	SLU 38	21	-152	8112	-183.56	18.64	-0.58
528	SLU 39	20	-178	8308	-199.86	19.08	-0.54
528	SLU 40	22	-157	8318	-202.27	19.11	-0.57
528	SLU 41	20	-179	8391	-199.35	19.34	-0.55
528	SLU 42	21	-159	8401	-201.76	19.37	-0.58
528	SLU 43	25	-171	7663	-152.22	16.5	-0.42
528	SLU 44	27	-137	7681	-156.24	16.55	-0.47
528	SLU 45	25	-173	7792	-151.6	16.89	-0.45
528	SLU 46	26	-152	7802	-154.02	16.92	-0.48
528	SLU 47	27	-138	7764	-155.73	16.81	-0.49
528	SLU 48	24	-174	7875	-151.09	17.15	-0.46
528	SLU 49	26	-154	7886	-153.51	17.18	-0.49
528	SLU 50	24	-174	7830	-151.19	17.02	-0.45
528	SLU 51	25	-153	7840	-153.61	17.05	-0.48
528	SLU 52	26	-156	8549	-197.52	18.84	-0.51
528	SLU 53	24	-193	8661	-192.88	19.18	-0.48
528	SLU 54	25	-172	8671	-195.3	19.21	-0.51
528	SLU 55	26	-158	8632	-197.01	19.1	-0.52
528	SLU 56	24	-194	8744	-192.37	19.44	-0.49
528	SLU 57	25	-174	8754	-194.79	19.47	-0.53
528	SLU 58	24	-194	8698	-192.47	19.31	-0.49
528	SLU 59	25	-173	8709	-194.89	19.34	-0.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
528	SLU 60	24	-199	8904	-211.19	19.77	-0.47
528	SLU 61	25	-179	8915	-213.6	19.8	-0.5
528	SLU 62	24	-201	8988	-210.68	20.03	-0.48
528	SLU 63	25	-180	8998	-213.09	20.06	-0.51
528	SLU 64	27	-185	8591	-171.05	18.97	-0.55
528	SLU 65	29	-151	8608	-175.07	19.01	-0.6
528	SLU 66	26	-187	8719	-170.44	19.35	-0.58
528	SLU 67	28	-166	8730	-172.85	19.38	-0.61
528	SLU 68	28	-152	8691	-174.56	19.27	-0.62
528	SLU 69	26	-188	8803	-169.93	19.61	-0.59
528	SLU 70	27	-168	8813	-172.34	19.64	-0.62
528	SLU 71	26	-188	8757	-170.03	19.48	-0.58
528	SLU 72	27	-167	8767	-172.44	19.51	-0.62
528	SLU 73	28	-171	9477	-216.35	21.3	-0.64
528	SLU 74	26	-207	9588	-211.72	21.64	-0.61
528	SLU 75	27	-186	9598	-214.13	21.67	-0.64
528	SLU 76	28	-172	9560	-215.84	21.56	-0.65
528	SLU 77	25	-208	9671	-211.21	21.9	-0.63
528	SLU 78	27	-188	9681	-213.62	21.93	-0.66
528	SLU 79	25	-208	9626	-211.31	21.77	-0.62
528	SLU 80	26	-187	9636	-213.72	21.8	-0.65
528	SLU 81	26	-214	9832	-230.02	22.24	-0.6
528	SLU 82	27	-193	9842	-232.43	22.27	-0.63
528	SLU 83	25	-215	9915	-229.51	22.49	-0.61
528	SLU 84	27	-194	9925	-231.92	22.52	-0.64
528	SLE RA 1	20	-139	6404	-127.44	14.05	-0.4
528	SLE RA 2	21	-116	6416	-130.12	14.08	-0.43
528	SLE RA 3	20	-141	6490	-127.03	14.31	-0.41
528	SLE RA 4	21	-127	6497	-128.64	14.33	-0.43
528	SLE RA 5	21	-117	6471	-129.78	14.25	-0.44
528	SLE RA 6	20	-142	6546	-126.69	14.48	-0.42
528	SLE RA 7	21	-128	6553	-128.3	14.5	-0.44
528	SLE RA 8	20	-141	6515	-126.75	14.39	-0.42
528	SLE RA 9	20	-127	6522	-128.36	14.41	-0.44
528	SLE RA 10	21	-130	6995	-157.64	15.61	-0.45
528	SLE RA 11	19	-154	7069	-154.55	15.83	-0.43
528	SLE RA 12	20	-140	7076	-156.16	15.85	-0.45
528	SLE RA 13	21	-131	7050	-157.3	15.78	-0.46
528	SLE RA 14	19	-155	7125	-154.21	16	-0.44
528	SLE RA 15	20	-141	7132	-155.82	16.02	-0.47
528	SLE RA 16	19	-154	7094	-154.27	15.92	-0.44
528	SLE RA 17	20	-141	7101	-155.88	15.94	-0.46
528	SLE RA 18	19	-158	7232	-166.75	16.23	-0.43
528	SLE RA 19	20	-144	7239	-168.36	16.25	-0.45
528	SLE RA 20	19	-159	7287	-166.41	16.4	-0.44
528	SLE RA 21	20	-145	7294	-168.02	16.42	-0.46
528	SLE FR 1	20	-139	6404	-127.44	14.05	-0.4
528	SLE FR 2	20	-135	6407	-127.97	14.05	-0.4
528	SLE FR 3	20	-140	6427	-127.3	14.12	-0.4
528	SLE FR 4	20	-140	6655	-139.77	14.71	-0.41
528	SLE FR 5	20	-145	6675	-139.09	14.77	-0.41
528	SLE FR 6	20	-149	6818	-147.09	15.14	-0.41
528	SLE QP 1	20	-139	6404	-127.44	14.05	-0.4
528	SLE QP 2	20	-145	6653	-139.23	14.7	-0.41
528	SLD 1	496	39	6655	-170.62	15.61	0.36
528	SLD 2	524	24	6643	-170.66	15.57	0.72
528	SLD 3	468	-386	6323	-111.97	14.7	0.87
528	SLD 4	496	-402	6311	-112.01	14.66	1.23
528	SLD 5	201	558	7159	-237.59	16.36	-1.01
528	SLD 6	219	548	7151	-237.62	16.33	-0.78
528	SLD 7	107	-860	6052	-42.1	13.33	0.69
528	SLD 8	124	-870	6044	-42.12	13.31	0.92
528	SLD 9	-85	580	7261	-236.34	16.1	-1.73
528	SLD 10	-67	570	7253	-236.37	16.07	-1.5
528	SLD 11	-179	-838	6154	-40.85	13.07	-0.03
528	SLD 12	-161	-848	6146	-40.87	13.05	0.2
528	SLD 13	-456	112	6994	-166.46	14.74	-2.04
528	SLD 14	-428	96	6982	-166.49	14.7	-1.68
528	SLD 15	-485	-314	6662	-107.81	13.83	-1.53
528	SLD 16	-457	-329	6650	-107.84	13.79	-1.17
528	SLV 1	767	173	6681	-192.53	16.19	0.75
528	SLV 2	811	149	6662	-192.58	16.13	1.31
528	SLV 3	719	-553	6115	-92.47	14.65	1.62
528	SLV 4	763	-577	6095	-92.52	14.59	2.18
528	SLV 5	309	1055	7524	-306.97	17.5	-1.48
528	SLV 6	339	1039	7511	-307	17.46	-1.11
528	SLV 7	148	-1363	5636	26.56	12.35	1.42
528	SLV 8	178	-1379	5622	26.53	12.31	1.8
528	SLV 9	-138	1089	7683	-304.99	17.09	-2.61
528	SLV 10	-108	1073	7670	-305.03	17.05	-2.23
528	SLV 11	-299	-1329	5794	28.54	11.94	0.29
528	SLV 12	-269	-1345	5781	28.5	11.9	0.67
528	SLV 13	-723	287	7210	-185.94	14.81	-3
528	SLV 14	-679	263	7191	-185.99	14.76	-2.43
528	SLV 15	-771	-439	6644	-85.88	13.27	-2.12
528	SLV 16	-727	-463	6624	-85.93	13.21	-1.56
528	SLV FO 1	842	204	6684	-197.86	16.34	0.87
528	SLV FO 2	890	178	6663	-197.92	16.28	1.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
528	SLV FO 3	789	-594	6061	-87.79	14.64	1.83
528	SLV FO 4	837	-620	6039	-87.85	14.58	2.44
528	SLV FO 5	338	1175	7611	-323.74	17.78	-1.59
528	SLV FO 6	371	1157	7597	-323.78	17.74	-1.18
528	SLV FO 7	161	-1485	5534	43.14	12.12	1.6
528	SLV FO 8	193	-1503	5519	43.1	12.07	2.02
528	SLV FO 9	-154	1213	7786	-321.57	17.33	-2.83
528	SLV FO 10	-121	1195	7771	-321.6	17.29	-2.41
528	SLV FO 11	-331	-1447	5708	45.32	11.66	0.36
528	SLV FO 12	-298	-1465	5694	45.28	11.62	0.78
528	SLV FO 13	-797	330	7266	-190.61	14.83	-3.25
528	SLV FO 14	-749	304	7244	-190.67	14.76	-2.64
528	SLV FO 15	-850	-468	6643	-80.55	13.13	-2.3
528	SLV FO 16	-802	-494	6621	-80.61	13.06	-1.68
528	CRTFP Ux+	0	0	0	0	0	0
528	CRTFP Ux-	0	0	0	0	0	0
528	CRTFP Uy+	0	0	0	0	0	0
528	CRTFP Uy-	0	0	0	0	0	0
529	SLU 1	40	-226	10890	-107.79	-1886.93	-34.08
529	SLU 2	44	-164	10922	-111.7	-1892.65	-23.05
529	SLU 3	40	-230	11115	-107.89	-1925.55	-34.81
529	SLU 4	42	-193	11134	-110.23	-1928.98	-28.19
529	SLU 5	44	-167	11066	-111.64	-1917.41	-23.59
529	SLU 6	39	-233	11259	-107.83	-1950.31	-35.34
529	SLU 7	42	-196	11278	-110.18	-1953.74	-28.73
529	SLU 8	39	-232	11179	-107.68	-1936.44	-35.16
529	SLU 9	41	-195	11198	-110.02	-1939.88	-28.54
529	SLU 10	44	-195	12429	-141.59	-2149.19	-27.28
529	SLU 11	39	-261	12622	-137.78	-2182.08	-39.03
529	SLU 12	42	-224	12641	-140.13	-2185.52	-32.41
529	SLU 13	43	-198	12573	-141.54	-2173.94	-27.81
529	SLU 14	39	-264	12766	-137.73	-2206.84	-39.57
529	SLU 15	41	-227	12785	-140.07	-2210.28	-32.95
529	SLU 16	38	-263	12686	-137.57	-2192.98	-39.38
529	SLU 17	41	-226	12705	-139.92	-2196.41	-32.76
529	SLU 18	39	-270	13044	-150.5	-2253.4	-40.11
529	SLU 19	42	-233	13063	-152.84	-2256.84	-33.5
529	SLU 20	39	-273	13188	-150.44	-2278.16	-40.65
529	SLU 21	41	-236	13207	-152.79	-2281.6	-34.03
529	SLU 22	44	-253	12513	-123.62	-2165.93	-38.24
529	SLU 23	48	-190	12545	-127.53	-2171.65	-27.21
529	SLU 24	44	-257	12738	-123.72	-2204.55	-38.96
529	SLU 25	46	-219	12757	-126.06	-2207.98	-32.35
529	SLU 26	48	-193	12689	-127.47	-2196.41	-27.75
529	SLU 27	43	-260	12882	-123.66	-2229.31	-39.5
529	SLU 28	46	-222	12901	-126.01	-2232.74	-32.88
529	SLU 29	43	-259	12802	-123.51	-2215.44	-39.31
529	SLU 30	45	-221	12821	-125.85	-2218.87	-32.7
529	SLU 31	47	-221	14052	-157.43	-2428.19	-31.43
529	SLU 32	43	-288	14245	-153.62	-2461.08	-43.18
529	SLU 33	45	-250	14264	-155.96	-2464.52	-36.57
529	SLU 34	47	-224	14196	-157.37	-2452.94	-31.97
529	SLU 35	42	-291	14389	-153.56	-2485.84	-43.72
529	SLU 36	45	-253	14408	-155.91	-2489.28	-37.11
529	SLU 37	42	-290	14309	-153.41	-2471.98	-43.53
529	SLU 38	45	-252	14328	-155.75	-2475.41	-36.92
529	SLU 39	43	-297	14667	-166.33	-2532.4	-44.27
529	SLU 40	45	-259	14685	-168.68	-2535.84	-37.65
529	SLU 41	42	-300	14811	-166.28	-2557.16	-44.81
529	SLU 42	45	-262	14830	-168.62	-2560.6	-38.19
529	SLU 43	51	-285	13601	-134.7	-2357.35	-42.88
529	SLU 44	55	-223	13632	-138.6	-2363.07	-31.85
529	SLU 45	51	-289	13825	-134.8	-2395.97	-43.6
529	SLU 46	53	-252	13844	-137.14	-2399.4	-36.99
529	SLU 47	54	-226	13777	-138.55	-2387.83	-32.39
529	SLU 48	50	-292	13970	-134.74	-2420.73	-44.14
529	SLU 49	52	-255	13989	-137.08	-2424.16	-37.53
529	SLU 50	50	-291	13890	-134.59	-2406.86	-43.95
529	SLU 51	52	-254	13909	-136.93	-2410.3	-37.34
529	SLU 52	54	-254	15140	-168.5	-2619.61	-36.08
529	SLU 53	50	-320	15333	-164.69	-2652.5	-47.83
529	SLU 54	52	-283	15352	-167.04	-2655.94	-41.21
529	SLU 55	54	-257	15284	-168.45	-2644.36	-36.61
529	SLU 56	49	-323	15477	-164.64	-2677.26	-48.37
529	SLU 57	52	-286	15496	-166.98	-2680.7	-41.75
529	SLU 58	49	-322	15397	-164.48	-2663.4	-48.18
529	SLU 59	52	-285	15416	-166.83	-2666.83	-41.56
529	SLU 60	50	-329	15754	-177.41	-2723.82	-48.91
529	SLU 61	52	-292	15773	-179.75	-2727.26	-42.3
529	SLU 62	49	-332	15899	-177.35	-2748.58	-49.45
529	SLU 63	52	-295	15918	-179.7	-2752.02	-42.83
529	SLU 64	55	-312	15224	-150.53	-2636.35	-47.03
529	SLU 65	59	-249	15255	-154.44	-2642.07	-36.01
529	SLU 66	54	-316	15448	-150.63	-2674.97	-47.76
529	SLU 67	57	-278	15467	-152.97	-2678.4	-41.14
529	SLU 68	58	-252	15400	-154.38	-2666.83	-36.55
529	SLU 69	54	-319	15593	-150.57	-2699.73	-48.3
529	SLU 70	56	-281	15612	-152.92	-2703.16	-41.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
529	SLU 71	54	-318	15513	-150.42	-2685.86	-48.11
529	SLU 72	56	-280	15531	-152.76	-2689.3	-41.49
529	SLU 73	58	-280	16763	-184.33	-2898.61	-40.23
529	SLU 74	54	-347	16956	-180.52	-2931.5	-51.98
529	SLU 75	56	-309	16975	-182.87	-2934.94	-45.37
529	SLU 76	58	-283	16907	-184.28	-2923.36	-40.77
529	SLU 77	53	-350	17100	-180.47	-2956.26	-52.52
529	SLU 78	56	-312	17119	-182.81	-2959.7	-45.91
529	SLU 79	53	-348	17020	-180.31	-2942.4	-52.33
529	SLU 80	55	-311	17039	-182.66	-2945.83	-45.72
529	SLU 81	54	-356	17377	-193.24	-3002.82	-53.07
529	SLU 82	56	-318	17396	-195.58	-3006.26	-46.45
529	SLU 83	53	-359	17522	-193.18	-3027.58	-53.6
529	SLU 84	56	-321	17540	-195.53	-3031.02	-46.99
529	SLE RA 1	41	-234	11354	-112.31	-1966.64	-35.27
529	SLE RA 2	44	-192	11375	-114.92	-1970.46	-27.92
529	SLE RA 3	41	-237	11504	-112.38	-1992.39	-35.75
529	SLE RA 4	43	-212	11516	-113.94	-1994.68	-31.34
529	SLE RA 5	44	-194	11471	-114.88	-1986.96	-28.27
529	SLE RA 6	41	-239	11600	-112.34	-2008.89	-36.11
529	SLE RA 7	42	-214	11612	-113.9	-2011.18	-31.7
529	SLE RA 8	41	-238	11546	-112.24	-1999.65	-35.98
529	SLE RA 9	42	-213	11559	-113.8	-2001.94	-31.57
529	SLE RA 10	44	-213	12380	-134.85	-2141.48	-30.73
529	SLE RA 11	41	-257	12509	-132.31	-2163.41	-38.57
529	SLE RA 12	42	-232	12521	-133.87	-2165.7	-34.16
529	SLE RA 13	43	-215	12476	-134.81	-2157.98	-31.09
529	SLE RA 14	40	-259	12605	-132.27	-2179.92	-38.92
529	SLE RA 15	42	-234	12617	-133.84	-2182.21	-34.51
529	SLE RA 16	40	-258	12551	-132.17	-2170.67	-38.8
529	SLE RA 17	42	-233	12564	-133.73	-2172.96	-34.39
529	SLE RA 18	41	-263	12790	-140.78	-2210.96	-39.29
529	SLE RA 19	42	-238	12802	-142.35	-2213.25	-34.88
529	SLE RA 20	40	-265	12886	-140.75	-2227.46	-39.65
529	SLE RA 21	42	-240	12898	-142.31	-2229.75	-35.24
529	SLE FR 1	41	-234	11354	-112.31	-1966.64	-35.27
529	SLE FR 2	42	-226	11358	-112.83	-1967.4	-33.8
529	SLE FR 3	41	-235	11392	-112.3	-1973.24	-35.41
529	SLE FR 4	42	-234	11789	-121.37	-2040.7	-35
529	SLE FR 5	41	-243	11823	-120.84	-2046.54	-36.62
529	SLE FR 6	41	-249	12072	-126.55	-2088.8	-37.28
529	SLE QP 1	41	-234	11354	-112.31	-1966.64	-35.27
529	SLE QP 2	41	-243	11785	-120.85	-2039.94	-36.47
529	SLD 1	941	121	11883	-143.85	-2076.7	28.56
529	SLD 2	994	111	11873	-144.52	-2077.54	29.04
529	SLD 3	888	-661	11285	-86.3	-1970.45	-110.45
529	SLD 4	940	-671	11275	-86.98	-1971.29	-109.98
529	SLD 5	383	1054	12723	-214.91	-2211.96	193.8
529	SLD 6	417	1048	12717	-215.34	-2212.5	194.1
529	SLD 7	205	-1552	10729	-23.1	-1857.8	-269.59
529	SLD 8	239	-1558	10723	-23.54	-1858.35	-269.28
529	SLD 9	-156	1073	12846	-218.17	-2221.52	196.33
529	SLD 10	-123	1067	12840	-218.6	-2222.07	196.64
529	SLD 11	-335	-1533	10853	-26.37	-1867.37	-267.05
529	SLD 12	-301	-1539	10847	-26.8	-1867.91	-266.74
529	SLD 13	-858	185	12294	-154.73	-2108.58	37.03
529	SLD 14	-806	176	12285	-155.4	-2109.42	37.5
529	SLD 15	-912	-597	11696	-97.19	-2002.33	-101.99
529	SLD 16	-859	-606	11687	-97.86	-2003.18	-101.51
529	SLV 1	1453	380	11981	-160.91	-2104.73	74.8
529	SLV 2	1536	365	11966	-161.97	-2106.07	75.55
529	SLV 3	1362	-954	10960	-62.74	-1923.37	-162.31
529	SLV 4	1444	-969	10945	-63.8	-1924.71	-161.56
529	SLV 5	588	1969	13395	-281.56	-2334.19	356.38
529	SLV 6	643	1959	13384	-282.28	-2335.09	356.88
529	SLV 7	283	-2476	9992	45.67	-1729.65	-433.97
529	SLV 8	339	-2486	9982	44.95	-1730.55	-433.47
529	SLV 9	-257	2000	13587	-286.66	-2349.32	360.52
529	SLV 10	-201	1990	13577	-287.38	-2350.22	361.03
529	SLV 11	-561	-2444	10185	40.57	-1744.78	-429.83
529	SLV 12	-505	-2455	10175	39.85	-1745.68	-429.33
529	SLV 13	-1362	483	12624	-177.91	-2155.16	88.61
529	SLV 14	-1279	468	12609	-178.97	-2156.5	89.36
529	SLV 15	-1453	-850	11603	-79.74	-1973.8	-148.5
529	SLV 16	-1371	-865	11588	-80.8	-1975.14	-147.75
529	SLV FO 1	1594	442	12001	-164.91	-2111.21	85.93
529	SLV FO 2	1685	426	11984	-166.08	-2112.68	86.75
529	SLV FO 3	1494	-1025	10878	-56.93	-1911.72	-174.89
529	SLV FO 4	1585	-1041	10861	-58.1	-1913.18	-174.06
529	SLV FO 5	642	2190	13556	-297.63	-2363.62	395.66
529	SLV FO 6	704	2179	13544	-298.42	-2364.6	396.22
529	SLV FO 7	308	-2699	9813	62.32	-1698.63	-473.72
529	SLV FO 8	369	-2710	9802	61.53	-1699.61	-473.17
529	SLV FO 9	-287	2224	13768	-303.24	-2380.26	400.22
529	SLV FO 10	-225	2213	13756	-304.03	-2381.24	400.78
529	SLV FO 11	-621	-2665	10025	56.71	-1715.27	-469.17
529	SLV FO 12	-560	-2676	10014	55.93	-1716.25	-468.61
529	SLV FO 13	-1502	556	12708	-183.61	-2166.69	101.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
529	SLV FO 14	-1411	539	12691	-184.78	-2168.15	101.94
529	SLV FO 15	-1603	-911	11585	-75.62	-1967.19	-159.7
529	SLV FO 16	-1512	-927	11568	-76.79	-1968.66	-158.87
529	CRTFP Ux+	0	0	0	0	0	0
529	CRTFP Ux-	0	0	0	0	0	0
529	CRTFP Uy+	0	0	0	0	0	0
529	CRTFP Uy-	0	0	0	0	0	0
531	SLU 1	-38	7	3694	5.11	-659.36	1.83
531	SLU 2	-39	26	3710	4.9	-658.26	6.61
531	SLU 3	-39	7	3779	5.29	-674.81	1.77
531	SLU 4	-39	18	3788	5.16	-674.15	4.64
531	SLU 5	-40	26	3765	5.02	-668.35	6.62
531	SLU 6	-39	7	3833	5.42	-684.9	1.78
531	SLU 7	-40	18	3843	5.29	-684.24	4.65
531	SLU 8	-39	7	3803	5.36	-679.54	1.84
531	SLU 9	-39	19	3813	5.23	-678.88	4.71
531	SLU 10	-40	28	4177	5.61	-741.6	7.11
531	SLU 11	-39	9	4246	6.01	-758.15	2.26
531	SLU 12	-40	20	4255	5.88	-757.49	5.13
531	SLU 13	-40	28	4232	5.73	-751.69	7.11
531	SLU 14	-40	9	4300	6.13	-768.24	2.27
531	SLU 15	-40	20	4310	6	-767.58	5.14
531	SLU 16	-39	9	4270	6.07	-762.88	2.33
531	SLU 17	-40	20	4280	5.94	-762.22	5.2
531	SLU 18	-39	10	4361	6.13	-778.42	2.53
531	SLU 19	-40	21	4371	6	-777.76	5.4
531	SLU 20	-39	10	4416	6.25	-788.51	2.54
531	SLU 21	-40	21	4426	6.13	-787.84	5.41
531	SLU 22	-41	6	4267	6.12	-762.91	1.56
531	SLU 23	-42	25	4284	5.91	-761.81	6.35
531	SLU 24	-42	6	4352	6.3	-778.36	1.5
531	SLU 25	-42	17	4362	6.18	-777.7	4.38
531	SLU 26	-43	25	4338	6.03	-771.89	6.35
531	SLU 27	-42	6	4406	6.43	-788.44	1.51
531	SLU 28	-43	17	4416	6.3	-787.78	4.38
531	SLU 29	-42	6	4377	6.37	-783.08	1.57
531	SLU 30	-42	17	4386	6.24	-782.42	4.44
531	SLU 31	-43	27	4751	6.62	-845.15	6.84
531	SLU 32	-42	8	4819	7.02	-861.69	2
531	SLU 33	-43	19	4829	6.89	-861.03	4.87
531	SLU 34	-43	27	4805	6.75	-855.23	6.85
531	SLU 35	-43	8	4874	7.14	-871.78	2
531	SLU 36	-43	19	4883	7.01	-871.12	4.87
531	SLU 37	-42	8	4844	7.08	-866.42	2.07
531	SLU 38	-43	19	4853	6.95	-865.76	4.94
531	SLU 39	-42	9	4935	7.14	-881.96	2.27
531	SLU 40	-43	20	4944	7.01	-881.3	5.14
531	SLU 41	-42	9	4989	7.26	-892.05	2.27
531	SLU 42	-43	20	4999	7.14	-891.39	5.14
531	SLU 43	-48	9	4606	6.3	-821.67	2.47
531	SLU 44	-50	29	4622	6.09	-820.57	7.25
531	SLU 45	-49	9	4690	6.48	-837.12	2.41
531	SLU 46	-50	21	4700	6.35	-836.46	5.28
531	SLU 47	-50	29	4677	6.21	-830.66	7.26
531	SLU 48	-49	9	4745	6.6	-847.21	2.42
531	SLU 49	-50	21	4755	6.47	-846.55	5.29
531	SLU 50	-49	9	4715	6.55	-841.85	2.48
531	SLU 51	-50	21	4725	6.42	-841.19	5.35
531	SLU 52	-50	31	5089	6.8	-903.91	7.75
531	SLU 53	-50	11	5157	7.19	-920.46	2.9
531	SLU 54	-50	23	5167	7.06	-919.8	5.77
531	SLU 55	-51	31	5144	6.92	-914	7.75
531	SLU 56	-50	11	5212	7.32	-930.54	2.91
531	SLU 57	-51	23	5222	7.19	-929.88	5.78
531	SLU 58	-50	11	5182	7.26	-925.18	2.97
531	SLU 59	-50	23	5192	7.13	-924.52	5.84
531	SLU 60	-49	12	5273	7.32	-940.73	3.17
531	SLU 61	-50	24	5283	7.19	-940.07	6.04
531	SLU 62	-50	12	5328	7.44	-950.81	3.18
531	SLU 63	-50	24	5337	7.31	-950.15	6.05
531	SLU 64	-51	8	5179	7.31	-925.22	2.2
531	SLU 65	-53	28	5195	7.1	-924.12	6.99
531	SLU 66	-52	8	5264	7.49	-940.66	2.14
531	SLU 67	-53	20	5273	7.36	-940	5.02
531	SLU 68	-53	28	5250	7.22	-934.2	6.99
531	SLU 69	-52	8	5318	7.61	-950.75	2.15
531	SLU 70	-53	20	5328	7.49	-950.09	5.02
531	SLU 71	-52	8	5288	7.56	-945.39	2.21
531	SLU 72	-53	20	5298	7.43	-944.73	5.08
531	SLU 73	-53	30	5662	7.81	-1007.45	7.48
531	SLU 74	-53	10	5731	8.2	-1024	2.64
531	SLU 75	-53	22	5740	8.07	-1023.34	5.51
531	SLU 76	-54	30	5717	7.93	-1017.54	7.49
531	SLU 77	-53	10	5785	8.33	-1034.09	2.64
531	SLU 78	-54	22	5795	8.2	-1033.43	5.51
531	SLU 79	-53	10	5755	8.27	-1028.73	2.71
531	SLU 80	-53	22	5765	8.14	-1028.07	5.58
531	SLU 81	-52	11	5846	8.33	-1044.27	2.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
531	SLU 82	-53	23	5856	8.2	-1043.61	5.78
531	SLU 83	-53	11	5901	8.45	-1054.36	2.91
531	SLU 84	-53	23	5911	8.32	-1053.7	5.78
531	SLE RA 1	-39	7	3858	5.4	-688.95	1.75
531	SLE RA 2	-40	19	3869	5.26	-688.21	4.94
531	SLE RA 3	-39	7	3914	5.52	-699.25	1.71
531	SLE RA 4	-40	14	3921	5.44	-698.81	3.63
531	SLE RA 5	-40	19	3905	5.34	-694.94	4.95
531	SLE RA 6	-39	7	3951	5.6	-705.97	1.72
531	SLE RA 7	-40	14	3957	5.52	-705.53	3.63
531	SLE RA 8	-39	7	3931	5.57	-702.4	1.76
531	SLE RA 9	-40	14	3937	5.48	-701.96	3.67
531	SLE RA 10	-40	21	4180	5.73	-743.77	5.27
531	SLE RA 11	-40	8	4226	6	-754.8	2.04
531	SLE RA 12	-40	15	4232	5.91	-754.36	3.96
531	SLE RA 13	-40	21	4217	5.82	-750.5	5.28
531	SLE RA 14	-40	8	4262	6.08	-761.53	2.05
531	SLE RA 15	-40	15	4269	5.99	-761.09	3.96
531	SLE RA 16	-40	8	4242	6.04	-757.96	2.09
531	SLE RA 17	-40	16	4249	5.96	-757.52	4
531	SLE RA 18	-39	9	4303	6.08	-768.32	2.22
531	SLE RA 19	-40	16	4309	5.99	-767.88	4.14
531	SLE RA 20	-40	9	4339	6.16	-775.04	2.23
531	SLE RA 21	-40	16	4346	6.08	-774.6	4.14
531	SLE FR 1	-39	7	3858	5.4	-688.95	1.75
531	SLE FR 2	-39	9	3860	5.37	-688.8	2.39
531	SLE FR 3	-39	7	3872	5.44	-691.64	1.76
531	SLE FR 4	-39	10	3994	5.58	-712.61	2.53
531	SLE FR 5	-39	7	4006	5.64	-715.45	1.9
531	SLE FR 6	-39	8	4080	5.74	-728.63	1.99
531	SLE QP 1	-39	7	3858	5.4	-688.95	1.75
531	SLE QP 2	-39	7	3991	5.61	-712.76	1.89
531	SLD 1	216	219	5286	5.75	-906.38	54.62
531	SLD 2	230	116	5271	6.03	-909.55	28.99
531	SLD 3	229	-23	5007	8.77	-911.85	-5.75
531	SLD 4	244	-126	4992	9.05	-915.01	-31.37
531	SLD 5	14	455	4805	1.02	-762.01	113.67
531	SLD 6	24	389	4795	1.19	-764.05	97.17
531	SLD 7	60	-351	3876	11.09	-780.23	-87.54
531	SLD 8	69	-417	3866	11.27	-782.26	-104.04
531	SLD 9	-147	432	4117	-0.06	-643.25	107.83
531	SLD 10	-138	365	4107	0.12	-645.29	91.33
531	SLD 11	-102	-374	3187	10.02	-661.47	-93.38
531	SLD 12	-92	-441	3178	10.19	-663.5	-109.88
531	SLD 13	-322	141	2991	2.16	-510.51	35.16
531	SLD 14	-307	37	2975	2.44	-513.67	9.54
531	SLD 15	-308	-101	2712	5.19	-515.97	-25.2
531	SLD 16	-294	-204	2697	5.46	-519.14	-50.83
531	SLV 1	359	356	6032	5.61	-1014.51	88.79
531	SLV 2	381	193	6008	6.04	-1019.5	48.39
531	SLV 3	382	-57	5556	10.77	-1023.62	-14.17
531	SLV 4	404	-219	5532	11.2	-1028.6	-54.56
531	SLV 5	41	768	5330	-2.29	-788.54	191.65
531	SLV 6	56	658	5314	-2	-791.9	164.45
531	SLV 7	118	-607	3744	14.89	-818.89	-151.54
531	SLV 8	133	-716	3727	15.18	-822.25	-178.73
531	SLV 9	-211	731	4255	-3.97	-603.27	182.52
531	SLV 10	-196	621	4239	-3.68	-606.62	155.32
531	SLV 11	-134	-644	2669	13.22	-633.62	-160.67
531	SLV 12	-119	-753	2653	13.51	-636.97	-187.86
531	SLV 13	-482	234	2451	0.01	-396.91	58.35
531	SLV 14	-460	71	2427	0.44	-401.9	17.96
531	SLV 15	-459	-179	1975	5.17	-406.02	-44.6
531	SLV 16	-437	-341	1951	5.6	-411.01	-85
531	SLV FO 1	398	391	6236	5.61	-1044.69	97.47
531	SLV FO 2	423	212	6210	6.08	-1050.17	53.04
531	SLV FO 3	424	-63	5713	11.28	-1054.7	-15.78
531	SLV FO 4	449	-242	5686	11.76	-1060.19	-60.21
531	SLV FO 5	49	844	5464	-3.08	-796.12	210.62
531	SLV FO 6	66	723	5446	-2.77	-799.82	180.71
531	SLV FO 7	134	-668	3719	15.82	-829.51	-166.88
531	SLV FO 8	151	-789	3701	16.14	-833.2	-196.79
531	SLV FO 9	-228	803	4282	-4.93	-592.32	200.58
531	SLV FO 10	-212	683	4264	-4.61	-596.01	170.67
531	SLV FO 11	-144	-709	2537	13.98	-625.7	-176.92
531	SLV FO 12	-127	-829	2519	14.3	-629.4	-206.83
531	SLV FO 13	-527	256	2297	-0.55	-365.33	64
531	SLV FO 14	-502	77	2270	-0.07	-370.82	19.56
531	SLV FO 15	-501	-197	1773	5.13	-375.35	-49.25
531	SLV FO 16	-476	-376	1747	5.6	-380.83	-93.68
531	CRTFP Ux+	0	0	0	0	0	0
531	CRTFP Ux-	0	0	0	0	0	0
531	CRTFP Uy+	0	0	0	0	0	0
531	CRTFP Uy-	0	0	0	0	0	0
534	SLU 1	-59	-2	6361	2.87	-27.1	-0.04
534	SLU 2	-60	30	6383	2.43	-26.37	-0.17
534	SLU 3	-60	-2	6503	3.08	-27.81	-0.06
534	SLU 4	-61	17	6517	2.82	-27.37	-0.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
534	SLU 5	-60	30	6475	2.58	-26.85	-0.18
534	SLU 6	-61	-2	6595	3.24	-28.28	-0.07
534	SLU 7	-61	17	6608	2.98	-27.85	-0.15
534	SLU 8	-60	-2	6545	3.18	-28.05	-0.07
534	SLU 9	-61	17	6558	2.92	-27.61	-0.15
534	SLU 10	-61	31	7234	2.95	-31.45	-0.18
534	SLU 11	-61	-1	7354	3.61	-32.89	-0.07
534	SLU 12	-62	18	7367	3.35	-32.45	-0.15
534	SLU 13	-61	31	7325	3.11	-31.93	-0.2
534	SLU 14	-62	-1	7446	3.77	-33.36	-0.09
534	SLU 15	-62	18	7459	3.5	-32.93	-0.17
534	SLU 16	-61	-1	7395	3.71	-33.13	-0.09
534	SLU 17	-62	18	7408	3.44	-32.69	-0.16
534	SLU 18	-60	0	7576	3.62	-34.36	-0.06
534	SLU 19	-61	19	7589	3.36	-33.92	-0.14
534	SLU 20	-61	0	7668	3.78	-34.83	-0.08
534	SLU 21	-62	19	7681	3.51	-34.4	-0.15
534	SLU 22	-64	-1	7367	3.82	-31.87	-0.15
534	SLU 23	-65	31	7389	3.38	-31.14	-0.28
534	SLU 24	-66	-1	7509	4.04	-32.58	-0.17
534	SLU 25	-66	18	7523	3.77	-32.14	-0.24
534	SLU 26	-66	31	7481	3.54	-31.62	-0.29
534	SLU 27	-66	-1	7601	4.2	-33.05	-0.18
534	SLU 28	-67	18	7614	3.93	-32.62	-0.26
534	SLU 29	-66	-1	7551	4.14	-32.82	-0.18
534	SLU 30	-66	18	7564	3.87	-32.38	-0.26
534	SLU 31	-66	32	8240	3.91	-36.22	-0.29
534	SLU 32	-67	0	8360	4.57	-37.66	-0.18
534	SLU 33	-67	19	8373	4.3	-37.22	-0.26
534	SLU 34	-67	32	8331	4.06	-36.7	-0.31
534	SLU 35	-67	0	8452	4.72	-38.13	-0.2
534	SLU 36	-68	19	8465	4.46	-37.7	-0.28
534	SLU 37	-67	0	8401	4.66	-37.9	-0.2
534	SLU 38	-67	19	8414	4.4	-37.46	-0.27
534	SLU 39	-66	0	8582	4.57	-39.13	-0.17
534	SLU 40	-66	20	8595	4.31	-38.69	-0.25
534	SLU 41	-66	0	8674	4.73	-39.6	-0.19
534	SLU 42	-67	20	8687	4.47	-39.17	-0.26
534	SLU 43	-75	-3	7924	3.4	-33.59	-0.01
534	SLU 44	-76	29	7946	2.96	-32.86	-0.14
534	SLU 45	-76	-3	8067	3.62	-34.3	-0.03
534	SLU 46	-76	16	8080	3.35	-33.86	-0.11
534	SLU 47	-76	29	8038	3.12	-33.34	-0.16
534	SLU 48	-76	-3	8158	3.77	-34.78	-0.05
534	SLU 49	-77	16	8172	3.51	-34.34	-0.12
534	SLU 50	-76	-3	8108	3.71	-34.55	-0.04
534	SLU 51	-76	16	8121	3.45	-34.11	-0.12
534	SLU 52	-77	30	8797	3.49	-37.94	-0.16
534	SLU 53	-77	-2	8917	4.14	-39.38	-0.05
534	SLU 54	-77	18	8930	3.88	-38.94	-0.13
534	SLU 55	-77	30	8889	3.64	-38.42	-0.17
534	SLU 56	-77	-2	9009	4.3	-39.86	-0.06
534	SLU 57	-78	18	9022	4.04	-39.42	-0.14
534	SLU 58	-77	-2	8958	4.24	-39.63	-0.06
534	SLU 59	-77	17	8972	3.98	-39.19	-0.14
534	SLU 60	-76	-1	9139	4.15	-40.85	-0.04
534	SLU 61	-77	18	9153	3.89	-40.41	-0.11
534	SLU 62	-77	-1	9231	4.31	-41.33	-0.05
534	SLU 63	-77	18	9244	4.04	-40.89	-0.13
534	SLU 64	-80	-2	8930	4.35	-38.36	-0.12
534	SLU 65	-81	30	8952	3.91	-37.63	-0.25
534	SLU 66	-81	-2	9073	4.57	-39.07	-0.14
534	SLU 67	-82	17	9086	4.31	-38.63	-0.22
534	SLU 68	-82	30	9044	4.07	-38.11	-0.27
534	SLU 69	-82	-2	9164	4.73	-39.55	-0.16
534	SLU 70	-82	17	9178	4.46	-39.11	-0.23
534	SLU 71	-81	-2	9114	4.67	-39.31	-0.15
534	SLU 72	-82	17	9127	4.4	-38.88	-0.23
534	SLU 73	-82	31	9803	4.44	-42.71	-0.27
534	SLU 74	-82	-1	9923	5.1	-44.15	-0.16
534	SLU 75	-83	18	9936	4.83	-43.71	-0.24
534	SLU 76	-83	31	9895	4.6	-43.19	-0.28
534	SLU 77	-83	-1	10015	5.26	-44.63	-0.17
534	SLU 78	-83	18	10028	4.99	-44.19	-0.25
534	SLU 79	-82	-1	9964	5.2	-44.4	-0.17
534	SLU 80	-83	18	9978	4.93	-43.96	-0.25
534	SLU 81	-82	0	10145	5.11	-45.62	-0.15
534	SLU 82	-82	19	10159	4.84	-45.18	-0.22
534	SLU 83	-82	-1	10237	5.26	-46.1	-0.16
534	SLU 84	-83	19	10250	5	-45.66	-0.24
534	SLE RA 1	-60	-2	6648	3.14	-28.46	-0.07
534	SLE RA 2	-61	20	6663	2.85	-27.98	-0.16
534	SLE RA 3	-61	-2	6743	3.28	-28.93	-0.08
534	SLE RA 4	-62	11	6752	3.11	-28.64	-0.13
534	SLE RA 5	-61	20	6724	2.95	-28.29	-0.17
534	SLE RA 6	-62	-2	6804	3.39	-29.25	-0.09
534	SLE RA 7	-62	11	6813	3.21	-28.96	-0.14
534	SLE RA 8	-61	-2	6771	3.35	-29.1	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
534	SLE RA 9	-62	11	6780	3.17	-28.8	-0.14
534	SLE RA 10	-62	20	7230	3.2	-31.36	-0.17
534	SLE RA 11	-62	-1	7310	3.64	-32.32	-0.09
534	SLE RA 12	-62	12	7319	3.46	-32.03	-0.15
534	SLE RA 13	-62	20	7291	3.3	-31.68	-0.18
534	SLE RA 14	-62	-1	7371	3.74	-32.64	-0.1
534	SLE RA 15	-63	12	7380	3.56	-32.35	-0.16
534	SLE RA 16	-62	-1	7338	3.7	-32.48	-0.1
534	SLE RA 17	-62	12	7347	3.52	-32.19	-0.15
534	SLE RA 18	-61	-1	7458	3.64	-33.3	-0.09
534	SLE RA 19	-62	12	7467	3.47	-33.01	-0.14
534	SLE RA 20	-62	-1	7520	3.75	-33.62	-0.1
534	SLE RA 21	-62	12	7528	3.57	-33.33	-0.15
534	SLE FR 1	-60	-2	6648	3.14	-28.46	-0.07
534	SLE FR 2	-61	3	6651	3.08	-28.36	-0.09
534	SLE FR 3	-61	-2	6673	3.18	-28.59	-0.07
534	SLE FR 4	-61	3	6894	3.23	-29.81	-0.09
534	SLE FR 5	-61	-1	6916	3.33	-30.04	-0.08
534	SLE FR 6	-61	-1	7053	3.39	-30.88	-0.08
534	SLE QP 1	-60	-2	6648	3.14	-28.46	-0.07
534	SLE QP 2	-61	-1	6891	3.29	-29.91	-0.08
534	SLD 1	479	194	7706	0.55	-0.71	0.13
534	SLD 2	506	111	7682	0.89	-1.92	2.35
534	SLD 3	491	-213	7334	6.78	-7.37	1.49
534	SLD 4	518	-295	7310	7.11	-8.57	3.71
534	SLD 5	79	688	7704	-7.03	-10.85	-2.45
534	SLD 6	96	635	7688	-6.81	-11.63	-1.02
534	SLD 7	118	-667	6464	13.72	-33.03	2.07
534	SLD 8	135	-720	6449	13.93	-33.81	3.5
534	SLD 9	-256	717	7334	-7.35	-26.01	-3.65
534	SLD 10	-239	664	7318	-7.14	-26.79	-2.22
534	SLD 11	-218	-637	6094	13.39	-48.19	0.87
534	SLD 12	-201	-691	6079	13.61	-48.97	2.3
534	SLD 13	-639	293	6472	-0.53	-51.25	-3.86
534	SLD 14	-612	210	6449	-0.2	-52.46	-1.64
534	SLD 15	-628	-114	6100	5.69	-57.9	-2.5
534	SLD 16	-601	-196	6077	6.03	-59.11	-0.28
534	SLV 1	784	333	8189	-1.43	16.14	0.14
534	SLV 2	826	203	8152	-0.9	14.24	3.63
534	SLV 3	803	-360	7555	9.18	4.8	2.45
534	SLV 4	846	-490	7518	9.71	2.9	5.94
534	SLV 5	155	1174	8250	-14.33	1.46	-4.17
534	SLV 6	184	1087	8225	-13.97	0.18	-1.81
534	SLV 7	220	-1136	6135	21.06	-36.35	3.53
534	SLV 8	248	-1224	6110	21.42	-37.63	5.89
534	SLV 9	-370	1221	7673	-14.84	-22.2	-6.04
534	SLV 10	-341	1133	7648	-14.48	-23.48	-3.68
534	SLV 11	-305	-1090	5557	20.55	-60.01	1.66
534	SLV 12	-277	-1177	5532	20.91	-61.29	4.02
534	SLV 13	-967	488	6265	-3.13	-62.72	-6.09
534	SLV 14	-925	358	6228	-2.6	-64.63	-2.6
534	SLV 15	-948	-206	5630	7.49	-74.07	-3.78
534	SLV 16	-905	-336	5593	8.01	-75.97	-0.29
534	SLV FO 1	868	366	8319	-1.91	20.75	0.16
534	SLV FO 2	915	223	8278	-1.32	18.66	4
534	SLV FO 3	889	-396	7621	9.77	8.27	2.7
534	SLV FO 4	936	-539	7580	10.35	6.18	6.55
534	SLV FO 5	177	1292	8386	-16.09	4.6	-4.58
534	SLV FO 6	208	1196	8359	-15.7	3.19	-1.99
534	SLV FO 7	248	-1250	6059	22.84	-36.99	3.89
534	SLV FO 8	279	-1346	6031	23.23	-38.4	6.48
534	SLV FO 9	-401	1343	7751	-16.65	-21.43	-6.63
534	SLV FO 10	-369	1247	7724	-16.26	-22.83	-4.04
534	SLV FO 11	-330	-1199	5424	22.28	-63.02	1.84
534	SLV FO 12	-298	-1295	5396	22.67	-64.42	4.43
534	SLV FO 13	-1058	536	6202	-3.77	-66.01	-6.7
534	SLV FO 14	-1011	393	6162	-3.19	-68.1	-2.85
534	SLV FO 15	-1036	-226	5504	7.91	-78.48	-4.16
534	SLV FO 16	-990	-369	5463	8.49	-80.57	-0.31
534	CRTFP Ux+	0	0	0	0	0	0
534	CRTFP Ux-	0	0	0	0	0	0
534	CRTFP Uy+	0	0	0	0	0	0
534	CRTFP Uy-	0	0	0	0	0	0
537	SLU 1	117	-63	6114	1.76	15.23	-0.99
537	SLU 2	118	-31	6133	1.25	13.34	-0.95
537	SLU 3	120	-64	6242	1.95	15.65	-1.04
537	SLU 4	120	-45	6253	1.65	14.52	-1.02
537	SLU 5	119	-32	6213	1.4	13.7	-1
537	SLU 6	121	-64	6321	2.1	16.01	-1.09
537	SLU 7	122	-45	6333	1.8	14.87	-1.07
537	SLU 8	120	-64	6273	2.05	15.95	-1.09
537	SLU 9	120	-45	6285	1.75	14.81	-1.06
537	SLU 10	127	-37	6927	1.57	14.92	-1.07
537	SLU 11	129	-70	7036	2.26	17.23	-1.16
537	SLU 12	129	-51	7047	1.96	16.09	-1.14
537	SLU 13	128	-37	7007	1.71	15.28	-1.12
537	SLU 14	130	-70	7115	2.41	17.59	-1.21
537	SLU 15	130	-51	7127	2.11	16.45	-1.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
537	SLU 16	129	-70	7067	2.36	17.53	-1.21
537	SLU 17	129	-51	7079	2.06	16.39	-1.18
537	SLU 18	130	-71	7249	2.21	17.49	-1.16
537	SLU 19	130	-52	7260	1.9	16.35	-1.14
537	SLU 20	131	-72	7328	2.35	17.84	-1.21
537	SLU 21	132	-53	7340	2.05	16.71	-1.18
537	SLU 22	132	-70	7058	2.5	16.69	-1.11
537	SLU 23	133	-38	7078	1.99	14.8	-1.07
537	SLU 24	135	-71	7186	2.69	17.11	-1.16
537	SLU 25	135	-52	7198	2.39	15.97	-1.14
537	SLU 26	134	-39	7157	2.14	15.16	-1.12
537	SLU 27	136	-72	7265	2.84	17.47	-1.21
537	SLU 28	136	-53	7277	2.53	16.33	-1.18
537	SLU 29	135	-71	7217	2.79	17.41	-1.21
537	SLU 30	135	-52	7229	2.49	16.27	-1.18
537	SLU 31	142	-44	7872	2.31	16.38	-1.19
537	SLU 32	144	-77	7980	3	18.69	-1.28
537	SLU 33	144	-58	7992	2.7	17.55	-1.26
537	SLU 34	143	-45	7951	2.45	16.73	-1.23
537	SLU 35	145	-77	8060	3.15	19.04	-1.33
537	SLU 36	145	-58	8071	2.85	17.91	-1.3
537	SLU 37	144	-77	8011	3.1	18.99	-1.33
537	SLU 38	144	-58	8023	2.8	17.85	-1.3
537	SLU 39	145	-78	8193	2.94	18.94	-1.28
537	SLU 40	145	-59	8204	2.64	17.81	-1.26
537	SLU 41	146	-79	8272	3.09	19.3	-1.33
537	SLU 42	147	-60	8284	2.79	18.17	-1.3
537	SLU 43	148	-79	7625	2.03	19.31	-1.25
537	SLU 44	148	-47	7644	1.53	17.41	-1.21
537	SLU 45	150	-80	7752	2.22	19.72	-1.3
537	SLU 46	150	-61	7764	1.92	18.59	-1.28
537	SLU 47	149	-48	7723	1.67	17.77	-1.26
537	SLU 48	151	-80	7832	2.37	20.08	-1.35
537	SLU 49	152	-62	7843	2.07	18.94	-1.32
537	SLU 50	150	-80	7784	2.32	20.02	-1.35
537	SLU 51	150	-61	7795	2.02	18.89	-1.32
537	SLU 52	157	-53	8438	1.84	18.99	-1.33
537	SLU 53	159	-86	8546	2.54	21.3	-1.42
537	SLU 54	159	-67	8558	2.24	20.16	-1.4
537	SLU 55	158	-54	8517	1.99	19.35	-1.37
537	SLU 56	160	-86	8626	2.69	21.66	-1.47
537	SLU 57	160	-67	8637	2.38	20.52	-1.44
537	SLU 58	159	-86	8578	2.64	21.6	-1.47
537	SLU 59	159	-67	8589	2.34	20.46	-1.44
537	SLU 60	160	-87	8759	2.48	21.56	-1.42
537	SLU 61	161	-68	8771	2.18	20.42	-1.4
537	SLU 62	161	-88	8839	2.63	21.91	-1.47
537	SLU 63	162	-69	8850	2.32	20.78	-1.44
537	SLU 64	162	-86	8569	2.77	20.76	-1.37
537	SLU 65	163	-55	8588	2.27	18.87	-1.33
537	SLU 66	165	-87	8697	2.96	21.18	-1.42
537	SLU 67	165	-68	8708	2.66	20.05	-1.39
537	SLU 68	164	-55	8668	2.41	19.23	-1.37
537	SLU 69	166	-88	8776	3.11	21.54	-1.47
537	SLU 70	167	-69	8788	2.81	20.4	-1.44
537	SLU 71	165	-87	8728	3.06	21.48	-1.46
537	SLU 72	165	-68	8739	2.76	20.34	-1.44
537	SLU 73	172	-60	9382	2.58	20.45	-1.44
537	SLU 74	174	-93	9491	3.28	22.76	-1.54
537	SLU 75	174	-74	9502	2.97	21.62	-1.51
537	SLU 76	173	-61	9462	2.73	20.81	-1.49
537	SLU 77	175	-94	9570	3.42	23.12	-1.59
537	SLU 78	175	-75	9582	3.12	21.98	-1.56
537	SLU 79	174	-93	9522	3.38	23.06	-1.58
537	SLU 80	174	-74	9533	3.08	21.92	-1.56
537	SLU 81	175	-95	9703	3.22	23.02	-1.54
537	SLU 82	175	-76	9715	2.92	21.88	-1.51
537	SLU 83	176	-95	9783	3.36	23.37	-1.59
537	SLU 84	177	-76	9794	3.06	22.24	-1.56
537	SLE RA 1	122	-65	6384	1.97	15.65	-1.03
537	SLE RA 2	122	-44	6397	1.63	14.39	-1
537	SLE RA 3	123	-65	6469	2.1	15.93	-1.06
537	SLE RA 4	124	-53	6477	1.9	15.17	-1.04
537	SLE RA 5	123	-44	6450	1.73	14.63	-1.03
537	SLE RA 6	124	-66	6522	2.2	16.17	-1.09
537	SLE RA 7	124	-53	6530	1.99	15.41	-1.08
537	SLE RA 8	123	-65	6490	2.16	16.13	-1.09
537	SLE RA 9	124	-53	6498	1.96	15.37	-1.07
537	SLE RA 10	128	-48	6926	1.84	15.44	-1.08
537	SLE RA 11	129	-69	6998	2.31	16.98	-1.14
537	SLE RA 12	129	-57	7006	2.11	16.22	-1.12
537	SLE RA 13	129	-48	6979	1.94	15.68	-1.11
537	SLE RA 14	130	-70	7051	2.4	17.22	-1.17
537	SLE RA 15	130	-57	7059	2.2	16.46	-1.15
537	SLE RA 16	129	-69	7019	2.37	17.18	-1.17
537	SLE RA 17	129	-57	7027	2.17	16.42	-1.15
537	SLE RA 18	130	-70	7140	2.27	17.15	-1.14
537	SLE RA 19	130	-58	7148	2.07	16.4	-1.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
537	SLE RA 20	131	-71	7193	2.36	17.39	-1.17
537	SLE RA 21	131	-58	7201	2.16	16.63	-1.15
537	SLE FR 1	122	-65	6384	1.97	15.65	-1.03
537	SLE FR 2	122	-60	6387	1.9	15.4	-1.02
537	SLE FR 3	122	-65	6405	2.01	15.75	-1.04
537	SLE FR 4	124	-62	6613	1.99	15.85	-1.06
537	SLE FR 5	125	-66	6632	2.1	16.2	-1.07
537	SLE FR 6	126	-67	6762	2.12	16.4	-1.08
537	SLE QP 1	122	-65	6384	1.97	15.65	-1.03
537	SLE QP 2	124	-66	6611	2.06	16.1	-1.06
537	SLD 1	659	163	6286	-1.5	18.42	0.57
537	SLD 2	692	242	6301	-1.92	15.43	2.82
537	SLD 3	651	-249	5942	5.57	38.7	0.15
537	SLD 4	683	-170	5957	5.14	35.71	2.4
537	SLD 5	291	613	7033	-9.65	-13.44	-0.32
537	SLD 6	312	664	7043	-9.92	-15.37	1.13
537	SLD 7	264	-759	5886	13.89	54.15	-1.73
537	SLD 8	285	-709	5895	13.62	52.23	-0.28
537	SLD 9	-37	576	7326	-9.51	-20.02	-1.84
537	SLD 10	-16	627	7336	-9.78	-21.95	-0.4
537	SLD 11	-64	-797	6179	14.03	47.57	-3.26
537	SLD 12	-43	-746	6189	13.76	45.65	-1.81
537	SLD 13	-435	38	7264	-1.03	-3.51	-4.52
537	SLD 14	-403	116	7280	-1.45	-6.5	-2.27
537	SLD 15	-443	-374	6920	6.03	16.77	-4.94
537	SLD 16	-411	-295	6936	5.61	13.78	-2.69
537	SLV 1	962	321	6129	-4.02	18.49	1.5
537	SLV 2	1013	445	6154	-4.68	13.78	5.05
537	SLV 3	948	-382	5542	8.03	53.06	0.78
537	SLV 4	999	-258	5566	7.37	48.35	4.32
537	SLV 5	387	1092	7353	-17.91	-34.73	0.14
537	SLV 6	421	1176	7369	-18.36	-37.9	2.53
537	SLV 7	341	-1250	5395	22.24	80.5	-2.27
537	SLV 8	376	-1166	5411	21.8	77.33	0.12
537	SLV 9	-127	1033	7811	-17.68	-45.12	-2.25
537	SLV 10	-93	1117	7827	-18.13	-48.3	0.14
537	SLV 11	-173	-1309	5852	22.47	70.11	-4.65
537	SLV 12	-138	-1225	5869	22.03	66.94	-2.26
537	SLV 13	-751	125	7656	-3.25	-16.15	-6.45
537	SLV 14	-700	249	7680	-3.92	-20.86	-2.9
537	SLV 15	-764	-578	7068	8.79	18.42	-7.17
537	SLV 16	-713	-453	7092	8.13	13.71	-3.62
537	SLV FO 1	1045	359	6081	-4.62	18.73	1.76
537	SLV FO 2	1102	496	6108	-5.35	13.55	5.66
537	SLV FO 3	1031	-413	5435	8.63	56.76	0.96
537	SLV FO 4	1087	-277	5461	7.9	51.58	4.86
537	SLV FO 5	413	1208	7427	-19.91	-39.82	0.26
537	SLV FO 6	451	1300	7445	-20.4	-43.3	2.88
537	SLV FO 7	363	-1368	5273	24.26	86.94	-2.39
537	SLV FO 8	401	-1276	5291	23.77	83.45	0.24
537	SLV FO 9	-152	1143	7931	-19.66	-51.25	-2.36
537	SLV FO 10	-115	1236	7949	-20.15	-54.74	0.26
537	SLV FO 11	-202	-1433	5777	24.51	75.51	-5.01
537	SLV FO 12	-164	-1341	5795	24.02	72.02	-2.38
537	SLV FO 13	-838	144	7760	-3.78	-19.37	-6.99
537	SLV FO 14	-782	281	7787	-4.51	-24.56	-3.09
537	SLV FO 15	-853	-629	7114	9.47	18.65	-7.78
537	SLV FO 16	-797	-492	7141	8.74	13.47	-3.88
537	CRTFP Ux+	0	0	0	0	0	0
537	CRTFP Ux-	0	0	0	0	0	0
537	CRTFP Uy+	0	0	0	0	0	0
537	CRTFP Uy-	0	0	0	0	0	0
540	SLU 1	60	42	4234	6.69	1117.84	-15.03
540	SLU 2	62	64	4251	6.46	1117.68	-22.62
540	SLU 3	62	43	4324	6.92	1142	-15.41
540	SLU 4	62	56	4334	6.78	1141.91	-19.96
540	SLU 5	62	65	4305	6.61	1132.58	-23.06
540	SLU 6	62	44	4378	7.08	1156.91	-15.84
540	SLU 7	63	57	4388	6.94	1156.81	-20.4
540	SLU 8	62	45	4342	7.01	1147.65	-15.9
540	SLU 9	63	58	4353	6.87	1147.55	-20.46
540	SLU 10	65	69	4782	7.37	1256.23	-24.31
540	SLU 11	65	48	4855	7.83	1280.56	-17.09
540	SLU 12	66	61	4865	7.69	1280.46	-21.65
540	SLU 13	66	70	4837	7.52	1271.14	-24.74
540	SLU 14	66	49	4909	7.99	1295.46	-17.53
540	SLU 15	67	62	4919	7.85	1295.36	-22.08
540	SLU 16	65	49	4873	7.92	1286.2	-17.59
540	SLU 17	66	62	4884	7.78	1286.11	-22.14
540	SLU 18	65	49	4993	7.99	1315.77	-17.44
540	SLU 19	66	62	5003	7.85	1315.68	-21.99
540	SLU 20	66	50	5047	8.15	1330.68	-17.87
540	SLU 21	67	63	5057	8.01	1330.58	-22.43
540	SLU 22	67	44	4878	7.97	1288.08	-15.84
540	SLU 23	68	66	4896	7.73	1287.91	-23.44
540	SLU 24	68	45	4968	8.2	1312.24	-16.22
540	SLU 25	69	58	4978	8.06	1312.14	-20.78
540	SLU 26	69	67	4950	7.89	1302.82	-23.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
540	SLU 27	69	47	5022	8.36	1327.15	-16.66
540	SLU 28	70	60	5033	8.21	1327.05	-21.21
540	SLU 29	69	47	4987	8.28	1317.89	-16.72
540	SLU 30	69	60	4997	8.14	1317.79	-21.27
540	SLU 31	72	71	5427	8.64	1426.47	-25.12
540	SLU 32	72	50	5499	9.11	1450.79	-17.9
540	SLU 33	73	63	5510	8.97	1450.7	-22.46
540	SLU 34	73	72	5481	8.8	1441.37	-25.56
540	SLU 35	73	51	5553	9.27	1465.7	-18.34
540	SLU 36	73	64	5564	9.12	1465.6	-22.9
540	SLU 37	72	52	5518	9.2	1456.44	-18.4
540	SLU 38	73	65	5528	9.05	1456.34	-22.96
540	SLU 39	72	51	5637	9.27	1486.01	-18.25
540	SLU 40	73	64	5647	9.13	1485.91	-22.8
540	SLU 41	73	52	5691	9.43	1500.92	-18.69
540	SLU 42	73	65	5702	9.29	1500.82	-23.24
540	SLU 43	76	54	5283	8.26	1394.82	-19.26
540	SLU 44	77	76	5301	8.03	1394.66	-26.85
540	SLU 45	78	55	5373	8.49	1418.99	-19.64
540	SLU 46	78	68	5383	8.35	1418.89	-24.19
540	SLU 47	78	77	5355	8.18	1409.57	-27.29
540	SLU 48	78	56	5427	8.65	1433.89	-20.07
540	SLU 49	79	69	5438	8.51	1433.8	-24.63
540	SLU 50	78	56	5391	8.58	1424.63	-20.13
540	SLU 51	78	70	5402	8.44	1424.54	-24.69
540	SLU 52	81	80	5832	8.94	1533.22	-28.54
540	SLU 53	81	60	5904	9.4	1557.54	-21.32
540	SLU 54	82	73	5915	9.26	1557.44	-25.88
540	SLU 55	82	82	5886	9.09	1548.12	-28.97
540	SLU 56	82	61	5958	9.56	1572.45	-21.76
540	SLU 57	82	74	5969	9.42	1572.35	-26.31
540	SLU 58	81	61	5923	9.49	1563.19	-21.82
540	SLU 59	82	74	5933	9.35	1563.09	-26.37
540	SLU 60	81	61	6042	9.57	1592.76	-21.67
540	SLU 61	82	74	6052	9.42	1592.66	-26.22
540	SLU 62	82	62	6096	9.72	1607.66	-22.1
540	SLU 63	83	75	6107	9.58	1607.57	-26.66
540	SLU 64	83	56	5927	9.54	1565.06	-20.07
540	SLU 65	84	78	5945	9.3	1564.9	-27.67
540	SLU 66	84	57	6017	9.77	1589.23	-20.45
540	SLU 67	85	70	6028	9.63	1589.13	-25.01
540	SLU 68	85	79	5999	9.46	1579.8	-28.1
540	SLU 69	85	59	6071	9.93	1604.13	-20.89
540	SLU 70	86	72	6082	9.78	1604.03	-25.44
540	SLU 71	84	59	6036	9.85	1594.87	-20.94
540	SLU 72	85	72	6046	9.71	1594.77	-25.5
540	SLU 73	88	83	6476	10.21	1703.45	-29.35
540	SLU 74	88	62	6548	10.68	1727.78	-22.13
540	SLU 75	88	75	6559	10.54	1727.68	-26.69
540	SLU 76	88	84	6530	10.37	1718.36	-29.79
540	SLU 77	88	63	6603	10.84	1742.68	-22.57
540	SLU 78	89	76	6613	10.69	1742.59	-27.13
540	SLU 79	88	63	6567	10.77	1733.43	-22.63
540	SLU 80	89	76	6577	10.62	1733.33	-27.19
540	SLU 81	88	63	6686	10.84	1763	-22.48
540	SLU 82	89	76	6697	10.7	1762.9	-27.03
540	SLU 83	89	64	6740	11	1777.9	-22.92
540	SLU 84	89	77	6751	10.86	1777.8	-27.47
540	SLE RA 1	62	43	4418	7.06	1166.48	-15.26
540	SLE RA 2	63	57	4430	6.9	1166.37	-20.32
540	SLE RA 3	63	43	4478	7.21	1182.59	-15.51
540	SLE RA 4	64	52	4485	7.12	1182.52	-18.55
540	SLE RA 5	64	58	4466	7	1176.31	-20.61
540	SLE RA 6	64	44	4514	7.32	1192.52	-15.8
540	SLE RA 7	64	53	4521	7.22	1192.46	-18.84
540	SLE RA 8	63	44	4490	7.27	1186.35	-15.84
540	SLE RA 9	64	53	4497	7.17	1186.29	-18.88
540	SLE RA 10	65	60	4784	7.51	1258.74	-21.45
540	SLE RA 11	65	47	4832	7.82	1274.96	-16.64
540	SLE RA 12	66	55	4839	7.72	1274.89	-19.67
540	SLE RA 13	66	61	4820	7.61	1268.68	-21.74
540	SLE RA 14	66	47	4868	7.92	1284.89	-16.93
540	SLE RA 15	66	56	4875	7.83	1284.83	-19.96
540	SLE RA 16	66	48	4844	7.88	1278.72	-16.97
540	SLE RA 17	66	56	4851	7.78	1278.66	-20
540	SLE RA 18	66	47	4924	7.93	1298.43	-16.87
540	SLE RA 19	66	56	4931	7.83	1298.37	-19.9
540	SLE RA 20	66	48	4960	8.03	1308.37	-17.16
540	SLE RA 21	67	57	4967	7.94	1308.31	-20.19
540	SLE FR 1	62	43	4418	7.06	1166.48	-15.26
540	SLE FR 2	62	46	4420	7.03	1166.46	-16.27
540	SLE FR 3	62	43	4432	7.1	1170.45	-15.38
540	SLE FR 4	63	47	4572	7.29	1206.04	-16.76
540	SLE FR 5	63	44	4584	7.36	1210.04	-15.86
540	SLE FR 6	64	45	4671	7.49	1232.46	-16.06
540	SLE QP 1	62	43	4418	7.06	1166.48	-15.26
540	SLE QP 2	63	44	4570	7.32	1206.07	-15.74
540	SLD 1	378	80	3532	3.86	926.29	-28.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
540	SLD 2	397	200	3552	3.57	925.46	-70.25
540	SLD 3	366	-194	3251	7.3	920.91	67.36
540	SLD 4	385	-74	3271	7.01	920.08	25.64
540	SLD 5	174	450	4682	1.11	1130.43	-157.84
540	SLD 6	186	527	4695	0.92	1129.9	-184.7
540	SLD 7	131	-464	3744	12.58	1112.51	161.79
540	SLD 8	144	-387	3757	12.4	1111.97	134.93
540	SLD 9	-17	475	5382	2.24	1300.16	-166.41
540	SLD 10	-5	552	5395	2.06	1299.63	-193.27
540	SLD 11	-60	-439	4445	13.71	1282.23	153.21
540	SLD 12	-47	-362	4458	13.53	1281.7	126.35
540	SLD 13	-258	162	5868	7.63	1492.05	-57.12
540	SLD 14	-239	282	5889	7.34	1491.22	-98.84
540	SLD 15	-271	-112	5587	11.07	1486.67	38.76
540	SLD 16	-252	8	5607	10.78	1485.84	-2.95
540	SLV 1	557	119	2971	1.67	769.88	-42.21
540	SLV 2	587	308	3003	1.21	768.57	-107.97
540	SLV 3	535	-349	2491	7.54	760.88	121.43
540	SLV 4	566	-160	2523	7.08	759.58	55.67
540	SLV 5	239	741	4812	-3.2	1089.09	-259.59
540	SLV 6	259	868	4833	-3.5	1088.21	-303.86
540	SLV 7	166	-819	3213	16.37	1059.12	285.86
540	SLV 8	187	-691	3234	16.07	1058.23	241.59
540	SLV 9	-60	780	5905	-1.43	1353.9	-273.08
540	SLV 10	-40	907	5927	-1.74	1353.02	-317.34
540	SLV 11	-133	-780	4306	18.14	1323.92	272.37
540	SLV 12	-112	-653	4328	17.84	1323.04	228.11
540	SLV 13	-439	248	6616	7.55	1652.55	-87.15
540	SLV 14	-409	437	6648	7.1	1651.25	-152.91
540	SLV 15	-461	-220	6136	13.43	1643.56	76.48
540	SLV 16	-431	-31	6168	12.97	1642.25	10.72
540	SLV FO 1	607	127	2811	1.1	726.26	-44.85
540	SLV FO 2	640	334	2846	0.6	724.82	-117.19
540	SLV FO 3	583	-388	2284	7.56	716.37	135.14
540	SLV FO 4	616	-180	2319	7.06	714.93	62.81
540	SLV FO 5	256	811	4836	-4.25	1077.4	-283.98
540	SLV FO 6	279	951	4860	-4.59	1076.43	-332.67
540	SLV FO 7	177	-905	3077	17.28	1044.42	316.02
540	SLV FO 8	199	-765	3101	16.94	1043.45	267.32
540	SLV FO 9	-72	853	6039	-2.31	1368.68	-298.81
540	SLV FO 10	-50	993	6062	-2.64	1367.71	-347.5
540	SLV FO 11	-152	-862	4280	19.22	1335.7	301.18
540	SLV FO 12	-130	-723	4303	18.89	1334.73	252.49
540	SLV FO 13	-489	269	6821	7.58	1697.2	-94.3
540	SLV FO 14	-456	476	6856	7.08	1695.76	-166.63
540	SLV FO 15	-513	-246	6293	14.04	1687.31	85.7
540	SLV FO 16	-480	-39	6328	13.54	1685.87	13.37
540	CRTFP Ux+	0	0	0	0	0	0
540	CRTFP Ux-	0	0	0	0	0	0
540	CRTFP Uy+	0	0	0	0	0	0
540	CRTFP Uy-	0	0	0	0	0	0
543	SLU 1	17	-51	3396	-0.09	1334.12	20.4
543	SLU 2	18	-31	3401	-0.27	1335.46	12.49
543	SLU 3	17	-53	3468	-0.03	1362.28	20.91
543	SLU 4	18	-41	3471	-0.14	1363.08	16.15
543	SLU 5	18	-32	3447	-0.23	1353.59	12.87
543	SLU 6	17	-54	3514	0.01	1380.41	21.29
543	SLU 7	18	-42	3517	-0.1	1381.21	16.54
543	SLU 8	17	-53	3488	0	1370.38	21.17
543	SLU 9	18	-41	3491	-0.11	1371.18	16.42
543	SLU 10	19	-37	3858	-0.27	1515.83	14.79
543	SLU 11	18	-58	3925	-0.03	1542.65	23.21
543	SLU 12	19	-46	3928	-0.14	1543.45	18.46
543	SLU 13	19	-38	3904	-0.23	1533.96	15.17
543	SLU 14	18	-59	3971	0.01	1560.78	23.59
543	SLU 15	19	-47	3974	-0.1	1561.58	18.84
543	SLU 16	18	-59	3945	-0.01	1550.75	23.47
543	SLU 17	19	-47	3948	-0.12	1551.55	18.72
543	SLU 18	18	-60	4049	-0.09	1591.79	23.7
543	SLU 19	19	-48	4052	-0.2	1592.59	18.95
543	SLU 20	18	-61	4095	-0.05	1609.92	24.08
543	SLU 21	19	-49	4098	-0.16	1610.72	19.33
543	SLU 22	20	-58	3905	0.09	1533.58	22.93
543	SLU 23	21	-38	3910	-0.09	1534.92	15.01
543	SLU 24	20	-59	3976	0.14	1561.74	23.43
543	SLU 25	20	-47	3979	0.03	1562.54	18.68
543	SLU 26	21	-39	3956	-0.05	1553.05	15.39
543	SLU 27	20	-60	4022	0.18	1579.87	23.81
543	SLU 28	20	-48	4025	0.07	1580.67	19.06
543	SLU 29	20	-60	3997	0.17	1569.84	23.69
543	SLU 30	20	-48	4000	0.06	1570.64	18.94
543	SLU 31	21	-44	4367	-0.1	1715.29	17.32
543	SLU 32	20	-65	4433	0.14	1742.1	25.74
543	SLU 33	21	-53	4436	0.03	1742.91	20.99
543	SLU 34	21	-45	4413	-0.06	1733.41	17.7
543	SLU 35	20	-66	4479	0.18	1760.23	26.12
543	SLU 36	21	-54	4482	0.07	1761.04	21.37
543	SLU 37	20	-65	4454	0.17	1750.21	26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
543	SLU 38	21	-54	4457	0.06	1751.01	21.25
543	SLU 39	20	-66	4557	0.09	1791.25	26.22
543	SLU 40	21	-54	4560	-0.02	1792.05	21.47
543	SLU 41	20	-67	4603	0.13	1809.38	26.61
543	SLU 42	21	-55	4606	0.02	1810.18	21.85
543	SLU 43	22	-65	4241	-0.17	1665.98	25.66
543	SLU 44	23	-45	4246	-0.35	1667.31	17.74
543	SLU 45	22	-66	4313	-0.12	1694.13	26.16
543	SLU 46	23	-54	4316	-0.23	1694.93	21.41
543	SLU 47	23	-46	4292	-0.31	1685.44	18.12
543	SLU 48	22	-67	4359	-0.08	1712.26	26.54
543	SLU 49	23	-55	4362	-0.19	1713.06	21.79
543	SLU 50	22	-66	4333	-0.09	1702.24	26.42
543	SLU 51	22	-55	4336	-0.2	1703.04	21.67
543	SLU 52	23	-50	4703	-0.36	1847.68	20.05
543	SLU 53	23	-72	4770	-0.12	1874.5	28.47
543	SLU 54	23	-60	4773	-0.23	1875.3	23.71
543	SLU 55	23	-51	4749	-0.32	1865.81	20.43
543	SLU 56	23	-73	4816	-0.08	1892.63	28.85
543	SLU 57	23	-61	4819	-0.19	1893.43	24.1
543	SLU 58	22	-72	4790	-0.09	1882.6	28.73
543	SLU 59	23	-60	4793	-0.2	1883.4	23.98
543	SLU 60	23	-73	4894	-0.17	1923.64	28.95
543	SLU 61	23	-61	4897	-0.28	1924.44	24.2
543	SLU 62	23	-74	4940	-0.13	1941.77	29.33
543	SLU 63	23	-62	4943	-0.24	1942.57	24.58
543	SLU 64	24	-71	4749	0	1865.43	28.18
543	SLU 65	25	-51	4754	-0.18	1866.77	20.27
543	SLU 66	24	-72	4821	0.06	1893.59	28.69
543	SLU 67	25	-60	4824	-0.05	1894.39	23.94
543	SLU 68	25	-52	4800	-0.14	1884.9	20.65
543	SLU 69	24	-73	4867	0.1	1911.72	29.07
543	SLU 70	25	-61	4870	-0.01	1912.52	24.32
543	SLU 71	24	-73	4841	0.08	1901.69	28.95
543	SLU 72	25	-61	4844	-0.03	1902.49	24.2
543	SLU 73	26	-57	5211	-0.18	2047.14	22.57
543	SLU 74	25	-78	5278	0.05	2073.96	30.99
543	SLU 75	25	-66	5281	-0.05	2074.76	26.24
543	SLU 76	26	-58	5257	-0.14	2065.27	22.95
543	SLU 77	25	-79	5324	0.1	2092.09	31.37
543	SLU 78	25	-67	5327	-0.01	2092.89	26.62
543	SLU 79	25	-79	5298	0.08	2082.06	31.25
543	SLU 80	25	-67	5301	-0.03	2082.86	26.5
543	SLU 81	25	-79	5402	0	2123.1	31.48
543	SLU 82	26	-67	5405	-0.11	2123.9	26.73
543	SLU 83	25	-80	5448	0.04	2141.23	31.86
543	SLU 84	26	-68	5451	-0.07	2142.03	27.11
543	SLE RA 1	18	-53	3542	-0.04	1391.11	21.13
543	SLE RA 2	19	-40	3545	-0.16	1392	15.85
543	SLE RA 3	18	-54	3589	0	1409.88	21.46
543	SLE RA 4	18	-46	3591	-0.07	1410.42	18.29
543	SLE RA 5	19	-41	3576	-0.13	1404.09	16.1
543	SLE RA 6	18	-55	3620	0.03	1421.97	21.71
543	SLE RA 7	18	-47	3622	-0.05	1422.5	18.55
543	SLE RA 8	18	-54	3603	0.02	1415.29	21.63
543	SLE RA 9	18	-46	3605	-0.05	1415.82	18.47
543	SLE RA 10	19	-44	3850	-0.16	1512.25	17.38
543	SLE RA 11	18	-58	3894	0	1530.13	23
543	SLE RA 12	19	-50	3896	-0.07	1530.66	19.83
543	SLE RA 13	19	-44	3880	-0.13	1524.33	17.64
543	SLE RA 14	18	-58	3925	0.03	1542.21	23.25
543	SLE RA 15	19	-51	3927	-0.05	1542.75	20.08
543	SLE RA 16	18	-58	3908	0.02	1535.53	23.17
543	SLE RA 17	19	-50	3910	-0.06	1536.06	20
543	SLE RA 18	19	-59	3977	-0.04	1562.89	23.32
543	SLE RA 19	19	-51	3979	-0.11	1563.42	20.15
543	SLE RA 20	19	-59	4007	-0.01	1574.98	23.58
543	SLE RA 21	19	-51	4009	-0.08	1575.51	20.41
543	SLE FR 1	18	-53	3542	-0.04	1391.11	21.13
543	SLE FR 2	18	-50	3542	-0.06	1391.29	20.07
543	SLE FR 3	18	-53	3554	-0.03	1395.95	21.23
543	SLE FR 4	18	-52	3673	-0.06	1442.82	20.73
543	SLE FR 5	18	-55	3684	-0.03	1447.48	21.89
543	SLE FR 6	18	-56	3759	-0.04	1477	22.22
543	SLE QP 1	18	-53	3542	-0.04	1391.11	21.13
543	SLE QP 2	18	-55	3672	-0.04	1442.65	21.78
543	SLD 1	306	61	3755	-1.04	1472.51	-24.53
543	SLD 2	318	65	3760	-1.1	1473.31	-26.13
543	SLD 3	292	-190	3643	1.59	1436.36	75.75
543	SLD 4	305	-186	3647	1.54	1437.16	74.15
543	SLD 5	123	360	3867	-4.32	1506.29	-143.92
543	SLD 6	131	363	3870	-4.36	1506.81	-144.95
543	SLD 7	78	-477	3492	4.45	1385.8	190.33
543	SLD 8	86	-475	3495	4.42	1386.31	189.3
543	SLD 9	-50	365	3849	-4.49	1498.98	-145.73
543	SLD 10	-42	368	3853	-4.53	1499.49	-146.76
543	SLD 11	-94	-473	3474	4.28	1378.48	188.52
543	SLD 12	-86	-470	3477	4.25	1379	187.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
543	SLD 13	-269	76	3697	-1.61	1448.13	-30.58
543	SLD 14	-256	81	3702	-1.67	1448.93	-32.18
543	SLD 15	-282	-175	3584	1.02	1411.98	69.69
543	SLD 16	-269	-171	3589	0.97	1412.78	68.09
543	SLV 1	469	144	3811	-1.79	1492.37	-57.55
543	SLV 2	489	151	3819	-1.88	1493.64	-60.07
543	SLV 3	446	-285	3619	2.7	1430.62	113.48
543	SLV 4	466	-278	3626	2.61	1431.88	110.96
543	SLV 5	184	654	4004	-7.36	1550.99	-260.94
543	SLV 6	198	658	4009	-7.42	1551.84	-262.64
543	SLV 7	108	-775	3363	7.61	1345.14	309.16
543	SLV 8	122	-771	3368	7.55	1345.99	307.46
543	SLV 9	-85	661	3976	-7.63	1539.3	-263.89
543	SLV 10	-72	666	3981	-7.69	1540.15	-265.59
543	SLV 11	-161	-768	3335	7.34	1333.45	306.21
543	SLV 12	-148	-763	3340	7.29	1334.3	304.51
543	SLV 13	-430	168	3718	-2.69	1453.41	-67.39
543	SLV 14	-410	175	3725	-2.77	1454.67	-69.91
543	SLV 15	-452	-260	3526	1.8	1391.66	103.64
543	SLV 16	-433	-253	3533	1.72	1392.92	101.12
543	SLV FO 1	514	164	3825	-1.97	1497.35	-65.48
543	SLV FO 2	536	171	3833	-2.06	1498.73	-68.26
543	SLV FO 3	489	-308	3614	2.97	1429.42	122.65
543	SLV FO 4	511	-300	3622	2.88	1430.81	119.87
543	SLV FO 5	201	725	4037	-8.09	1561.82	-289.21
543	SLV FO 6	216	730	4043	-8.16	1562.76	-291.08
543	SLV FO 7	117	-847	3332	8.38	1335.39	337.9
543	SLV FO 8	132	-842	3338	8.31	1336.33	336.03
543	SLV FO 9	-96	733	4006	-8.39	1548.96	-292.46
543	SLV FO 10	-81	738	4012	-8.45	1549.9	-294.33
543	SLV FO 11	-179	-839	3301	8.08	1322.53	334.65
543	SLV FO 12	-165	-834	3307	8.02	1323.47	332.78
543	SLV FO 13	-474	191	3722	-2.95	1454.49	-76.31
543	SLV FO 14	-453	198	3731	-3.05	1455.87	-79.08
543	SLV FO 15	-499	-281	3511	1.99	1386.56	111.83
543	SLV FO 16	-478	-273	3519	1.89	1387.95	109.05
543	CRTFP Ux+	0	0	0	0	0	0
543	CRTFP Ux-	0	0	0	0	0	0
543	CRTFP Uy+	0	0	0	0	0	0
543	CRTFP Uy-	0	0	0	0	0	0
547	SLU 1	-42	4	3841	4.29	-773.1	1.25
547	SLU 2	-43	24	3851	4.1	-771.99	6.03
547	SLU 3	-43	4	3930	4.44	-791.47	1.17
547	SLU 4	-43	16	3936	4.33	-790.81	4.04
547	SLU 5	-43	23	3909	4.2	-783.99	6.02
547	SLU 6	-43	4	3989	4.55	-803.48	1.17
547	SLU 7	-44	15	3995	4.43	-802.81	4.03
547	SLU 8	-43	4	3957	4.5	-797.1	1.24
547	SLU 9	-43	16	3963	4.39	-796.44	4.1
547	SLU 10	-44	25	4338	4.69	-870.6	6.45
547	SLU 11	-44	6	4418	5.03	-890.08	1.6
547	SLU 12	-44	17	4424	4.92	-889.42	4.46
547	SLU 13	-44	25	4396	4.79	-882.6	6.45
547	SLU 14	-44	6	4476	5.14	-902.09	1.59
547	SLU 15	-44	17	4482	5.02	-901.42	4.46
547	SLU 16	-44	6	4445	5.09	-895.71	1.66
547	SLU 17	-44	17	4451	4.98	-895.05	4.53
547	SLU 18	-43	7	4537	5.13	-913.97	1.86
547	SLU 19	-44	18	4543	5.02	-913.31	4.72
547	SLU 20	-44	7	4595	5.24	-925.97	1.85
547	SLU 21	-44	18	4601	5.12	-925.31	4.72
547	SLU 22	-45	3	4443	5.14	-895.81	0.9
547	SLU 23	-46	22	4453	4.95	-894.7	5.67
547	SLU 24	-46	3	4533	5.29	-914.19	0.82
547	SLU 25	-46	14	4539	5.18	-913.52	3.69
547	SLU 26	-46	22	4511	5.06	-906.71	5.67
547	SLU 27	-46	2	4591	5.4	-926.19	0.81
547	SLU 28	-47	14	4597	5.29	-925.52	3.68
547	SLU 29	-46	3	4559	5.35	-919.81	0.88
547	SLU 30	-46	14	4565	5.24	-919.15	3.75
547	SLU 31	-47	24	4940	5.54	-993.31	6.1
547	SLU 32	-47	4	5020	5.88	-1012.8	1.24
547	SLU 33	-47	16	5026	5.77	-1012.13	4.11
547	SLU 34	-47	24	4999	5.65	-1005.32	6.09
547	SLU 35	-47	4	5078	5.99	-1024.8	1.23
547	SLU 36	-48	16	5084	5.88	-1024.13	4.1
547	SLU 37	-47	4	5047	5.94	-1018.42	1.3
547	SLU 38	-47	16	5053	5.83	-1017.76	4.17
547	SLU 39	-46	5	5139	5.98	-1036.68	1.5
547	SLU 40	-47	17	5145	5.87	-1036.02	4.37
547	SLU 41	-47	5	5198	6.09	-1048.68	1.49
547	SLU 42	-47	17	5204	5.97	-1048.02	4.36
547	SLU 43	-53	6	4787	5.28	-962.96	1.75
547	SLU 44	-54	25	4797	5.09	-961.85	6.53
547	SLU 45	-54	6	4876	5.44	-981.33	1.67
547	SLU 46	-55	17	4882	5.32	-980.67	4.54
547	SLU 47	-55	25	4855	5.2	-973.85	6.52
547	SLU 48	-55	6	4934	5.54	-993.33	1.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
547	SLU 49	-55	17	4940	5.43	-992.67	4.53
547	SLU 50	-54	6	4903	5.49	-986.96	1.74
547	SLU 51	-55	18	4909	5.38	-986.3	4.6
547	SLU 52	-55	27	5284	5.68	-1060.46	6.95
547	SLU 53	-55	7	5364	6.03	-1079.94	2.1
547	SLU 54	-56	19	5370	5.91	-1079.28	4.96
547	SLU 55	-56	27	5342	5.79	-1072.46	6.94
547	SLU 56	-55	7	5422	6.13	-1091.94	2.09
547	SLU 57	-56	19	5428	6.02	-1091.28	4.96
547	SLU 58	-55	8	5390	6.08	-1085.57	2.16
547	SLU 59	-56	19	5396	5.97	-1084.91	5.03
547	SLU 60	-55	8	5483	6.13	-1103.83	2.36
547	SLU 61	-55	20	5489	6.01	-1103.17	5.22
547	SLU 62	-55	8	5541	6.23	-1115.83	2.35
547	SLU 63	-56	20	5547	6.12	-1115.17	5.21
547	SLU 64	-57	5	5389	6.13	-1085.67	1.39
547	SLU 65	-58	24	5399	5.94	-1084.56	6.17
547	SLU 66	-57	4	5478	6.29	-1104.04	1.32
547	SLU 67	-58	16	5484	6.17	-1103.38	4.18
547	SLU 68	-58	24	5457	6.05	-1096.56	6.17
547	SLU 69	-58	4	5537	6.39	-1116.04	1.31
547	SLU 70	-58	16	5543	6.28	-1115.38	4.18
547	SLU 71	-57	5	5505	6.35	-1109.67	1.38
547	SLU 72	-58	16	5511	6.23	-1109.01	4.25
547	SLU 73	-58	25	5886	6.53	-1183.17	6.6
547	SLU 74	-58	6	5966	6.88	-1202.65	1.74
547	SLU 75	-59	17	5972	6.76	-1201.99	4.61
547	SLU 76	-59	25	5944	6.64	-1195.17	6.59
547	SLU 77	-59	6	6024	6.98	-1214.65	1.73
547	SLU 78	-59	17	6030	6.87	-1213.99	4.6
547	SLU 79	-58	6	5993	6.94	-1208.28	1.8
547	SLU 80	-59	18	5999	6.82	-1207.62	4.67
547	SLU 81	-58	7	6085	6.98	-1226.54	2
547	SLU 82	-58	19	6091	6.86	-1225.88	4.87
547	SLU 83	-58	7	6143	7.08	-1238.54	1.99
547	SLU 84	-59	18	6149	6.97	-1237.88	4.86
547	SLE RA 1	-43	4	4013	4.53	-808.16	1.15
547	SLE RA 2	-43	17	4020	4.4	-807.42	4.34
547	SLE RA 3	-43	4	4073	4.63	-820.41	1.1
547	SLE RA 4	-44	11	4077	4.56	-819.97	3.01
547	SLE RA 5	-44	17	4058	4.48	-815.42	4.33
547	SLE RA 6	-44	4	4111	4.7	-828.41	1.09
547	SLE RA 7	-44	11	4115	4.63	-827.97	3.01
547	SLE RA 8	-43	4	4090	4.67	-824.16	1.14
547	SLE RA 9	-44	12	4094	4.6	-823.72	3.05
547	SLE RA 10	-44	18	4344	4.8	-873.16	4.62
547	SLE RA 11	-44	5	4398	5.03	-886.15	1.38
547	SLE RA 12	-44	12	4402	4.95	-885.71	3.29
547	SLE RA 13	-44	18	4383	4.87	-881.16	4.61
547	SLE RA 14	-44	5	4436	5.1	-894.15	1.38
547	SLE RA 15	-45	12	4440	5.02	-893.71	3.29
547	SLE RA 16	-44	5	4415	5.07	-889.9	1.42
547	SLE RA 17	-44	13	4419	4.99	-889.46	3.33
547	SLE RA 18	-44	5	4477	5.09	-902.08	1.55
547	SLE RA 19	-44	13	4481	5.02	-901.63	3.47
547	SLE RA 20	-44	5	4516	5.16	-910.08	1.55
547	SLE RA 21	-44	13	4520	5.09	-909.63	3.46
547	SLE FR 1	-43	4	4013	4.53	-808.16	1.15
547	SLE FR 2	-43	6	4014	4.51	-808.01	1.79
547	SLE FR 3	-43	4	4028	4.56	-811.36	1.15
547	SLE FR 4	-43	7	4153	4.67	-836.19	1.91
547	SLE FR 5	-43	4	4168	4.73	-839.54	1.27
547	SLE FR 6	-43	5	4245	4.81	-855.12	1.35
547	SLE QP 1	-43	4	4013	4.53	-808.16	1.15
547	SLE QP 2	-43	4	4152	4.7	-836.34	1.27
547	SLD 1	216	137	5450	4.7	-1064.3	34.36
547	SLD 2	225	34	5443	4.93	-1067.39	8.79
547	SLD 3	226	-104	5259	7.46	-1069.71	-25.76
547	SLD 4	236	-207	5252	7.69	-1072.79	-51.33
547	SLD 5	17	427	4832	0.48	-896	106.78
547	SLD 6	23	361	4827	0.63	-897.99	90.32
547	SLD 7	52	-376	4196	9.66	-914.01	-93.63
547	SLD 8	58	-442	4191	9.81	-916	-110.09
547	SLD 9	-144	451	4113	-0.41	-756.67	112.64
547	SLD 10	-138	385	4108	-0.27	-758.66	96.17
547	SLD 11	-109	-352	3477	8.77	-774.69	-87.77
547	SLD 12	-103	-419	3472	8.92	-776.67	-104.24
547	SLD 13	-322	216	3052	1.71	-599.88	53.88
547	SLD 14	-312	113	3045	1.94	-602.97	28.3
547	SLD 15	-311	-25	2862	4.47	-605.28	-6.25
547	SLD 16	-302	-128	2854	4.7	-608.37	-31.82
547	SLV 1	361	230	6192	4.5	-1191.69	57.44
547	SLV 2	376	67	6180	4.86	-1196.55	17.13
547	SLV 3	379	-181	5866	9.2	-1200.66	-45.11
547	SLV 4	394	-344	5854	9.56	-1205.52	-85.42
547	SLV 5	48	726	5260	-2.55	-928.43	181.17
547	SLV 6	58	616	5252	-2.31	-931.71	154.03
547	SLV 7	108	-644	4174	13.11	-958.33	-160.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
547	SLV 8	118	-754	4166	13.35	-961.6	-187.78
547	SLV 9	-204	762	4138	-3.95	-711.07	190.32
547	SLV 10	-194	653	4130	-3.71	-714.35	163.19
547	SLV 11	-144	-608	3052	11.71	-740.97	-151.49
547	SLV 12	-134	-717	3044	11.95	-744.24	-178.62
547	SLV 13	-480	352	2451	-0.16	-467.15	87.96
547	SLV 14	-466	190	2439	0.2	-472.02	47.65
547	SLV 15	-462	-59	2125	4.54	-476.12	-14.58
547	SLV 16	-448	-221	2113	4.9	-480.99	-54.89
547	SLV FO 1	402	252	6396	4.48	-1227.22	63.05
547	SLV FO 2	418	74	6382	4.88	-1232.58	18.71
547	SLV FO 3	422	-200	6037	9.65	-1237.09	-49.74
547	SLV FO 4	438	-378	6024	10.05	-1242.44	-94.09
547	SLV FO 5	57	798	5371	-3.28	-937.64	199.16
547	SLV FO 6	68	678	5362	-3.01	-941.24	169.31
547	SLV FO 7	123	-709	4176	13.95	-970.53	-176.84
547	SLV FO 8	134	-829	4167	14.22	-974.13	-206.68
547	SLV FO 9	-220	838	4137	-4.82	-698.54	209.23
547	SLV FO 10	-209	718	4128	-4.55	-702.15	179.38
547	SLV FO 11	-154	-669	2942	12.41	-731.43	-166.76
547	SLV FO 12	-143	-789	2933	12.68	-735.03	-196.61
547	SLV FO 13	-524	387	2280	-0.65	-430.23	96.63
547	SLV FO 14	-508	209	2267	-0.25	-435.58	52.29
547	SLV FO 15	-504	-65	1922	4.52	-440.1	-16.17
547	SLV FO 16	-488	-244	1909	4.92	-445.45	-60.51
547	CRTFP Ux+	0	0	0	0	0	0
547	CRTFP Ux-	0	0	0	0	0	0
547	CRTFP Uy+	0	0	0	0	0	0
547	CRTFP Uy-	0	0	0	0	0	0
550	SLU 1	-59	2	6451	2.96	-24.22	0.2
550	SLU 2	-60	34	6461	2.57	-23.48	0.1
550	SLU 3	-61	2	6600	3.17	-24.89	0.19
550	SLU 4	-61	21	6606	2.93	-24.45	0.13
550	SLU 5	-60	34	6557	2.72	-23.93	0.09
550	SLU 6	-61	2	6697	3.32	-25.35	0.18
550	SLU 7	-61	21	6702	3.08	-24.9	0.12
550	SLU 8	-61	2	6644	3.26	-25.13	0.18
550	SLU 9	-61	21	6650	3.03	-24.68	0.12
550	SLU 10	-61	36	7327	3.1	-28.19	0.11
550	SLU 11	-62	4	7467	3.7	-29.61	0.2
550	SLU 12	-62	23	7473	3.47	-29.16	0.14
550	SLU 13	-61	36	7424	3.25	-28.65	0.1
550	SLU 14	-62	4	7563	3.85	-30.06	0.19
550	SLU 15	-62	23	7569	3.62	-29.61	0.13
550	SLU 16	-62	3	7511	3.8	-29.84	0.19
550	SLU 17	-62	23	7517	3.56	-29.4	0.13
550	SLU 18	-61	4	7690	3.72	-30.96	0.21
550	SLU 19	-61	23	7695	3.49	-30.51	0.15
550	SLU 20	-61	4	7786	3.87	-31.41	0.2
550	SLU 21	-62	23	7792	3.64	-30.96	0.14
550	SLU 22	-65	3	7486	3.9	-28.62	0.15
550	SLU 23	-65	35	7496	3.51	-27.87	0.06
550	SLU 24	-66	3	7635	4.11	-29.29	0.15
550	SLU 25	-66	22	7641	3.88	-28.84	0.09
550	SLU 26	-65	35	7592	3.66	-28.32	0.05
550	SLU 27	-66	3	7732	4.26	-29.74	0.14
550	SLU 28	-66	22	7737	4.03	-29.29	0.08
550	SLU 29	-66	3	7680	4.2	-29.52	0.14
550	SLU 30	-66	22	7685	3.97	-29.07	0.08
550	SLU 31	-66	37	8363	4.04	-32.59	0.06
550	SLU 32	-67	5	8502	4.64	-34	0.15
550	SLU 33	-67	24	8508	4.41	-33.56	0.09
550	SLU 34	-66	37	8459	4.19	-33.04	0.05
550	SLU 35	-67	5	8599	4.8	-34.46	0.15
550	SLU 36	-67	24	8604	4.56	-34.01	0.09
550	SLU 37	-67	5	8546	4.74	-34.24	0.14
550	SLU 38	-67	24	8552	4.5	-33.79	0.09
550	SLU 39	-66	5	8725	4.66	-35.35	0.16
550	SLU 40	-66	25	8730	4.43	-34.91	0.11
550	SLU 41	-67	5	8821	4.81	-35.81	0.16
550	SLU 42	-67	24	8827	4.58	-35.36	0.1
550	SLU 43	-76	2	8032	3.53	-29.98	0.27
550	SLU 44	-76	34	8041	3.13	-29.24	0.17
550	SLU 45	-77	2	8180	3.74	-30.65	0.26
550	SLU 46	-77	21	8186	3.5	-30.21	0.2
550	SLU 47	-76	34	8138	3.28	-29.69	0.16
550	SLU 48	-77	2	8277	3.89	-31.11	0.25
550	SLU 49	-77	21	8283	3.65	-30.66	0.19
550	SLU 50	-77	2	8225	3.83	-30.89	0.25
550	SLU 51	-77	21	8230	3.59	-30.44	0.19
550	SLU 52	-77	36	8908	3.67	-33.95	0.18
550	SLU 53	-78	4	9047	4.27	-35.37	0.27
550	SLU 54	-78	23	9053	4.03	-34.92	0.21
550	SLU 55	-77	36	9004	3.82	-34.41	0.17
550	SLU 56	-78	4	9144	4.42	-35.82	0.26
550	SLU 57	-78	23	9150	4.18	-35.37	0.2
550	SLU 58	-78	4	9092	4.36	-35.6	0.26
550	SLU 59	-78	23	9097	4.12	-35.16	0.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
550	SLU 60	-77	4	9270	4.29	-36.72	0.28
550	SLU 61	-77	24	9276	4.05	-36.27	0.22
550	SLU 62	-78	4	9367	4.44	-37.17	0.27
550	SLU 63	-78	24	9372	4.2	-36.73	0.21
550	SLU 64	-81	3	9067	4.47	-34.38	0.23
550	SLU 65	-81	35	9076	4.08	-33.63	0.13
550	SLU 66	-82	3	9216	4.68	-35.05	0.22
550	SLU 67	-82	23	9221	4.44	-34.6	0.16
550	SLU 68	-82	35	9173	4.23	-34.08	0.12
550	SLU 69	-82	3	9312	4.83	-35.5	0.21
550	SLU 70	-82	23	9318	4.59	-35.05	0.15
550	SLU 71	-82	3	9260	4.77	-35.28	0.21
550	SLU 72	-82	23	9266	4.53	-34.83	0.15
550	SLU 73	-82	37	9943	4.61	-38.35	0.14
550	SLU 74	-83	5	10082	5.21	-39.76	0.23
550	SLU 75	-83	24	10088	4.97	-39.32	0.17
550	SLU 76	-83	37	10040	4.76	-38.8	0.13
550	SLU 77	-83	5	10179	5.36	-40.22	0.22
550	SLU 78	-83	24	10185	5.12	-39.77	0.16
550	SLU 79	-83	5	10127	5.3	-40	0.22
550	SLU 80	-83	24	10132	5.07	-39.55	0.16
550	SLU 81	-82	5	10305	5.23	-41.12	0.24
550	SLU 82	-82	25	10311	4.99	-40.67	0.18
550	SLU 83	-83	5	10402	5.38	-41.57	0.23
550	SLU 84	-83	25	10407	5.14	-41.12	0.17
550	SLE RA 1	-61	2	6747	3.23	-25.48	0.18
550	SLE RA 2	-61	24	6753	2.97	-24.98	0.12
550	SLE RA 3	-62	2	6846	3.37	-25.93	0.18
550	SLE RA 4	-62	15	6850	3.21	-25.63	0.14
550	SLE RA 5	-62	24	6818	3.07	-25.28	0.11
550	SLE RA 6	-62	2	6911	3.47	-26.23	0.17
550	SLE RA 7	-62	15	6914	3.31	-25.93	0.13
550	SLE RA 8	-62	2	6876	3.43	-26.08	0.17
550	SLE RA 9	-62	15	6879	3.27	-25.78	0.13
550	SLE RA 10	-62	25	7331	3.32	-28.13	0.12
550	SLE RA 11	-62	3	7424	3.73	-29.07	0.18
550	SLE RA 12	-62	16	7428	3.57	-28.77	0.14
550	SLE RA 13	-62	25	7396	3.42	-28.43	0.12
550	SLE RA 14	-63	3	7488	3.83	-29.37	0.18
550	SLE RA 15	-63	16	7492	3.67	-29.07	0.14
550	SLE RA 16	-62	3	7454	3.79	-29.23	0.18
550	SLE RA 17	-62	16	7457	3.63	-28.93	0.14
550	SLE RA 18	-62	4	7573	3.74	-29.97	0.19
550	SLE RA 19	-62	17	7576	3.58	-29.67	0.15
550	SLE RA 20	-62	4	7637	3.84	-30.27	0.19
550	SLE RA 21	-62	17	7641	3.68	-29.97	0.15
550	SLE FR 1	-61	2	6747	3.23	-25.48	0.18
550	SLE FR 2	-61	7	6748	3.18	-25.38	0.17
550	SLE FR 3	-61	2	6773	3.27	-25.6	0.18
550	SLE FR 4	-61	7	6996	3.33	-26.73	0.17
550	SLE FR 5	-61	3	7020	3.42	-26.95	0.18
550	SLE FR 6	-61	3	7160	3.49	-27.72	0.19
550	SLE QP 1	-61	2	6747	3.23	-25.48	0.18
550	SLE QP 2	-61	3	6995	3.38	-26.83	0.19
550	SLD 1	478	199	7731	1.04	3.6	0.07
550	SLD 2	494	117	7717	1.33	2.45	2.02
550	SLD 3	486	-207	7540	6.7	-3.84	1.11
550	SLD 4	501	-289	7526	7	-4.99	3.07
550	SLD 5	87	691	7506	-5.96	-6.21	-1.77
550	SLD 6	97	638	7498	-5.77	-6.95	-0.51
550	SLD 7	111	-662	6872	12.92	-31.02	1.71
550	SLD 8	121	-714	6863	13.11	-31.76	2.97
550	SLD 9	-244	720	7126	-6.34	-21.89	-2.6
550	SLD 10	-233	667	7117	-6.15	-22.63	-1.34
550	SLD 11	-220	-633	6492	12.54	-46.7	0.88
550	SLD 12	-210	-686	6483	12.73	-47.44	2.14
550	SLD 13	-624	295	6463	-0.23	-48.66	-2.7
550	SLD 14	-608	213	6449	0.06	-49.81	-0.74
550	SLD 15	-617	-111	6272	5.44	-56.11	-1.65
550	SLD 16	-601	-193	6259	5.73	-57.26	0.31
550	SLV 1	783	339	8157	-0.69	21.21	-0.09
550	SLV 2	808	209	8135	-0.23	19.4	3
550	SLV 3	795	-354	7832	8.98	8.52	1.69
550	SLV 4	820	-483	7810	9.44	6.71	4.77
550	SLV 5	170	1177	7840	-12.59	7.18	-3.17
550	SLV 6	186	1090	7826	-12.27	5.96	-1.09
550	SLV 7	209	-1130	6757	19.64	-35.14	2.76
550	SLV 8	226	-1217	6742	19.95	-36.36	4.83
550	SLV 9	-348	1222	7247	-13.18	-17.3	-4.46
550	SLV 10	-331	1135	7233	-12.87	-18.52	-2.38
550	SLV 11	-309	-1085	6163	19.04	-59.61	1.46
550	SLV 12	-292	-1172	6149	19.35	-60.83	3.54
550	SLV 13	-942	488	6179	-2.67	-60.36	-4.4
550	SLV 14	-917	359	6158	-2.21	-62.17	-1.31
550	SLV 15	-930	-204	5854	6.99	-73.05	-2.62
550	SLV 16	-906	-333	5832	7.46	-74.87	0.46
550	SLV FO 1	868	372	8273	-1.1	26.02	-0.12
550	SLV FO 2	895	230	8249	-0.59	24.02	3.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
550	SLV FO 3	880	-389	7915	9.54	12.06	1.84
550	SLV FO 4	908	-532	7891	10.05	10.06	5.23
550	SLV FO 5	193	1295	7925	-14.18	10.58	-3.5
550	SLV FO 6	211	1199	7909	-13.84	9.23	-1.22
550	SLV FO 7	236	-1243	6733	21.26	-35.97	3.01
550	SLV FO 8	254	-1339	6717	21.6	-37.31	5.3
550	SLV FO 9	-377	1344	7272	-14.84	-16.34	-4.92
550	SLV FO 10	-358	1248	7256	-14.49	-17.69	-2.64
550	SLV FO 11	-333	-1194	6080	20.61	-62.89	1.59
550	SLV FO 12	-315	-1289	6064	20.95	-64.23	3.87
550	SLV FO 13	-1030	537	6098	-3.28	-63.71	-4.86
550	SLV FO 14	-1003	395	6074	-2.77	-65.71	-1.46
550	SLV FO 15	-1017	-224	5740	7.36	-77.68	-2.9
550	SLV FO 16	-990	-367	5716	7.87	-79.67	0.49
550	CRTFP Ux+	0	0	0	0	0	0
550	CRTFP Ux-	0	0	0	0	0	0
550	CRTFP Uy+	0	0	0	0	0	0
550	CRTFP Uy-	0	0	0	0	0	0
553	SLU 1	120	-59	6181	2.64	10.9	0.35
553	SLU 2	121	-27	6185	2.14	8.88	0.35
553	SLU 3	123	-60	6315	2.85	11.24	0.33
553	SLU 4	123	-41	6317	2.55	10.03	0.33
553	SLU 5	122	-28	6269	2.3	9.19	0.33
553	SLU 6	124	-60	6399	3.01	11.56	0.3
553	SLU 7	124	-41	6402	2.71	10.34	0.3
553	SLU 8	123	-60	6350	2.96	11.52	0.29
553	SLU 9	123	-41	6352	2.66	10.31	0.3
553	SLU 10	130	-33	6991	2.58	9.76	0.38
553	SLU 11	132	-65	7121	3.3	12.12	0.35
553	SLU 12	132	-46	7123	3	10.91	0.36
553	SLU 13	131	-33	7075	2.74	10.07	0.36
553	SLU 14	133	-66	7205	3.46	12.44	0.33
553	SLU 15	134	-47	7207	3.16	11.22	0.33
553	SLU 16	132	-65	7155	3.41	12.4	0.32
553	SLU 17	132	-46	7158	3.1	11.19	0.33
553	SLU 18	133	-66	7332	3.28	12.16	0.39
553	SLU 19	133	-48	7335	2.98	10.95	0.39
553	SLU 20	135	-67	7416	3.44	12.47	0.36
553	SLU 21	135	-48	7419	3.14	11.26	0.37
553	SLU 22	135	-66	7150	3.53	11.66	0.39
553	SLU 23	136	-34	7154	3.02	9.64	0.4
553	SLU 24	138	-67	7284	3.74	12	0.37
553	SLU 25	138	-48	7286	3.44	10.79	0.37
553	SLU 26	137	-35	7238	3.18	9.95	0.37
553	SLU 27	139	-67	7368	3.9	12.31	0.34
553	SLU 28	140	-48	7371	3.6	11.1	0.35
553	SLU 29	138	-67	7319	3.85	12.28	0.34
553	SLU 30	138	-48	7321	3.54	11.07	0.34
553	SLU 31	145	-39	7960	3.47	10.52	0.43
553	SLU 32	147	-72	8090	4.19	12.88	0.4
553	SLU 33	147	-53	8092	3.89	11.67	0.4
553	SLU 34	146	-40	8044	3.63	10.83	0.4
553	SLU 35	148	-72	8174	4.35	13.19	0.37
553	SLU 36	149	-54	8176	4.05	11.98	0.38
553	SLU 37	147	-72	8124	4.29	13.16	0.36
553	SLU 38	148	-53	8127	3.99	11.95	0.37
553	SLU 39	148	-73	8301	4.17	12.91	0.43
553	SLU 40	149	-54	8304	3.87	11.7	0.44
553	SLU 41	150	-74	8385	4.33	13.22	0.4
553	SLU 42	150	-55	8388	4.03	12.01	0.41
553	SLU 43	151	-74	7703	3.12	13.92	0.43
553	SLU 44	151	-43	7707	2.62	11.89	0.44
553	SLU 45	154	-75	7837	3.34	14.26	0.41
553	SLU 46	154	-56	7840	3.04	13.04	0.42
553	SLU 47	153	-43	7791	2.78	12.21	0.42
553	SLU 48	155	-76	7921	3.5	14.57	0.39
553	SLU 49	155	-57	7924	3.2	13.36	0.39
553	SLU 50	154	-75	7872	3.44	14.54	0.38
553	SLU 51	154	-56	7874	3.14	13.32	0.39
553	SLU 52	160	-48	8513	3.07	12.77	0.47
553	SLU 53	163	-80	8643	3.79	15.14	0.44
553	SLU 54	163	-62	8645	3.49	13.92	0.45
553	SLU 55	162	-48	8597	3.23	13.09	0.44
553	SLU 56	164	-81	8727	3.95	15.45	0.42
553	SLU 57	164	-62	8729	3.64	14.24	0.42
553	SLU 58	163	-80	8677	3.89	15.42	0.41
553	SLU 59	163	-62	8680	3.59	14.2	0.41
553	SLU 60	164	-82	8854	3.76	15.17	0.48
553	SLU 61	164	-63	8857	3.46	13.96	0.48
553	SLU 62	165	-82	8939	3.92	15.48	0.45
553	SLU 63	166	-63	8941	3.62	14.27	0.45
553	SLU 64	166	-81	8672	4.01	14.67	0.48
553	SLU 65	166	-49	8676	3.51	12.65	0.49
553	SLU 66	169	-82	8806	4.23	15.01	0.46
553	SLU 67	169	-63	8809	3.93	13.8	0.46
553	SLU 68	168	-50	8760	3.67	12.96	0.46
553	SLU 69	170	-82	8890	4.39	15.32	0.43
553	SLU 70	170	-63	8893	4.09	14.11	0.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
553	SLU 71	169	-82	8841	4.33	15.29	0.42
553	SLU 72	169	-63	8843	4.03	14.08	0.43
553	SLU 73	176	-55	9482	3.96	13.53	0.52
553	SLU 74	178	-87	9612	4.68	15.89	0.49
553	SLU 75	178	-68	9614	4.37	14.68	0.49
553	SLU 76	177	-55	9566	4.12	13.84	0.49
553	SLU 77	179	-88	9696	4.84	16.2	0.46
553	SLU 78	180	-69	9698	4.53	14.99	0.46
553	SLU 79	178	-87	9646	4.78	16.17	0.45
553	SLU 80	178	-68	9649	4.48	14.96	0.46
553	SLU 81	179	-89	9823	4.65	15.93	0.52
553	SLU 82	179	-70	9826	4.35	14.71	0.52
553	SLU 83	181	-89	9908	4.81	16.24	0.49
553	SLU 84	181	-70	9910	4.51	15.02	0.5
553	SLE RA 1	124	-61	6458	2.89	11.12	0.36
553	SLE RA 2	125	-40	6461	2.56	9.77	0.36
553	SLE RA 3	126	-61	6547	3.03	11.35	0.34
553	SLE RA 4	126	-49	6549	2.83	10.54	0.35
553	SLE RA 5	126	-40	6517	2.66	9.98	0.35
553	SLE RA 6	127	-62	6603	3.14	11.55	0.33
553	SLE RA 7	127	-49	6605	2.94	10.74	0.33
553	SLE RA 8	126	-61	6570	3.1	11.53	0.32
553	SLE RA 9	126	-49	6572	2.9	10.72	0.33
553	SLE RA 10	131	-43	6998	2.86	10.36	0.38
553	SLE RA 11	132	-65	7084	3.33	11.93	0.36
553	SLE RA 12	132	-52	7086	3.13	11.12	0.37
553	SLE RA 13	132	-44	7054	2.96	10.56	0.36
553	SLE RA 14	133	-65	7141	3.44	12.14	0.35
553	SLE RA 15	133	-53	7142	3.24	11.33	0.35
553	SLE RA 16	132	-65	7107	3.4	12.12	0.34
553	SLE RA 17	133	-52	7109	3.2	11.31	0.34
553	SLE RA 18	133	-66	7225	3.32	11.96	0.39
553	SLE RA 19	133	-53	7227	3.12	11.15	0.39
553	SLE RA 20	134	-66	7282	3.43	12.16	0.37
553	SLE RA 21	134	-54	7283	3.22	11.36	0.37
553	SLE FR 1	124	-61	6458	2.89	11.12	0.36
553	SLE FR 2	124	-56	6459	2.82	10.85	0.36
553	SLE FR 3	125	-61	6481	2.93	11.2	0.35
553	SLE FR 4	127	-58	6689	2.95	11.1	0.37
553	SLE FR 5	127	-62	6711	3.06	11.45	0.36
553	SLE FR 6	129	-63	6842	3.11	11.54	0.37
553	SLE QP 1	124	-61	6458	2.89	11.12	0.36
553	SLE QP 2	127	-62	6688	3.02	11.37	0.37
553	SLD 1	657	165	6258	-0.7	12.49	0.75
553	SLD 2	678	244	6260	-1.13	9.39	2.78
553	SLD 3	650	-246	6127	6.36	34.86	0.98
553	SLD 4	671	-168	6129	5.94	31.75	3.02
553	SLD 5	294	616	6757	-8.74	-21.67	-0.22
553	SLD 6	307	667	6759	-9.01	-23.67	1.09
553	SLD 7	269	-755	6321	14.81	52.86	0.55
553	SLD 8	282	-704	6323	14.54	50.87	1.86
553	SLD 9	-28	580	7054	-8.5	-28.13	-1.13
553	SLD 10	-15	630	7056	-8.77	-30.12	0.18
553	SLD 11	-53	-791	6618	15.05	46.41	-0.36
553	SLD 12	-40	-741	6620	14.78	44.41	0.96
553	SLD 13	-417	43	7247	0.1	-9.02	-2.28
553	SLD 14	-396	122	7250	-0.32	-12.12	-0.25
553	SLD 15	-424	-368	7117	7.17	13.35	-2.05
553	SLD 16	-403	-290	7119	6.74	10.25	-0.01
553	SLV 1	957	322	6026	-3.31	11.79	0.93
553	SLV 2	990	446	6030	-3.99	6.9	4.14
553	SLV 3	945	-380	5803	8.74	49.92	1.32
553	SLV 4	978	-256	5806	8.06	45.03	4.53
553	SLV 5	389	1094	6828	-17.03	-45.41	-0.66
553	SLV 6	411	1178	6831	-17.49	-48.7	1.5
553	SLV 7	347	-1245	6083	23.14	81.67	0.65
553	SLV 8	369	-1162	6085	22.69	78.38	2.81
553	SLV 9	-116	1037	7291	-16.65	-55.64	-2.08
553	SLV 10	-93	1120	7294	-17.1	-58.93	0.08
553	SLV 11	-157	-1302	6546	23.53	71.44	-0.77
553	SLV 12	-135	-1219	6549	23.07	68.15	1.4
553	SLV 13	-724	131	7570	-2.02	-22.29	-3.8
553	SLV 14	-691	255	7574	-2.7	-27.18	-0.59
553	SLV 15	-736	-570	7347	10.03	15.84	-3.41
553	SLV 16	-703	-447	7350	9.35	10.95	-0.19
553	SLV FO 1	1040	361	5960	-3.95	11.83	0.98
553	SLV FO 2	1076	497	5964	-4.69	6.46	4.52
553	SLV FO 3	1026	-411	5714	9.31	53.77	1.42
553	SLV FO 4	1063	-275	5718	8.57	48.39	4.95
553	SLV FO 5	415	1210	6842	-19.04	-51.09	-0.77
553	SLV FO 6	439	1301	6845	-19.54	-54.71	1.61
553	SLV FO 7	369	-1363	6022	25.15	88.7	0.68
553	SLV FO 8	394	-1271	6025	24.65	85.08	3.06
553	SLV FO 9	-140	1147	7352	-18.61	-62.34	-2.33
553	SLV FO 10	-115	1239	7354	-19.11	-65.96	0.05
553	SLV FO 11	-185	-1426	6532	25.58	77.45	-0.88
553	SLV FO 12	-161	-1334	6535	25.08	73.83	1.5
553	SLV FO 13	-809	151	7659	-2.53	-25.65	-4.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
553	SLV FO 14	-772	287	7663	-3.27	-31.03	-0.68
553	SLV FO 15	-822	-621	7413	10.73	16.28	-3.78
553	SLV FO 16	-786	-485	7417	9.99	10.91	-0.25
553	CRTFP Ux+	0	0	0	0	0	0
553	CRTFP Ux-	0	0	0	0	0	0
553	CRTFP Uy+	0	0	0	0	0	0
553	CRTFP Uy-	0	0	0	0	0	0
556	SLU 1	69	41	4431	6.02	1280.01	-14.72
556	SLU 2	70	63	4442	5.81	1279.33	-22.31
556	SLU 3	70	42	4528	6.23	1308.3	-15.08
556	SLU 4	71	55	4534	6.11	1307.89	-19.64
556	SLU 5	71	64	4501	5.96	1296.83	-22.74
556	SLU 6	71	44	4587	6.38	1325.8	-15.51
556	SLU 7	72	57	4593	6.25	1325.39	-20.07
556	SLU 8	71	44	4549	6.31	1315.02	-15.58
556	SLU 9	71	57	4555	6.19	1314.6	-20.13
556	SLU 10	74	68	5000	6.63	1439.86	-23.95
556	SLU 11	75	47	5086	7.05	1468.84	-16.72
556	SLU 12	75	60	5092	6.92	1468.42	-21.28
556	SLU 13	75	69	5059	6.77	1457.36	-24.38
556	SLU 14	76	48	5145	7.19	1486.34	-17.15
556	SLU 15	76	61	5151	7.07	1485.92	-21.71
556	SLU 16	75	48	5107	7.13	1475.55	-17.22
556	SLU 17	76	61	5113	7	1475.14	-21.77
556	SLU 18	75	48	5229	7.19	1509.35	-17.06
556	SLU 19	76	61	5235	7.06	1508.93	-21.62
556	SLU 20	76	49	5287	7.33	1526.85	-17.49
556	SLU 21	76	62	5294	7.21	1526.44	-22.05
556	SLU 22	77	43	5113	7.17	1477.8	-15.48
556	SLU 23	78	65	5124	6.96	1477.11	-23.07
556	SLU 24	78	44	5210	7.38	1506.09	-15.84
556	SLU 25	79	57	5216	7.25	1505.68	-20.4
556	SLU 26	78	66	5183	7.11	1494.61	-23.5
556	SLU 27	79	46	5269	7.52	1523.59	-16.27
556	SLU 28	80	59	5275	7.4	1523.18	-20.82
556	SLU 29	78	46	5231	7.46	1512.8	-16.33
556	SLU 30	79	59	5237	7.33	1512.39	-20.89
556	SLU 31	82	70	5682	7.78	1637.64	-24.71
556	SLU 32	82	49	5768	8.2	1666.62	-17.48
556	SLU 33	83	62	5774	8.07	1666.21	-22.04
556	SLU 34	83	71	5741	7.92	1655.15	-25.14
556	SLU 35	83	50	5827	8.34	1684.12	-17.91
556	SLU 36	84	63	5833	8.21	1683.71	-22.47
556	SLU 37	83	50	5789	8.28	1673.33	-17.97
556	SLU 38	83	63	5795	8.15	1672.92	-22.53
556	SLU 39	83	50	5910	8.34	1707.13	-17.82
556	SLU 40	83	63	5917	8.21	1706.72	-22.37
556	SLU 41	84	51	5969	8.48	1724.63	-18.25
556	SLU 42	84	64	5976	8.36	1724.22	-22.8
556	SLU 43	87	53	5527	7.44	1596.21	-18.88
556	SLU 44	88	75	5538	7.23	1595.52	-26.47
556	SLU 45	88	54	5623	7.65	1624.49	-19.24
556	SLU 46	89	67	5630	7.52	1624.08	-23.8
556	SLU 47	89	76	5596	7.37	1613.02	-26.9
556	SLU 48	89	55	5682	7.79	1642	-19.67
556	SLU 49	90	68	5689	7.66	1641.58	-24.23
556	SLU 50	89	55	5645	7.73	1631.21	-19.73
556	SLU 51	89	68	5651	7.6	1630.79	-24.29
556	SLU 52	92	79	6096	8.04	1756.05	-28.11
556	SLU 53	93	59	6181	8.46	1785.03	-20.88
556	SLU 54	93	72	6188	8.34	1784.62	-25.44
556	SLU 55	93	80	6154	8.19	1773.55	-28.54
556	SLU 56	94	60	6240	8.61	1802.53	-21.31
556	SLU 57	94	73	6247	8.48	1802.12	-25.87
556	SLU 58	93	60	6203	8.54	1791.74	-21.37
556	SLU 59	94	73	6209	8.42	1791.33	-25.93
556	SLU 60	93	60	6324	8.6	1825.54	-21.22
556	SLU 61	94	73	6331	8.48	1825.13	-25.78
556	SLU 62	94	61	6383	8.75	1843.04	-21.65
556	SLU 63	94	74	6389	8.62	1842.63	-26.2
556	SLU 64	95	55	6209	8.59	1793.99	-19.63
556	SLU 65	96	77	6219	8.38	1793.3	-27.23
556	SLU 66	96	56	6305	8.79	1822.28	-20
556	SLU 67	97	69	6312	8.67	1821.87	-24.55
556	SLU 68	96	78	6278	8.52	1810.8	-27.65
556	SLU 69	97	57	6364	8.94	1839.78	-20.43
556	SLU 70	98	70	6371	8.81	1839.37	-24.98
556	SLU 71	96	57	6326	8.87	1828.99	-20.49
556	SLU 72	97	70	6333	8.75	1828.58	-25.04
556	SLU 73	100	81	6777	9.19	1953.84	-28.87
556	SLU 74	100	61	6863	9.61	1982.81	-21.64
556	SLU 75	101	74	6870	9.48	1982.4	-26.19
556	SLU 76	101	83	6836	9.34	1971.34	-29.29
556	SLU 77	101	62	6922	9.75	2000.31	-22.07
556	SLU 78	102	75	6929	9.63	1999.9	-26.62
556	SLU 79	101	62	6885	9.69	1989.53	-22.13
556	SLU 80	101	75	6891	9.56	1989.11	-26.69
556	SLU 81	101	62	7006	9.75	2023.33	-21.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
556	SLU 82	101	75	7012	9.63	2022.91	-26.53
556	SLU 83	102	63	7065	9.9	2040.83	-22.4
556	SLU 84	102	76	7071	9.77	2040.41	-26.96
556	SLE RA 1	71	42	4626	6.35	1336.52	-14.94
556	SLE RA 2	72	56	4633	6.21	1336.07	-20
556	SLE RA 3	72	43	4690	6.49	1355.38	-15.18
556	SLE RA 4	73	51	4695	6.41	1355.11	-18.22
556	SLE RA 5	72	57	4672	6.31	1347.73	-20.28
556	SLE RA 6	73	43	4730	6.59	1367.05	-15.46
556	SLE RA 7	73	52	4734	6.5	1366.78	-18.5
556	SLE RA 8	72	43	4705	6.54	1359.86	-15.51
556	SLE RA 9	73	52	4709	6.46	1359.58	-18.54
556	SLE RA 10	75	59	5005	6.76	1443.09	-21.09
556	SLE RA 11	75	46	5063	7.04	1462.41	-16.27
556	SLE RA 12	75	54	5067	6.95	1462.13	-19.31
556	SLE RA 13	75	60	5044	6.85	1454.75	-21.38
556	SLE RA 14	76	46	5102	7.13	1474.07	-16.56
556	SLE RA 15	76	55	5106	7.05	1473.8	-19.6
556	SLE RA 16	75	47	5077	7.09	1466.88	-16.6
556	SLE RA 17	76	55	5081	7	1466.61	-19.64
556	SLE RA 18	75	46	5158	7.13	1489.41	-16.5
556	SLE RA 19	76	55	5162	7.05	1489.14	-19.53
556	SLE RA 20	76	47	5197	7.23	1501.08	-16.78
556	SLE RA 21	76	56	5201	7.14	1500.8	-19.82
556	SLE FR 1	71	42	4626	6.35	1336.52	-14.94
556	SLE FR 2	71	45	4628	6.32	1336.43	-15.95
556	SLE FR 3	71	42	4642	6.39	1341.19	-15.05
556	SLE FR 4	72	46	4787	6.56	1382.3	-16.42
556	SLE FR 5	73	44	4801	6.62	1387.06	-15.52
556	SLE FR 6	73	44	4892	6.74	1412.97	-15.72
556	SLE QP 1	71	42	4626	6.35	1336.52	-14.94
556	SLE QP 2	72	43	4786	6.59	1382.39	-15.4
556	SLD 1	385	79	3646	3.41	1053.97	-28.11
556	SLD 2	398	199	3658	3.16	1052.63	-69.81
556	SLD 3	374	-194	3465	6.54	1058.14	67.57
556	SLD 4	387	-75	3477	6.29	1056.79	25.87
556	SLD 5	179	448	4717	0.92	1277.78	-157.16
556	SLD 6	188	526	4724	0.76	1276.91	-184.02
556	SLD 7	145	-464	4112	11.37	1291.66	161.78
556	SLD 8	154	-387	4120	11.2	1290.8	134.93
556	SLD 9	-9	473	5451	1.97	1473.99	-165.74
556	SLD 10	-1	550	5459	1.81	1473.12	-192.59
556	SLD 11	-43	-439	4847	12.41	1487.87	153.21
556	SLD 12	-35	-362	4855	12.25	1487	126.36
556	SLD 13	-243	161	6095	6.88	1707.99	-56.68
556	SLD 14	-230	281	6107	6.63	1706.64	-98.38
556	SLD 15	-253	-113	5913	10.02	1712.16	39
556	SLD 16	-240	7	5925	9.76	1710.81	-2.7
556	SLV 1	562	118	3020	1.4	869.84	-41.72
556	SLV 2	582	307	3039	1	867.71	-107.46
556	SLV 3	544	-349	2711	6.74	876.67	121.56
556	SLV 4	565	-160	2730	6.35	874.55	55.83
556	SLV 5	242	739	4721	-3	1218.66	-258.69
556	SLV 6	256	866	4734	-3.27	1217.23	-302.93
556	SLV 7	184	-818	3691	14.81	1241.43	285.6
556	SLV 8	198	-691	3704	14.55	1240	241.35
556	SLV 9	-53	777	5867	-1.38	1524.78	-272.16
556	SLV 10	-39	904	5880	-1.64	1523.35	-316.41
556	SLV 11	-111	-779	4837	16.44	1547.55	272.13
556	SLV 12	-97	-652	4850	16.17	1546.12	227.88
556	SLV 13	-421	247	6841	6.83	1890.24	-86.64
556	SLV 14	-400	435	6860	6.43	1888.11	-152.37
556	SLV 15	-438	-220	6532	12.17	1897.07	76.65
556	SLV 16	-417	-32	6551	11.77	1894.95	10.92
556	SLV FO 1	611	125	2844	0.88	818.58	-44.36
556	SLV FO 2	633	333	2865	0.44	816.25	-116.66
556	SLV FO 3	592	-388	2504	6.76	826.1	135.26
556	SLV FO 4	614	-181	2525	6.32	823.76	62.95
556	SLV FO 5	259	808	4715	-3.96	1202.29	-283.02
556	SLV FO 6	274	948	4729	-4.26	1200.72	-331.69
556	SLV FO 7	195	-904	3582	15.64	1227.33	315.7
556	SLV FO 8	210	-764	3596	15.34	1225.76	267.03
556	SLV FO 9	-66	851	5976	-2.17	1539.02	-297.84
556	SLV FO 10	-50	991	5990	-2.47	1537.45	-346.51
556	SLV FO 11	-129	-862	4842	17.43	1564.07	300.88
556	SLV FO 12	-114	-722	4856	17.13	1562.49	252.21
556	SLV FO 13	-470	267	7046	6.85	1941.02	-93.76
556	SLV FO 14	-447	475	7067	6.41	1938.69	-166.07
556	SLV FO 15	-489	-247	6706	12.73	1948.54	85.85
556	SLV FO 16	-466	-39	6727	12.29	1946.2	13.55
556	CRTFP Ux+	0	0	0	0	0	0
556	CRTFP Ux-	0	0	0	0	0	0
556	CRTFP Uy+	0	0	0	0	0	0
556	CRTFP Uy-	0	0	0	0	0	0
559	SLU 1	20	-51	3384	-0.62	1334.05	20.16
559	SLU 2	21	-31	3383	-0.8	1332.9	12.25
559	SLU 3	20	-52	3457	-0.58	1363.02	20.66
559	SLU 4	21	-40	3456	-0.69	1362.33	15.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
559	SLU 5	21	-32	3430	-0.77	1351.64	12.63
559	SLU 6	20	-53	3505	-0.54	1381.76	21.04
559	SLU 7	21	-41	3504	-0.65	1381.07	16.29
559	SLU 8	20	-52	3479	-0.55	1371.53	20.92
559	SLU 9	21	-41	3478	-0.66	1370.84	16.17
559	SLU 10	22	-36	3838	-0.88	1513.24	14.51
559	SLU 11	21	-58	3913	-0.65	1543.36	22.92
559	SLU 12	22	-46	3912	-0.76	1542.67	18.17
559	SLU 13	22	-37	3886	-0.84	1531.98	14.89
559	SLU 14	22	-58	3960	-0.62	1562.1	23.3
559	SLU 15	22	-47	3960	-0.72	1561.41	18.55
559	SLU 16	21	-58	3934	-0.62	1551.87	23.18
559	SLU 17	22	-46	3934	-0.73	1551.18	18.43
559	SLU 18	22	-59	4035	-0.72	1591.68	23.39
559	SLU 19	22	-47	4034	-0.83	1590.99	18.64
559	SLU 20	22	-60	4082	-0.69	1610.42	23.77
559	SLU 21	22	-48	4082	-0.8	1609.73	19.02
559	SLU 22	23	-57	3897	-0.52	1536.15	22.65
559	SLU 23	23	-37	3896	-0.7	1535	14.74
559	SLU 24	23	-58	3970	-0.48	1565.12	23.14
559	SLU 25	23	-46	3969	-0.59	1564.43	18.4
559	SLU 26	24	-38	3943	-0.67	1553.74	15.11
559	SLU 27	23	-59	4018	-0.44	1583.86	23.52
559	SLU 28	24	-47	4017	-0.55	1583.17	18.77
559	SLU 29	23	-59	3992	-0.45	1573.63	23.4
559	SLU 30	23	-47	3991	-0.56	1572.94	18.66
559	SLU 31	25	-43	4351	-0.78	1715.34	16.99
559	SLU 32	24	-64	4426	-0.55	1745.46	25.4
559	SLU 33	25	-52	4425	-0.66	1744.77	20.66
559	SLU 34	25	-44	4399	-0.74	1734.08	17.37
559	SLU 35	24	-65	4473	-0.52	1764.2	25.78
559	SLU 36	25	-53	4473	-0.63	1763.51	21.03
559	SLU 37	24	-64	4447	-0.52	1753.97	25.66
559	SLU 38	25	-53	4446	-0.63	1753.28	20.92
559	SLU 39	25	-65	4548	-0.62	1793.78	25.88
559	SLU 40	25	-53	4547	-0.73	1793.09	21.13
559	SLU 41	25	-66	4595	-0.59	1812.52	26.25
559	SLU 42	25	-54	4594	-0.7	1811.83	21.51
559	SLU 43	25	-64	4223	-0.84	1664.98	25.36
559	SLU 44	25	-44	4222	-1.02	1663.83	17.45
559	SLU 45	25	-65	4297	-0.8	1693.95	25.85
559	SLU 46	26	-53	4296	-0.91	1693.26	21.11
559	SLU 47	26	-45	4269	-0.99	1682.57	17.82
559	SLU 48	25	-66	4344	-0.76	1712.69	26.23
559	SLU 49	26	-54	4343	-0.87	1712	21.48
559	SLU 50	25	-65	4318	-0.77	1702.46	26.11
559	SLU 51	26	-54	4317	-0.88	1701.77	21.37
559	SLU 52	27	-49	4678	-1.1	1844.17	19.7
559	SLU 53	26	-71	4752	-0.87	1874.29	28.11
559	SLU 54	27	-59	4752	-0.98	1873.6	23.37
559	SLU 55	27	-50	4725	-1.06	1862.91	20.08
559	SLU 56	27	-71	4800	-0.84	1893.03	28.49
559	SLU 57	27	-60	4799	-0.95	1892.34	23.74
559	SLU 58	26	-71	4774	-0.85	1882.8	28.37
559	SLU 59	27	-59	4773	-0.95	1882.11	23.63
559	SLU 60	27	-72	4874	-0.94	1922.61	28.59
559	SLU 61	27	-60	4873	-1.05	1921.92	23.84
559	SLU 62	27	-73	4922	-0.91	1941.34	28.96
559	SLU 63	27	-61	4921	-1.02	1940.65	24.22
559	SLU 64	28	-70	4736	-0.74	1867.08	27.84
559	SLU 65	28	-50	4735	-0.92	1865.93	19.93
559	SLU 66	28	-71	4810	-0.7	1896.05	28.34
559	SLU 67	28	-59	4809	-0.81	1895.36	23.59
559	SLU 68	29	-51	4782	-0.89	1884.67	20.31
559	SLU 69	28	-72	4857	-0.67	1914.79	28.72
559	SLU 70	29	-60	4856	-0.77	1914.1	23.97
559	SLU 71	28	-72	4831	-0.67	1904.55	28.6
559	SLU 72	28	-60	4830	-0.78	1903.87	23.85
559	SLU 73	30	-56	5191	-1	2046.27	22.19
559	SLU 74	29	-77	5265	-0.77	2076.39	30.6
559	SLU 75	30	-65	5264	-0.88	2075.7	25.85
559	SLU 76	30	-57	5238	-0.96	2065.01	22.57
559	SLU 77	29	-78	5313	-0.74	2095.12	30.98
559	SLU 78	30	-66	5312	-0.85	2094.43	26.23
559	SLU 79	29	-77	5287	-0.75	2084.89	30.86
559	SLU 80	30	-66	5286	-0.85	2084.2	26.11
559	SLU 81	29	-78	5387	-0.85	2124.7	31.07
559	SLU 82	30	-66	5386	-0.95	2124.01	26.32
559	SLU 83	30	-79	5435	-0.81	2143.44	31.45
559	SLU 84	30	-67	5434	-0.92	2142.75	26.7
559	SLE RA 1	21	-52	3531	-0.59	1391.8	20.87
559	SLE RA 2	21	-39	3530	-0.71	1391.03	15.6
559	SLE RA 3	21	-53	3579	-0.56	1411.11	21.2
559	SLE RA 4	21	-45	3579	-0.64	1410.65	18.04
559	SLE RA 5	21	-40	3561	-0.69	1403.52	15.85
559	SLE RA 6	21	-54	3611	-0.54	1423.6	21.46
559	SLE RA 7	21	-46	3610	-0.61	1423.14	18.29
559	SLE RA 8	21	-54	3594	-0.55	1416.78	21.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
559	SLE RA 9	21	-46	3593	-0.62	1416.32	18.21
559	SLE RA 10	22	-43	3833	-0.76	1511.26	17.1
559	SLE RA 11	22	-57	3883	-0.61	1531.34	22.71
559	SLE RA 12	22	-49	3883	-0.68	1530.88	19.54
559	SLE RA 13	22	-44	3865	-0.74	1523.75	17.36
559	SLE RA 14	22	-58	3915	-0.59	1543.83	22.96
559	SLE RA 15	22	-50	3914	-0.66	1543.37	19.8
559	SLE RA 16	22	-57	3897	-0.6	1537.01	22.88
559	SLE RA 17	22	-49	3897	-0.67	1536.55	19.72
559	SLE RA 18	22	-58	3965	-0.66	1563.55	23.02
559	SLE RA 19	22	-50	3964	-0.73	1563.09	19.86
559	SLE RA 20	22	-58	3996	-0.64	1576.04	23.28
559	SLE RA 21	22	-50	3996	-0.71	1575.58	20.11
559	SLE FR 1	21	-52	3531	-0.59	1391.8	20.87
559	SLE FR 2	21	-50	3530	-0.62	1391.64	19.82
559	SLE FR 3	21	-53	3543	-0.58	1396.79	20.97
559	SLE FR 4	21	-51	3661	-0.64	1443.17	20.46
559	SLE FR 5	21	-54	3673	-0.6	1448.32	21.62
559	SLE FR 6	21	-55	3748	-0.63	1477.67	21.95
559	SLE QP 1	21	-52	3531	-0.59	1391.8	20.87
559	SLE QP 2	21	-54	3661	-0.61	1443.32	21.52
559	SLD 1	307	62	3709	-1.62	1465.49	-24.78
559	SLD 2	315	66	3712	-1.67	1465.88	-26.4
559	SLD 3	297	-189	3685	1.01	1459.68	75.44
559	SLD 4	305	-185	3688	0.96	1460.07	73.82
559	SLD 5	120	361	3711	-4.9	1458.71	-144.1
559	SLD 6	126	364	3712	-4.93	1458.96	-145.14
559	SLD 7	87	-476	3632	3.87	1439.36	189.97
559	SLD 8	93	-473	3634	3.84	1439.61	188.93
559	SLD 9	-51	365	3688	-5.07	1447.03	-145.9
559	SLD 10	-45	368	3690	-5.1	1447.29	-146.94
559	SLD 11	-84	-472	3609	3.7	1427.68	188.17
559	SLD 12	-78	-469	3611	3.67	1427.94	187.13
559	SLD 13	-263	77	3633	-2.19	1426.57	-30.79
559	SLD 14	-255	81	3636	-2.24	1426.96	-32.4
559	SLD 15	-273	-174	3610	0.44	1420.76	69.43
559	SLD 16	-265	-170	3613	0.39	1421.16	67.82
559	SLV 1	469	145	3739	-2.37	1478.75	-57.79
559	SLV 2	482	151	3743	-2.46	1479.36	-60.34
559	SLV 3	452	-284	3698	2.11	1468.79	113.14
559	SLV 4	465	-277	3703	2.03	1469.41	110.6
559	SLV 5	178	654	3745	-7.93	1468.94	-261.05
559	SLV 6	187	658	3748	-7.99	1469.35	-262.77
559	SLV 7	123	-774	3610	7.02	1435.74	308.73
559	SLV 8	131	-769	3613	6.97	1436.16	307.02
559	SLV 9	-89	661	3709	-8.2	1450.48	-263.98
559	SLV 10	-81	666	3712	-8.25	1450.9	-265.7
559	SLV 11	-145	-766	3574	6.76	1417.29	305.8
559	SLV 12	-136	-762	3577	6.7	1417.71	304.09
559	SLV 13	-423	169	3619	-3.26	1417.24	-67.56
559	SLV 14	-410	176	3623	-3.34	1417.85	-70.11
559	SLV 15	-440	-259	3578	1.23	1407.28	103.37
559	SLV 16	-427	-252	3583	1.15	1407.9	100.83
559	SLV FO 1	514	164	3747	-2.55	1482.29	-65.72
559	SLV FO 2	528	172	3752	-2.64	1482.97	-68.53
559	SLV FO 3	495	-307	3702	2.39	1471.34	122.31
559	SLV FO 4	510	-299	3707	2.3	1472.01	119.5
559	SLV FO 5	194	725	3753	-8.66	1471.5	-289.31
559	SLV FO 6	204	730	3757	-8.72	1471.96	-291.2
559	SLV FO 7	133	-846	3605	7.79	1434.99	337.46
559	SLV FO 8	142	-841	3608	7.73	1435.44	335.57
559	SLV FO 9	-100	733	3714	-8.96	1451.2	-292.53
559	SLV FO 10	-91	738	3717	-9.02	1451.66	-294.42
559	SLV FO 11	-162	-838	3565	7.5	1414.69	334.23
559	SLV FO 12	-152	-832	3568	7.44	1415.14	332.35
559	SLV FO 13	-468	191	3614	-3.52	1414.63	-76.47
559	SLV FO 14	-453	199	3619	-3.61	1415.31	-79.27
559	SLV FO 15	-486	-280	3570	1.41	1403.67	111.56
559	SLV FO 16	-472	-272	3575	1.32	1404.35	108.76
559	CRTFP Ux+	0	0	0	0	0	0
559	CRTFP Ux-	0	0	0	0	0	0
559	CRTFP Uy+	0	0	0	0	0	0
559	CRTFP Uy-	0	0	0	0	0	0
563	SLU 1	-32	2	2708	-167.27	-594.77	-1.51
563	SLU 2	-32	15	2712	-167.55	-594.32	1.76
563	SLU 3	-33	1	2772	-171.21	-608.97	-1.62
563	SLU 4	-33	9	2774	-171.38	-608.71	0.35
563	SLU 5	-33	15	2753	-170.12	-603.6	1.73
563	SLU 6	-33	1	2814	-173.77	-618.25	-1.65
563	SLU 7	-33	9	2816	-173.95	-617.98	0.31
563	SLU 8	-33	2	2791	-172.4	-613.32	-1.58
563	SLU 9	-33	9	2794	-172.57	-613.05	0.38
563	SLU 10	-33	16	3056	-188.81	-670.38	1.95
563	SLU 11	-33	2	3116	-192.47	-685.03	-1.42
563	SLU 12	-34	10	3119	-192.64	-684.77	0.54
563	SLU 13	-34	16	3098	-191.38	-679.66	1.92
563	SLU 14	-34	2	3158	-195.03	-694.31	-1.45
563	SLU 15	-34	10	3160	-195.2	-694.04	0.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
563	SLU 16	-34	3	3136	-193.65	-689.38	-1.38
563	SLU 17	-34	10	3138	-193.83	-689.11	0.58
563	SLU 18	-33	3	3200	-197.64	-703.42	-1.23
563	SLU 19	-33	11	3202	-197.81	-703.16	0.73
563	SLU 20	-34	3	3242	-200.2	-712.7	-1.27
563	SLU 21	-34	11	3244	-200.37	-712.43	0.7
563	SLU 22	-35	0	3135	-193.63	-689.45	-1.98
563	SLU 23	-35	14	3139	-193.91	-689.01	1.3
563	SLU 24	-35	0	3200	-197.57	-703.66	-2.08
563	SLU 25	-35	8	3202	-197.74	-703.4	-0.12
563	SLU 26	-35	14	3181	-196.48	-698.29	1.26
563	SLU 27	-36	0	3241	-200.13	-712.94	-2.11
563	SLU 28	-36	8	3244	-200.3	-712.67	-0.15
563	SLU 29	-35	0	3219	-198.75	-708.01	-2.04
563	SLU 30	-35	8	3221	-198.93	-707.74	-0.08
563	SLU 31	-36	15	3483	-215.17	-765.07	1.49
563	SLU 32	-36	1	3544	-218.83	-779.72	-1.88
563	SLU 33	-36	9	3546	-219	-779.45	0.08
563	SLU 34	-36	15	3525	-217.73	-774.35	1.46
563	SLU 35	-36	1	3586	-221.39	-789	-1.92
563	SLU 36	-37	9	3588	-221.56	-788.73	0.05
563	SLU 37	-36	1	3563	-220.01	-784.07	-1.85
563	SLU 38	-36	9	3565	-220.18	-783.8	0.12
563	SLU 39	-36	2	3627	-223.99	-798.11	-1.7
563	SLU 40	-36	10	3629	-224.17	-797.84	0.27
563	SLU 41	-36	2	3669	-226.56	-807.39	-1.73
563	SLU 42	-36	10	3671	-226.73	-807.12	0.23
563	SLU 43	-41	3	3374	-208.41	-740.73	-1.81
563	SLU 44	-41	16	3378	-208.69	-740.29	1.47
563	SLU 45	-41	2	3438	-212.35	-754.94	-1.91
563	SLU 46	-42	10	3440	-212.52	-754.67	0.05
563	SLU 47	-41	16	3419	-211.26	-749.56	1.43
563	SLU 48	-42	2	3480	-214.92	-764.21	-1.94
563	SLU 49	-42	10	3482	-215.09	-763.95	0.02
563	SLU 50	-41	2	3457	-213.54	-759.28	-1.87
563	SLU 51	-42	10	3460	-213.71	-759.02	0.09
563	SLU 52	-42	17	3722	-229.95	-816.35	1.66
563	SLU 53	-42	3	3782	-233.61	-831	-1.72
563	SLU 54	-42	11	3784	-233.78	-830.73	0.25
563	SLU 55	-42	17	3764	-232.52	-825.62	1.63
563	SLU 56	-43	3	3824	-236.17	-840.27	-1.75
563	SLU 57	-43	11	3826	-236.35	-840.01	0.21
563	SLU 58	-42	3	3802	-234.8	-835.34	-1.68
563	SLU 59	-42	11	3804	-234.97	-835.08	0.28
563	SLU 60	-42	4	3866	-238.78	-849.39	-1.53
563	SLU 61	-42	12	3868	-238.95	-849.12	0.43
563	SLU 62	-42	4	3907	-241.34	-858.66	-1.56
563	SLU 63	-43	12	3910	-241.51	-858.4	0.4
563	SLU 64	-43	1	3801	-234.77	-835.42	-2.27
563	SLU 65	-44	15	3805	-235.05	-834.98	1
563	SLU 66	-44	1	3865	-238.71	-849.63	-2.37
563	SLU 67	-44	9	3868	-238.88	-849.36	-0.41
563	SLU 68	-44	14	3847	-237.62	-844.25	0.97
563	SLU 69	-44	1	3907	-241.28	-858.9	-2.41
563	SLU 70	-44	9	3909	-241.45	-858.64	-0.44
563	SLU 71	-44	1	3885	-239.9	-853.97	-2.34
563	SLU 72	-44	9	3887	-240.07	-853.71	-0.37
563	SLU 73	-45	16	4149	-256.31	-911.04	1.2
563	SLU 74	-45	2	4210	-259.97	-925.68	-2.18
563	SLU 75	-45	10	4212	-260.14	-925.42	-0.22
563	SLU 76	-45	15	4191	-258.88	-920.31	1.16
563	SLU 77	-45	2	4251	-262.53	-934.96	-2.21
563	SLU 78	-45	10	4254	-262.71	-934.7	-0.25
563	SLU 79	-45	2	4229	-261.16	-930.03	-2.14
563	SLU 80	-45	10	4231	-261.33	-929.76	-0.18
563	SLU 81	-45	3	4293	-265.14	-944.07	-1.99
563	SLU 82	-45	11	4295	-265.31	-943.81	-0.03
563	SLU 83	-45	3	4335	-267.7	-953.35	-2.03
563	SLU 84	-45	11	4337	-267.87	-953.09	-0.06
563	SLE RA 1	-33	1	2830	-174.8	-621.82	-1.64
563	SLE RA 2	-33	10	2833	-174.99	-621.52	0.54
563	SLE RA 3	-33	1	2873	-177.43	-631.29	-1.71
563	SLE RA 4	-33	6	2874	-177.54	-631.11	-0.4
563	SLE RA 5	-33	10	2860	-176.7	-627.71	0.51
563	SLE RA 6	-33	1	2901	-179.14	-637.47	-1.74
563	SLE RA 7	-34	6	2902	-179.25	-637.3	-0.43
563	SLE RA 8	-33	1	2886	-178.22	-634.19	-1.69
563	SLE RA 9	-33	7	2887	-178.33	-634.01	-0.38
563	SLE RA 10	-34	11	3062	-189.16	-672.23	0.67
563	SLE RA 11	-34	2	3102	-191.6	-682	-1.58
563	SLE RA 12	-34	7	3104	-191.71	-681.82	-0.27
563	SLE RA 13	-34	11	3090	-190.87	-678.41	0.64
563	SLE RA 14	-34	2	3130	-193.31	-688.18	-1.61
563	SLE RA 15	-34	7	3132	-193.42	-688	-0.3
563	SLE RA 16	-34	2	3115	-192.39	-684.89	-1.56
563	SLE RA 17	-34	7	3117	-192.5	-684.72	-0.25
563	SLE RA 18	-34	2	3158	-195.04	-694.26	-1.46
563	SLE RA 19	-34	8	3160	-195.16	-694.08	-0.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
563	SLE RA 20	-34	2	3186	-196.75	-700.44	-1.48
563	SLE RA 21	-34	7	3187	-196.87	-700.26	-0.17
563	SLE FR 1	-33	1	2830	-174.8	-621.82	-1.64
563	SLE FR 2	-33	3	2831	-174.84	-621.76	-1.21
563	SLE FR 3	-33	1	2841	-175.48	-624.29	-1.65
563	SLE FR 4	-33	3	2929	-180.91	-643.49	-1.15
563	SLE FR 5	-33	2	2940	-181.55	-646.02	-1.6
563	SLE FR 6	-33	2	2994	-184.92	-658.04	-1.55
563	SLE QP 1	-33	1	2830	-174.8	-621.82	-1.64
563	SLE QP 2	-33	2	2929	-180.87	-643.55	-1.59
563	SLD 1	148	93	3819	-236.3	-821.76	37.83
563	SLD 2	152	22	3818	-236.15	-823.2	20.4
563	SLD 3	153	-73	3734	-230.23	-818.84	-3.24
563	SLD 4	156	-144	3733	-230.08	-820.28	-20.68
563	SLD 5	13	292	3325	-206.74	-701.19	75.54
563	SLD 6	16	247	3324	-206.64	-702.12	64.31
563	SLD 7	29	-260	3042	-186.5	-691.46	-61.39
563	SLD 8	32	-305	3041	-186.4	-692.39	-72.61
563	SLD 9	-98	309	2816	-175.35	-594.71	69.44
563	SLD 10	-96	263	2815	-175.25	-595.64	58.21
563	SLD 11	-82	-244	2534	-155.1	-584.98	-67.49
563	SLD 12	-79	-289	2533	-155	-585.91	-78.71
563	SLD 13	-222	147	2124	-131.67	-466.82	17.5
563	SLD 14	-219	76	2123	-131.51	-468.26	0.07
563	SLD 15	-218	-19	2039	-125.59	-463.9	-23.58
563	SLD 16	-214	-90	2038	-125.44	-465.34	-41.01
563	SLV 1	250	156	4324	-267.81	-921.71	63.19
563	SLV 2	256	45	4322	-267.56	-923.98	35.71
563	SLV 3	258	-126	4180	-257.43	-916.86	-6.87
563	SLV 4	264	-238	4177	-257.19	-919.13	-34.35
563	SLV 5	39	497	3567	-222.73	-733.92	129.23
563	SLV 6	42	422	3566	-222.56	-735.45	110.73
563	SLV 7	66	-444	3085	-188.15	-717.77	-104.3
563	SLV 8	69	-519	3083	-187.99	-719.3	-122.8
563	SLV 9	-136	523	2774	-173.75	-567.8	119.62
563	SLV 10	-132	447	2772	-173.59	-569.33	101.13
563	SLV 11	-108	-419	2291	-139.18	-551.65	-113.91
563	SLV 12	-105	-494	2290	-139.01	-553.18	-132.41
563	SLV 13	-330	241	1680	-104.55	-367.97	31.17
563	SLV 14	-325	129	1678	-104.31	-370.24	3.69
563	SLV 15	-322	-42	1535	-94.18	-363.12	-38.89
563	SLV 16	-316	-153	1533	-93.94	-365.39	-66.37
563	SLV FO 1	279	172	4464	-276.5	-949.52	69.67
563	SLV FO 2	285	49	4461	-276.23	-952.02	39.44
563	SLV FO 3	288	-139	4305	-265.09	-944.19	-7.4
563	SLV FO 4	294	-262	4302	-264.82	-946.69	-37.63
563	SLV FO 5	46	547	3631	-226.91	-742.96	142.31
563	SLV FO 6	50	464	3629	-226.73	-744.64	121.96
563	SLV FO 7	76	-489	3100	-188.88	-725.2	-114.57
563	SLV FO 8	80	-572	3098	-188.7	-726.88	-134.92
563	SLV FO 9	-146	575	2759	-173.04	-560.22	131.75
563	SLV FO 10	-142	492	2757	-172.86	-561.9	111.4
563	SLV FO 11	-116	-461	2228	-135.01	-542.46	-125.14
563	SLV FO 12	-112	-544	2226	-134.83	-544.14	-145.49
563	SLV FO 13	-360	265	1555	-96.92	-340.41	34.45
563	SLV FO 14	-354	142	1552	-96.65	-342.91	4.22
563	SLV FO 15	-351	-46	1396	-85.51	-335.08	-42.62
563	SLV FO 16	-345	-169	1393	-85.24	-337.58	-72.85
563	CRTFP Ux+	0	0	0	0	0	0
563	CRTFP Ux-	0	0	0	0	0	0
563	CRTFP Uy+	0	0	0	0	0	0
563	CRTFP Uy-	0	0	0	0	0	0
566	SLU 1	-52	4	5615	-155.26	-18.71	-1.19
566	SLU 2	-52	32	5615	-155.44	-18.05	-1.25
566	SLU 3	-53	5	5748	-158.85	-19.25	-1.22
566	SLU 4	-53	21	5748	-158.96	-18.86	-1.25
566	SLU 5	-53	32	5701	-157.78	-18.42	-1.26
566	SLU 6	-54	5	5835	-161.19	-19.62	-1.23
566	SLU 7	-54	21	5834	-161.3	-19.23	-1.26
566	SLU 8	-53	5	5788	-159.93	-19.45	-1.22
566	SLU 9	-53	21	5788	-160.04	-19.05	-1.25
566	SLU 10	-53	34	6372	-176.33	-21.84	-1.26
566	SLU 11	-54	6	6506	-179.73	-23.05	-1.23
566	SLU 12	-54	23	6505	-179.85	-22.65	-1.26
566	SLU 13	-54	34	6459	-178.66	-22.21	-1.27
566	SLU 14	-55	6	6592	-182.07	-23.42	-1.24
566	SLU 15	-55	23	6592	-182.18	-23.02	-1.27
566	SLU 16	-54	6	6546	-180.81	-23.24	-1.23
566	SLU 17	-54	23	6545	-180.92	-22.85	-1.26
566	SLU 18	-54	7	6697	-185.09	-24.13	-1.21
566	SLU 19	-54	23	6697	-185.2	-23.73	-1.24
566	SLU 20	-54	7	6784	-187.42	-24.5	-1.22
566	SLU 21	-54	23	6784	-187.53	-24.1	-1.25
566	SLU 22	-57	6	6527	-180.21	-22.21	-1.3
566	SLU 23	-57	33	6526	-180.4	-21.55	-1.35
566	SLU 24	-58	6	6660	-183.81	-22.76	-1.32
566	SLU 25	-58	22	6660	-183.92	-22.37	-1.36
566	SLU 26	-57	33	6613	-182.73	-21.92	-1.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
566	SLU 27	-58	6	6746	-186.14	-23.13	-1.34
566	SLU 28	-58	22	6746	-186.26	-22.74	-1.37
566	SLU 29	-58	6	6700	-184.88	-22.96	-1.33
566	SLU 30	-58	22	6700	-184.99	-22.56	-1.36
566	SLU 31	-58	35	7284	-201.28	-25.35	-1.36
566	SLU 32	-59	7	7417	-204.69	-26.56	-1.33
566	SLU 33	-59	24	7417	-204.8	-26.16	-1.37
566	SLU 34	-58	35	7370	-203.62	-25.72	-1.38
566	SLU 35	-59	7	7504	-207.03	-26.93	-1.35
566	SLU 36	-59	24	7503	-207.14	-26.53	-1.38
566	SLU 37	-59	7	7458	-205.76	-26.75	-1.34
566	SLU 38	-59	24	7457	-205.88	-26.36	-1.37
566	SLU 39	-58	8	7609	-210.04	-27.64	-1.31
566	SLU 40	-58	24	7609	-210.16	-27.24	-1.35
566	SLU 41	-59	8	7696	-212.38	-28.01	-1.33
566	SLU 42	-59	25	7695	-212.49	-27.61	-1.36
566	SLU 43	-67	5	6987	-193.28	-23.11	-1.52
566	SLU 44	-67	33	6987	-193.46	-22.45	-1.57
566	SLU 45	-68	6	7120	-196.87	-23.66	-1.54
566	SLU 46	-67	22	7120	-196.99	-23.27	-1.57
566	SLU 47	-67	33	7073	-195.8	-22.83	-1.58
566	SLU 48	-68	6	7207	-199.21	-24.03	-1.55
566	SLU 49	-68	22	7206	-199.32	-23.64	-1.59
566	SLU 50	-68	5	7160	-197.95	-23.86	-1.54
566	SLU 51	-67	22	7160	-198.06	-23.46	-1.58
566	SLU 52	-68	34	7744	-214.35	-26.25	-1.58
566	SLU 53	-69	7	7878	-217.75	-27.46	-1.55
566	SLU 54	-68	24	7877	-217.87	-27.06	-1.58
566	SLU 55	-68	34	7831	-216.68	-26.62	-1.59
566	SLU 56	-69	7	7964	-220.09	-27.83	-1.56
566	SLU 57	-69	24	7964	-220.2	-27.43	-1.59
566	SLU 58	-68	7	7918	-218.83	-27.65	-1.55
566	SLU 59	-68	24	7917	-218.94	-27.26	-1.58
566	SLU 60	-68	8	8069	-223.11	-28.54	-1.53
566	SLU 61	-68	24	8069	-223.22	-28.14	-1.56
566	SLU 62	-68	8	8156	-225.44	-28.91	-1.54
566	SLU 63	-68	24	8156	-225.56	-28.51	-1.57
566	SLU 64	-71	7	7899	-218.23	-26.62	-1.62
566	SLU 65	-71	34	7898	-218.42	-25.96	-1.68
566	SLU 66	-72	7	8032	-221.83	-27.17	-1.65
566	SLU 67	-72	23	8032	-221.94	-26.77	-1.68
566	SLU 68	-71	34	7985	-220.76	-26.33	-1.69
566	SLU 69	-72	7	8118	-224.16	-27.54	-1.66
566	SLU 70	-72	23	8118	-224.28	-27.15	-1.69
566	SLU 71	-72	7	8072	-222.9	-27.37	-1.65
566	SLU 72	-72	23	8072	-223.02	-26.97	-1.68
566	SLU 73	-72	36	8656	-239.3	-29.76	-1.68
566	SLU 74	-73	8	8789	-242.71	-30.97	-1.66
566	SLU 75	-73	25	8789	-242.82	-30.57	-1.69
566	SLU 76	-72	36	8742	-241.64	-30.13	-1.7
566	SLU 77	-73	8	8876	-245.05	-31.34	-1.67
566	SLU 78	-73	25	8875	-245.16	-30.94	-1.7
566	SLU 79	-73	8	8830	-243.78	-31.16	-1.66
566	SLU 80	-73	25	8829	-243.9	-30.76	-1.69
566	SLU 81	-72	9	8981	-248.07	-32.04	-1.64
566	SLU 82	-72	25	8981	-248.18	-31.65	-1.67
566	SLU 83	-73	9	9068	-250.4	-32.42	-1.65
566	SLU 84	-73	25	9067	-250.51	-32.02	-1.68
566	SLE RA 1	-54	5	5876	-162.39	-19.71	-1.23
566	SLE RA 2	-54	23	5875	-162.51	-19.27	-1.26
566	SLE RA 3	-54	5	5964	-164.78	-20.07	-1.24
566	SLE RA 4	-54	16	5964	-164.86	-19.81	-1.26
566	SLE RA 5	-54	23	5933	-164.07	-19.52	-1.27
566	SLE RA 6	-55	5	6022	-166.34	-20.32	-1.25
566	SLE RA 7	-55	16	6022	-166.42	-20.06	-1.27
566	SLE RA 8	-54	5	5991	-165.5	-20.2	-1.24
566	SLE RA 9	-54	16	5991	-165.57	-19.94	-1.26
566	SLE RA 10	-54	24	6380	-176.43	-21.8	-1.27
566	SLE RA 11	-55	6	6469	-178.71	-22.6	-1.25
566	SLE RA 12	-55	17	6469	-178.78	-22.34	-1.27
566	SLE RA 13	-55	24	6438	-177.99	-22.05	-1.28
566	SLE RA 14	-55	6	6527	-180.26	-22.85	-1.26
566	SLE RA 15	-55	17	6527	-180.34	-22.59	-1.28
566	SLE RA 16	-55	6	6496	-179.42	-22.73	-1.25
566	SLE RA 17	-55	17	6496	-179.5	-22.47	-1.27
566	SLE RA 18	-55	6	6597	-182.27	-23.32	-1.23
566	SLE RA 19	-55	17	6597	-182.35	-23.06	-1.25
566	SLE RA 20	-55	6	6655	-183.83	-23.57	-1.24
566	SLE RA 21	-55	17	6655	-183.91	-23.31	-1.26
566	SLE FR 1	-54	5	5876	-162.39	-19.71	-1.23
566	SLE FR 2	-54	9	5876	-162.41	-19.62	-1.23
566	SLE FR 3	-54	5	5899	-163.01	-19.81	-1.23
566	SLE FR 4	-54	9	6092	-168.38	-20.7	-1.23
566	SLE FR 5	-54	5	6115	-168.98	-20.89	-1.23
566	SLE FR 6	-54	6	6237	-172.33	-21.51	-1.23
566	SLE QP 1	-54	5	5876	-162.39	-19.71	-1.23
566	SLE QP 2	-54	5	6092	-168.35	-20.79	-1.23
566	SLD 1	410	174	6675	-185.75	6.54	11.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
566	SLD 2	416	104	6669	-185.46	5.58	12.93
566	SLD 3	416	-174	6638	-181.69	-0.54	11.99
566	SLD 4	422	-244	6632	-181.4	-1.49	13.5
566	SLD 5	76	596	6324	-179.78	-1.7	1.44
566	SLD 6	80	551	6320	-179.59	-2.32	2.42
566	SLD 7	95	-564	6201	-166.25	-25.28	3.34
566	SLD 8	98	-610	6197	-166.06	-25.89	4.31
566	SLD 9	-206	620	5987	-170.65	-15.69	-6.77
566	SLD 10	-203	575	5984	-170.46	-16.3	-5.79
566	SLD 11	-187	-540	5864	-157.12	-39.27	-4.88
566	SLD 12	-184	-586	5861	-156.92	-39.88	-3.9
566	SLD 13	-530	255	5552	-155.31	-40.09	-15.96
566	SLD 14	-524	184	5547	-155.01	-41.05	-14.44
566	SLD 15	-524	-94	5516	-151.25	-47.17	-15.39
566	SLD 16	-518	-164	5510	-150.95	-48.12	-13.87
566	SLV 1	673	295	7003	-195.8	22.38	18.52
566	SLV 2	682	184	6995	-195.33	20.88	20.91
566	SLV 3	682	-299	6940	-188.86	10.32	19.48
566	SLV 4	691	-410	6932	-188.39	8.81	21.87
566	SLV 5	148	1013	6463	-187.19	10.74	2.79
566	SLV 6	154	939	6457	-186.88	9.73	4.4
566	SLV 7	179	-966	6252	-164.08	-29.48	6
566	SLV 8	185	-1040	6247	-163.76	-30.49	7.61
566	SLV 9	-293	1051	5938	-172.95	-11.1	-10.06
566	SLV 10	-287	976	5932	-172.63	-12.11	-8.45
566	SLV 11	-262	-928	5727	-149.83	-51.31	-6.86
566	SLV 12	-256	-1003	5721	-149.51	-52.32	-5.25
566	SLV 13	-799	420	5253	-148.31	-50.4	-24.32
566	SLV 14	-790	309	5244	-147.84	-51.9	-21.93
566	SLV 15	-790	-174	5190	-141.38	-62.46	-23.36
566	SLV 16	-781	-284	5181	-140.91	-63.97	-20.97
566	SLV FO 1	745	324	7095	-198.54	26.7	20.49
566	SLV FO 2	755	202	7085	-198.03	25.05	23.12
566	SLV FO 3	756	-329	7025	-190.92	13.43	21.55
566	SLV FO 4	766	-451	7015	-190.4	11.78	24.18
566	SLV FO 5	168	1114	6500	-189.08	13.89	3.19
566	SLV FO 6	175	1032	6494	-188.73	12.78	4.96
566	SLV FO 7	203	-1063	6268	-163.65	-30.34	6.72
566	SLV FO 8	209	-1145	6262	-163.3	-31.46	8.49
566	SLV FO 9	-317	1156	5923	-173.41	-10.13	-10.94
566	SLV FO 10	-311	1074	5916	-173.06	-11.24	-9.17
566	SLV FO 11	-283	-1022	5691	-147.98	-54.36	-7.42
566	SLV FO 12	-276	-1104	5684	-147.63	-55.47	-5.65
566	SLV FO 13	-874	462	5169	-146.31	-53.36	-26.63
566	SLV FO 14	-864	340	5160	-145.79	-55.01	-24
566	SLV FO 15	-863	-192	5100	-138.68	-66.63	-25.58
566	SLV FO 16	-853	-313	5090	-138.16	-68.28	-22.95
566	CRTFP Ux+	0	0	0	0	0	0
566	CRTFP Ux-	0	0	0	0	0	0
566	CRTFP Uy+	0	0	0	0	0	0
566	CRTFP Uy-	0	0	0	0	0	0
569	SLU 1	99	-48	5391	-148.29	6.03	4.41
569	SLU 2	99	-21	5382	-148.36	4.18	4.39
569	SLU 3	101	-49	5512	-151.51	6.27	4.48
569	SLU 4	102	-32	5506	-151.55	5.16	4.48
569	SLU 5	101	-21	5459	-150.39	4.41	4.43
569	SLU 6	103	-49	5588	-153.53	6.5	4.52
569	SLU 7	103	-33	5583	-153.58	5.39	4.51
569	SLU 8	102	-49	5544	-152.34	6.49	4.48
569	SLU 9	102	-32	5539	-152.38	5.38	4.47
569	SLU 10	107	-25	6087	-167.69	4.39	4.77
569	SLU 11	109	-53	6217	-170.84	6.48	4.87
569	SLU 12	109	-37	6212	-170.88	5.37	4.86
569	SLU 13	108	-25	6164	-169.72	4.63	4.81
569	SLU 14	110	-53	6293	-172.86	6.71	4.9
569	SLU 15	110	-37	6288	-172.91	5.6	4.89
569	SLU 16	109	-53	6249	-171.67	6.71	4.86
569	SLU 17	109	-37	6244	-171.71	5.6	4.85
569	SLU 18	110	-54	6399	-175.91	6.34	4.95
569	SLU 19	110	-38	6393	-175.95	5.23	4.94
569	SLU 20	111	-54	6475	-177.93	6.57	4.99
569	SLU 21	111	-38	6470	-177.97	5.46	4.98
569	SLU 22	112	-53	6248	-171.56	6.13	4.95
569	SLU 23	112	-26	6239	-171.63	4.28	4.94
569	SLU 24	114	-54	6368	-174.78	6.36	5.03
569	SLU 25	114	-38	6363	-174.82	5.25	5.03
569	SLU 26	113	-27	6315	-173.66	4.51	4.98
569	SLU 27	115	-54	6445	-176.8	6.6	5.07
569	SLU 28	115	-38	6440	-176.84	5.48	5.06
569	SLU 29	114	-54	6401	-175.61	6.59	5.03
569	SLU 30	114	-38	6395	-175.65	5.48	5.02
569	SLU 31	119	-30	6944	-190.96	4.49	5.32
569	SLU 32	121	-58	7074	-194.11	6.58	5.41
569	SLU 33	122	-42	7068	-194.15	5.47	5.41
569	SLU 34	121	-31	7021	-192.99	4.72	5.36
569	SLU 35	123	-59	7150	-196.13	6.81	5.45
569	SLU 36	123	-43	7145	-196.17	5.7	5.44
569	SLU 37	122	-58	7106	-194.94	6.81	5.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
569	SLU 38	122	-42	7101	-194.98	5.7	5.4
569	SLU 39	122	-59	7256	-199.17	6.43	5.5
569	SLU 40	122	-43	7250	-199.22	5.32	5.49
569	SLU 41	124	-60	7332	-201.2	6.67	5.53
569	SLU 42	124	-44	7327	-201.24	5.55	5.53
569	SLU 43	124	-60	6715	-184.8	7.81	5.54
569	SLU 44	125	-33	6706	-184.88	5.96	5.53
569	SLU 45	127	-61	6835	-188.02	8.04	5.62
569	SLU 46	127	-45	6830	-188.06	6.93	5.61
569	SLU 47	126	-34	6782	-186.9	6.19	5.56
569	SLU 48	128	-61	6912	-190.05	8.27	5.65
569	SLU 49	128	-45	6906	-190.09	7.16	5.65
569	SLU 50	127	-61	6867	-188.85	8.27	5.61
569	SLU 51	127	-45	6862	-188.9	7.16	5.6
569	SLU 52	132	-37	7411	-204.21	6.17	5.91
569	SLU 53	134	-65	7540	-207.35	8.26	6
569	SLU 54	134	-49	7535	-207.39	7.15	5.99
569	SLU 55	134	-38	7487	-206.23	6.4	5.94
569	SLU 56	136	-66	7617	-209.37	8.49	6.03
569	SLU 57	136	-49	7612	-209.42	7.38	6.03
569	SLU 58	135	-65	7573	-208.18	8.49	5.99
569	SLU 59	135	-49	7567	-208.23	7.37	5.98
569	SLU 60	135	-66	7722	-212.42	8.11	6.08
569	SLU 61	135	-50	7717	-212.46	7	6.08
569	SLU 62	136	-67	7799	-214.44	8.34	6.12
569	SLU 63	137	-51	7793	-214.49	7.23	6.11
569	SLU 64	137	-66	7571	-208.07	7.9	6.09
569	SLU 65	137	-39	7562	-208.14	6.05	6.08
569	SLU 66	139	-67	7692	-211.29	8.14	6.17
569	SLU 67	140	-50	7687	-211.33	7.03	6.16
569	SLU 68	139	-39	7639	-210.17	6.28	6.11
569	SLU 69	141	-67	7768	-213.31	8.37	6.2
569	SLU 70	141	-51	7763	-213.35	7.26	6.2
569	SLU 71	140	-67	7724	-212.12	8.37	6.16
569	SLU 72	140	-50	7719	-212.16	7.26	6.15
569	SLU 73	145	-43	8268	-227.47	6.27	6.46
569	SLU 74	147	-71	8397	-230.62	8.35	6.55
569	SLU 75	147	-55	8392	-230.66	7.24	6.54
569	SLU 76	146	-43	8344	-229.5	6.5	6.49
569	SLU 77	148	-71	8474	-232.64	8.59	6.58
569	SLU 78	148	-55	8468	-232.68	7.48	6.58
569	SLU 79	147	-71	8430	-231.45	8.58	6.54
569	SLU 80	147	-55	8424	-231.49	7.47	6.53
569	SLU 81	148	-72	8579	-235.69	8.21	6.63
569	SLU 82	148	-56	8574	-235.73	7.1	6.63
569	SLU 83	149	-72	8656	-237.71	8.44	6.67
569	SLU 84	149	-56	8650	-237.75	7.33	6.66
569	SLE RA 1	103	-49	5636	-154.94	6.06	4.56
569	SLE RA 2	103	-31	5630	-154.99	4.82	4.55
569	SLE RA 3	104	-50	5716	-157.09	6.22	4.61
569	SLE RA 4	104	-39	5713	-157.11	5.48	4.61
569	SLE RA 5	104	-32	5681	-156.34	4.98	4.58
569	SLE RA 6	105	-50	5767	-158.43	6.37	4.64
569	SLE RA 7	105	-39	5764	-158.46	5.63	4.63
569	SLE RA 8	104	-50	5738	-157.64	6.37	4.61
569	SLE RA 9	105	-39	5734	-157.67	5.63	4.61
569	SLE RA 10	108	-34	6100	-167.88	4.97	4.81
569	SLE RA 11	109	-53	6186	-169.97	6.36	4.87
569	SLE RA 12	109	-42	6183	-170	5.62	4.86
569	SLE RA 13	109	-34	6151	-169.22	5.12	4.83
569	SLE RA 14	110	-53	6237	-171.32	6.51	4.89
569	SLE RA 15	110	-42	6234	-171.35	5.77	4.89
569	SLE RA 16	109	-53	6208	-170.53	6.51	4.86
569	SLE RA 17	110	-42	6204	-170.56	5.77	4.86
569	SLE RA 18	110	-53	6308	-173.35	6.26	4.93
569	SLE RA 19	110	-43	6304	-173.38	5.52	4.92
569	SLE RA 20	111	-54	6359	-174.7	6.42	4.95
569	SLE RA 21	111	-43	6355	-174.73	5.68	4.94
569	SLE FR 1	103	-49	5636	-154.94	6.06	4.56
569	SLE FR 2	103	-46	5635	-154.95	5.81	4.56
569	SLE FR 3	103	-49	5656	-155.48	6.12	4.57
569	SLE FR 4	105	-47	5836	-160.47	5.87	4.67
569	SLE FR 5	105	-51	5858	-161	6.18	4.68
569	SLE FR 6	106	-51	5972	-164.15	6.16	4.74
569	SLE QP 1	103	-49	5636	-154.94	6.06	4.56
569	SLE QP 2	105	-51	5837	-160.46	6.12	4.67
569	SLD 1	562	144	5372	-150.05	6.17	16.55
569	SLD 2	572	211	5363	-150.09	3.39	18.28
569	SLD 3	554	-210	5440	-147.2	27.17	17.11
569	SLD 4	564	-142	5431	-147.24	24.4	18.85
569	SLD 5	252	532	5595	-161.65	-25.25	7.08
569	SLD 6	258	575	5590	-161.67	-27.04	8.2
569	SLD 7	227	-645	5823	-152.16	44.77	8.96
569	SLD 8	233	-602	5818	-152.19	42.99	10.08
569	SLD 9	-23	501	5857	-168.74	-30.75	-0.73
569	SLD 10	-17	544	5851	-168.77	-32.53	0.38
569	SLD 11	-48	-676	6085	-159.26	39.28	1.14
569	SLD 12	-42	-633	6079	-159.28	37.49	2.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
569	SLD 13	-355	41	6243	-173.69	-12.16	-9.5
569	SLD 14	-345	108	6235	-173.73	-14.93	-7.77
569	SLD 15	-362	-312	6312	-170.84	8.85	-8.94
569	SLD 16	-352	-245	6303	-170.88	6.07	-7.21
569	SLV 1	821	278	5106	-144.42	4.96	23.22
569	SLV 2	836	384	5092	-144.49	0.59	25.95
569	SLV 3	808	-325	5222	-139.56	40.78	24.17
569	SLV 4	823	-219	5209	-139.62	36.41	26.91
569	SLV 5	336	942	5444	-163.02	-47.74	8.27
569	SLV 6	346	1013	5435	-163.06	-50.68	10.12
569	SLV 7	294	-1066	5832	-146.8	71.66	11.46
569	SLV 8	304	-995	5823	-146.85	68.71	13.3
569	SLV 9	-95	894	5852	-174.08	-56.47	-3.96
569	SLV 10	-84	965	5843	-174.13	-59.42	-2.12
569	SLV 11	-137	-1114	6240	-157.87	62.92	-0.77
569	SLV 12	-126	-1043	6231	-157.91	59.98	1.07
569	SLV 13	-614	118	6466	-181.31	-24.17	-17.57
569	SLV 14	-599	224	6453	-181.37	-28.54	-14.83
569	SLV 15	-627	-485	6583	-176.44	11.65	-16.61
569	SLV 16	-611	-379	6569	-176.51	7.28	-13.87
569	SLV FO 1	892	311	5033	-142.82	4.84	25.07
569	SLV FO 2	909	427	5018	-142.89	0.04	28.08
569	SLV FO 3	878	-352	5161	-137.47	44.24	26.12
569	SLV FO 4	895	-236	5146	-137.54	39.43	29.13
569	SLV FO 5	359	1041	5404	-163.27	-53.12	8.64
569	SLV FO 6	370	1119	5394	-163.32	-56.36	10.66
569	SLV FO 7	313	-1168	5832	-145.44	78.21	12.14
569	SLV FO 8	324	-1089	5822	-145.48	74.97	14.17
569	SLV FO 9	-115	988	5853	-175.45	-62.73	-4.82
569	SLV FO 10	-103	1067	5843	-175.49	-65.97	-2.8
569	SLV FO 11	-161	-1221	6281	-157.61	68.6	-1.32
569	SLV FO 12	-149	-1142	6271	-157.66	65.36	0.71
569	SLV FO 13	-686	135	6529	-183.39	-27.2	-19.79
569	SLV FO 14	-669	251	6514	-183.46	-32	-16.78
569	SLV FO 15	-700	-528	6657	-178.04	12.2	-18.74
569	SLV FO 16	-683	-412	6642	-178.11	7.4	-15.73
569	CRTFP Ux+	0	0	0	0	0	0
569	CRTFP Ux-	0	0	0	0	0	0
569	CRTFP Uy+	0	0	0	0	0	0
569	CRTFP Uy-	0	0	0	0	0	0
572	SLU 1	65	35	3934	-107.48	1220.34	-10.63
572	SLU 2	66	54	3939	-107.72	1219.79	-17.15
572	SLU 3	67	36	4022	-109.83	1247.65	-10.89
572	SLU 4	67	47	4024	-109.97	1247.32	-14.8
572	SLU 5	67	55	3992	-109.15	1236.7	-17.48
572	SLU 6	68	37	4075	-111.26	1264.56	-11.22
572	SLU 7	68	48	4078	-111.4	1264.23	-15.14
572	SLU 8	67	37	4042	-110.34	1254.17	-11.3
572	SLU 9	67	48	4044	-110.49	1253.84	-15.21
572	SLU 10	70	58	4435	-121.27	1373.89	-18.41
572	SLU 11	71	40	4518	-123.38	1401.76	-12.15
572	SLU 12	71	51	4521	-123.52	1401.42	-16.06
572	SLU 13	71	59	4489	-122.7	1390.81	-18.74
572	SLU 14	72	41	4572	-124.81	1418.67	-12.48
572	SLU 15	72	52	4575	-124.95	1418.34	-16.4
572	SLU 16	71	41	4538	-123.89	1408.28	-12.56
572	SLU 17	72	52	4541	-124.03	1407.95	-16.47
572	SLU 18	71	41	4644	-126.84	1440.5	-12.43
572	SLU 19	72	52	4646	-126.98	1440.16	-16.34
572	SLU 20	72	42	4697	-128.27	1457.41	-12.76
572	SLU 21	73	53	4700	-128.41	1457.08	-16.68
572	SLU 22	73	37	4545	-124.05	1410.42	-11.03
572	SLU 23	73	56	4549	-124.28	1409.86	-17.55
572	SLU 24	74	38	4632	-126.39	1437.73	-11.29
572	SLU 25	74	49	4635	-126.54	1437.39	-15.2
572	SLU 26	74	57	4603	-125.72	1426.78	-17.89
572	SLU 27	75	39	4686	-127.82	1454.64	-11.63
572	SLU 28	75	50	4688	-127.97	1454.31	-15.54
572	SLU 29	74	39	4652	-126.91	1444.25	-11.7
572	SLU 30	75	50	4655	-127.05	1443.92	-15.61
572	SLU 31	77	59	5045	-137.83	1563.97	-18.81
572	SLU 32	78	42	5129	-139.94	1591.83	-12.55
572	SLU 33	79	53	5131	-140.08	1591.5	-16.46
572	SLU 34	78	61	5099	-139.26	1580.89	-19.15
572	SLU 35	79	43	5182	-141.37	1608.75	-12.89
572	SLU 36	80	54	5185	-141.52	1608.41	-16.8
572	SLU 37	79	43	5148	-140.46	1598.36	-12.96
572	SLU 38	79	54	5151	-140.6	1598.02	-16.87
572	SLU 39	79	42	5254	-143.4	1630.57	-12.83
572	SLU 40	79	54	5256	-143.54	1630.24	-16.74
572	SLU 41	80	43	5308	-144.83	1647.49	-13.17
572	SLU 42	80	55	5310	-144.98	1647.15	-17.08
572	SLU 43	82	45	4905	-134.04	1521.28	-13.68
572	SLU 44	83	64	4910	-134.28	1520.72	-20.2
572	SLU 45	84	46	4993	-136.39	1548.58	-13.94
572	SLU 46	84	57	4995	-136.53	1548.25	-17.85
572	SLU 47	84	65	4963	-135.71	1537.63	-20.53
572	SLU 48	85	47	5046	-137.82	1565.5	-14.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
572	SLU 49	85	58	5049	-137.97	1565.16	-18.19
572	SLU 50	84	47	5013	-136.91	1555.11	-14.35
572	SLU 51	84	58	5015	-137.05	1554.77	-18.26
572	SLU 52	87	68	5406	-147.83	1674.83	-21.46
572	SLU 53	88	50	5489	-149.94	1702.69	-15.2
572	SLU 54	88	61	5492	-150.08	1702.36	-19.11
572	SLU 55	88	69	5460	-149.26	1691.74	-21.79
572	SLU 56	89	51	5543	-151.37	1719.61	-15.54
572	SLU 57	89	62	5546	-151.51	1719.27	-19.45
572	SLU 58	88	51	5509	-150.46	1709.21	-15.61
572	SLU 59	89	62	5512	-150.6	1708.88	-19.52
572	SLU 60	88	51	5615	-153.4	1741.43	-15.48
572	SLU 61	89	62	5617	-153.54	1741.1	-19.39
572	SLU 62	89	52	5668	-154.83	1758.34	-15.82
572	SLU 63	89	63	5671	-154.97	1758.01	-19.73
572	SLU 64	90	47	5516	-150.61	1711.35	-14.08
572	SLU 65	90	66	5520	-150.85	1710.8	-20.6
572	SLU 66	91	48	5603	-152.96	1738.66	-14.34
572	SLU 67	91	59	5606	-153.1	1738.33	-18.25
572	SLU 68	91	67	5574	-152.28	1727.71	-20.94
572	SLU 69	92	49	5657	-154.39	1755.58	-14.68
572	SLU 70	92	60	5659	-154.53	1755.24	-18.59
572	SLU 71	91	49	5623	-153.47	1745.18	-14.75
572	SLU 72	92	60	5626	-153.62	1744.85	-18.66
572	SLU 73	94	69	6016	-164.4	1864.9	-21.86
572	SLU 74	95	52	6100	-166.51	1892.77	-15.6
572	SLU 75	96	63	6102	-166.65	1892.43	-19.51
572	SLU 76	95	70	6070	-165.83	1881.82	-22.2
572	SLU 77	96	53	6153	-167.94	1909.68	-15.94
572	SLU 78	97	64	6156	-168.08	1909.35	-19.85
572	SLU 79	96	53	6120	-167.02	1899.29	-16.01
572	SLU 80	96	64	6122	-167.16	1898.96	-19.92
572	SLU 81	96	52	6225	-169.97	1931.51	-15.88
572	SLU 82	96	64	6227	-170.11	1931.17	-19.79
572	SLU 83	97	53	6279	-171.4	1948.42	-16.22
572	SLU 84	97	65	6281	-171.54	1948.09	-20.13
572	SLE RA 1	67	36	4109	-112.21	1274.65	-10.74
572	SLE RA 2	68	48	4111	-112.37	1274.28	-15.09
572	SLE RA 3	68	36	4167	-113.78	1292.86	-10.92
572	SLE RA 4	69	44	4169	-113.87	1292.63	-13.52
572	SLE RA 5	68	49	4147	-113.33	1285.56	-15.31
572	SLE RA 6	69	37	4203	-114.73	1304.13	-11.14
572	SLE RA 7	69	44	4204	-114.83	1303.91	-13.75
572	SLE RA 8	68	37	4180	-114.12	1297.2	-11.19
572	SLE RA 9	69	45	4182	-114.22	1296.98	-13.8
572	SLE RA 10	70	51	4442	-121.4	1377.02	-15.93
572	SLE RA 11	71	39	4498	-122.81	1395.59	-11.76
572	SLE RA 12	71	46	4500	-122.91	1395.37	-14.36
572	SLE RA 13	71	51	4478	-122.36	1388.29	-16.15
572	SLE RA 14	72	40	4534	-123.76	1406.87	-11.98
572	SLE RA 15	72	47	4535	-123.86	1406.65	-14.59
572	SLE RA 16	71	40	4511	-123.15	1399.94	-12.03
572	SLE RA 17	72	47	4513	-123.25	1399.72	-14.64
572	SLE RA 18	71	39	4582	-125.12	1421.42	-11.94
572	SLE RA 19	72	47	4583	-125.21	1421.2	-14.55
572	SLE RA 20	72	40	4617	-126.07	1432.7	-12.17
572	SLE RA 21	72	48	4619	-126.17	1432.47	-14.77
572	SLE FR 1	67	36	4109	-112.21	1274.65	-10.74
572	SLE FR 2	67	38	4109	-112.25	1274.58	-11.61
572	SLE FR 3	68	36	4123	-112.59	1279.16	-10.83
572	SLE FR 4	69	39	4251	-116.12	1318.61	-11.97
572	SLE FR 5	69	37	4265	-116.47	1323.19	-11.19
572	SLE FR 6	69	38	4345	-118.66	1348.04	-11.34
572	SLE QP 1	67	36	4109	-112.21	1274.65	-10.74
572	SLE QP 2	68	37	4251	-116.08	1318.68	-11.1
572	SLD 1	336	68	3201	-88.33	1007.15	-19.61
572	SLD 2	342	170	3205	-88.59	1006.22	-55.32
572	SLD 3	330	-167	3118	-84.19	1003.67	62.38
572	SLD 4	336	-64	3122	-84.46	1002.73	26.67
572	SLD 5	157	385	4061	-113.98	1230.67	-131.87
572	SLD 6	161	451	4063	-114.15	1230.06	-154.86
572	SLD 7	136	-398	3784	-100.2	1219.05	141.43
572	SLD 8	140	-332	3787	-100.37	1218.45	118.44
572	SLD 9	-3	406	4714	-131.79	1418.91	-140.65
572	SLD 10	1	472	4717	-131.97	1418.31	-163.64
572	SLD 11	-24	-377	4438	-118.02	1407.3	132.66
572	SLD 12	-20	-311	4440	-118.19	1406.7	109.66
572	SLD 13	-199	138	5379	-147.71	1634.63	-48.87
572	SLD 14	-193	241	5383	-147.98	1633.7	-84.59
572	SLD 15	-205	-97	5296	-143.58	1631.15	33.12
572	SLD 16	-199	6	5300	-143.84	1630.21	-2.59
572	SLV 1	488	101	2618	-73.07	832.73	-29.96
572	SLV 2	498	263	2626	-73.49	831.26	-86.25
572	SLV 3	477	-300	2477	-66.03	827.1	109.96
572	SLV 4	487	-138	2484	-66.45	825.63	53.67
572	SLV 5	208	634	3974	-113.79	1181.7	-218.47
572	SLV 6	215	743	3978	-114.07	1180.72	-256.36
572	SLV 7	173	-703	3503	-90.3	1162.94	247.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
572	SLV 8	180	-593	3508	-90.59	1161.96	210.04
572	SLV 9	-43	667	4993	-141.58	1475.41	-232.25
572	SLV 10	-36	776	4998	-141.87	1474.42	-270.14
572	SLV 11	-78	-669	4523	-118.1	1456.65	234.15
572	SLV 12	-71	-560	4527	-118.38	1455.66	196.26
572	SLV 13	-350	212	6017	-165.72	1811.74	-75.88
572	SLV 14	-340	374	6024	-166.14	1810.27	-132.17
572	SLV 15	-361	-189	5875	-158.68	1806.11	64.04
572	SLV 16	-351	-27	5883	-159.1	1804.64	7.75
572	SLV FO 1	530	107	2455	-68.77	784.13	-31.84
572	SLV FO 2	541	286	2463	-69.23	782.51	-93.76
572	SLV FO 3	518	-334	2300	-61.02	777.94	122.07
572	SLV FO 4	529	-155	2308	-61.48	776.32	60.15
572	SLV FO 5	222	693	3946	-113.56	1168.01	-239.21
572	SLV FO 6	230	814	3951	-113.87	1166.92	-280.89
572	SLV FO 7	184	-777	3428	-87.72	1147.37	273.83
572	SLV FO 8	191	-656	3434	-88.04	1146.28	232.15
572	SLV FO 9	-54	730	5067	-144.13	1491.08	-254.36
572	SLV FO 10	-47	850	5073	-144.45	1489.99	-296.04
572	SLV FO 11	-93	-740	4550	-118.3	1470.44	258.68
572	SLV FO 12	-85	-620	4555	-118.61	1469.36	217
572	SLV FO 13	-392	229	6193	-170.69	1861.04	-82.36
572	SLV FO 14	-381	407	6201	-171.15	1859.42	-144.28
572	SLV FO 15	-404	-212	6038	-162.94	1854.85	71.55
572	SLV FO 16	-393	-34	6046	-163.4	1853.23	9.64
572	CRTFP Ux+	0	0	0	0	0	0
572	CRTFP Ux-	0	0	0	0	0	0
572	CRTFP Uy+	0	0	0	0	0	0
572	CRTFP Uy-	0	0	0	0	0	0
575	SLU 1	16	-42	2817	-79.36	1112.51	17.24
575	SLU 2	17	-25	2811	-79.3	1109.69	10.61
575	SLU 3	17	-43	2880	-81.09	1137.3	17.66
575	SLU 4	17	-33	2876	-81.05	1135.61	13.68
575	SLU 5	17	-26	2852	-80.41	1125.79	10.93
575	SLU 6	17	-44	2920	-82.21	1153.4	17.98
575	SLU 7	17	-34	2917	-82.17	1151.71	14.01
575	SLU 8	17	-43	2898	-81.6	1144.71	17.88
575	SLU 9	17	-33	2895	-81.56	1143.02	13.9
575	SLU 10	18	-30	3191	-89.98	1260.16	12.52
575	SLU 11	18	-48	3260	-91.78	1287.77	19.57
575	SLU 12	18	-38	3256	-91.74	1286.08	15.59
575	SLU 13	18	-31	3232	-91.1	1276.26	12.84
575	SLU 14	18	-48	3300	-92.9	1303.87	19.89
575	SLU 15	18	-38	3297	-92.86	1302.18	15.92
575	SLU 16	18	-48	3278	-92.28	1295.17	19.79
575	SLU 17	18	-38	3275	-92.24	1293.48	15.81
575	SLU 18	18	-49	3360	-94.63	1327.46	19.97
575	SLU 19	18	-39	3356	-94.59	1325.77	15.99
575	SLU 20	18	-49	3400	-95.75	1343.56	20.29
575	SLU 21	19	-39	3397	-95.71	1341.87	16.31
575	SLU 22	19	-47	3250	-91.42	1283.19	19.38
575	SLU 23	19	-30	3244	-91.36	1280.37	12.75
575	SLU 24	19	-48	3312	-93.15	1307.98	19.8
575	SLU 25	20	-38	3309	-93.11	1306.29	15.82
575	SLU 26	20	-31	3284	-92.47	1296.47	13.07
575	SLU 27	19	-49	3353	-94.27	1324.08	20.12
575	SLU 28	20	-39	3349	-94.23	1322.38	16.15
575	SLU 29	19	-49	3331	-93.66	1315.38	20.02
575	SLU 30	20	-39	3327	-93.62	1313.69	16.04
575	SLU 31	21	-35	3623	-102.04	1430.84	14.66
575	SLU 32	21	-53	3692	-103.84	1458.44	21.71
575	SLU 33	21	-43	3688	-103.8	1456.75	17.73
575	SLU 34	21	-36	3664	-103.16	1446.93	14.98
575	SLU 35	21	-54	3733	-104.96	1474.54	22.03
575	SLU 36	21	-44	3729	-104.92	1472.85	18.06
575	SLU 37	21	-53	3711	-104.35	1465.85	21.93
575	SLU 38	21	-43	3707	-104.31	1464.16	17.95
575	SLU 39	21	-54	3792	-106.69	1498.14	22.11
575	SLU 40	21	-44	3789	-106.65	1496.45	18.13
575	SLU 41	21	-55	3833	-107.81	1514.24	22.43
575	SLU 42	21	-45	3829	-107.77	1512.55	18.45
575	SLU 43	20	-53	3514	-99.03	1387.75	21.67
575	SLU 44	21	-36	3508	-98.97	1384.93	15.05
575	SLU 45	21	-54	3577	-100.76	1412.54	22.1
575	SLU 46	21	-44	3573	-100.72	1410.85	18.12
575	SLU 47	21	-37	3549	-100.09	1401.03	15.37
575	SLU 48	21	-54	3617	-101.88	1428.64	22.42
575	SLU 49	21	-45	3614	-101.84	1426.94	18.44
575	SLU 50	21	-54	3595	-101.27	1419.94	22.32
575	SLU 51	21	-44	3592	-101.23	1418.25	18.34
575	SLU 52	22	-41	3888	-109.66	1535.4	16.96
575	SLU 53	22	-58	3957	-111.45	1563	24.01
575	SLU 54	22	-48	3953	-111.41	1561.31	20.03
575	SLU 55	22	-42	3929	-110.77	1551.49	17.28
575	SLU 56	22	-59	3997	-112.57	1579.1	24.33
575	SLU 57	22	-49	3994	-112.53	1577.41	20.35
575	SLU 58	22	-59	3975	-111.96	1570.41	24.23
575	SLU 59	22	-49	3972	-111.92	1568.72	20.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
575	SLU 60	22	-59	4057	-114.3	1602.7	24.4
575	SLU 61	22	-49	4053	-114.26	1601.01	20.43
575	SLU 62	22	-60	4097	-115.42	1618.8	24.73
575	SLU 63	23	-50	4094	-115.38	1617.11	20.75
575	SLU 64	23	-58	3947	-111.1	1558.42	23.81
575	SLU 65	23	-41	3941	-111.03	1555.61	17.19
575	SLU 66	23	-59	4009	-112.83	1583.21	24.24
575	SLU 67	23	-49	4006	-112.79	1581.52	20.26
575	SLU 68	23	-42	3981	-112.15	1571.7	17.51
575	SLU 69	23	-60	4050	-113.94	1599.31	24.56
575	SLU 70	24	-50	4046	-113.9	1597.62	20.58
575	SLU 71	23	-59	4028	-113.33	1590.62	24.46
575	SLU 72	24	-49	4024	-113.29	1588.93	20.48
575	SLU 73	25	-46	4320	-121.72	1706.07	19.1
575	SLU 74	25	-64	4389	-123.51	1733.68	26.15
575	SLU 75	25	-54	4385	-123.47	1731.99	22.17
575	SLU 76	25	-47	4361	-122.84	1722.17	19.42
575	SLU 77	25	-64	4430	-124.63	1749.78	26.47
575	SLU 78	25	-54	4426	-124.59	1748.09	22.49
575	SLU 79	25	-64	4407	-124.02	1741.09	26.37
575	SLU 80	25	-54	4404	-123.98	1739.4	22.39
575	SLU 81	25	-65	4489	-126.36	1773.38	26.54
575	SLU 82	25	-55	4486	-126.32	1771.69	22.57
575	SLU 83	25	-65	4530	-127.48	1789.47	26.87
575	SLU 84	25	-55	4526	-127.44	1787.78	22.89
575	SLE RA 1	17	-43	2941	-82.81	1161.28	17.85
575	SLE RA 2	17	-32	2937	-82.76	1159.4	13.43
575	SLE RA 3	17	-44	2983	-83.96	1177.8	18.13
575	SLE RA 4	17	-37	2980	-83.93	1176.68	15.48
575	SLE RA 5	17	-33	2964	-83.51	1170.13	13.64
575	SLE RA 6	17	-45	3010	-84.71	1188.53	18.35
575	SLE RA 7	18	-38	3007	-84.68	1187.41	15.69
575	SLE RA 8	17	-44	2995	-84.3	1182.74	18.28
575	SLE RA 9	17	-38	2992	-84.27	1181.61	15.63
575	SLE RA 10	18	-35	3190	-89.89	1259.71	14.7
575	SLE RA 11	18	-47	3236	-91.09	1278.11	19.4
575	SLE RA 12	18	-41	3233	-91.06	1276.99	16.75
575	SLE RA 13	18	-36	3217	-90.63	1270.44	14.92
575	SLE RA 14	18	-48	3263	-91.83	1288.85	19.62
575	SLE RA 15	18	-41	3260	-91.8	1287.72	16.97
575	SLE RA 16	18	-48	3248	-91.42	1283.05	19.55
575	SLE RA 17	18	-41	3246	-91.4	1281.92	16.9
575	SLE RA 18	18	-48	3303	-92.99	1304.58	19.67
575	SLE RA 19	18	-41	3300	-92.96	1303.45	17.02
575	SLE RA 20	18	-48	3330	-93.73	1315.31	19.88
575	SLE RA 21	19	-42	3327	-93.7	1314.18	17.23
575	SLE FR 1	17	-43	2941	-82.81	1161.28	17.85
575	SLE FR 2	17	-41	2940	-82.8	1160.9	16.96
575	SLE FR 3	17	-44	2952	-83.11	1165.57	17.93
575	SLE FR 4	17	-42	3049	-85.85	1203.89	17.51
575	SLE FR 5	17	-45	3060	-86.16	1208.56	18.48
575	SLE FR 6	18	-46	3122	-87.9	1232.93	18.76
575	SLE QP 1	17	-43	2941	-82.81	1161.28	17.85
575	SLE QP 2	17	-45	3049	-85.86	1204.27	18.39
575	SLD 1	257	52	3059	-86.95	1211.49	-15.22
575	SLD 2	261	56	3060	-87.01	1211.53	-16.51
575	SLD 3	251	-158	3113	-86.63	1239.06	68.74
575	SLD 4	255	-154	3114	-86.69	1239.1	67.45
575	SLD 5	98	303	2970	-86.67	1164.62	-118.8
575	SLD 6	101	306	2970	-86.71	1164.65	-119.64
575	SLD 7	77	-399	3151	-85.59	1256.5	161.06
575	SLD 8	80	-396	3151	-85.63	1256.53	160.23
575	SLD 9	-45	307	2947	-86.09	1152	-123.44
575	SLD 10	-42	309	2948	-86.13	1152.03	-124.27
575	SLD 11	-66	-395	3128	-85.02	1243.89	156.43
575	SLD 12	-64	-393	3129	-85.05	1243.91	155.59
575	SLD 13	-220	65	2984	-85.03	1169.43	-30.66
575	SLD 14	-216	69	2985	-85.09	1169.47	-31.95
575	SLD 15	-226	-146	3039	-84.71	1197	53.3
575	SLD 16	-222	-142	3040	-84.77	1197.04	52
575	SLV 1	393	122	3061	-87.61	1213.88	-40.1
575	SLV 2	399	128	3063	-87.71	1213.94	-42.14
575	SLV 3	382	-237	3154	-87.06	1260.85	103.1
575	SLV 4	388	-232	3156	-87.15	1260.92	101.06
575	SLV 5	145	549	2912	-87.21	1135.9	-215.96
575	SLV 6	149	553	2913	-87.27	1135.94	-217.33
575	SLV 7	109	-648	3221	-85.37	1292.47	261.38
575	SLV 8	113	-644	3222	-85.43	1292.51	260
575	SLV 9	-79	555	2877	-86.29	1116.02	-223.22
575	SLV 10	-75	559	2878	-86.36	1116.06	-224.59
575	SLV 11	-115	-642	3185	-84.45	1272.59	254.12
575	SLV 12	-111	-638	3186	-84.51	1272.63	252.75
575	SLV 13	-354	142	2943	-84.57	1147.62	-64.28
575	SLV 14	-348	148	2945	-84.66	1147.68	-66.31
575	SLV 15	-364	-217	3036	-84.02	1194.59	78.93
575	SLV 16	-358	-211	3037	-84.11	1194.65	76.89
575	SLV FO 1	431	138	3062	-87.79	1214.84	-45.95
575	SLV FO 2	437	145	3064	-87.89	1214.91	-48.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
575	SLV FO 3	419	-257	3164	-87.18	1266.51	111.57
575	SLV FO 4	425	-250	3166	-87.28	1266.58	109.33
575	SLV FO 5	158	608	2898	-87.34	1129.06	-239.4
575	SLV FO 6	163	612	2900	-87.41	1129.11	-240.91
575	SLV FO 7	119	-709	3238	-85.32	1301.29	285.67
575	SLV FO 8	123	-704	3239	-85.38	1301.34	284.17
575	SLV FO 9	-88	615	2859	-86.34	1107.2	-247.38
575	SLV FO 10	-84	619	2861	-86.41	1107.24	-248.89
575	SLV FO 11	-128	-702	3199	-84.31	1279.42	277.7
575	SLV FO 12	-123	-698	3200	-84.38	1279.47	276.19
575	SLV FO 13	-391	161	2932	-84.44	1141.95	-72.54
575	SLV FO 14	-384	167	2934	-84.54	1142.02	-74.79
575	SLV FO 15	-403	-234	3034	-83.83	1193.62	84.98
575	SLV FO 16	-396	-228	3036	-83.93	1193.69	82.74
575	CRTFP Ux+	0	0	0	0	0	0
575	CRTFP Ux-	0	0	0	0	0	0
575	CRTFP Uy+	0	0	0	0	0	0
575	CRTFP Uy-	0	0	0	0	0	0
594	SLU 1	-90	20	8260	2968.99	-488.47	32.32
594	SLU 2	-90	60	8254	2963.2	-487.67	34.55
594	SLU 3	-92	20	8460	3042.02	-500.29	32.93
594	SLU 4	-92	44	8456	3038.54	-499.81	34.27
594	SLU 5	-91	60	8384	3011.09	-495.41	34.85
594	SLU 6	-93	20	8590	3089.91	-508.02	33.22
594	SLU 7	-93	44	8586	3086.43	-507.55	34.57
594	SLU 8	-92	20	8521	3064.77	-503.93	32.91
594	SLU 9	-92	44	8517	3061.3	-503.46	34.25
594	SLU 10	-93	63	9364	3362.13	-553.49	35.62
594	SLU 11	-95	23	9570	3440.94	-566.11	34
594	SLU 12	-94	47	9566	3437.47	-565.63	35.34
594	SLU 13	-93	63	9494	3410.02	-561.22	35.92
594	SLU 14	-96	23	9700	3488.83	-573.84	34.3
594	SLU 15	-95	47	9696	3485.36	-573.36	35.64
594	SLU 16	-95	23	9631	3463.7	-569.75	33.99
594	SLU 17	-94	47	9627	3460.23	-569.27	35.33
594	SLU 18	-94	24	9846	3538.89	-582.49	33.85
594	SLU 19	-94	48	9842	3535.42	-582.01	35.19
594	SLU 20	-95	24	9976	3586.78	-590.23	34.15
594	SLU 21	-95	48	9972	3583.31	-589.75	35.49
594	SLU 22	-99	22	9617	3460.67	-568.66	35.42
594	SLU 23	-98	62	9611	3454.88	-567.86	37.65
594	SLU 24	-100	22	9816	3533.69	-580.48	36.03
594	SLU 25	-100	46	9813	3530.22	-580	37.37
594	SLU 26	-99	62	9741	3502.77	-575.59	37.95
594	SLU 27	-101	22	9947	3581.58	-588.21	36.32
594	SLU 28	-101	46	9943	3578.11	-587.74	37.66
594	SLU 29	-100	22	9878	3556.45	-584.12	36.01
594	SLU 30	-100	46	9874	3552.98	-583.65	37.35
594	SLU 31	-101	65	10721	3853.81	-633.68	38.72
594	SLU 32	-103	25	10926	3932.62	-646.3	37.1
594	SLU 33	-103	49	10923	3929.15	-645.82	38.44
594	SLU 34	-102	65	10851	3901.7	-641.41	39.02
594	SLU 35	-104	25	11057	3980.51	-654.03	37.4
594	SLU 36	-104	49	11053	3977.04	-653.55	38.74
594	SLU 37	-103	25	10988	3955.38	-649.94	37.08
594	SLU 38	-103	49	10984	3951.9	-649.46	38.42
594	SLU 39	-102	26	11202	4030.57	-662.68	36.95
594	SLU 40	-102	50	11199	4027.09	-662.2	38.29
594	SLU 41	-103	27	11333	4078.46	-670.41	37.25
594	SLU 42	-103	50	11329	4074.98	-669.94	38.59
594	SLU 43	-115	25	10273	3691.12	-607.51	40.95
594	SLU 44	-114	65	10267	3685.33	-606.72	43.18
594	SLU 45	-116	25	10473	3764.14	-619.34	41.56
594	SLU 46	-116	49	10469	3760.66	-618.86	42.9
594	SLU 47	-115	65	10397	3733.22	-614.45	43.48
594	SLU 48	-117	25	10603	3812.03	-627.07	41.86
594	SLU 49	-117	49	10599	3808.55	-626.59	43.2
594	SLU 50	-116	25	10534	3786.9	-622.98	41.54
594	SLU 51	-116	49	10530	3783.42	-622.5	42.89
594	SLU 52	-117	68	11377	4084.25	-672.54	44.26
594	SLU 53	-119	28	11582	4163.07	-685.15	42.63
594	SLU 54	-119	52	11579	4159.59	-684.68	43.97
594	SLU 55	-118	68	11507	4132.14	-680.27	44.55
594	SLU 56	-120	28	11713	4210.96	-692.89	42.93
594	SLU 57	-120	52	11709	4207.48	-692.41	44.27
594	SLU 58	-119	28	11644	4185.83	-688.8	42.62
594	SLU 59	-119	52	11640	4182.35	-688.32	43.96
594	SLU 60	-119	29	11859	4261.02	-701.54	42.48
594	SLU 61	-118	53	11855	4257.54	-701.06	43.82
594	SLU 62	-119	29	11989	4308.91	-709.27	42.78
594	SLU 63	-119	53	11985	4305.43	-708.8	44.12
594	SLU 64	-123	27	11630	4182.79	-687.7	44.05
594	SLU 65	-122	67	11624	4177	-686.91	46.28
594	SLU 66	-125	27	11829	4255.82	-699.53	44.66
594	SLU 67	-124	51	11826	4252.34	-699.05	46
594	SLU 68	-123	67	11754	4224.89	-694.64	46.58
594	SLU 69	-125	27	11960	4303.71	-707.26	44.96
594	SLU 70	-125	51	11956	4300.23	-706.78	46.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
594	SLU 71	-125	27	11891	4278.57	-703.17	44.64
594	SLU 72	-124	51	11887	4275.1	-702.69	45.98
594	SLU 73	-125	70	12733	4575.93	-752.73	47.36
594	SLU 74	-127	30	12939	4654.74	-765.34	45.73
594	SLU 75	-127	54	12935	4651.27	-764.87	47.07
594	SLU 76	-126	70	12864	4623.82	-760.46	47.65
594	SLU 77	-128	31	13070	4702.63	-773.08	46.03
594	SLU 78	-128	55	13066	4699.16	-772.6	47.37
594	SLU 79	-127	30	13001	4677.5	-768.99	45.72
594	SLU 80	-127	54	12997	4674.03	-768.51	47.06
594	SLU 81	-127	32	13215	4752.69	-781.73	45.58
594	SLU 82	-126	55	13212	4749.22	-781.25	46.92
594	SLU 83	-128	32	13346	4800.58	-789.46	45.88
594	SLU 84	-127	56	13342	4797.11	-788.98	47.22
594	SLE RA 1	-93	20	8648	3109.47	-511.38	33.2
594	SLE RA 2	-92	47	8644	3105.61	-510.85	34.69
594	SLE RA 3	-94	21	8781	3158.15	-519.26	33.61
594	SLE RA 4	-94	36	8778	3155.84	-518.94	34.5
594	SLE RA 5	-93	47	8731	3137.54	-516	34.89
594	SLE RA 6	-94	21	8868	3190.08	-524.42	33.81
594	SLE RA 7	-94	37	8865	3187.76	-524.1	34.7
594	SLE RA 8	-94	21	8822	3173.33	-521.69	33.6
594	SLE RA 9	-94	36	8819	3171.01	-521.37	34.49
594	SLE RA 10	-94	49	9384	3371.56	-554.73	35.41
594	SLE RA 11	-96	23	9521	3424.11	-563.14	34.32
594	SLE RA 12	-95	39	9518	3421.79	-562.82	35.22
594	SLE RA 13	-95	49	9471	3403.49	-559.88	35.61
594	SLE RA 14	-96	23	9608	3456.03	-568.29	34.52
594	SLE RA 15	-96	39	9605	3453.72	-567.98	35.42
594	SLE RA 16	-96	23	9562	3439.28	-565.57	34.31
594	SLE RA 17	-95	39	9559	3436.96	-565.25	35.21
594	SLE RA 18	-95	23	9705	3489.41	-574.06	34.22
594	SLE RA 19	-95	39	9702	3487.09	-573.74	35.12
594	SLE RA 20	-96	23	9792	3521.33	-579.22	34.42
594	SLE RA 21	-96	39	9789	3519.02	-578.9	35.32
594	SLE FR 1	-93	20	8648	3109.47	-511.38	33.2
594	SLE FR 2	-93	26	8647	3108.7	-511.27	33.5
594	SLE FR 3	-93	20	8683	3122.24	-513.44	33.28
594	SLE FR 4	-93	27	8964	3222.68	-530.08	33.81
594	SLE FR 5	-94	21	9000	3236.22	-532.25	33.59
594	SLE FR 6	-94	22	9176	3299.44	-542.72	33.71
594	SLE QP 1	-93	20	8648	3109.47	-511.38	33.2
594	SLE QP 2	-94	21	8965	3223.45	-530.18	33.51
594	SLD 1	590	272	9952	3556.79	-580.18	-194.71
594	SLD 2	585	155	9942	3555.1	-580.07	-198.18
594	SLD 3	580	-229	10008	3633.74	-588.95	-223.5
594	SLD 4	575	-347	9998	3632.05	-588.83	-226.97
594	SLD 5	126	877	9178	3207.03	-531.91	9.31
594	SLD 6	123	801	9172	3205.94	-531.84	7.07
594	SLD 7	95	-794	9364	3463.54	-561.12	-86.66
594	SLD 8	92	-870	9358	3462.46	-561.05	-88.9
594	SLD 9	-279	912	8572	2984.45	-499.32	155.92
594	SLD 10	-282	836	8565	2983.36	-499.24	153.68
594	SLD 11	-311	-759	8758	3240.96	-528.53	59.94
594	SLD 12	-314	-835	8752	3239.87	-528.45	57.71
594	SLD 13	-763	389	7932	2814.85	-471.54	293.99
594	SLD 14	-767	271	7922	2813.16	-471.42	290.51
594	SLD 15	-772	-112	7988	2891.81	-480.3	265.19
594	SLD 16	-777	-230	7977	2890.12	-480.18	261.72
594	SLV 1	976	450	10502	3738	-607.55	-321.73
594	SLV 2	969	265	10486	3735.34	-607.37	-327.2
594	SLV 3	961	-405	10597	3869.17	-622.47	-370.81
594	SLV 4	953	-590	10580	3866.5	-622.29	-376.28
594	SLV 5	253	1481	9285	3179.38	-530.8	2.39
594	SLV 6	248	1356	9275	3177.58	-530.67	-1.29
594	SLV 7	200	-1368	9601	3616.6	-580.54	-161.2
594	SLV 8	195	-1493	9590	3614.81	-580.41	-164.88
594	SLV 9	-382	1536	8340	2832.1	-479.95	231.9
594	SLV 10	-387	1411	8329	2830.3	-479.83	228.22
594	SLV 11	-435	-1314	8655	3269.32	-529.69	68.31
594	SLV 12	-440	-1438	8645	3267.53	-529.57	64.63
594	SLV 13	-1140	633	7349	2580.4	-438.08	443.3
594	SLV 14	-1148	447	7333	2577.74	-437.89	437.83
594	SLV 15	-1156	-222	7444	2711.57	-453	394.22
594	SLV 16	-1164	-408	7428	2708.91	-452.81	388.75
594	SLV FO 1	1084	493	10656	3789.45	-615.29	-357.26
594	SLV FO 2	1075	289	10638	3786.52	-615.09	-363.28
594	SLV FO 3	1066	-447	10760	3933.74	-631.7	-411.24
594	SLV FO 4	1058	-651	10742	3930.81	-631.5	-417.26
594	SLV FO 5	287	1627	9317	3174.97	-530.86	-0.72
594	SLV FO 6	282	1490	9305	3172.99	-530.72	-4.77
594	SLV FO 7	230	-1507	9665	3655.92	-585.57	-180.67
594	SLV FO 8	224	-1645	9653	3653.95	-585.43	-184.72
594	SLV FO 9	-411	1687	8277	2792.96	-474.93	251.74
594	SLV FO 10	-417	1550	8265	2790.99	-474.79	247.69
594	SLV FO 11	-469	-1447	8624	3273.91	-529.65	71.79
594	SLV FO 12	-474	-1584	8612	3271.94	-529.51	67.74
594	SLV FO 13	-1245	694	7188	2516.1	-428.87	484.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
594	SLV FO 14	-1253	490	7170	2513.17	-428.66	478.26
594	SLV FO 15	-1262	-246	7292	2660.38	-445.28	430.29
594	SLV FO 16	-1271	-450	7274	2657.45	-445.08	424.27
594	CRTFP Ux+	0	0	0	0	0	0
594	CRTFP Ux-	0	0	0	0	0	0
594	CRTFP Uy+	0	0	0	0	0	0
594	CRTFP Uy-	0	0	0	0	0	0
631	SLU 1	5	-19	2365	1089.71	-14.12	-2.34
631	SLU 2	6	-5	2356	1084.47	-14.1	-2.44
631	SLU 3	5	-20	2419	1114.98	-14.43	-2.46
631	SLU 4	6	-12	2414	1111.84	-14.42	-2.52
631	SLU 5	6	-6	2391	1100.92	-14.3	-2.52
631	SLU 6	6	-21	2455	1131.44	-14.63	-2.54
631	SLU 7	6	-12	2449	1128.3	-14.62	-2.6
631	SLU 8	6	-21	2436	1122.62	-14.52	-2.5
631	SLU 9	6	-12	2430	1119.48	-14.51	-2.56
631	SLU 10	6	-8	2674	1231.43	-15.99	-2.64
631	SLU 11	6	-23	2738	1261.95	-16.32	-2.66
631	SLU 12	6	-14	2732	1258.81	-16.31	-2.72
631	SLU 13	6	-8	2710	1247.89	-16.2	-2.72
631	SLU 14	6	-23	2773	1278.41	-16.53	-2.74
631	SLU 15	6	-15	2768	1275.26	-16.52	-2.8
631	SLU 16	6	-23	2754	1269.59	-16.41	-2.71
631	SLU 17	6	-15	2749	1266.45	-16.41	-2.76
631	SLU 18	6	-23	2820	1299.66	-16.82	-2.63
631	SLU 19	6	-15	2815	1296.51	-16.81	-2.69
631	SLU 20	6	-24	2856	1316.12	-17.02	-2.71
631	SLU 21	6	-15	2850	1312.97	-17.01	-2.77
631	SLU 22	7	-22	2737	1262.35	-16.34	-2.98
631	SLU 23	7	-8	2728	1257.11	-16.32	-3.08
631	SLU 24	7	-23	2791	1287.62	-16.65	-3.1
631	SLU 25	7	-14	2786	1284.48	-16.64	-3.16
631	SLU 26	7	-8	2763	1273.56	-16.52	-3.16
631	SLU 27	7	-23	2827	1304.08	-16.85	-3.18
631	SLU 28	7	-15	2821	1300.94	-16.84	-3.24
631	SLU 29	7	-23	2808	1295.26	-16.74	-3.15
631	SLU 30	7	-15	2802	1292.12	-16.73	-3.2
631	SLU 31	7	-10	3046	1404.07	-18.21	-3.28
631	SLU 32	7	-25	3110	1434.59	-18.54	-3.3
631	SLU 33	8	-17	3104	1431.45	-18.53	-3.36
631	SLU 34	8	-11	3082	1420.53	-18.42	-3.36
631	SLU 35	8	-26	3145	1451.05	-18.75	-3.38
631	SLU 36	8	-17	3140	1447.91	-18.74	-3.44
631	SLU 37	7	-26	3126	1442.23	-18.63	-3.35
631	SLU 38	8	-17	3121	1439.09	-18.63	-3.4
631	SLU 39	7	-26	3192	1472.3	-19.04	-3.27
631	SLU 40	8	-17	3187	1469.15	-19.03	-3.33
631	SLU 41	7	-26	3227	1488.76	-19.24	-3.35
631	SLU 42	8	-18	3222	1485.61	-19.23	-3.41
631	SLU 43	6	-24	2947	1357.43	-17.59	-2.82
631	SLU 44	7	-10	2938	1352.19	-17.58	-2.92
631	SLU 45	7	-25	3002	1382.71	-17.9	-2.94
631	SLU 46	7	-17	2996	1379.56	-17.9	-3
631	SLU 47	7	-11	2973	1368.65	-17.78	-3
631	SLU 48	7	-26	3037	1399.16	-18.11	-3.02
631	SLU 49	7	-17	3031	1396.02	-18.1	-3.08
631	SLU 50	7	-26	3018	1390.35	-18	-2.99
631	SLU 51	7	-17	3012	1387.2	-17.99	-3.05
631	SLU 52	7	-13	3256	1499.15	-19.47	-3.12
631	SLU 53	7	-28	3320	1529.67	-19.8	-3.14
631	SLU 54	7	-19	3314	1526.53	-19.79	-3.2
631	SLU 55	7	-13	3292	1515.61	-19.67	-3.2
631	SLU 56	7	-28	3355	1546.13	-20	-3.22
631	SLU 57	7	-20	3350	1542.99	-19.99	-3.28
631	SLU 58	7	-28	3336	1537.31	-19.89	-3.19
631	SLU 59	7	-20	3331	1534.17	-19.88	-3.25
631	SLU 60	7	-28	3402	1567.38	-20.29	-3.11
631	SLU 61	7	-20	3397	1564.24	-20.28	-3.17
631	SLU 62	7	-29	3438	1583.84	-20.5	-3.19
631	SLU 63	7	-20	3432	1580.69	-20.49	-3.25
631	SLU 64	8	-27	3319	1530.07	-19.81	-3.46
631	SLU 65	8	-13	3310	1524.83	-19.8	-3.56
631	SLU 66	8	-28	3373	1555.35	-20.12	-3.58
631	SLU 67	8	-19	3368	1552.2	-20.12	-3.64
631	SLU 68	8	-13	3345	1541.29	-20	-3.64
631	SLU 69	8	-28	3409	1571.8	-20.33	-3.66
631	SLU 70	8	-20	3403	1568.66	-20.32	-3.72
631	SLU 71	8	-28	3390	1562.99	-20.22	-3.63
631	SLU 72	8	-20	3384	1559.84	-20.21	-3.69
631	SLU 73	9	-15	3628	1671.79	-21.69	-3.76
631	SLU 74	8	-30	3692	1702.31	-22.02	-3.78
631	SLU 75	9	-22	3686	1699.17	-22.01	-3.84
631	SLU 76	9	-16	3664	1688.25	-21.89	-3.84
631	SLU 77	9	-31	3727	1718.77	-22.22	-3.86
631	SLU 78	9	-22	3722	1715.63	-22.21	-3.92
631	SLU 79	9	-31	3708	1709.95	-22.11	-3.83
631	SLU 80	9	-22	3703	1706.81	-22.1	-3.89
631	SLU 81	8	-31	3774	1740.02	-22.51	-3.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
631	SLU 82	9	-22	3769	1736.88	-22.5	-3.81
631	SLU 83	9	-31	3810	1756.48	-22.72	-3.83
631	SLU 84	9	-23	3804	1753.33	-22.71	-3.89
631	SLE RA 1	6	-20	2471	1139.03	-14.75	-2.52
631	SLE RA 2	6	-11	2465	1135.54	-14.74	-2.59
631	SLE RA 3	6	-21	2508	1155.88	-14.96	-2.6
631	SLE RA 4	6	-15	2504	1153.79	-14.95	-2.64
631	SLE RA 5	6	-11	2489	1146.51	-14.88	-2.64
631	SLE RA 6	6	-21	2531	1166.86	-15.1	-2.66
631	SLE RA 7	6	-15	2527	1164.76	-15.09	-2.7
631	SLE RA 8	6	-21	2518	1160.98	-15.02	-2.63
631	SLE RA 9	6	-15	2515	1158.88	-15.01	-2.67
631	SLE RA 10	6	-12	2678	1233.52	-16	-2.72
631	SLE RA 11	6	-22	2720	1253.86	-16.22	-2.74
631	SLE RA 12	6	-17	2716	1251.77	-16.22	-2.77
631	SLE RA 13	6	-13	2701	1244.49	-16.14	-2.78
631	SLE RA 14	6	-23	2744	1264.83	-16.36	-2.79
631	SLE RA 15	6	-17	2740	1262.74	-16.35	-2.83
631	SLE RA 16	6	-23	2731	1258.96	-16.28	-2.77
631	SLE RA 17	6	-17	2727	1256.86	-16.28	-2.81
631	SLE RA 18	6	-23	2775	1279	-16.55	-2.71
631	SLE RA 19	6	-17	2771	1276.9	-16.55	-2.75
631	SLE RA 20	6	-23	2798	1289.97	-16.69	-2.77
631	SLE RA 21	6	-17	2795	1287.88	-16.68	-2.81
631	SLE FR 1	6	-20	2471	1139.03	-14.75	-2.52
631	SLE FR 2	6	-18	2470	1138.33	-14.75	-2.54
631	SLE FR 3	6	-20	2481	1143.42	-14.8	-2.55
631	SLE FR 4	6	-19	2561	1180.32	-15.29	-2.59
631	SLE FR 5	6	-21	2572	1185.41	-15.35	-2.6
631	SLE FR 6	6	-21	2623	1209.02	-15.65	-2.62
631	SLE QP 1	6	-20	2471	1139.03	-14.75	-2.52
631	SLE QP 2	6	-21	2562	1181.02	-15.29	-2.58
631	SLD 1	214	59	2486	1138.96	-14.42	-100.25
631	SLD 2	213	67	2486	1139.04	-14.44	-99.51
631	SLD 3	209	-120	2599	1204.63	-14.55	-98.59
631	SLD 4	208	-112	2599	1204.71	-14.58	-97.85
631	SLD 5	77	274	2368	1068.8	-14.82	-34.52
631	SLD 6	76	279	2368	1068.85	-14.83	-34.05
631	SLD 7	59	-325	2745	1287.68	-15.28	-28.99
631	SLD 8	58	-319	2745	1287.73	-15.29	-28.52
631	SLD 9	-46	277	2380	1074.31	-15.29	23.36
631	SLD 10	-47	283	2380	1074.36	-15.31	23.83
631	SLD 11	-64	-321	2757	1293.19	-15.75	28.89
631	SLD 12	-65	-316	2757	1293.25	-15.77	29.36
631	SLD 13	-196	70	2526	1157.34	-16.01	92.69
631	SLD 14	-197	79	2526	1157.42	-16.03	93.43
631	SLD 15	-202	-109	2639	1223	-16.15	94.35
631	SLD 16	-203	-101	2639	1223.08	-16.17	95.08
631	SLV 1	333	117	2433	1110.28	-13.92	-155.51
631	SLV 2	330	130	2434	1110.4	-13.95	-154.35
631	SLV 3	323	-190	2626	1222.24	-14.15	-152.72
631	SLV 4	321	-176	2627	1222.37	-14.18	-151.56
631	SLV 5	118	482	2231	989.96	-14.52	-52.91
631	SLV 6	117	491	2231	990.05	-14.54	-52.13
631	SLV 7	88	-538	2874	1363.18	-15.3	-43.6
631	SLV 8	86	-530	2875	1363.26	-15.32	-42.82
631	SLV 9	-75	488	2250	998.78	-15.26	37.66
631	SLV 10	-76	497	2251	998.87	-15.28	38.44
631	SLV 11	-105	-533	2894	1372	-16.04	46.97
631	SLV 12	-107	-524	2894	1372.08	-16.06	47.75
631	SLV 13	-310	135	2498	1139.68	-16.4	146.39
631	SLV 14	-312	148	2499	1139.8	-16.43	147.55
631	SLV 15	-319	-172	2691	1251.64	-16.63	149.19
631	SLV 16	-321	-159	2691	1251.77	-16.67	150.35
631	SLV FO 1	365	130	2421	1103.2	-13.78	-170.8
631	SLV FO 2	363	145	2421	1103.34	-13.82	-169.52
631	SLV FO 3	355	-206	2633	1226.37	-14.04	-167.73
631	SLV FO 4	353	-192	2634	1226.5	-14.07	-166.45
631	SLV FO 5	129	533	2198	970.86	-14.44	-57.94
631	SLV FO 6	128	542	2198	970.95	-14.46	-57.08
631	SLV FO 7	96	-590	2905	1381.39	-15.3	-47.71
631	SLV FO 8	94	-580	2906	1381.49	-15.32	-46.85
631	SLV FO 9	-83	539	2219	980.56	-15.26	41.68
631	SLV FO 10	-84	548	2220	980.65	-15.28	42.54
631	SLV FO 11	-116	-584	2927	1391.1	-16.12	51.92
631	SLV FO 12	-118	-575	2927	1391.19	-16.14	52.78
631	SLV FO 13	-341	150	2491	1135.54	-16.51	161.29
631	SLV FO 14	-344	165	2492	1135.68	-16.55	162.57
631	SLV FO 15	-351	-187	2704	1258.7	-16.77	164.36
631	SLV FO 16	-354	-172	2704	1258.84	-16.8	165.64
631	CRTFP Ux+	0	0	0	0	0	0
631	CRTFP Ux-	0	0	0	0	0	0
631	CRTFP Uy+	0	0	0	0	0	0
631	CRTFP Uy-	0	0	0	0	0	0
632	SLU 1	7	-9	2444	1117.77	0.65	-2.97
632	SLU 2	7	5	2436	1113.61	0.59	-3.17
632	SLU 3	7	-10	2500	1143.39	0.68	-3.1
632	SLU 4	7	-1	2495	1140.9	0.64	-3.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
632	SLU 5	8	5	2472	1130.25	0.61	-3.26
632	SLU 6	7	-10	2536	1160.03	0.7	-3.19
632	SLU 7	8	-1	2531	1157.53	0.67	-3.31
632	SLU 8	7	-10	2516	1151.04	0.69	-3.15
632	SLU 9	8	-1	2511	1148.54	0.66	-3.27
632	SLU 10	8	4	2765	1264.27	0.69	-3.4
632	SLU 11	8	-11	2828	1294.05	0.77	-3.33
632	SLU 12	8	-2	2824	1291.55	0.74	-3.45
632	SLU 13	8	4	2801	1280.9	0.71	-3.49
632	SLU 14	8	-11	2864	1310.68	0.79	-3.42
632	SLU 15	8	-3	2860	1308.18	0.76	-3.54
632	SLU 16	8	-11	2845	1301.69	0.79	-3.37
632	SLU 17	8	-3	2840	1299.2	0.75	-3.5
632	SLU 18	8	-11	2914	1332.99	0.79	-3.29
632	SLU 19	8	-2	2909	1330.5	0.75	-3.41
632	SLU 20	8	-12	2950	1349.63	0.81	-3.38
632	SLU 21	8	-3	2945	1347.13	0.77	-3.5
632	SLU 22	9	-10	2828	1294.74	0.76	-3.7
632	SLU 23	9	4	2820	1290.58	0.7	-3.9
632	SLU 24	9	-11	2884	1320.36	0.78	-3.83
632	SLU 25	9	-2	2879	1317.86	0.75	-3.95
632	SLU 26	9	4	2857	1307.22	0.72	-3.99
632	SLU 27	9	-11	2920	1336.99	0.81	-3.92
632	SLU 28	9	-2	2915	1334.5	0.77	-4.04
632	SLU 29	9	-11	2900	1328.01	0.8	-3.88
632	SLU 30	9	-2	2896	1325.51	0.76	-4
632	SLU 31	10	3	3149	1441.23	0.79	-4.13
632	SLU 32	9	-12	3213	1471.01	0.88	-4.06
632	SLU 33	10	-3	3208	1468.52	0.84	-4.18
632	SLU 34	10	2	3185	1457.87	0.81	-4.22
632	SLU 35	10	-13	3249	1487.65	0.9	-4.15
632	SLU 36	10	-4	3244	1485.15	0.86	-4.27
632	SLU 37	10	-13	3229	1478.66	0.89	-4.11
632	SLU 38	10	-4	3225	1476.16	0.86	-4.23
632	SLU 39	9	-12	3298	1509.96	0.89	-4.02
632	SLU 40	10	-3	3293	1507.46	0.85	-4.14
632	SLU 41	10	-13	3334	1526.59	0.91	-4.11
632	SLU 42	10	-4	3329	1524.1	0.87	-4.23
632	SLU 43	8	-12	3045	1392.43	0.81	-3.61
632	SLU 44	9	3	3038	1388.27	0.75	-3.81
632	SLU 45	9	-12	3101	1418.05	0.84	-3.74
632	SLU 46	9	-3	3096	1415.56	0.8	-3.86
632	SLU 47	9	3	3074	1404.91	0.77	-3.9
632	SLU 48	9	-12	3137	1434.68	0.86	-3.83
632	SLU 49	9	-4	3132	1432.19	0.83	-3.95
632	SLU 50	9	-12	3117	1425.7	0.85	-3.79
632	SLU 51	9	-4	3113	1423.2	0.82	-3.91
632	SLU 52	9	2	3367	1538.93	0.85	-4.04
632	SLU 53	9	-13	3430	1568.7	0.93	-3.97
632	SLU 54	10	-5	3425	1566.21	0.9	-4.09
632	SLU 55	10	1	3403	1555.56	0.87	-4.13
632	SLU 56	10	-14	3466	1585.34	0.95	-4.06
632	SLU 57	10	-5	3461	1582.84	0.92	-4.18
632	SLU 58	9	-14	3446	1576.35	0.95	-4.01
632	SLU 59	10	-5	3442	1573.86	0.91	-4.13
632	SLU 60	9	-13	3515	1607.65	0.95	-3.93
632	SLU 61	9	-5	3511	1605.15	0.91	-4.05
632	SLU 62	9	-14	3551	1624.28	0.97	-4.02
632	SLU 63	10	-5	3547	1621.79	0.93	-4.14
632	SLU 64	10	-13	3430	1569.4	0.92	-4.34
632	SLU 65	11	2	3422	1565.24	0.86	-4.54
632	SLU 66	10	-13	3485	1595.02	0.94	-4.47
632	SLU 67	11	-4	3481	1592.52	0.91	-4.59
632	SLU 68	11	2	3458	1581.87	0.88	-4.63
632	SLU 69	11	-14	3521	1611.65	0.97	-4.56
632	SLU 70	11	-5	3517	1609.16	0.93	-4.68
632	SLU 71	10	-14	3502	1602.67	0.96	-4.52
632	SLU 72	11	-5	3497	1600.17	0.92	-4.64
632	SLU 73	11	1	3751	1715.89	0.95	-4.77
632	SLU 74	11	-14	3814	1745.67	1.04	-4.7
632	SLU 75	11	-6	3809	1743.18	1	-4.82
632	SLU 76	11	0	3787	1732.53	0.97	-4.86
632	SLU 77	11	-15	3850	1762.3	1.06	-4.79
632	SLU 78	11	-6	3846	1759.81	1.02	-4.91
632	SLU 79	11	-15	3831	1753.32	1.05	-4.75
632	SLU 80	11	-6	3826	1750.82	1.02	-4.87
632	SLU 81	11	-15	3899	1784.62	1.05	-4.66
632	SLU 82	11	-6	3895	1782.12	1.01	-4.78
632	SLU 83	11	-15	3935	1801.25	1.07	-4.75
632	SLU 84	11	-6	3931	1798.76	1.03	-4.87
632	SLE RA 1	7	-9	2554	1168.34	0.68	-3.18
632	SLE RA 2	8	0	2549	1165.56	0.64	-3.31
632	SLE RA 3	8	-10	2591	1185.42	0.7	-3.26
632	SLE RA 4	8	-4	2588	1183.75	0.68	-3.34
632	SLE RA 5	8	0	2573	1176.65	0.66	-3.37
632	SLE RA 6	8	-10	2615	1196.5	0.71	-3.32
632	SLE RA 7	8	-4	2612	1194.84	0.69	-3.4
632	SLE RA 8	8	-10	2602	1190.51	0.71	-3.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
632	SLE RA 9	8	-4	2599	1188.85	0.69	-3.38
632	SLE RA 10	8	-1	2768	1266	0.7	-3.46
632	SLE RA 11	8	-11	2810	1285.85	0.76	-3.42
632	SLE RA 12	8	-5	2807	1284.19	0.74	-3.5
632	SLE RA 13	8	-1	2792	1277.09	0.72	-3.52
632	SLE RA 14	8	-11	2834	1296.94	0.78	-3.48
632	SLE RA 15	8	-5	2831	1295.28	0.75	-3.56
632	SLE RA 16	8	-11	2821	1290.95	0.77	-3.45
632	SLE RA 17	8	-5	2818	1289.29	0.75	-3.53
632	SLE RA 18	8	-11	2867	1311.82	0.77	-3.39
632	SLE RA 19	8	-5	2864	1310.15	0.75	-3.47
632	SLE RA 20	8	-11	2891	1322.9	0.78	-3.45
632	SLE RA 21	8	-5	2888	1321.24	0.76	-3.53
632	SLE FR 1	7	-9	2554	1168.34	0.68	-3.18
632	SLE FR 2	7	-8	2553	1167.78	0.67	-3.2
632	SLE FR 3	7	-10	2563	1172.77	0.69	-3.2
632	SLE FR 4	8	-8	2647	1210.83	0.7	-3.27
632	SLE FR 5	8	-10	2657	1215.82	0.71	-3.27
632	SLE FR 6	8	-10	2710	1240.08	0.73	-3.28
632	SLE QP 1	7	-9	2554	1168.34	0.68	-3.18
632	SLE QP 2	8	-10	2648	1211.38	0.71	-3.24
632	SLD 1	225	71	2549	1160.73	1.32	-105.47
632	SLD 2	224	82	2550	1161.37	1.29	-104.78
632	SLD 3	219	-113	2640	1212.13	2.09	-102.66
632	SLD 4	218	-103	2641	1212.76	2.07	-101.97
632	SLD 5	82	293	2481	1118.12	-0.28	-38.29
632	SLD 6	81	300	2481	1118.53	-0.3	-37.85
632	SLD 7	62	-323	2782	1289.45	2.31	-28.92
632	SLD 8	62	-316	2783	1289.86	2.29	-28.48
632	SLD 9	-46	296	2512	1132.9	-0.87	21.99
632	SLD 10	-47	303	2513	1133.31	-0.89	22.44
632	SLD 11	-66	-320	2814	1304.23	1.72	31.37
632	SLD 12	-67	-313	2815	1304.64	1.7	31.81
632	SLD 13	-203	83	2654	1210	-0.65	95.48
632	SLD 14	-204	94	2656	1210.63	-0.67	96.17
632	SLD 15	-209	-102	2745	1261.39	0.13	98.3
632	SLD 16	-210	-91	2746	1262.03	0.1	98.99
632	SLV 1	348	130	2487	1128.57	1.6	-163.4
632	SLV 2	346	147	2489	1129.57	1.56	-162.31
632	SLV 3	338	-185	2641	1216.2	2.93	-158.62
632	SLV 4	336	-168	2643	1217.2	2.89	-157.53
632	SLV 5	125	507	2365	1053.44	-1.03	-58.73
632	SLV 6	124	518	2367	1054.12	-1.05	-58
632	SLV 7	92	-544	2879	1345.54	3.39	-42.81
632	SLV 8	91	-532	2881	1346.22	3.36	-42.08
632	SLV 9	-76	513	2415	1076.54	-1.95	35.6
632	SLV 10	-77	524	2416	1077.22	-1.97	36.33
632	SLV 11	-109	-538	2929	1368.64	2.47	51.52
632	SLV 12	-110	-527	2930	1369.32	2.44	52.25
632	SLV 13	-321	149	2652	1205.56	-1.47	151.05
632	SLV 14	-323	166	2654	1206.56	-1.51	152.14
632	SLV 15	-331	-166	2806	1293.19	-0.15	155.83
632	SLV 16	-333	-150	2808	1294.19	-0.18	156.91
632	SLV FO 1	382	144	2471	1120.29	1.69	-179.41
632	SLV FO 2	380	162	2473	1121.39	1.65	-178.21
632	SLV FO 3	371	-203	2641	1216.68	3.15	-174.16
632	SLV FO 4	369	-184	2643	1217.79	3.11	-172.96
632	SLV FO 5	137	559	2337	1037.65	-1.2	-64.28
632	SLV FO 6	135	571	2338	1038.39	-1.23	-63.48
632	SLV FO 7	101	-597	2903	1358.96	3.66	-46.77
632	SLV FO 8	99	-584	2904	1359.7	3.63	-45.97
632	SLV FO 9	-84	565	2391	1063.06	-2.21	39.48
632	SLV FO 10	-85	577	2393	1063.8	-2.24	40.29
632	SLV FO 11	-120	-591	2957	1384.37	2.64	57
632	SLV FO 12	-122	-578	2959	1385.11	2.62	57.8
632	SLV FO 13	-354	165	2652	1204.97	-1.69	166.48
632	SLV FO 14	-356	183	2655	1206.08	-1.73	167.67
632	SLV FO 15	-365	-182	2822	1301.37	-0.23	171.73
632	SLV FO 16	-367	-164	2824	1302.47	-0.27	172.93
632	CRTFP Ux+	0	0	0	0	0	0
632	CRTFP Ux-	0	0	0	0	0	0
632	CRTFP Uy+	0	0	0	0	0	0
632	CRTFP Uy-	0	0	0	0	0	0
635	SLU 1	-109	2	8439	149.08	-1459.57	3.35
635	SLU 2	-109	43	8438	146.39	-1459.62	10.4
635	SLU 3	-111	1	8642	153.36	-1494.61	3.25
635	SLU 4	-111	26	8641	151.74	-1494.64	7.48
635	SLU 5	-110	43	8571	149.27	-1482.5	10.39
635	SLU 6	-112	1	8774	156.24	-1517.5	3.24
635	SLU 7	-112	26	8774	154.63	-1517.53	7.47
635	SLU 8	-111	2	8704	154.85	-1505.33	3.33
635	SLU 9	-111	26	8703	153.24	-1505.36	7.56
635	SLU 10	-112	46	9509	164.94	-1645.46	11.02
635	SLU 11	-115	4	9712	171.91	-1680.46	3.87
635	SLU 12	-115	29	9712	170.3	-1680.49	8.1
635	SLU 13	-113	46	9641	167.83	-1668.35	11.01
635	SLU 14	-116	4	9844	174.8	-1703.34	3.86
635	SLU 15	-116	28	9844	173.18	-1703.37	8.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
635	SLU 16	-115	4	9774	173.41	-1691.18	3.96
635	SLU 17	-115	29	9774	171.79	-1691.21	8.19
635	SLU 18	-114	6	9968	175.59	-1725.06	4.24
635	SLU 19	-114	31	9968	173.97	-1725.09	8.47
635	SLU 20	-115	6	10100	178.47	-1747.95	4.23
635	SLU 21	-115	30	10100	176.86	-1747.98	8.46
635	SLU 22	-119	-2	9777	174.29	-1691.58	2.91
635	SLU 23	-118	39	9777	171.6	-1691.63	9.96
635	SLU 24	-121	-3	9980	178.57	-1726.63	2.81
635	SLU 25	-121	21	9980	176.95	-1726.66	7.04
635	SLU 26	-119	39	9909	174.48	-1714.52	9.95
635	SLU 27	-122	-3	10113	181.45	-1749.51	2.8
635	SLU 28	-122	21	10112	179.84	-1749.54	7.03
635	SLU 29	-121	-3	10042	180.06	-1737.35	2.9
635	SLU 30	-121	22	10042	178.45	-1737.38	7.13
635	SLU 31	-122	41	10847	190.15	-1877.48	10.59
635	SLU 32	-124	0	11051	197.12	-1912.48	3.44
635	SLU 33	-124	24	11050	195.5	-1912.51	7.67
635	SLU 34	-123	41	10980	193.04	-1900.37	10.58
635	SLU 35	-125	-1	11183	200	-1935.36	3.43
635	SLU 36	-125	24	11183	198.39	-1935.39	7.66
635	SLU 37	-124	0	11113	198.61	-1923.2	3.52
635	SLU 38	-124	25	11112	197	-1923.23	7.75
635	SLU 39	-124	2	11307	200.79	-1957.08	3.81
635	SLU 40	-123	26	11306	199.18	-1957.11	8.04
635	SLU 41	-125	1	11439	203.68	-1979.96	3.8
635	SLU 42	-125	26	11439	202.07	-1979.99	8.03
635	SLU 43	-139	4	10511	185.16	-1817.89	4.5
635	SLU 44	-138	45	10511	182.47	-1817.94	11.55
635	SLU 45	-141	3	10714	189.44	-1852.93	4.4
635	SLU 46	-141	28	10714	187.82	-1852.96	8.63
635	SLU 47	-139	45	10643	185.36	-1840.82	11.54
635	SLU 48	-142	3	10847	192.33	-1875.82	4.39
635	SLU 49	-142	28	10846	190.71	-1875.85	8.62
635	SLU 50	-141	4	10776	190.94	-1863.65	4.48
635	SLU 51	-141	28	10776	189.32	-1863.68	8.71
635	SLU 52	-142	48	11581	201.02	-2003.78	12.18
635	SLU 53	-144	6	11785	207.99	-2038.78	5.03
635	SLU 54	-144	31	11784	206.38	-2038.81	9.25
635	SLU 55	-143	48	11714	203.91	-2026.67	12.17
635	SLU 56	-145	6	11917	210.88	-2061.66	5.02
635	SLU 57	-145	30	11917	209.26	-2061.69	9.25
635	SLU 58	-144	7	11847	209.49	-2049.5	5.11
635	SLU 59	-144	31	11846	207.87	-2049.53	9.34
635	SLU 60	-144	8	12041	211.67	-2083.38	5.4
635	SLU 61	-144	33	12040	210.05	-2083.41	9.62
635	SLU 62	-145	8	12173	214.55	-2106.27	5.39
635	SLU 63	-145	33	12173	212.94	-2106.3	9.62
635	SLU 64	-148	0	11850	210.37	-2049.9	4.07
635	SLU 65	-148	41	11849	207.68	-2049.95	11.12
635	SLU 66	-150	-1	12053	214.65	-2084.95	3.97
635	SLU 67	-150	24	12052	213.03	-2084.98	8.2
635	SLU 68	-149	41	11982	210.56	-2072.84	11.11
635	SLU 69	-151	-1	12185	217.53	-2107.83	3.96
635	SLU 70	-151	23	12185	215.92	-2107.86	8.19
635	SLU 71	-150	0	12115	216.14	-2095.67	4.05
635	SLU 72	-150	24	12114	214.53	-2095.7	8.28
635	SLU 73	-151	44	12920	226.23	-2235.8	11.74
635	SLU 74	-154	2	13123	233.2	-2270.8	4.59
635	SLU 75	-154	26	13123	231.59	-2270.83	8.82
635	SLU 76	-152	43	13052	229.12	-2258.69	11.73
635	SLU 77	-155	1	13256	236.09	-2293.68	4.58
635	SLU 78	-155	26	13255	234.47	-2293.71	8.81
635	SLU 79	-154	2	13185	234.7	-2281.52	4.68
635	SLU 80	-154	27	13185	233.08	-2281.55	8.9
635	SLU 81	-153	4	13379	236.88	-2315.4	4.96
635	SLU 82	-153	28	13379	235.26	-2315.43	9.19
635	SLU 83	-154	4	13512	239.76	-2338.28	4.95
635	SLU 84	-154	28	13511	238.15	-2338.31	9.18
635	SLE RA 1	-112	1	8821	156.28	-1525.86	3.22
635	SLE RA 2	-112	28	8821	154.49	-1525.89	7.92
635	SLE RA 3	-113	0	8956	159.13	-1549.22	3.16
635	SLE RA 4	-113	17	8956	158.06	-1549.24	5.98
635	SLE RA 5	-112	28	8909	156.41	-1541.15	7.92
635	SLE RA 6	-114	0	9045	161.06	-1564.48	3.15
635	SLE RA 7	-114	17	9044	159.98	-1564.5	5.97
635	SLE RA 8	-113	1	8998	160.13	-1556.37	3.21
635	SLE RA 9	-113	17	8997	159.05	-1556.39	6.03
635	SLE RA 10	-114	30	9534	166.86	-1649.79	8.34
635	SLE RA 11	-116	2	9670	171.5	-1673.12	3.57
635	SLE RA 12	-115	19	9670	170.43	-1673.14	6.39
635	SLE RA 13	-115	30	9623	168.78	-1665.04	8.33
635	SLE RA 14	-116	2	9758	173.43	-1688.38	3.57
635	SLE RA 15	-116	18	9758	172.35	-1688.4	6.39
635	SLE RA 16	-116	2	9711	172.5	-1680.27	3.63
635	SLE RA 17	-116	19	9711	171.42	-1680.29	6.45
635	SLE RA 18	-115	4	9841	173.95	-1702.85	3.82
635	SLE RA 19	-115	20	9840	172.88	-1702.87	6.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
635	SLE RA 20	-116	3	9929	175.88	-1718.11	3.81
635	SLE RA 21	-116	20	9929	174.8	-1718.13	6.63
635	SLE FR 1	-112	1	8821	156.28	-1525.86	3.22
635	SLE FR 2	-112	6	8821	155.92	-1525.86	4.16
635	SLE FR 3	-112	1	8856	157.05	-1531.96	3.22
635	SLE FR 4	-113	7	9127	161.23	-1578.96	4.34
635	SLE FR 5	-113	2	9162	162.35	-1585.06	3.4
635	SLE FR 6	-114	2	9331	165.12	-1614.35	3.52
635	SLE QP 1	-112	1	8821	156.28	-1525.86	3.22
635	SLE QP 2	-113	2	9127	161.58	-1578.96	3.4
635	SLD 1	461	284	11832	186.7	-2030.64	45.36
635	SLD 2	457	64	11839	189.37	-2031.28	8.26
635	SLD 3	454	-229	11753	227.4	-2015.75	-43
635	SLD 4	450	-449	11761	230.07	-2016.39	-80.1
635	SLD 5	72	902	10057	106.94	-1736.94	156.38
635	SLD 6	69	760	10062	108.66	-1737.35	132.49
635	SLD 7	46	-807	9794	242.59	-1687.3	-138.15
635	SLD 8	43	-949	9799	244.31	-1687.71	-162.04
635	SLD 9	-269	953	8455	78.86	-1470.2	168.84
635	SLD 10	-272	811	8460	80.58	-1470.61	144.96
635	SLD 11	-295	-757	8192	214.51	-1420.56	-125.69
635	SLD 12	-298	-899	8197	216.23	-1420.97	-149.57
635	SLD 13	-675	453	6493	93.1	-1141.52	86.9
635	SLD 14	-679	232	6501	95.77	-1142.16	49.81
635	SLD 15	-683	-60	6414	133.8	-1126.63	-1.46
635	SLD 16	-687	-281	6422	136.47	-1127.27	-38.55
635	SLV 1	787	481	13352	197.77	-2284.71	75.56
635	SLV 2	781	134	13364	201.98	-2285.71	17.09
635	SLV 3	774	-393	13218	267.2	-2259.35	-75.14
635	SLV 4	768	-741	13230	271.41	-2260.35	-133.61
635	SLV 5	178	1537	10596	66.35	-1828.96	264.52
635	SLV 6	174	1303	10604	69.19	-1829.63	225.16
635	SLV 7	135	-1379	10148	297.79	-1744.42	-237.81
635	SLV 8	130	-1612	10157	300.62	-1745.1	-277.17
635	SLV 9	-356	1616	8097	22.55	-1412.81	283.98
635	SLV 10	-360	1382	8106	25.38	-1413.49	244.61
635	SLV 11	-400	-1300	7650	253.98	-1328.28	-218.35
635	SLV 12	-404	-1534	7658	256.82	-1328.95	-257.71
635	SLV 13	-993	744	5024	51.76	-897.56	140.42
635	SLV 14	-1000	397	5036	55.97	-898.57	81.94
635	SLV 15	-1006	-130	4890	121.19	-872.2	-10.28
635	SLV 16	-1013	-478	4902	125.4	-873.2	-68.76
635	SLV FO 1	877	529	13775	201.39	-2355.28	82.78
635	SLV FO 2	870	147	13788	206.02	-2356.39	18.46
635	SLV FO 3	863	-433	13627	277.76	-2327.38	-82.99
635	SLV FO 4	856	-815	13641	282.39	-2328.49	-147.31
635	SLV FO 5	207	1691	10743	56.83	-1853.96	290.63
635	SLV FO 6	202	1433	10752	59.95	-1854.7	247.33
635	SLV FO 7	159	-1517	10251	311.41	-1760.97	-261.93
635	SLV FO 8	155	-1774	10260	314.52	-1761.71	-305.23
635	SLV FO 9	-380	1777	7994	8.65	-1396.2	312.03
635	SLV FO 10	-385	1520	8003	11.76	-1396.94	268.74
635	SLV FO 11	-428	-1430	7502	263.22	-1303.21	-240.53
635	SLV FO 12	-433	-1687	7511	266.34	-1303.95	-283.83
635	SLV FO 13	-1081	819	4613	40.78	-829.42	154.12
635	SLV FO 14	-1088	436	4627	45.41	-830.53	89.8
635	SLV FO 15	-1096	-143	4466	117.15	-801.52	-11.65
635	SLV FO 16	-1103	-526	4479	121.78	-802.63	-75.97
635	CRTFP Ux+	0	0	0	0	0	0
635	CRTFP Ux-	0	0	0	0	0	0
635	CRTFP Uy+	0	0	0	0	0	0
635	CRTFP Uy-	0	0	0	0	0	0
637	SLU 1	-86	5	6609	0.67	-182.3	0.95
637	SLU 2	-86	36	6609	-2.35	-182.32	1.64
637	SLU 3	-88	4	6767	1.47	-186.68	0.96
637	SLU 4	-88	23	6768	-0.35	-186.69	1.37
637	SLU 5	-87	36	6712	-1.73	-185.18	1.65
637	SLU 6	-89	4	6871	2.09	-189.54	0.96
637	SLU 7	-89	23	6871	0.28	-189.55	1.38
637	SLU 8	-88	4	6816	1.92	-188.02	0.96
637	SLU 9	-88	23	6816	0.11	-188.03	1.38
637	SLU 10	-89	39	7451	-2.7	-205.68	1.78
637	SLU 11	-91	6	7609	1.12	-210.04	1.09
637	SLU 12	-90	25	7609	-0.69	-210.05	1.51
637	SLU 13	-90	39	7554	-2.07	-208.54	1.78
637	SLU 14	-92	6	7713	1.75	-212.9	1.1
637	SLU 15	-91	25	7713	-0.07	-212.91	1.51
637	SLU 16	-91	7	7658	1.58	-211.38	1.1
637	SLU 17	-91	26	7658	-0.24	-211.39	1.51
637	SLU 18	-90	8	7811	0.17	-215.68	1.14
637	SLU 19	-90	27	7811	-1.64	-215.69	1.56
637	SLU 20	-91	8	7915	0.8	-218.53	1.15
637	SLU 21	-91	27	7915	-1.01	-218.54	1.56
637	SLU 22	-94	2	7660	2.52	-211.4	1.01
637	SLU 23	-93	34	7660	-0.5	-211.42	1.71
637	SLU 24	-95	1	7818	3.32	-215.78	1.02
637	SLU 25	-95	20	7818	1.51	-215.79	1.43
637	SLU 26	-94	33	7763	0.13	-214.28	1.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
637	SLU 27	-96	1	7922	3.95	-218.64	1.03
637	SLU 28	-96	20	7922	2.13	-218.65	1.44
637	SLU 29	-95	2	7867	3.78	-217.12	1.03
637	SLU 30	-95	21	7867	1.96	-217.13	1.44
637	SLU 31	-96	36	8502	-0.85	-234.78	1.84
637	SLU 32	-98	3	8660	2.97	-239.14	1.15
637	SLU 33	-98	23	8660	1.16	-239.15	1.57
637	SLU 34	-97	36	8605	-0.22	-237.64	1.85
637	SLU 35	-99	3	8764	3.6	-242	1.16
637	SLU 36	-99	22	8764	1.79	-242.01	1.58
637	SLU 37	-98	4	8709	3.43	-240.48	1.16
637	SLU 38	-98	23	8709	1.61	-240.49	1.58
637	SLU 39	-98	5	8862	2.02	-244.78	1.2
637	SLU 40	-97	24	8862	0.21	-244.79	1.62
637	SLU 41	-99	5	8966	2.65	-247.64	1.21
637	SLU 42	-98	24	8966	0.84	-247.65	1.63
637	SLU 43	-109	7	8231	0.23	-227.02	1.21
637	SLU 44	-109	39	8231	-2.79	-227.03	1.91
637	SLU 45	-111	7	8390	1.03	-231.39	1.22
637	SLU 46	-111	26	8390	-0.78	-231.4	1.64
637	SLU 47	-110	39	8335	-2.16	-229.89	1.91
637	SLU 48	-112	6	8493	1.66	-234.25	1.23
637	SLU 49	-112	25	8493	-0.15	-234.26	1.64
637	SLU 50	-111	7	8438	1.49	-232.73	1.23
637	SLU 51	-111	26	8438	-0.32	-232.74	1.64
637	SLU 52	-112	41	9073	-3.14	-250.39	2.04
637	SLU 53	-114	9	9232	0.68	-254.75	1.35
637	SLU 54	-114	28	9232	-1.13	-254.76	1.77
637	SLU 55	-113	41	9177	-2.51	-253.25	2.05
637	SLU 56	-115	9	9335	1.31	-257.61	1.36
637	SLU 57	-115	28	9335	-0.5	-257.62	1.78
637	SLU 58	-114	9	9280	1.14	-256.09	1.36
637	SLU 59	-114	28	9280	-0.67	-256.1	1.78
637	SLU 60	-113	11	9434	-0.27	-260.39	1.4
637	SLU 61	-113	30	9434	-2.08	-260.4	1.82
637	SLU 62	-114	10	9537	0.36	-263.25	1.41
637	SLU 63	-114	29	9537	-1.45	-263.26	1.83
637	SLU 64	-117	4	9282	2.08	-256.12	1.28
637	SLU 65	-117	36	9282	-0.94	-256.13	1.97
637	SLU 66	-119	4	9441	2.88	-260.49	1.28
637	SLU 67	-118	23	9441	1.07	-260.51	1.7
637	SLU 68	-118	36	9386	-0.31	-258.99	1.98
637	SLU 69	-119	3	9544	3.51	-263.35	1.29
637	SLU 70	-119	22	9544	1.7	-263.36	1.7
637	SLU 71	-119	4	9489	3.34	-261.83	1.29
637	SLU 72	-119	23	9489	1.53	-261.84	1.71
637	SLU 73	-119	38	10124	-1.29	-279.5	2.1
637	SLU 74	-121	6	10283	2.54	-283.86	1.42
637	SLU 75	-121	25	10283	0.72	-283.87	1.83
637	SLU 76	-120	38	10228	-0.66	-282.35	2.11
637	SLU 77	-122	6	10386	3.16	-286.71	1.42
637	SLU 78	-122	25	10386	1.35	-286.72	1.84
637	SLU 79	-121	6	10331	2.99	-285.19	1.42
637	SLU 80	-121	25	10331	1.18	-285.2	1.84
637	SLU 81	-121	8	10485	1.59	-289.49	1.47
637	SLU 82	-121	27	10485	-0.23	-289.5	1.88
637	SLU 83	-122	7	10588	2.21	-292.35	1.47
637	SLU 84	-122	26	10588	0.4	-292.36	1.89
637	SLE RA 1	-88	4	6909	1.2	-190.62	0.97
637	SLE RA 2	-88	25	6909	-0.82	-190.63	1.43
637	SLE RA 3	-89	3	7015	1.73	-193.54	0.97
637	SLE RA 4	-89	16	7015	0.52	-193.54	1.25
637	SLE RA 5	-89	25	6978	-0.4	-192.53	1.43
637	SLE RA 6	-90	3	7084	2.15	-195.44	0.98
637	SLE RA 7	-90	16	7084	0.94	-195.45	1.25
637	SLE RA 8	-89	4	7047	2.03	-194.43	0.98
637	SLE RA 9	-89	16	7047	0.83	-194.43	1.25
637	SLE RA 10	-90	27	7470	-1.05	-206.2	1.52
637	SLE RA 11	-91	5	7576	1.5	-209.11	1.06
637	SLE RA 12	-91	18	7576	0.29	-209.12	1.34
637	SLE RA 13	-91	27	7539	-0.63	-208.11	1.52
637	SLE RA 14	-92	5	7645	1.92	-211.01	1.07
637	SLE RA 15	-92	18	7645	0.71	-211.02	1.34
637	SLE RA 16	-91	5	7608	1.8	-210	1.07
637	SLE RA 17	-91	18	7608	0.59	-210.01	1.34
637	SLE RA 18	-91	6	7711	0.86	-212.87	1.1
637	SLE RA 19	-91	19	7711	-0.34	-212.87	1.37
637	SLE RA 20	-92	6	7780	1.28	-214.77	1.1
637	SLE RA 21	-91	19	7780	0.07	-214.78	1.38
637	SLE FR 1	-88	4	6909	1.2	-190.62	0.97
637	SLE FR 2	-88	8	6909	0.79	-190.62	1.06
637	SLE FR 3	-89	4	6937	1.36	-191.38	0.97
637	SLE FR 4	-89	9	7150	0.69	-197.29	1.1
637	SLE FR 5	-89	5	7177	1.26	-198.05	1.01
637	SLE FR 6	-90	5	7310	1.03	-201.74	1.03
637	SLE QP 1	-88	4	6909	1.2	-190.62	0.97
637	SLE QP 2	-89	5	7149	1.1	-197.29	1.01
637	SLD 1	365	223	9203	-25.16	-251.36	7.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
637	SLD 2	363	55	9207	-22.31	-251.41	5.02
637	SLD 3	360	-174	9134	22.17	-249.38	-0.84
637	SLD 4	357	-342	9138	25.02	-249.42	-3.71
637	SLD 5	57	702	7869	-79.05	-216.52	16.8
637	SLD 6	55	594	7872	-77.22	-216.54	14.96
637	SLD 7	37	-623	7640	78.71	-209.9	-12.3
637	SLD 8	35	-731	7642	80.55	-209.93	-14.14
637	SLD 9	-213	740	6657	-78.35	-184.66	16.15
637	SLD 10	-215	632	6659	-76.52	-184.68	14.31
637	SLD 11	-233	-585	6427	79.41	-178.04	-12.95
637	SLD 12	-235	-693	6430	81.24	-178.07	-14.79
637	SLD 13	-535	351	5161	-22.83	-145.16	5.72
637	SLD 14	-538	183	5165	-19.98	-145.21	2.86
637	SLD 15	-541	-46	5092	24.5	-143.18	-3.01
637	SLD 16	-544	-214	5096	27.35	-143.22	-5.87
637	SLV 1	623	376	10358	-43.4	-281.79	12.4
637	SLV 2	619	111	10364	-38.92	-281.86	7.89
637	SLV 3	613	-302	10241	37.36	-278.41	-2.48
637	SLV 4	609	-567	10247	41.85	-278.48	-7
637	SLV 5	140	1194	8289	-135.58	-227.76	27.85
637	SLV 6	137	1015	8293	-132.56	-227.81	24.81
637	SLV 7	107	-1066	7898	133.63	-216.48	-21.78
637	SLV 8	105	-1245	7902	136.65	-216.53	-24.82
637	SLV 9	-283	1254	6397	-134.46	-178.05	26.83
637	SLV 10	-286	1075	6401	-131.44	-178.1	23.79
637	SLV 11	-316	-1006	6006	134.75	-166.78	-22.8
637	SLV 12	-319	-1184	6010	137.77	-166.83	-25.84
637	SLV 13	-787	576	4052	-39.65	-116.11	9.01
637	SLV 14	-791	311	4058	-35.17	-116.17	4.5
637	SLV 15	-797	-102	3935	41.11	-112.72	-5.88
637	SLV 16	-801	-367	3941	45.6	-112.79	-10.39
637	SLV FO 1	694	413	10679	-47.85	-290.24	13.54
637	SLV FO 2	690	121	10686	-42.92	-290.32	8.58
637	SLV FO 3	683	-333	10550	40.99	-286.52	-2.83
637	SLV FO 4	679	-624	10557	45.92	-286.6	-7.8
637	SLV FO 5	163	1312	8403	-149.25	-230.81	30.53
637	SLV FO 6	160	1116	8407	-145.93	-230.86	27.19
637	SLV FO 7	127	-1173	7973	146.88	-218.4	-24.06
637	SLV FO 8	124	-1369	7977	150.21	-218.46	-27.4
637	SLV FO 9	-302	1379	6322	-148.01	-176.13	29.41
637	SLV FO 10	-305	1182	6326	-144.69	-176.18	26.07
637	SLV FO 11	-338	-1107	5892	148.12	-163.73	-25.18
637	SLV FO 12	-341	-1303	5896	151.44	-163.78	-28.52
637	SLV FO 13	-857	633	3742	-43.73	-107.99	9.81
637	SLV FO 14	-862	342	3749	-38.79	-108.06	4.85
637	SLV FO 15	-868	-112	3613	45.11	-104.27	-6.57
637	SLV FO 16	-872	-404	3620	50.05	-104.34	-11.53
637	CRTFP Ux+	0	0	0	0	0	0
637	CRTFP Ux-	0	0	0	0	0	0
637	CRTFP Uy+	0	0	0	0	0	0
637	CRTFP Uy-	0	0	0	0	0	0
638	SLU 1	-100	10	7629	-0.75	2.15	0.75
638	SLU 2	-100	45	7630	-4.16	2.14	0.51
638	SLU 3	-102	9	7812	0.13	2.21	0.77
638	SLU 4	-102	31	7813	-1.92	2.2	0.63
638	SLU 5	-101	45	7749	-3.47	2.17	0.52
638	SLU 6	-103	9	7932	0.82	2.24	0.78
638	SLU 7	-103	30	7932	-1.23	2.23	0.64
638	SLU 8	-102	9	7868	0.64	2.22	0.77
638	SLU 9	-102	31	7869	-1.41	2.21	0.63
638	SLU 10	-103	49	8608	-4.78	2.18	0.56
638	SLU 11	-106	12	8790	-0.48	2.25	0.82
638	SLU 12	-105	34	8791	-2.53	2.24	0.68
638	SLU 13	-104	48	8728	-4.08	2.22	0.57
638	SLU 14	-107	12	8910	0.21	2.29	0.83
638	SLU 15	-106	33	8910	-1.84	2.28	0.69
638	SLU 16	-106	13	8846	0.03	2.27	0.82
638	SLU 17	-106	34	8847	-2.02	2.26	0.67
638	SLU 18	-105	14	9027	-1.62	2.22	0.82
638	SLU 19	-105	36	9027	-3.67	2.21	0.68
638	SLU 20	-106	14	9146	-0.93	2.26	0.83
638	SLU 21	-106	35	9147	-2.98	2.25	0.69
638	SLU 22	-109	7	8847	1.12	2.31	0.89
638	SLU 23	-109	43	8848	-2.3	2.29	0.66
638	SLU 24	-111	6	9031	2	2.36	0.92
638	SLU 25	-111	28	9031	-0.05	2.35	0.78
638	SLU 26	-110	43	8968	-1.6	2.33	0.66
638	SLU 27	-112	6	9150	2.69	2.4	0.93
638	SLU 28	-112	28	9151	0.64	2.39	0.79
638	SLU 29	-111	7	9087	2.51	2.38	0.91
638	SLU 30	-111	28	9087	0.46	2.37	0.77
638	SLU 31	-112	46	9826	-2.91	2.34	0.7
638	SLU 32	-114	9	10009	1.38	2.41	0.97
638	SLU 33	-114	31	10009	-0.67	2.4	0.82
638	SLU 34	-113	46	9946	-2.21	2.37	0.71
638	SLU 35	-115	9	10129	2.08	2.44	0.98
638	SLU 36	-115	31	10129	0.03	2.43	0.83
638	SLU 37	-114	10	10065	1.9	2.43	0.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
638	SLU 38	-114	31	10065	-0.15	2.42	0.82
638	SLU 39	-114	11	10245	0.25	2.38	0.96
638	SLU 40	-114	33	10245	-1.8	2.37	0.82
638	SLU 41	-115	11	10365	0.94	2.41	0.97
638	SLU 42	-115	33	10365	-1.11	2.4	0.83
638	SLU 43	-127	14	9500	-1.61	2.75	0.92
638	SLU 44	-127	49	9501	-5.03	2.73	0.68
638	SLU 45	-129	13	9683	-0.74	2.8	0.95
638	SLU 46	-129	34	9683	-2.79	2.79	0.81
638	SLU 47	-128	49	9620	-4.33	2.76	0.69
638	SLU 48	-130	13	9803	-0.04	2.83	0.96
638	SLU 49	-130	34	9803	-2.09	2.82	0.82
638	SLU 50	-130	13	9739	-0.22	2.82	0.94
638	SLU 51	-129	35	9739	-2.27	2.81	0.8
638	SLU 52	-130	52	10479	-5.64	2.78	0.73
638	SLU 53	-133	16	10661	-1.35	2.85	1
638	SLU 54	-133	37	10662	-3.4	2.84	0.85
638	SLU 55	-132	52	10598	-4.95	2.81	0.74
638	SLU 56	-134	16	10781	-0.65	2.88	1.01
638	SLU 57	-134	37	10781	-2.7	2.87	0.86
638	SLU 58	-133	16	10717	-0.83	2.86	0.99
638	SLU 59	-133	38	10718	-2.88	2.85	0.85
638	SLU 60	-132	18	10897	-2.49	2.82	0.99
638	SLU 61	-132	39	10898	-4.54	2.8	0.85
638	SLU 62	-133	18	11017	-1.79	2.85	1
638	SLU 63	-133	39	11017	-3.84	2.84	0.86
638	SLU 64	-136	11	10718	0.26	2.9	1.07
638	SLU 65	-136	47	10719	-3.16	2.89	0.83
638	SLU 66	-138	10	10902	1.13	2.96	1.09
638	SLU 67	-138	32	10902	-0.92	2.94	0.95
638	SLU 68	-137	47	10839	-2.47	2.92	0.84
638	SLU 69	-139	10	11021	1.83	2.99	1.1
638	SLU 70	-139	32	11022	-0.22	2.98	0.96
638	SLU 71	-138	11	10958	1.64	2.97	1.09
638	SLU 72	-138	32	10958	-0.41	2.96	0.95
638	SLU 73	-139	50	11697	-3.77	2.93	0.88
638	SLU 74	-141	13	11880	0.52	3	1.14
638	SLU 75	-141	35	11880	-1.53	2.99	1
638	SLU 76	-140	50	11817	-3.08	2.97	0.89
638	SLU 77	-142	13	11999	1.22	3.04	1.15
638	SLU 78	-142	35	12000	-0.83	3.03	1.01
638	SLU 79	-142	14	11936	1.03	3.02	1.14
638	SLU 80	-141	35	11936	-1.02	3.01	0.99
638	SLU 81	-141	15	12116	-0.62	2.97	1.14
638	SLU 82	-141	37	12116	-2.67	2.96	1
638	SLU 83	-142	15	12236	0.08	3.01	1.15
638	SLU 84	-142	37	12236	-1.97	2.99	1.01
638	SLE RA 1	-103	9	7977	-0.21	2.2	0.79
638	SLE RA 2	-103	33	7978	-2.49	2.19	0.63
638	SLE RA 3	-104	9	8099	0.37	2.23	0.81
638	SLE RA 4	-104	23	8099	-1	2.23	0.71
638	SLE RA 5	-103	33	8057	-2.03	2.21	0.64
638	SLE RA 6	-105	8	8179	0.83	2.26	0.81
638	SLE RA 7	-105	23	8179	-0.53	2.25	0.72
638	SLE RA 8	-104	9	8137	0.71	2.24	0.8
638	SLE RA 9	-104	23	8137	-0.65	2.24	0.71
638	SLE RA 10	-105	35	8630	-2.9	2.22	0.66
638	SLE RA 11	-106	11	8751	-0.04	2.27	0.84
638	SLE RA 12	-106	25	8752	-1.4	2.26	0.74
638	SLE RA 13	-106	35	8709	-2.44	2.24	0.67
638	SLE RA 14	-107	10	8831	0.43	2.29	0.85
638	SLE RA 15	-107	25	8831	-0.94	2.28	0.75
638	SLE RA 16	-106	11	8789	0.3	2.28	0.84
638	SLE RA 17	-106	25	8789	-1.06	2.27	0.74
638	SLE RA 18	-106	12	8909	-0.8	2.24	0.84
638	SLE RA 19	-106	26	8909	-2.16	2.24	0.74
638	SLE RA 20	-107	12	8989	-0.33	2.27	0.84
638	SLE RA 21	-107	26	8989	-1.7	2.26	0.75
638	SLE FR 1	-103	9	7977	-0.21	2.2	0.79
638	SLE FR 2	-103	14	7977	-0.67	2.2	0.76
638	SLE FR 3	-103	9	8009	-0.03	2.21	0.79
638	SLE FR 4	-104	15	8257	-0.84	2.21	0.77
638	SLE FR 5	-104	10	8288	-0.2	2.22	0.81
638	SLE FR 6	-104	10	8443	-0.51	2.22	0.81
638	SLE QP 1	-103	9	7977	-0.21	2.2	0.79
638	SLE QP 2	-104	10	8257	-0.39	2.21	0.81
638	SLD 1	427	256	10510	-30.08	6.86	-0.99
638	SLD 2	424	71	10512	-26.92	6.95	1.27
638	SLD 3	420	-193	10427	23.61	7.01	2
638	SLD 4	417	-378	10429	26.78	7.11	4.26
638	SLD 5	66	796	9059	-91.28	3.36	-4.66
638	SLD 6	64	677	9060	-89.24	3.42	-3.2
638	SLD 7	44	-700	8781	87.71	3.87	5.31
638	SLD 8	42	-819	8782	89.74	3.93	6.77
638	SLD 9	-249	838	7731	-90.52	0.49	-5.16
638	SLD 10	-251	719	7732	-88.48	0.55	-3.7
638	SLD 11	-272	-657	7453	88.47	1.01	4.81
638	SLD 12	-274	-776	7455	90.5	1.07	6.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
638	SLD 13	-625	397	6085	-27.55	-2.68	-2.65
638	SLD 14	-628	212	6086	-24.39	-2.59	-0.39
638	SLD 15	-632	-52	6001	26.14	-2.53	0.34
638	SLD 16	-635	-236	6003	29.31	-2.44	2.6
638	SLV 1	728	428	11778	-50.74	9.45	-2.23
638	SLV 2	723	136	11781	-45.75	9.6	1.34
638	SLV 3	717	-338	11636	40.89	9.71	2.87
638	SLV 4	712	-629	11639	45.88	9.86	6.44
638	SLV 5	164	1350	9528	-155.4	3.96	-8.51
638	SLV 6	161	1154	9530	-152.04	4.06	-6.11
638	SLV 7	126	-1201	9055	150.03	4.83	8.5
638	SLV 8	123	-1397	9057	153.39	4.93	10.9
638	SLV 9	-330	1417	7457	-154.17	-0.51	-9.29
638	SLV 10	-333	1220	7458	-150.81	-0.41	-6.89
638	SLV 11	-368	-1135	6983	151.26	0.36	7.72
638	SLV 12	-372	-1331	6985	154.62	0.46	10.12
638	SLV 13	-919	649	4874	-46.65	-5.44	-4.83
638	SLV 14	-924	357	4877	-41.66	-5.29	-1.26
638	SLV 15	-931	-117	4732	44.98	-5.18	0.27
638	SLV 16	-936	-408	4735	49.97	-5.03	3.84
638	SLV FO 1	811	470	12131	-55.78	10.18	-2.53
638	SLV FO 2	806	149	12134	-50.29	10.34	1.39
638	SLV FO 3	799	-372	11974	45.01	10.46	3.08
638	SLV FO 4	793	-693	11977	50.5	10.63	7
638	SLV FO 5	191	1485	9655	-170.9	4.14	-9.44
638	SLV FO 6	187	1269	9657	-167.2	4.25	-6.8
638	SLV FO 7	149	-1322	9135	165.08	5.09	9.27
638	SLV FO 8	145	-1538	9137	168.77	5.2	11.91
638	SLV FO 9	-353	1557	7377	-169.55	-0.78	-10.3
638	SLV FO 10	-356	1342	7379	-165.85	-0.67	-7.66
638	SLV FO 11	-395	-1249	6856	166.43	0.18	8.41
638	SLV FO 12	-398	-1465	6858	170.12	0.29	11.05
638	SLV FO 13	-1001	713	4536	-51.28	-6.2	-5.39
638	SLV FO 14	-1006	392	4539	-45.79	-6.04	-1.47
638	SLV FO 15	-1013	-129	4380	49.51	-5.91	0.22
638	SLV FO 16	-1019	-450	4383	55	-5.75	4.14
638	CRTFP Ux+	0	0	0	0	0	0
638	CRTFP Ux-	0	0	0	0	0	0
638	CRTFP Uy+	0	0	0	0	0	0
638	CRTFP Uy-	0	0	0	0	0	0
639	SLU 1	-100	13	7572	-2.42	1.61	0.52
639	SLU 2	-100	47	7573	-5.75	1.59	0.3
639	SLU 3	-102	12	7753	-1.6	1.65	0.54
639	SLU 4	-102	33	7754	-3.59	1.64	0.41
639	SLU 5	-101	47	7692	-5.09	1.62	0.3
639	SLU 6	-103	12	7872	-0.94	1.68	0.55
639	SLU 7	-103	33	7873	-2.94	1.67	0.41
639	SLU 8	-102	13	7809	-1.11	1.66	0.54
639	SLU 9	-102	34	7810	-3.1	1.65	0.4
639	SLU 10	-103	51	8551	-6.59	1.58	0.32
639	SLU 11	-105	16	8732	-2.44	1.63	0.56
639	SLU 12	-105	36	8732	-4.43	1.62	0.43
639	SLU 13	-104	51	8670	-5.93	1.6	0.32
639	SLU 14	-106	16	8850	-1.78	1.66	0.57
639	SLU 15	-106	36	8851	-3.78	1.65	0.43
639	SLU 16	-105	16	8787	-1.95	1.64	0.56
639	SLU 17	-105	37	8788	-3.94	1.63	0.42
639	SLU 18	-105	18	8969	-3.62	1.58	0.55
639	SLU 19	-105	38	8970	-5.62	1.57	0.41
639	SLU 20	-106	17	9088	-2.96	1.61	0.56
639	SLU 21	-106	38	9088	-4.96	1.6	0.42
639	SLU 22	-109	11	8787	-0.86	1.68	0.64
639	SLU 23	-109	46	8788	-4.19	1.67	0.41
639	SLU 24	-111	10	8969	-0.04	1.72	0.66
639	SLU 25	-111	31	8969	-2.03	1.71	0.52
639	SLU 26	-110	45	8907	-3.53	1.69	0.42
639	SLU 27	-112	10	9087	0.62	1.75	0.67
639	SLU 28	-112	31	9088	-1.38	1.74	0.53
639	SLU 29	-111	11	9024	0.45	1.73	0.65
639	SLU 30	-111	32	9025	-1.54	1.72	0.52
639	SLU 31	-112	49	9766	-5.03	1.65	0.43
639	SLU 32	-114	14	9947	-0.88	1.7	0.68
639	SLU 33	-114	34	9948	-2.87	1.69	0.54
639	SLU 34	-113	49	9885	-4.37	1.67	0.44
639	SLU 35	-115	14	10065	-0.22	1.73	0.69
639	SLU 36	-115	34	10066	-2.22	1.72	0.55
639	SLU 37	-114	14	10002	-0.39	1.71	0.67
639	SLU 38	-114	35	10003	-2.38	1.7	0.54
639	SLU 39	-114	16	10184	-2.06	1.65	0.67
639	SLU 40	-113	36	10185	-4.06	1.64	0.53
639	SLU 41	-115	15	10303	-1.4	1.68	0.67
639	SLU 42	-114	36	10304	-3.4	1.67	0.54
639	SLU 43	-127	18	9426	-3.68	2.07	0.64
639	SLU 44	-127	52	9428	-7.01	2.05	0.41
639	SLU 45	-129	17	9608	-2.86	2.11	0.66
639	SLU 46	-129	38	9609	-4.85	2.1	0.53
639	SLU 47	-128	52	9546	-6.35	2.08	0.42
639	SLU 48	-130	17	9727	-2.2	2.13	0.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
639	SLU 49	-130	38	9728	-4.2	2.12	0.53
639	SLU 50	-129	17	9664	-2.37	2.12	0.65
639	SLU 51	-129	38	9665	-4.36	2.11	0.52
639	SLU 52	-130	55	10406	-7.85	2.03	0.43
639	SLU 53	-132	20	10586	-3.7	2.09	0.68
639	SLU 54	-132	41	10587	-5.7	2.08	0.54
639	SLU 55	-131	55	10525	-7.19	2.06	0.44
639	SLU 56	-133	20	10705	-3.04	2.11	0.69
639	SLU 57	-133	41	10706	-5.04	2.1	0.55
639	SLU 58	-132	21	10642	-3.21	2.1	0.67
639	SLU 59	-132	41	10643	-5.2	2.09	0.54
639	SLU 60	-132	22	10824	-4.88	2.04	0.67
639	SLU 61	-132	43	10824	-6.88	2.03	0.53
639	SLU 62	-133	22	10942	-4.23	2.07	0.68
639	SLU 63	-133	43	10943	-6.22	2.06	0.54
639	SLU 64	-136	16	10642	-2.12	2.14	0.76
639	SLU 65	-136	50	10643	-5.45	2.12	0.53
639	SLU 66	-138	15	10823	-1.3	2.18	0.78
639	SLU 67	-138	36	10824	-3.29	2.17	0.64
639	SLU 68	-137	50	10762	-4.79	2.15	0.54
639	SLU 69	-139	15	10942	-0.64	2.21	0.78
639	SLU 70	-139	36	10943	-2.64	2.2	0.65
639	SLU 71	-138	15	10879	-0.81	2.19	0.77
639	SLU 72	-138	36	10880	-2.8	2.18	0.63
639	SLU 73	-139	53	11621	-6.29	2.11	0.55
639	SLU 74	-141	18	11802	-2.14	2.16	0.8
639	SLU 75	-141	39	11802	-4.14	2.15	0.66
639	SLU 76	-140	53	11740	-5.63	2.13	0.56
639	SLU 77	-142	18	11920	-1.48	2.19	0.8
639	SLU 78	-142	39	11921	-3.48	2.18	0.67
639	SLU 79	-141	19	11857	-1.65	2.17	0.79
639	SLU 80	-141	39	11858	-3.64	2.16	0.65
639	SLU 81	-141	20	12039	-3.32	2.11	0.78
639	SLU 82	-140	41	12040	-5.32	2.1	0.65
639	SLU 83	-142	20	12158	-2.67	2.14	0.79
639	SLU 84	-141	41	12158	-4.66	2.13	0.65
639	SLE RA 1	-103	12	7919	-1.98	1.63	0.56
639	SLE RA 2	-102	35	7920	-4.19	1.62	0.41
639	SLE RA 3	-104	12	8040	-1.43	1.66	0.57
639	SLE RA 4	-104	26	8041	-2.76	1.65	0.48
639	SLE RA 5	-103	35	7999	-3.75	1.64	0.41
639	SLE RA 6	-105	12	8119	-0.99	1.67	0.58
639	SLE RA 7	-104	26	8120	-2.32	1.67	0.48
639	SLE RA 8	-104	12	8077	-1.1	1.67	0.57
639	SLE RA 9	-104	26	8078	-2.43	1.66	0.47
639	SLE RA 10	-105	38	8572	-4.75	1.61	0.42
639	SLE RA 11	-106	14	8692	-1.99	1.64	0.58
639	SLE RA 12	-106	28	8693	-3.32	1.64	0.49
639	SLE RA 13	-105	38	8651	-4.31	1.62	0.42
639	SLE RA 14	-107	14	8771	-1.55	1.66	0.59
639	SLE RA 15	-107	28	8772	-2.88	1.65	0.5
639	SLE RA 16	-106	14	8729	-1.66	1.65	0.58
639	SLE RA 17	-106	28	8730	-2.99	1.65	0.49
639	SLE RA 18	-106	15	8850	-2.78	1.61	0.58
639	SLE RA 19	-106	29	8851	-4.11	1.61	0.48
639	SLE RA 20	-106	15	8929	-2.34	1.63	0.58
639	SLE RA 21	-106	29	8930	-3.67	1.62	0.49
639	SLE FR 1	-103	12	7919	-1.98	1.63	0.56
639	SLE FR 2	-103	17	7919	-2.42	1.63	0.53
639	SLE FR 3	-103	12	7950	-1.8	1.64	0.56
639	SLE FR 4	-103	18	8198	-2.66	1.62	0.53
639	SLE FR 5	-104	13	8230	-2.04	1.63	0.56
639	SLE FR 6	-104	14	8385	-2.38	1.62	0.57
639	SLE QP 1	-103	12	7919	-1.98	1.63	0.56
639	SLE QP 2	-104	13	8198	-2.22	1.63	0.56
639	SLD 1	428	250	10311	-31.33	6.02	-2.74
639	SLD 2	425	77	10310	-28.31	6.1	-0.53
639	SLD 3	421	-183	10224	21.11	6.17	0.12
639	SLD 4	418	-356	10223	24.13	6.25	2.33
639	SLD 5	67	771	8964	-91	2.7	-5.15
639	SLD 6	65	659	8963	-89.06	2.75	-3.73
639	SLD 7	44	-673	8675	83.8	3.2	4.39
639	SLD 8	42	-784	8674	85.74	3.26	5.82
639	SLD 9	-249	811	7722	-90.17	-0.01	-4.69
639	SLD 10	-251	699	7722	-88.23	0.05	-3.27
639	SLD 11	-272	-633	7433	84.63	0.5	4.86
639	SLD 12	-274	-744	7433	86.57	0.55	6.28
639	SLD 13	-625	383	6173	-28.56	-3	-1.21
639	SLD 14	-628	210	6172	-25.54	-2.92	1
639	SLD 15	-632	-50	6087	23.88	-2.85	1.66
639	SLD 16	-635	-223	6086	26.9	-2.77	3.87
639	SLV 1	730	415	11501	-51.56	8.47	-4.83
639	SLV 2	725	142	11499	-46.81	8.6	-1.34
639	SLV 3	718	-323	11353	37.92	8.72	0.06
639	SLV 4	713	-596	11351	42.68	8.85	3.55
639	SLV 5	165	1305	9414	-153.63	3.27	-9.12
639	SLV 6	161	1121	9413	-150.43	3.35	-6.77
639	SLV 7	127	-1157	8921	144.66	4.12	7.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
639	SLV 8	123	-1340	8920	147.86	4.21	9.52
639	SLV 9	-330	1367	7477	-152.29	-0.95	-8.39
639	SLV 10	-334	1184	7476	-149.09	-0.87	-6.05
639	SLV 11	-369	-1095	6984	145.99	-0.1	7.9
639	SLV 12	-372	-1278	6983	149.2	-0.01	10.24
639	SLV 13	-920	623	5045	-47.11	-5.6	-2.42
639	SLV 14	-925	350	5044	-42.35	-5.47	1.06
639	SLV 15	-932	-116	4897	42.37	-5.35	2.47
639	SLV 16	-937	-389	4896	47.13	-5.21	5.95
639	SLV FO 1	813	455	11831	-56.5	9.15	-5.37
639	SLV FO 2	808	155	11829	-51.26	9.3	-1.53
639	SLV FO 3	800	-357	11668	41.94	9.43	0.01
639	SLV FO 4	795	-657	11667	47.17	9.58	3.84
639	SLV FO 5	192	1434	9535	-168.77	3.43	-10.08
639	SLV FO 6	188	1232	9534	-165.25	3.53	-7.5
639	SLV FO 7	150	-1274	8993	159.35	4.37	7.84
639	SLV FO 8	146	-1476	8992	162.87	4.46	10.42
639	SLV FO 9	-353	1502	7405	-167.3	-1.21	-9.29
639	SLV FO 10	-357	1301	7404	-163.78	-1.12	-6.71
639	SLV FO 11	-395	-1205	6863	160.81	-0.28	8.63
639	SLV FO 12	-399	-1407	6861	164.34	-0.18	11.21
639	SLV FO 13	-1002	684	4730	-51.6	-6.32	-2.72
639	SLV FO 14	-1007	384	4728	-46.37	-6.18	1.11
639	SLV FO 15	-1015	-129	4567	46.83	-6.04	2.66
639	SLV FO 16	-1020	-429	4566	52.07	-5.9	6.49
639	CRTFP Ux+	0	0	0	0	0	0
639	CRTFP Ux-	0	0	0	0	0	0
639	CRTFP Uy+	0	0	0	0	0	0
639	CRTFP Uy-	0	0	0	0	0	0
640	SLU 1	-100	15	7523	-4.1	1.54	0.34
640	SLU 2	-99	49	7525	-7.33	1.53	0.14
640	SLU 3	-102	15	7704	-3.33	1.58	0.36
640	SLU 4	-101	35	7705	-5.27	1.57	0.24
640	SLU 5	-100	48	7643	-6.71	1.55	0.14
640	SLU 6	-103	15	7822	-2.71	1.6	0.36
640	SLU 7	-102	35	7823	-4.65	1.59	0.24
640	SLU 8	-102	15	7759	-2.85	1.59	0.35
640	SLU 9	-102	35	7760	-4.79	1.58	0.23
640	SLU 10	-103	52	8504	-8.4	1.51	0.14
640	SLU 11	-105	18	8683	-4.4	1.56	0.35
640	SLU 12	-105	38	8684	-6.34	1.55	0.23
640	SLU 13	-104	52	8622	-7.78	1.53	0.14
640	SLU 14	-106	18	8801	-3.78	1.59	0.36
640	SLU 15	-106	38	8802	-5.72	1.58	0.24
640	SLU 16	-105	18	8738	-3.92	1.57	0.35
640	SLU 17	-105	38	8739	-5.86	1.57	0.23
640	SLU 18	-105	20	8921	-5.63	1.52	0.34
640	SLU 19	-104	40	8922	-7.57	1.51	0.22
640	SLU 20	-106	20	9039	-5	1.54	0.34
640	SLU 21	-105	40	9040	-6.95	1.53	0.22
640	SLU 22	-108	14	8736	-2.84	1.61	0.43
640	SLU 23	-108	47	8738	-6.08	1.6	0.23
640	SLU 24	-110	13	8917	-2.07	1.65	0.45
640	SLU 25	-110	33	8918	-4.01	1.64	0.33
640	SLU 26	-109	47	8856	-5.45	1.62	0.24
640	SLU 27	-111	13	9035	-1.45	1.68	0.45
640	SLU 28	-111	33	9036	-3.39	1.67	0.33
640	SLU 29	-110	14	8972	-1.6	1.66	0.44
640	SLU 30	-110	34	8973	-3.54	1.65	0.32
640	SLU 31	-112	50	9717	-7.15	1.58	0.23
640	SLU 32	-114	17	9896	-3.14	1.63	0.45
640	SLU 33	-114	37	9897	-5.08	1.63	0.33
640	SLU 34	-113	50	9835	-6.53	1.61	0.23
640	SLU 35	-115	16	10014	-2.52	1.66	0.45
640	SLU 36	-115	37	10015	-4.46	1.65	0.33
640	SLU 37	-114	17	9951	-2.67	1.65	0.44
640	SLU 38	-114	37	9952	-4.61	1.64	0.32
640	SLU 39	-113	18	10135	-4.37	1.59	0.43
640	SLU 40	-113	38	10136	-6.31	1.58	0.31
640	SLU 41	-114	18	10252	-3.75	1.62	0.43
640	SLU 42	-114	38	10254	-5.69	1.61	0.31
640	SLU 43	-127	20	9364	-5.76	1.98	0.41
640	SLU 44	-126	54	9366	-8.99	1.97	0.21
640	SLU 45	-128	20	9545	-4.99	2.02	0.43
640	SLU 46	-128	40	9546	-6.93	2.01	0.31
640	SLU 47	-127	54	9484	-8.37	1.99	0.22
640	SLU 48	-129	20	9663	-4.37	2.04	0.43
640	SLU 49	-129	40	9664	-6.31	2.03	0.31
640	SLU 50	-129	20	9600	-4.51	2.03	0.42
640	SLU 51	-128	40	9601	-6.45	2.02	0.3
640	SLU 52	-130	57	10345	-10.06	1.95	0.21
640	SLU 53	-132	23	10524	-6.06	2	0.43
640	SLU 54	-132	43	10525	-8	1.99	0.3
640	SLU 55	-131	57	10463	-9.44	1.97	0.21
640	SLU 56	-133	23	10642	-5.44	2.03	0.43
640	SLU 57	-133	43	10643	-7.38	2.02	0.31
640	SLU 58	-132	23	10579	-5.58	2.01	0.42
640	SLU 59	-132	43	10580	-7.52	2	0.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
640	SLU 60	-131	25	10762	-7.29	1.96	0.41
640	SLU 61	-131	45	10764	-9.23	1.95	0.29
640	SLU 62	-132	25	10880	-6.66	1.98	0.41
640	SLU 63	-132	45	10881	-8.61	1.97	0.29
640	SLU 64	-135	19	10577	-4.5	2.05	0.51
640	SLU 65	-135	52	10579	-7.74	2.04	0.3
640	SLU 66	-137	18	10758	-3.73	2.09	0.52
640	SLU 67	-137	38	10759	-5.67	2.08	0.4
640	SLU 68	-136	52	10697	-7.11	2.06	0.31
640	SLU 69	-138	18	10876	-3.11	2.11	0.53
640	SLU 70	-138	38	10877	-5.05	2.1	0.4
640	SLU 71	-137	19	10813	-3.26	2.1	0.51
640	SLU 72	-137	39	10814	-5.2	2.09	0.39
640	SLU 73	-138	55	11558	-8.81	2.02	0.3
640	SLU 74	-141	22	11737	-4.8	2.07	0.52
640	SLU 75	-140	42	11738	-6.74	2.06	0.4
640	SLU 76	-139	55	11676	-8.19	2.04	0.3
640	SLU 77	-142	22	11855	-4.18	2.1	0.52
640	SLU 78	-142	42	11856	-6.12	2.09	0.4
640	SLU 79	-141	22	11792	-4.33	2.09	0.51
640	SLU 80	-141	42	11793	-6.27	2.08	0.39
640	SLU 81	-140	23	11976	-6.03	2.03	0.5
640	SLU 82	-140	43	11977	-7.97	2.02	0.38
640	SLU 83	-141	23	12094	-5.41	2.05	0.5
640	SLU 84	-141	43	12095	-7.35	2.04	0.38
640	SLE RA 1	-102	15	7870	-3.74	1.56	0.37
640	SLE RA 2	-102	37	7871	-5.9	1.55	0.23
640	SLE RA 3	-103	14	7990	-3.23	1.59	0.38
640	SLE RA 4	-103	28	7991	-4.52	1.58	0.3
640	SLE RA 5	-103	37	7950	-5.48	1.57	0.24
640	SLE RA 6	-104	14	8069	-2.81	1.6	0.38
640	SLE RA 7	-104	28	8070	-4.11	1.6	0.3
640	SLE RA 8	-104	15	8027	-2.91	1.6	0.37
640	SLE RA 9	-103	28	8028	-4.2	1.59	0.29
640	SLE RA 10	-104	39	8524	-6.61	1.54	0.23
640	SLE RA 11	-106	17	8643	-3.94	1.58	0.38
640	SLE RA 12	-106	30	8643	-5.23	1.57	0.3
640	SLE RA 13	-105	39	8602	-6.19	1.56	0.23
640	SLE RA 14	-106	17	8721	-3.52	1.59	0.38
640	SLE RA 15	-106	30	8722	-4.82	1.59	0.3
640	SLE RA 16	-106	17	8680	-3.62	1.58	0.37
640	SLE RA 17	-106	30	8680	-4.92	1.58	0.29
640	SLE RA 18	-105	18	8802	-4.76	1.55	0.36
640	SLE RA 19	-105	31	8803	-6.05	1.54	0.28
640	SLE RA 20	-106	18	8881	-4.34	1.56	0.37
640	SLE RA 21	-106	31	8881	-5.64	1.56	0.29
640	SLE FR 1	-102	15	7870	-3.74	1.56	0.37
640	SLE FR 2	-102	19	7870	-4.17	1.56	0.34
640	SLE FR 3	-102	15	7901	-3.57	1.57	0.37
640	SLE FR 4	-103	20	8150	-4.48	1.56	0.34
640	SLE FR 5	-103	16	8181	-3.88	1.57	0.37
640	SLE FR 6	-104	16	8336	-4.25	1.56	0.37
640	SLE QP 1	-102	15	7870	-3.74	1.56	0.37
640	SLE QP 2	-103	16	8149	-4.04	1.56	0.37
640	SLD 1	429	243	10127	-32.79	5.84	-2.65
640	SLD 2	426	82	10123	-29.91	5.92	-0.56
640	SLD 3	423	-175	10037	18.47	5.99	-0.1
640	SLD 4	420	-337	10033	21.34	6.07	1.99
640	SLD 5	67	746	8880	-90.9	2.61	-4.77
640	SLD 6	66	642	8878	-89.05	2.66	-3.42
640	SLD 7	45	-649	8579	79.95	3.1	3.74
640	SLD 8	43	-753	8577	81.8	3.15	5.08
640	SLD 9	-249	784	7722	-89.89	-0.03	-4.35
640	SLD 10	-251	680	7720	-88.04	0.02	-3
640	SLD 11	-272	-611	7421	80.96	0.46	4.15
640	SLD 12	-274	-715	7419	82.81	0.51	5.5
640	SLD 13	-626	368	6266	-29.43	-2.95	-1.26
640	SLD 14	-629	207	6262	-26.55	-2.87	0.83
640	SLD 15	-633	-50	6175	21.83	-2.8	1.29
640	SLD 16	-636	-212	6172	24.7	-2.73	3.39
640	SLV 1	731	402	11241	-52.72	8.23	-4.55
640	SLV 2	726	147	11236	-48.19	8.35	-1.25
640	SLV 3	720	-312	11087	34.75	8.48	-0.2
640	SLV 4	715	-567	11082	39.28	8.6	3.1
640	SLV 5	165	1262	9312	-152.15	3.16	-8.33
640	SLV 6	162	1090	9308	-149.1	3.24	-6.1
640	SLV 7	127	-1118	8798	139.41	3.99	6.18
640	SLV 8	124	-1289	8794	142.46	4.07	8.4
640	SLV 9	-330	1320	7504	-150.55	-0.95	-7.67
640	SLV 10	-334	1149	7501	-147.5	-0.87	-5.45
640	SLV 11	-368	-1059	6991	141.01	-0.12	6.84
640	SLV 12	-372	-1230	6987	144.07	-0.04	9.06
640	SLV 13	-921	598	5217	-47.37	-5.48	-2.37
640	SLV 14	-926	343	5212	-42.84	-5.36	0.93
640	SLV 15	-933	-116	5063	40.1	-5.23	1.99
640	SLV 16	-937	-371	5058	44.63	-5.11	5.28
640	SLV FO 1	815	441	11550	-57.59	8.9	-5.04
640	SLV FO 2	809	160	11544	-52.6	9.03	-1.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
640	SLV FO 3	802	-345	11381	38.63	9.17	-0.25
640	SLV FO 4	797	-625	11375	43.61	9.3	3.37
640	SLV FO 5	192	1386	9428	-166.96	3.32	-9.19
640	SLV FO 6	189	1198	9424	-163.61	3.41	-6.75
640	SLV FO 7	150	-1231	8863	153.75	4.24	6.76
640	SLV FO 8	147	-1420	8859	157.11	4.32	9.21
640	SLV FO 9	-353	1451	7440	-165.2	-1.2	-8.47
640	SLV FO 10	-357	1262	7436	-161.84	-1.12	-6.03
640	SLV FO 11	-395	-1166	6875	155.52	-0.29	7.49
640	SLV FO 12	-398	-1355	6871	158.88	-0.2	9.93
640	SLV FO 13	-1003	656	4924	-51.7	-6.19	-2.64
640	SLV FO 14	-1008	376	4918	-46.71	-6.06	0.99
640	SLV FO 15	-1016	-129	4754	44.52	-5.91	2.15
640	SLV FO 16	-1021	-409	4748	49.5	-5.78	5.78
640	CRTFP Ux+	0	0	0	0	0	0
640	CRTFP Ux-	0	0	0	0	0	0
640	CRTFP Uy+	0	0	0	0	0	0
640	CRTFP Uy-	0	0	0	0	0	0
641	SLU 1	-99	16	7473	-5.78	1.72	0.2
641	SLU 2	-99	49	7475	-8.93	1.71	0.04
641	SLU 3	-101	16	7652	-5.06	1.76	0.21
641	SLU 4	-101	36	7654	-6.95	1.75	0.12
641	SLU 5	-100	49	7592	-8.34	1.73	0.04
641	SLU 6	-102	16	7769	-4.47	1.79	0.22
641	SLU 7	-102	36	7771	-6.36	1.78	0.12
641	SLU 8	-101	16	7707	-4.6	1.78	0.2
641	SLU 9	-101	36	7708	-6.49	1.77	0.11
641	SLU 10	-102	52	8454	-10.23	1.73	0.02
641	SLU 11	-105	19	8631	-6.36	1.79	0.19
641	SLU 12	-104	39	8632	-8.25	1.78	0.1
641	SLU 13	-103	52	8571	-9.64	1.76	0.02
641	SLU 14	-106	19	8748	-5.78	1.81	0.2
641	SLU 15	-105	39	8749	-7.67	1.81	0.1
641	SLU 16	-105	20	8686	-5.91	1.8	0.19
641	SLU 17	-104	39	8687	-7.8	1.79	0.09
641	SLU 18	-104	21	8871	-7.64	1.76	0.17
641	SLU 19	-104	40	8872	-9.53	1.75	0.07
641	SLU 20	-105	21	8988	-7.05	1.78	0.17
641	SLU 21	-105	40	8989	-8.94	1.77	0.08
641	SLU 22	-108	15	8683	-4.82	1.84	0.27
641	SLU 23	-108	48	8685	-7.98	1.82	0.11
641	SLU 24	-110	15	8862	-4.11	1.88	0.29
641	SLU 25	-110	35	8864	-6	1.87	0.19
641	SLU 26	-109	48	8802	-7.39	1.85	0.11
641	SLU 27	-111	15	8980	-3.52	1.91	0.29
641	SLU 28	-111	35	8981	-5.41	1.9	0.19
641	SLU 29	-110	15	8917	-3.65	1.89	0.28
641	SLU 30	-110	35	8919	-5.54	1.88	0.18
641	SLU 31	-111	51	9664	-9.28	1.85	0.09
641	SLU 32	-113	18	9841	-5.41	1.91	0.27
641	SLU 33	-113	38	9843	-7.3	1.9	0.17
641	SLU 34	-112	51	9781	-8.69	1.88	0.09
641	SLU 35	-114	18	9958	-4.82	1.93	0.27
641	SLU 36	-114	38	9960	-6.71	1.92	0.17
641	SLU 37	-113	19	9896	-4.95	1.92	0.26
641	SLU 38	-113	38	9897	-6.84	1.91	0.16
641	SLU 39	-113	20	10081	-6.69	1.88	0.25
641	SLU 40	-113	39	10082	-8.58	1.87	0.15
641	SLU 41	-114	20	10198	-6.1	1.9	0.25
641	SLU 42	-114	39	10200	-7.99	1.89	0.15
641	SLU 43	-126	22	9300	-7.84	2.2	0.24
641	SLU 44	-126	54	9302	-10.99	2.18	0.07
641	SLU 45	-128	21	9479	-7.12	2.24	0.25
641	SLU 46	-128	41	9481	-9.01	2.23	0.15
641	SLU 47	-127	54	9419	-10.4	2.21	0.07
641	SLU 48	-129	21	9596	-6.53	2.27	0.25
641	SLU 49	-129	41	9598	-8.42	2.26	0.15
641	SLU 50	-128	22	9534	-6.66	2.25	0.24
641	SLU 51	-128	41	9535	-8.55	2.24	0.14
641	SLU 52	-129	57	10281	-12.29	2.21	0.05
641	SLU 53	-131	25	10458	-8.42	2.26	0.23
641	SLU 54	-131	44	10459	-10.31	2.25	0.13
641	SLU 55	-130	57	10398	-11.7	2.23	0.05
641	SLU 56	-132	25	10575	-7.84	2.29	0.23
641	SLU 57	-132	44	10576	-9.73	2.28	0.13
641	SLU 58	-131	25	10513	-7.97	2.28	0.22
641	SLU 59	-131	44	10514	-9.86	2.27	0.12
641	SLU 60	-131	26	10698	-9.7	2.23	0.21
641	SLU 61	-131	46	10699	-11.59	2.22	0.11
641	SLU 62	-132	26	10815	-9.11	2.26	0.21
641	SLU 63	-132	46	10816	-11	2.25	0.11
641	SLU 64	-135	21	10510	-6.88	2.32	0.31
641	SLU 65	-134	53	10512	-10.04	2.3	0.14
641	SLU 66	-137	20	10689	-6.17	2.36	0.32
641	SLU 67	-136	40	10691	-8.06	2.35	0.22
641	SLU 68	-135	53	10629	-9.45	2.33	0.15
641	SLU 69	-138	20	10807	-5.58	2.38	0.33
641	SLU 70	-137	40	10808	-7.47	2.37	0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
641	SLU 71	-137	21	10744	-5.71	2.37	0.31
641	SLU 72	-137	40	10746	-7.6	2.36	0.22
641	SLU 73	-138	56	11491	-11.34	2.33	0.13
641	SLU 74	-140	24	11668	-7.47	2.38	0.3
641	SLU 75	-140	43	11669	-9.36	2.37	0.2
641	SLU 76	-139	56	11608	-10.75	2.35	0.13
641	SLU 77	-141	24	11785	-6.88	2.41	0.31
641	SLU 78	-141	43	11787	-8.77	2.4	0.21
641	SLU 79	-140	24	11723	-7.01	2.4	0.29
641	SLU 80	-140	43	11724	-8.9	2.39	0.2
641	SLU 81	-140	25	11908	-8.74	2.35	0.28
641	SLU 82	-139	45	11909	-10.64	2.34	0.18
641	SLU 83	-141	25	12025	-8.16	2.38	0.28
641	SLU 84	-140	45	12027	-10.05	2.37	0.19
641	SLE RA 1	-102	16	7819	-5.5	1.76	0.22
641	SLE RA 2	-101	38	7820	-7.61	1.75	0.11
641	SLE RA 3	-103	16	7938	-5.03	1.78	0.23
641	SLE RA 4	-103	29	7939	-6.29	1.78	0.16
641	SLE RA 5	-102	38	7898	-7.21	1.76	0.11
641	SLE RA 6	-104	16	8016	-4.64	1.8	0.23
641	SLE RA 7	-103	29	8017	-5.9	1.79	0.17
641	SLE RA 8	-103	16	7975	-4.72	1.79	0.22
641	SLE RA 9	-103	29	7976	-5.98	1.79	0.16
641	SLE RA 10	-104	40	8473	-8.47	1.76	0.1
641	SLE RA 11	-105	18	8591	-5.9	1.8	0.22
641	SLE RA 12	-105	31	8592	-7.16	1.79	0.15
641	SLE RA 13	-104	40	8551	-8.08	1.78	0.1
641	SLE RA 14	-106	18	8669	-5.5	1.82	0.22
641	SLE RA 15	-106	31	8670	-6.76	1.81	0.15
641	SLE RA 16	-105	18	8627	-5.59	1.81	0.21
641	SLE RA 17	-105	31	8628	-6.85	1.8	0.15
641	SLE RA 18	-105	19	8751	-6.75	1.78	0.2
641	SLE RA 19	-105	32	8752	-8.01	1.77	0.14
641	SLE RA 20	-106	19	8829	-6.35	1.8	0.2
641	SLE RA 21	-106	32	8830	-7.61	1.79	0.14
641	SLE FR 1	-102	16	7819	-5.5	1.76	0.22
641	SLE FR 2	-102	21	7819	-5.92	1.75	0.2
641	SLE FR 3	-102	16	7850	-5.35	1.76	0.22
641	SLE FR 4	-103	21	8098	-6.3	1.76	0.19
641	SLE FR 5	-103	17	8129	-5.72	1.77	0.22
641	SLE FR 6	-103	18	8285	-6.13	1.77	0.21
641	SLE QP 1	-102	16	7819	-5.5	1.76	0.22
641	SLE QP 2	-103	17	8098	-5.88	1.76	0.22
641	SLD 1	430	236	9942	-34.4	6.02	-2.43
641	SLD 2	428	85	9937	-31.66	6.09	-0.49
641	SLD 3	424	-170	9849	15.75	6.16	-0.32
641	SLD 4	421	-321	9843	18.48	6.23	1.61
641	SLD 5	68	725	8795	-90.96	2.81	-4.1
641	SLD 6	66	628	8791	-89.2	2.85	-2.86
641	SLD 7	45	-629	8482	76.2	3.29	2.91
641	SLD 8	44	-726	8478	77.96	3.33	4.16
641	SLD 9	-249	761	7718	-89.71	0.19	-3.73
641	SLD 10	-251	663	7715	-87.95	0.24	-2.48
641	SLD 11	-272	-593	7405	77.44	0.67	3.29
641	SLD 12	-273	-691	7401	79.2	0.72	4.53
641	SLD 13	-626	355	6353	-30.24	-2.7	-1.18
641	SLD 14	-629	204	6348	-27.5	-2.64	0.75
641	SLD 15	-633	-51	6260	19.91	-2.56	0.93
641	SLD 16	-636	-202	6254	22.64	-2.49	2.86
641	SLV 1	733	390	10983	-54.11	8.39	-4.08
641	SLV 2	728	152	10974	-49.8	8.5	-1.04
641	SLV 3	721	-303	10822	31.46	8.64	-0.49
641	SLV 4	717	-541	10813	35.78	8.74	2.56
641	SLV 5	166	1224	9208	-150.94	3.36	-7.09
641	SLV 6	163	1064	9202	-148.04	3.44	-5.04
641	SLV 7	128	-1085	8674	134.31	4.17	4.88
641	SLV 8	125	-1245	8668	137.22	4.24	6.93
641	SLV 9	-330	1280	7528	-148.97	-0.72	-6.5
641	SLV 10	-333	1119	7522	-146.07	-0.65	-4.45
641	SLV 11	-368	-1029	6994	136.29	0.09	5.47
641	SLV 12	-371	-1190	6988	139.19	0.16	7.52
641	SLV 13	-922	575	5383	-47.53	-5.21	-2.12
641	SLV 14	-926	337	5374	-43.22	-5.11	0.92
641	SLV 15	-933	-117	5223	38.05	-4.97	1.47
641	SLV 16	-938	-355	5214	42.36	-4.87	4.51
641	SLV FO 1	816	427	11271	-58.94	9.06	-4.51
641	SLV FO 2	811	165	11261	-54.19	9.17	-1.16
641	SLV FO 3	804	-335	11095	35.2	9.32	-0.56
641	SLV FO 4	799	-597	11085	39.94	9.44	2.79
641	SLV FO 5	193	1345	9319	-165.45	3.52	-7.82
641	SLV FO 6	190	1168	9313	-162.26	3.6	-5.57
641	SLV FO 7	151	-1195	8732	148.33	4.41	5.35
641	SLV FO 8	148	-1372	8725	151.53	4.49	7.61
641	SLV FO 9	-353	1406	7471	-163.28	-0.97	-7.17
641	SLV FO 10	-356	1230	7465	-160.09	-0.89	-4.92
641	SLV FO 11	-395	-1134	6884	150.5	-0.08	6
641	SLV FO 12	-398	-1310	6877	153.7	0	8.25
641	SLV FO 13	-1004	631	5111	-51.7	-5.91	-2.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
641	SLV FO 14	-1009	369	5102	-46.95	-5.8	0.99
641	SLV FO 15	-1016	-131	4935	42.44	-5.65	1.59
641	SLV FO 16	-1021	-393	4925	47.18	-5.53	4.94
641	CRTFP Ux+	0	0	0	0	0	0
641	CRTFP Ux-	0	0	0	0	0	0
641	CRTFP Uy+	0	0	0	0	0	0
641	CRTFP Uy-	0	0	0	0	0	0
642	SLU 1	-98	17	7414	-7.46	2.05	0.1
642	SLU 2	-98	49	7417	-10.54	2.04	-0.02
642	SLU 3	-100	17	7592	-6.8	2.1	0.11
642	SLU 4	-100	36	7594	-8.64	2.09	0.04
642	SLU 5	-99	49	7533	-9.98	2.07	-0.02
642	SLU 6	-101	17	7709	-6.25	2.13	0.11
642	SLU 7	-101	36	7710	-8.09	2.12	0.04
642	SLU 8	-100	17	7647	-6.36	2.12	0.1
642	SLU 9	-100	36	7648	-8.2	2.11	0.03
642	SLU 10	-102	52	8394	-12.07	2.13	-0.05
642	SLU 11	-104	20	8569	-8.34	2.19	0.08
642	SLU 12	-104	39	8571	-10.18	2.18	0.01
642	SLU 13	-103	52	8510	-11.52	2.16	-0.05
642	SLU 14	-105	20	8686	-7.78	2.22	0.08
642	SLU 15	-105	39	8687	-9.63	2.21	0.01
642	SLU 16	-104	20	8624	-7.9	2.21	0.07
642	SLU 17	-104	39	8625	-9.74	2.2	0
642	SLU 18	-104	22	8810	-9.66	2.18	0.06
642	SLU 19	-103	41	8812	-11.5	2.17	-0.02
642	SLU 20	-105	21	8926	-9.11	2.21	0.06
642	SLU 21	-104	40	8928	-10.95	2.2	-0.02
642	SLU 22	-107	17	8620	-6.81	2.25	0.16
642	SLU 23	-107	48	8623	-9.89	2.23	0.04
642	SLU 24	-109	16	8798	-6.15	2.29	0.17
642	SLU 25	-109	35	8800	-7.99	2.29	0.1
642	SLU 26	-108	48	8739	-9.33	2.26	0.04
642	SLU 27	-110	16	8914	-5.6	2.33	0.17
642	SLU 28	-110	35	8916	-7.44	2.32	0.1
642	SLU 29	-109	16	8852	-5.71	2.31	0.16
642	SLU 30	-109	35	8854	-7.55	2.3	0.09
642	SLU 31	-111	51	9599	-11.42	2.32	0.01
642	SLU 32	-113	19	9775	-7.68	2.39	0.14
642	SLU 33	-113	38	9776	-9.53	2.38	0.07
642	SLU 34	-112	51	9716	-10.87	2.35	0.01
642	SLU 35	-114	19	9891	-7.13	2.42	0.14
642	SLU 36	-114	38	9893	-8.97	2.41	0.07
642	SLU 37	-113	20	9829	-7.24	2.4	0.13
642	SLU 38	-113	39	9831	-9.09	2.39	0.06
642	SLU 39	-112	21	10015	-9.01	2.38	0.12
642	SLU 40	-112	40	10017	-10.85	2.37	0.05
642	SLU 41	-113	21	10132	-8.46	2.41	0.12
642	SLU 42	-113	40	10133	-10.3	2.4	0.05
642	SLU 43	-125	23	9225	-9.93	2.6	0.11
642	SLU 44	-125	54	9228	-13	2.59	-0.02
642	SLU 45	-127	22	9403	-9.26	2.65	0.12
642	SLU 46	-127	41	9405	-11.11	2.64	0.05
642	SLU 47	-126	54	9344	-12.45	2.62	-0.01
642	SLU 48	-128	22	9520	-8.71	2.68	0.12
642	SLU 49	-128	41	9521	-10.55	2.67	0.05
642	SLU 50	-127	23	9458	-8.82	2.67	0.11
642	SLU 51	-127	42	9459	-10.66	2.66	0.04
642	SLU 52	-128	57	10205	-14.54	2.68	-0.04
642	SLU 53	-130	25	10380	-10.8	2.74	0.09
642	SLU 54	-130	44	10382	-12.64	2.73	0.02
642	SLU 55	-129	57	10321	-13.98	2.71	-0.04
642	SLU 56	-131	25	10497	-10.25	2.77	0.09
642	SLU 57	-131	44	10498	-12.09	2.76	0.02
642	SLU 58	-130	26	10435	-10.36	2.76	0.08
642	SLU 59	-130	45	10436	-12.2	2.75	0.01
642	SLU 60	-130	27	10621	-12.12	2.73	0.07
642	SLU 61	-130	46	10623	-13.97	2.72	-0.01
642	SLU 62	-131	27	10737	-11.57	2.76	0.07
642	SLU 63	-131	46	10739	-13.41	2.75	-0.01
642	SLU 64	-134	22	10431	-9.28	2.8	0.17
642	SLU 65	-134	54	10434	-12.35	2.78	0.05
642	SLU 66	-136	22	10609	-8.61	2.84	0.18
642	SLU 67	-136	41	10611	-10.45	2.83	0.11
642	SLU 68	-135	54	10550	-11.8	2.81	0.05
642	SLU 69	-137	22	10725	-8.06	2.88	0.18
642	SLU 70	-137	41	10727	-9.9	2.87	0.11
642	SLU 71	-136	22	10663	-8.17	2.86	0.17
642	SLU 72	-136	41	10665	-10.01	2.85	0.1
642	SLU 73	-137	57	11410	-13.88	2.87	0.02
642	SLU 74	-139	25	11586	-10.15	2.93	0.15
642	SLU 75	-139	44	11587	-11.99	2.93	0.08
642	SLU 76	-138	57	11527	-13.33	2.9	0.02
642	SLU 77	-140	25	11702	-9.59	2.97	0.15
642	SLU 78	-140	44	11704	-11.44	2.96	0.08
642	SLU 79	-139	25	11640	-9.71	2.95	0.14
642	SLU 80	-139	44	11642	-11.55	2.94	0.07
642	SLU 81	-139	26	11826	-11.47	2.92	0.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
642	SLU 82	-139	45	11828	-13.31	2.91	0.05
642	SLU 83	-140	26	11943	-10.92	2.96	0.13
642	SLU 84	-140	45	11944	-12.76	2.95	0.05
642	SLE RA 1	-101	17	7759	-7.28	2.11	0.12
642	SLE RA 2	-101	38	7761	-9.33	2.1	0.03
642	SLE RA 3	-102	17	7877	-6.84	2.14	0.12
642	SLE RA 4	-102	29	7879	-8.06	2.13	0.07
642	SLE RA 5	-101	38	7838	-8.96	2.12	0.04
642	SLE RA 6	-103	17	7955	-6.47	2.16	0.12
642	SLE RA 7	-103	29	7956	-7.7	2.16	0.08
642	SLE RA 8	-102	17	7914	-6.54	2.15	0.12
642	SLE RA 9	-102	30	7915	-7.77	2.14	0.07
642	SLE RA 10	-103	40	8412	-10.35	2.16	0.02
642	SLE RA 11	-105	19	8529	-7.86	2.2	0.1
642	SLE RA 12	-105	32	8530	-9.09	2.19	0.06
642	SLE RA 13	-104	40	8489	-9.98	2.18	0.02
642	SLE RA 14	-105	19	8606	-7.49	2.22	0.11
642	SLE RA 15	-105	31	8607	-8.72	2.22	0.06
642	SLE RA 16	-105	19	8565	-7.57	2.21	0.1
642	SLE RA 17	-105	32	8566	-8.79	2.2	0.05
642	SLE RA 18	-104	20	8689	-8.74	2.19	0.09
642	SLE RA 19	-104	33	8690	-9.97	2.19	0.04
642	SLE RA 20	-105	20	8767	-8.37	2.21	0.09
642	SLE RA 21	-105	33	8768	-9.6	2.21	0.04
642	SLE FR 1	-101	17	7759	-7.28	2.11	0.12
642	SLE FR 2	-101	21	7759	-7.69	2.11	0.1
642	SLE FR 3	-101	17	7790	-7.13	2.12	0.12
642	SLE FR 4	-102	22	8038	-8.13	2.13	0.09
642	SLE FR 5	-102	18	8069	-7.57	2.14	0.11
642	SLE FR 6	-103	18	8224	-8.01	2.15	0.1
642	SLE QP 1	-101	17	7759	-7.28	2.11	0.12
642	SLE QP 2	-102	18	8038	-7.72	2.13	0.11
642	SLD 1	432	230	9749	-36.11	6.4	-2.11
642	SLD 2	429	89	9742	-33.51	6.46	-0.36
642	SLD 3	425	-166	9652	13	6.54	-0.53
642	SLD 4	422	-308	9644	15.6	6.6	1.22
642	SLD 5	69	707	8700	-91.17	3.2	-3.26
642	SLD 6	67	616	8695	-89.49	3.24	-2.13
642	SLD 7	46	-614	8376	72.54	3.65	2.01
642	SLD 8	44	-705	8371	74.21	3.69	3.14
642	SLD 9	-248	741	7705	-89.64	0.58	-2.92
642	SLD 10	-250	650	7700	-87.97	0.62	-1.8
642	SLD 11	-271	-580	7380	74.06	1.03	2.35
642	SLD 12	-273	-671	7375	75.73	1.07	3.47
642	SLD 13	-626	343	6432	-31.04	-2.33	-1
642	SLD 14	-629	202	6424	-28.44	-2.27	0.74
642	SLD 15	-633	-53	6334	18.08	-2.2	0.58
642	SLD 16	-636	-194	6326	20.67	-2.14	2.33
642	SLV 1	734	379	10715	-55.67	8.79	-3.49
642	SLV 2	730	156	10703	-51.57	8.88	-0.74
642	SLV 3	723	-297	10549	28.14	9.01	-0.79
642	SLV 4	718	-520	10537	32.24	9.11	1.96
642	SLV 5	167	1193	9096	-149.98	3.76	-5.58
642	SLV 6	164	1043	9088	-147.23	3.83	-3.73
642	SLV 7	129	-1061	8541	129.39	4.53	3.42
642	SLV 8	126	-1211	8533	132.15	4.59	5.27
642	SLV 9	-330	1246	7543	-147.59	-0.33	-5.06
642	SLV 10	-333	1096	7535	-144.83	-0.26	-3.2
642	SLV 11	-368	-1008	6988	131.79	0.44	3.94
642	SLV 12	-371	-1158	6980	134.55	0.5	5.79
642	SLV 13	-922	556	5539	-47.68	-4.85	-1.75
642	SLV 14	-927	333	5527	-43.58	-4.75	1
642	SLV 15	-934	-120	5372	36.14	-4.62	0.95
642	SLV 16	-938	-343	5360	40.23	-4.52	3.7
642	SLV FO 1	818	415	10983	-60.46	9.45	-3.85
642	SLV FO 2	813	170	10970	-55.96	9.56	-0.82
642	SLV FO 3	805	-329	10800	31.73	9.7	-0.88
642	SLV FO 4	800	-574	10787	36.24	9.81	2.15
642	SLV FO 5	194	1311	9202	-164.21	3.93	-6.15
642	SLV FO 6	191	1146	9193	-161.18	4	-4.11
642	SLV FO 7	152	-1169	8591	143.1	4.77	3.75
642	SLV FO 8	149	-1334	8582	146.14	4.84	5.79
642	SLV FO 9	-353	1369	7493	-161.57	-0.57	-5.57
642	SLV FO 10	-356	1204	7484	-158.54	-0.5	-3.54
642	SLV FO 11	-394	-1110	6883	145.74	0.27	4.33
642	SLV FO 12	-398	-1275	6874	148.77	0.34	6.36
642	SLV FO 13	-1004	610	5289	-51.67	-5.54	-1.93
642	SLV FO 14	-1009	365	5276	-47.16	-5.44	1.09
642	SLV FO 15	-1017	-134	5106	40.52	-5.29	1.04
642	SLV FO 16	-1022	-379	5093	45.03	-5.18	4.06
642	CRTFP Ux+	0	0	0	0	0	0
642	CRTFP Ux-	0	0	0	0	0	0
642	CRTFP Uy+	0	0	0	0	0	0
642	CRTFP Uy-	0	0	0	0	0	0
643	SLU 1	-97	17	7343	-9.16	2.52	0.03
643	SLU 2	-97	49	7347	-12.16	2.51	-0.05
643	SLU 3	-99	17	7520	-8.55	2.58	0.04
643	SLU 4	-99	36	7522	-10.35	2.57	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
643	SLU 5	-98	49	7462	-11.64	2.55	-0.04
643	SLU 6	-100	17	7635	-8.03	2.62	0.05
643	SLU 7	-100	36	7637	-9.83	2.61	0
643	SLU 8	-99	17	7574	-8.12	2.6	0.04
643	SLU 9	-99	36	7576	-9.92	2.59	-0.01
643	SLU 10	-101	51	8320	-13.93	2.68	-0.08
643	SLU 11	-103	20	8493	-10.32	2.76	0.01
643	SLU 12	-103	39	8495	-12.12	2.75	-0.04
643	SLU 13	-102	51	8435	-13.41	2.72	-0.08
643	SLU 14	-104	20	8608	-9.8	2.8	0.01
643	SLU 15	-104	39	8610	-11.6	2.79	-0.03
643	SLU 16	-103	20	8546	-9.9	2.78	0
643	SLU 17	-103	39	8548	-11.69	2.77	-0.04
643	SLU 18	-103	22	8733	-11.69	2.78	-0.01
643	SLU 19	-103	40	8735	-13.49	2.77	-0.06
643	SLU 20	-104	22	8848	-11.18	2.82	-0.01
643	SLU 21	-104	40	8850	-12.97	2.81	-0.06
643	SLU 22	-106	17	8541	-8.81	2.82	0.09
643	SLU 23	-106	48	8545	-11.81	2.8	0.01
643	SLU 24	-108	17	8718	-8.2	2.88	0.1
643	SLU 25	-108	36	8720	-10	2.87	0.05
643	SLU 26	-107	48	8660	-11.29	2.84	0.01
643	SLU 27	-109	17	8833	-7.68	2.92	0.1
643	SLU 28	-109	36	8835	-9.48	2.91	0.05
643	SLU 29	-108	17	8772	-7.77	2.9	0.09
643	SLU 30	-108	36	8774	-9.57	2.89	0.04
643	SLU 31	-110	51	9517	-13.58	2.98	-0.02
643	SLU 32	-112	20	9691	-9.97	3.06	0.07
643	SLU 33	-112	38	9692	-11.77	3.05	0.02
643	SLU 34	-111	51	9632	-13.06	3.02	-0.02
643	SLU 35	-113	20	9806	-9.45	3.1	0.07
643	SLU 36	-113	38	9808	-11.25	3.09	0.02
643	SLU 37	-112	20	9744	-9.55	3.08	0.06
643	SLU 38	-112	39	9746	-11.34	3.07	0.01
643	SLU 39	-112	21	9931	-11.34	3.07	0.04
643	SLU 40	-111	40	9933	-13.14	3.06	-0.01
643	SLU 41	-113	21	10046	-10.82	3.11	0.04
643	SLU 42	-112	40	10048	-12.62	3.1	0
643	SLU 43	-124	23	9136	-12.03	3.18	0.02
643	SLU 44	-123	54	9139	-15.03	3.16	-0.05
643	SLU 45	-126	23	9312	-11.42	3.24	0.04
643	SLU 46	-125	41	9314	-13.22	3.23	-0.01
643	SLU 47	-124	54	9254	-14.51	3.2	-0.05
643	SLU 48	-127	23	9427	-10.9	3.28	0.04
643	SLU 49	-126	41	9429	-12.7	3.27	-0.01
643	SLU 50	-126	23	9366	-10.99	3.26	0.03
643	SLU 51	-125	41	9368	-12.79	3.25	-0.02
643	SLU 52	-127	57	10112	-16.8	3.34	-0.09
643	SLU 53	-129	25	10285	-13.19	3.41	0
643	SLU 54	-129	44	10287	-14.99	3.41	-0.04
643	SLU 55	-128	57	10227	-16.28	3.38	-0.09
643	SLU 56	-130	25	10400	-12.67	3.45	0
643	SLU 57	-130	44	10402	-14.47	3.45	-0.04
643	SLU 58	-129	26	10339	-12.77	3.43	-0.01
643	SLU 59	-129	44	10341	-14.56	3.43	-0.05
643	SLU 60	-129	27	10526	-14.56	3.43	-0.02
643	SLU 61	-129	46	10527	-16.36	3.42	-0.07
643	SLU 62	-130	27	10641	-14.04	3.47	-0.02
643	SLU 63	-130	46	10643	-15.84	3.46	-0.07
643	SLU 64	-133	22	10334	-11.68	3.47	0.08
643	SLU 65	-132	54	10337	-14.68	3.46	0
643	SLU 66	-134	22	10510	-11.07	3.53	0.09
643	SLU 67	-134	41	10512	-12.87	3.52	0.04
643	SLU 68	-133	54	10452	-14.16	3.5	0
643	SLU 69	-135	22	10625	-10.55	3.57	0.09
643	SLU 70	-135	41	10627	-12.35	3.56	0.04
643	SLU 71	-135	22	10564	-10.64	3.55	0.08
643	SLU 72	-134	41	10566	-12.44	3.54	0.03
643	SLU 73	-136	56	11310	-16.45	3.64	-0.03
643	SLU 74	-138	25	11483	-12.84	3.71	0.06
643	SLU 75	-138	44	11485	-14.64	3.7	0.01
643	SLU 76	-137	56	11425	-15.93	3.68	-0.03
643	SLU 77	-139	25	11598	-12.32	3.75	0.06
643	SLU 78	-139	44	11600	-14.12	3.74	0.01
643	SLU 79	-138	25	11537	-12.41	3.73	0.05
643	SLU 80	-138	44	11539	-14.21	3.72	0
643	SLU 81	-138	27	11723	-14.21	3.73	0.03
643	SLU 82	-138	45	11725	-16.01	3.72	-0.01
643	SLU 83	-139	27	11839	-13.69	3.77	0.03
643	SLU 84	-139	45	11840	-15.49	3.76	-0.01
643	SLE RA 1	-100	17	7686	-9.06	2.61	0.05
643	SLE RA 2	-100	38	7688	-11.06	2.6	0
643	SLE RA 3	-101	17	7803	-8.65	2.65	0.06
643	SLE RA 4	-101	30	7805	-9.85	2.64	0.02
643	SLE RA 5	-101	38	7765	-10.71	2.62	0
643	SLE RA 6	-102	17	7880	-8.31	2.67	0.06
643	SLE RA 7	-102	30	7881	-9.51	2.67	0.03
643	SLE RA 8	-101	17	7839	-8.37	2.66	0.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
643	SLE RA 9	-101	30	7841	-9.57	2.65	0.02
643	SLE RA 10	-102	40	8336	-12.24	2.71	-0.02
643	SLE RA 11	-104	19	8452	-9.83	2.77	0.03
643	SLE RA 12	-104	32	8453	-11.03	2.76	0
643	SLE RA 13	-103	40	8413	-11.9	2.74	-0.02
643	SLE RA 14	-104	19	8529	-9.49	2.79	0.04
643	SLE RA 15	-104	32	8530	-10.69	2.79	0
643	SLE RA 16	-104	19	8488	-9.55	2.78	0.03
643	SLE RA 17	-104	32	8489	-10.75	2.77	0
643	SLE RA 18	-104	20	8612	-10.75	2.78	0.02
643	SLE RA 19	-103	33	8614	-11.95	2.77	-0.01
643	SLE RA 20	-104	20	8689	-10.4	2.8	0.02
643	SLE RA 21	-104	33	8690	-11.6	2.8	-0.01
643	SLE FR 1	-100	17	7686	-9.06	2.61	0.05
643	SLE FR 2	-100	22	7686	-9.46	2.6	0.04
643	SLE FR 3	-100	17	7716	-8.92	2.62	0.05
643	SLE FR 4	-101	22	7964	-9.97	2.65	0.03
643	SLE FR 5	-101	18	7994	-9.43	2.67	0.04
643	SLE FR 6	-102	19	8149	-9.91	2.69	0.03
643	SLE QP 1	-100	17	7686	-9.06	2.61	0.05
643	SLE QP 2	-101	18	7964	-9.57	2.66	0.04
643	SLD 1	433	225	9541	-37.9	6.96	-1.75
643	SLD 2	430	92	9532	-35.44	7.02	-0.19
643	SLD 3	426	-165	9441	10.24	7.08	-0.71
643	SLD 4	423	-297	9431	12.71	7.14	0.84
643	SLD 5	70	694	8591	-91.52	3.76	-2.33
643	SLD 6	68	609	8585	-89.93	3.8	-1.33
643	SLD 7	47	-605	8256	68.98	4.15	1.12
643	SLD 8	45	-690	8250	70.56	4.19	2.12
643	SLD 9	-248	727	7678	-89.7	1.12	-2.04
643	SLD 10	-249	641	7672	-88.11	1.16	-1.04
643	SLD 11	-270	-572	7342	70.79	1.52	1.41
643	SLD 12	-272	-658	7336	72.38	1.55	2.41
643	SLD 13	-626	334	6496	-31.85	-1.83	-0.76
643	SLD 14	-628	201	6487	-29.38	-1.77	0.79
643	SLD 15	-632	-56	6396	16.3	-1.71	0.27
643	SLD 16	-635	-189	6386	18.77	-1.65	1.83
643	SLV 1	736	370	10433	-57.36	9.37	-2.84
643	SLV 2	731	161	10418	-53.47	9.46	-0.39
643	SLV 3	724	-295	10261	24.82	9.57	-1.07
643	SLV 4	720	-504	10246	28.7	9.66	1.38
643	SLV 5	168	1171	8968	-149.26	4.35	-3.96
643	SLV 6	165	1030	8958	-146.64	4.41	-2.31
643	SLV 7	130	-1045	8395	124.65	5.01	1.93
643	SLV 8	127	-1186	8385	127.26	5.07	3.58
643	SLV 9	-329	1222	7542	-146.4	0.24	-3.5
643	SLV 10	-332	1081	7532	-143.79	0.3	-1.85
643	SLV 11	-367	-994	6970	127.5	0.9	2.39
643	SLV 12	-370	-1135	6959	130.12	0.96	4.04
643	SLV 13	-922	540	5681	-47.84	-4.34	-1.3
643	SLV 14	-926	331	5666	-43.95	-4.25	1.15
643	SLV 15	-933	-125	5510	34.33	-4.15	0.47
643	SLV 16	-938	-334	5495	38.22	-4.06	2.92
643	SLV FO 1	819	405	10680	-62.13	10.04	-3.13
643	SLV FO 2	814	175	10663	-57.86	10.14	-0.43
643	SLV FO 3	807	-326	10491	28.25	10.26	-1.18
643	SLV FO 4	802	-556	10474	32.53	10.36	1.51
643	SLV FO 5	195	1286	9068	-163.23	4.52	-4.36
643	SLV FO 6	192	1131	9057	-160.35	4.59	-2.55
643	SLV FO 7	153	-1151	8438	138.07	5.25	2.12
643	SLV FO 8	150	-1306	8427	140.95	5.31	3.93
643	SLV FO 9	-352	1342	7500	-160.09	0	-3.85
643	SLV FO 10	-355	1187	7489	-157.21	0.07	-2.04
643	SLV FO 11	-394	-1095	6870	141.21	0.72	2.63
643	SLV FO 12	-397	-1250	6859	144.09	0.79	4.44
643	SLV FO 13	-1004	592	5453	-51.67	-5.04	-1.43
643	SLV FO 14	-1009	362	5437	-47.39	-4.94	1.26
643	SLV FO 15	-1017	-139	5264	38.72	-4.83	0.51
643	SLV FO 16	-1021	-369	5248	43	-4.73	3.21
643	CRTFP Ux+	0	0	0	0	0	0
643	CRTFP Ux-	0	0	0	0	0	0
643	CRTFP Uy+	0	0	0	0	0	0
643	CRTFP Uy-	0	0	0	0	0	0
644	SLU 1	-96	18	7256	-10.88	3.16	0
644	SLU 2	-96	48	7259	-13.8	3.14	-0.03
644	SLU 3	-98	17	7430	-10.31	3.23	0.01
644	SLU 4	-98	36	7432	-12.06	3.23	-0.01
644	SLU 5	-97	48	7373	-13.31	3.19	-0.03
644	SLU 6	-99	17	7543	-9.82	3.28	0.02
644	SLU 7	-99	36	7546	-11.58	3.28	-0.01
644	SLU 8	-98	17	7483	-9.9	3.26	0.01
644	SLU 9	-98	36	7485	-11.66	3.25	-0.02
644	SLU 10	-100	51	8225	-15.81	3.44	-0.06
644	SLU 11	-102	20	8395	-12.32	3.53	-0.02
644	SLU 12	-102	39	8398	-14.07	3.52	-0.04
644	SLU 13	-101	51	8338	-15.32	3.49	-0.06
644	SLU 14	-103	20	8509	-11.83	3.58	-0.02
644	SLU 15	-103	38	8511	-13.59	3.57	-0.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
644	SLU 16	-102	20	8448	-11.91	3.55	-0.02
644	SLU 17	-102	39	8451	-13.67	3.54	-0.05
644	SLU 18	-102	21	8635	-13.75	3.58	-0.04
644	SLU 19	-101	40	8637	-15.5	3.57	-0.06
644	SLU 20	-103	21	8749	-13.26	3.63	-0.04
644	SLU 21	-102	40	8751	-15.01	3.62	-0.06
644	SLU 22	-105	17	8442	-10.82	3.59	0.06
644	SLU 23	-105	48	8446	-13.75	3.57	0.02
644	SLU 24	-107	17	8616	-10.26	3.66	0.07
644	SLU 25	-107	36	8619	-12.01	3.66	0.05
644	SLU 26	-106	48	8560	-13.26	3.63	0.02
644	SLU 27	-108	17	8730	-9.77	3.72	0.07
644	SLU 28	-108	36	8732	-11.53	3.71	0.05
644	SLU 29	-107	17	8670	-9.85	3.69	0.06
644	SLU 30	-107	36	8672	-11.61	3.68	0.04
644	SLU 31	-109	51	9411	-15.76	3.87	-0.01
644	SLU 32	-111	20	9582	-12.27	3.96	0.04
644	SLU 33	-111	38	9584	-14.02	3.95	0.01
644	SLU 34	-110	51	9525	-15.27	3.92	-0.01
644	SLU 35	-112	20	9696	-11.78	4.01	0.04
644	SLU 36	-112	38	9698	-13.54	4	0.02
644	SLU 37	-111	20	9635	-11.86	3.98	0.03
644	SLU 38	-111	39	9637	-13.62	3.97	0.01
644	SLU 39	-111	21	9821	-13.7	4.01	0.01
644	SLU 40	-110	40	9824	-15.45	4	-0.01
644	SLU 41	-111	21	9935	-13.21	4.06	0.01
644	SLU 42	-111	40	9937	-14.96	4.05	-0.01
644	SLU 43	-122	23	9025	-14.16	3.96	-0.01
644	SLU 44	-122	54	9029	-17.08	3.94	-0.05
644	SLU 45	-124	23	9200	-13.59	4.03	0
644	SLU 46	-124	41	9202	-15.34	4.03	-0.03
644	SLU 47	-123	54	9143	-16.59	3.99	-0.05
644	SLU 48	-125	23	9313	-13.1	4.08	0
644	SLU 49	-125	41	9316	-14.86	4.08	-0.02
644	SLU 50	-124	23	9253	-13.18	4.06	-0.01
644	SLU 51	-124	41	9255	-14.94	4.05	-0.03
644	SLU 52	-125	56	9995	-19.09	4.24	-0.08
644	SLU 53	-128	25	10165	-15.6	4.33	-0.03
644	SLU 54	-127	44	10167	-17.35	4.32	-0.06
644	SLU 55	-126	56	10108	-18.6	4.29	-0.08
644	SLU 56	-129	25	10279	-15.11	4.38	-0.03
644	SLU 57	-128	44	10281	-16.87	4.37	-0.05
644	SLU 58	-128	25	10218	-15.19	4.35	-0.04
644	SLU 59	-128	44	10220	-16.95	4.34	-0.06
644	SLU 60	-127	27	10405	-17.03	4.37	-0.06
644	SLU 61	-127	45	10407	-18.78	4.37	-0.08
644	SLU 62	-128	27	10518	-16.54	4.43	-0.06
644	SLU 63	-128	45	10521	-18.29	4.42	-0.08
644	SLU 64	-131	23	10212	-14.1	4.39	0.04
644	SLU 65	-131	54	10216	-17.03	4.37	0
644	SLU 66	-133	23	10386	-13.54	4.46	0.05
644	SLU 67	-133	41	10388	-15.29	4.46	0.03
644	SLU 68	-132	54	10329	-16.54	4.42	0
644	SLU 69	-134	23	10500	-13.05	4.51	0.05
644	SLU 70	-134	41	10502	-14.81	4.51	0.03
644	SLU 71	-133	23	10439	-13.13	4.49	0.04
644	SLU 72	-133	41	10442	-14.89	4.48	0.02
644	SLU 73	-134	56	11181	-19.04	4.67	-0.03
644	SLU 74	-137	25	11352	-15.55	4.76	0.02
644	SLU 75	-136	44	11354	-17.3	4.75	0
644	SLU 76	-135	56	11295	-18.55	4.72	-0.03
644	SLU 77	-138	25	11465	-15.06	4.81	0.02
644	SLU 78	-137	44	11468	-16.82	4.8	0
644	SLU 79	-137	25	11405	-15.14	4.78	0.01
644	SLU 80	-136	44	11407	-16.9	4.77	-0.01
644	SLU 81	-136	27	11591	-16.98	4.81	0
644	SLU 82	-136	45	11593	-18.73	4.8	-0.03
644	SLU 83	-137	27	11705	-16.49	4.86	0
644	SLU 84	-137	45	11707	-18.24	4.85	-0.02
644	SLE RA 1	-99	17	7595	-10.86	3.28	0.02
644	SLE RA 2	-99	38	7597	-12.81	3.27	-0.01
644	SLE RA 3	-100	17	7711	-10.48	3.33	0.03
644	SLE RA 4	-100	30	7712	-11.65	3.33	0.01
644	SLE RA 5	-99	38	7673	-12.49	3.3	-0.01
644	SLE RA 6	-101	17	7787	-10.16	3.36	0.03
644	SLE RA 7	-101	30	7788	-11.33	3.36	0.01
644	SLE RA 8	-100	17	7746	-10.21	3.35	0.02
644	SLE RA 9	-100	30	7748	-11.38	3.34	0.01
644	SLE RA 10	-101	40	8241	-14.15	3.47	-0.03
644	SLE RA 11	-102	19	8354	-11.82	3.53	0.01
644	SLE RA 12	-102	31	8356	-12.99	3.52	-0.01
644	SLE RA 13	-102	40	8316	-13.83	3.5	-0.03
644	SLE RA 14	-103	19	8430	-11.5	3.56	0.01
644	SLE RA 15	-103	31	8432	-12.67	3.56	-0.01
644	SLE RA 16	-103	19	8390	-11.55	3.54	0
644	SLE RA 17	-102	32	8391	-12.72	3.54	-0.01
644	SLE RA 18	-102	20	8514	-12.78	3.56	-0.01
644	SLE RA 19	-102	32	8516	-13.94	3.55	-0.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
644	SLE RA 20	-103	20	8590	-12.45	3.59	-0.01
644	SLE RA 21	-103	32	8591	-13.62	3.59	-0.02
644	SLE FR 1	-99	17	7595	-10.86	3.28	0.02
644	SLE FR 2	-99	22	7595	-11.25	3.28	0.01
644	SLE FR 3	-99	17	7625	-10.73	3.29	0.02
644	SLE FR 4	-100	22	7871	-11.82	3.36	0
644	SLE FR 5	-100	18	7901	-11.31	3.38	0.01
644	SLE FR 6	-101	19	8054	-11.82	3.42	0
644	SLE QP 1	-99	17	7595	-10.86	3.28	0.02
644	SLE QP 2	-100	18	7870	-11.44	3.36	0.01
644	SLD 1	434	221	9313	-39.77	7.71	-1.38
644	SLD 2	432	96	9302	-37.44	7.76	0
644	SLD 3	428	-165	9210	7.49	7.79	-0.85
644	SLD 4	425	-290	9199	9.82	7.84	0.53
644	SLD 5	71	686	8461	-92.01	4.54	-1.44
644	SLD 6	70	606	8454	-90.51	4.57	-0.56
644	SLD 7	49	-601	8118	65.51	4.8	0.31
644	SLD 8	47	-681	8111	67.02	4.84	1.2
644	SLD 9	-247	718	7630	-89.89	1.89	-1.18
644	SLD 10	-248	637	7623	-88.38	1.92	-0.29
644	SLD 11	-269	-569	7287	67.64	2.15	0.57
644	SLD 12	-271	-650	7280	69.14	2.19	1.46
644	SLD 13	-625	326	6542	-32.69	-1.12	-0.51
644	SLD 14	-627	201	6531	-30.36	-1.06	0.87
644	SLD 15	-631	-60	6439	14.56	-1.04	0.02
644	SLD 16	-634	-185	6428	16.9	-0.98	1.4
644	SLV 1	737	364	10129	-59.15	10.14	-2.21
644	SLV 2	733	167	10111	-55.47	10.22	-0.04
644	SLV 3	726	-295	9954	21.5	10.27	-1.31
644	SLV 4	722	-492	9936	25.18	10.35	0.86
644	SLV 5	169	1157	8818	-148.76	5.18	-2.43
644	SLV 6	166	1024	8806	-146.28	5.24	-0.97
644	SLV 7	131	-1037	8232	120.08	5.62	0.58
644	SLV 8	129	-1170	8220	122.56	5.68	2.04
644	SLV 9	-328	1206	7520	-145.43	1.05	-2.02
644	SLV 10	-331	1074	7509	-142.95	1.11	-0.56
644	SLV 11	-366	-988	6935	123.41	1.49	0.99
644	SLV 12	-369	-1121	6923	125.89	1.54	2.45
644	SLV 13	-921	528	5805	-48.05	-3.63	-0.85
644	SLV 14	-925	331	5787	-44.37	-3.55	1.33
644	SLV 15	-933	-130	5629	32.6	-3.5	0.06
644	SLV 16	-937	-327	5612	36.28	-3.41	2.23
644	SLV FO 1	821	398	10355	-63.93	10.82	-2.43
644	SLV FO 2	816	181	10336	-59.87	10.91	-0.04
644	SLV FO 3	808	-326	10162	24.79	10.96	-1.44
644	SLV FO 4	804	-543	10142	28.84	11.05	0.95
644	SLV FO 5	196	1271	8912	-162.49	5.36	-2.67
644	SLV FO 6	193	1125	8899	-159.77	5.42	-1.07
644	SLV FO 7	155	-1143	8269	133.23	5.85	0.64
644	SLV FO 8	151	-1289	8255	135.96	5.91	2.24
644	SLV FO 9	-351	1325	7485	-158.83	0.82	-2.22
644	SLV FO 10	-354	1179	7472	-156.1	0.88	-0.62
644	SLV FO 11	-393	-1089	6842	136.9	1.3	1.09
644	SLV FO 12	-396	-1234	6829	139.62	1.36	2.69
644	SLV FO 13	-1003	579	5598	-51.71	-4.33	-0.93
644	SLV FO 14	-1008	362	5579	-47.66	-4.24	1.46
644	SLV FO 15	-1016	-145	5405	37	-4.18	0.06
644	SLV FO 16	-1021	-362	5386	41.06	-4.09	2.45
644	CRTFP Ux+	0	0	0	0	0	0
644	CRTFP Ux-	0	0	0	0	0	0
644	CRTFP Uy+	0	0	0	0	0	0
644	CRTFP Uy-	0	0	0	0	0	0
645	SLU 1	-95	17	7145	-12.6	3.98	0.01
645	SLU 2	-94	48	7149	-15.46	3.98	0
645	SLU 3	-96	17	7316	-12.09	4.08	0.02
645	SLU 4	-96	36	7319	-13.8	4.08	0.02
645	SLU 5	-95	48	7261	-15	4.04	0.01
645	SLU 6	-97	17	7428	-11.63	4.15	0.02
645	SLU 7	-97	36	7431	-13.35	4.14	0.02
645	SLU 8	-96	17	7369	-11.69	4.11	0.01
645	SLU 9	-96	36	7371	-13.41	4.11	0.01
645	SLU 10	-98	51	8103	-17.71	4.41	-0.02
645	SLU 11	-100	20	8271	-14.34	4.52	-0.01
645	SLU 12	-100	38	8273	-16.05	4.51	-0.01
645	SLU 13	-99	51	8215	-17.26	4.48	-0.02
645	SLU 14	-101	20	8382	-13.88	4.58	0
645	SLU 15	-101	38	8385	-15.6	4.58	0
645	SLU 16	-100	20	8323	-13.94	4.55	-0.01
645	SLU 17	-100	38	8325	-15.66	4.55	-0.01
645	SLU 18	-100	21	8508	-15.82	4.61	-0.03
645	SLU 19	-100	40	8510	-17.53	4.6	-0.03
645	SLU 20	-101	21	8620	-15.36	4.67	-0.02
645	SLU 21	-101	40	8622	-17.08	4.67	-0.03
645	SLU 22	-103	18	8316	-12.85	4.58	0.06
645	SLU 23	-103	48	8319	-15.71	4.58	0.06
645	SLU 24	-105	18	8487	-12.34	4.68	0.08
645	SLU 25	-105	36	8489	-14.05	4.68	0.07
645	SLU 26	-104	48	8431	-15.25	4.64	0.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
645	SLU 27	-106	18	8599	-11.88	4.75	0.08
645	SLU 28	-106	36	8601	-13.6	4.74	0.08
645	SLU 29	-105	18	8539	-11.94	4.71	0.07
645	SLU 30	-105	36	8542	-13.66	4.71	0.07
645	SLU 31	-107	51	9274	-17.96	5.01	0.04
645	SLU 32	-109	20	9441	-14.59	5.12	0.05
645	SLU 33	-109	39	9444	-16.3	5.12	0.05
645	SLU 34	-108	51	9386	-17.51	5.08	0.04
645	SLU 35	-110	20	9553	-14.13	5.18	0.05
645	SLU 36	-110	39	9556	-15.85	5.18	0.05
645	SLU 37	-109	20	9494	-14.19	5.15	0.05
645	SLU 38	-109	39	9496	-15.91	5.15	0.04
645	SLU 39	-109	21	9679	-16.07	5.21	0.03
645	SLU 40	-109	40	9681	-17.78	5.2	0.03
645	SLU 41	-110	21	9791	-15.61	5.27	0.03
645	SLU 42	-110	40	9793	-17.33	5.27	0.03
645	SLU 43	-120	23	8887	-16.3	4.97	-0.01
645	SLU 44	-120	53	8891	-19.15	4.97	-0.02
645	SLU 45	-122	23	9059	-15.78	5.07	0
645	SLU 46	-122	41	9061	-17.5	5.07	0
645	SLU 47	-121	53	9003	-18.7	5.03	-0.01
645	SLU 48	-123	23	9170	-15.33	5.13	0
645	SLU 49	-122	41	9173	-17.04	5.13	0
645	SLU 50	-122	23	9111	-15.39	5.1	-0.01
645	SLU 51	-122	41	9113	-17.1	5.1	-0.01
645	SLU 52	-123	56	9845	-21.4	5.4	-0.04
645	SLU 53	-125	25	10013	-18.03	5.51	-0.02
645	SLU 54	-125	44	10015	-19.75	5.5	-0.03
645	SLU 55	-124	56	9957	-20.95	5.47	-0.04
645	SLU 56	-126	25	10125	-17.58	5.57	-0.02
645	SLU 57	-126	44	10127	-19.29	5.57	-0.02
645	SLU 58	-126	25	10065	-17.64	5.54	-0.03
645	SLU 59	-125	44	10067	-19.35	5.53	-0.03
645	SLU 60	-125	26	10250	-19.51	5.6	-0.05
645	SLU 61	-125	45	10252	-21.23	5.59	-0.05
645	SLU 62	-126	26	10362	-19.06	5.66	-0.04
645	SLU 63	-126	45	10364	-20.77	5.66	-0.04
645	SLU 64	-129	23	10058	-16.55	5.57	0.04
645	SLU 65	-129	54	10062	-19.4	5.57	0.04
645	SLU 66	-131	23	10229	-16.03	5.67	0.06
645	SLU 67	-130	41	10232	-17.75	5.67	0.06
645	SLU 68	-129	54	10173	-18.95	5.63	0.05
645	SLU 69	-132	23	10341	-15.58	5.73	0.06
645	SLU 70	-131	41	10343	-17.29	5.73	0.06
645	SLU 71	-131	23	10281	-15.64	5.7	0.05
645	SLU 72	-131	41	10284	-17.35	5.7	0.05
645	SLU 73	-132	56	11016	-21.65	6	0.02
645	SLU 74	-134	25	11183	-18.28	6.11	0.03
645	SLU 75	-134	44	11186	-20	6.1	0.03
645	SLU 76	-133	56	11128	-21.2	6.07	0.02
645	SLU 77	-135	25	11295	-17.83	6.17	0.04
645	SLU 78	-135	44	11298	-19.54	6.17	0.04
645	SLU 79	-134	25	11236	-17.89	6.14	0.03
645	SLU 80	-134	44	11238	-19.6	6.13	0.03
645	SLU 81	-134	26	11421	-19.76	6.2	0.01
645	SLU 82	-134	45	11423	-21.48	6.19	0.01
645	SLU 83	-135	26	11533	-19.31	6.26	0.01
645	SLU 84	-135	45	11535	-21.02	6.26	0.01
645	SLE RA 1	-97	18	7479	-12.67	4.15	0.02
645	SLE RA 2	-97	38	7482	-14.58	4.15	0.02
645	SLE RA 3	-98	17	7594	-12.33	4.22	0.03
645	SLE RA 4	-98	30	7595	-13.47	4.22	0.03
645	SLE RA 5	-98	38	7557	-14.27	4.19	0.02
645	SLE RA 6	-99	17	7668	-12.03	4.26	0.03
645	SLE RA 7	-99	30	7670	-13.17	4.26	0.03
645	SLE RA 8	-98	18	7629	-12.07	4.24	0.03
645	SLE RA 9	-98	30	7630	-13.21	4.24	0.02
645	SLE RA 10	-99	40	8118	-16.08	4.44	0.01
645	SLE RA 11	-101	19	8230	-13.83	4.51	0.01
645	SLE RA 12	-101	31	8231	-14.97	4.51	0.01
645	SLE RA 13	-100	40	8193	-15.78	4.48	0.01
645	SLE RA 14	-101	19	8304	-13.53	4.55	0.02
645	SLE RA 15	-101	31	8306	-14.67	4.55	0.02
645	SLE RA 16	-101	19	8265	-13.57	4.53	0.01
645	SLE RA 17	-101	31	8266	-14.71	4.53	0.01
645	SLE RA 18	-101	20	8388	-14.82	4.57	0
645	SLE RA 19	-101	32	8390	-15.96	4.57	0
645	SLE RA 20	-101	20	8463	-14.51	4.61	0
645	SLE RA 21	-101	32	8464	-15.66	4.61	0
645	SLE FR 1	-97	18	7479	-12.67	4.15	0.02
645	SLE FR 2	-97	22	7480	-13.05	4.15	0.02
645	SLE FR 3	-97	18	7509	-12.55	4.17	0.02
645	SLE FR 4	-98	22	7752	-13.7	4.28	0.01
645	SLE FR 5	-98	18	7782	-13.2	4.3	0.02
645	SLE FR 6	-99	19	7934	-13.75	4.36	0.01
645	SLE QP 1	-97	18	7479	-12.67	4.15	0.02
645	SLE QP 2	-98	18	7752	-13.32	4.28	0.02
645	SLD 1	436	219	9058	-41.71	8.68	-0.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
645	SLD 2	434	100	9046	-39.5	8.72	0.35
645	SLD 3	429	-166	8956	4.73	8.6	-1.09
645	SLD 4	427	-285	8943	6.94	8.64	0.14
645	SLD 5	73	683	8302	-92.64	5.71	-0.14
645	SLD 6	71	606	8294	-91.22	5.74	0.65
645	SLD 7	50	-601	7959	62.14	5.45	-0.85
645	SLD 8	49	-677	7951	63.56	5.47	-0.06
645	SLD 9	-245	713	7553	-90.2	3.09	0.09
645	SLD 10	-247	637	7544	-88.78	3.11	0.88
645	SLD 11	-268	-570	7210	64.58	2.82	-0.62
645	SLD 12	-269	-646	7202	66.01	2.85	0.17
645	SLD 13	-623	321	6561	-33.57	-0.08	-0.11
645	SLD 14	-626	203	6548	-31.36	-0.04	1.12
645	SLD 15	-630	-64	6458	12.86	-0.16	-0.32
645	SLD 16	-633	-182	6446	15.07	-0.12	0.91
645	SLV 1	739	360	9798	-61.06	11.15	-1.37
645	SLV 2	735	173	9778	-57.57	11.21	0.56
645	SLV 3	728	-297	9623	18.19	11.01	-1.74
645	SLV 4	724	-483	9603	21.68	11.08	0.19
645	SLV 5	171	1151	8636	-148.49	6.53	-0.2
645	SLV 6	168	1026	8622	-146.14	6.58	1.1
645	SLV 7	133	-1037	8051	115.68	6.08	-1.43
645	SLV 8	130	-1163	8037	118.03	6.13	-0.13
645	SLV 9	-327	1199	7466	-144.66	2.43	0.16
645	SLV 10	-329	1074	7453	-142.32	2.48	1.46
645	SLV 11	-365	-989	6882	119.51	1.98	-1.07
645	SLV 12	-367	-1115	6868	121.85	2.03	0.23
645	SLV 13	-920	520	5901	-48.31	-2.52	-0.16
645	SLV 14	-924	333	5881	-44.83	-2.45	1.77
645	SLV 15	-931	-137	5726	30.94	-2.66	-0.53
645	SLV 16	-935	-323	5706	34.42	-2.59	1.4
645	SLV FO 1	823	394	10003	-65.83	11.83	-1.51
645	SLV FO 2	818	189	9981	-62	11.91	0.62
645	SLV FO 3	810	-328	9810	21.35	11.68	-1.92
645	SLV FO 4	806	-533	9788	25.18	11.76	0.21
645	SLV FO 5	198	1264	8724	-162	6.76	-0.22
645	SLV FO 6	195	1126	8709	-159.42	6.81	1.21
645	SLV FO 7	156	-1143	8081	128.58	6.26	-1.58
645	SLV FO 8	153	-1281	8066	131.16	6.31	-0.15
645	SLV FO 9	-350	1317	7438	-157.8	2.25	0.18
645	SLV FO 10	-353	1179	7423	-155.22	2.3	1.61
645	SLV FO 11	-391	-1090	6795	132.79	1.75	-1.18
645	SLV FO 12	-394	-1228	6780	135.37	1.8	0.25
645	SLV FO 13	-1002	570	5716	-51.81	-3.2	-0.18
645	SLV FO 14	-1007	365	5694	-47.98	-3.13	1.95
645	SLV FO 15	-1015	-152	5523	35.36	-3.35	-0.59
645	SLV FO 16	-1019	-357	5501	39.2	-3.27	1.54
645	CRTFP Ux+	0	0	0	0	0	0
645	CRTFP Ux-	0	0	0	0	0	0
645	CRTFP Uy+	0	0	0	0	0	0
645	CRTFP Uy-	0	0	0	0	0	0
646	SLU 1	-92	18	7006	-14.35	4.95	0.04
646	SLU 2	-92	48	7010	-17.14	4.96	0.06
646	SLU 3	-94	17	7174	-13.88	5.07	0.05
646	SLU 4	-94	36	7177	-15.56	5.08	0.07
646	SLU 5	-93	48	7120	-16.72	5.04	0.06
646	SLU 6	-95	17	7284	-13.46	5.15	0.06
646	SLU 7	-95	36	7286	-15.13	5.16	0.07
646	SLU 8	-94	18	7225	-13.5	5.11	0.05
646	SLU 9	-94	36	7228	-15.18	5.11	0.06
646	SLU 10	-96	51	7948	-19.64	5.56	0.05
646	SLU 11	-98	20	8112	-16.38	5.67	0.04
646	SLU 12	-98	38	8115	-18.05	5.68	0.05
646	SLU 13	-97	51	8058	-19.21	5.64	0.05
646	SLU 14	-99	20	8222	-15.95	5.76	0.05
646	SLU 15	-98	38	8224	-17.63	5.76	0.06
646	SLU 16	-98	20	8163	-16	5.71	0.04
646	SLU 17	-98	38	8166	-17.67	5.72	0.05
646	SLU 18	-98	21	8346	-17.91	5.81	0.02
646	SLU 19	-97	39	8348	-19.59	5.81	0.04
646	SLU 20	-98	21	8456	-17.49	5.89	0.03
646	SLU 21	-98	40	8458	-19.17	5.89	0.04
646	SLU 22	-101	18	8155	-14.9	5.75	0.11
646	SLU 23	-101	49	8159	-17.69	5.75	0.13
646	SLU 24	-103	18	8323	-14.43	5.87	0.12
646	SLU 25	-103	36	8325	-16.11	5.87	0.13
646	SLU 26	-102	49	8269	-17.27	5.83	0.13
646	SLU 27	-104	18	8433	-14.01	5.95	0.12
646	SLU 28	-104	36	8435	-15.68	5.95	0.14
646	SLU 29	-103	18	8374	-14.05	5.91	0.11
646	SLU 30	-103	37	8377	-15.73	5.91	0.13
646	SLU 31	-104	51	9097	-20.19	6.35	0.12
646	SLU 32	-107	20	9261	-16.93	6.47	0.11
646	SLU 33	-106	39	9263	-18.6	6.48	0.12
646	SLU 34	-105	51	9207	-19.76	6.43	0.12
646	SLU 35	-107	20	9371	-16.5	6.55	0.11
646	SLU 36	-107	39	9373	-18.18	6.56	0.13
646	SLU 37	-107	20	9312	-16.55	6.51	0.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
646	SLU 38	-106	39	9315	-18.22	6.51	0.12
646	SLU 39	-106	22	9495	-18.46	6.61	0.09
646	SLU 40	-106	40	9497	-20.14	6.61	0.1
646	SLU 41	-107	22	9605	-18.04	6.69	0.1
646	SLU 42	-107	40	9607	-19.72	6.69	0.11
646	SLU 43	-117	23	8714	-18.46	6.16	0.03
646	SLU 44	-117	53	8718	-21.26	6.17	0.05
646	SLU 45	-119	23	8882	-18	6.28	0.04
646	SLU 46	-119	41	8884	-19.67	6.29	0.05
646	SLU 47	-118	53	8828	-20.83	6.25	0.05
646	SLU 48	-120	23	8992	-17.57	6.36	0.04
646	SLU 49	-119	41	8994	-19.25	6.37	0.06
646	SLU 50	-119	23	8933	-17.62	6.32	0.03
646	SLU 51	-119	41	8936	-19.29	6.32	0.05
646	SLU 52	-120	56	9656	-23.75	6.77	0.04
646	SLU 53	-122	25	9820	-20.49	6.89	0.03
646	SLU 54	-122	43	9822	-22.17	6.89	0.04
646	SLU 55	-121	56	9766	-23.33	6.85	0.04
646	SLU 56	-123	25	9930	-20.07	6.97	0.03
646	SLU 57	-123	43	9932	-21.74	6.97	0.05
646	SLU 58	-123	25	9871	-20.11	6.92	0.02
646	SLU 59	-122	44	9874	-21.79	6.93	0.04
646	SLU 60	-122	26	10054	-22.03	7.02	0.01
646	SLU 61	-122	45	10056	-23.7	7.03	0.02
646	SLU 62	-123	26	10164	-21.61	7.1	0.01
646	SLU 63	-123	45	10166	-23.28	7.11	0.03
646	SLU 64	-126	23	9863	-19.02	6.96	0.09
646	SLU 65	-125	54	9867	-21.81	6.96	0.12
646	SLU 66	-128	23	10031	-18.55	7.08	0.11
646	SLU 67	-127	42	10033	-20.22	7.08	0.12
646	SLU 68	-126	54	9977	-21.38	7.04	0.12
646	SLU 69	-128	23	10141	-18.12	7.16	0.11
646	SLU 70	-128	42	10143	-19.8	7.16	0.13
646	SLU 71	-128	23	10082	-18.17	7.12	0.1
646	SLU 72	-127	42	10085	-19.84	7.12	0.12
646	SLU 73	-129	56	10805	-24.3	7.57	0.11
646	SLU 74	-131	26	10969	-21.04	7.68	0.1
646	SLU 75	-131	44	10971	-22.72	7.69	0.11
646	SLU 76	-130	56	10915	-23.88	7.65	0.11
646	SLU 77	-132	26	11079	-20.62	7.76	0.1
646	SLU 78	-132	44	11081	-22.29	7.77	0.12
646	SLU 79	-131	26	11020	-20.66	7.72	0.09
646	SLU 80	-131	44	11023	-22.34	7.72	0.11
646	SLU 81	-131	27	11203	-22.58	7.82	0.08
646	SLU 82	-131	45	11205	-24.26	7.82	0.09
646	SLU 83	-132	27	11313	-22.16	7.9	0.08
646	SLU 84	-132	45	11315	-23.83	7.9	0.1
646	SLE RA 1	-95	18	7334	-14.51	5.18	0.06
646	SLE RA 2	-95	38	7337	-16.37	5.18	0.07
646	SLE RA 3	-96	18	7446	-14.19	5.26	0.07
646	SLE RA 4	-96	30	7448	-15.31	5.26	0.08
646	SLE RA 5	-95	38	7410	-16.08	5.23	0.08
646	SLE RA 6	-97	18	7519	-13.91	5.31	0.07
646	SLE RA 7	-96	30	7521	-15.03	5.31	0.08
646	SLE RA 8	-96	18	7481	-13.94	5.28	0.06
646	SLE RA 9	-96	30	7482	-15.06	5.29	0.07
646	SLE RA 10	-97	40	7962	-18.03	5.58	0.07
646	SLE RA 11	-98	19	8072	-15.86	5.66	0.06
646	SLE RA 12	-98	32	8073	-16.97	5.66	0.07
646	SLE RA 13	-98	40	8035	-17.75	5.64	0.07
646	SLE RA 14	-99	19	8145	-15.58	5.71	0.06
646	SLE RA 15	-99	32	8146	-16.69	5.72	0.07
646	SLE RA 16	-98	19	8106	-15.6	5.69	0.06
646	SLE RA 17	-98	32	8107	-16.72	5.69	0.06
646	SLE RA 18	-98	20	8228	-16.88	5.75	0.05
646	SLE RA 19	-98	32	8229	-18	5.75	0.06
646	SLE RA 20	-99	20	8301	-16.6	5.8	0.05
646	SLE RA 21	-99	32	8302	-17.72	5.81	0.06
646	SLE FR 1	-95	18	7334	-14.51	5.18	0.06
646	SLE FR 2	-95	22	7335	-14.88	5.18	0.06
646	SLE FR 3	-95	18	7364	-14.39	5.2	0.06
646	SLE FR 4	-96	22	7603	-15.59	5.35	0.06
646	SLE FR 5	-96	18	7632	-15.11	5.37	0.06
646	SLE FR 6	-97	19	7781	-15.69	5.46	0.05
646	SLE QP 1	-95	18	7334	-14.51	5.18	0.06
646	SLE QP 2	-96	18	7602	-15.22	5.35	0.05
646	SLD 1	439	217	8773	-43.71	9.69	-0.67
646	SLD 2	436	105	8759	-41.63	9.72	0.45
646	SLD 3	432	-169	8675	1.97	9.44	-1.04
646	SLD 4	429	-281	8661	4.05	9.47	0.08
646	SLD 5	75	683	8105	-93.41	7.03	0.2
646	SLD 6	74	611	8096	-92.06	7.05	0.93
646	SLD 7	52	-604	7778	58.86	6.19	-1.03
646	SLD 8	51	-676	7769	60.2	6.2	-0.3
646	SLD 9	-243	713	7436	-90.64	4.49	0.41
646	SLD 10	-244	641	7427	-89.3	4.51	1.13
646	SLD 11	-265	-574	7109	61.63	3.65	-0.82
646	SLD 12	-267	-646	7100	62.97	3.66	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
646	SLD 13	-621	318	6544	-34.49	1.23	0.02
646	SLD 14	-623	205	6530	-32.41	1.26	1.15
646	SLD 15	-628	-69	6446	11.19	0.98	-0.34
646	SLD 16	-630	-181	6432	13.27	1.01	0.78
646	SLV 1	741	358	9436	-63.06	12.14	-1.06
646	SLV 2	738	181	9414	-59.77	12.19	0.71
646	SLV 3	730	-301	9269	14.91	11.71	-1.69
646	SLV 4	726	-477	9247	18.19	11.75	0.08
646	SLV 5	173	1152	8411	-148.43	8.04	0.34
646	SLV 6	171	1033	8396	-146.22	8.07	1.53
646	SLV 7	135	-1043	7852	111.45	6.59	-1.75
646	SLV 8	133	-1162	7838	113.66	6.62	-0.56
646	SLV 9	-324	1199	7367	-144.1	4.08	0.67
646	SLV 10	-327	1080	7352	-141.89	4.11	1.86
646	SLV 11	-362	-996	6809	115.78	2.63	-1.43
646	SLV 12	-365	-1115	6794	117.99	2.66	-0.23
646	SLV 13	-918	514	5958	-48.63	-1.06	0.03
646	SLV 14	-922	337	5936	-45.34	-1.01	1.8
646	SLV 15	-929	-144	5790	29.33	-1.49	-0.6
646	SLV 16	-933	-321	5768	32.62	-1.45	1.17
646	SLV FO 1	825	392	9620	-67.84	12.82	-1.18
646	SLV FO 2	821	197	9596	-64.23	12.87	0.77
646	SLV FO 3	813	-332	9435	17.92	12.35	-1.87
646	SLV FO 4	808	-527	9411	21.53	12.39	0.08
646	SLV FO 5	200	1265	8492	-161.75	8.31	0.37
646	SLV FO 6	197	1134	8475	-159.32	8.34	1.68
646	SLV FO 7	158	-1149	7877	124.12	6.71	-1.94
646	SLV FO 8	156	-1280	7861	126.55	6.75	-0.62
646	SLV FO 9	-347	1317	7344	-156.99	3.95	0.73
646	SLV FO 10	-350	1186	7327	-154.56	3.98	2.04
646	SLV FO 11	-389	-1097	6729	128.88	2.36	-1.57
646	SLV FO 12	-392	-1228	6713	131.31	2.39	-0.26
646	SLV FO 13	-1000	564	5793	-51.97	-1.7	0.03
646	SLV FO 14	-1004	369	5769	-48.36	-1.65	1.98
646	SLV FO 15	-1013	-160	5609	33.79	-2.17	-0.67
646	SLV FO 16	-1017	-355	5585	37.4	-2.13	1.28
646	CRTFP Ux+	0	0	0	0	0	0
646	CRTFP Ux-	0	0	0	0	0	0
646	CRTFP Uy+	0	0	0	0	0	0
646	CRTFP Uy-	0	0	0	0	0	0
647	SLU 1	-89	18	6838	-16.12	5.82	0.1
647	SLU 2	-89	49	6841	-18.85	5.85	0.13
647	SLU 3	-91	18	7002	-15.7	5.96	0.11
647	SLU 4	-91	36	7004	-17.33	5.98	0.13
647	SLU 5	-90	49	6948	-18.45	5.94	0.14
647	SLU 6	-92	18	7109	-15.3	6.06	0.12
647	SLU 7	-92	37	7111	-16.94	6.07	0.14
647	SLU 8	-91	18	7052	-15.33	6.01	0.11
647	SLU 9	-91	37	7054	-16.97	6.02	0.13
647	SLU 10	-92	51	7758	-21.59	6.6	0.14
647	SLU 11	-94	20	7919	-18.44	6.72	0.12
647	SLU 12	-94	39	7921	-20.08	6.73	0.14
647	SLU 13	-93	51	7865	-21.2	6.7	0.14
647	SLU 14	-95	20	8026	-18.05	6.81	0.13
647	SLU 15	-95	39	8028	-19.68	6.83	0.15
647	SLU 16	-95	20	7969	-18.07	6.76	0.12
647	SLU 17	-94	39	7971	-19.71	6.78	0.14
647	SLU 18	-94	21	8148	-20.03	6.9	0.11
647	SLU 19	-94	40	8150	-21.67	6.91	0.13
647	SLU 20	-95	21	8255	-19.64	6.99	0.11
647	SLU 21	-95	40	8257	-21.28	7.01	0.13
647	SLU 22	-98	19	7959	-16.97	6.79	0.18
647	SLU 23	-97	50	7963	-19.7	6.82	0.21
647	SLU 24	-99	19	8123	-16.55	6.94	0.2
647	SLU 25	-99	37	8125	-18.19	6.96	0.22
647	SLU 26	-98	50	8070	-19.31	6.92	0.22
647	SLU 27	-100	19	8230	-16.16	7.03	0.21
647	SLU 28	-100	37	8232	-17.79	7.05	0.23
647	SLU 29	-100	19	8173	-16.18	6.98	0.2
647	SLU 30	-99	37	8175	-17.82	7	0.22
647	SLU 31	-101	52	8879	-22.44	7.58	0.22
647	SLU 32	-103	21	9040	-19.29	7.69	0.21
647	SLU 33	-103	40	9042	-20.93	7.71	0.23
647	SLU 34	-102	52	8986	-22.05	7.67	0.23
647	SLU 35	-104	21	9147	-18.9	7.79	0.21
647	SLU 36	-104	40	9149	-20.54	7.8	0.23
647	SLU 37	-103	21	9090	-18.93	7.74	0.2
647	SLU 38	-103	40	9092	-20.57	7.75	0.22
647	SLU 39	-103	22	9269	-20.89	7.87	0.19
647	SLU 40	-103	41	9271	-22.53	7.89	0.21
647	SLU 41	-104	22	9376	-20.5	7.96	0.2
647	SLU 42	-103	41	9378	-22.13	7.98	0.22
647	SLU 43	-113	23	8505	-20.66	7.23	0.1
647	SLU 44	-113	54	8508	-23.39	7.26	0.13
647	SLU 45	-115	23	8669	-20.24	7.38	0.11
647	SLU 46	-115	42	8671	-21.88	7.39	0.13
647	SLU 47	-114	54	8615	-23	7.35	0.14
647	SLU 48	-116	23	8776	-19.84	7.47	0.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
647	SLU 49	-116	42	8778	-21.48	7.49	0.14
647	SLU 50	-115	23	8719	-19.87	7.42	0.11
647	SLU 51	-115	42	8721	-21.51	7.44	0.13
647	SLU 52	-116	56	9425	-26.13	8.01	0.14
647	SLU 53	-118	25	9586	-22.98	8.13	0.12
647	SLU 54	-118	44	9588	-24.62	8.15	0.14
647	SLU 55	-117	56	9532	-25.74	8.11	0.14
647	SLU 56	-119	25	9693	-22.59	8.22	0.13
647	SLU 57	-119	44	9695	-24.23	8.24	0.15
647	SLU 58	-118	25	9636	-22.62	8.17	0.12
647	SLU 59	-118	44	9638	-24.25	8.19	0.14
647	SLU 60	-118	26	9815	-24.58	8.31	0.11
647	SLU 61	-118	45	9817	-26.22	8.33	0.13
647	SLU 62	-119	26	9922	-24.18	8.4	0.11
647	SLU 63	-119	45	9924	-25.82	8.42	0.13
647	SLU 64	-122	24	9626	-21.51	8.21	0.18
647	SLU 65	-121	55	9630	-24.24	8.23	0.22
647	SLU 66	-123	24	9790	-21.09	8.35	0.2
647	SLU 67	-123	42	9792	-22.73	8.37	0.22
647	SLU 68	-122	55	9737	-23.85	8.33	0.22
647	SLU 69	-124	24	9897	-20.7	8.44	0.21
647	SLU 70	-124	42	9899	-22.34	8.46	0.23
647	SLU 71	-123	24	9840	-20.73	8.39	0.2
647	SLU 72	-123	42	9842	-22.36	8.41	0.22
647	SLU 73	-125	57	10546	-26.99	8.99	0.22
647	SLU 74	-127	26	10707	-23.83	9.1	0.21
647	SLU 75	-127	45	10709	-25.47	9.12	0.23
647	SLU 76	-126	57	10653	-26.59	9.08	0.23
647	SLU 77	-128	26	10814	-23.44	9.2	0.21
647	SLU 78	-128	45	10816	-25.08	9.21	0.23
647	SLU 79	-127	26	10757	-23.47	9.15	0.2
647	SLU 80	-127	45	10759	-25.11	9.16	0.22
647	SLU 81	-127	27	10936	-25.43	9.28	0.19
647	SLU 82	-126	46	10938	-27.07	9.3	0.21
647	SLU 83	-128	27	11043	-25.04	9.38	0.2
647	SLU 84	-127	46	11045	-26.68	9.39	0.22
647	SLE RA 1	-92	18	7158	-16.36	6.1	0.12
647	SLE RA 2	-91	39	7161	-18.18	6.12	0.14
647	SLE RA 3	-93	18	7268	-16.08	6.19	0.13
647	SLE RA 4	-93	31	7269	-17.17	6.21	0.15
647	SLE RA 5	-92	39	7232	-17.92	6.18	0.15
647	SLE RA 6	-93	18	7339	-15.82	6.26	0.14
647	SLE RA 7	-93	31	7340	-16.91	6.27	0.15
647	SLE RA 8	-93	18	7301	-15.84	6.22	0.13
647	SLE RA 9	-93	31	7302	-16.93	6.23	0.14
647	SLE RA 10	-94	40	7772	-20.01	6.62	0.15
647	SLE RA 11	-95	20	7879	-17.91	6.7	0.14
647	SLE RA 12	-95	32	7880	-19	6.71	0.15
647	SLE RA 13	-94	40	7843	-19.75	6.68	0.15
647	SLE RA 14	-96	20	7950	-17.65	6.76	0.14
647	SLE RA 15	-96	32	7951	-18.74	6.77	0.16
647	SLE RA 16	-95	20	7912	-17.66	6.73	0.14
647	SLE RA 17	-95	32	7913	-18.76	6.74	0.15
647	SLE RA 18	-95	20	8031	-18.97	6.82	0.13
647	SLE RA 19	-95	33	8033	-20.06	6.83	0.14
647	SLE RA 20	-96	20	8103	-18.71	6.88	0.13
647	SLE RA 21	-96	33	8104	-19.8	6.89	0.15
647	SLE FR 1	-92	18	7158	-16.36	6.1	0.12
647	SLE FR 2	-92	22	7159	-16.72	6.1	0.13
647	SLE FR 3	-92	18	7187	-16.25	6.12	0.12
647	SLE FR 4	-93	23	7421	-17.51	6.32	0.13
647	SLE FR 5	-93	19	7449	-17.04	6.34	0.13
647	SLE FR 6	-93	19	7595	-17.67	6.46	0.12
647	SLE QP 1	-92	18	7158	-16.36	6.1	0.12
647	SLE QP 2	-93	19	7420	-17.14	6.31	0.12
647	SLD 1	442	217	8458	-45.78	10.48	-0.5
647	SLD 2	439	111	8444	-43.82	10.48	0.58
647	SLD 3	435	-171	8372	-0.79	9.91	-1
647	SLD 4	433	-278	8358	1.17	9.91	0.08
647	SLD 5	79	686	7864	-94.3	8.43	0.51
647	SLD 6	77	617	7855	-93.04	8.43	1.2
647	SLD 7	56	-609	7578	55.66	6.53	-1.16
647	SLD 8	54	-678	7569	56.92	6.53	-0.46
647	SLD 9	-239	715	7271	-91.21	6.1	0.71
647	SLD 10	-241	647	7262	-89.94	6.1	1.4
647	SLD 11	-262	-580	6986	58.75	4.2	-0.96
647	SLD 12	-264	-648	6977	60.02	4.2	-0.26
647	SLD 13	-618	315	6482	-35.46	2.72	0.16
647	SLD 14	-620	209	6468	-33.49	2.72	1.24
647	SLD 15	-625	-73	6397	9.53	2.15	-0.33
647	SLD 16	-627	-180	6382	11.49	2.15	0.74
647	SLV 1	745	358	9046	-65.16	12.86	-0.82
647	SLV 2	741	190	9024	-62.06	12.86	0.88
647	SLV 3	733	-305	8900	11.63	11.89	-1.67
647	SLV 4	729	-473	8877	14.72	11.89	0.03
647	SLV 5	177	1157	8134	-148.58	9.75	0.82
647	SLV 6	174	1044	8119	-146.5	9.75	1.96
647	SLV 7	138	-1052	7646	107.37	6.51	-2.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
647	SLV 8	136	-1165	7631	109.45	6.51	-0.88
647	SLV 9	-321	1203	7209	-143.74	6.12	1.13
647	SLV 10	-324	1090	7194	-141.66	6.12	2.27
647	SLV 11	-360	-1006	6722	112.22	2.88	-1.71
647	SLV 12	-362	-1119	6706	114.3	2.88	-0.57
647	SLV 13	-915	510	5963	-49.01	0.74	0.22
647	SLV 14	-918	342	5940	-45.92	0.74	1.92
647	SLV 15	-926	-152	5817	27.78	-0.23	-0.63
647	SLV 16	-930	-320	5794	30.87	-0.23	1.07
647	SLV FO 1	828	392	9209	-69.96	13.51	-0.92
647	SLV FO 2	824	207	9184	-66.56	13.51	0.96
647	SLV FO 3	816	-337	9048	14.51	12.44	-1.85
647	SLV FO 4	812	-522	9023	17.91	12.44	0.02
647	SLV FO 5	204	1271	8205	-161.73	10.1	0.88
647	SLV FO 6	201	1146	8189	-159.44	10.1	2.14
647	SLV FO 7	161	-1159	7669	119.82	6.53	-2.24
647	SLV FO 8	159	-1283	7652	122.11	6.53	-0.98
647	SLV FO 9	-344	1321	7188	-156.4	6.1	1.23
647	SLV FO 10	-347	1197	7171	-154.11	6.1	2.49
647	SLV FO 11	-386	-1109	6652	125.15	2.53	-1.9
647	SLV FO 12	-389	-1233	6635	127.44	2.53	-0.64
647	SLV FO 13	-997	560	5817	-52.2	0.18	0.23
647	SLV FO 14	-1001	375	5793	-48.79	0.18	2.1
647	SLV FO 15	-1010	-169	5656	32.27	-0.88	-0.71
647	SLV FO 16	-1014	-354	5632	35.67	-0.89	1.16
647	CRTFP Ux+	0	0	0	0	0	0
647	CRTFP Ux-	0	0	0	0	0	0
647	CRTFP Uy+	0	0	0	0	0	0
647	CRTFP Uy-	0	0	0	0	0	0
648	SLU 1	-111	24	8688	882.1	296.56	10.55
648	SLU 2	-111	65	8689	879.68	296.98	9.27
648	SLU 3	-113	24	8897	904.06	303.66	10.78
648	SLU 4	-113	49	8897	902.61	303.91	10.01
648	SLU 5	-112	65	8825	894.13	301.61	9.39
648	SLU 6	-114	24	9033	918.5	308.28	10.9
648	SLU 7	-114	49	9034	917.05	308.54	10.13
648	SLU 8	-113	24	8961	910.99	305.81	10.79
648	SLU 9	-113	49	8961	909.55	306.07	10.02
648	SLU 10	-115	68	9853	997.42	336.66	9.61
648	SLU 11	-117	28	10062	1021.79	343.33	11.13
648	SLU 12	-117	52	10062	1020.34	343.58	10.35
648	SLU 13	-116	68	9990	1011.87	341.28	9.73
648	SLU 14	-118	28	10198	1036.24	347.96	11.24
648	SLU 15	-118	52	10198	1034.79	348.21	10.47
648	SLU 16	-117	28	10126	1028.73	345.49	11.13
648	SLU 17	-117	52	10126	1027.28	345.74	10.36
648	SLU 18	-117	29	10352	1050.3	353.24	11.04
648	SLU 19	-117	53	10352	1048.85	353.49	10.27
648	SLU 20	-118	29	10488	1064.74	357.86	11.16
648	SLU 21	-118	53	10489	1063.29	358.12	10.39
648	SLU 22	-122	26	10113	1028.47	345.23	11.68
648	SLU 23	-121	67	10114	1026.06	345.65	10.4
648	SLU 24	-124	26	10322	1050.43	352.33	11.91
648	SLU 25	-124	51	10322	1048.98	352.58	11.14
648	SLU 26	-122	67	10250	1040.51	350.28	10.51
648	SLU 27	-125	26	10458	1064.88	356.95	12.03
648	SLU 28	-125	51	10458	1063.43	357.2	11.26
648	SLU 29	-124	26	10386	1057.37	354.48	11.92
648	SLU 30	-124	51	10386	1055.92	354.73	11.15
648	SLU 31	-125	70	11278	1143.8	385.32	10.74
648	SLU 32	-128	29	11487	1168.17	392	12.25
648	SLU 33	-128	54	11487	1166.72	392.25	11.48
648	SLU 34	-127	70	11415	1158.24	389.95	10.85
648	SLU 35	-129	29	11623	1182.61	396.62	12.37
648	SLU 36	-129	54	11623	1181.17	396.88	11.6
648	SLU 37	-128	29	11550	1175.11	394.15	12.26
648	SLU 38	-128	54	11551	1173.66	394.41	11.49
648	SLU 39	-128	31	11777	1196.67	401.9	12.17
648	SLU 40	-127	55	11777	1195.22	402.16	11.4
648	SLU 41	-129	31	11913	1211.12	406.53	12.29
648	SLU 42	-129	55	11914	1209.67	406.78	11.51
648	SLU 43	-141	31	10806	1096.54	368.85	13.33
648	SLU 44	-140	72	10806	1094.13	369.27	12.05
648	SLU 45	-143	31	11015	1118.5	375.94	13.56
648	SLU 46	-143	55	11015	1117.05	376.19	12.79
648	SLU 47	-141	72	10943	1108.58	373.89	12.17
648	SLU 48	-144	31	11151	1132.95	380.57	13.68
648	SLU 49	-144	56	11151	1131.5	380.82	12.91
648	SLU 50	-143	31	11079	1125.44	378.1	13.57
648	SLU 51	-143	55	11079	1123.99	378.35	12.8
648	SLU 52	-144	75	11971	1211.87	408.94	12.39
648	SLU 53	-147	34	12179	1236.24	415.61	13.9
648	SLU 54	-147	59	12180	1234.79	415.87	13.13
648	SLU 55	-146	75	12108	1226.31	413.56	12.51
648	SLU 56	-148	34	12316	1250.68	420.24	14.02
648	SLU 57	-148	59	12316	1249.24	420.49	13.25
648	SLU 58	-147	34	12243	1243.18	417.77	13.91
648	SLU 59	-147	59	12244	1241.73	418.02	13.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
648	SLU 60	-147	35	12470	1264.74	425.52	13.82
648	SLU 61	-146	60	12470	1263.29	425.77	13.05
648	SLU 62	-148	36	12606	1279.19	430.15	13.94
648	SLU 63	-148	60	12607	1277.74	430.4	13.17
648	SLU 64	-151	33	12231	1242.92	417.51	14.46
648	SLU 65	-151	73	12231	1240.5	417.93	13.17
648	SLU 66	-153	33	12440	1264.87	424.61	14.69
648	SLU 67	-153	57	12440	1263.43	424.86	13.92
648	SLU 68	-152	73	12368	1254.95	422.56	13.29
648	SLU 69	-154	33	12576	1279.32	429.23	14.81
648	SLU 70	-154	57	12576	1277.87	429.49	14.04
648	SLU 71	-153	33	12503	1271.81	426.76	14.7
648	SLU 72	-153	57	12504	1270.36	427.02	13.93
648	SLU 73	-155	77	13396	1358.24	457.61	13.51
648	SLU 74	-158	36	13604	1382.61	464.28	15.03
648	SLU 75	-157	60	13605	1381.16	464.53	14.26
648	SLU 76	-156	77	13533	1372.69	462.23	13.63
648	SLU 77	-159	36	13741	1397.06	468.91	15.15
648	SLU 78	-158	61	13741	1395.61	469.16	14.38
648	SLU 79	-158	36	13668	1389.55	466.44	15.04
648	SLU 80	-157	60	13669	1388.1	466.69	14.27
648	SLU 81	-157	37	13895	1411.11	474.19	14.95
648	SLU 82	-157	62	13895	1409.67	474.44	14.18
648	SLU 83	-158	37	14031	1425.56	478.81	15.06
648	SLU 84	-158	62	14032	1424.11	479.07	14.29
648	SLE RA 1	-114	25	9095	923.92	310.47	10.88
648	SLE RA 2	-114	52	9096	922.31	310.75	10.02
648	SLE RA 3	-115	25	9234	938.56	315.2	11.03
648	SLE RA 4	-115	41	9235	937.59	315.37	10.52
648	SLE RA 5	-115	52	9186	931.94	313.83	10.1
648	SLE RA 6	-116	25	9325	948.19	318.28	11.11
648	SLE RA 7	-116	41	9325	947.22	318.45	10.59
648	SLE RA 8	-115	25	9277	943.18	316.63	11.03
648	SLE RA 9	-115	41	9277	942.22	316.8	10.52
648	SLE RA 10	-117	54	9872	1000.8	337.2	10.25
648	SLE RA 11	-118	27	10011	1017.05	341.65	11.26
648	SLE RA 12	-118	43	10011	1016.08	341.81	10.74
648	SLE RA 13	-117	54	9963	1010.43	340.28	10.32
648	SLE RA 14	-119	27	10102	1026.68	344.73	11.34
648	SLE RA 15	-119	43	10102	1025.72	344.9	10.82
648	SLE RA 16	-118	27	10053	1021.68	343.08	11.26
648	SLE RA 17	-118	43	10054	1020.71	343.25	10.75
648	SLE RA 18	-118	28	10204	1036.05	348.25	11.2
648	SLE RA 19	-118	44	10205	1035.09	348.42	10.69
648	SLE RA 20	-119	28	10295	1045.68	351.33	11.28
648	SLE RA 21	-119	44	10296	1044.72	351.5	10.76
648	SLE FR 1	-114	25	9095	923.92	310.47	10.88
648	SLE FR 2	-114	30	9095	923.6	310.52	10.7
648	SLE FR 3	-114	25	9131	927.77	311.7	10.91
648	SLE FR 4	-115	31	9428	957.24	321.86	10.8
648	SLE FR 5	-116	26	9464	961.41	323.04	11
648	SLE FR 6	-116	26	9650	979.99	329.36	11.04
648	SLE QP 1	-114	25	9095	923.92	310.47	10.88
648	SLE QP 2	-115	26	9428	957.56	321.8	10.97
648	SLD 1	583	286	10609	1051.69	376.6	-70.02
648	SLD 2	578	153	10592	1051.67	375.81	-64.01
648	SLD 3	574	-226	10562	1088.46	368.93	-54.06
648	SLD 4	569	-359	10545	1088.45	368.14	-48.06
648	SLD 5	109	902	9856	930.02	350.01	-38.55
648	SLD 6	106	817	9845	930.01	349.5	-34.69
648	SLD 7	79	-803	9700	1052.61	324.44	14.63
648	SLD 8	76	-888	9690	1052.6	323.94	18.49
648	SLD 9	-306	939	9166	862.52	319.67	3.45
648	SLD 10	-309	854	9156	862.51	319.16	7.32
648	SLD 11	-336	-766	9011	985.11	294.1	56.63
648	SLD 12	-339	-851	9000	985.1	293.6	60.5
648	SLD 13	-800	410	8310	826.67	275.46	70
648	SLD 14	-805	277	8294	826.66	274.68	76.01
648	SLD 15	-809	-102	8264	863.45	267.79	85.96
648	SLD 16	-814	-234	8247	863.43	267.01	91.96
648	SLV 1	979	469	11274	1101.77	407.9	-117.01
648	SLV 2	971	260	11248	1101.75	406.66	-107.54
648	SLV 3	964	-403	11194	1164.51	394.8	-89.8
648	SLV 4	956	-612	11168	1164.49	393.56	-80.34
648	SLV 5	237	1521	10107	905.67	367.73	-70.45
648	SLV 6	232	1380	10090	905.66	366.89	-64.08
648	SLV 7	187	-1387	9842	1114.81	324.07	20.24
648	SLV 8	182	-1528	9825	1114.79	323.23	26.61
648	SLV 9	-412	1579	9031	800.33	320.37	-4.67
648	SLV 10	-418	1438	9014	800.31	319.54	1.7
648	SLV 11	-462	-1329	8766	1009.46	276.71	86.03
648	SLV 12	-468	-1469	8749	1009.45	275.88	92.4
648	SLV 13	-1187	663	7687	750.63	250.05	102.28
648	SLV 14	-1195	454	7661	750.61	248.81	111.75
648	SLV 15	-1202	-209	7608	813.37	236.95	129.49
648	SLV 16	-1209	-418	7582	813.35	235.71	138.95
648	SLV FO 1	1088	513	11458	1116.19	416.51	-129.81
648	SLV FO 2	1080	283	11430	1116.17	415.14	-119.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
648	SLV FO 3	1072	-446	11371	1185.2	402.1	-99.88
648	SLV FO 4	1063	-676	11342	1185.18	400.73	-89.47
648	SLV FO 5	272	1670	10175	900.48	372.32	-78.6
648	SLV FO 6	267	1515	10156	900.47	371.4	-71.59
648	SLV FO 7	218	-1528	9883	1130.53	324.29	21.17
648	SLV FO 8	212	-1683	9864	1130.52	323.38	28.18
648	SLV FO 9	-442	1734	8992	784.6	320.23	-6.23
648	SLV FO 10	-448	1579	8972	784.59	319.31	0.78
648	SLV FO 11	-497	-1464	8700	1014.66	272.2	93.53
648	SLV FO 12	-503	-1619	8681	1014.64	271.28	100.54
648	SLV FO 13	-1294	727	7513	729.94	242.87	111.41
648	SLV FO 14	-1302	497	7485	729.92	241.51	121.82
648	SLV FO 15	-1310	-232	7426	798.95	228.46	141.34
648	SLV FO 16	-1319	-462	7397	798.93	227.1	151.75
648	CRTFP Ux+	0	0	0	0	0	0
648	CRTFP Ux-	0	0	0	0	0	0
648	CRTFP Uy+	0	0	0	0	0	0
648	CRTFP Uy-	0	0	0	0	0	0
649	SLU 1	-26	6	2083	-498.32	-20.03	-6.33
649	SLU 2	-25	16	2084	-499.07	-20.03	-6.2
649	SLU 3	-26	6	2132	-509.97	-20.5	-6.44
649	SLU 4	-26	12	2133	-510.41	-20.5	-6.37
649	SLU 5	-26	16	2117	-506.64	-20.34	-6.26
649	SLU 6	-26	6	2165	-517.54	-20.81	-6.5
649	SLU 7	-26	12	2166	-517.98	-20.81	-6.42
649	SLU 8	-26	6	2147	-513.46	-20.65	-6.45
649	SLU 9	-26	12	2148	-513.91	-20.65	-6.37
649	SLU 10	-26	16	2364	-565.78	-22.72	-6.41
649	SLU 11	-27	7	2412	-576.68	-23.19	-6.66
649	SLU 12	-27	13	2413	-577.13	-23.19	-6.58
649	SLU 13	-27	17	2396	-573.35	-23.03	-6.47
649	SLU 14	-27	7	2444	-584.25	-23.5	-6.71
649	SLU 15	-27	13	2445	-584.7	-23.5	-6.64
649	SLU 16	-27	7	2427	-580.18	-23.34	-6.66
649	SLU 17	-27	13	2428	-580.62	-23.34	-6.58
649	SLU 18	-27	7	2482	-593.63	-23.87	-6.63
649	SLU 19	-27	13	2483	-594.08	-23.87	-6.56
649	SLU 20	-27	7	2515	-601.2	-24.18	-6.69
649	SLU 21	-27	13	2516	-601.65	-24.18	-6.61
649	SLU 22	-28	6	2423	-578.89	-23.29	-6.89
649	SLU 23	-28	16	2424	-579.64	-23.29	-6.77
649	SLU 24	-28	6	2472	-590.54	-23.77	-7.01
649	SLU 25	-28	12	2473	-590.98	-23.77	-6.93
649	SLU 26	-28	16	2457	-587.21	-23.6	-6.82
649	SLU 27	-28	6	2505	-598.11	-24.08	-7.07
649	SLU 28	-28	12	2506	-598.55	-24.08	-6.99
649	SLU 29	-28	6	2487	-594.03	-23.91	-7.01
649	SLU 30	-28	12	2488	-594.48	-23.91	-6.93
649	SLU 31	-29	17	2704	-646.35	-25.98	-6.98
649	SLU 32	-29	7	2752	-657.25	-26.46	-7.22
649	SLU 33	-29	13	2753	-657.7	-26.46	-7.14
649	SLU 34	-29	17	2736	-653.92	-26.29	-7.04
649	SLU 35	-29	7	2784	-664.82	-26.77	-7.28
649	SLU 36	-29	13	2785	-665.27	-26.77	-7.2
649	SLU 37	-29	7	2767	-660.75	-26.6	-7.22
649	SLU 38	-29	13	2768	-661.19	-26.6	-7.14
649	SLU 39	-29	7	2823	-674.2	-27.13	-7.2
649	SLU 40	-29	13	2823	-674.65	-27.14	-7.12
649	SLU 41	-29	7	2855	-681.77	-27.44	-7.26
649	SLU 42	-29	13	2856	-682.22	-27.45	-7.18
649	SLU 43	-32	7	2591	-620.2	-24.92	-8.04
649	SLU 44	-32	17	2593	-620.94	-24.92	-7.91
649	SLU 45	-33	7	2641	-631.84	-25.39	-8.15
649	SLU 46	-33	13	2642	-632.29	-25.39	-8.07
649	SLU 47	-33	17	2625	-628.51	-25.23	-7.96
649	SLU 48	-33	7	2673	-639.41	-25.7	-8.21
649	SLU 49	-33	13	2674	-639.86	-25.7	-8.13
649	SLU 50	-33	7	2656	-635.34	-25.54	-8.15
649	SLU 51	-33	13	2657	-635.78	-25.54	-8.07
649	SLU 52	-33	18	2872	-687.66	-27.61	-8.12
649	SLU 53	-34	8	2920	-698.56	-28.08	-8.36
649	SLU 54	-34	14	2921	-699	-28.08	-8.28
649	SLU 55	-33	18	2905	-695.23	-27.92	-8.18
649	SLU 56	-34	8	2953	-706.13	-28.39	-8.42
649	SLU 57	-34	14	2953	-706.57	-28.39	-8.34
649	SLU 58	-34	8	2935	-702.05	-28.23	-8.36
649	SLU 59	-34	14	2936	-702.5	-28.23	-8.29
649	SLU 60	-34	8	2991	-715.51	-28.76	-8.34
649	SLU 61	-34	14	2992	-715.95	-28.76	-8.26
649	SLU 62	-34	8	3023	-723.07	-29.07	-8.4
649	SLU 63	-34	14	3024	-723.52	-29.07	-8.32
649	SLU 64	-35	8	2931	-700.77	-28.18	-8.6
649	SLU 65	-35	18	2933	-701.51	-28.18	-8.47
649	SLU 66	-35	8	2981	-712.41	-28.66	-8.71
649	SLU 67	-35	14	2982	-712.86	-28.66	-8.64
649	SLU 68	-35	18	2965	-709.08	-28.49	-8.53
649	SLU 69	-35	8	3013	-719.98	-28.97	-8.77
649	SLU 70	-35	14	3014	-720.43	-28.97	-8.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
649	SLU 71	-35	8	2996	-715.91	-28.8	-8.72
649	SLU 72	-35	14	2997	-716.35	-28.8	-8.64
649	SLU 73	-35	19	3212	-768.23	-30.87	-8.68
649	SLU 74	-36	9	3260	-779.13	-31.35	-8.93
649	SLU 75	-36	15	3261	-779.57	-31.35	-8.85
649	SLU 76	-36	19	3245	-775.8	-31.18	-8.74
649	SLU 77	-36	9	3293	-786.7	-31.66	-8.98
649	SLU 78	-36	15	3294	-787.14	-31.66	-8.91
649	SLU 79	-36	9	3275	-782.62	-31.49	-8.93
649	SLU 80	-36	15	3276	-783.07	-31.49	-8.85
649	SLU 81	-36	9	3331	-796.07	-32.02	-8.9
649	SLU 82	-36	15	3332	-796.52	-32.02	-8.83
649	SLU 83	-36	9	3363	-803.64	-32.33	-8.96
649	SLU 84	-36	15	3364	-804.09	-32.33	-8.88
649	SLE RA 1	-26	6	2180	-521.34	-20.96	-6.49
649	SLE RA 2	-26	13	2181	-521.84	-20.96	-6.41
649	SLE RA 3	-26	6	2213	-529.11	-21.28	-6.57
649	SLE RA 4	-26	10	2214	-529.4	-21.28	-6.52
649	SLE RA 5	-26	13	2203	-526.89	-21.17	-6.44
649	SLE RA 6	-27	6	2235	-534.15	-21.48	-6.61
649	SLE RA 7	-27	10	2235	-534.45	-21.48	-6.55
649	SLE RA 8	-26	6	2223	-531.44	-21.37	-6.57
649	SLE RA 9	-26	10	2224	-531.73	-21.37	-6.52
649	SLE RA 10	-27	13	2368	-566.32	-22.75	-6.55
649	SLE RA 11	-27	6	2400	-573.58	-23.07	-6.71
649	SLE RA 12	-27	10	2400	-573.88	-23.07	-6.66
649	SLE RA 13	-27	13	2389	-571.36	-22.96	-6.59
649	SLE RA 14	-27	7	2421	-578.63	-23.28	-6.75
649	SLE RA 15	-27	10	2422	-578.93	-23.28	-6.7
649	SLE RA 16	-27	6	2410	-575.91	-23.17	-6.71
649	SLE RA 17	-27	10	2410	-576.21	-23.17	-6.66
649	SLE RA 18	-27	7	2446	-584.88	-23.52	-6.69
649	SLE RA 19	-27	11	2447	-585.18	-23.52	-6.64
649	SLE RA 20	-27	7	2468	-589.93	-23.73	-6.73
649	SLE RA 21	-27	11	2469	-590.23	-23.73	-6.68
649	SLE FR 1	-26	6	2180	-521.34	-20.96	-6.49
649	SLE FR 2	-26	7	2180	-521.44	-20.96	-6.47
649	SLE FR 3	-26	6	2189	-523.36	-21.04	-6.51
649	SLE FR 4	-26	7	2260	-540.5	-21.73	-6.53
649	SLE FR 5	-26	6	2269	-542.42	-21.81	-6.57
649	SLE FR 6	-27	6	2313	-553.11	-22.24	-6.59
649	SLE QP 1	-26	6	2180	-521.34	-20.96	-6.49
649	SLE QP 2	-26	6	2260	-540.41	-21.73	-6.55
649	SLD 1	143	69	2542	-617.38	-24.11	36.29
649	SLD 2	143	38	2537	-615.97	-24.07	36.13
649	SLD 3	140	-55	2508	-602.81	-23.96	34.6
649	SLD 4	141	-86	2504	-601.4	-23.93	34.44
649	SLD 5	28	219	2397	-585.83	-22.67	8.9
649	SLD 6	28	199	2394	-584.93	-22.65	8.8
649	SLD 7	20	-196	2284	-537.28	-22.18	3.24
649	SLD 8	20	-216	2281	-536.37	-22.16	3.14
649	SLD 9	-73	228	2239	-544.44	-21.3	-16.25
649	SLD 10	-73	208	2236	-543.54	-21.28	-16.35
649	SLD 11	-81	-187	2126	-495.89	-20.81	-21.91
649	SLD 12	-81	-207	2123	-494.98	-20.78	-22.01
649	SLD 13	-193	99	2016	-479.41	-19.53	-47.54
649	SLD 14	-193	68	2012	-478	-19.49	-47.7
649	SLD 15	-196	-26	1983	-464.84	-19.38	-49.24
649	SLD 16	-195	-57	1978	-463.43	-19.35	-49.4
649	SLV 1	238	113	2703	-661.58	-25.45	60.65
649	SLV 2	239	65	2695	-659.35	-25.4	60.4
649	SLV 3	234	-99	2645	-636.7	-25.2	57.76
649	SLV 4	235	-147	2637	-634.47	-25.15	57.51
649	SLV 5	59	369	2482	-614.9	-23.24	18.04
649	SLV 6	60	336	2477	-613.41	-23.2	17.87
649	SLV 7	45	-338	2289	-531.98	-22.4	8.4
649	SLV 8	46	-371	2284	-530.48	-22.36	8.23
649	SLV 9	-99	383	2236	-550.33	-21.09	-21.34
649	SLV 10	-98	350	2231	-548.84	-21.06	-21.51
649	SLV 11	-113	-324	2043	-467.4	-20.25	-30.98
649	SLV 12	-112	-357	2038	-465.91	-20.22	-31.14
649	SLV 13	-288	160	1882	-446.34	-18.31	-70.61
649	SLV 14	-287	111	1875	-444.11	-18.25	-70.86
649	SLV 15	-292	-52	1825	-421.46	-18.06	-73.5
649	SLV 16	-291	-101	1817	-419.24	-18	-73.75
649	SLV FO 1	265	124	2747	-673.69	-25.83	67.37
649	SLV FO 2	266	71	2739	-671.25	-25.77	67.09
649	SLV FO 3	260	-109	2684	-646.33	-25.55	64.19
649	SLV FO 4	261	-163	2675	-643.88	-25.49	63.91
649	SLV FO 5	68	405	2504	-622.35	-23.39	20.5
649	SLV FO 6	68	369	2498	-620.71	-23.35	20.31
649	SLV FO 7	52	-372	2292	-531.13	-22.47	9.9
649	SLV FO 8	53	-408	2287	-529.49	-22.43	9.71
649	SLV FO 9	-106	421	2233	-551.33	-21.03	-22.82
649	SLV FO 10	-105	385	2228	-549.68	-20.99	-23
649	SLV FO 11	-121	-357	2021	-460.1	-20.11	-33.42
649	SLV FO 12	-121	-393	2016	-458.46	-20.07	-33.6
649	SLV FO 13	-314	175	1845	-436.93	-17.97	-77.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
649	SLV FO 14	-313	122	1836	-434.48	-17.91	-77.29
649	SLV FO 15	-319	-58	1781	-409.56	-17.69	-80.2
649	SLV FO 16	-318	-112	1773	-407.12	-17.63	-80.47
649	CRTFP Ux+	0	0	0	0	0	0
649	CRTFP Ux-	0	0	0	0	0	0
649	CRTFP Uy+	0	0	0	0	0	0
649	CRTFP Uy-	0	0	0	0	0	0
650	SLU 1	-71	9	6887	11.21	367.9	-1.09
650	SLU 2	-70	43	6880	8.06	367.64	-2.89
650	SLU 3	-72	10	7053	12.64	376.75	-1.1
650	SLU 4	-72	30	7049	10.75	376.6	-2.18
650	SLU 5	-71	43	6988	9.13	373.42	-2.9
650	SLU 6	-73	10	7162	13.71	382.54	-1.11
650	SLU 7	-72	30	7157	11.82	382.38	-2.19
650	SLU 8	-72	10	7104	13.35	379.47	-1.11
650	SLU 9	-72	30	7100	11.46	379.31	-2.19
650	SLU 10	-72	45	7807	9.89	417.09	-3.04
650	SLU 11	-74	12	7981	14.47	426.21	-1.25
650	SLU 12	-74	32	7976	12.58	426.05	-2.33
650	SLU 13	-73	45	7916	10.96	422.87	-3.05
650	SLU 14	-74	12	8089	15.54	431.99	-1.26
650	SLU 15	-74	32	8085	13.65	431.83	-2.34
650	SLU 16	-74	12	8032	15.18	428.92	-1.26
650	SLU 17	-74	32	8027	13.29	428.76	-2.34
650	SLU 18	-73	13	8212	13.83	438.55	-1.31
650	SLU 19	-73	33	8208	11.93	438.39	-2.39
650	SLU 20	-74	13	8321	14.89	444.33	-1.32
650	SLU 21	-74	33	8316	13	444.17	-2.4
650	SLU 22	-77	11	8016	16.81	428.19	-1.18
650	SLU 23	-77	45	8009	13.66	427.93	-2.98
650	SLU 24	-78	11	8182	18.24	437.05	-1.19
650	SLU 25	-78	31	8178	16.35	436.89	-2.27
650	SLU 26	-77	45	8117	14.73	433.72	-2.98
650	SLU 27	-79	11	8291	19.3	442.83	-1.19
650	SLU 28	-79	31	8286	17.41	442.67	-2.27
650	SLU 29	-78	11	8233	18.95	439.76	-1.19
650	SLU 30	-78	31	8229	17.05	439.61	-2.27
650	SLU 31	-78	47	8936	15.49	477.38	-3.13
650	SLU 32	-80	13	9110	20.07	486.5	-1.34
650	SLU 33	-80	34	9105	18.17	486.34	-2.42
650	SLU 34	-79	47	9045	16.55	483.17	-3.13
650	SLU 35	-81	13	9218	21.13	492.28	-1.34
650	SLU 36	-80	34	9214	19.24	492.13	-2.42
650	SLU 37	-80	13	9161	20.77	489.21	-1.34
650	SLU 38	-80	34	9156	18.88	489.06	-2.42
650	SLU 39	-80	14	9341	19.42	498.84	-1.39
650	SLU 40	-79	34	9337	17.53	498.68	-2.47
650	SLU 41	-80	14	9450	20.49	504.62	-1.4
650	SLU 42	-80	34	9445	18.6	504.47	-2.48
650	SLU 43	-90	12	8566	12.66	457.6	-1.39
650	SLU 44	-90	45	8559	9.51	457.34	-3.19
650	SLU 45	-91	12	8732	14.09	466.45	-1.4
650	SLU 46	-91	32	8728	12.19	466.3	-2.48
650	SLU 47	-90	45	8667	10.57	463.12	-3.2
650	SLU 48	-92	12	8841	15.15	472.24	-1.41
650	SLU 49	-92	32	8836	13.26	472.08	-2.49
650	SLU 50	-91	12	8783	14.79	469.17	-1.41
650	SLU 51	-91	32	8779	12.9	469.01	-2.49
650	SLU 52	-91	48	9486	11.33	506.79	-3.34
650	SLU 53	-93	14	9660	15.91	515.9	-1.55
650	SLU 54	-93	34	9655	14.02	515.75	-2.63
650	SLU 55	-92	48	9595	12.4	512.57	-3.35
650	SLU 56	-94	14	9768	16.98	521.69	-1.56
650	SLU 57	-93	34	9764	15.09	521.53	-2.64
650	SLU 58	-93	14	9711	16.62	518.62	-1.56
650	SLU 59	-93	34	9706	14.73	518.46	-2.64
650	SLU 60	-93	15	9891	15.27	528.24	-1.61
650	SLU 61	-92	35	9887	13.38	528.09	-2.69
650	SLU 62	-93	15	10000	16.34	534.03	-1.61
650	SLU 63	-93	35	9995	14.45	533.87	-2.69
650	SLU 64	-96	13	9695	18.25	517.89	-1.48
650	SLU 65	-96	47	9688	15.1	517.63	-3.27
650	SLU 66	-97	14	9861	19.68	526.75	-1.48
650	SLU 67	-97	34	9857	17.79	526.59	-2.56
650	SLU 68	-96	47	9796	16.17	523.41	-3.28
650	SLU 69	-98	14	9970	20.75	532.53	-1.49
650	SLU 70	-98	34	9965	18.86	532.37	-2.57
650	SLU 71	-97	14	9912	20.39	529.46	-1.49
650	SLU 72	-97	34	9908	18.5	529.3	-2.57
650	SLU 73	-98	49	10615	16.93	567.08	-3.43
650	SLU 74	-99	16	10789	21.51	576.2	-1.64
650	SLU 75	-99	36	10784	19.62	576.04	-2.72
650	SLU 76	-98	49	10724	18	572.87	-3.43
650	SLU 77	-100	16	10897	22.58	581.98	-1.64
650	SLU 78	-100	36	10893	20.69	581.82	-2.72
650	SLU 79	-99	16	10840	22.22	578.91	-1.64
650	SLU 80	-99	36	10835	20.33	578.75	-2.72
650	SLU 81	-99	16	11020	20.87	588.54	-1.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
650	SLU 82	-98	37	11016	18.98	588.38	-2.77
650	SLU 83	-99	17	11129	21.94	594.32	-1.7
650	SLU 84	-99	37	11124	20.04	594.16	-2.78
650	SLE RA 1	-73	10	7210	12.81	385.13	-1.12
650	SLE RA 2	-72	32	7205	10.71	384.95	-2.32
650	SLE RA 3	-73	10	7320	13.76	391.03	-1.12
650	SLE RA 4	-73	23	7317	12.5	390.92	-1.84
650	SLE RA 5	-73	32	7277	11.42	388.81	-2.32
650	SLE RA 6	-74	10	7393	14.48	394.89	-1.13
650	SLE RA 7	-74	24	7390	13.21	394.78	-1.85
650	SLE RA 8	-73	10	7354	14.24	392.84	-1.13
650	SLE RA 9	-73	23	7351	12.97	392.73	-1.85
650	SLE RA 10	-74	34	7823	11.93	417.92	-2.42
650	SLE RA 11	-75	11	7939	14.98	424	-1.22
650	SLE RA 12	-74	25	7936	13.72	423.89	-1.94
650	SLE RA 13	-74	34	7895	12.64	421.78	-2.42
650	SLE RA 14	-75	12	8011	15.69	427.85	-1.23
650	SLE RA 15	-75	25	8008	14.43	427.75	-1.95
650	SLE RA 16	-75	11	7973	15.46	425.81	-1.23
650	SLE RA 17	-74	25	7970	14.19	425.7	-1.95
650	SLE RA 18	-74	12	8093	14.55	432.22	-1.26
650	SLE RA 19	-74	25	8090	13.29	432.12	-1.98
650	SLE RA 20	-75	12	8165	15.27	436.08	-1.27
650	SLE RA 21	-75	25	8162	14	435.98	-1.98
650	SLE FR 1	-73	10	7210	12.81	385.13	-1.12
650	SLE FR 2	-73	14	7209	12.39	385.09	-1.36
650	SLE FR 3	-73	10	7239	13.1	386.67	-1.12
650	SLE FR 4	-73	15	7474	12.91	399.22	-1.4
650	SLE FR 5	-73	11	7504	13.62	400.8	-1.16
650	SLE FR 6	-73	11	7651	13.68	408.68	-1.19
650	SLE QP 1	-73	10	7210	12.81	385.13	-1.12
650	SLE QP 2	-73	11	7475	13.33	399.26	-1.16
650	SLD 1	502	220	8225	-3.16	442.42	-12.65
650	SLD 2	500	127	8221	-1.27	442.01	-6.43
650	SLD 3	494	-204	8296	46.57	444.45	9.87
650	SLD 4	492	-297	8291	48.45	444.04	16.09
650	SLD 5	112	732	7594	-67.36	409.2	-39.83
650	SLD 6	111	673	7591	-66.14	408.94	-35.83
650	SLD 7	85	-681	7828	98.4	415.96	35.24
650	SLD 8	84	-741	7825	99.61	415.7	39.24
650	SLD 9	-230	762	7124	-72.94	382.82	-41.56
650	SLD 10	-231	702	7121	-71.73	382.56	-37.55
650	SLD 11	-257	-651	7358	92.81	389.58	33.51
650	SLD 12	-258	-711	7355	94.02	389.31	37.51
650	SLD 13	-638	318	6658	-21.79	354.48	-18.4
650	SLD 14	-640	225	6654	-19.9	354.07	-12.19
650	SLD 15	-646	-106	6728	27.94	356.5	4.12
650	SLD 16	-648	-199	6724	29.83	356.1	10.33
650	SLV 1	828	368	8641	-16.03	466.47	-20.76
650	SLV 2	825	222	8634	-13.05	465.82	-10.96
650	SLV 3	814	-355	8760	68.83	469.89	17.64
650	SLV 4	811	-501	8753	71.81	469.25	27.44
650	SLV 5	218	1242	7645	-124.73	414.35	-67.12
650	SLV 6	216	1143	7640	-122.73	413.91	-60.52
650	SLV 7	173	-1169	8043	158.13	425.76	60.9
650	SLV 8	171	-1267	8038	160.13	425.33	67.5
650	SLV 9	-318	1288	6912	-133.46	373.19	-69.81
650	SLV 10	-320	1190	6907	-131.46	372.75	-63.22
650	SLV 11	-362	-1122	7309	149.4	384.6	58.2
650	SLV 12	-364	-1221	7304	151.4	384.17	64.8
650	SLV 13	-958	523	6196	-45.14	329.27	-29.76
650	SLV 14	-961	376	6189	-42.16	328.62	-19.96
650	SLV 15	-971	-201	6315	39.72	332.69	8.65
650	SLV 16	-974	-347	6308	42.7	332.05	18.45
650	SLV FO 1	918	404	8758	-18.96	473.19	-22.72
650	SLV FO 2	915	243	8750	-15.69	472.48	-11.95
650	SLV FO 3	903	-392	8889	74.38	476.95	19.52
650	SLV FO 4	900	-553	8881	77.65	476.24	30.3
650	SLV FO 5	247	1365	7662	-138.54	415.86	-73.71
650	SLV FO 6	245	1257	7657	-136.33	415.38	-66.46
650	SLV FO 7	198	-1286	8099	172.61	428.41	67.1
650	SLV FO 8	196	-1395	8094	174.81	427.93	74.36
650	SLV FO 9	-342	1416	6855	-148.14	370.58	-76.68
650	SLV FO 10	-344	1308	6850	-145.94	370.1	-69.42
650	SLV FO 11	-391	-1236	7293	163	383.14	64.14
650	SLV FO 12	-394	-1344	7287	165.21	382.66	71.39
650	SLV FO 13	-1046	574	6068	-50.99	322.27	-32.62
650	SLV FO 14	-1049	413	6061	-47.71	321.56	-21.84
650	SLV FO 15	-1061	-222	6199	42.36	326.04	9.63
650	SLV FO 16	-1064	-383	6192	45.63	325.33	20.41
650	CRTFP Ux+	0	0	0	0	0	0
650	CRTFP Ux-	0	0	0	0	0	0
650	CRTFP Uy+	0	0	0	0	0	0
650	CRTFP Uy-	0	0	0	0	0	0
652	SLU 1	-113	14	11789	-524.52	-10.62	-4.46
652	SLU 2	-112	71	11773	-527.51	-10.03	-4.53
652	SLU 3	-115	14	12074	-535.78	-10.98	-4.53
652	SLU 4	-114	48	12064	-537.57	-10.62	-4.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
652	SLU 5	-113	71	11959	-534.71	-10.27	-4.57
652	SLU 6	-116	14	12260	-542.98	-11.22	-4.57
652	SLU 7	-115	49	12250	-544.78	-10.86	-4.61
652	SLU 8	-114	14	12161	-538.92	-11.11	-4.53
652	SLU 9	-114	48	12151	-540.72	-10.75	-4.57
652	SLU 10	-114	75	13367	-597.89	-12.62	-4.58
652	SLU 11	-117	18	13667	-606.17	-13.57	-4.58
652	SLU 12	-117	52	13657	-607.96	-13.21	-4.62
652	SLU 13	-115	75	13552	-605.1	-12.86	-4.62
652	SLU 14	-118	18	13853	-613.37	-13.81	-4.62
652	SLU 15	-117	52	13843	-615.16	-13.45	-4.66
652	SLU 16	-117	18	13755	-609.31	-13.7	-4.59
652	SLU 17	-116	52	13745	-611.1	-13.34	-4.63
652	SLU 18	-116	19	14066	-625.07	-14.32	-4.53
652	SLU 19	-116	53	14056	-626.86	-13.97	-4.58
652	SLU 20	-117	19	14252	-632.27	-14.57	-4.57
652	SLU 21	-116	53	14242	-634.07	-14.21	-4.61
652	SLU 22	-122	17	13722	-605.9	-12.8	-4.77
652	SLU 23	-122	74	13706	-608.89	-12.2	-4.84
652	SLU 24	-124	17	14007	-617.16	-13.15	-4.84
652	SLU 25	-124	52	13997	-618.95	-12.79	-4.88
652	SLU 26	-122	74	13892	-616.09	-12.45	-4.87
652	SLU 27	-125	17	14192	-624.36	-13.4	-4.88
652	SLU 28	-125	52	14182	-626.15	-13.04	-4.92
652	SLU 29	-124	17	14094	-620.3	-13.28	-4.84
652	SLU 30	-124	51	14084	-622.09	-12.93	-4.88
652	SLU 31	-124	78	15299	-679.27	-14.79	-4.89
652	SLU 32	-126	21	15600	-687.55	-15.74	-4.89
652	SLU 33	-126	55	15590	-689.34	-15.38	-4.93
652	SLU 34	-125	78	15485	-686.47	-15.04	-4.93
652	SLU 35	-127	21	15786	-694.75	-15.98	-4.93
652	SLU 36	-127	55	15776	-696.54	-15.63	-4.97
652	SLU 37	-126	21	15688	-690.69	-15.87	-4.89
652	SLU 38	-126	55	15678	-692.48	-15.52	-4.93
652	SLU 39	-125	22	15999	-706.45	-16.5	-4.84
652	SLU 40	-125	56	15989	-708.24	-16.14	-4.88
652	SLU 41	-126	22	16185	-713.65	-16.74	-4.88
652	SLU 42	-126	56	16175	-715.44	-16.38	-4.92
652	SLU 43	-143	17	14664	-653.97	-13.07	-5.69
652	SLU 44	-143	74	14647	-656.96	-12.47	-5.76
652	SLU 45	-145	17	14948	-665.24	-13.42	-5.76
652	SLU 46	-145	52	14938	-667.03	-13.06	-5.8
652	SLU 47	-143	74	14833	-664.16	-12.71	-5.8
652	SLU 48	-146	17	15134	-672.44	-13.66	-5.8
652	SLU 49	-146	52	15124	-674.23	-13.31	-5.84
652	SLU 50	-145	17	15035	-668.38	-13.55	-5.77
652	SLU 51	-145	51	15025	-670.17	-13.2	-5.81
652	SLU 52	-145	78	16241	-727.35	-15.06	-5.81
652	SLU 53	-147	21	16542	-735.62	-16.01	-5.81
652	SLU 54	-147	55	16532	-737.41	-15.65	-5.85
652	SLU 55	-146	78	16427	-734.55	-15.3	-5.85
652	SLU 56	-148	21	16727	-742.82	-16.25	-5.85
652	SLU 57	-148	55	16717	-744.62	-15.9	-5.89
652	SLU 58	-147	21	16629	-738.76	-16.14	-5.82
652	SLU 59	-147	55	16619	-740.56	-15.79	-5.86
652	SLU 60	-146	22	16940	-754.53	-16.77	-5.77
652	SLU 61	-146	56	16930	-756.32	-16.41	-5.81
652	SLU 62	-147	22	17126	-761.73	-17.01	-5.8
652	SLU 63	-147	56	17116	-763.52	-16.65	-5.84
652	SLU 64	-153	20	16596	-735.35	-15.24	-6
652	SLU 65	-152	77	16580	-738.34	-14.64	-6.07
652	SLU 66	-155	20	16881	-746.61	-15.59	-6.07
652	SLU 67	-154	55	16871	-748.41	-15.24	-6.11
652	SLU 68	-153	77	16766	-745.54	-14.89	-6.11
652	SLU 69	-156	20	17067	-753.82	-15.84	-6.11
652	SLU 70	-155	55	17057	-755.61	-15.48	-6.15
652	SLU 71	-155	20	16968	-749.76	-15.73	-6.08
652	SLU 72	-154	54	16958	-751.55	-15.37	-6.12
652	SLU 73	-154	81	18174	-808.73	-17.23	-6.12
652	SLU 74	-157	24	18474	-817	-18.18	-6.12
652	SLU 75	-157	58	18464	-818.79	-17.83	-6.16
652	SLU 76	-155	81	18359	-815.93	-17.48	-6.16
652	SLU 77	-158	24	18660	-824.2	-18.43	-6.16
652	SLU 78	-157	58	18650	-825.99	-18.07	-6.2
652	SLU 79	-157	24	18562	-820.14	-18.32	-6.13
652	SLU 80	-156	58	18552	-821.94	-17.96	-6.17
652	SLU 81	-156	25	18873	-835.9	-18.94	-6.08
652	SLU 82	-156	59	18863	-837.7	-18.58	-6.12
652	SLU 83	-157	25	19059	-843.11	-19.18	-6.11
652	SLU 84	-157	60	19049	-844.9	-18.82	-6.15
652	SLE RA 1	-115	15	12342	-547.77	-11.24	-4.55
652	SLE RA 2	-115	53	12331	-549.76	-10.85	-4.6
652	SLE RA 3	-117	15	12531	-555.28	-11.48	-4.6
652	SLE RA 4	-116	38	12525	-556.47	-11.24	-4.62
652	SLE RA 5	-116	53	12455	-554.56	-11.01	-4.62
652	SLE RA 6	-117	15	12655	-560.08	-11.64	-4.62
652	SLE RA 7	-117	38	12648	-561.27	-11.41	-4.65
652	SLE RA 8	-117	15	12589	-557.37	-11.57	-4.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
652	SLE RA 9	-116	38	12583	-558.57	-11.33	-4.63
652	SLE RA 10	-116	55	13393	-596.69	-12.57	-4.63
652	SLE RA 11	-118	17	13594	-602.2	-13.21	-4.63
652	SLE RA 12	-118	40	13587	-603.4	-12.97	-4.66
652	SLE RA 13	-117	55	13517	-601.49	-12.74	-4.65
652	SLE RA 14	-119	17	13718	-607	-13.37	-4.65
652	SLE RA 15	-119	40	13711	-608.2	-13.13	-4.68
652	SLE RA 16	-118	17	13652	-604.3	-13.3	-4.63
652	SLE RA 17	-118	40	13645	-605.49	-13.06	-4.66
652	SLE RA 18	-118	18	13859	-614.81	-13.71	-4.6
652	SLE RA 19	-117	41	13853	-616	-13.47	-4.63
652	SLE RA 20	-118	18	13983	-619.61	-13.87	-4.62
652	SLE RA 21	-118	41	13977	-620.8	-13.64	-4.65
652	SLE FR 1	-115	15	12342	-547.77	-11.24	-4.55
652	SLE FR 2	-115	22	12339	-548.17	-11.17	-4.56
652	SLE FR 3	-116	15	12391	-549.69	-11.31	-4.56
652	SLE FR 4	-116	23	12795	-568.28	-11.91	-4.57
652	SLE FR 5	-116	16	12847	-569.8	-12.05	-4.57
652	SLE FR 6	-116	16	13101	-581.29	-12.48	-4.57
652	SLE QP 1	-115	15	12342	-547.77	-11.24	-4.55
652	SLE QP 2	-116	16	12797	-567.88	-11.98	-4.56
652	SLD 1	867	369	13925	-638.76	13.66	39.05
652	SLD 2	865	223	13923	-636.4	12.82	41.58
652	SLD 3	853	-354	14085	-587.22	7.06	39.93
652	SLD 4	852	-500	14084	-584.86	6.22	42.46
652	SLD 5	200	1243	12892	-667.71	5.86	6.75
652	SLD 6	199	1150	12891	-666.19	5.32	8.38
652	SLD 7	154	-1167	13427	-495.93	-16.13	9.68
652	SLD 8	153	-1261	13426	-494.4	-16.68	11.31
652	SLD 9	-385	1292	12168	-641.36	-7.29	-20.44
652	SLD 10	-387	1198	12167	-639.84	-7.84	-18.81
652	SLD 11	-431	-1118	12703	-469.57	-29.29	-17.51
652	SLD 12	-432	-1212	12702	-468.05	-29.83	-15.88
652	SLD 13	-1084	532	11510	-550.9	-30.19	-51.59
652	SLD 14	-1086	386	11509	-548.54	-31.03	-49.06
652	SLD 15	-1098	-191	11671	-499.37	-36.79	-50.71
652	SLD 16	-1099	-337	11669	-497	-37.63	-48.18
652	SLV 1	1424	620	14545	-682.26	28.53	63.64
652	SLV 2	1421	390	14542	-678.53	27.2	67.63
652	SLV 3	1401	-613	14818	-594.28	17.27	65.11
652	SLV 4	1398	-843	14815	-590.55	15.95	69.1
652	SLV 5	381	2110	12907	-736.32	17.49	12.92
652	SLV 6	379	1956	12906	-733.82	16.59	15.6
652	SLV 7	305	-2000	13818	-443.06	-20.03	17.83
652	SLV 8	303	-2155	13816	-440.55	-20.92	20.51
652	SLV 9	-535	2187	11778	-695.21	-3.05	-29.64
652	SLV 10	-537	2032	11776	-692.7	-3.94	-26.95
652	SLV 11	-611	-1924	12688	-401.95	-40.56	-24.73
652	SLV 12	-613	-2079	12687	-399.44	-41.46	-22.05
652	SLV 13	-1631	875	10779	-545.21	-39.91	-78.23
652	SLV 14	-1633	645	10776	-541.49	-41.24	-74.24
652	SLV 15	-1653	-359	11052	-457.23	-51.17	-76.76
652	SLV 16	-1656	-588	11050	-453.51	-52.5	-72.76
652	SLV FO 1	1578	680	14719	-693.69	32.58	70.46
652	SLV FO 2	1575	428	14717	-689.6	31.12	74.85
652	SLV FO 3	1553	-676	15020	-596.92	20.2	72.08
652	SLV FO 4	1550	-929	15017	-592.82	18.74	76.47
652	SLV FO 5	431	2320	12919	-753.17	20.44	14.67
652	SLV FO 6	429	2150	12917	-750.41	19.45	17.62
652	SLV FO 7	347	-2202	13920	-430.58	-20.83	20.06
652	SLV FO 8	345	-2372	13918	-427.82	-21.82	23.02
652	SLV FO 9	-577	2404	11676	-707.94	-2.15	-32.15
652	SLV FO 10	-579	2234	11674	-705.19	-3.14	-29.19
652	SLV FO 11	-661	-2118	12677	-385.35	-43.42	-26.75
652	SLV FO 12	-663	-2288	12676	-382.59	-44.4	-23.79
652	SLV FO 13	-1782	960	10577	-542.94	-42.71	-85.6
652	SLV FO 14	-1785	708	10574	-538.85	-44.17	-81.2
652	SLV FO 15	-1807	-396	10877	-446.17	-55.09	-83.98
652	SLV FO 16	-1810	-649	10875	-442.07	-56.55	-79.58
652	CRTFP Ux+	0	0	0	0	0	0
652	CRTFP Ux-	0	0	0	0	0	0
652	CRTFP Uy+	0	0	0	0	0	0
652	CRTFP Uy-	0	0	0	0	0	0
654	SLU 1	-52	11	5772	9.44	-108.77	1.32
654	SLU 2	-52	38	5762	6.91	-108.57	1.8
654	SLU 3	-53	11	5912	10.61	-111.41	1.35
654	SLU 4	-53	28	5906	9.1	-111.29	1.64
654	SLU 5	-52	39	5854	7.79	-110.3	1.81
654	SLU 6	-54	11	6004	11.49	-113.14	1.37
654	SLU 7	-53	28	5998	9.97	-113.02	1.65
654	SLU 8	-53	11	5955	11.19	-112.23	1.35
654	SLU 9	-53	28	5949	9.68	-112.11	1.64
654	SLU 10	-53	40	6547	8.5	-123.44	1.92
654	SLU 11	-54	13	6696	12.2	-126.28	1.47
654	SLU 12	-54	30	6690	10.69	-126.17	1.76
654	SLU 13	-53	41	6638	9.38	-125.17	1.93
654	SLU 14	-55	13	6788	13.08	-128.01	1.48
654	SLU 15	-54	30	6782	11.56	-127.89	1.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
654	SLU 16	-54	13	6739	12.78	-127.1	1.47
654	SLU 17	-54	30	6733	11.27	-126.98	1.75
654	SLU 18	-54	14	6893	11.71	-130.02	1.49
654	SLU 19	-53	30	6887	10.2	-129.9	1.78
654	SLU 20	-54	14	6984	12.59	-131.75	1.51
654	SLU 21	-54	30	6978	11.07	-131.63	1.79
654	SLU 22	-57	13	6721	14.17	-126.7	1.51
654	SLU 23	-56	40	6711	11.64	-126.5	1.99
654	SLU 24	-58	13	6861	15.34	-129.34	1.54
654	SLU 25	-57	30	6855	13.82	-129.22	1.83
654	SLU 26	-57	41	6803	12.52	-128.23	2
654	SLU 27	-58	13	6953	16.22	-131.07	1.55
654	SLU 28	-58	30	6947	14.7	-130.95	1.84
654	SLU 29	-57	13	6904	15.92	-130.16	1.54
654	SLU 30	-57	30	6898	14.4	-130.04	1.82
654	SLU 31	-57	43	7495	13.23	-141.38	2.1
654	SLU 32	-59	15	7645	16.93	-144.21	1.66
654	SLU 33	-58	32	7639	15.41	-144.1	1.94
654	SLU 34	-58	43	7587	14.11	-143.11	2.12
654	SLU 35	-59	15	7737	17.81	-145.94	1.67
654	SLU 36	-59	32	7731	16.29	-145.83	1.96
654	SLU 37	-58	15	7688	17.51	-145.03	1.65
654	SLU 38	-58	32	7682	15.99	-144.91	1.94
654	SLU 39	-58	16	7841	16.44	-147.95	1.68
654	SLU 40	-58	32	7836	14.92	-147.83	1.96
654	SLU 41	-58	16	7933	17.32	-149.68	1.69
654	SLU 42	-58	32	7927	15.8	-149.56	1.98
654	SLU 43	-67	13	7179	10.66	-135.25	1.66
654	SLU 44	-66	41	7169	8.13	-135.05	2.13
654	SLU 45	-67	14	7319	11.83	-137.89	1.69
654	SLU 46	-67	30	7313	10.31	-137.77	1.97
654	SLU 47	-67	41	7260	9	-136.78	2.15
654	SLU 48	-68	14	7410	12.7	-139.62	1.7
654	SLU 49	-68	30	7404	11.18	-139.5	1.98
654	SLU 50	-67	14	7362	12.41	-138.71	1.68
654	SLU 51	-67	30	7356	10.89	-138.59	1.97
654	SLU 52	-67	43	7953	9.72	-149.93	2.25
654	SLU 53	-68	16	8103	13.42	-152.77	1.8
654	SLU 54	-68	32	8097	11.9	-152.65	2.09
654	SLU 55	-68	43	8044	10.59	-151.66	2.26
654	SLU 56	-69	16	8194	14.29	-154.49	1.82
654	SLU 57	-69	32	8188	12.77	-154.38	2.1
654	SLU 58	-68	16	8146	14	-153.58	1.8
654	SLU 59	-68	32	8140	12.48	-153.46	2.09
654	SLU 60	-68	16	8299	12.93	-156.5	1.82
654	SLU 61	-68	33	8293	11.41	-156.38	2.11
654	SLU 62	-68	16	8390	13.8	-158.23	1.84
654	SLU 63	-68	33	8384	12.28	-158.11	2.12
654	SLU 64	-71	16	8128	15.38	-153.18	1.84
654	SLU 65	-71	43	8118	12.85	-152.98	2.32
654	SLU 66	-72	16	8268	16.55	-155.82	1.87
654	SLU 67	-72	32	8262	15.04	-155.7	2.16
654	SLU 68	-71	43	8209	13.73	-154.71	2.33
654	SLU 69	-72	16	8359	17.43	-157.55	1.89
654	SLU 70	-72	32	8353	15.91	-157.43	2.17
654	SLU 71	-72	16	8311	17.13	-156.64	1.87
654	SLU 72	-71	32	8305	15.62	-156.52	2.16
654	SLU 73	-71	45	8902	14.44	-167.86	2.44
654	SLU 74	-73	18	9052	18.14	-170.7	1.99
654	SLU 75	-73	34	9046	16.63	-170.58	2.28
654	SLU 76	-72	45	8993	15.32	-169.59	2.45
654	SLU 77	-73	18	9143	19.02	-172.43	2
654	SLU 78	-73	34	9137	17.5	-172.31	2.29
654	SLU 79	-73	18	9095	18.72	-171.51	1.99
654	SLU 80	-72	34	9089	17.21	-171.4	2.27
654	SLU 81	-72	18	9248	17.65	-174.43	2.01
654	SLU 82	-72	35	9242	16.14	-174.31	2.3
654	SLU 83	-73	19	9339	18.53	-176.16	2.02
654	SLU 84	-72	35	9333	17.01	-176.04	2.31
654	SLE RA 1	-54	11	6044	10.79	-113.89	1.38
654	SLE RA 2	-53	30	6037	9.11	-113.76	1.69
654	SLE RA 3	-54	12	6137	11.57	-115.65	1.4
654	SLE RA 4	-54	23	6133	10.56	-115.57	1.59
654	SLE RA 5	-54	30	6098	9.69	-114.91	1.7
654	SLE RA 6	-54	12	6198	12.16	-116.8	1.41
654	SLE RA 7	-54	23	6194	11.15	-116.73	1.6
654	SLE RA 8	-54	12	6165	11.96	-116.2	1.39
654	SLE RA 9	-54	23	6161	10.95	-116.12	1.58
654	SLE RA 10	-54	31	6560	10.17	-123.68	1.77
654	SLE RA 11	-55	13	6659	12.63	-125.57	1.47
654	SLE RA 12	-55	24	6655	11.62	-125.49	1.67
654	SLE RA 13	-54	31	6621	10.75	-124.83	1.78
654	SLE RA 14	-55	13	6720	13.22	-126.72	1.48
654	SLE RA 15	-55	24	6716	12.21	-126.64	1.67
654	SLE RA 16	-55	13	6688	13.02	-126.11	1.47
654	SLE RA 17	-55	24	6684	12.01	-126.03	1.66
654	SLE RA 18	-54	13	6790	12.31	-128.06	1.49
654	SLE RA 19	-54	24	6786	11.3	-127.98	1.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
654	SLE RA 20	-55	13	6851	12.89	-129.21	1.5
654	SLE RA 21	-55	25	6847	11.88	-129.13	1.69
654	SLE FR 1	-54	11	6044	10.79	-113.89	1.38
654	SLE FR 2	-54	15	6042	10.46	-113.86	1.44
654	SLE FR 3	-54	12	6068	11.03	-114.35	1.38
654	SLE FR 4	-54	16	6266	10.91	-118.11	1.47
654	SLE FR 5	-54	12	6292	11.48	-118.6	1.41
654	SLE FR 6	-54	12	6417	11.55	-120.97	1.43
654	SLE QP 1	-54	11	6044	10.79	-113.89	1.38
654	SLE QP 2	-54	12	6268	11.25	-118.14	1.41
654	SLD 1	424	182	6735	-0.92	-124.89	4.69
654	SLD 2	423	117	6737	0.6	-124.92	4.53
654	SLD 3	417	-166	6837	38.97	-126.88	-1.32
654	SLD 4	416	-231	6839	40.49	-126.92	-1.48
654	SLD 5	100	602	6253	-53.16	-117.14	11.53
654	SLD 6	99	561	6254	-52.18	-117.16	11.43
654	SLD 7	77	-559	6593	79.8	-123.78	-8.49
654	SLD 8	76	-600	6594	80.78	-123.8	-8.6
654	SLD 9	-184	624	5941	-58.29	-112.48	11.42
654	SLD 10	-185	583	5942	-57.31	-112.5	11.31
654	SLD 11	-207	-537	6281	74.68	-119.12	-8.61
654	SLD 12	-208	-578	6282	75.66	-119.14	-8.71
654	SLD 13	-524	255	5696	-18	-109.36	4.3
654	SLD 14	-525	191	5698	-16.47	-109.4	4.14
654	SLD 15	-531	-93	5799	21.89	-111.36	-1.71
654	SLD 16	-532	-158	5800	23.42	-111.39	-1.87
654	SLV 1	695	303	6990	-10.65	-128.52	6.98
654	SLV 2	693	201	6992	-8.25	-128.58	6.73
654	SLV 3	684	-291	7164	57.42	-131.91	-3.27
654	SLV 4	681	-393	7166	59.82	-131.97	-3.52
654	SLV 5	189	1019	6220	-99.02	-116.1	18.67
654	SLV 6	187	951	6222	-97.4	-116.14	18.5
654	SLV 7	150	-961	6800	127.9	-127.4	-15.49
654	SLV 8	149	-1030	6801	129.52	-127.44	-15.66
654	SLV 9	-256	1054	5734	-107.02	-108.84	18.48
654	SLV 10	-258	985	5736	-105.4	-108.87	18.31
654	SLV 11	-295	-927	6313	119.9	-120.14	-15.68
654	SLV 12	-297	-995	6315	121.51	-120.18	-15.85
654	SLV 13	-789	417	5370	-37.33	-104.31	6.34
654	SLV 14	-791	316	5372	-34.93	-104.36	6.09
654	SLV 15	-800	-177	5543	30.75	-107.7	-3.9
654	SLV 16	-803	-279	5545	33.15	-107.76	-4.16
654	SLV FO 1	770	332	7062	-12.84	-129.56	7.53
654	SLV FO 2	767	220	7064	-10.2	-129.62	7.26
654	SLV FO 3	757	-322	7253	62.04	-133.29	-3.74
654	SLV FO 4	755	-434	7255	64.68	-133.35	-4.02
654	SLV FO 5	213	1120	6216	-110.04	-115.9	20.39
654	SLV FO 6	211	1045	6217	-108.26	-115.94	20.21
654	SLV FO 7	171	-1058	6853	139.57	-128.33	-17.18
654	SLV FO 8	169	-1134	6854	141.34	-128.37	-17.36
654	SLV FO 9	-277	1158	5681	-118.85	-107.91	20.19
654	SLV FO 10	-278	1082	5682	-117.07	-107.95	20
654	SLV FO 11	-319	-1020	6318	130.76	-120.34	-17.39
654	SLV FO 12	-321	-1096	6320	132.54	-120.38	-17.57
654	SLV FO 13	-862	458	5280	-42.19	-102.93	6.84
654	SLV FO 14	-865	346	5282	-39.55	-102.99	6.56
654	SLV FO 15	-875	-196	5471	32.7	-106.66	-4.44
654	SLV FO 16	-878	-308	5473	35.34	-106.72	-4.71
654	CRTFP Ux+	0	0	0	0	0	0
654	CRTFP Ux-	0	0	0	0	0	0
654	CRTFP Uy+	0	0	0	0	0	0
654	CRTFP Uy-	0	0	0	0	0	0
655	SLU 1	-55	21	6444	7.19	-1.58	1.98
655	SLU 2	-55	51	6433	4.62	-1.6	1.95
655	SLU 3	-56	21	6600	8.33	-1.63	2.02
655	SLU 4	-56	39	6594	6.79	-1.64	2
655	SLU 5	-55	51	6535	5.48	-1.63	1.97
655	SLU 6	-57	22	6703	9.2	-1.66	2.05
655	SLU 7	-57	40	6696	7.66	-1.67	2.03
655	SLU 8	-56	21	6649	8.91	-1.64	2.02
655	SLU 9	-56	39	6642	7.37	-1.66	2
655	SLU 10	-56	54	7313	5.84	-1.96	2.09
655	SLU 11	-57	24	7480	9.55	-1.99	2.16
655	SLU 12	-57	42	7473	8.01	-2	2.14
655	SLU 13	-56	54	7415	6.7	-1.99	2.11
655	SLU 14	-58	24	7582	10.41	-2.02	2.18
655	SLU 15	-57	43	7576	8.87	-2.03	2.16
655	SLU 16	-57	24	7528	10.13	-2	2.16
655	SLU 17	-57	42	7522	8.59	-2.02	2.14
655	SLU 18	-57	25	7700	8.93	-2.09	2.18
655	SLU 19	-57	43	7694	7.38	-2.11	2.16
655	SLU 20	-57	25	7803	9.79	-2.12	2.2
655	SLU 21	-57	43	7796	8.25	-2.14	2.18
655	SLU 22	-60	24	7505	11.71	-1.91	2.23
655	SLU 23	-60	55	7495	9.15	-1.94	2.2
655	SLU 24	-61	25	7662	12.86	-1.96	2.27
655	SLU 25	-61	43	7655	11.32	-1.98	2.25
655	SLU 26	-60	55	7597	10.01	-1.97	2.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
655	SLU 27	-61	25	7764	13.72	-1.99	2.29
655	SLU 28	-61	43	7758	12.18	-2.01	2.27
655	SLU 29	-61	25	7710	13.44	-1.98	2.27
655	SLU 30	-61	43	7704	11.9	-1.99	2.25
655	SLU 31	-61	57	8374	10.36	-2.29	2.33
655	SLU 32	-62	28	8541	14.08	-2.32	2.41
655	SLU 33	-62	46	8535	12.54	-2.33	2.39
655	SLU 34	-61	58	8476	11.23	-2.33	2.36
655	SLU 35	-62	28	8644	14.94	-2.35	2.43
655	SLU 36	-62	46	8637	13.4	-2.37	2.41
655	SLU 37	-62	28	8590	14.66	-2.34	2.41
655	SLU 38	-62	46	8583	13.12	-2.35	2.39
655	SLU 39	-61	28	8762	13.45	-2.43	2.43
655	SLU 40	-61	47	8755	11.91	-2.44	2.41
655	SLU 41	-62	29	8864	14.32	-2.46	2.45
655	SLU 42	-62	47	8858	12.78	-2.47	2.43
655	SLU 43	-71	26	8013	7.79	-1.94	2.49
655	SLU 44	-70	56	8002	5.22	-1.96	2.46
655	SLU 45	-71	26	8169	8.94	-1.99	2.53
655	SLU 46	-71	45	8163	7.4	-2	2.51
655	SLU 47	-70	56	8105	6.09	-1.99	2.48
655	SLU 48	-72	27	8272	9.8	-2.02	2.56
655	SLU 49	-72	45	8265	8.26	-2.03	2.53
655	SLU 50	-71	26	8218	9.52	-2	2.53
655	SLU 51	-71	45	8211	7.98	-2.02	2.51
655	SLU 52	-71	59	8882	6.44	-2.32	2.59
655	SLU 53	-72	29	9049	10.15	-2.35	2.67
655	SLU 54	-72	47	9043	8.61	-2.36	2.65
655	SLU 55	-71	59	8984	7.3	-2.35	2.62
655	SLU 56	-73	30	9151	11.02	-2.38	2.69
655	SLU 57	-73	48	9145	9.48	-2.39	2.67
655	SLU 58	-72	29	9097	10.74	-2.36	2.67
655	SLU 59	-72	47	9091	9.19	-2.38	2.65
655	SLU 60	-72	30	9270	9.53	-2.45	2.69
655	SLU 61	-72	48	9263	7.99	-2.47	2.67
655	SLU 62	-72	30	9372	10.39	-2.48	2.71
655	SLU 63	-72	48	9365	8.85	-2.5	2.69
655	SLU 64	-75	29	9075	12.32	-2.27	2.74
655	SLU 65	-75	60	9064	9.75	-2.3	2.71
655	SLU 66	-76	30	9231	13.46	-2.32	2.78
655	SLU 67	-76	48	9224	11.92	-2.34	2.76
655	SLU 68	-75	60	9166	10.61	-2.33	2.73
655	SLU 69	-76	30	9333	14.33	-2.35	2.8
655	SLU 70	-76	48	9327	12.79	-2.37	2.78
655	SLU 71	-76	30	9279	14.05	-2.34	2.78
655	SLU 72	-76	48	9273	12.5	-2.35	2.76
655	SLU 73	-76	63	9943	10.97	-2.65	2.84
655	SLU 74	-77	33	10111	14.68	-2.68	2.92
655	SLU 75	-77	51	10104	13.14	-2.69	2.9
655	SLU 76	-76	63	10046	11.83	-2.69	2.86
655	SLU 77	-77	33	10213	15.55	-2.71	2.94
655	SLU 78	-77	51	10206	14	-2.73	2.92
655	SLU 79	-77	33	10159	15.26	-2.7	2.92
655	SLU 80	-77	51	10152	13.72	-2.71	2.9
655	SLU 81	-76	34	10331	14.06	-2.79	2.94
655	SLU 82	-76	52	10325	12.52	-2.8	2.92
655	SLU 83	-77	34	10433	14.92	-2.82	2.96
655	SLU 84	-77	52	10427	13.38	-2.83	2.94
655	SLE RA 1	-57	22	6747	8.48	-1.68	2.05
655	SLE RA 2	-56	42	6740	6.77	-1.69	2.03
655	SLE RA 3	-57	22	6851	9.24	-1.71	2.08
655	SLE RA 4	-57	34	6847	8.22	-1.72	2.07
655	SLE RA 5	-57	42	6808	7.34	-1.71	2.04
655	SLE RA 6	-58	22	6920	9.82	-1.73	2.1
655	SLE RA 7	-57	34	6915	8.79	-1.74	2.08
655	SLE RA 8	-57	22	6884	9.63	-1.72	2.08
655	SLE RA 9	-57	34	6879	8.6	-1.73	2.07
655	SLE RA 10	-57	44	7326	7.58	-1.93	2.12
655	SLE RA 11	-58	24	7438	10.06	-1.95	2.17
655	SLE RA 12	-58	36	7433	9.03	-1.96	2.16
655	SLE RA 13	-57	44	7395	8.16	-1.95	2.14
655	SLE RA 14	-58	24	7506	10.63	-1.97	2.19
655	SLE RA 15	-58	36	7502	9.6	-1.98	2.17
655	SLE RA 16	-58	24	7470	10.44	-1.96	2.17
655	SLE RA 17	-58	36	7466	9.42	-1.97	2.16
655	SLE RA 18	-58	25	7585	9.64	-2.02	2.18
655	SLE RA 19	-58	37	7581	8.61	-2.03	2.17
655	SLE RA 20	-58	25	7653	10.22	-2.04	2.2
655	SLE RA 21	-58	37	7649	9.19	-2.05	2.19
655	SLE FR 1	-57	22	6747	8.48	-1.68	2.05
655	SLE FR 2	-57	26	6746	8.14	-1.68	2.05
655	SLE FR 3	-57	22	6774	8.71	-1.69	2.06
655	SLE FR 4	-57	27	6997	8.49	-1.78	2.09
655	SLE FR 5	-57	23	7026	9.06	-1.79	2.1
655	SLE FR 6	-57	23	7166	9.06	-1.85	2.12
655	SLE QP 1	-57	22	6747	8.48	-1.68	2.05
655	SLE QP 2	-57	23	6998	8.83	-1.78	2.09
655	SLD 1	473	210	7433	-2.36	1.07	2.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
655	SLD 2	472	144	7434	-0.87	1.1	3.24
655	SLD 3	466	-172	7543	38.66	1.37	2.74
655	SLD 4	464	-238	7544	40.16	1.41	3.83
655	SLD 5	114	671	6962	-57	-1.4	1.03
655	SLD 6	113	628	6963	-56.04	-1.37	1.73
655	SLD 7	88	-605	7328	79.74	-0.37	2.99
655	SLD 8	87	-647	7329	80.7	-0.35	3.69
655	SLD 9	-201	693	6668	-63.05	-3.21	0.49
655	SLD 10	-202	650	6669	-62.08	-3.18	1.2
655	SLD 11	-227	-583	7034	73.7	-2.18	2.45
655	SLD 12	-228	-625	7035	74.66	-2.16	3.16
655	SLD 13	-578	284	6453	-22.5	-4.97	0.36
655	SLD 14	-580	218	6454	-21.01	-4.93	1.45
655	SLD 15	-586	-99	6563	18.52	-4.66	0.95
655	SLD 16	-588	-165	6564	20.02	-4.63	2.04
655	SLV 1	774	343	7669	-11.63	2.64	2.13
655	SLV 2	771	239	7670	-9.27	2.69	3.85
655	SLV 3	761	-309	7856	58.38	3.16	3.13
655	SLV 4	758	-413	7857	60.74	3.21	4.85
655	SLV 5	213	1128	6916	-103.93	-1.25	0.26
655	SLV 6	211	1058	6917	-102.34	-1.22	1.42
655	SLV 7	169	-1047	7539	129.44	0.48	3.6
655	SLV 8	167	-1117	7540	131.02	0.52	4.76
655	SLV 9	-281	1162	6457	-113.37	-4.08	-0.58
655	SLV 10	-283	1092	6458	-111.78	-4.04	0.58
655	SLV 11	-325	-1013	7080	120	-2.34	2.77
655	SLV 12	-327	-1083	7081	121.59	-2.3	3.93
655	SLV 13	-872	458	6140	-43.09	-6.77	-0.67
655	SLV 14	-875	354	6141	-40.73	-6.72	1.06
655	SLV 15	-885	-194	6327	26.93	-6.25	0.34
655	SLV 16	-888	-298	6328	29.28	-6.2	2.06
655	SLV FO 1	857	375	7736	-13.67	3.08	2.13
655	SLV FO 2	854	261	7738	-11.08	3.14	4.02
655	SLV FO 3	843	-342	7941	63.34	3.65	3.23
655	SLV FO 4	840	-457	7943	65.93	3.71	5.13
655	SLV FO 5	240	1238	6907	-115.21	-1.2	0.08
655	SLV FO 6	238	1161	6909	-113.46	-1.16	1.35
655	SLV FO 7	192	-1154	7593	141.5	0.71	3.76
655	SLV FO 8	190	-1231	7594	143.24	0.75	5.03
655	SLV FO 9	-304	1276	6403	-125.59	-4.31	-0.85
655	SLV FO 10	-306	1199	6404	-123.84	-4.27	0.43
655	SLV FO 11	-352	-1116	7088	131.12	-2.4	2.83
655	SLV FO 12	-354	-1193	7090	132.86	-2.36	4.11
655	SLV FO 13	-954	502	6054	-48.28	-7.27	-0.94
655	SLV FO 14	-957	388	6056	-45.68	-7.21	0.95
655	SLV FO 15	-968	-216	6259	28.74	-6.7	0.16
655	SLV FO 16	-971	-330	6261	31.33	-6.64	2.06
655	CRTFP Ux+	0	0	0	0	0	0
655	CRTFP Ux-	0	0	0	0	0	0
655	CRTFP Uy+	0	0	0	0	0	0
655	CRTFP Uy-	0	0	0	0	0	0
656	SLU 1	-53	33	6483	3.72	-0.83	2.32
656	SLU 2	-53	63	6473	1.39	-0.88	2.3
656	SLU 3	-54	34	6641	4.72	-0.86	2.36
656	SLU 4	-54	52	6635	3.31	-0.88	2.35
656	SLU 5	-53	63	6576	2.15	-0.89	2.32
656	SLU 6	-55	34	6744	5.47	-0.87	2.39
656	SLU 7	-54	52	6738	4.07	-0.9	2.38
656	SLU 8	-54	33	6689	5.23	-0.87	2.36
656	SLU 9	-54	52	6683	3.83	-0.89	2.35
656	SLU 10	-54	67	7363	2.03	-1.12	2.45
656	SLU 11	-55	37	7530	5.36	-1.1	2.52
656	SLU 12	-55	55	7524	3.96	-1.13	2.51
656	SLU 13	-54	67	7466	2.79	-1.14	2.48
656	SLU 14	-56	38	7633	6.11	-1.12	2.54
656	SLU 15	-55	56	7627	4.71	-1.15	2.53
656	SLU 16	-55	37	7578	5.88	-1.11	2.52
656	SLU 17	-55	55	7573	4.48	-1.14	2.51
656	SLU 18	-55	38	7753	4.64	-1.18	2.54
656	SLU 19	-54	56	7748	3.24	-1.21	2.53
656	SLU 20	-55	38	7857	5.4	-1.2	2.56
656	SLU 21	-55	57	7851	4	-1.23	2.55
656	SLU 22	-58	38	7553	7.52	-1.03	2.6
656	SLU 23	-57	68	7543	5.18	-1.07	2.58
656	SLU 24	-59	38	7711	8.51	-1.05	2.65
656	SLU 25	-58	56	7705	7.11	-1.08	2.64
656	SLU 26	-58	68	7646	5.94	-1.09	2.61
656	SLU 27	-59	39	7814	9.27	-1.07	2.67
656	SLU 28	-59	57	7808	7.87	-1.1	2.66
656	SLU 29	-59	38	7759	9.03	-1.06	2.65
656	SLU 30	-58	56	7753	7.63	-1.09	2.64
656	SLU 31	-58	72	8433	5.83	-1.32	2.74
656	SLU 32	-60	42	8600	9.15	-1.3	2.81
656	SLU 33	-59	60	8594	7.75	-1.33	2.79
656	SLU 34	-59	72	8536	6.58	-1.34	2.76
656	SLU 35	-60	42	8703	9.91	-1.32	2.83
656	SLU 36	-60	61	8697	8.51	-1.34	2.82
656	SLU 37	-60	42	8649	9.67	-1.31	2.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLU 38	-59	60	8643	8.27	-1.33	2.79
656	SLU 39	-59	43	8824	8.44	-1.38	2.82
656	SLU 40	-59	61	8818	7.04	-1.41	2.81
656	SLU 41	-60	43	8927	9.19	-1.4	2.85
656	SLU 42	-59	61	8921	7.79	-1.42	2.84
656	SLU 43	-68	41	8061	3.54	-1.01	2.91
656	SLU 44	-67	71	8051	1.21	-1.06	2.89
656	SLU 45	-69	42	8219	4.53	-1.04	2.96
656	SLU 46	-68	60	8213	3.13	-1.07	2.95
656	SLU 47	-68	71	8154	1.96	-1.08	2.92
656	SLU 48	-69	42	8322	5.29	-1.06	2.99
656	SLU 49	-69	60	8316	3.89	-1.08	2.97
656	SLU 50	-69	42	8267	5.05	-1.05	2.96
656	SLU 51	-68	60	8261	3.65	-1.07	2.95
656	SLU 52	-68	75	8941	1.85	-1.3	3.05
656	SLU 53	-70	45	9108	5.17	-1.29	3.12
656	SLU 54	-69	63	9102	3.77	-1.31	3.11
656	SLU 55	-69	75	9044	2.6	-1.32	3.07
656	SLU 56	-70	46	9211	5.93	-1.3	3.14
656	SLU 57	-70	64	9205	4.53	-1.33	3.13
656	SLU 58	-70	45	9156	5.69	-1.29	3.12
656	SLU 59	-69	63	9151	4.29	-1.32	3.11
656	SLU 60	-69	46	9331	4.46	-1.37	3.14
656	SLU 61	-69	64	9326	3.06	-1.39	3.12
656	SLU 62	-70	47	9435	5.21	-1.38	3.16
656	SLU 63	-69	65	9429	3.81	-1.41	3.15
656	SLU 64	-72	46	9131	7.33	-1.21	3.2
656	SLU 65	-72	76	9121	5	-1.26	3.18
656	SLU 66	-73	47	9289	8.33	-1.24	3.25
656	SLU 67	-73	65	9283	6.93	-1.26	3.23
656	SLU 68	-72	76	9224	5.76	-1.27	3.2
656	SLU 69	-74	47	9392	9.08	-1.25	3.27
656	SLU 70	-73	65	9386	7.68	-1.28	3.26
656	SLU 71	-73	47	9337	8.85	-1.24	3.25
656	SLU 72	-73	65	9331	7.45	-1.27	3.24
656	SLU 73	-73	80	10011	5.64	-1.5	3.33
656	SLU 74	-74	50	10178	8.97	-1.48	3.4
656	SLU 75	-74	68	10172	7.57	-1.51	3.39
656	SLU 76	-73	80	10114	6.4	-1.52	3.36
656	SLU 77	-75	51	10281	9.72	-1.5	3.43
656	SLU 78	-74	69	10275	8.32	-1.53	3.42
656	SLU 79	-74	50	10227	9.49	-1.49	3.4
656	SLU 80	-74	68	10221	8.09	-1.52	3.39
656	SLU 81	-74	51	10402	8.25	-1.56	3.42
656	SLU 82	-73	69	10396	6.85	-1.59	3.41
656	SLU 83	-74	51	10505	9.01	-1.58	3.45
656	SLU 84	-74	70	10499	7.61	-1.61	3.43
656	SLE RA 1	-55	34	6789	4.81	-0.89	2.4
656	SLE RA 2	-54	54	6782	3.25	-0.92	2.38
656	SLE RA 3	-55	35	6894	5.47	-0.91	2.43
656	SLE RA 4	-55	47	6890	4.54	-0.92	2.42
656	SLE RA 5	-55	54	6851	3.76	-0.93	2.4
656	SLE RA 6	-55	35	6963	5.97	-0.92	2.45
656	SLE RA 7	-55	47	6959	5.04	-0.93	2.44
656	SLE RA 8	-55	35	6926	5.82	-0.91	2.43
656	SLE RA 9	-55	47	6922	4.88	-0.93	2.42
656	SLE RA 10	-55	57	7375	3.68	-1.08	2.49
656	SLE RA 11	-56	37	7487	5.9	-1.07	2.53
656	SLE RA 12	-56	49	7483	4.96	-1.09	2.53
656	SLE RA 13	-55	57	7444	4.18	-1.09	2.5
656	SLE RA 14	-56	37	7555	6.4	-1.08	2.55
656	SLE RA 15	-56	49	7551	5.47	-1.1	2.54
656	SLE RA 16	-56	37	7519	6.24	-1.07	2.53
656	SLE RA 17	-56	49	7515	5.31	-1.09	2.53
656	SLE RA 18	-56	38	7636	5.42	-1.12	2.55
656	SLE RA 19	-55	50	7632	4.49	-1.14	2.54
656	SLE RA 20	-56	38	7704	5.92	-1.13	2.56
656	SLE RA 21	-56	50	7701	4.99	-1.15	2.55
656	SLE FR 1	-55	34	6789	4.81	-0.89	2.4
656	SLE FR 2	-55	38	6787	4.5	-0.89	2.39
656	SLE FR 3	-55	34	6816	5.01	-0.89	2.4
656	SLE FR 4	-55	39	7042	4.68	-0.96	2.44
656	SLE FR 5	-55	35	7070	5.19	-0.96	2.45
656	SLE FR 6	-55	36	7212	5.11	-1.01	2.47
656	SLE QP 1	-55	34	6789	4.81	-0.89	2.4
656	SLE QP 2	-55	35	7043	4.99	-0.96	2.44
656	SLD 1	476	223	7386	-3.81	1.99	2.73
656	SLD 2	475	163	7385	-2.51	2.06	3.73
656	SLD 3	468	-156	7481	34.07	2.56	3.21
656	SLD 4	467	-217	7481	35.37	2.63	4.21
656	SLD 5	117	678	7001	-55.34	-0.95	1.63
656	SLD 6	116	639	7001	-54.5	-0.91	2.27
656	SLD 7	90	-588	7319	70.96	0.95	3.23
656	SLD 8	89	-627	7319	71.79	0.99	3.87
656	SLD 9	-199	697	6767	-61.81	-2.91	1.01
656	SLD 10	-200	658	6766	-60.97	-2.87	1.66
656	SLD 11	-226	-568	7085	64.48	-1.01	2.61
656	SLD 12	-227	-607	7085	65.32	-0.97	3.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLD 13	-577	288	6605	-25.39	-4.54	0.67
656	SLD 14	-578	227	6605	-24.09	-4.48	1.67
656	SLD 15	-584	-92	6701	12.5	-3.97	1.15
656	SLD 16	-586	-153	6700	13.8	-3.91	2.15
656	SLV 1	777	356	7571	-11.52	3.6	2.85
656	SLV 2	774	261	7570	-9.47	3.7	4.43
656	SLV 3	764	-291	7733	53.15	4.58	3.66
656	SLV 4	761	-387	7732	55.2	4.68	5.24
656	SLV 5	215	1131	6955	-98.42	-1.08	1.03
656	SLV 6	214	1067	6954	-97.04	-1.02	2.09
656	SLV 7	171	-1027	7497	117.13	2.16	3.75
656	SLV 8	169	-1091	7496	118.51	2.23	4.82
656	SLV 9	-279	1161	6589	-108.52	-4.14	0.07
656	SLV 10	-281	1097	6589	-107.15	-4.08	1.13
656	SLV 11	-323	-996	7132	107.02	-0.9	2.79
656	SLV 12	-325	-1061	7131	108.4	-0.83	3.85
656	SLV 13	-871	457	6353	-45.21	-6.59	-0.36
656	SLV 14	-874	362	6352	-43.16	-6.49	1.22
656	SLV 15	-884	-190	6516	19.45	-5.62	0.46
656	SLV 16	-887	-286	6515	21.5	-5.52	2.04
656	SLV FO 1	860	388	7623	-13.17	4.06	2.89
656	SLV FO 2	857	283	7622	-10.91	4.17	4.63
656	SLV FO 3	846	-324	7802	57.96	5.13	3.79
656	SLV FO 4	843	-429	7801	60.22	5.24	5.52
656	SLV FO 5	242	1241	6946	-108.76	-1.1	0.89
656	SLV FO 6	240	1170	6945	-107.24	-1.02	2.06
656	SLV FO 7	194	-1133	7542	128.34	2.47	3.88
656	SLV FO 8	192	-1204	7542	129.86	2.54	5.05
656	SLV FO 9	-301	1274	6544	-119.88	-4.46	-0.17
656	SLV FO 10	-303	1203	6544	-118.36	-4.39	1
656	SLV FO 11	-350	-1100	7140	117.22	-0.89	2.83
656	SLV FO 12	-352	-1170	7140	118.74	-0.82	4
656	SLV FO 13	-953	499	6284	-50.23	-7.16	-0.64
656	SLV FO 14	-956	394	6283	-47.98	-7.05	1.1
656	SLV FO 15	-967	-213	6463	20.9	-6.09	0.26
656	SLV FO 16	-970	-318	6462	23.15	-5.98	2
656	CRTFP Ux+	0	0	0	0	0	0
656	CRTFP Ux-	0	0	0	0	0	0
656	CRTFP Uy+	0	0	0	0	0	0
656	CRTFP Uy-	0	0	0	0	0	0
657	SLU 1	-52	45	6493	0.26	0.27	2.23
657	SLU 2	-51	75	6484	-1.84	0.21	2.23
657	SLU 3	-53	46	6650	1.1	0.27	2.27
657	SLU 4	-52	64	6646	-0.16	0.24	2.27
657	SLU 5	-52	76	6588	-1.19	0.22	2.25
657	SLU 6	-53	47	6754	1.75	0.28	2.29
657	SLU 7	-53	65	6749	0.49	0.25	2.3
657	SLU 8	-52	46	6699	1.56	0.28	2.27
657	SLU 9	-52	64	6694	0.3	0.24	2.27
657	SLU 10	-52	80	7379	-1.78	0.14	2.37
657	SLU 11	-54	51	7545	1.16	0.2	2.41
657	SLU 12	-53	69	7540	-0.1	0.17	2.42
657	SLU 13	-53	80	7482	-1.13	0.14	2.39
657	SLU 14	-54	51	7648	1.81	0.2	2.44
657	SLU 15	-54	69	7643	0.55	0.17	2.44
657	SLU 16	-53	51	7594	1.62	0.2	2.41
657	SLU 17	-53	69	7589	0.36	0.17	2.42
657	SLU 18	-53	52	7770	0.36	0.16	2.43
657	SLU 19	-53	70	7765	-0.91	0.13	2.43
657	SLU 20	-54	52	7874	1	0.17	2.45
657	SLU 21	-53	70	7869	-0.26	0.13	2.45
657	SLU 22	-56	52	7566	3.33	0.28	2.5
657	SLU 23	-56	82	7558	1.22	0.22	2.5
657	SLU 24	-57	53	7724	4.16	0.28	2.54
657	SLU 25	-57	71	7719	2.9	0.25	2.55
657	SLU 26	-56	82	7661	1.87	0.23	2.52
657	SLU 27	-57	53	7827	4.81	0.29	2.57
657	SLU 28	-57	71	7822	3.55	0.26	2.57
657	SLU 29	-57	53	7772	4.62	0.29	2.54
657	SLU 30	-57	71	7767	3.36	0.26	2.55
657	SLU 31	-57	86	8452	1.29	0.15	2.64
657	SLU 32	-58	57	8618	4.23	0.21	2.69
657	SLU 33	-58	75	8613	2.97	0.18	2.69
657	SLU 34	-57	87	8555	1.94	0.16	2.67
657	SLU 35	-58	58	8721	4.88	0.22	2.71
657	SLU 36	-58	76	8716	3.62	0.18	2.71
657	SLU 37	-58	57	8667	4.69	0.21	2.69
657	SLU 38	-58	75	8662	3.43	0.18	2.69
657	SLU 39	-58	58	8844	3.42	0.17	2.7
657	SLU 40	-57	76	8839	2.16	0.14	2.7
657	SLU 41	-58	59	8947	4.07	0.18	2.72
657	SLU 42	-58	77	8942	2.81	0.15	2.73
657	SLU 43	-66	57	8072	-0.71	0.34	2.8
657	SLU 44	-65	87	8064	-2.82	0.29	2.8
657	SLU 45	-67	58	8230	0.12	0.35	2.85
657	SLU 46	-66	76	8225	-1.14	0.32	2.85
657	SLU 47	-66	87	8168	-2.17	0.29	2.83
657	SLU 48	-67	58	8334	0.77	0.35	2.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	SLU 49	-67	76	8329	-0.49	0.32	2.87
657	SLU 50	-67	58	8279	0.58	0.35	2.85
657	SLU 51	-66	76	8274	-0.68	0.32	2.85
657	SLU 52	-66	91	8959	-2.75	0.22	2.95
657	SLU 53	-68	62	9125	0.19	0.28	2.99
657	SLU 54	-67	80	9120	-1.07	0.24	2.99
657	SLU 55	-67	92	9062	-2.1	0.22	2.97
657	SLU 56	-68	63	9228	0.84	0.28	3.01
657	SLU 57	-68	81	9223	-0.42	0.25	3.01
657	SLU 58	-68	62	9173	0.65	0.28	2.99
657	SLU 59	-67	80	9169	-0.61	0.25	2.99
657	SLU 60	-67	63	9350	-0.62	0.24	3
657	SLU 61	-67	81	9345	-1.88	0.21	3.01
657	SLU 62	-68	64	9454	0.03	0.24	3.03
657	SLU 63	-67	82	9449	-1.23	0.21	3.03
657	SLU 64	-70	63	9146	2.35	0.35	3.07
657	SLU 65	-70	93	9137	0.25	0.3	3.08
657	SLU 66	-71	64	9304	3.19	0.36	3.12
657	SLU 67	-71	82	9299	1.93	0.33	3.12
657	SLU 68	-70	94	9241	0.9	0.3	3.1
657	SLU 69	-71	65	9407	3.84	0.37	3.14
657	SLU 70	-71	83	9402	2.58	0.33	3.14
657	SLU 71	-71	64	9352	3.65	0.36	3.12
657	SLU 72	-71	82	9347	2.39	0.33	3.12
657	SLU 73	-71	98	10032	0.32	0.23	3.22
657	SLU 74	-72	69	10198	3.26	0.29	3.26
657	SLU 75	-72	87	10193	2	0.25	3.26
657	SLU 76	-71	98	10135	0.97	0.23	3.24
657	SLU 77	-72	69	10301	3.91	0.29	3.28
657	SLU 78	-72	87	10296	2.65	0.26	3.29
657	SLU 79	-72	69	10247	3.72	0.29	3.26
657	SLU 80	-72	87	10242	2.46	0.26	3.26
657	SLU 81	-72	70	10423	2.45	0.25	3.28
657	SLU 82	-71	88	10419	1.19	0.22	3.28
657	SLU 83	-72	70	10527	3.1	0.25	3.3
657	SLU 84	-72	88	10522	1.84	0.22	3.3
657	SLE RA 1	-53	47	6799	1.14	0.27	2.3
657	SLE RA 2	-53	67	6794	-0.27	0.23	2.31
657	SLE RA 3	-54	48	6905	1.69	0.27	2.33
657	SLE RA 4	-53	60	6901	0.85	0.25	2.34
657	SLE RA 5	-53	68	6863	0.17	0.24	2.32
657	SLE RA 6	-54	48	6973	2.13	0.28	2.35
657	SLE RA 7	-54	60	6970	1.29	0.26	2.35
657	SLE RA 8	-53	48	6937	2	0.28	2.33
657	SLE RA 9	-53	60	6934	1.16	0.25	2.33
657	SLE RA 10	-53	70	7390	-0.22	0.18	2.4
657	SLE RA 11	-54	51	7501	1.74	0.23	2.43
657	SLE RA 12	-54	63	7498	0.9	0.2	2.43
657	SLE RA 13	-54	71	7459	0.21	0.19	2.42
657	SLE RA 14	-54	51	7570	2.17	0.23	2.44
657	SLE RA 15	-54	63	7566	1.33	0.21	2.45
657	SLE RA 16	-54	51	7533	2.05	0.23	2.43
657	SLE RA 17	-54	63	7530	1.2	0.21	2.43
657	SLE RA 18	-54	52	7651	1.2	0.2	2.44
657	SLE RA 19	-54	64	7648	0.36	0.18	2.44
657	SLE RA 20	-54	52	7720	1.63	0.2	2.45
657	SLE RA 21	-54	64	7717	0.79	0.18	2.46
657	SLE FR 1	-53	47	6799	1.14	0.27	2.3
657	SLE FR 2	-53	51	6798	0.86	0.26	2.3
657	SLE FR 3	-53	47	6827	1.31	0.27	2.31
657	SLE FR 4	-53	53	7054	0.88	0.24	2.34
657	SLE FR 5	-53	49	7082	1.33	0.25	2.35
657	SLE FR 6	-53	49	7225	1.17	0.23	2.37
657	SLE QP 1	-53	47	6799	1.14	0.27	2.3
657	SLE QP 2	-53	49	7055	1.16	0.25	2.34
657	SLD 1	478	237	7304	-5.27	3.22	2.83
657	SLD 2	477	182	7301	-4.17	3.29	3.76
657	SLD 3	470	-140	7379	29.53	3.89	3.08
657	SLD 4	469	-196	7376	30.63	3.97	4.01
657	SLD 5	119	687	7015	-53.75	0.11	1.94
657	SLD 6	118	652	7014	-53.04	0.15	2.54
657	SLD 7	92	-571	7267	62.26	2.35	2.8
657	SLD 8	91	-607	7265	62.97	2.4	3.4
657	SLD 9	-197	704	6844	-60.66	-1.9	1.29
657	SLD 10	-198	668	6842	-59.95	-1.85	1.89
657	SLD 11	-224	-555	7096	55.35	0.34	2.15
657	SLD 12	-225	-590	7094	56.06	0.39	2.75
657	SLD 13	-575	293	6733	-28.32	-3.47	0.67
657	SLD 14	-577	237	6730	-27.22	-3.4	1.61
657	SLD 15	-583	-85	6809	6.48	-2.8	0.93
657	SLD 16	-585	-140	6806	7.58	-2.72	1.86
657	SLV 1	779	371	7438	-11.42	4.83	3.07
657	SLV 2	777	283	7434	-9.68	4.95	4.54
657	SLV 3	766	-273	7566	47.98	5.98	3.51
657	SLV 4	763	-361	7562	49.72	6.1	4.98
657	SLV 5	217	1138	6976	-93.04	-0.14	1.62
657	SLV 6	216	1079	6973	-91.87	-0.06	2.61
657	SLV 7	173	-1008	7404	104.97	3.69	3.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	SLV 8	171	-1067	7401	106.15	3.76	4.07
657	SLV 9	-277	1164	6708	-103.84	-3.27	0.61
657	SLV 10	-279	1105	6706	-102.66	-3.19	1.6
657	SLV 11	-322	-982	7137	94.18	0.56	2.08
657	SLV 12	-324	-1041	7134	95.35	0.63	3.07
657	SLV 13	-870	458	6548	-47.41	-5.6	-0.29
657	SLV 14	-872	370	6543	-45.67	-5.48	1.18
657	SLV 15	-883	-186	6676	11.99	-4.45	0.15
657	SLV 16	-886	-274	6672	13.73	-4.34	1.62
657	SLV FO 1	863	403	7476	-12.68	5.29	3.14
657	SLV FO 2	860	307	7471	-10.76	5.42	4.76
657	SLV FO 3	848	-305	7617	52.66	6.55	3.62
657	SLV FO 4	845	-402	7613	54.58	6.68	5.24
657	SLV FO 5	245	1247	6968	-102.46	-0.18	1.55
657	SLV FO 6	243	1182	6964	-101.17	-0.09	2.64
657	SLV FO 7	195	-1114	7439	115.36	4.03	3.16
657	SLV FO 8	193	-1179	7436	116.65	4.12	4.25
657	SLV FO 9	-300	1276	6674	-114.33	-3.62	0.44
657	SLV FO 10	-302	1211	6671	-113.04	-3.53	1.53
657	SLV FO 11	-349	-1085	7145	103.48	0.59	2.05
657	SLV FO 12	-351	-1150	7142	104.77	0.67	3.14
657	SLV FO 13	-951	499	6497	-52.27	-6.19	-0.55
657	SLV FO 14	-954	402	6492	-50.35	-6.06	1.06
657	SLV FO 15	-966	-210	6638	13.07	-4.92	-0.07
657	SLV FO 16	-969	-306	6634	14.99	-4.79	1.55
657	CRTFP Ux+	0	0	0	0	0	0
657	CRTFP Ux-	0	0	0	0	0	0
657	CRTFP Uy+	0	0	0	0	0	0
657	CRTFP Uy-	0	0	0	0	0	0
658	SLU 1	-50	56	6463	-3.21	1.62	1.71
658	SLU 2	-50	87	6457	-5.08	1.57	1.74
658	SLU 3	-51	58	6620	-2.52	1.67	1.74
658	SLU 4	-51	76	6616	-3.65	1.63	1.76
658	SLU 5	-50	87	6559	-4.54	1.6	1.75
658	SLU 6	-51	58	6723	-1.98	1.7	1.76
658	SLU 7	-51	76	6719	-3.1	1.66	1.77
658	SLU 8	-51	58	6669	-2.12	1.68	1.74
658	SLU 9	-51	76	6665	-3.25	1.65	1.76
658	SLU 10	-51	92	7350	-5.59	1.71	1.83
658	SLU 11	-52	63	7514	-3.03	1.81	1.84
658	SLU 12	-52	81	7510	-4.15	1.77	1.85
658	SLU 13	-51	92	7453	-5.05	1.74	1.85
658	SLU 14	-53	63	7616	-2.49	1.84	1.85
658	SLU 15	-52	81	7612	-3.61	1.81	1.87
658	SLU 16	-52	63	7562	-2.63	1.82	1.83
658	SLU 17	-52	81	7558	-3.76	1.79	1.85
658	SLU 18	-52	64	7740	-3.93	1.82	1.84
658	SLU 19	-52	82	7736	-5.06	1.79	1.86
658	SLU 20	-52	64	7842	-3.39	1.85	1.86
658	SLU 21	-52	83	7838	-4.52	1.82	1.88
658	SLU 22	-55	64	7532	-0.86	1.89	1.92
658	SLU 23	-54	94	7525	-2.74	1.84	1.95
658	SLU 24	-55	65	7689	-0.18	1.94	1.95
658	SLU 25	-55	83	7685	-1.3	1.91	1.97
658	SLU 26	-54	95	7628	-2.2	1.87	1.96
658	SLU 27	-56	66	7792	0.36	1.97	1.97
658	SLU 28	-55	84	7788	-0.76	1.94	1.98
658	SLU 29	-55	65	7737	0.22	1.95	1.95
658	SLU 30	-55	83	7734	-0.9	1.92	1.97
658	SLU 31	-55	100	8419	-3.25	1.98	2.04
658	SLU 32	-56	71	8582	-0.69	2.08	2.05
658	SLU 33	-56	89	8579	-1.81	2.05	2.06
658	SLU 34	-56	100	8522	-2.71	2.01	2.06
658	SLU 35	-57	71	8685	-0.15	2.11	2.06
658	SLU 36	-57	89	8681	-1.27	2.08	2.08
658	SLU 37	-56	71	8631	-0.29	2.09	2.04
658	SLU 38	-56	89	8627	-1.41	2.06	2.06
658	SLU 39	-56	72	8808	-1.59	2.09	2.05
658	SLU 40	-56	90	8804	-2.72	2.06	2.07
658	SLU 41	-57	72	8911	-1.05	2.12	2.07
658	SLU 42	-56	90	8907	-2.17	2.09	2.09
658	SLU 43	-64	71	8036	-4.97	2.01	2.15
658	SLU 44	-63	101	8029	-6.84	1.96	2.18
658	SLU 45	-65	72	8193	-4.29	2.06	2.18
658	SLU 46	-64	90	8189	-5.41	2.03	2.2
658	SLU 47	-64	101	8132	-6.3	1.99	2.19
658	SLU 48	-65	72	8295	-3.74	2.09	2.2
658	SLU 49	-65	91	8292	-4.87	2.06	2.21
658	SLU 50	-65	72	8241	-3.89	2.07	2.18
658	SLU 51	-64	90	8237	-5.01	2.04	2.2
658	SLU 52	-65	106	8923	-7.35	2.1	2.27
658	SLU 53	-66	77	9086	-4.8	2.2	2.28
658	SLU 54	-66	95	9082	-5.92	2.17	2.29
658	SLU 55	-65	107	9025	-6.81	2.13	2.29
658	SLU 56	-66	78	9189	-4.25	2.23	2.29
658	SLU 57	-66	96	9185	-5.38	2.2	2.31
658	SLU 58	-66	77	9135	-4.4	2.21	2.27
658	SLU 59	-65	95	9131	-5.52	2.18	2.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
658	SLU 60	-65	78	9312	-5.7	2.21	2.28
658	SLU 61	-65	96	9308	-6.82	2.18	2.3
658	SLU 62	-66	79	9415	-5.16	2.24	2.3
658	SLU 63	-66	97	9411	-6.28	2.21	2.32
658	SLU 64	-68	78	9104	-2.63	2.28	2.36
658	SLU 65	-68	109	9098	-4.5	2.23	2.39
658	SLU 66	-69	80	9262	-1.94	2.33	2.39
658	SLU 67	-69	98	9258	-3.07	2.3	2.41
658	SLU 68	-68	109	9201	-3.96	2.26	2.4
658	SLU 69	-69	80	9364	-1.4	2.36	2.41
658	SLU 70	-69	98	9360	-2.53	2.33	2.42
658	SLU 71	-69	80	9310	-1.55	2.34	2.39
658	SLU 72	-69	98	9306	-2.67	2.31	2.41
658	SLU 73	-69	114	9991	-5.01	2.37	2.48
658	SLU 74	-70	85	10155	-2.45	2.47	2.49
658	SLU 75	-70	103	10151	-3.58	2.44	2.51
658	SLU 76	-69	114	10094	-4.47	2.4	2.5
658	SLU 77	-70	85	10258	-1.91	2.5	2.5
658	SLU 78	-70	104	10254	-3.04	2.47	2.52
658	SLU 79	-70	85	10203	-2.05	2.49	2.48
658	SLU 80	-70	103	10199	-3.18	2.45	2.5
658	SLU 81	-70	86	10381	-3.36	2.48	2.49
658	SLU 82	-69	104	10377	-4.48	2.45	2.51
658	SLU 83	-70	86	10484	-2.81	2.52	2.51
658	SLU 84	-70	105	10480	-3.94	2.48	2.53
658	SLE RA 1	-51	59	6769	-2.54	1.7	1.77
658	SLE RA 2	-51	79	6764	-3.79	1.66	1.79
658	SLE RA 3	-52	59	6873	-2.08	1.73	1.79
658	SLE RA 4	-52	71	6871	-2.83	1.71	1.8
658	SLE RA 5	-51	79	6833	-3.43	1.68	1.8
658	SLE RA 6	-52	60	6942	-1.72	1.75	1.8
658	SLE RA 7	-52	72	6939	-2.47	1.73	1.81
658	SLE RA 8	-52	59	6906	-1.81	1.74	1.79
658	SLE RA 9	-52	71	6903	-2.56	1.72	1.8
658	SLE RA 10	-52	82	7360	-4.13	1.76	1.85
658	SLE RA 11	-53	63	7469	-2.42	1.82	1.85
658	SLE RA 12	-53	75	7466	-3.17	1.8	1.87
658	SLE RA 13	-52	83	7428	-3.76	1.78	1.86
658	SLE RA 14	-53	63	7537	-2.06	1.84	1.86
658	SLE RA 15	-53	75	7535	-2.81	1.82	1.88
658	SLE RA 16	-53	63	7501	-2.15	1.83	1.85
658	SLE RA 17	-53	75	7499	-2.9	1.81	1.86
658	SLE RA 18	-53	64	7619	-3.02	1.83	1.86
658	SLE RA 19	-52	76	7617	-3.77	1.81	1.87
658	SLE RA 20	-53	64	7688	-2.66	1.85	1.87
658	SLE RA 21	-53	76	7685	-3.41	1.83	1.88
658	SLE FR 1	-51	59	6769	-2.54	1.7	1.77
658	SLE FR 2	-51	63	6768	-2.79	1.69	1.77
658	SLE FR 3	-52	59	6796	-2.39	1.71	1.77
658	SLE FR 4	-52	64	7023	-2.93	1.73	1.8
658	SLE FR 5	-52	60	7051	-2.54	1.75	1.8
658	SLE FR 6	-52	61	7194	-2.78	1.76	1.81
658	SLE QP 1	-51	59	6769	-2.54	1.7	1.77
658	SLE QP 2	-52	60	7024	-2.68	1.74	1.8
658	SLD 1	480	298	7180	-6.74	4.64	2.44
658	SLD 2	478	247	7175	-5.83	4.71	3.33
658	SLD 3	472	-79	7235	25.02	5.27	2.33
658	SLD 4	470	-130	7229	25.93	5.34	3.22
658	SLD 5	120	712	6989	-52.24	1.64	1.99
658	SLD 6	119	679	6985	-51.65	1.69	2.56
658	SLD 7	93	-545	7171	53.65	3.73	1.65
658	SLD 8	92	-577	7168	54.24	3.78	2.22
658	SLD 9	-196	698	6880	-59.6	-0.31	1.37
658	SLD 10	-197	665	6877	-59.02	-0.26	1.94
658	SLD 11	-223	-559	7062	46.28	1.78	1.03
658	SLD 12	-224	-592	7059	46.87	1.83	1.6
658	SLD 13	-574	250	6818	-31.3	-1.87	0.37
658	SLD 14	-575	199	6813	-30.39	-1.79	1.26
658	SLD 15	-582	-127	6873	0.47	-1.24	0.27
658	SLD 16	-584	-178	6868	1.38	-1.17	1.15
658	SLV 1	781	459	7264	-11.34	6.22	2.8
658	SLV 2	778	379	7256	-9.91	6.33	4.2
658	SLV 3	767	-184	7357	42.88	7.29	2.62
658	SLV 4	765	-264	7349	44.32	7.4	4.02
658	SLV 5	219	1170	6956	-87.79	1.44	2.1
658	SLV 6	217	1116	6951	-86.82	1.52	3.04
658	SLV 7	174	-973	7266	92.96	5	1.52
658	SLV 8	172	-1027	7261	93.93	5.08	2.46
658	SLV 9	-276	1147	6787	-99.29	-1.6	1.13
658	SLV 10	-278	1093	6781	-98.33	-1.53	2.07
658	SLV 11	-321	-996	7097	81.46	1.96	0.55
658	SLV 12	-323	-1050	7091	82.43	2.03	1.49
658	SLV 13	-868	384	6699	-49.69	-3.93	-0.43
658	SLV 14	-871	304	6691	-48.25	-3.81	0.97
658	SLV 15	-882	-259	6792	4.54	-2.86	-0.6
658	SLV 16	-885	-339	6784	5.98	-2.74	0.79
658	SLV FO 1	864	499	7288	-12.21	6.67	2.9
658	SLV FO 2	861	411	7279	-10.63	6.79	4.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
658	SLV FO 3	849	-208	7390	47.44	7.84	2.71
658	SLV FO 4	846	-296	7381	49.02	7.97	4.25
658	SLV FO 5	246	1281	6949	-96.3	1.41	2.13
658	SLV FO 6	244	1221	6944	-95.24	1.5	3.16
658	SLV FO 7	197	-1076	7291	102.53	5.33	1.49
658	SLV FO 8	195	-1136	7285	103.59	5.41	2.53
658	SLV FO 9	-298	1256	6763	-108.96	-1.94	1.06
658	SLV FO 10	-300	1197	6757	-107.89	-1.85	2.1
658	SLV FO 11	-348	-1101	7104	89.87	1.98	0.43
658	SLV FO 12	-350	-1161	7098	90.94	2.06	1.46
658	SLV FO 13	-950	417	6666	-54.39	-4.5	-0.66
658	SLV FO 14	-953	328	6658	-52.8	-4.37	0.88
658	SLV FO 15	-965	-291	6769	5.26	-3.32	-0.84
658	SLV FO 16	-968	-379	6760	6.84	-3.19	0.69
658	CRTFP Ux+	0	0	0	0	0	0
658	CRTFP Ux-	0	0	0	0	0	0
658	CRTFP Uy+	0	0	0	0	0	0
658	CRTFP Uy-	0	0	0	0	0	0
659	SLU 1	-49	64	6389	-6.68	3.08	0.76
659	SLU 2	-48	94	6384	-8.33	3.05	0.81
659	SLU 3	-50	65	6544	-6.15	3.17	0.77
659	SLU 4	-49	83	6541	-7.14	3.15	0.8
659	SLU 5	-49	95	6485	-7.89	3.1	0.81
659	SLU 6	-50	66	6645	-5.71	3.23	0.77
659	SLU 7	-50	84	6642	-6.7	3.2	0.8
659	SLU 8	-49	65	6591	-5.81	3.2	0.76
659	SLU 9	-49	83	6588	-6.8	3.18	0.79
659	SLU 10	-50	100	7269	-9.41	3.42	0.82
659	SLU 11	-51	71	7429	-7.23	3.54	0.78
659	SLU 12	-51	89	7426	-8.22	3.52	0.82
659	SLU 13	-50	100	7370	-8.98	3.48	0.83
659	SLU 14	-51	71	7530	-6.8	3.6	0.79
659	SLU 15	-51	89	7527	-7.79	3.58	0.82
659	SLU 16	-51	70	7477	-6.89	3.57	0.78
659	SLU 17	-50	89	7474	-7.88	3.55	0.81
659	SLU 18	-51	72	7653	-8.23	3.61	0.78
659	SLU 19	-50	90	7650	-9.22	3.59	0.81
659	SLU 20	-51	72	7755	-7.8	3.67	0.78
659	SLU 21	-51	90	7752	-8.78	3.65	0.81
659	SLU 22	-53	72	7444	-5.06	3.64	0.85
659	SLU 23	-53	103	7439	-6.71	3.6	0.91
659	SLU 24	-54	74	7599	-4.53	3.72	0.87
659	SLU 25	-53	92	7596	-5.52	3.7	0.9
659	SLU 26	-53	103	7541	-6.27	3.66	0.91
659	SLU 27	-54	74	7701	-4.09	3.78	0.87
659	SLU 28	-54	92	7698	-5.08	3.76	0.9
659	SLU 29	-54	74	7647	-4.19	3.75	0.86
659	SLU 30	-53	92	7644	-5.18	3.73	0.89
659	SLU 31	-54	108	8325	-7.79	3.97	0.92
659	SLU 32	-55	79	8485	-5.61	4.1	0.88
659	SLU 33	-55	97	8482	-6.6	4.08	0.91
659	SLU 34	-54	109	8426	-7.36	4.03	0.92
659	SLU 35	-55	80	8586	-5.18	4.15	0.88
659	SLU 36	-55	98	8583	-6.17	4.13	0.92
659	SLU 37	-55	79	8532	-5.27	4.12	0.87
659	SLU 38	-55	97	8529	-6.26	4.1	0.9
659	SLU 39	-55	80	8709	-6.61	4.17	0.87
659	SLU 40	-54	98	8706	-7.6	4.15	0.91
659	SLU 41	-55	81	8810	-6.18	4.23	0.88
659	SLU 42	-55	99	8807	-7.16	4.21	0.91
659	SLU 43	-62	80	7943	-9.24	3.82	0.95
659	SLU 44	-61	110	7938	-10.89	3.78	1
659	SLU 45	-63	81	8098	-8.71	3.9	0.96
659	SLU 46	-62	99	8095	-9.7	3.88	0.99
659	SLU 47	-62	111	8040	-10.45	3.84	1
659	SLU 48	-63	82	8200	-8.27	3.96	0.96
659	SLU 49	-63	100	8196	-9.26	3.94	1
659	SLU 50	-63	81	8146	-8.37	3.93	0.95
659	SLU 51	-62	99	8143	-9.36	3.91	0.99
659	SLU 52	-63	116	8823	-11.97	4.15	1.02
659	SLU 53	-64	87	8984	-9.79	4.27	0.98
659	SLU 54	-64	105	8980	-10.78	4.25	1.01
659	SLU 55	-63	116	8925	-11.54	4.21	1.02
659	SLU 56	-64	87	9085	-9.36	4.33	0.98
659	SLU 57	-64	105	9082	-10.34	4.31	1.01
659	SLU 58	-64	87	9031	-9.45	4.3	0.97
659	SLU 59	-64	105	9028	-10.44	4.28	1
659	SLU 60	-64	88	9208	-10.79	4.35	0.97
659	SLU 61	-63	106	9205	-11.78	4.33	1
659	SLU 62	-64	88	9309	-10.36	4.4	0.97
659	SLU 63	-64	107	9306	-11.34	4.38	1
659	SLU 64	-66	88	8999	-7.62	4.37	1.05
659	SLU 65	-66	119	8994	-9.27	4.34	1.1
659	SLU 66	-67	90	9154	-7.09	4.46	1.06
659	SLU 67	-67	108	9151	-8.08	4.44	1.09
659	SLU 68	-66	119	9095	-8.83	4.39	1.1
659	SLU 69	-67	90	9255	-6.65	4.52	1.06
659	SLU 70	-67	109	9252	-7.64	4.49	1.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
659	SLU 71	-67	90	9202	-6.75	4.49	1.05
659	SLU 72	-67	108	9199	-7.74	4.47	1.08
659	SLU 73	-67	124	9879	-10.35	4.71	1.11
659	SLU 74	-68	95	10039	-8.17	4.83	1.07
659	SLU 75	-68	114	10036	-9.16	4.81	1.11
659	SLU 76	-67	125	9981	-9.92	4.77	1.12
659	SLU 77	-69	96	10141	-7.74	4.89	1.08
659	SLU 78	-68	114	10138	-8.73	4.87	1.11
659	SLU 79	-68	95	10087	-7.83	4.86	1.07
659	SLU 80	-68	113	10084	-8.82	4.84	1.1
659	SLU 81	-68	96	10264	-9.17	4.9	1.07
659	SLU 82	-68	115	10261	-10.16	4.88	1.1
659	SLU 83	-68	97	10365	-8.74	4.96	1.07
659	SLU 84	-68	115	10362	-9.72	4.94	1.1
659	SLE RA 1	-50	66	6690	-6.22	3.24	0.78
659	SLE RA 2	-50	86	6687	-7.32	3.22	0.82
659	SLE RA 3	-50	67	6794	-5.86	3.3	0.79
659	SLE RA 4	-50	79	6792	-6.52	3.28	0.81
659	SLE RA 5	-50	87	6754	-7.03	3.26	0.82
659	SLE RA 6	-51	67	6861	-5.57	3.34	0.79
659	SLE RA 7	-51	80	6859	-6.23	3.32	0.81
659	SLE RA 8	-50	67	6825	-5.64	3.32	0.79
659	SLE RA 9	-50	79	6823	-6.3	3.3	0.81
659	SLE RA 10	-50	90	7277	-8.04	3.47	0.83
659	SLE RA 11	-51	71	7384	-6.59	3.55	0.8
659	SLE RA 12	-51	83	7382	-7.25	3.53	0.82
659	SLE RA 13	-51	90	7345	-7.75	3.5	0.83
659	SLE RA 14	-52	71	7451	-6.3	3.58	0.8
659	SLE RA 15	-51	83	7449	-6.95	3.57	0.82
659	SLE RA 16	-51	71	7416	-6.36	3.56	0.8
659	SLE RA 17	-51	83	7414	-7.02	3.55	0.82
659	SLE RA 18	-51	71	7533	-7.25	3.59	0.8
659	SLE RA 19	-51	84	7531	-7.91	3.58	0.82
659	SLE RA 20	-51	72	7601	-6.96	3.63	0.8
659	SLE RA 21	-51	84	7599	-7.62	3.62	0.82
659	SLE FR 1	-50	66	6690	-6.22	3.24	0.78
659	SLE FR 2	-50	70	6690	-6.44	3.24	0.79
659	SLE FR 3	-50	66	6717	-6.1	3.26	0.78
659	SLE FR 4	-50	72	6943	-6.75	3.34	0.79
659	SLE FR 5	-50	68	6970	-6.41	3.36	0.79
659	SLE FR 6	-51	69	7112	-6.74	3.42	0.79
659	SLE QP 1	-50	66	6690	-6.22	3.24	0.78
659	SLE QP 2	-50	68	6943	-6.53	3.35	0.79
659	SLD 1	481	301	7011	-8.22	6.08	1.45
659	SLD 2	480	254	7004	-7.5	6.14	2.33
659	SLD 3	473	-77	7049	20.55	6.48	1.06
659	SLD 4	471	-124	7042	21.27	6.54	1.94
659	SLD 5	122	719	6907	-50.8	3.54	1.43
659	SLD 6	121	689	6903	-50.34	3.58	2
659	SLD 7	95	-541	7034	45.11	4.89	0.13
659	SLD 8	94	-571	7029	45.58	4.93	0.69
659	SLD 9	-194	707	6857	-58.63	1.77	0.88
659	SLD 10	-195	677	6852	-58.17	1.81	1.45
659	SLD 11	-221	-554	6984	37.28	3.11	-0.42
659	SLD 12	-222	-584	6979	37.75	3.15	0.14
659	SLD 13	-572	259	6844	-34.33	0.15	-0.37
659	SLD 14	-574	213	6837	-33.61	0.22	0.51
659	SLD 15	-580	-119	6882	-5.55	0.56	-0.76
659	SLD 16	-582	-165	6875	-4.83	0.62	0.12
659	SLV 1	782	460	7048	-11.28	7.57	1.85
659	SLV 2	779	386	7036	-10.15	7.67	3.23
659	SLV 3	769	-185	7113	37.84	8.26	1.18
659	SLV 4	766	-258	7101	38.98	8.36	2.57
659	SLV 5	220	1177	6879	-82.67	3.56	1.86
659	SLV 6	219	1128	6871	-81.91	3.62	2.79
659	SLV 7	175	-973	7094	81.08	5.84	-0.36
659	SLV 8	174	-1022	7087	81.84	5.91	0.57
659	SLV 9	-274	1157	6800	-94.9	0.79	1.01
659	SLV 10	-276	1108	6792	-94.14	0.85	1.94
659	SLV 11	-319	-992	7015	68.85	3.07	-1.21
659	SLV 12	-321	-1041	7008	69.62	3.14	-0.28
659	SLV 13	-867	394	6785	-52.03	-1.66	-0.99
659	SLV 14	-869	321	6774	-50.9	-1.57	0.39
659	SLV 15	-880	-251	6850	-2.91	-0.98	-1.66
659	SLV 16	-883	-324	6839	-1.78	-0.88	-0.27
659	SLV FO 1	865	499	7058	-11.76	8	1.96
659	SLV FO 2	862	418	7046	-10.51	8.1	3.48
659	SLV FO 3	850	-211	7129	42.28	8.75	1.22
659	SLV FO 4	848	-291	7117	43.53	8.86	2.74
659	SLV FO 5	247	1288	6872	-90.29	3.58	1.97
659	SLV FO 6	246	1234	6864	-89.45	3.65	2.99
659	SLV FO 7	198	-1077	7109	89.84	6.09	-0.48
659	SLV FO 8	196	-1131	7101	90.68	6.16	0.55
659	SLV FO 9	-297	1266	6786	-103.74	0.53	1.03
659	SLV FO 10	-299	1212	6777	-102.9	0.6	2.05
659	SLV FO 11	-346	-1098	7023	76.39	3.04	-1.41
659	SLV FO 12	-348	-1152	7014	77.23	3.12	-0.39
659	SLV FO 13	-948	426	6770	-56.59	-2.16	-1.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
659	SLV FO 14	-951	346	6757	-55.34	-2.06	0.35
659	SLV FO 15	-963	-283	6841	-2.55	-1.41	-1.9
659	SLV FO 16	-966	-363	6828	-1.3	-1.3	-0.38
659	CRTFP Ux+	0	0	0	0	0	0
659	CRTFP Ux-	0	0	0	0	0	0
659	CRTFP Uy+	0	0	0	0	0	0
659	CRTFP Uy-	0	0	0	0	0	0
660	SLU 1	-48	66	6440	40.08	-29.88	-0.01
660	SLU 2	-48	98	6435	38.6	-29.84	0.23
660	SLU 3	-49	68	6595	41.7	-30.59	-0.02
660	SLU 4	-49	87	6592	40.81	-30.57	0.13
660	SLU 5	-48	99	6537	39.75	-30.31	0.22
660	SLU 6	-49	68	6697	42.84	-31.06	-0.03
660	SLU 7	-49	87	6694	41.96	-31.03	0.12
660	SLU 8	-49	68	6643	42.36	-30.81	-0.03
660	SLU 9	-49	87	6640	41.48	-30.79	0.11
660	SLU 10	-49	104	7329	43.99	-34.02	0.16
660	SLU 11	-50	73	7489	47.09	-34.77	-0.08
660	SLU 12	-50	92	7486	46.2	-34.75	0.06
660	SLU 13	-49	104	7430	45.14	-34.49	0.15
660	SLU 14	-51	74	7591	48.23	-35.24	-0.09
660	SLU 15	-50	93	7588	47.35	-35.21	0.05
660	SLU 16	-50	73	7537	47.75	-34.99	-0.1
660	SLU 17	-50	92	7534	46.87	-34.97	0.05
660	SLU 18	-50	74	7716	47.78	-35.85	-0.11
660	SLU 19	-50	93	7714	46.89	-35.83	0.04
660	SLU 20	-50	75	7818	48.92	-36.32	-0.12
660	SLU 21	-50	94	7815	48.04	-36.3	0.03
660	SLU 22	-52	76	7501	49.44	-34.72	-0.01
660	SLU 23	-52	107	7497	47.96	-34.69	0.23
660	SLU 24	-53	77	7657	51.06	-35.43	-0.01
660	SLU 25	-53	96	7654	50.17	-35.41	0.13
660	SLU 26	-52	108	7599	49.11	-35.15	0.22
660	SLU 27	-54	78	7759	52.2	-35.9	-0.02
660	SLU 28	-53	97	7756	51.32	-35.88	0.12
660	SLU 29	-53	77	7705	51.72	-35.65	-0.03
660	SLU 30	-53	96	7702	50.84	-35.63	0.11
660	SLU 31	-53	113	8390	53.35	-38.87	0.17
660	SLU 32	-55	83	8551	56.45	-39.62	-0.08
660	SLU 33	-54	101	8548	55.56	-39.59	0.07
660	SLU 34	-54	113	8492	54.5	-39.33	0.16
660	SLU 35	-55	83	8653	57.59	-40.08	-0.09
660	SLU 36	-55	102	8650	56.7	-40.06	0.06
660	SLU 37	-54	82	8599	57.11	-39.84	-0.1
660	SLU 38	-54	101	8596	56.23	-39.81	0.05
660	SLU 39	-54	84	8778	57.14	-40.7	-0.1
660	SLU 40	-54	102	8775	56.25	-40.67	0.04
660	SLU 41	-55	84	8880	58.28	-41.16	-0.11
660	SLU 42	-54	103	8877	57.39	-41.14	0.03
660	SLU 43	-61	83	8007	48.89	-37.18	-0.02
660	SLU 44	-61	115	8003	47.42	-37.15	0.22
660	SLU 45	-62	85	8163	50.51	-37.89	-0.02
660	SLU 46	-62	104	8160	49.63	-37.87	0.12
660	SLU 47	-61	115	8104	48.56	-37.61	0.21
660	SLU 48	-62	85	8265	51.65	-38.36	-0.03
660	SLU 49	-62	104	8262	50.77	-38.34	0.11
660	SLU 50	-62	85	8211	51.18	-38.11	-0.04
660	SLU 51	-62	103	8208	50.29	-38.09	0.11
660	SLU 52	-62	120	8896	52.81	-41.33	0.16
660	SLU 53	-63	90	9057	55.9	-42.08	-0.09
660	SLU 54	-63	109	9054	55.02	-42.05	0.06
660	SLU 55	-62	121	8998	53.95	-41.79	0.15
660	SLU 56	-64	91	9159	57.04	-42.54	-0.1
660	SLU 57	-63	110	9156	56.16	-42.52	0.05
660	SLU 58	-63	90	9105	56.57	-42.3	-0.1
660	SLU 59	-63	109	9102	55.68	-42.27	0.04
660	SLU 60	-63	91	9284	56.59	-43.16	-0.11
660	SLU 61	-63	110	9281	55.71	-43.13	0.03
660	SLU 62	-63	92	9386	57.73	-43.62	-0.12
660	SLU 63	-63	111	9383	56.85	-43.6	0.02
660	SLU 64	-65	92	9069	58.25	-42.03	-0.01
660	SLU 65	-65	124	9064	56.78	-41.99	0.23
660	SLU 66	-66	94	9225	59.87	-42.74	-0.02
660	SLU 67	-66	113	9222	58.99	-42.71	0.13
660	SLU 68	-65	125	9166	57.92	-42.45	0.22
660	SLU 69	-67	94	9327	61.01	-43.2	-0.03
660	SLU 70	-66	113	9324	60.13	-43.18	0.12
660	SLU 71	-66	94	9273	60.53	-42.96	-0.04
660	SLU 72	-66	113	9270	59.65	-42.93	0.11
660	SLU 73	-66	130	9958	62.17	-46.17	0.16
660	SLU 74	-68	99	10119	65.26	-46.92	-0.08
660	SLU 75	-67	118	10116	64.38	-46.9	0.06
660	SLU 76	-67	130	10060	63.31	-46.64	0.15
660	SLU 77	-68	100	10221	66.4	-47.38	-0.1
660	SLU 78	-68	119	10218	65.52	-47.36	0.05
660	SLU 79	-67	99	10167	65.92	-47.14	-0.1
660	SLU 80	-67	118	10164	65.04	-47.12	0.04
660	SLU 81	-67	100	10346	65.95	-48	-0.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
660	SLU 82	-67	119	10343	65.07	-47.98	0.04
660	SLU 83	-68	101	10448	67.09	-48.47	-0.12
660	SLU 84	-67	120	10445	66.21	-48.44	0.03
660	SLE RA 1	-49	69	6743	42.75	-31.26	-0.01
660	SLE RA 2	-49	90	6740	41.77	-31.24	0.15
660	SLE RA 3	-50	70	6847	43.83	-31.74	-0.01
660	SLE RA 4	-50	83	6845	43.24	-31.72	0.08
660	SLE RA 5	-49	91	6808	42.53	-31.55	0.14
660	SLE RA 6	-50	70	6915	44.59	-32.05	-0.02
660	SLE RA 7	-50	83	6913	44	-32.03	0.07
660	SLE RA 8	-50	70	6879	44.27	-31.88	-0.03
660	SLE RA 9	-50	83	6877	43.68	-31.87	0.07
660	SLE RA 10	-50	94	7336	45.36	-34.03	0.11
660	SLE RA 11	-51	74	7443	47.42	-34.53	-0.06
660	SLE RA 12	-51	86	7441	46.84	-34.51	0.04
660	SLE RA 13	-50	94	7404	46.12	-34.34	0.1
660	SLE RA 14	-51	74	7511	48.19	-34.84	-0.07
660	SLE RA 15	-51	87	7509	47.6	-34.82	0.03
660	SLE RA 16	-51	74	7475	47.87	-34.67	-0.07
660	SLE RA 17	-51	86	7473	47.28	-34.66	0.03
660	SLE RA 18	-51	74	7594	47.88	-35.25	-0.07
660	SLE RA 19	-51	87	7592	47.29	-35.23	0.02
660	SLE RA 20	-51	75	7662	48.65	-35.56	-0.08
660	SLE RA 21	-51	87	7660	48.06	-35.54	0.02
660	SLE FR 1	-49	69	6743	42.75	-31.26	-0.01
660	SLE FR 2	-49	73	6742	42.55	-31.26	0.02
660	SLE FR 3	-49	69	6770	43.06	-31.39	-0.01
660	SLE FR 4	-50	75	6998	44.09	-32.45	0
660	SLE FR 5	-50	71	7025	44.6	-32.58	-0.03
660	SLE FR 6	-50	72	7169	45.32	-33.26	-0.04
660	SLE QP 1	-49	69	6743	42.75	-31.26	-0.01
660	SLE QP 2	-50	71	6998	44.29	-32.46	-0.03
660	SLD 1	496	307	7008	43.91	-29.71	-1.95
660	SLD 2	494	264	6999	44.36	-29.62	-1.23
660	SLD 3	487	-84	7042	70.32	-30.2	-4.73
660	SLD 4	486	-127	7033	70.77	-30.11	-4.01
660	SLD 5	127	743	6951	4.03	-30.91	3.5
660	SLD 6	125	715	6945	4.32	-30.85	3.96
660	SLD 7	99	-562	7065	92.09	-32.54	-5.79
660	SLD 8	98	-590	7059	92.38	-32.48	-5.33
660	SLD 9	-198	731	6937	-3.8	-32.44	5.27
660	SLD 10	-199	703	6931	-3.51	-32.38	5.73
660	SLD 11	-225	-574	7052	84.26	-34.07	-4.02
660	SLD 12	-226	-601	7046	84.55	-34.01	-3.56
660	SLD 13	-585	269	6964	17.81	-34.81	3.95
660	SLD 14	-587	226	6954	18.26	-34.72	4.67
660	SLD 15	-593	-123	6998	44.22	-35.3	1.17
660	SLD 16	-595	-166	6989	44.68	-35.21	1.89
660	SLV 1	804	469	7016	41.75	-28.13	-2.84
660	SLV 2	802	401	7001	42.46	-27.99	-1.71
660	SLV 3	791	-199	7074	86.86	-28.97	-7.59
660	SLV 4	788	-266	7060	87.57	-28.83	-6.46
660	SLV 5	228	1215	6918	-25.02	-29.92	6.12
660	SLV 6	226	1170	6908	-24.54	-29.82	6.88
660	SLV 7	182	-1010	7112	125.34	-32.71	-9.71
660	SLV 8	180	-1055	7103	125.82	-32.61	-8.95
660	SLV 9	-280	1197	6894	-37.24	-32.3	8.89
660	SLV 10	-282	1151	6884	-36.76	-32.21	9.65
660	SLV 11	-326	-1028	7089	113.12	-35.09	-6.94
660	SLV 12	-327	-1074	7079	113.6	-35	-6.18
660	SLV 13	-887	408	6937	1.01	-36.09	6.4
660	SLV 14	-890	340	6922	1.72	-35.95	7.53
660	SLV 15	-901	-260	6995	46.12	-36.92	1.65
660	SLV 16	-904	-327	6981	46.83	-36.79	2.78
660	SLV FO 1	890	509	7017	41.5	-27.7	-3.12
660	SLV FO 2	887	434	7002	42.28	-27.55	-1.87
660	SLV FO 3	875	-226	7082	91.11	-28.62	-8.35
660	SLV FO 4	872	-300	7066	91.9	-28.47	-7.1
660	SLV FO 5	256	1330	6909	-31.95	-29.66	6.73
660	SLV FO 6	254	1280	6899	-31.42	-29.56	7.57
660	SLV FO 7	205	-1118	7124	133.44	-32.73	-10.68
660	SLV FO 8	203	-1168	7113	133.97	-32.63	-9.84
660	SLV FO 9	-303	1309	6883	-45.39	-32.29	9.78
660	SLV FO 10	-305	1259	6873	-44.86	-32.19	10.62
660	SLV FO 11	-353	-1138	7098	120	-35.36	-7.63
660	SLV FO 12	-355	-1188	7087	120.53	-35.25	-6.79
660	SLV FO 13	-971	441	6931	-3.31	-36.45	7.04
660	SLV FO 14	-974	367	6915	-2.53	-36.3	8.29
660	SLV FO 15	-986	-293	6995	46.3	-37.37	1.81
660	SLV FO 16	-989	-367	6979	47.09	-37.22	3.06
660	CRTFP Ux+	0	0	0	0	0	0
660	CRTFP Ux-	0	0	0	0	0	0
660	CRTFP Uy+	0	0	0	0	0	0
660	CRTFP Uy-	0	0	0	0	0	0
661	SLU 1	-27	28	3079	-720.02	2.01	-6.88
661	SLU 2	-26	44	3077	-719.9	2.05	-6.79
661	SLU 3	-27	29	3153	-736.98	2.06	-7
661	SLU 4	-27	38	3151	-736.91	2.09	-6.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	SLU 5	-27	44	3125	-730.96	2.08	-6.84
661	SLU 6	-27	29	3201	-748.04	2.09	-7.06
661	SLU 7	-27	39	3200	-747.97	2.12	-7
661	SLU 8	-27	29	3175	-742.15	2.08	-7
661	SLU 9	-27	38	3174	-742.07	2.1	-6.94
661	SLU 10	-28	46	3505	-819.55	2.31	-7.09
661	SLU 11	-28	31	3581	-836.63	2.32	-7.3
661	SLU 12	-28	41	3579	-836.56	2.34	-7.24
661	SLU 13	-28	47	3553	-830.61	2.34	-7.15
661	SLU 14	-29	32	3629	-847.7	2.35	-7.36
661	SLU 15	-28	41	3628	-847.62	2.38	-7.3
661	SLU 16	-28	31	3603	-841.8	2.33	-7.3
661	SLU 17	-28	41	3602	-841.72	2.36	-7.24
661	SLU 18	-28	32	3690	-862.38	2.38	-7.31
661	SLU 19	-28	41	3689	-862.31	2.4	-7.26
661	SLU 20	-29	32	3739	-873.44	2.41	-7.37
661	SLU 21	-28	41	3737	-873.37	2.44	-7.31
661	SLU 22	-29	32	3583	-836.19	2.39	-7.52
661	SLU 23	-29	48	3581	-836.06	2.43	-7.42
661	SLU 24	-30	33	3657	-853.15	2.44	-7.64
661	SLU 25	-30	42	3656	-853.07	2.47	-7.58
661	SLU 26	-29	48	3629	-847.12	2.46	-7.48
661	SLU 27	-30	33	3705	-864.21	2.47	-7.7
661	SLU 28	-30	43	3704	-864.13	2.5	-7.64
661	SLU 29	-30	33	3679	-858.31	2.46	-7.64
661	SLU 30	-30	42	3678	-858.24	2.48	-7.58
661	SLU 31	-30	50	4009	-935.71	2.69	-7.73
661	SLU 32	-31	35	4085	-952.8	2.7	-7.94
661	SLU 33	-31	45	4084	-952.72	2.72	-7.88
661	SLU 34	-30	50	4057	-946.78	2.72	-7.79
661	SLU 35	-31	36	4133	-963.86	2.73	-8
661	SLU 36	-31	45	4132	-963.79	2.76	-7.94
661	SLU 37	-31	35	4107	-957.96	2.71	-7.94
661	SLU 38	-31	44	4106	-957.89	2.74	-7.88
661	SLU 39	-31	36	4194	-978.54	2.76	-7.95
661	SLU 40	-31	45	4193	-978.47	2.78	-7.89
661	SLU 41	-31	36	4243	-989.61	2.79	-8.01
661	SLU 42	-31	45	4242	-989.53	2.82	-7.95
661	SLU 43	-34	36	3829	-896.2	2.48	-8.73
661	SLU 44	-34	51	3827	-896.08	2.52	-8.63
661	SLU 45	-34	36	3903	-913.16	2.53	-8.84
661	SLU 46	-34	46	3902	-913.09	2.56	-8.79
661	SLU 47	-34	51	3876	-907.14	2.56	-8.69
661	SLU 48	-35	36	3951	-924.22	2.57	-8.9
661	SLU 49	-34	46	3950	-924.15	2.59	-8.85
661	SLU 50	-34	36	3926	-918.32	2.55	-8.85
661	SLU 51	-34	45	3925	-918.25	2.57	-8.79
661	SLU 52	-35	53	4256	-995.73	2.78	-8.93
661	SLU 53	-36	38	4331	-1012.81	2.79	-9.15
661	SLU 54	-35	48	4330	-1012.74	2.82	-9.09
661	SLU 55	-35	54	4304	-1006.79	2.82	-8.99
661	SLU 56	-36	39	4380	-1023.88	2.83	-9.21
661	SLU 57	-36	48	4378	-1023.8	2.85	-9.15
661	SLU 58	-36	38	4354	-1017.98	2.81	-9.15
661	SLU 59	-35	48	4353	-1017.9	2.83	-9.09
661	SLU 60	-36	39	4441	-1038.56	2.85	-9.16
661	SLU 61	-35	48	4440	-1038.49	2.88	-9.1
661	SLU 62	-36	39	4489	-1049.62	2.89	-9.22
661	SLU 63	-36	48	4488	-1049.55	2.91	-9.16
661	SLU 64	-36	40	4334	-1012.36	2.86	-9.37
661	SLU 65	-36	55	4332	-1012.24	2.91	-9.27
661	SLU 66	-37	40	4407	-1029.33	2.92	-9.48
661	SLU 67	-37	50	4406	-1029.25	2.94	-9.43
661	SLU 68	-36	55	4380	-1023.3	2.94	-9.33
661	SLU 69	-37	40	4456	-1040.39	2.95	-9.54
661	SLU 70	-37	50	4454	-1040.31	2.97	-9.48
661	SLU 71	-37	40	4430	-1034.49	2.93	-9.49
661	SLU 72	-37	49	4429	-1034.41	2.95	-9.43
661	SLU 73	-37	57	4760	-1111.89	3.16	-9.57
661	SLU 74	-38	42	4836	-1128.98	3.17	-9.79
661	SLU 75	-38	52	4834	-1128.9	3.2	-9.73
661	SLU 76	-37	58	4808	-1122.96	3.2	-9.63
661	SLU 77	-38	43	4884	-1140.04	3.21	-9.84
661	SLU 78	-38	52	4883	-1139.96	3.23	-9.79
661	SLU 79	-38	42	4858	-1134.14	3.19	-9.79
661	SLU 80	-38	52	4857	-1134.07	3.21	-9.73
661	SLU 81	-38	43	4945	-1154.72	3.23	-9.8
661	SLU 82	-38	52	4944	-1154.65	3.26	-9.74
661	SLU 83	-38	43	4993	-1165.79	3.27	-9.86
661	SLU 84	-38	52	4992	-1165.71	3.29	-9.8
661	SLE RA 1	-28	30	3223	-753.21	2.12	-7.07
661	SLE RA 2	-27	40	3221	-753.13	2.15	-7
661	SLE RA 3	-28	30	3272	-764.52	2.15	-7.14
661	SLE RA 4	-28	36	3271	-764.47	2.17	-7.1
661	SLE RA 5	-27	40	3254	-760.5	2.17	-7.04
661	SLE RA 6	-28	30	3304	-771.89	2.18	-7.18
661	SLE RA 7	-28	36	3303	-771.84	2.19	-7.14
661	SLE RA 8	-28	30	3287	-767.96	2.16	-7.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	SLE RA 9	-28	36	3286	-767.91	2.18	-7.1
661	SLE RA 10	-28	41	3507	-819.56	2.32	-7.2
661	SLE RA 11	-29	31	3557	-830.95	2.33	-7.34
661	SLE RA 12	-28	38	3557	-830.9	2.34	-7.31
661	SLE RA 13	-28	42	3539	-826.94	2.34	-7.24
661	SLE RA 14	-29	32	3590	-838.33	2.35	-7.38
661	SLE RA 15	-29	38	3589	-838.28	2.36	-7.34
661	SLE RA 16	-29	31	3572	-834.39	2.34	-7.34
661	SLE RA 17	-28	38	3572	-834.35	2.35	-7.31
661	SLE RA 18	-29	32	3630	-848.12	2.37	-7.35
661	SLE RA 19	-28	38	3630	-848.07	2.38	-7.31
661	SLE RA 20	-29	32	3663	-855.49	2.39	-7.39
661	SLE RA 21	-29	38	3662	-855.44	2.4	-7.35
661	SLE FR 1	-28	30	3223	-753.21	2.12	-7.07
661	SLE FR 2	-27	32	3222	-753.2	2.13	-7.05
661	SLE FR 3	-28	30	3236	-756.16	2.13	-7.08
661	SLE FR 4	-28	32	3345	-781.67	2.2	-7.14
661	SLE FR 5	-28	30	3358	-784.63	2.2	-7.17
661	SLE FR 6	-28	31	3427	-800.66	2.24	-7.21
661	SLE QP 1	-28	30	3223	-753.21	2.12	-7.07
661	SLE QP 2	-28	30	3345	-781.68	2.19	-7.15
661	SLD 1	238	145	3292	-775.35	3.54	59.23
661	SLD 2	238	126	3287	-774.05	3.53	59.52
661	SLD 3	233	-48	3300	-770.37	2.98	57.87
661	SLD 4	233	-67	3295	-769.07	2.97	58.16
661	SLD 5	59	360	3317	-787.56	3.45	14.77
661	SLD 6	60	348	3314	-786.72	3.45	14.95
661	SLD 7	42	-282	3345	-770.96	1.58	10.25
661	SLD 8	43	-294	3342	-770.12	1.57	10.44
661	SLD 9	-99	355	3348	-793.25	2.82	-24.74
661	SLD 10	-98	343	3345	-792.41	2.81	-24.55
661	SLD 11	-116	-288	3376	-776.64	0.94	-29.26
661	SLD 12	-115	-300	3373	-775.8	0.93	-29.07
661	SLD 13	-289	127	3395	-794.3	1.42	-72.47
661	SLD 14	-288	109	3390	-793	1.41	-72.18
661	SLD 15	-294	-66	3403	-789.32	0.85	-73.82
661	SLD 16	-293	-84	3398	-788.02	0.85	-73.53
661	SLV 1	388	223	3261	-772.08	4.34	96.84
661	SLV 2	389	194	3253	-770.02	4.32	97.29
661	SLV 3	379	-106	3275	-763.56	3.38	94.55
661	SLV 4	381	-135	3267	-761.51	3.36	95
661	SLV 5	110	592	3300	-792.1	4.3	27.43
661	SLV 6	111	572	3295	-790.72	4.29	27.74
661	SLV 7	81	-504	3347	-763.71	1.09	19.8
661	SLV 8	82	-523	3342	-762.33	1.09	20.11
661	SLV 9	-137	584	3348	-801.03	3.3	-34.41
661	SLV 10	-137	564	3343	-799.65	3.29	-34.1
661	SLV 11	-166	-512	3395	-772.65	0.1	-42.04
661	SLV 12	-166	-532	3390	-771.27	0.09	-41.74
661	SLV 13	-436	195	3423	-801.86	1.02	-109.31
661	SLV 14	-435	166	3415	-799.81	1.01	-108.85
661	SLV 15	-445	-133	3437	-793.34	0.06	-111.6
661	SLV 16	-444	-162	3429	-791.29	0.05	-111.14
661	SLV FO 1	430	242	3252	-771.12	4.55	107.23
661	SLV FO 2	431	210	3244	-768.86	4.54	107.74
661	SLV FO 3	420	-119	3268	-761.75	3.5	104.71
661	SLV FO 4	422	-151	3259	-759.49	3.48	105.22
661	SLV FO 5	124	648	3295	-793.14	4.51	30.89
661	SLV FO 6	125	627	3290	-791.62	4.5	31.23
661	SLV FO 7	92	-557	3347	-761.92	0.98	22.49
661	SLV FO 8	93	-579	3341	-760.4	0.97	22.83
661	SLV FO 9	-148	639	3349	-802.97	3.41	-37.13
661	SLV FO 10	-147	618	3343	-801.45	3.4	-36.8
661	SLV FO 11	-180	-566	3401	-771.75	-0.11	-45.53
661	SLV FO 12	-179	-588	3395	-770.22	-0.12	-45.2
661	SLV FO 13	-477	212	3431	-803.88	0.91	-119.52
661	SLV FO 14	-476	180	3422	-801.62	0.89	-119.02
661	SLV FO 15	-487	-150	3446	-794.51	-0.15	-122.04
661	SLV FO 16	-485	-182	3438	-792.25	-0.17	-121.54
661	CRTFP Ux+	0	0	0	0	0	0
661	CRTFP Ux-	0	0	0	0	0	0
661	CRTFP Uy+	0	0	0	0	0	0
661	CRTFP Uy-	0	0	0	0	0	0
663	SLU 1	-129	124	17918	1657.8	-161.2	-7.79
663	SLU 2	-128	219	17893	1654.24	-158.83	-5.77
663	SLU 3	-131	126	18349	1698.55	-164.19	-8.05
663	SLU 4	-131	183	18334	1696.42	-162.76	-6.84
663	SLU 5	-129	219	18175	1681.03	-160.77	-6.02
663	SLU 6	-132	127	18631	1725.34	-166.13	-8.29
663	SLU 7	-132	184	18616	1723.21	-164.71	-7.08
663	SLU 8	-131	125	18482	1711.38	-165.09	-8.28
663	SLU 9	-130	182	18467	1709.24	-163.67	-7.07
663	SLU 10	-132	227	20384	1883.69	-182.27	-7.48
663	SLU 11	-135	135	20840	1927.99	-187.62	-9.76
663	SLU 12	-135	192	20825	1925.86	-186.2	-8.55
663	SLU 13	-133	228	20665	1910.48	-184.21	-7.73
663	SLU 14	-136	135	21122	1954.78	-189.57	-10
663	SLU 15	-136	192	21106	1952.65	-188.15	-8.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
663	SLU 16	-135	133	20973	1940.82	-188.53	-9.99
663	SLU 17	-134	190	20958	1938.69	-187.1	-8.78
663	SLU 18	-135	136	21477	1985.57	-194.69	-10.23
663	SLU 19	-135	193	21461	1983.44	-193.26	-9.02
663	SLU 20	-136	136	21759	2012.36	-196.63	-10.48
663	SLU 21	-135	193	21743	2010.23	-195.21	-9.27
663	SLU 22	-141	142	20851	1934.44	-181.45	-9
663	SLU 23	-140	237	20825	1930.89	-179.08	-6.98
663	SLU 24	-143	144	21281	1975.19	-184.43	-9.25
663	SLU 25	-142	201	21266	1973.06	-183.01	-8.04
663	SLU 26	-140	238	21107	1957.68	-181.02	-7.22
663	SLU 27	-144	145	21563	2001.98	-186.37	-9.5
663	SLU 28	-143	202	21548	1999.85	-184.95	-8.29
663	SLU 29	-142	143	21414	1988.02	-185.33	-9.49
663	SLU 30	-142	200	21399	1985.89	-183.91	-8.27
663	SLU 31	-144	245	23316	2160.33	-202.52	-8.69
663	SLU 32	-147	153	23772	2204.64	-207.87	-10.96
663	SLU 33	-146	210	23757	2202.51	-206.45	-9.75
663	SLU 34	-145	246	23598	2187.12	-204.46	-8.93
663	SLU 35	-148	154	24054	2231.43	-209.81	-11.21
663	SLU 36	-147	211	24039	2229.3	-208.39	-10
663	SLU 37	-146	152	23905	2217.47	-208.77	-11.19
663	SLU 38	-146	209	23890	2215.33	-207.35	-9.98
663	SLU 39	-147	154	24409	2262.22	-214.93	-11.44
663	SLU 40	-146	211	24394	2260.09	-213.51	-10.23
663	SLU 41	-147	155	24691	2289.01	-216.87	-11.68
663	SLU 42	-147	212	24676	2286.88	-215.45	-10.47
663	SLU 43	-164	154	22288	2060.28	-202.62	-9.72
663	SLU 44	-163	249	22263	2056.73	-200.25	-7.7
663	SLU 45	-166	157	22719	2101.04	-205.6	-9.97
663	SLU 46	-166	214	22704	2098.91	-204.18	-8.76
663	SLU 47	-164	250	22545	2083.52	-202.19	-7.94
663	SLU 48	-167	158	23001	2127.83	-207.55	-10.22
663	SLU 49	-166	214	22986	2125.7	-206.13	-9
663	SLU 50	-166	156	22852	2113.86	-206.51	-10.2
663	SLU 51	-165	213	22837	2111.73	-205.08	-8.99
663	SLU 52	-167	258	24754	2286.18	-223.69	-9.41
663	SLU 53	-170	165	25210	2330.48	-229.04	-11.68
663	SLU 54	-170	222	25195	2328.35	-227.62	-10.47
663	SLU 55	-168	258	25036	2312.97	-225.63	-9.65
663	SLU 56	-171	166	25492	2357.27	-230.99	-11.92
663	SLU 57	-171	223	25477	2355.14	-229.56	-10.71
663	SLU 58	-170	164	25343	2343.31	-229.95	-11.91
663	SLU 59	-169	221	25328	2341.18	-228.52	-10.7
663	SLU 60	-170	167	25847	2388.06	-236.1	-12.16
663	SLU 61	-169	224	25832	2385.93	-234.68	-10.95
663	SLU 62	-171	167	26129	2414.85	-238.05	-12.4
663	SLU 63	-170	224	26113	2412.72	-236.63	-11.19
663	SLU 64	-176	173	25221	2336.93	-222.87	-10.92
663	SLU 65	-175	268	25195	2333.38	-220.5	-8.9
663	SLU 66	-178	175	25652	2377.68	-225.85	-11.18
663	SLU 67	-177	232	25636	2375.55	-224.43	-9.97
663	SLU 68	-175	268	25477	2360.17	-222.44	-9.15
663	SLU 69	-178	176	25933	2404.47	-227.79	-11.42
663	SLU 70	-178	233	25918	2402.34	-226.37	-10.21
663	SLU 71	-177	174	25785	2390.51	-226.75	-11.41
663	SLU 72	-177	231	25769	2388.38	-225.33	-10.2
663	SLU 73	-179	276	27686	2562.82	-243.93	-10.61
663	SLU 74	-182	184	28142	2607.13	-249.29	-12.89
663	SLU 75	-181	241	28127	2605	-247.87	-11.68
663	SLU 76	-179	277	27968	2589.61	-245.88	-10.86
663	SLU 77	-183	184	28424	2633.92	-251.23	-13.13
663	SLU 78	-182	241	28409	2631.79	-249.81	-11.92
663	SLU 79	-181	183	28276	2619.95	-250.19	-13.12
663	SLU 80	-181	239	28260	2617.82	-248.77	-11.91
663	SLU 81	-181	185	28779	2664.71	-256.35	-13.36
663	SLU 82	-181	242	28764	2662.58	-254.93	-12.15
663	SLU 83	-182	186	29061	2691.5	-258.29	-13.61
663	SLU 84	-182	243	29046	2689.37	-256.87	-12.4
663	SLE RA 1	-133	129	18756	1736.84	-166.99	-8.14
663	SLE RA 2	-132	192	18739	1734.47	-165.41	-6.79
663	SLE RA 3	-134	131	19043	1764.01	-168.98	-8.31
663	SLE RA 4	-134	169	19033	1762.58	-168.03	-7.5
663	SLE RA 5	-132	193	18927	1752.33	-166.7	-6.95
663	SLE RA 6	-135	131	19231	1781.87	-170.27	-8.47
663	SLE RA 7	-134	169	19221	1780.44	-169.32	-7.66
663	SLE RA 8	-134	130	19132	1772.56	-169.58	-8.46
663	SLE RA 9	-133	168	19122	1771.14	-168.63	-7.65
663	SLE RA 10	-135	198	20400	1887.43	-181.03	-7.93
663	SLE RA 11	-137	136	20704	1916.97	-184.6	-9.45
663	SLE RA 12	-136	174	20694	1915.55	-183.65	-8.64
663	SLE RA 13	-135	198	20588	1905.29	-182.33	-8.09
663	SLE RA 14	-137	137	20892	1934.83	-185.9	-9.61
663	SLE RA 15	-137	175	20882	1933.41	-184.95	-8.8
663	SLE RA 16	-136	135	20793	1925.52	-185.2	-9.6
663	SLE RA 17	-136	173	20782	1924.1	-184.25	-8.79
663	SLE RA 18	-137	137	21128	1955.36	-189.31	-9.76
663	SLE RA 19	-136	175	21118	1953.93	-188.36	-8.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
663	SLE RA 20	-137	137	21316	1973.22	-190.6	-9.93
663	SLE RA 21	-137	175	21306	1971.79	-189.66	-9.12
663	SLE FR 1	-133	129	18756	1736.84	-166.99	-8.14
663	SLE FR 2	-132	142	18753	1736.36	-166.67	-7.87
663	SLE FR 3	-133	129	18831	1743.98	-167.5	-8.2
663	SLE FR 4	-134	144	19464	1801.92	-173.37	-8.36
663	SLE FR 5	-134	131	19543	1809.54	-174.2	-8.69
663	SLE FR 6	-135	133	19942	1846.1	-178.15	-8.95
663	SLE QP 1	-133	129	18756	1736.84	-166.99	-8.14
663	SLE QP 2	-134	131	19468	1802.39	-173.68	-8.62
663	SLD 1	1453	814	19026	1801.07	-106.06	-143.1
663	SLD 2	1445	719	18997	1798.06	-105.44	-137.37
663	SLD 3	1431	-361	19303	1855.97	-133.92	-167.78
663	SLD 4	1423	-456	19274	1852.96	-133.3	-162.05
663	SLD 5	378	2133	18921	1719.25	-111.24	-12.52
663	SLD 6	373	2072	18903	1717.31	-110.84	-8.83
663	SLD 7	303	-1781	19842	1902.24	-204.12	-94.79
663	SLD 8	298	-1842	19824	1900.31	-203.72	-91.1
663	SLD 9	-565	2105	19112	1704.48	-143.64	73.85
663	SLD 10	-570	2044	19093	1702.54	-143.24	77.54
663	SLD 11	-640	-1810	20033	1887.47	-236.53	-8.42
663	SLD 12	-646	-1871	20014	1885.53	-236.13	-4.73
663	SLD 13	-1690	718	19662	1751.82	-214.06	144.8
663	SLD 14	-1698	623	19633	1748.82	-213.44	150.53
663	SLD 15	-1713	-456	19938	1806.72	-241.93	120.12
663	SLD 16	-1721	-551	19909	1803.71	-241.31	125.85
663	SLV 1	2352	1284	18757	1796.4	-66.1	-217.36
663	SLV 2	2339	1134	18711	1791.66	-65.12	-208.32
663	SLV 3	2314	-719	19228	1890.13	-113.66	-259.43
663	SLV 4	2301	-868	19183	1885.39	-112.69	-250.39
663	SLV 5	672	3542	18548	1659.32	-69.45	-9.12
663	SLV 6	663	3442	18518	1656.13	-68.79	-3.04
663	SLV 7	546	-3133	20119	1971.76	-228	-149.36
663	SLV 8	537	-3234	20088	1968.57	-227.34	-143.28
663	SLV 9	-805	3496	18847	1636.22	-120.02	126.03
663	SLV 10	-813	3396	18816	1633.03	-119.37	132.11
663	SLV 11	-930	-3179	20418	1948.66	-278.57	-14.21
663	SLV 12	-939	-3280	20387	1945.47	-277.91	-8.13
663	SLV 13	-2569	1131	19753	1719.4	-234.68	233.14
663	SLV 14	-2582	981	19707	1714.66	-233.7	242.18
663	SLV 15	-2607	-872	20224	1813.13	-282.24	191.07
663	SLV 16	-2619	-1021	20179	1808.39	-281.26	200.11
663	SLV FO 1	2600	1399	18686	1795.8	-55.34	-238.23
663	SLV FO 2	2586	1235	18636	1790.58	-54.27	-228.29
663	SLV FO 3	2559	-804	19204	1898.9	-107.66	-284.51
663	SLV FO 4	2545	-968	19154	1893.69	-106.59	-274.57
663	SLV FO 5	752	3883	18457	1645.01	-59.03	-9.17
663	SLV FO 6	743	3773	18423	1641.5	-58.3	-2.48
663	SLV FO 7	614	-3460	20184	1988.7	-233.43	-163.43
663	SLV FO 8	604	-3570	20150	1985.18	-232.71	-156.75
663	SLV FO 9	-872	3833	18785	1619.6	-114.66	139.5
663	SLV FO 10	-881	3722	18751	1616.09	-113.94	146.18
663	SLV FO 11	-1010	-3510	20513	1963.29	-289.06	-14.77
663	SLV FO 12	-1020	-3621	20479	1959.77	-288.34	-8.08
663	SLV FO 13	-2812	1231	19782	1711.1	-240.78	257.32
663	SLV FO 14	-2826	1066	19731	1705.88	-239.7	267.26
663	SLV FO 15	-2854	-972	20300	1814.2	-293.1	211.04
663	SLV FO 16	-2868	-1137	20250	1808.99	-292.02	220.98
663	CRTFP Ux+	0	0	0	0	0	0
663	CRTFP Ux-	0	0	0	0	0	0
663	CRTFP Uy+	0	0	0	0	0	0
663	CRTFP Uy-	0	0	0	0	0	0
666	SLU 1	-155	-40	15359	-2599.39	306.72	-50.43
666	SLU 2	-153	49	15318	-2593.6	307.99	-51.62
666	SLU 3	-158	-41	15723	-2659.44	314.19	-51.39
666	SLU 4	-157	13	15698	-2655.97	314.95	-52.1
666	SLU 5	-155	48	15556	-2632.79	312.87	-52.16
666	SLU 6	-159	-43	15961	-2698.64	319.07	-51.93
666	SLU 7	-158	11	15937	-2695.16	319.83	-52.64
666	SLU 8	-158	-44	15836	-2677.78	316.48	-51.51
666	SLU 9	-157	10	15811	-2674.3	317.24	-52.22
666	SLU 10	-162	41	17452	-2951.81	350.37	-55.38
666	SLU 11	-166	-50	17857	-3017.65	356.57	-55.14
666	SLU 12	-165	4	17832	-3014.18	357.33	-55.86
666	SLU 13	-163	39	17690	-2991	355.24	-55.92
666	SLU 14	-167	-51	18095	-3056.85	361.44	-55.68
666	SLU 15	-166	2	18070	-3053.37	362.21	-56.4
666	SLU 16	-166	-52	17970	-3035.99	358.85	-55.26
666	SLU 17	-165	2	17945	-3032.51	359.61	-55.98
666	SLU 18	-167	-53	18408	-3111.12	367.26	-55.8
666	SLU 19	-166	1	18383	-3107.64	368.02	-56.51
666	SLU 20	-168	-54	18646	-3150.31	372.14	-56.33
666	SLU 21	-167	0	18621	-3146.84	372.9	-57.05
666	SLU 22	-170	-42	17826	-3007.48	358.89	-56.07
666	SLU 23	-168	48	17785	-3001.69	360.16	-57.26
666	SLU 24	-173	-43	18190	-3067.53	366.36	-57.03
666	SLU 25	-172	11	18165	-3064.06	367.12	-57.75
666	SLU 26	-170	46	18023	-3040.88	365.04	-57.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLU 27	-174	-45	18428	-3106.73	371.24	-57.57
666	SLU 28	-173	9	18403	-3103.25	372	-58.28
666	SLU 29	-173	-45	18302	-3085.87	368.65	-57.15
666	SLU 30	-172	9	18278	-3082.39	369.41	-57.86
666	SLU 31	-177	39	19918	-3359.9	402.53	-61.02
666	SLU 32	-181	-51	20324	-3425.75	408.74	-60.79
666	SLU 33	-180	3	20299	-3422.27	409.5	-61.5
666	SLU 34	-178	38	20157	-3399.09	407.41	-61.56
666	SLU 35	-182	-53	20562	-3464.94	413.61	-61.33
666	SLU 36	-181	1	20537	-3461.47	414.37	-62.04
666	SLU 37	-181	-54	20436	-3444.08	411.02	-60.9
666	SLU 38	-180	0	20411	-3440.6	411.78	-61.62
666	SLU 39	-182	-54	20874	-3519.21	419.43	-61.44
666	SLU 40	-181	0	20850	-3515.74	420.19	-62.15
666	SLU 41	-183	-56	21113	-3558.4	424.3	-61.98
666	SLU 42	-182	-2	21088	-3554.93	425.07	-62.69
666	SLU 43	-196	-52	19121	-3239.29	380.86	-63.62
666	SLU 44	-195	38	19080	-3233.5	382.12	-64.81
666	SLU 45	-199	-53	19485	-3299.34	388.32	-64.58
666	SLU 46	-198	1	19460	-3295.87	389.08	-65.3
666	SLU 47	-196	36	19318	-3272.69	387	-65.35
666	SLU 48	-200	-55	19724	-3338.54	393.2	-65.12
666	SLU 49	-199	-1	19699	-3335.06	393.96	-65.84
666	SLU 50	-199	-55	19598	-3317.68	390.61	-64.7
666	SLU 51	-198	-1	19573	-3314.2	391.37	-65.41
666	SLU 52	-203	29	21214	-3591.71	424.5	-68.57
666	SLU 53	-207	-61	21619	-3657.55	430.7	-68.34
666	SLU 54	-206	-8	21594	-3654.08	431.46	-69.05
666	SLU 55	-204	28	21452	-3630.9	429.37	-69.11
666	SLU 56	-209	-63	21857	-3696.75	435.58	-68.88
666	SLU 57	-208	-9	21833	-3693.27	436.34	-69.59
666	SLU 58	-207	-64	21732	-3675.89	432.98	-68.46
666	SLU 59	-206	-10	21707	-3672.41	433.75	-69.17
666	SLU 60	-208	-64	22170	-3751.02	441.39	-68.99
666	SLU 61	-207	-10	22145	-3747.54	442.15	-69.7
666	SLU 62	-210	-66	22408	-3790.21	446.27	-69.53
666	SLU 63	-209	-12	22383	-3786.74	447.03	-70.24
666	SLU 64	-211	-54	21588	-3647.38	433.02	-69.26
666	SLU 65	-210	36	21547	-3641.59	434.29	-70.46
666	SLU 66	-214	-55	21952	-3707.43	440.49	-70.22
666	SLU 67	-213	-1	21927	-3703.96	441.25	-70.94
666	SLU 68	-211	35	21785	-3680.78	439.17	-71
666	SLU 69	-215	-56	22190	-3746.63	445.37	-70.76
666	SLU 70	-214	-2	22165	-3743.15	446.13	-71.48
666	SLU 71	-214	-57	22065	-3725.77	442.78	-70.34
666	SLU 72	-213	-3	22040	-3722.29	443.54	-71.06
666	SLU 73	-218	28	23681	-3999.8	476.67	-74.21
666	SLU 74	-222	-63	24086	-4065.65	482.87	-73.98
666	SLU 75	-221	-9	24061	-4062.17	483.63	-74.7
666	SLU 76	-219	26	23919	-4038.99	481.54	-74.75
666	SLU 77	-224	-65	24324	-4104.84	487.74	-74.52
666	SLU 78	-223	-11	24299	-4101.37	488.5	-75.24
666	SLU 79	-222	-65	24198	-4083.98	485.15	-74.1
666	SLU 80	-221	-11	24173	-4080.5	485.91	-74.81
666	SLU 81	-223	-66	24637	-4159.11	493.56	-74.63
666	SLU 82	-222	-12	24612	-4155.64	494.32	-75.35
666	SLU 83	-225	-67	24875	-4198.3	498.44	-75.17
666	SLU 84	-224	-13	24850	-4194.83	499.2	-75.89
666	SLE RA 1	-159	-41	16064	-2715.99	321.63	-52.04
666	SLE RA 2	-158	19	16036	-2712.13	322.47	-52.83
666	SLE RA 3	-161	-41	16307	-2756.02	326.61	-52.68
666	SLE RA 4	-160	-6	16290	-2753.71	327.11	-53.16
666	SLE RA 5	-159	18	16195	-2738.26	325.73	-53.19
666	SLE RA 6	-162	-43	16466	-2782.15	329.86	-53.04
666	SLE RA 7	-161	-7	16449	-2779.84	330.37	-53.52
666	SLE RA 8	-161	-43	16382	-2768.24	328.13	-52.76
666	SLE RA 9	-160	-7	16365	-2765.93	328.64	-53.24
666	SLE RA 10	-164	13	17459	-2950.93	350.72	-55.34
666	SLE RA 11	-167	-47	17729	-2994.83	354.86	-55.18
666	SLE RA 12	-166	-11	17713	-2992.51	355.37	-55.66
666	SLE RA 13	-165	12	17618	-2977.06	353.98	-55.7
666	SLE RA 14	-167	-48	17888	-3020.96	358.11	-55.54
666	SLE RA 15	-167	-12	17871	-3018.64	358.62	-56.02
666	SLE RA 16	-167	-49	17804	-3007.05	356.38	-55.26
666	SLE RA 17	-166	-13	17788	-3004.74	356.89	-55.74
666	SLE RA 18	-167	-49	18096	-3057.14	361.99	-55.62
666	SLE RA 19	-167	-13	18080	-3054.82	362.49	-56.1
666	SLE RA 20	-168	-50	18255	-3083.27	365.24	-55.98
666	SLE RA 21	-168	-14	18239	-3080.95	365.74	-56.45
666	SLE FR 1	-159	-41	16064	-2715.99	321.63	-52.04
666	SLE FR 2	-159	-29	16059	-2715.21	321.8	-52.2
666	SLE FR 3	-160	-41	16128	-2726.44	322.93	-52.18
666	SLE FR 4	-161	-31	16668	-2817.56	333.91	-53.27
666	SLE FR 5	-162	-44	16737	-2828.78	335.04	-53.26
666	SLE FR 6	-163	-45	17080	-2886.56	341.81	-53.83
666	SLE QP 1	-159	-41	16064	-2715.99	321.63	-52.04
666	SLE QP 2	-162	-43	16674	-2818.33	333.74	-53.11
666	SLD 1	1274	580	15965	-2679.39	345.39	198.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLD 2	1280	524	15943	-2676.23	344.37	205.84
666	SLD 3	1248	-532	16436	-2732.52	328.74	213.31
666	SLD 4	1253	-588	16414	-2729.36	327.72	220.18
666	SLD 5	309	1839	15750	-2696.61	362.66	-0.44
666	SLD 6	312	1803	15737	-2694.57	362	3.99
666	SLD 7	220	-1866	17321	-2873.71	307.16	47.39
666	SLD 8	223	-1902	17307	-2871.68	306.51	51.82
666	SLD 9	-547	1816	16041	-2764.98	360.97	-158.05
666	SLD 10	-543	1780	16027	-2762.95	360.31	-153.62
666	SLD 11	-635	-1890	17611	-2942.09	305.47	-110.22
666	SLD 12	-632	-1926	17597	-2940.06	304.81	-105.79
666	SLD 13	-1576	501	16933	-2907.31	339.75	-326.41
666	SLD 14	-1571	445	16912	-2904.15	338.73	-319.53
666	SLD 15	-1603	-610	17404	-2960.44	323.1	-312.06
666	SLD 16	-1598	-666	17383	-2957.28	322.08	-305.18
666	SLV 1	2088	1012	15533	-2597.63	353.68	340.45
666	SLV 2	2096	924	15499	-2592.65	352.07	351.3
666	SLV 3	2043	-883	16337	-2688.29	325.27	364.85
666	SLV 4	2051	-972	16302	-2683.31	323.66	375.69
666	SLV 5	580	3165	15119	-2615.55	383.1	25.93
666	SLV 6	585	3106	15096	-2612.2	382.02	33.23
666	SLV 7	430	-3154	17798	-2917.75	288.41	107.26
666	SLV 8	436	-3213	17775	-2914.39	287.33	114.56
666	SLV 9	-759	3127	15573	-2722.27	380.14	-220.78
666	SLV 10	-753	3067	15550	-2718.92	379.06	-213.48
666	SLV 11	-909	-3192	18251	-3024.46	285.45	-139.46
666	SLV 12	-903	-3252	18228	-3021.11	284.37	-132.16
666	SLV 13	-2375	885	17045	-2953.36	343.81	-481.92
666	SLV 14	-2366	797	17011	-2948.38	342.2	-471.08
666	SLV 15	-2419	-1011	17849	-3044.01	315.41	-457.52
666	SLV 16	-2411	-1099	17815	-3039.03	313.79	-446.68
666	SLV FO 1	2313	1118	15419	-2575.56	355.67	379.81
666	SLV FO 2	2322	1021	15381	-2570.08	353.9	391.74
666	SLV FO 3	2263	-967	16303	-2675.28	324.43	406.65
666	SLV FO 4	2272	-1064	16265	-2669.81	322.65	418.57
666	SLV FO 5	654	3486	14964	-2595.27	388.04	33.83
666	SLV FO 6	660	3421	14939	-2591.59	386.85	41.86
666	SLV FO 7	489	-3465	17910	-2927.69	283.88	123.29
666	SLV FO 8	495	-3530	17885	-2924	282.69	131.32
666	SLV FO 9	-819	3444	15463	-2712.66	384.79	-237.55
666	SLV FO 10	-813	3378	15438	-2708.98	383.59	-229.52
666	SLV FO 11	-983	-3507	18409	-3045.08	280.63	-148.09
666	SLV FO 12	-977	-3572	18384	-3041.39	279.43	-140.06
666	SLV FO 13	-2596	978	17082	-2966.86	344.82	-524.8
666	SLV FO 14	-2587	881	17045	-2961.38	343.05	-512.87
666	SLV FO 15	-2645	-1107	17966	-3066.58	313.57	-497.96
666	SLV FO 16	-2636	-1204	17929	-3061.11	311.8	-486.04
666	CRTFP Ux+	0	0	0	0	0	0
666	CRTFP Ux-	0	0	0	0	0	0
666	CRTFP Uy+	0	0	0	0	0	0
666	CRTFP Uy-	0	0	0	0	0	0
667	SLU 1	-6	-11	1745	370.65	-54.15	1.09
667	SLU 2	-6	-1	1739	368.96	-53.93	1.37
667	SLU 3	-6	-12	1787	379.37	-55.44	1.09
667	SLU 4	-6	-6	1783	378.36	-55.32	1.26
667	SLU 5	-6	-2	1766	374.68	-54.79	1.36
667	SLU 6	-6	-12	1814	385.09	-56.3	1.08
667	SLU 7	-6	-6	1811	384.08	-56.17	1.25
667	SLU 8	-6	-12	1800	382.1	-55.85	1.07
667	SLU 9	-6	-6	1796	381.08	-55.72	1.24
667	SLU 10	-6	-3	1983	419.48	-61.5	1.28
667	SLU 11	-6	-13	2031	429.89	-63.01	1
667	SLU 12	-6	-7	2027	428.88	-62.88	1.17
667	SLU 13	-6	-3	2010	425.2	-62.35	1.27
667	SLU 14	-6	-13	2058	435.62	-63.86	0.98
667	SLU 15	-6	-8	2054	434.6	-63.73	1.16
667	SLU 16	-6	-13	2044	432.62	-63.41	0.97
667	SLU 17	-6	-8	2040	431.6	-63.28	1.14
667	SLU 18	-6	-14	2093	442.82	-64.95	0.95
667	SLU 19	-6	-8	2090	441.81	-64.82	1.12
667	SLU 20	-6	-14	2121	448.55	-65.8	0.94
667	SLU 21	-6	-8	2117	447.53	-65.68	1.11
667	SLU 22	-6	-12	2027	429.56	-62.89	1.11
667	SLU 23	-6	-3	2021	427.87	-62.68	1.4
667	SLU 24	-6	-13	2069	438.28	-64.19	1.11
667	SLU 25	-6	-7	2065	437.27	-64.06	1.28
667	SLU 26	-6	-3	2048	433.59	-63.53	1.39
667	SLU 27	-6	-13	2097	444.01	-65.04	1.1
667	SLU 28	-6	-7	2093	442.99	-64.91	1.27
667	SLU 29	-6	-13	2082	441.01	-64.59	1.09
667	SLU 30	-6	-7	2078	439.99	-64.46	1.26
667	SLU 31	-6	-4	2265	478.39	-70.24	1.3
667	SLU 32	-6	-14	2313	488.8	-71.75	1.02
667	SLU 33	-6	-8	2309	487.79	-71.62	1.19
667	SLU 34	-6	-4	2292	484.12	-71.09	1.29
667	SLU 35	-6	-14	2340	494.53	-72.6	1.01
667	SLU 36	-6	-9	2337	493.51	-72.47	1.18
667	SLU 37	-6	-14	2326	491.53	-72.16	0.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
667	SLU 38	-6	-9	2322	490.52	-72.03	1.16
667	SLU 39	-6	-15	2376	501.73	-73.7	0.97
667	SLU 40	-6	-9	2372	500.72	-73.57	1.15
667	SLU 41	-6	-15	2403	507.46	-74.55	0.96
667	SLU 42	-6	-9	2399	506.44	-74.42	1.13
667	SLU 43	-8	-14	2172	461.64	-67.39	1.41
667	SLU 44	-8	-5	2166	459.95	-67.18	1.69
667	SLU 45	-8	-15	2214	470.37	-68.69	1.41
667	SLU 46	-8	-9	2210	469.35	-68.56	1.58
667	SLU 47	-8	-5	2193	465.68	-68.03	1.68
667	SLU 48	-8	-15	2241	476.09	-69.54	1.4
667	SLU 49	-8	-9	2237	475.08	-69.41	1.57
667	SLU 50	-8	-15	2227	473.09	-69.1	1.38
667	SLU 51	-8	-9	2223	472.08	-68.97	1.56
667	SLU 52	-8	-6	2409	510.48	-74.75	1.6
667	SLU 53	-8	-16	2458	520.89	-76.25	1.31
667	SLU 54	-8	-10	2454	519.87	-76.13	1.49
667	SLU 55	-8	-6	2437	516.2	-75.6	1.59
667	SLU 56	-8	-16	2485	526.61	-77.11	1.3
667	SLU 57	-8	-11	2481	525.6	-76.98	1.47
667	SLU 58	-8	-16	2471	523.61	-76.66	1.29
667	SLU 59	-8	-11	2467	522.6	-76.53	1.46
667	SLU 60	-8	-17	2520	533.82	-78.2	1.27
667	SLU 61	-8	-11	2516	532.8	-78.07	1.44
667	SLU 62	-8	-17	2548	539.54	-79.05	1.26
667	SLU 63	-8	-11	2544	538.53	-78.92	1.43
667	SLU 64	-8	-15	2454	520.55	-76.14	1.43
667	SLU 65	-8	-6	2448	518.87	-75.92	1.72
667	SLU 66	-8	-16	2496	529.28	-77.43	1.43
667	SLU 67	-8	-10	2492	528.26	-77.31	1.6
667	SLU 68	-8	-6	2475	524.59	-76.78	1.7
667	SLU 69	-8	-16	2523	535	-78.29	1.42
667	SLU 70	-8	-10	2520	533.99	-78.16	1.59
667	SLU 71	-8	-16	2509	532	-77.84	1.41
667	SLU 72	-8	-10	2505	530.99	-77.71	1.58
667	SLU 73	-8	-7	2692	569.39	-83.49	1.62
667	SLU 74	-8	-17	2740	579.8	-85	1.34
667	SLU 75	-8	-11	2736	578.78	-84.87	1.51
667	SLU 76	-8	-7	2719	575.11	-84.34	1.61
667	SLU 77	-8	-17	2767	585.52	-85.85	1.33
667	SLU 78	-8	-12	2763	584.51	-85.72	1.5
667	SLU 79	-8	-18	2753	582.53	-85.4	1.31
667	SLU 80	-8	-12	2749	581.51	-85.27	1.48
667	SLU 81	-8	-18	2802	592.73	-86.94	1.29
667	SLU 82	-8	-12	2799	591.71	-86.81	1.46
667	SLU 83	-8	-18	2830	598.45	-87.79	1.28
667	SLU 84	-8	-12	2826	597.44	-87.67	1.45
667	SLE RA 1	-6	-12	1826	387.48	-56.65	1.09
667	SLE RA 2	-6	-5	1822	386.35	-56.5	1.29
667	SLE RA 3	-6	-12	1854	393.29	-57.51	1.1
667	SLE RA 4	-6	-8	1851	392.62	-57.43	1.21
667	SLE RA 5	-6	-5	1840	390.17	-57.07	1.28
667	SLE RA 6	-6	-12	1872	397.11	-58.08	1.09
667	SLE RA 7	-6	-8	1869	396.43	-57.99	1.2
667	SLE RA 8	-6	-12	1862	395.11	-57.78	1.08
667	SLE RA 9	-6	-8	1860	394.44	-57.69	1.19
667	SLE RA 10	-6	-6	1984	420.03	-61.55	1.22
667	SLE RA 11	-6	-13	2016	426.97	-62.55	1.03
667	SLE RA 12	-6	-9	2014	426.3	-62.47	1.15
667	SLE RA 13	-6	-6	2002	423.85	-62.11	1.21
667	SLE RA 14	-6	-13	2034	430.79	-63.12	1.03
667	SLE RA 15	-6	-9	2032	430.12	-63.03	1.14
667	SLE RA 16	-6	-13	2025	428.79	-62.82	1.02
667	SLE RA 17	-6	-9	2022	428.12	-62.74	1.13
667	SLE RA 18	-6	-13	2058	435.59	-63.85	1
667	SLE RA 19	-6	-9	2055	434.92	-63.76	1.12
667	SLE RA 20	-6	-13	2076	439.41	-64.42	1
667	SLE RA 21	-6	-9	2074	438.74	-64.33	1.11
667	SLE FR 1	-6	-12	1826	387.48	-56.65	1.09
667	SLE FR 2	-6	-10	1825	387.25	-56.62	1.13
667	SLE FR 3	-6	-12	1833	389.01	-56.87	1.09
667	SLE FR 4	-6	-11	1895	401.69	-58.78	1.11
667	SLE FR 5	-6	-12	1903	403.44	-59.03	1.06
667	SLE FR 6	-6	-12	1942	411.54	-60.25	1.05
667	SLE QP 1	-6	-12	1826	387.48	-56.65	1.09
667	SLE QP 2	-6	-12	1895	401.91	-58.81	1.07
667	SLD 1	150	46	1809	393.24	-56.02	-35.89
667	SLD 2	148	42	1807	392.73	-55.95	-35.68
667	SLD 3	148	-74	1888	415.13	-58.66	-39.46
667	SLD 4	146	-79	1886	414.63	-58.59	-39.25
667	SLD 5	44	190	1750	366.19	-53.98	-4.64
667	SLD 6	43	186	1749	365.86	-53.94	-4.5
667	SLD 7	37	-213	2013	439.18	-62.77	-16.55
667	SLD 8	36	-216	2012	438.85	-62.73	-16.41
667	SLD 9	-49	192	1779	364.97	-54.89	18.55
667	SLD 10	-50	189	1778	364.65	-54.84	18.68
667	SLD 11	-55	-211	2042	437.97	-63.67	6.64
667	SLD 12	-56	-214	2041	437.64	-63.63	6.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
667	SLD 13	-159	55	1905	389.2	-59.02	41.39
667	SLD 14	-160	50	1903	388.69	-58.96	41.6
667	SLD 15	-161	-66	1984	411.1	-61.66	37.82
667	SLD 16	-162	-70	1982	410.59	-61.59	38.03
667	SLV 1	238	88	1755	386.85	-54.27	-56.53
667	SLV 2	236	80	1752	386.05	-54.16	-56.2
667	SLV 3	235	-118	1890	424.21	-58.76	-62.61
667	SLV 4	233	-126	1886	423.41	-58.66	-62.28
667	SLV 5	72	332	1650	340.89	-50.64	-7.04
667	SLV 6	71	327	1648	340.35	-50.57	-6.82
667	SLV 7	62	-355	2098	465.41	-65.64	-27.33
667	SLV 8	60	-360	2096	464.87	-65.56	-27.11
667	SLV 9	-72	336	1695	338.96	-52.05	29.24
667	SLV 10	-74	331	1692	338.42	-51.98	29.46
667	SLV 11	-83	-351	2143	463.48	-67.04	8.95
667	SLV 12	-85	-356	2141	462.94	-66.97	9.18
667	SLV 13	-245	102	1905	380.42	-58.96	64.42
667	SLV 14	-247	94	1901	379.62	-58.85	64.75
667	SLV 15	-248	-104	2039	417.77	-63.45	58.33
667	SLV 16	-250	-112	2036	416.98	-63.35	58.66
667	SLV FO 1	262	98	1741	385.34	-53.81	-62.29
667	SLV FO 2	260	89	1737	384.47	-53.69	-61.92
667	SLV FO 3	259	-129	1889	426.44	-58.76	-68.98
667	SLV FO 4	256	-137	1885	425.56	-58.64	-68.62
667	SLV FO 5	80	366	1625	334.78	-49.83	-7.85
667	SLV FO 6	79	361	1623	334.19	-49.75	-7.61
667	SLV FO 7	68	-389	2119	471.76	-66.32	-30.17
667	SLV FO 8	67	-395	2116	471.17	-66.24	-29.93
667	SLV FO 9	-79	371	1675	332.66	-51.38	32.06
667	SLV FO 10	-81	365	1672	332.07	-51.3	32.3
667	SLV FO 11	-91	-385	2168	469.63	-67.87	9.74
667	SLV FO 12	-93	-390	2165	469.04	-67.79	9.99
667	SLV FO 13	-269	113	1906	378.27	-58.97	70.75
667	SLV FO 14	-271	105	1902	377.39	-58.85	71.12
667	SLV FO 15	-272	-113	2054	419.36	-63.92	64.06
667	SLV FO 16	-275	-122	2050	418.48	-63.8	64.42
667	CRTFP Ux+	0	0	0	0	0	0
667	CRTFP Ux-	0	0	0	0	0	0
667	CRTFP Uy+	0	0	0	0	0	0
667	CRTFP Uy-	0	0	0	0	0	0
669	SLU 1	-13	-51	4529	899.74	-677.93	-5.89
669	SLU 2	-12	-25	4509	894.38	-674.78	-2.04
669	SLU 3	-13	-52	4637	920.64	-694.11	-6.07
669	SLU 4	-12	-37	4625	917.43	-692.22	-3.76
669	SLU 5	-12	-26	4580	908.11	-685.39	-2.21
669	SLU 6	-13	-53	4708	934.37	-704.72	-6.24
669	SLU 7	-12	-38	4696	931.15	-702.83	-3.93
669	SLU 8	-12	-53	4671	927.19	-699.15	-6.24
669	SLU 9	-12	-37	4659	923.98	-697.26	-3.93
669	SLU 10	-12	-32	5141	1015.13	-769.21	-3.24
669	SLU 11	-12	-59	5269	1041.38	-788.54	-7.28
669	SLU 12	-12	-43	5257	1038.17	-786.65	-4.96
669	SLU 13	-12	-33	5212	1028.85	-779.82	-3.42
669	SLU 14	-12	-60	5340	1055.11	-799.15	-7.45
669	SLU 15	-12	-44	5328	1051.9	-797.26	-5.14
669	SLU 16	-12	-60	5302	1047.94	-793.58	-7.45
669	SLU 17	-12	-44	5290	1044.72	-791.69	-5.14
669	SLU 18	-12	-60	5431	1072.23	-812.84	-7.61
669	SLU 19	-12	-45	5419	1069.02	-810.95	-5.3
669	SLU 20	-12	-61	5502	1085.96	-823.45	-7.79
669	SLU 21	-12	-46	5490	1082.74	-821.55	-5.48
669	SLU 22	-13	-56	5257	1039.95	-786.69	-6.8
669	SLU 23	-13	-31	5237	1034.59	-783.54	-2.95
669	SLU 24	-13	-58	5365	1060.85	-802.87	-6.98
669	SLU 25	-13	-42	5354	1057.64	-800.98	-4.67
669	SLU 26	-12	-32	5308	1048.32	-794.15	-3.13
669	SLU 27	-13	-59	5436	1074.58	-813.48	-7.16
669	SLU 28	-13	-43	5425	1071.36	-811.58	-4.85
669	SLU 29	-13	-58	5399	1067.4	-807.91	-7.16
669	SLU 30	-13	-43	5387	1064.19	-806.02	-4.85
669	SLU 31	-12	-37	5869	1155.34	-877.97	-4.16
669	SLU 32	-12	-64	5997	1181.6	-897.3	-8.19
669	SLU 33	-12	-49	5985	1178.38	-895.41	-5.88
669	SLU 34	-12	-38	5940	1169.06	-888.58	-4.34
669	SLU 35	-12	-65	6068	1195.32	-907.91	-8.37
669	SLU 36	-12	-50	6056	1192.11	-906.02	-6.06
669	SLU 37	-12	-65	6031	1188.15	-902.34	-8.37
669	SLU 38	-12	-49	6019	1184.93	-900.45	-6.05
669	SLU 39	-12	-66	6159	1212.44	-921.6	-8.53
669	SLU 40	-12	-50	6148	1209.23	-919.7	-6.22
669	SLU 41	-12	-67	6230	1226.17	-932.2	-8.71
669	SLU 42	-12	-51	6219	1222.95	-930.31	-6.39
669	SLU 43	-16	-65	5638	1121.59	-844.03	-7.34
669	SLU 44	-16	-39	5618	1116.23	-840.87	-3.49
669	SLU 45	-16	-66	5746	1142.49	-860.2	-7.52
669	SLU 46	-16	-50	5734	1139.27	-858.31	-5.21
669	SLU 47	-16	-40	5689	1129.96	-851.48	-3.66
669	SLU 48	-16	-67	5817	1156.22	-870.81	-7.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
669	SLU 49	-16	-51	5805	1153	-868.92	-5.38
669	SLU 50	-16	-66	5780	1149.04	-865.24	-7.69
669	SLU 51	-16	-51	5768	1145.83	-863.35	-5.38
669	SLU 52	-16	-45	6249	1236.97	-935.3	-4.7
669	SLU 53	-16	-72	6377	1263.23	-954.63	-8.73
669	SLU 54	-16	-57	6366	1260.02	-952.74	-6.42
669	SLU 55	-16	-46	6320	1250.7	-945.91	-4.87
669	SLU 56	-16	-73	6448	1276.96	-965.24	-8.9
669	SLU 57	-16	-58	6437	1273.74	-963.35	-6.59
669	SLU 58	-16	-73	6411	1269.78	-959.67	-8.9
669	SLU 59	-16	-57	6399	1266.57	-957.78	-6.59
669	SLU 60	-16	-74	6540	1294.08	-978.93	-9.07
669	SLU 61	-16	-58	6528	1290.87	-977.04	-6.75
669	SLU 62	-16	-75	6611	1307.81	-989.54	-9.24
669	SLU 63	-15	-59	6599	1304.59	-987.65	-6.93
669	SLU 64	-16	-70	6366	1261.8	-952.78	-8.26
669	SLU 65	-16	-44	6346	1256.44	-949.63	-4.4
669	SLU 66	-17	-71	6474	1282.7	-968.96	-8.44
669	SLU 67	-16	-56	6462	1279.49	-967.07	-6.12
669	SLU 68	-16	-45	6417	1270.17	-960.24	-4.58
669	SLU 69	-16	-72	6545	1296.43	-979.57	-8.61
669	SLU 70	-16	-57	6533	1293.21	-977.68	-6.3
669	SLU 71	-16	-72	6508	1289.25	-974	-8.61
669	SLU 72	-16	-56	6496	1286.04	-972.11	-6.3
669	SLU 73	-16	-51	6978	1377.19	-1044.06	-5.61
669	SLU 74	-16	-78	7106	1403.44	-1063.39	-9.64
669	SLU 75	-16	-62	7094	1400.23	-1061.5	-7.33
669	SLU 76	-16	-52	7049	1390.91	-1054.67	-5.79
669	SLU 77	-16	-79	7177	1417.17	-1074	-9.82
669	SLU 78	-16	-63	7165	1413.96	-1072.11	-7.51
669	SLU 79	-16	-78	7140	1410	-1068.43	-9.82
669	SLU 80	-16	-63	7128	1406.78	-1066.54	-7.51
669	SLU 81	-16	-79	7268	1434.29	-1087.69	-9.98
669	SLU 82	-16	-64	7256	1431.08	-1085.8	-7.67
669	SLU 83	-16	-80	7339	1448.02	-1098.3	-10.16
669	SLU 84	-16	-65	7327	1444.8	-1096.4	-7.85
669	SLE RA 1	-13	-53	4737	939.8	-709.01	-6.15
669	SLE RA 2	-12	-35	4724	936.23	-706.91	-3.58
669	SLE RA 3	-13	-53	4809	953.73	-719.79	-6.27
669	SLE RA 4	-13	-43	4801	951.59	-718.53	-4.73
669	SLE RA 5	-12	-36	4771	945.38	-713.98	-3.7
669	SLE RA 6	-13	-54	4856	962.88	-726.86	-6.39
669	SLE RA 7	-13	-44	4848	960.74	-725.6	-4.85
669	SLE RA 8	-13	-54	4831	958.1	-723.15	-6.38
669	SLE RA 9	-12	-44	4824	955.96	-721.89	-4.84
669	SLE RA 10	-12	-40	5145	1016.72	-769.86	-4.39
669	SLE RA 11	-12	-58	5230	1034.23	-782.75	-7.07
669	SLE RA 12	-12	-47	5222	1032.09	-781.48	-5.53
669	SLE RA 13	-12	-40	5192	1025.87	-776.93	-4.5
669	SLE RA 14	-12	-58	5277	1043.38	-789.82	-7.19
669	SLE RA 15	-12	-48	5269	1041.24	-788.56	-5.65
669	SLE RA 16	-12	-58	5253	1038.6	-786.11	-7.19
669	SLE RA 17	-12	-48	5245	1036.45	-784.85	-5.65
669	SLE RA 18	-12	-59	5338	1054.79	-798.94	-7.3
669	SLE RA 19	-12	-48	5330	1052.65	-797.68	-5.76
669	SLE RA 20	-12	-59	5386	1063.94	-806.02	-7.42
669	SLE RA 21	-12	-49	5378	1061.8	-804.75	-5.88
669	SLE FR 1	-13	-53	4737	939.8	-709.01	-6.15
669	SLE FR 2	-13	-49	4734	939.09	-708.59	-5.64
669	SLE FR 3	-13	-53	4756	943.46	-711.84	-6.2
669	SLE FR 4	-12	-51	4915	973.58	-735.57	-5.98
669	SLE FR 5	-13	-55	4936	977.96	-738.82	-6.54
669	SLE FR 6	-12	-56	5038	997.3	-753.98	-6.72
669	SLE QP 1	-13	-53	4737	939.8	-709.01	-6.15
669	SLE QP 2	-13	-54	4917	974.3	-735.99	-6.49
669	SLD 1	394	99	4682	966.59	-700.62	-83.98
669	SLD 2	391	90	4676	965.82	-699.87	-84.28
669	SLD 3	388	-222	4927	1035.53	-739.84	-131.9
669	SLD 4	385	-232	4922	1034.75	-739.08	-132.2
669	SLD 5	119	480	4475	867.56	-666.04	42.99
669	SLD 6	116	474	4472	867.07	-665.55	42.8
669	SLD 7	100	-591	5293	1097.35	-796.74	-116.74
669	SLD 8	98	-596	5290	1096.86	-796.26	-116.94
669	SLD 9	-123	488	4545	851.74	-675.72	103.95
669	SLD 10	-125	482	4541	851.24	-675.23	103.75
669	SLD 11	-141	-583	5363	1081.53	-806.43	-55.79
669	SLD 12	-144	-589	5359	1081.03	-805.94	-55.98
669	SLD 13	-410	123	4913	913.84	-732.9	119.21
669	SLD 14	-414	114	4908	913.07	-732.14	118.91
669	SLD 15	-416	-199	5158	982.78	-772.11	71.29
669	SLD 16	-419	-208	5153	982.01	-771.35	70.99
669	SLV 1	624	207	4531	957.38	-677.91	-124.35
669	SLV 2	619	193	4523	956.16	-676.72	-124.83
669	SLV 3	615	-341	4950	1074.97	-744.8	-206.07
669	SLV 4	609	-355	4941	1073.75	-743.61	-206.55
669	SLV 5	194	858	4168	791.11	-617.34	82.18
669	SLV 6	190	848	4163	790.28	-616.54	81.85
669	SLV 7	162	-969	5563	1183.07	-840.3	-190.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
669	SLV 8	159	-978	5558	1182.25	-839.5	-190.54
669	SLV 9	-184	869	4277	766.35	-632.48	177.55
669	SLV 10	-187	860	4271	765.52	-631.67	177.23
669	SLV 11	-215	-957	5672	1158.31	-855.44	-94.84
669	SLV 12	-219	-967	5666	1157.49	-854.64	-95.17
669	SLV 13	-634	246	4893	874.85	-728.37	193.56
669	SLV 14	-640	232	4885	873.63	-727.18	193.08
669	SLV 15	-644	-302	5312	992.44	-795.26	111.84
669	SLV 16	-649	-316	5303	991.21	-794.06	111.36
669	SLV FO 1	688	234	4493	955.69	-672.1	-136.13
669	SLV FO 2	682	218	4484	954.35	-670.79	-136.66
669	SLV FO 3	678	-369	4953	1085.04	-745.68	-226.02
669	SLV FO 4	672	-385	4944	1083.69	-744.37	-226.55
669	SLV FO 5	214	949	4094	772.79	-605.48	91.05
669	SLV FO 6	210	938	4087	771.88	-604.59	90.69
669	SLV FO 7	180	-1060	5628	1203.95	-850.73	-208.59
669	SLV FO 8	176	-1071	5622	1203.04	-849.85	-208.95
669	SLV FO 9	-201	962	4213	745.55	-622.13	195.96
669	SLV FO 10	-205	951	4207	744.65	-621.24	195.6
669	SLV FO 11	-235	-1047	5747	1176.71	-867.39	-103.68
669	SLV FO 12	-239	-1058	5741	1175.81	-866.5	-104.04
669	SLV FO 13	-697	276	4891	864.9	-727.61	213.57
669	SLV FO 14	-703	260	4881	863.56	-726.29	213.03
669	SLV FO 15	-707	-327	5351	994.25	-801.19	123.67
669	SLV FO 16	-713	-343	5342	992.91	-799.87	123.14
669	CRTFP Ux+	0	0	0	0	0	0
669	CRTFP Ux-	0	0	0	0	0	0
669	CRTFP Uy+	0	0	0	0	0	0
669	CRTFP Uy-	0	0	0	0	0	0
670	SLU 1	-8	-93	5675	1006.37	839.55	14.62
670	SLU 2	-8	-59	5646	999.08	835.45	9.58
670	SLU 3	-8	-95	5810	1029.42	859.55	14.85
670	SLU 4	-8	-74	5793	1025.04	857.09	11.83
670	SLU 5	-8	-60	5735	1014.2	848.57	9.75
670	SLU 6	-8	-96	5898	1044.54	872.66	15.02
670	SLU 7	-8	-76	5881	1040.16	870.2	12
670	SLU 8	-8	-96	5852	1036.61	865.78	14.96
670	SLU 9	-8	-75	5834	1032.23	863.32	11.94
670	SLU 10	-7	-70	6432	1127.13	952.2	10.93
670	SLU 11	-8	-105	6596	1157.47	976.29	16.2
670	SLU 12	-7	-85	6578	1153.1	973.83	13.17
670	SLU 13	-7	-71	6520	1142.25	965.31	11.1
670	SLU 14	-7	-107	6684	1172.59	989.4	16.37
670	SLU 15	-7	-87	6667	1168.21	986.95	13.35
670	SLU 16	-7	-106	6638	1164.66	982.52	16.31
670	SLU 17	-7	-86	6620	1160.28	980.06	13.29
670	SLU 18	-7	-108	6798	1189.3	1006.33	16.54
670	SLU 19	-7	-88	6780	1184.93	1003.88	13.52
670	SLU 20	-7	-110	6886	1204.42	1019.45	16.72
670	SLU 21	-7	-89	6869	1200.04	1016.99	13.69
670	SLU 22	-8	-103	6580	1159.03	973.9	15.83
670	SLU 23	-7	-69	6551	1151.73	969.8	10.79
670	SLU 24	-8	-105	6715	1182.07	993.89	16.06
670	SLU 25	-7	-85	6697	1177.7	991.43	13.04
670	SLU 26	-7	-71	6639	1166.85	982.91	10.96
670	SLU 27	-7	-106	6803	1197.19	1007	16.23
670	SLU 28	-7	-86	6785	1192.81	1004.54	13.21
670	SLU 29	-7	-106	6756	1189.26	1000.12	16.17
670	SLU 30	-7	-86	6739	1184.88	997.66	13.15
670	SLU 31	-7	-80	7337	1279.78	1086.55	12.14
670	SLU 32	-7	-116	7500	1310.12	1110.64	17.41
670	SLU 33	-7	-95	7483	1305.75	1108.18	14.39
670	SLU 34	-6	-81	7425	1294.9	1099.66	12.31
670	SLU 35	-7	-117	7589	1325.24	1123.75	17.58
670	SLU 36	-6	-97	7571	1320.86	1121.29	14.56
670	SLU 37	-7	-117	7542	1317.31	1116.87	17.52
670	SLU 38	-6	-96	7525	1312.93	1114.41	14.5
670	SLU 39	-7	-118	7702	1341.96	1140.68	17.76
670	SLU 40	-6	-98	7685	1337.58	1138.22	14.73
670	SLU 41	-7	-120	7791	1357.07	1153.79	17.93
670	SLU 42	-6	-100	7773	1352.7	1151.33	14.91
670	SLU 43	-11	-117	7068	1255.95	1045.36	18.59
670	SLU 44	-11	-83	7039	1248.65	1041.26	13.55
670	SLU 45	-11	-119	7203	1278.99	1065.35	18.82
670	SLU 46	-11	-98	7185	1274.62	1062.89	15.8
670	SLU 47	-10	-85	7127	1263.77	1054.37	13.72
670	SLU 48	-11	-120	7291	1294.11	1078.46	18.99
670	SLU 49	-11	-100	7273	1289.73	1076	15.97
670	SLU 50	-11	-120	7244	1286.18	1071.58	18.93
670	SLU 51	-10	-100	7227	1281.8	1069.12	15.91
670	SLU 52	-10	-94	7825	1376.7	1158.01	14.9
670	SLU 53	-10	-130	7988	1407.05	1182.1	20.17
670	SLU 54	-10	-109	7971	1402.67	1179.64	17.14
670	SLU 55	-10	-95	7913	1391.82	1171.12	15.07
670	SLU 56	-10	-131	8077	1422.16	1195.21	20.34
670	SLU 57	-10	-111	8059	1417.79	1192.75	17.32
670	SLU 58	-10	-131	8030	1414.23	1188.33	20.28
670	SLU 59	-10	-110	8013	1409.86	1185.87	17.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
670	SLU 60	-10	-132	8190	1438.88	1212.14	20.51
670	SLU 61	-10	-112	8173	1434.5	1209.68	17.49
670	SLU 62	-10	-134	8279	1453.99	1225.25	20.69
670	SLU 63	-10	-114	8261	1449.62	1222.79	17.66
670	SLU 64	-10	-127	7973	1408.6	1179.7	19.8
670	SLU 65	-10	-93	7943	1401.3	1175.6	14.76
670	SLU 66	-10	-129	8107	1431.65	1199.7	20.03
670	SLU 67	-10	-109	8090	1427.27	1197.24	17.01
670	SLU 68	-10	-95	8032	1416.42	1188.72	14.93
670	SLU 69	-10	-131	8195	1446.76	1212.81	20.2
670	SLU 70	-10	-110	8178	1442.39	1210.35	17.18
670	SLU 71	-10	-130	8149	1438.83	1205.93	20.14
670	SLU 72	-10	-110	8132	1434.46	1203.47	17.12
670	SLU 73	-9	-104	8729	1529.36	1292.35	16.11
670	SLU 74	-10	-140	8893	1559.7	1316.44	21.38
670	SLU 75	-9	-120	8875	1555.32	1313.98	18.36
670	SLU 76	-9	-106	8817	1544.47	1305.46	16.28
670	SLU 77	-10	-141	8981	1574.81	1329.55	21.55
670	SLU 78	-9	-121	8964	1570.44	1327.1	18.53
670	SLU 79	-9	-141	8935	1566.88	1322.67	21.49
670	SLU 80	-9	-121	8917	1562.51	1320.21	18.47
670	SLU 81	-10	-143	9095	1591.53	1346.48	21.73
670	SLU 82	-9	-122	9078	1587.15	1344.03	18.7
670	SLU 83	-9	-144	9183	1606.65	1359.6	21.9
670	SLU 84	-9	-124	9166	1602.27	1357.14	18.87
670	SLE RA 1	-8	-96	5934	1049.99	877.94	14.96
670	SLE RA 2	-8	-73	5915	1045.12	875.21	11.6
670	SLE RA 3	-8	-97	6024	1065.35	891.27	15.12
670	SLE RA 4	-8	-83	6012	1062.43	889.63	13.1
670	SLE RA 5	-8	-74	5973	1055.2	883.95	11.72
670	SLE RA 6	-8	-98	6082	1075.43	900.01	15.23
670	SLE RA 7	-8	-84	6071	1072.51	898.37	13.22
670	SLE RA 8	-8	-98	6052	1070.14	895.42	15.19
670	SLE RA 9	-8	-84	6040	1067.23	893.78	13.18
670	SLE RA 10	-7	-80	6438	1130.49	953.04	12.5
670	SLE RA 11	-8	-104	6547	1150.72	969.1	16.02
670	SLE RA 12	-7	-91	6536	1147.8	967.46	14
670	SLE RA 13	-7	-81	6497	1140.57	961.78	12.62
670	SLE RA 14	-8	-105	6606	1160.8	977.84	16.13
670	SLE RA 15	-7	-92	6595	1157.88	976.2	14.12
670	SLE RA 16	-8	-105	6575	1155.51	973.25	16.09
670	SLE RA 17	-7	-91	6564	1152.59	971.61	14.08
670	SLE RA 18	-8	-106	6682	1171.94	989.13	16.25
670	SLE RA 19	-7	-92	6671	1169.02	987.49	14.23
670	SLE RA 20	-7	-107	6741	1182.02	997.87	16.36
670	SLE RA 21	-7	-93	6729	1179.1	996.23	14.35
670	SLE FR 1	-8	-96	5934	1049.99	877.94	14.96
670	SLE FR 2	-8	-91	5930	1049.02	877.39	14.29
670	SLE FR 3	-8	-96	5957	1054.02	881.43	15.01
670	SLE FR 4	-8	-94	6155	1085.6	910.75	14.68
670	SLE FR 5	-8	-99	6182	1090.61	914.79	15.39
670	SLE FR 6	-8	-101	6308	1110.96	933.53	15.61
670	SLE QP 1	-8	-96	5934	1049.99	877.94	14.96
670	SLE QP 2	-8	-99	6158	1086.57	911.29	15.35
670	SLD 1	506	101	5896	1111.65	868.47	-142.89
670	SLD 2	502	95	5890	1111.73	867.57	-140.62
670	SLD 3	498	-322	6258	1204.45	919.48	-80.07
670	SLD 4	494	-328	6252	1204.53	918.58	-77.8
670	SLD 5	160	603	5532	953.33	821.23	-127.78
670	SLD 6	157	599	5528	953.38	820.66	-126.32
670	SLD 7	132	-806	6738	1262.68	991.27	81.6
670	SLD 8	129	-810	6735	1262.73	990.69	83.06
670	SLD 9	-145	612	5582	910.42	831.9	-52.36
670	SLD 10	-148	609	5579	910.47	831.32	-50.9
670	SLD 11	-173	-797	6789	1219.77	1001.93	157.02
670	SLD 12	-176	-801	6785	1219.82	1001.35	158.48
670	SLD 13	-510	131	6064	968.62	904.01	108.5
670	SLD 14	-514	125	6059	968.7	903.11	110.77
670	SLD 15	-518	-292	6426	1061.42	955.02	171.31
670	SLD 16	-522	-298	6421	1061.5	954.12	173.58
670	SLV 1	798	242	5722	1119.02	840.68	-236.78
670	SLV 2	791	232	5713	1119.15	839.26	-233.2
670	SLV 3	783	-479	6339	1277.29	927.69	-129.64
670	SLV 4	777	-489	6330	1277.41	926.27	-126.07
670	SLV 5	256	1099	5093	856.25	758.4	-223.45
670	SLV 6	252	1092	5087	856.33	757.45	-221.04
670	SLV 7	209	-1304	7151	1383.8	1048.45	133.68
670	SLV 8	205	-1311	7145	1383.88	1047.49	136.08
670	SLV 9	-221	1114	5172	789.26	775.09	-105.39
670	SLV 10	-225	1107	5166	789.35	774.14	-102.98
670	SLV 11	-268	-1290	7230	1316.81	1065.14	251.74
670	SLV 12	-272	-1296	7224	1316.9	1064.18	254.14
670	SLV 13	-793	291	5987	895.73	896.32	156.76
670	SLV 14	-799	282	5978	895.86	894.9	160.34
670	SLV 15	-807	-430	6604	1054	983.33	263.9
670	SLV 16	-813	-439	6595	1054.12	981.91	267.47
670	SLV FO 1	878	276	5678	1122.27	833.62	-261.99
670	SLV FO 2	871	266	5668	1122.4	832.05	-258.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
670	SLV FO 3	862	-517	6357	1296.36	929.33	-144.14
670	SLV FO 4	855	-528	6347	1296.5	927.77	-140.21
670	SLV FO 5	283	1219	4986	833.22	743.11	-247.33
670	SLV FO 6	278	1212	4979	833.31	742.06	-244.68
670	SLV FO 7	231	-1425	7250	1413.52	1062.16	145.51
670	SLV FO 8	226	-1432	7243	1413.62	1061.11	148.15
670	SLV FO 9	-242	1235	5073	759.53	761.48	-117.46
670	SLV FO 10	-247	1228	5067	759.62	760.42	-114.81
670	SLV FO 11	-294	-1409	7337	1339.84	1080.52	275.38
670	SLV FO 12	-299	-1416	7331	1339.93	1079.47	278.02
670	SLV FO 13	-871	330	5969	876.65	894.82	170.9
670	SLV FO 14	-878	320	5960	876.79	893.26	174.84
670	SLV FO 15	-887	-463	6649	1050.74	990.53	288.76
670	SLV FO 16	-894	-473	6639	1050.88	988.97	292.69
670	CRTFP Ux+	0	0	0	0	0	0
670	CRTFP Ux-	0	0	0	0	0	0
670	CRTFP Uy+	0	0	0	0	0	0
670	CRTFP Uy-	0	0	0	0	0	0
672	SLU 1	-1	-98	5544	1052.81	-1174.56	-20.09
672	SLU 2	0	-64	5514	1044.71	-1168.17	-13.05
672	SLU 3	-1	-100	5674	1076.69	-1202.04	-20.62
672	SLU 4	0	-79	5656	1071.82	-1198.2	-16.39
672	SLU 5	0	-65	5599	1060.34	-1186.14	-13.46
672	SLU 6	0	-101	5759	1092.32	-1220.01	-21.03
672	SLU 7	0	-81	5741	1087.46	-1216.17	-16.8
672	SLU 8	0	-101	5714	1084.07	-1210.5	-20.91
672	SLU 9	0	-80	5696	1079.21	-1206.67	-16.68
672	SLU 10	0	-75	6272	1178.46	-1328.29	-15.49
672	SLU 11	0	-111	6433	1210.44	-1362.16	-23.06
672	SLU 12	0	-90	6414	1205.57	-1358.32	-18.84
672	SLU 13	1	-76	6357	1194.09	-1346.26	-15.9
672	SLU 14	0	-112	6518	1226.07	-1380.13	-23.47
672	SLU 15	1	-92	6500	1221.21	-1376.29	-19.25
672	SLU 16	0	-112	6473	1217.82	-1370.63	-23.35
672	SLU 17	1	-91	6455	1212.96	-1366.79	-19.13
672	SLU 18	0	-113	6627	1243.88	-1403.31	-23.58
672	SLU 19	0	-93	6609	1239.02	-1399.47	-19.36
672	SLU 20	0	-115	6713	1259.52	-1421.28	-23.99
672	SLU 21	1	-94	6694	1254.65	-1417.44	-19.77
672	SLU 22	1	-109	6420	1212	-1359.83	-22.88
672	SLU 23	1	-75	6390	1203.89	-1353.43	-15.83
672	SLU 24	1	-111	6550	1235.87	-1387.31	-23.4
672	SLU 25	1	-91	6532	1231.01	-1383.47	-19.18
672	SLU 26	1	-77	6475	1219.52	-1371.4	-16.24
672	SLU 27	1	-113	6635	1251.5	-1405.28	-23.81
672	SLU 28	2	-92	6617	1246.64	-1401.44	-19.58
672	SLU 29	1	-112	6590	1243.26	-1395.77	-23.69
672	SLU 30	1	-92	6572	1238.39	-1391.93	-19.47
672	SLU 31	2	-86	7148	1337.64	-1513.56	-18.28
672	SLU 32	2	-122	7309	1369.62	-1547.43	-25.85
672	SLU 33	2	-101	7291	1364.76	-1543.59	-21.62
672	SLU 34	2	-87	7234	1353.27	-1531.53	-18.69
672	SLU 35	2	-123	7394	1385.25	-1565.4	-26.25
672	SLU 36	2	-103	7376	1380.39	-1561.56	-22.03
672	SLU 37	2	-123	7349	1377.01	-1555.89	-26.14
672	SLU 38	2	-103	7331	1372.14	-1552.05	-21.91
672	SLU 39	2	-124	7504	1403.07	-1588.57	-26.37
672	SLU 40	2	-104	7485	1398.2	-1584.74	-22.14
672	SLU 41	2	-126	7589	1418.7	-1606.54	-26.78
672	SLU 42	2	-106	7571	1413.83	-1602.71	-22.55
672	SLU 43	-2	-123	6907	1314.08	-1463.41	-25.17
672	SLU 44	-1	-89	6877	1305.97	-1457.02	-18.12
672	SLU 45	-2	-125	7037	1337.96	-1490.89	-25.69
672	SLU 46	-1	-105	7019	1333.09	-1487.05	-21.47
672	SLU 47	-1	-91	6962	1321.6	-1474.99	-18.53
672	SLU 48	-1	-127	7122	1353.59	-1508.86	-26.1
672	SLU 49	-1	-106	7104	1348.72	-1505.02	-21.88
672	SLU 50	-1	-126	7077	1345.34	-1499.35	-25.98
672	SLU 51	-1	-106	7059	1340.48	-1495.51	-21.76
672	SLU 52	0	-100	7635	1439.72	-1617.14	-20.57
672	SLU 53	-1	-136	7795	1471.71	-1651.01	-28.14
672	SLU 54	0	-116	7777	1466.84	-1647.17	-23.91
672	SLU 55	0	-102	7720	1455.35	-1635.11	-20.98
672	SLU 56	-1	-138	7880	1487.34	-1668.98	-28.54
672	SLU 57	0	-117	7862	1482.47	-1665.14	-24.32
672	SLU 58	-1	-137	7836	1479.09	-1659.47	-28.43
672	SLU 59	0	-117	7817	1474.23	-1655.64	-24.2
672	SLU 60	-1	-138	7990	1505.15	-1692.16	-28.66
672	SLU 61	0	-118	7972	1500.29	-1688.32	-24.43
672	SLU 62	0	-140	8075	1520.78	-1710.13	-29.07
672	SLU 63	0	-120	8057	1515.92	-1706.29	-24.84
672	SLU 64	0	-134	7783	1473.26	-1648.68	-27.95
672	SLU 65	0	-100	7753	1465.16	-1642.28	-20.91
672	SLU 66	0	-136	7913	1497.14	-1676.15	-28.48
672	SLU 67	0	-116	7895	1492.28	-1672.32	-24.25
672	SLU 68	1	-102	7838	1480.79	-1660.25	-21.31
672	SLU 69	0	-138	7998	1512.77	-1694.13	-28.88
672	SLU 70	1	-118	7980	1507.91	-1690.29	-24.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
672	SLU 71	0	-137	7953	1504.52	-1684.62	-28.77
672	SLU 72	1	-117	7935	1499.66	-1680.78	-24.54
672	SLU 73	1	-111	8511	1598.91	-1802.4	-23.35
672	SLU 74	1	-147	8671	1630.89	-1836.28	-30.92
672	SLU 75	1	-127	8653	1626.03	-1832.44	-26.69
672	SLU 76	1	-113	8596	1614.54	-1820.37	-23.76
672	SLU 77	1	-149	8757	1646.52	-1854.25	-31.33
672	SLU 78	1	-128	8738	1641.66	-1850.41	-27.1
672	SLU 79	1	-148	8712	1638.27	-1844.74	-31.21
672	SLU 80	1	-128	8694	1633.41	-1840.9	-26.98
672	SLU 81	1	-150	8866	1664.34	-1877.42	-31.44
672	SLU 82	1	-129	8848	1659.47	-1873.59	-27.22
672	SLU 83	1	-151	8952	1679.97	-1895.39	-31.85
672	SLU 84	1	-131	8933	1675.1	-1891.56	-27.62
672	SLE RA 1	-1	-101	5794	1098.29	-1227.5	-20.89
672	SLE RA 2	0	-78	5774	1092.89	-1223.23	-16.19
672	SLE RA 3	0	-102	5881	1114.21	-1245.81	-21.24
672	SLE RA 4	0	-89	5869	1110.97	-1243.26	-18.42
672	SLE RA 5	0	-79	5831	1103.31	-1235.21	-16.46
672	SLE RA 6	0	-103	5938	1124.63	-1257.79	-21.51
672	SLE RA 7	0	-90	5926	1121.39	-1255.24	-18.69
672	SLE RA 8	0	-103	5908	1119.13	-1251.46	-21.43
672	SLE RA 9	0	-89	5896	1115.89	-1248.9	-18.61
672	SLE RA 10	0	-85	6280	1182.06	-1329.98	-17.82
672	SLE RA 11	0	-109	6387	1203.38	-1352.56	-22.87
672	SLE RA 12	0	-96	6375	1200.14	-1350	-20.05
672	SLE RA 13	1	-86	6337	1192.48	-1341.96	-18.09
672	SLE RA 14	0	-110	6443	1213.8	-1364.54	-23.14
672	SLE RA 15	1	-97	6431	1210.56	-1361.98	-20.32
672	SLE RA 16	0	-110	6413	1208.3	-1358.2	-23.06
672	SLE RA 17	1	-97	6401	1205.06	-1355.65	-20.24
672	SLE RA 18	0	-111	6517	1225.68	-1379.99	-23.22
672	SLE RA 19	0	-98	6505	1222.43	-1377.43	-20.4
672	SLE RA 20	0	-112	6573	1236.1	-1391.97	-23.49
672	SLE RA 21	1	-99	6561	1232.85	-1389.42	-20.67
672	SLE FR 1	-1	-101	5794	1098.29	-1227.5	-20.89
672	SLE FR 2	0	-96	5790	1097.21	-1226.64	-19.95
672	SLE FR 3	0	-101	5817	1102.46	-1232.29	-21
672	SLE FR 4	0	-99	6007	1135.43	-1272.39	-20.65
672	SLE FR 5	0	-104	6034	1140.68	-1278.04	-21.69
672	SLE FR 6	0	-106	6155	1161.98	-1303.74	-22.05
672	SLE QP 1	-1	-101	5794	1098.29	-1227.5	-20.89
672	SLE QP 2	0	-104	6011	1136.51	-1273.25	-21.59
672	SLD 1	500	96	5791	1184.05	-1244.39	-102.4
672	SLD 2	497	96	5787	1184.41	-1243.63	-101.01
672	SLD 3	491	-331	6165	1286.48	-1323.57	-191.3
672	SLD 4	487	-331	6161	1286.84	-1322.81	-189.91
672	SLD 5	165	604	5378	995.36	-1144.63	88.77
672	SLD 6	163	604	5375	995.6	-1144.13	89.66
672	SLD 7	133	-820	6626	1336.78	-1408.57	-207.58
672	SLD 8	131	-820	6623	1337.02	-1408.07	-206.68
672	SLD 9	-131	612	5399	936	-1138.42	163.51
672	SLD 10	-134	612	5396	936.23	-1137.92	164.4
672	SLD 11	-163	-812	6647	1277.42	-1402.36	-132.83
672	SLD 12	-166	-812	6644	1277.66	-1401.86	-131.94
672	SLD 13	-488	123	5861	986.18	-1223.68	146.74
672	SLD 14	-491	124	5857	986.54	-1222.92	148.13
672	SLD 15	-497	-304	6235	1088.6	-1302.86	57.84
672	SLD 16	-501	-304	6231	1088.97	-1302.1	59.23
672	SLV 1	784	238	5636	1203.38	-1223.19	-141.74
672	SLV 2	778	238	5630	1203.95	-1221.98	-139.55
672	SLV 3	767	-491	6275	1378.03	-1358.22	-293.36
672	SLV 4	762	-490	6268	1378.6	-1357.01	-291.17
672	SLV 5	261	1104	4932	891.58	-1053.65	171.92
672	SLV 6	257	1104	4927	891.96	-1052.84	173.39
672	SLV 7	206	-1325	7059	1473.74	-1503.76	-333.49
672	SLV 8	202	-1325	7055	1474.13	-1502.95	-332.01
672	SLV 9	-203	1117	4967	798.89	-1043.54	288.84
672	SLV 10	-207	1117	4963	799.27	-1042.73	290.32
672	SLV 11	-258	-1311	7095	1381.05	-1493.65	-216.57
672	SLV 12	-262	-1311	7090	1381.44	-1492.84	-215.09
672	SLV 13	-762	283	5754	894.42	-1189.48	248
672	SLV 14	-768	283	5747	894.99	-1188.27	250.19
672	SLV 15	-779	-446	6392	1069.07	-1324.51	96.38
672	SLV 16	-784	-446	6386	1069.64	-1323.3	98.57
672	SLV FO 1	862	272	5599	1210.06	-1218.18	-153.76
672	SLV FO 2	856	272	5592	1210.7	-1216.85	-151.34
672	SLV FO 3	844	-529	6301	1402.18	-1366.72	-320.54
672	SLV FO 4	838	-529	6294	1402.81	-1365.39	-318.13
672	SLV FO 5	287	1224	4824	867.08	-1031.69	191.27
672	SLV FO 6	283	1224	4819	867.51	-1030.8	192.89
672	SLV FO 7	227	-1447	7164	1507.47	-1526.82	-364.68
672	SLV FO 8	223	-1447	7160	1507.89	-1525.92	-363.05
672	SLV FO 9	-223	1239	4862	765.13	-1020.57	319.88
672	SLV FO 10	-228	1239	4858	765.55	-1019.67	321.51
672	SLV FO 11	-283	-1432	7203	1405.51	-1515.69	-236.06
672	SLV FO 12	-288	-1432	7198	1405.93	-1514.8	-234.44
672	SLV FO 13	-838	321	5728	870.21	-1181.1	274.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
672	SLV FO 14	-845	322	5721	870.84	-1179.77	277.37
672	SLV FO 15	-856	-480	6430	1062.32	-1329.64	108.17
672	SLV FO 16	-863	-480	6423	1062.95	-1328.31	110.59
672	CRTFP Ux+	0	0	0	0	0	0
672	CRTFP Ux-	0	0	0	0	0	0
672	CRTFP Uy+	0	0	0	0	0	0
672	CRTFP Uy-	0	0	0	0	0	0
675	SLU 1	19	-126	8993	1363.47	2203.75	33.26
675	SLU 2	21	-72	8951	1353.52	2193.05	19.66
675	SLU 3	20	-130	9200	1395.86	2254.67	33.98
675	SLU 4	21	-97	9175	1389.89	2248.24	25.81
675	SLU 5	21	-75	9087	1374.74	2226.28	20.2
675	SLU 6	21	-132	9335	1417.07	2287.9	34.52
675	SLU 7	22	-100	9310	1411.11	2281.48	26.36
675	SLU 8	21	-131	9263	1405.9	2270.21	34.35
675	SLU 9	21	-99	9238	1399.93	2263.79	26.19
675	SLU 10	23	-86	10167	1536.68	2491.79	23.31
675	SLU 11	22	-144	10416	1579.01	2553.41	37.63
675	SLU 12	23	-111	10391	1573.04	2546.99	29.47
675	SLU 13	23	-89	10302	1557.89	2525.02	23.86
675	SLU 14	23	-147	10551	1600.23	2586.64	38.18
675	SLU 15	24	-114	10526	1594.26	2580.22	30.01
675	SLU 16	23	-146	10478	1589.05	2568.96	38.01
675	SLU 17	24	-113	10454	1583.09	2562.54	29.84
675	SLU 18	22	-147	10729	1625.11	2630.53	38.48
675	SLU 19	23	-114	10705	1619.15	2624.11	30.31
675	SLU 20	23	-149	10864	1646.33	2663.76	39.02
675	SLU 21	24	-117	10840	1640.36	2657.34	30.86
675	SLU 22	25	-142	10402	1580.42	2548.83	36.83
675	SLU 23	26	-88	10361	1570.48	2538.12	23.23
675	SLU 24	26	-145	10610	1612.81	2599.75	37.55
675	SLU 25	26	-113	10585	1606.85	2593.32	29.39
675	SLU 26	27	-90	10496	1591.7	2571.36	23.78
675	SLU 27	26	-148	10745	1634.03	2632.98	38.1
675	SLU 28	27	-115	10720	1628.06	2626.55	29.93
675	SLU 29	26	-147	10672	1622.86	2615.29	37.93
675	SLU 30	27	-114	10648	1616.89	2608.87	29.76
675	SLU 31	28	-102	11577	1753.63	2836.87	26.88
675	SLU 32	28	-160	11825	1795.97	2898.49	41.2
675	SLU 33	28	-127	11801	1790	2892.07	33.04
675	SLU 34	29	-105	11712	1774.85	2870.1	27.43
675	SLU 35	28	-162	11960	1817.18	2931.72	41.75
675	SLU 36	29	-130	11936	1811.22	2925.3	33.59
675	SLU 37	28	-161	11888	1806.01	2914.04	41.58
675	SLU 38	29	-129	11863	1800.04	2907.62	33.42
675	SLU 39	28	-163	12139	1842.07	2975.61	42.05
675	SLU 40	28	-130	12114	1836.1	2969.19	33.89
675	SLU 41	28	-165	12274	1863.29	3008.84	42.6
675	SLU 42	29	-132	12249	1857.32	3002.42	34.43
675	SLU 43	24	-159	11207	1698.12	2746.56	42.01
675	SLU 44	25	-105	11166	1688.18	2735.86	28.41
675	SLU 45	24	-162	11414	1730.51	2797.48	42.73
675	SLU 46	25	-130	11390	1724.55	2791.06	34.57
675	SLU 47	25	-107	11301	1709.4	2769.09	28.96
675	SLU 48	25	-165	11549	1751.73	2830.71	43.28
675	SLU 49	26	-132	11525	1745.76	2824.29	35.12
675	SLU 50	25	-164	11477	1740.55	2813.02	43.11
675	SLU 51	26	-131	11452	1734.59	2806.6	34.95
675	SLU 52	27	-119	12382	1871.33	3034.61	32.06
675	SLU 53	26	-177	12630	1913.66	3096.23	46.38
675	SLU 54	27	-144	12605	1907.7	3089.8	38.22
675	SLU 55	27	-122	12517	1892.55	3067.84	32.61
675	SLU 56	27	-179	12765	1934.88	3129.46	46.93
675	SLU 57	28	-147	12740	1928.92	3123.03	38.77
675	SLU 58	27	-178	12693	1923.71	3111.77	46.76
675	SLU 59	28	-146	12668	1917.74	3105.35	38.6
675	SLU 60	26	-180	12944	1959.77	3173.34	47.23
675	SLU 61	27	-147	12919	1953.8	3166.92	39.07
675	SLU 62	27	-182	13079	1980.99	3206.57	47.78
675	SLU 63	28	-149	13054	1975.02	3200.15	39.62
675	SLU 64	29	-175	12617	1915.08	3091.64	45.58
675	SLU 65	30	-120	12576	1905.14	3080.94	31.98
675	SLU 66	30	-178	12824	1947.47	3142.56	46.3
675	SLU 67	30	-145	12799	1941.5	3136.13	38.14
675	SLU 68	31	-123	12711	1926.35	3114.17	32.53
675	SLU 69	30	-180	12959	1968.68	3175.79	46.85
675	SLU 70	31	-148	12934	1962.72	3169.37	38.69
675	SLU 71	30	-180	12887	1957.51	3158.1	46.68
675	SLU 72	31	-147	12862	1951.55	3151.68	38.52
675	SLU 73	32	-135	13791	2088.29	3379.68	35.63
675	SLU 74	32	-192	14040	2130.62	3441.3	49.95
675	SLU 75	32	-160	14015	2124.66	3434.88	41.79
675	SLU 76	33	-137	13926	2109.5	3412.92	36.18
675	SLU 77	32	-195	14175	2151.84	3474.54	50.5
675	SLU 78	33	-162	14150	2145.87	3468.11	42.34
675	SLU 79	32	-194	14103	2140.66	3456.85	50.33
675	SLU 80	33	-161	14078	2134.7	3450.43	42.17
675	SLU 81	32	-195	14354	2176.73	3518.42	50.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
675	SLU 82	32	-163	14329	2170.76	3512	42.64
675	SLU 83	32	-198	14489	2197.94	3551.65	51.35
675	SLU 84	33	-165	14464	2191.98	3545.23	43.19
675	SLE RA 1	21	-131	9395	1425.45	2302.34	34.28
675	SLE RA 2	22	-95	9368	1418.83	2295.21	25.21
675	SLE RA 3	22	-133	9534	1447.05	2336.29	34.76
675	SLE RA 4	22	-111	9517	1443.07	2332.01	29.32
675	SLE RA 5	22	-96	9458	1432.97	2317.36	25.58
675	SLE RA 6	22	-135	9624	1461.19	2358.44	35.12
675	SLE RA 7	22	-113	9607	1457.22	2354.16	29.68
675	SLE RA 8	22	-134	9575	1453.74	2346.65	35.01
675	SLE RA 9	22	-112	9559	1449.77	2342.37	29.57
675	SLE RA 10	23	-104	10178	1540.93	2494.37	27.65
675	SLE RA 11	23	-143	10344	1569.15	2535.45	37.19
675	SLE RA 12	23	-121	10328	1565.17	2531.17	31.75
675	SLE RA 13	24	-106	10268	1555.07	2516.53	28.01
675	SLE RA 14	23	-144	10434	1583.29	2557.61	37.56
675	SLE RA 15	24	-123	10418	1579.32	2553.33	32.12
675	SLE RA 16	23	-144	10386	1575.84	2545.82	37.44
675	SLE RA 17	24	-122	10369	1571.87	2541.53	32
675	SLE RA 18	23	-145	10553	1599.89	2586.86	37.76
675	SLE RA 19	23	-123	10537	1595.91	2582.58	32.32
675	SLE RA 20	23	-146	10643	1614.03	2609.02	38.12
675	SLE RA 21	24	-125	10627	1610.05	2604.74	32.68
675	SLE FR 1	21	-131	9395	1425.45	2302.34	34.28
675	SLE FR 2	21	-124	9390	1424.13	2300.91	32.47
675	SLE FR 3	21	-132	9431	1431.11	2311.2	34.43
675	SLE FR 4	22	-128	9737	1476.46	2386.27	33.51
675	SLE FR 5	22	-136	9779	1483.44	2396.56	35.47
675	SLE FR 6	22	-138	9974	1512.67	2444.6	36.02
675	SLE QP 1	21	-131	9395	1425.45	2302.34	34.28
675	SLE QP 2	22	-135	9743	1477.78	2387.7	35.32
675	SLD 1	814	181	9586	1439.03	2357.97	-175.52
675	SLD 2	811	196	9584	1438.17	2357.07	-176.83
675	SLD 3	795	-507	10082	1567.98	2487.18	-3.34
675	SLD 4	792	-492	10080	1567.13	2486.28	-4.64
675	SLD 5	288	1001	8945	1270.72	2182.96	-288.85
675	SLD 6	286	1011	8943	1270.17	2182.39	-289.69
675	SLD 7	226	-1293	10596	1700.57	2613.67	285.1
675	SLD 8	224	-1283	10595	1700.02	2613.09	284.26
675	SLD 9	-181	1013	8890	1255.55	2162.31	-213.61
675	SLD 10	-183	1023	8889	1254.99	2161.73	-214.45
675	SLD 11	-243	-1281	10542	1685.4	2593.01	360.34
675	SLD 12	-245	-1271	10541	1684.85	2592.43	359.5
675	SLD 13	-749	222	9405	1388.44	2289.12	75.29
675	SLD 14	-752	238	9404	1387.58	2288.22	73.98
675	SLD 15	-768	-466	9901	1517.4	2418.33	247.47
675	SLD 16	-771	-451	9899	1516.54	2417.43	246.17
675	SLV 1	1262	406	9467	1408.4	2332.79	-306.86
675	SLV 2	1258	431	9464	1407.05	2331.37	-308.92
675	SLV 3	1231	-768	10312	1628.32	2553.1	-13.18
675	SLV 4	1226	-743	10309	1626.97	2551.69	-15.24
675	SLV 5	442	1803	8379	1123.68	2037.34	-512.38
675	SLV 6	439	1820	8377	1122.77	2036.38	-513.76
675	SLV 7	337	-2110	11196	1856.74	2771.74	466.58
675	SLV 8	334	-2093	11194	1855.83	2770.78	465.2
675	SLV 9	-291	1823	8292	1099.74	2004.61	-394.55
675	SLV 10	-294	1840	8290	1098.83	2003.66	-395.94
675	SLV 11	-396	-2090	11108	1832.8	2739.01	584.41
675	SLV 12	-399	-2073	11106	1831.89	2738.06	583.02
675	SLV 13	-1183	473	9176	1328.6	2223.71	85.88
675	SLV 14	-1188	498	9173	1327.25	2222.29	83.82
675	SLV 15	-1215	-701	10021	1548.52	2444.03	379.57
675	SLV 16	-1219	-676	10018	1547.17	2442.61	377.51
675	SLV FO 1	1386	460	9439	1401.46	2327.29	-341.08
675	SLV FO 2	1381	487	9436	1399.98	2325.74	-343.35
675	SLV FO 3	1352	-831	10369	1643.37	2569.65	-18.03
675	SLV FO 4	1347	-804	10366	1641.89	2568.09	-20.29
675	SLV FO 5	485	1997	8243	1088.26	2002.3	-567.15
675	SLV FO 6	481	2015	8241	1087.27	2001.25	-568.67
675	SLV FO 7	369	-2307	11341	1894.64	2810.14	509.71
675	SLV FO 8	366	-2289	11339	1893.64	2809.09	508.18
675	SLV FO 9	-322	2019	8147	1061.93	1966.31	-437.54
675	SLV FO 10	-326	2037	8145	1060.93	1965.26	-439.06
675	SLV FO 11	-438	-2285	11245	1868.3	2774.14	639.32
675	SLV FO 12	-441	-2267	11243	1867.3	2773.1	637.79
675	SLV FO 13	-1303	534	9120	1313.68	2207.31	90.94
675	SLV FO 14	-1309	561	9117	1312.2	2205.75	88.67
675	SLV FO 15	-1338	-757	10049	1555.59	2449.66	413.99
675	SLV FO 16	-1343	-730	10046	1554.11	2448.1	411.73
675	CRTFP Ux+	0	0	0	0	0	0
675	CRTFP Ux-	0	0	0	0	0	0
675	CRTFP Uy+	0	0	0	0	0	0
675	CRTFP Uy-	0	0	0	0	0	0
679	SLU 1	22	3	5239	1312.36	103.47	-5.07
679	SLU 2	23	35	5228	1309.27	102.25	-5.88
679	SLU 3	23	3	5357	1341.97	106.01	-5.25
679	SLU 4	23	22	5351	1340.11	105.28	-5.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
679	SLU 5	23	34	5304	1328.42	103.94	-6
679	SLU 6	23	2	5434	1361.12	107.69	-5.37
679	SLU 7	24	21	5427	1359.27	106.96	-5.86
679	SLU 8	23	2	5392	1350.66	106.84	-5.31
679	SLU 9	24	21	5385	1348.81	106.11	-5.79
679	SLU 10	25	34	5933	1486.02	116.29	-6.26
679	SLU 11	25	3	6062	1518.73	120.05	-5.64
679	SLU 12	25	21	6055	1516.87	119.32	-6.12
679	SLU 13	25	34	6009	1505.18	117.98	-6.38
679	SLU 14	25	2	6138	1537.88	121.73	-5.75
679	SLU 15	26	21	6132	1536.02	121	-6.24
679	SLU 16	25	2	6097	1527.42	120.88	-5.69
679	SLU 17	25	20	6090	1525.57	120.15	-6.17
679	SLU 18	25	3	6246	1564.87	123.52	-5.62
679	SLU 19	25	22	6239	1563.01	122.79	-6.1
679	SLU 20	25	2	6322	1584.02	125.21	-5.73
679	SLU 21	26	21	6316	1582.17	124.48	-6.22
679	SLU 22	26	4	6063	1519.59	119.78	-6.13
679	SLU 23	27	35	6052	1516.5	118.56	-6.94
679	SLU 24	27	4	6181	1549.2	122.32	-6.32
679	SLU 25	28	22	6174	1547.35	121.59	-6.8
679	SLU 26	28	35	6128	1535.65	120.25	-7.06
679	SLU 27	28	3	6257	1568.35	124.01	-6.44
679	SLU 28	28	22	6250	1566.5	123.28	-6.92
679	SLU 29	27	3	6216	1557.9	123.15	-6.37
679	SLU 30	28	22	6209	1556.04	122.42	-6.85
679	SLU 31	29	35	6756	1693.26	132.6	-7.32
679	SLU 32	29	3	6886	1725.96	136.36	-6.7
679	SLU 33	30	22	6879	1724.1	135.63	-7.19
679	SLU 34	30	34	6833	1712.41	134.29	-7.44
679	SLU 35	30	3	6962	1745.11	138.05	-6.82
679	SLU 36	30	21	6955	1743.26	137.32	-7.3
679	SLU 37	29	2	6920	1734.65	137.19	-6.75
679	SLU 38	30	21	6913	1732.8	136.46	-7.24
679	SLU 39	29	4	7070	1772.1	139.84	-6.68
679	SLU 40	30	22	7063	1770.24	139.11	-7.16
679	SLU 41	30	3	7146	1791.25	141.52	-6.8
679	SLU 42	30	22	7139	1789.4	140.79	-7.28
679	SLU 43	27	4	6529	1635.01	128.91	-6.23
679	SLU 44	28	35	6517	1631.92	127.7	-7.04
679	SLU 45	28	4	6647	1664.63	131.45	-6.41
679	SLU 46	28	22	6640	1662.77	130.72	-6.9
679	SLU 47	28	35	6594	1651.08	129.38	-7.15
679	SLU 48	28	3	6723	1683.78	133.14	-6.53
679	SLU 49	29	22	6716	1681.92	132.41	-7.01
679	SLU 50	28	3	6681	1673.32	132.28	-6.46
679	SLU 51	29	22	6674	1671.47	131.56	-6.95
679	SLU 52	30	35	7222	1808.68	141.74	-7.42
679	SLU 53	30	3	7352	1841.38	145.49	-6.79
679	SLU 54	30	22	7345	1839.53	144.76	-7.28
679	SLU 55	30	34	7298	1827.83	143.42	-7.54
679	SLU 56	30	3	7428	1860.54	147.18	-6.91
679	SLU 57	31	21	7421	1858.68	146.45	-7.4
679	SLU 58	30	3	7386	1850.08	146.32	-6.84
679	SLU 59	30	21	7379	1848.22	145.6	-7.33
679	SLU 60	30	4	7536	1887.52	148.97	-6.77
679	SLU 61	30	22	7529	1885.67	148.24	-7.26
679	SLU 62	30	3	7612	1906.68	150.65	-6.89
679	SLU 63	31	22	7605	1904.82	149.93	-7.38
679	SLU 64	31	5	7352	1842.25	145.23	-7.29
679	SLU 65	32	36	7341	1839.15	144.01	-8.1
679	SLU 66	32	4	7470	1871.86	147.77	-7.47
679	SLU 67	33	23	7464	1870	147.04	-7.96
679	SLU 68	33	35	7417	1858.31	145.7	-8.22
679	SLU 69	33	4	7547	1891.01	149.45	-7.59
679	SLU 70	33	23	7540	1889.15	148.72	-8.08
679	SLU 71	33	4	7505	1880.55	148.6	-7.53
679	SLU 72	33	22	7498	1878.7	147.87	-8.01
679	SLU 73	34	36	8046	2015.91	158.05	-8.48
679	SLU 74	34	4	8175	2048.61	161.81	-7.86
679	SLU 75	35	23	8168	2046.76	161.08	-8.34
679	SLU 76	35	35	8122	2035.06	159.74	-8.6
679	SLU 77	35	3	8251	2067.77	163.49	-7.97
679	SLU 78	35	22	8245	2065.91	162.76	-8.46
679	SLU 79	34	3	8210	2057.31	162.64	-7.91
679	SLU 80	35	22	8203	2055.45	161.91	-8.39
679	SLU 81	34	4	8359	2094.76	165.28	-7.84
679	SLU 82	35	23	8352	2092.9	164.55	-8.32
679	SLU 83	35	4	8435	2113.91	166.97	-7.95
679	SLU 84	35	22	8429	2112.05	166.24	-8.44
679	SLE RA 1	23	4	5475	1371.57	108.13	-5.37
679	SLE RA 2	24	24	5467	1369.51	107.32	-5.91
679	SLE RA 3	24	3	5553	1391.31	109.82	-5.5
679	SLE RA 4	24	16	5549	1390.07	109.33	-5.82
679	SLE RA 5	24	24	5518	1382.27	108.44	-5.99
679	SLE RA 6	24	3	5604	1404.08	110.94	-5.58
679	SLE RA 7	24	15	5600	1402.84	110.46	-5.9
679	SLE RA 8	24	3	5576	1397.1	110.38	-5.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
679	SLE RA 9	24	15	5572	1395.87	109.89	-5.85
679	SLE RA 10	25	24	5937	1487.34	116.68	-6.17
679	SLE RA 11	25	3	6023	1509.15	119.18	-5.75
679	SLE RA 12	25	16	6019	1507.91	118.69	-6.08
679	SLE RA 13	25	24	5988	1500.11	117.8	-6.25
679	SLE RA 14	25	3	6074	1521.91	120.3	-5.83
679	SLE RA 15	26	15	6069	1520.68	119.82	-6.15
679	SLE RA 16	25	3	6046	1514.94	119.74	-5.79
679	SLE RA 17	26	15	6042	1513.71	119.25	-6.11
679	SLE RA 18	25	3	6146	1539.91	121.5	-5.74
679	SLE RA 19	25	16	6141	1538.67	121.01	-6.06
679	SLE RA 20	25	3	6197	1552.68	122.62	-5.82
679	SLE RA 21	26	15	6192	1551.44	122.14	-6.14
679	SLE FR 1	23	4	5475	1371.57	108.13	-5.37
679	SLE FR 2	23	8	5473	1371.15	107.96	-5.48
679	SLE FR 3	23	3	5495	1376.67	108.58	-5.41
679	SLE FR 4	24	8	5675	1421.66	111.98	-5.59
679	SLE FR 5	24	3	5696	1427.18	112.59	-5.51
679	SLE FR 6	24	3	5810	1455.74	114.81	-5.56
679	SLE QP 1	23	4	5475	1371.57	108.13	-5.37
679	SLE QP 2	24	4	5676	1422.07	112.14	-5.48
679	SLD 1	496	175	5412	1351.11	119.77	-130.26
679	SLD 2	493	202	5417	1352.55	119.44	-129.76
679	SLD 3	483	-221	5540	1387.57	135.16	-119.87
679	SLD 4	481	-194	5545	1389.01	134.84	-119.36
679	SLD 5	185	651	5401	1345.23	91.14	-58.77
679	SLD 6	183	668	5404	1346.16	90.93	-58.44
679	SLD 7	143	-669	5829	1466.77	142.44	-24.12
679	SLD 8	141	-652	5833	1467.7	142.24	-23.8
679	SLD 9	-93	659	5520	1376.44	82.04	12.83
679	SLD 10	-95	676	5523	1377.37	81.83	13.15
679	SLD 11	-136	-661	5948	1497.97	133.35	47.48
679	SLD 12	-138	-644	5951	1498.91	133.14	47.8
679	SLD 13	-433	201	5807	1455.12	89.44	108.4
679	SLD 14	-436	228	5812	1456.57	89.12	108.9
679	SLD 15	-446	-195	5936	1491.59	104.83	118.79
679	SLD 16	-449	-168	5941	1493.03	104.51	119.29
679	SLV 1	764	299	5254	1308.72	122.95	-201.46
679	SLV 2	759	342	5262	1311	122.45	-200.67
679	SLV 3	742	-377	5473	1370.86	149.2	-183.74
679	SLV 4	738	-334	5481	1373.14	148.69	-182.95
679	SLV 5	279	1108	5216	1293.39	75.67	-91.31
679	SLV 6	276	1137	5221	1294.93	75.32	-90.77
679	SLV 7	207	-1143	5946	1500.53	163.16	-32.23
679	SLV 8	204	-1114	5951	1502.06	162.82	-31.69
679	SLV 9	-157	1121	5401	1342.07	61.46	20.73
679	SLV 10	-160	1150	5406	1343.61	61.11	21.26
679	SLV 11	-229	-1130	6131	1549.21	148.95	79.81
679	SLV 12	-232	-1101	6136	1550.75	148.61	80.34
679	SLV 13	-690	341	5871	1471	75.58	171.98
679	SLV 14	-695	384	5879	1473.28	75.07	172.77
679	SLV 15	-712	-335	6090	1533.14	101.83	189.71
679	SLV 16	-716	-292	6098	1535.42	101.32	190.5
679	SLV FO 1	838	328	5212	1297.38	124.04	-221.06
679	SLV FO 2	833	376	5221	1299.89	123.48	-220.19
679	SLV FO 3	814	-415	5453	1365.74	152.91	-201.56
679	SLV FO 4	809	-367	5461	1368.25	152.35	-200.69
679	SLV FO 5	305	1219	5170	1280.52	72.02	-99.89
679	SLV FO 6	302	1251	5176	1282.21	71.64	-99.3
679	SLV FO 7	226	-1258	5973	1508.37	168.27	-34.9
679	SLV FO 8	222	-1226	5979	1510.06	167.89	-34.31
679	SLV FO 9	-175	1233	5373	1334.07	56.39	23.35
679	SLV FO 10	-178	1265	5379	1335.76	56.01	23.93
679	SLV FO 11	-254	-1244	6177	1561.93	152.63	88.34
679	SLV FO 12	-257	-1212	6182	1563.62	152.26	88.92
679	SLV FO 13	-762	374	5891	1475.89	71.93	189.73
679	SLV FO 14	-767	422	5899	1478.4	71.37	190.6
679	SLV FO 15	-785	-369	6132	1544.24	100.8	209.22
679	SLV FO 16	-790	-321	6140	1546.75	100.24	210.1
679	CRTFP Ux+	0	0	0	0	0	0
679	CRTFP Ux-	0	0	0	0	0	0
679	CRTFP Uy+	0	0	0	0	0	0
679	CRTFP Uy-	0	0	0	0	0	0
681	SLU 1	55	12	7303	929.06	-507.98	-5.28
681	SLU 2	56	54	7289	926.73	-507.01	-2.68
681	SLU 3	57	11	7468	950.22	-519.61	-5.52
681	SLU 4	58	37	7460	948.82	-519.03	-3.96
681	SLU 5	57	54	7396	940.43	-514.5	-2.86
681	SLU 6	58	11	7574	963.92	-527.11	-5.7
681	SLU 7	59	36	7566	962.51	-526.53	-4.14
681	SLU 8	57	10	7516	956.46	-522.97	-5.64
681	SLU 9	58	36	7507	955.06	-522.39	-4.08
681	SLU 10	60	55	8269	1051.84	-575.13	-3.05
681	SLU 11	61	12	8448	1075.33	-587.74	-5.88
681	SLU 12	61	37	8439	1073.93	-587.15	-4.32
681	SLU 13	61	54	8375	1065.54	-582.63	-3.23
681	SLU 14	62	11	8554	1089.03	-595.23	-6.06
681	SLU 15	63	37	8546	1087.63	-594.65	-4.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
681	SLU 16	61	11	8495	1081.57	-591.1	-6.01
681	SLU 17	62	36	8487	1080.17	-590.52	-4.45
681	SLU 18	61	13	8703	1107.8	-605.3	-5.8
681	SLU 19	61	38	8694	1106.4	-604.72	-4.24
681	SLU 20	62	12	8809	1121.5	-612.8	-5.98
681	SLU 21	63	38	8801	1120.09	-612.21	-4.42
681	SLU 22	64	14	8450	1077.33	-588.39	-6.17
681	SLU 23	65	57	8436	1074.99	-587.42	-3.58
681	SLU 24	66	14	8615	1098.48	-600.03	-6.41
681	SLU 25	66	39	8607	1097.08	-599.44	-4.85
681	SLU 26	66	56	8543	1088.69	-594.92	-3.76
681	SLU 27	67	13	8722	1112.18	-607.52	-6.59
681	SLU 28	68	38	8713	1110.78	-606.94	-5.03
681	SLU 29	66	13	8663	1104.73	-603.39	-6.54
681	SLU 30	67	38	8655	1103.32	-602.81	-4.98
681	SLU 31	69	57	9416	1200.11	-655.55	-3.94
681	SLU 32	70	15	9595	1223.6	-668.15	-6.77
681	SLU 33	70	40	9587	1222.2	-667.57	-5.22
681	SLU 34	70	57	9523	1213.81	-663.05	-4.12
681	SLU 35	71	14	9702	1237.3	-675.65	-6.96
681	SLU 36	71	39	9693	1235.9	-675.07	-5.4
681	SLU 37	70	13	9643	1229.84	-671.51	-6.9
681	SLU 38	71	39	9635	1228.44	-670.93	-5.34
681	SLU 39	70	15	9850	1256.06	-685.72	-6.69
681	SLU 40	70	41	9842	1254.66	-685.13	-5.13
681	SLU 41	71	15	9956	1269.76	-693.21	-6.87
681	SLU 42	71	40	9948	1268.36	-692.63	-5.32
681	SLU 43	69	15	9100	1156.95	-632.8	-6.56
681	SLU 44	70	57	9087	1154.61	-631.83	-3.96
681	SLU 45	71	14	9265	1178.1	-644.43	-6.79
681	SLU 46	71	40	9257	1176.7	-643.85	-5.24
681	SLU 47	71	56	9193	1168.31	-639.33	-4.14
681	SLU 48	72	13	9372	1191.8	-651.93	-6.98
681	SLU 49	72	39	9364	1190.4	-651.35	-5.42
681	SLU 50	71	13	9313	1184.34	-647.79	-6.92
681	SLU 51	72	39	9305	1182.94	-647.21	-5.36
681	SLU 52	74	58	10066	1279.73	-699.95	-4.32
681	SLU 53	74	15	10245	1303.22	-712.56	-7.16
681	SLU 54	75	40	10237	1301.82	-711.98	-5.6
681	SLU 55	75	57	10173	1293.42	-707.45	-4.51
681	SLU 56	75	14	10352	1316.91	-720.06	-7.34
681	SLU 57	76	39	10343	1315.51	-719.47	-5.78
681	SLU 58	75	14	10293	1309.46	-715.92	-7.28
681	SLU 59	75	39	10285	1308.06	-715.34	-5.73
681	SLU 60	74	16	10500	1335.68	-730.12	-7.08
681	SLU 61	75	41	10492	1334.28	-729.54	-5.52
681	SLU 62	76	15	10606	1349.38	-737.62	-7.26
681	SLU 63	76	40	10598	1347.98	-737.04	-5.7
681	SLU 64	78	17	10248	1305.21	-713.22	-7.45
681	SLU 65	79	60	10234	1302.88	-712.25	-4.85
681	SLU 66	79	17	10413	1326.37	-724.85	-7.69
681	SLU 67	80	42	10404	1324.97	-724.27	-6.13
681	SLU 68	80	59	10340	1316.58	-719.74	-5.04
681	SLU 69	80	16	10519	1340.07	-732.35	-7.87
681	SLU 70	81	41	10511	1338.67	-731.76	-6.31
681	SLU 71	80	16	10460	1332.61	-728.21	-7.81
681	SLU 72	80	41	10452	1331.21	-727.63	-6.26
681	SLU 73	83	60	11214	1427.99	-780.37	-5.22
681	SLU 74	83	17	11392	1451.48	-792.98	-8.05
681	SLU 75	84	43	11384	1450.08	-792.39	-6.49
681	SLU 76	84	59	11320	1441.69	-787.87	-5.4
681	SLU 77	84	16	11499	1465.18	-800.47	-8.23
681	SLU 78	85	42	11491	1463.78	-799.89	-6.68
681	SLU 79	84	16	11440	1457.72	-796.34	-8.18
681	SLU 80	84	42	11432	1456.32	-795.75	-6.62
681	SLU 81	83	18	11647	1483.95	-810.54	-7.97
681	SLU 82	84	44	11639	1482.55	-809.96	-6.41
681	SLU 83	84	17	11754	1497.65	-818.04	-8.15
681	SLU 84	85	43	11746	1496.25	-817.45	-6.59
681	SLE RA 1	58	13	7631	971.43	-530.95	-5.53
681	SLE RA 2	59	41	7621	969.87	-530.31	-3.8
681	SLE RA 3	59	12	7741	985.53	-538.71	-5.69
681	SLE RA 4	59	29	7735	984.59	-538.32	-4.65
681	SLE RA 5	59	40	7692	979	-535.3	-3.92
681	SLE RA 6	60	12	7812	994.66	-543.71	-5.81
681	SLE RA 7	60	29	7806	993.73	-543.32	-4.78
681	SLE RA 8	59	12	7773	989.69	-540.95	-5.78
681	SLE RA 9	60	29	7767	988.76	-540.56	-4.74
681	SLE RA 10	61	41	8275	1053.28	-575.72	-4.05
681	SLE RA 11	62	13	8394	1068.94	-584.13	-5.94
681	SLE RA 12	62	30	8388	1068	-583.74	-4.9
681	SLE RA 13	62	41	8346	1062.41	-580.72	-4.17
681	SLE RA 14	62	12	8465	1078.07	-589.12	-6.06
681	SLE RA 15	63	29	8459	1077.14	-588.74	-5.02
681	SLE RA 16	62	12	8426	1073.1	-586.37	-6.02
681	SLE RA 17	62	29	8420	1072.16	-585.98	-4.98
681	SLE RA 18	62	13	8564	1090.58	-595.84	-5.88
681	SLE RA 19	62	30	8558	1089.65	-595.45	-4.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
681	SLE RA 20	62	13	8635	1099.71	-600.83	-6
681	SLE RA 21	63	30	8629	1098.78	-600.45	-4.96
681	SLE FR 1	58	13	7631	971.43	-530.95	-5.53
681	SLE FR 2	58	18	7629	971.11	-530.82	-5.19
681	SLE FR 3	58	13	7659	975.08	-532.95	-5.58
681	SLE FR 4	59	19	7909	1006.86	-550.29	-5.29
681	SLE FR 5	59	13	7939	1010.83	-552.42	-5.69
681	SLE FR 6	60	13	8097	1031	-563.39	-5.71
681	SLE QP 1	58	13	7631	971.43	-530.95	-5.53
681	SLE QP 2	59	13	7911	1007.17	-550.42	-5.64
681	SLD 1	695	238	7408	931.91	-501.13	-80.67
681	SLD 2	693	286	7414	933.56	-501.43	-76.3
681	SLD 3	680	-300	7552	963.29	-511.36	-113.68
681	SLD 4	678	-252	7559	964.95	-511.66	-109.31
681	SLD 5	272	889	7539	936.71	-520.06	21.16
681	SLD 6	271	920	7543	937.78	-520.26	23.97
681	SLD 7	223	-906	8022	1041.32	-554.16	-88.86
681	SLD 8	222	-875	8026	1042.39	-554.36	-86.05
681	SLD 9	-104	901	7795	971.96	-546.48	74.77
681	SLD 10	-105	932	7799	973.02	-546.67	77.58
681	SLD 11	-153	-894	8278	1076.57	-580.58	-35.25
681	SLD 12	-154	-863	8282	1077.63	-580.78	-32.44
681	SLD 13	-560	278	8262	1049.4	-589.17	98.03
681	SLD 14	-562	326	8269	1051.05	-589.48	102.4
681	SLD 15	-575	-260	8407	1080.78	-599.4	65.02
681	SLD 16	-577	-212	8413	1082.43	-599.71	69.4
681	SLV 1	1055	402	7115	887.48	-472.77	-120.74
681	SLV 2	1052	478	7126	890.09	-473.25	-113.85
681	SLV 3	1030	-516	7362	940.99	-490.2	-177.03
681	SLV 4	1027	-441	7373	943.6	-490.69	-170.14
681	SLV 5	396	1508	7296	889.62	-500.59	43.92
681	SLV 6	394	1559	7303	891.38	-500.92	48.55
681	SLV 7	313	-1553	8118	1067.99	-558.71	-143.71
681	SLV 8	311	-1502	8126	1069.74	-559.03	-139.07
681	SLV 9	-193	1528	7695	944.6	-541.81	127.8
681	SLV 10	-195	1579	7703	946.35	-542.13	132.43
681	SLV 11	-276	-1533	8518	1122.97	-599.92	-59.83
681	SLV 12	-278	-1482	8525	1124.72	-600.25	-55.19
681	SLV 13	-909	466	8448	1070.75	-610.15	158.86
681	SLV 14	-912	542	8459	1073.35	-610.63	165.75
681	SLV 15	-934	-452	8695	1124.26	-627.59	102.57
681	SLV 16	-937	-376	8706	1126.86	-628.07	109.46
681	SLV FO 1	1154	441	7036	875.52	-465	-132.25
681	SLV FO 2	1151	524	7048	878.38	-465.53	-124.67
681	SLV FO 3	1127	-569	7307	934.38	-484.18	-194.17
681	SLV FO 4	1124	-486	7319	937.24	-484.71	-186.59
681	SLV FO 5	430	1658	7234	877.87	-495.61	48.87
681	SLV FO 6	428	1714	7242	879.8	-495.97	53.97
681	SLV FO 7	338	-1709	8139	1074.07	-559.54	-157.52
681	SLV FO 8	336	-1653	8147	1076	-559.89	-152.42
681	SLV FO 9	-218	1679	7674	938.35	-540.94	141.14
681	SLV FO 10	-220	1735	7682	940.27	-541.3	146.24
681	SLV FO 11	-310	-1688	8579	1134.55	-604.87	-65.25
681	SLV FO 12	-312	-1632	8587	1136.48	-605.23	-60.15
681	SLV FO 13	-1006	512	8502	1077.1	-616.13	175.31
681	SLV FO 14	-1009	595	8514	1079.97	-616.66	182.89
681	SLV FO 15	-1033	-498	8773	1135.96	-635.3	113.4
681	SLV FO 16	-1036	-415	8785	1138.83	-635.83	120.97
681	CRTFP Ux+	0	0	0	0	0	0
681	CRTFP Ux-	0	0	0	0	0	0
681	CRTFP Uy+	0	0	0	0	0	0
681	CRTFP Uy-	0	0	0	0	0	0
683	SLU 1	44	14	5304	-172.86	-87.24	1.7
683	SLU 2	44	43	5295	-173.26	-87.08	2.01
683	SLU 3	45	13	5425	-176.56	-89.24	1.73
683	SLU 4	45	31	5419	-176.81	-89.14	1.92
683	SLU 5	45	42	5372	-175.59	-88.36	2.03
683	SLU 6	46	13	5502	-178.89	-90.53	1.75
683	SLU 7	46	30	5496	-179.13	-90.43	1.94
683	SLU 8	45	13	5459	-177.5	-89.82	1.74
683	SLU 9	46	30	5454	-177.75	-89.72	1.93
683	SLU 10	47	44	6006	-195.94	-98.78	2.16
683	SLU 11	48	14	6136	-199.24	-100.95	1.88
683	SLU 12	48	32	6130	-199.48	-100.85	2.07
683	SLU 13	48	43	6084	-198.26	-100.07	2.18
683	SLU 14	49	14	6213	-201.56	-102.23	1.9
683	SLU 15	49	31	6208	-201.8	-102.13	2.09
683	SLU 16	48	14	6171	-200.17	-101.52	1.88
683	SLU 17	49	31	6165	-200.42	-101.42	2.07
683	SLU 18	48	15	6320	-205.25	-103.96	1.91
683	SLU 19	48	33	6315	-205.49	-103.86	2.1
683	SLU 20	49	15	6398	-207.57	-105.25	1.93
683	SLU 21	49	32	6392	-207.81	-105.15	2.12
683	SLU 22	51	16	6138	-197.32	-101.07	1.92
683	SLU 23	51	45	6129	-197.73	-100.9	2.23
683	SLU 24	52	16	6259	-201.03	-103.07	1.95
683	SLU 25	52	33	6253	-201.27	-102.97	2.14
683	SLU 26	52	45	6206	-200.05	-102.19	2.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
683	SLU 27	53	15	6336	-203.35	-104.36	1.97
683	SLU 28	53	33	6331	-203.59	-104.26	2.16
683	SLU 29	52	15	6293	-201.96	-103.65	1.96
683	SLU 30	52	33	6288	-202.21	-103.55	2.15
683	SLU 31	54	46	6840	-220.4	-112.61	2.38
683	SLU 32	55	17	6970	-223.7	-114.78	2.1
683	SLU 33	55	34	6964	-223.94	-114.68	2.29
683	SLU 34	55	46	6918	-222.72	-113.9	2.4
683	SLU 35	56	16	7048	-226.02	-116.06	2.12
683	SLU 36	56	34	7042	-226.26	-115.96	2.31
683	SLU 37	55	16	7005	-224.64	-115.35	2.11
683	SLU 38	55	33	6999	-224.88	-115.25	2.3
683	SLU 39	55	17	7154	-229.71	-117.79	2.13
683	SLU 40	55	35	7149	-229.95	-117.69	2.32
683	SLU 41	56	17	7232	-232.03	-119.08	2.15
683	SLU 42	56	34	7226	-232.27	-118.98	2.34
683	SLU 43	54	17	6609	-216.33	-108.67	2.13
683	SLU 44	55	46	6600	-216.73	-108.51	2.45
683	SLU 45	56	17	6730	-220.03	-110.67	2.16
683	SLU 46	56	34	6724	-220.28	-110.57	2.35
683	SLU 47	56	46	6677	-219.06	-109.79	2.47
683	SLU 48	57	16	6807	-222.36	-111.96	2.18
683	SLU 49	57	34	6802	-222.6	-111.86	2.37
683	SLU 50	56	16	6765	-220.97	-111.25	2.17
683	SLU 51	56	34	6759	-221.22	-111.15	2.36
683	SLU 52	58	47	7311	-239.41	-120.21	2.59
683	SLU 53	59	18	7441	-242.71	-122.38	2.31
683	SLU 54	59	35	7435	-242.95	-122.28	2.5
683	SLU 55	59	47	7389	-241.73	-121.5	2.61
683	SLU 56	60	17	7519	-245.03	-123.67	2.33
683	SLU 57	60	35	7513	-245.27	-123.57	2.52
683	SLU 58	59	17	7476	-243.65	-122.96	2.32
683	SLU 59	59	34	7470	-243.89	-122.86	2.51
683	SLU 60	59	18	7626	-248.72	-125.4	2.34
683	SLU 61	59	36	7620	-248.96	-125.3	2.53
683	SLU 62	60	18	7703	-251.04	-126.68	2.36
683	SLU 63	60	35	7697	-251.28	-126.58	2.55
683	SLU 64	61	19	7444	-240.79	-122.5	2.35
683	SLU 65	62	49	7434	-241.2	-122.34	2.67
683	SLU 66	63	19	7564	-244.5	-124.5	2.38
683	SLU 67	63	37	7558	-244.74	-124.4	2.57
683	SLU 68	63	48	7512	-243.52	-123.62	2.69
683	SLU 69	63	18	7642	-246.82	-125.79	2.4
683	SLU 70	64	36	7636	-247.06	-125.69	2.59
683	SLU 71	63	18	7599	-245.44	-125.08	2.39
683	SLU 72	63	36	7593	-245.68	-124.98	2.58
683	SLU 73	65	50	8145	-263.87	-134.04	2.82
683	SLU 74	66	20	8275	-267.17	-136.21	2.53
683	SLU 75	66	38	8270	-267.41	-136.11	2.72
683	SLU 76	66	49	8223	-266.19	-135.33	2.84
683	SLU 77	66	19	8353	-269.49	-137.5	2.55
683	SLU 78	67	37	8347	-269.73	-137.39	2.74
683	SLU 79	66	19	8310	-268.11	-136.78	2.54
683	SLU 80	66	37	8304	-268.35	-136.68	2.73
683	SLU 81	66	21	8460	-273.18	-139.22	2.56
683	SLU 82	66	38	8454	-273.42	-139.12	2.75
683	SLU 83	67	20	8537	-275.5	-140.51	2.58
683	SLU 84	67	38	8532	-275.74	-140.41	2.77
683	SLE RA 1	46	14	5543	-179.85	-91.19	1.76
683	SLE RA 2	46	34	5536	-180.12	-91.08	1.97
683	SLE RA 3	47	14	5623	-182.32	-92.53	1.78
683	SLE RA 4	47	26	5619	-182.48	-92.46	1.91
683	SLE RA 5	46	34	5588	-181.67	-91.94	1.98
683	SLE RA 6	47	14	5674	-183.87	-93.38	1.8
683	SLE RA 7	47	26	5671	-184.03	-93.32	1.92
683	SLE RA 8	47	14	5646	-182.94	-92.91	1.79
683	SLE RA 9	47	25	5642	-183.11	-92.84	1.91
683	SLE RA 10	48	34	6010	-195.23	-98.89	2.07
683	SLE RA 11	49	15	6097	-197.43	-100.33	1.88
683	SLE RA 12	49	26	6093	-197.59	-100.26	2.01
683	SLE RA 13	49	34	6062	-196.78	-99.74	2.08
683	SLE RA 14	49	14	6149	-198.98	-101.19	1.89
683	SLE RA 15	49	26	6145	-199.14	-101.12	2.02
683	SLE RA 16	49	14	6120	-198.06	-100.71	1.88
683	SLE RA 17	49	26	6116	-198.22	-100.65	2.01
683	SLE RA 18	49	15	6220	-201.44	-102.34	1.9
683	SLE RA 19	49	27	6216	-201.6	-102.27	2.03
683	SLE RA 20	49	15	6272	-202.99	-103.2	1.91
683	SLE RA 21	49	27	6268	-203.15	-103.13	2.04
683	SLE FR 1	46	14	5543	-179.85	-91.19	1.76
683	SLE FR 2	46	18	5541	-179.9	-91.17	1.8
683	SLE FR 3	46	14	5563	-180.47	-91.54	1.76
683	SLE FR 4	47	19	5744	-186.38	-94.52	1.84
683	SLE FR 5	47	14	5766	-186.94	-94.88	1.81
683	SLE FR 6	47	15	5881	-190.64	-96.77	1.83
683	SLE QP 1	46	14	5543	-179.85	-91.19	1.76
683	SLE QP 2	47	15	5746	-186.32	-94.54	1.8
683	SLD 1	496	168	5332	-186.57	-85.92	6.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
683	SLD 2	496	204	5335	-185.88	-85.96	8.01
683	SLD 3	489	-205	5427	-174.14	-87.65	2.76
683	SLD 4	489	-169	5430	-173.45	-87.69	3.95
683	SLD 5	193	619	5477	-205.36	-89.32	9.26
683	SLD 6	193	643	5479	-204.92	-89.35	10.03
683	SLD 7	168	-623	5794	-163.94	-95.09	-4.27
683	SLD 8	168	-599	5796	-163.5	-95.11	-3.51
683	SLD 9	-75	629	5696	-209.15	-93.96	7.11
683	SLD 10	-75	652	5698	-208.71	-93.99	7.87
683	SLD 11	-100	-614	6012	-167.73	-99.73	-6.42
683	SLD 12	-99	-590	6015	-167.29	-99.75	-5.66
683	SLD 13	-396	198	6061	-199.2	-101.38	-0.35
683	SLD 14	-396	234	6065	-198.51	-101.42	0.84
683	SLD 15	-403	-175	6156	-186.77	-103.11	-4.41
683	SLD 16	-403	-138	6160	-186.08	-103.15	-3.22
683	SLV 1	750	279	5093	-187.18	-80.97	9.95
683	SLV 2	751	337	5098	-186.1	-81.03	11.81
683	SLV 3	738	-356	5255	-165.95	-83.92	3.02
683	SLV 4	738	-299	5260	-164.86	-83.98	4.88
683	SLV 5	276	1047	5303	-218.99	-85.98	14.4
683	SLV 6	277	1086	5307	-218.26	-86.03	15.66
683	SLV 7	235	-1071	5843	-148.21	-95.81	-8.69
683	SLV 8	235	-1033	5847	-147.48	-95.85	-7.43
683	SLV 9	-142	1062	5645	-225.17	-93.22	11.04
683	SLV 10	-142	1101	5649	-224.44	-93.26	12.29
683	SLV 11	-184	-1057	6184	-154.39	-103.05	-12.06
683	SLV 12	-183	-1018	6188	-153.66	-103.09	-10.8
683	SLV 13	-645	328	6231	-207.79	-105.09	-1.28
683	SLV 14	-645	385	6237	-206.7	-105.16	0.58
683	SLV 15	-658	-308	6393	-186.55	-108.04	-8.21
683	SLV 16	-657	-250	6398	-185.47	-108.11	-6.34
683	SLV FO 1	821	306	5028	-187.27	-79.61	10.76
683	SLV FO 2	821	369	5034	-186.08	-79.68	12.81
683	SLV FO 3	807	-393	5206	-163.91	-82.86	3.14
683	SLV FO 4	807	-330	5212	-162.72	-82.93	5.19
683	SLV FO 5	299	1151	5259	-222.26	-85.13	15.66
683	SLV FO 6	300	1193	5263	-221.45	-85.18	17.05
683	SLV FO 7	254	-1180	5853	-144.4	-95.94	-9.74
683	SLV FO 8	254	-1137	5857	-143.59	-95.99	-8.36
683	SLV FO 9	-161	1167	5635	-229.05	-93.09	11.96
683	SLV FO 10	-161	1209	5639	-228.25	-93.14	13.34
683	SLV FO 11	-207	-1164	6228	-151.2	-103.9	-13.44
683	SLV FO 12	-206	-1121	6232	-150.39	-103.95	-12.06
683	SLV FO 13	-714	359	6280	-209.93	-106.15	-1.59
683	SLV FO 14	-714	423	6286	-208.74	-106.22	0.46
683	SLV FO 15	-728	-340	6458	-186.57	-109.39	-9.21
683	SLV FO 16	-728	-277	6464	-185.38	-109.46	-7.16
683	CRTFP Ux+	0	0	0	0	0	0
683	CRTFP Ux-	0	0	0	0	0	0
683	CRTFP Uy+	0	0	0	0	0	0
683	CRTFP Uy-	0	0	0	0	0	0
684	SLU 1	50	21	5847	-150.09	0.35	1.05
684	SLU 2	50	52	5837	-150.6	0.35	0.85
684	SLU 3	51	21	5981	-153.26	0.34	1.08
684	SLU 4	51	39	5974	-153.57	0.34	0.96
684	SLU 5	51	52	5923	-152.57	0.34	0.87
684	SLU 6	52	20	6067	-155.23	0.33	1.11
684	SLU 7	52	39	6060	-155.54	0.33	0.99
684	SLU 8	52	20	6019	-154.03	0.33	1.1
684	SLU 9	52	39	6013	-154.34	0.34	0.98
684	SLU 10	54	54	6621	-170.18	0.4	0.95
684	SLU 11	55	22	6765	-172.84	0.39	1.19
684	SLU 12	55	41	6758	-173.15	0.39	1.07
684	SLU 13	54	53	6707	-172.15	0.39	0.98
684	SLU 14	56	22	6851	-174.81	0.38	1.22
684	SLU 15	56	41	6844	-175.12	0.38	1.1
684	SLU 16	55	21	6803	-173.61	0.38	1.21
684	SLU 17	55	40	6797	-173.92	0.39	1.09
684	SLU 18	55	23	6967	-178.06	0.42	1.21
684	SLU 19	55	42	6961	-178.37	0.42	1.08
684	SLU 20	56	23	7053	-180.03	0.41	1.23
684	SLU 21	56	41	7047	-180.34	0.42	1.11
684	SLU 22	57	24	6771	-170.74	0.3	1.17
684	SLU 23	58	55	6760	-171.25	0.3	0.97
684	SLU 24	59	24	6904	-173.91	0.28	1.2
684	SLU 25	59	43	6898	-174.22	0.29	1.08
684	SLU 26	59	55	6846	-173.22	0.29	0.99
684	SLU 27	60	23	6990	-175.88	0.28	1.23
684	SLU 28	60	42	6984	-176.19	0.28	1.11
684	SLU 29	59	23	6943	-174.68	0.28	1.22
684	SLU 30	59	42	6936	-174.99	0.28	1.1
684	SLU 31	61	57	7544	-190.83	0.35	1.07
684	SLU 32	62	25	7688	-193.49	0.34	1.31
684	SLU 33	63	44	7682	-193.79	0.34	1.19
684	SLU 34	62	56	7630	-192.8	0.34	1.1
684	SLU 35	63	25	7774	-195.46	0.33	1.34
684	SLU 36	63	44	7768	-195.77	0.33	1.22
684	SLU 37	63	25	7727	-194.26	0.33	1.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
684	SLU 38	63	43	7720	-194.57	0.34	1.21
684	SLU 39	62	26	7891	-198.71	0.37	1.32
684	SLU 40	63	45	7885	-199.01	0.37	1.2
684	SLU 41	63	26	7977	-200.68	0.36	1.35
684	SLU 42	63	45	7970	-200.99	0.36	1.23
684	SLU 43	62	26	7285	-188.04	0.47	1.33
684	SLU 44	62	57	7274	-188.55	0.47	1.12
684	SLU 45	63	26	7418	-191.21	0.46	1.36
684	SLU 46	64	44	7412	-191.51	0.46	1.24
684	SLU 47	63	57	7360	-190.52	0.46	1.15
684	SLU 48	64	25	7504	-193.18	0.45	1.38
684	SLU 49	65	44	7498	-193.48	0.45	1.26
684	SLU 50	64	25	7457	-191.98	0.45	1.38
684	SLU 51	64	44	7450	-192.28	0.46	1.26
684	SLU 52	66	59	8058	-208.13	0.52	1.23
684	SLU 53	67	27	8202	-210.79	0.51	1.47
684	SLU 54	67	46	8196	-211.09	0.51	1.34
684	SLU 55	67	58	8144	-210.1	0.52	1.26
684	SLU 56	68	27	8288	-212.76	0.5	1.49
684	SLU 57	68	46	8282	-213.06	0.5	1.37
684	SLU 58	67	27	8241	-211.56	0.51	1.49
684	SLU 59	68	45	8234	-211.86	0.51	1.36
684	SLU 60	67	28	8405	-216.01	0.54	1.48
684	SLU 61	67	47	8399	-216.31	0.54	1.36
684	SLU 62	68	28	8491	-217.98	0.53	1.51
684	SLU 63	68	46	8485	-218.28	0.54	1.38
684	SLU 64	70	29	8208	-208.69	0.42	1.44
684	SLU 65	70	60	8198	-209.2	0.42	1.24
684	SLU 66	71	29	8342	-211.86	0.41	1.48
684	SLU 67	71	48	8335	-212.16	0.41	1.36
684	SLU 68	71	60	8284	-211.17	0.41	1.27
684	SLU 69	72	28	8428	-213.83	0.4	1.5
684	SLU 70	72	47	8421	-214.13	0.4	1.38
684	SLU 71	71	28	8380	-212.63	0.4	1.5
684	SLU 72	72	47	8374	-212.93	0.41	1.37
684	SLU 73	74	62	8982	-228.77	0.47	1.35
684	SLU 74	75	30	9126	-231.44	0.46	1.59
684	SLU 75	75	49	9119	-231.74	0.46	1.46
684	SLU 76	74	62	9068	-230.75	0.47	1.37
684	SLU 77	75	30	9212	-233.41	0.45	1.61
684	SLU 78	76	49	9205	-233.71	0.45	1.49
684	SLU 79	75	30	9164	-232.21	0.45	1.61
684	SLU 80	75	49	9158	-232.51	0.46	1.48
684	SLU 81	75	31	9329	-236.66	0.49	1.6
684	SLU 82	75	50	9322	-236.96	0.49	1.48
684	SLU 83	76	31	9414	-238.63	0.48	1.63
684	SLU 84	76	50	9408	-238.93	0.49	1.5
684	SLE RA 1	52	22	6111	-155.99	0.33	1.09
684	SLE RA 2	52	43	6104	-156.33	0.33	0.95
684	SLE RA 3	53	22	6200	-158.1	0.32	1.11
684	SLE RA 4	53	34	6196	-158.31	0.33	1.03
684	SLE RA 5	53	42	6161	-157.64	0.33	0.97
684	SLE RA 6	53	21	6257	-159.42	0.32	1.12
684	SLE RA 7	54	34	6253	-159.62	0.32	1.04
684	SLE RA 8	53	21	6226	-158.62	0.32	1.12
684	SLE RA 9	53	34	6221	-158.82	0.32	1.04
684	SLE RA 10	54	44	6627	-169.38	0.37	1.02
684	SLE RA 11	55	23	6723	-171.16	0.36	1.18
684	SLE RA 12	55	35	6719	-171.36	0.36	1.1
684	SLE RA 13	55	43	6684	-170.7	0.36	1.04
684	SLE RA 14	56	22	6780	-172.47	0.35	1.2
684	SLE RA 15	56	35	6776	-172.67	0.36	1.12
684	SLE RA 16	55	22	6749	-171.67	0.36	1.19
684	SLE RA 17	56	35	6744	-171.87	0.36	1.11
684	SLE RA 18	55	23	6858	-174.64	0.38	1.19
684	SLE RA 19	55	36	6854	-174.84	0.38	1.11
684	SLE RA 20	56	23	6915	-175.95	0.38	1.21
684	SLE RA 21	56	35	6911	-176.15	0.38	1.12
684	SLE FR 1	52	22	6111	-155.99	0.33	1.09
684	SLE FR 2	52	26	6110	-156.06	0.33	1.06
684	SLE FR 3	52	21	6134	-156.51	0.33	1.09
684	SLE FR 4	53	26	6334	-161.65	0.35	1.09
684	SLE FR 5	53	22	6358	-162.11	0.34	1.12
684	SLE FR 6	54	22	6485	-165.31	0.36	1.14
684	SLE QP 1	52	22	6111	-155.99	0.33	1.09
684	SLE QP 2	53	22	6335	-161.58	0.35	1.12
684	SLD 1	549	218	5805	-163.69	2.49	0.02
684	SLD 2	549	261	5808	-162.9	2.51	0.63
684	SLD 3	541	-181	5913	-149.46	2.43	2.62
684	SLD 4	541	-138	5916	-148.67	2.46	3.22
684	SLD 5	214	680	6012	-183.94	1.07	-3.26
684	SLD 6	214	707	6014	-183.43	1.09	-2.87
684	SLD 7	187	-653	6371	-136.5	0.88	5.4
684	SLD 8	187	-625	6373	-135.99	0.9	5.79
684	SLD 9	-81	669	6297	-187.18	-0.2	-3.56
684	SLD 10	-81	697	6299	-186.67	-0.19	-3.17
684	SLD 11	-108	-663	6656	-139.74	-0.4	5.1
684	SLD 12	-108	-635	6658	-139.23	-0.38	5.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
684	SLD 13	-436	182	6755	-174.5	-1.76	-0.99
684	SLD 14	-435	226	6758	-173.71	-1.74	-0.39
684	SLD 15	-444	-217	6863	-160.27	-1.82	1.61
684	SLD 16	-443	-174	6866	-159.47	-1.79	2.21
684	SLV 1	830	357	5500	-165.35	3.69	-0.78
684	SLV 2	830	426	5504	-164.1	3.73	0.17
684	SLV 3	817	-324	5683	-141.03	3.59	3.65
684	SLV 4	817	-256	5688	-139.78	3.63	4.6
684	SLV 5	306	1144	5805	-199.83	1.49	-6.35
684	SLV 6	307	1190	5808	-198.99	1.52	-5.71
684	SLV 7	262	-1128	6417	-118.77	1.16	8.42
684	SLV 8	262	-1082	6420	-117.93	1.19	9.06
684	SLV 9	-156	1127	6250	-205.24	-0.5	-6.83
684	SLV 10	-156	1172	6253	-204.4	-0.47	-6.19
684	SLV 11	-201	-1146	6862	-124.18	-0.83	7.94
684	SLV 12	-201	-1100	6865	-123.34	-0.8	8.58
684	SLV 13	-711	300	6982	-183.38	-2.94	-2.37
684	SLV 14	-711	368	6987	-182.13	-2.9	-1.41
684	SLV 15	-724	-381	7166	-159.06	-3.04	2.06
684	SLV 16	-724	-313	7170	-157.82	-3	3.02
684	SLV FO 1	908	391	5416	-165.73	4.02	-0.97
684	SLV FO 2	908	466	5421	-164.35	4.07	0.08
684	SLV FO 3	893	-359	5618	-138.98	3.92	3.9
684	SLV FO 4	893	-284	5623	-137.6	3.96	4.95
684	SLV FO 5	332	1256	5752	-203.65	1.6	-7.1
684	SLV FO 6	332	1306	5756	-202.73	1.64	-6.39
684	SLV FO 7	282	-1243	6426	-114.49	1.25	9.15
684	SLV FO 8	283	-1193	6429	-113.56	1.28	9.85
684	SLV FO 9	-177	1237	6241	-209.6	-0.58	-7.62
684	SLV FO 10	-177	1288	6245	-208.68	-0.55	-6.92
684	SLV FO 11	-226	-1262	6915	-120.44	-0.94	8.63
684	SLV FO 12	-226	-1212	6918	-119.51	-0.91	9.33
684	SLV FO 13	-787	328	7047	-185.56	-3.27	-2.72
684	SLV FO 14	-787	403	7052	-184.19	-3.22	-1.67
684	SLV FO 15	-802	-422	7249	-158.81	-3.38	2.16
684	SLV FO 16	-802	-347	7254	-157.44	-3.33	3.21
684	CRTFP Ux+	0	0	0	0	0	0
684	CRTFP Ux-	0	0	0	0	0	0
684	CRTFP Uy+	0	0	0	0	0	0
684	CRTFP Uy-	0	0	0	0	0	0
685	SLU 1	52	25	5828	-149.56	0.8	0.73
685	SLU 2	52	55	5817	-150.06	0.8	0.53
685	SLU 3	53	25	5961	-152.72	0.8	0.76
685	SLU 4	53	43	5955	-153.02	0.8	0.64
685	SLU 5	53	55	5903	-152.02	0.81	0.56
685	SLU 6	54	25	6047	-154.68	0.81	0.79
685	SLU 7	54	43	6041	-154.98	0.81	0.67
685	SLU 8	53	24	6000	-153.48	0.81	0.79
685	SLU 9	54	43	5993	-153.79	0.81	0.66
685	SLU 10	56	58	6598	-169.58	0.93	0.62
685	SLU 11	57	27	6742	-172.24	0.93	0.85
685	SLU 12	57	45	6736	-172.54	0.93	0.73
685	SLU 13	56	57	6684	-171.54	0.93	0.64
685	SLU 14	58	27	6828	-174.2	0.93	0.88
685	SLU 15	58	45	6822	-174.5	0.93	0.75
685	SLU 16	57	27	6781	-173	0.93	0.87
685	SLU 17	57	45	6774	-173.31	0.93	0.75
685	SLU 18	57	28	6944	-177.44	0.98	0.86
685	SLU 19	57	46	6937	-177.74	0.98	0.74
685	SLU 20	58	28	7030	-179.41	0.98	0.88
685	SLU 21	58	46	7023	-179.71	0.98	0.76
685	SLU 22	59	29	6751	-170.15	0.84	0.82
685	SLU 23	60	59	6741	-170.65	0.84	0.61
685	SLU 24	61	29	6885	-173.31	0.84	0.84
685	SLU 25	61	47	6878	-173.61	0.85	0.72
685	SLU 26	61	59	6827	-172.62	0.85	0.64
685	SLU 27	62	28	6971	-175.28	0.85	0.87
685	SLU 28	62	47	6965	-175.58	0.85	0.75
685	SLU 29	61	28	6923	-174.08	0.85	0.87
685	SLU 30	62	46	6917	-174.38	0.85	0.75
685	SLU 31	63	61	7522	-190.17	0.97	0.7
685	SLU 32	64	31	7666	-192.83	0.97	0.93
685	SLU 33	65	49	7660	-193.13	0.97	0.81
685	SLU 34	64	61	7608	-192.14	0.97	0.73
685	SLU 35	65	31	7752	-194.8	0.97	0.96
685	SLU 36	66	49	7746	-195.1	0.98	0.84
685	SLU 37	65	30	7705	-193.6	0.97	0.95
685	SLU 38	65	48	7698	-193.9	0.98	0.83
685	SLU 39	65	32	7867	-198.04	1.02	0.94
685	SLU 40	65	50	7861	-198.34	1.02	0.82
685	SLU 41	65	31	7953	-200	1.02	0.96
685	SLU 42	66	50	7947	-200.3	1.03	0.84
685	SLU 43	64	31	7259	-187.36	1.03	0.93
685	SLU 44	65	62	7249	-187.86	1.03	0.73
685	SLU 45	66	31	7393	-190.52	1.03	0.96
685	SLU 46	66	50	7386	-190.82	1.03	0.84
685	SLU 47	66	61	7335	-189.83	1.03	0.75
685	SLU 48	67	31	7479	-192.49	1.03	0.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLU 49	67	49	7473	-192.79	1.03	0.86
685	SLU 50	66	31	7431	-191.29	1.03	0.98
685	SLU 51	66	49	7425	-191.59	1.03	0.86
685	SLU 52	68	64	8030	-207.38	1.15	0.81
685	SLU 53	69	33	8174	-210.04	1.16	1.04
685	SLU 54	70	52	8168	-210.34	1.16	0.92
685	SLU 55	69	64	8116	-209.35	1.16	0.84
685	SLU 56	70	33	8260	-212.01	1.16	1.07
685	SLU 57	71	51	8254	-212.31	1.16	0.95
685	SLU 58	70	33	8213	-210.81	1.16	1.06
685	SLU 59	70	51	8206	-211.11	1.16	0.94
685	SLU 60	69	34	8375	-215.25	1.21	1.05
685	SLU 61	70	53	8369	-215.55	1.21	0.93
685	SLU 62	70	34	8461	-217.21	1.21	1.08
685	SLU 63	71	52	8455	-217.51	1.21	0.95
685	SLU 64	72	35	8183	-207.96	1.07	1.01
685	SLU 65	73	65	8172	-208.46	1.07	0.81
685	SLU 66	74	35	8317	-211.12	1.07	1.04
685	SLU 67	74	53	8310	-211.42	1.07	0.92
685	SLU 68	74	65	8258	-210.42	1.07	0.83
685	SLU 69	75	35	8403	-213.08	1.07	1.06
685	SLU 70	75	53	8396	-213.38	1.08	0.94
685	SLU 71	74	34	8355	-211.88	1.07	1.06
685	SLU 72	74	53	8349	-212.19	1.08	0.94
685	SLU 73	76	68	8953	-227.98	1.2	0.89
685	SLU 74	77	37	9098	-230.64	1.2	1.12
685	SLU 75	77	55	9091	-230.94	1.2	1
685	SLU 76	77	67	9039	-229.94	1.2	0.92
685	SLU 77	78	37	9184	-232.6	1.2	1.15
685	SLU 78	78	55	9177	-232.9	1.2	1.03
685	SLU 79	78	36	9136	-231.41	1.2	1.15
685	SLU 80	78	55	9130	-231.71	1.2	1.02
685	SLU 81	77	38	9299	-235.84	1.25	1.13
685	SLU 82	78	56	9292	-236.14	1.25	1.01
685	SLU 83	78	38	9385	-237.81	1.25	1.16
685	SLU 84	78	56	9379	-238.11	1.25	1.04
685	SLE RA 1	54	26	6092	-155.44	0.81	0.76
685	SLE RA 2	54	46	6084	-155.78	0.81	0.62
685	SLE RA 3	55	26	6181	-157.55	0.81	0.78
685	SLE RA 4	55	38	6176	-157.75	0.82	0.7
685	SLE RA 5	55	46	6142	-157.08	0.82	0.64
685	SLE RA 6	55	26	6238	-158.86	0.82	0.79
685	SLE RA 7	56	38	6234	-159.06	0.82	0.71
685	SLE RA 8	55	26	6206	-158.06	0.82	0.79
685	SLE RA 9	55	38	6202	-158.26	0.82	0.71
685	SLE RA 10	56	48	6605	-168.79	0.9	0.68
685	SLE RA 11	57	28	6701	-170.56	0.9	0.83
685	SLE RA 12	57	40	6697	-170.76	0.9	0.75
685	SLE RA 13	57	48	6663	-170.1	0.9	0.7
685	SLE RA 14	58	27	6759	-171.87	0.9	0.85
685	SLE RA 15	58	39	6754	-172.07	0.9	0.77
685	SLE RA 16	57	27	6727	-171.07	0.9	0.85
685	SLE RA 17	58	39	6723	-171.27	0.9	0.77
685	SLE RA 18	57	28	6836	-174.03	0.93	0.84
685	SLE RA 19	57	40	6831	-174.23	0.93	0.76
685	SLE RA 20	58	28	6893	-175.34	0.93	0.86
685	SLE RA 21	58	40	6889	-175.54	0.93	0.78
685	SLE FR 1	54	26	6092	-155.44	0.81	0.76
685	SLE FR 2	54	30	6090	-155.51	0.81	0.73
685	SLE FR 3	54	26	6115	-155.96	0.81	0.76
685	SLE FR 4	55	31	6313	-161.08	0.85	0.76
685	SLE FR 5	55	27	6338	-161.54	0.85	0.79
685	SLE FR 6	56	27	6464	-164.74	0.87	0.8
685	SLE QP 1	54	26	6092	-155.44	0.81	0.76
685	SLE QP 2	55	27	6315	-161.02	0.85	0.78
685	SLD 1	551	216	5716	-163.04	2.67	-0.33
685	SLD 2	551	263	5718	-162.23	2.7	0.25
685	SLD 3	543	-170	5825	-148.9	2.62	2.24
685	SLD 4	543	-124	5827	-148.1	2.65	2.83
685	SLD 5	215	662	5969	-183.19	1.47	-3.56
685	SLD 6	215	692	5970	-182.68	1.49	-3.19
685	SLD 7	190	-627	6333	-136.09	1.3	5.03
685	SLD 8	190	-597	6335	-135.58	1.31	5.41
685	SLD 9	-80	651	6295	-186.46	0.38	-3.84
685	SLD 10	-80	680	6296	-185.94	0.4	-3.47
685	SLD 11	-106	-639	6659	-139.36	0.21	4.75
685	SLD 12	-106	-609	6661	-138.84	0.22	5.13
685	SLD 13	-433	178	6803	-173.93	-0.95	-1.26
685	SLD 14	-433	224	6804	-173.13	-0.93	-0.68
685	SLD 15	-441	-209	6912	-159.8	-1.01	1.32
685	SLD 16	-441	-163	6914	-159	-0.98	1.9
685	SLV 1	831	351	5372	-164.65	3.7	-1.15
685	SLV 2	831	424	5375	-163.38	3.74	-0.23
685	SLV 3	818	-309	5559	-140.5	3.61	3.25
685	SLV 4	818	-236	5562	-139.24	3.65	4.16
685	SLV 5	307	1111	5749	-198.96	1.83	-6.63
685	SLV 6	307	1160	5751	-198.11	1.86	-6.02
685	SLV 7	264	-1088	6370	-118.48	1.53	8.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLV 8	264	-1039	6372	-117.63	1.56	8.63
685	SLV 9	-155	1093	6258	-204.4	0.13	-7.07
685	SLV 10	-155	1141	6260	-203.55	0.16	-6.45
685	SLV 11	-198	-1106	6879	-123.93	-0.16	7.58
685	SLV 12	-198	-1057	6881	-123.08	-0.14	8.2
685	SLV 13	-709	289	7068	-182.79	-1.96	-2.6
685	SLV 14	-709	362	7071	-181.53	-1.92	-1.68
685	SLV 15	-722	-370	7254	-158.65	-2.05	1.8
685	SLV 16	-721	-297	7257	-157.39	-2	2.72
685	SLV FO 1	909	383	5278	-165.01	3.99	-1.34
685	SLV FO 2	909	463	5282	-163.62	4.03	-0.34
685	SLV FO 3	895	-342	5483	-138.45	3.89	3.49
685	SLV FO 4	895	-262	5486	-137.06	3.93	4.5
685	SLV FO 5	332	1219	5692	-202.75	1.93	-7.38
685	SLV FO 6	333	1273	5695	-201.82	1.96	-6.7
685	SLV FO 7	285	-1199	6375	-114.23	1.6	8.74
685	SLV FO 8	285	-1146	6378	-113.3	1.63	9.42
685	SLV FO 9	-176	1199	6252	-208.74	0.06	-7.85
685	SLV FO 10	-176	1253	6254	-207.81	0.09	-7.18
685	SLV FO 11	-223	-1220	6935	-120.22	-0.27	8.26
685	SLV FO 12	-223	-1166	6937	-119.28	-0.23	8.94
685	SLV FO 13	-785	316	7143	-184.97	-2.24	-2.93
685	SLV FO 14	-785	396	7147	-183.58	-2.19	-1.93
685	SLV FO 15	-799	-410	7348	-158.41	-2.34	1.9
685	SLV FO 16	-799	-330	7352	-157.03	-2.29	2.91
685	CRTFP Ux+	0	0	0	0	0	0
685	CRTFP Ux-	0	0	0	0	0	0
685	CRTFP Uy+	0	0	0	0	0	0
685	CRTFP Uy-	0	0	0	0	0	0
686	SLU 1	54	28	5791	-149.17	1.32	0.39
686	SLU 2	54	57	5780	-149.66	1.33	0.2
686	SLU 3	55	28	5924	-152.32	1.34	0.42
686	SLU 4	56	46	5918	-152.62	1.35	0.3
686	SLU 5	55	57	5866	-151.62	1.34	0.23
686	SLU 6	56	28	6010	-154.28	1.36	0.44
686	SLU 7	56	45	6004	-154.58	1.36	0.33
686	SLU 8	56	28	5963	-153.09	1.35	0.44
686	SLU 9	56	45	5956	-153.38	1.35	0.33
686	SLU 10	58	60	6556	-169.14	1.54	0.27
686	SLU 11	59	30	6700	-171.8	1.56	0.48
686	SLU 12	59	48	6693	-172.1	1.56	0.37
686	SLU 13	59	60	6641	-171.1	1.56	0.29
686	SLU 14	60	30	6785	-173.76	1.57	0.5
686	SLU 15	60	48	6779	-174.06	1.57	0.39
686	SLU 16	59	30	6738	-172.57	1.57	0.5
686	SLU 17	60	48	6731	-172.86	1.57	0.39
686	SLU 18	59	31	6899	-177	1.63	0.48
686	SLU 19	59	49	6892	-177.29	1.63	0.37
686	SLU 20	60	31	6984	-178.96	1.64	0.51
686	SLU 21	60	49	6978	-179.25	1.65	0.39
686	SLU 22	62	32	6712	-169.73	1.47	0.44
686	SLU 23	62	61	6701	-170.23	1.47	0.25
686	SLU 24	63	32	6845	-172.88	1.49	0.46
686	SLU 25	64	50	6838	-173.18	1.49	0.35
686	SLU 26	63	61	6786	-172.19	1.49	0.27
686	SLU 27	64	32	6931	-174.84	1.5	0.48
686	SLU 28	65	49	6924	-175.14	1.5	0.37
686	SLU 29	64	32	6883	-173.65	1.49	0.48
686	SLU 30	64	49	6877	-173.95	1.5	0.37
686	SLU 31	66	64	7476	-189.71	1.69	0.31
686	SLU 32	67	34	7620	-192.36	1.7	0.52
686	SLU 33	67	52	7614	-192.66	1.7	0.41
686	SLU 34	67	64	7562	-191.67	1.7	0.33
686	SLU 35	68	34	7706	-194.32	1.71	0.54
686	SLU 36	68	52	7699	-194.62	1.72	0.43
686	SLU 37	67	34	7658	-193.13	1.71	0.54
686	SLU 38	68	52	7652	-193.43	1.71	0.43
686	SLU 39	67	35	7819	-197.56	1.77	0.52
686	SLU 40	67	53	7813	-197.86	1.78	0.41
686	SLU 41	68	35	7905	-199.52	1.79	0.55
686	SLU 42	68	53	7898	-199.82	1.79	0.43
686	SLU 43	67	35	7213	-186.87	1.67	0.5
686	SLU 44	67	64	7202	-187.36	1.68	0.31
686	SLU 45	69	35	7346	-190.02	1.69	0.52
686	SLU 46	69	53	7340	-190.32	1.69	0.41
686	SLU 47	68	64	7288	-189.32	1.69	0.33
686	SLU 48	70	35	7432	-191.98	1.7	0.55
686	SLU 49	70	52	7425	-192.28	1.71	0.43
686	SLU 50	69	35	7384	-190.79	1.7	0.54
686	SLU 51	69	52	7378	-191.08	1.7	0.43
686	SLU 52	71	67	7977	-206.84	1.89	0.37
686	SLU 53	72	37	8121	-209.5	1.9	0.58
686	SLU 54	73	55	8115	-209.8	1.91	0.47
686	SLU 55	72	67	8063	-208.8	1.9	0.39
686	SLU 56	73	37	8207	-211.46	1.92	0.61
686	SLU 57	73	55	8201	-211.76	1.92	0.49
686	SLU 58	73	37	8160	-210.27	1.91	0.61
686	SLU 59	73	55	8153	-210.56	1.92	0.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
686	SLU 60	72	38	8320	-214.7	1.98	0.59
686	SLU 61	73	56	8314	-214.99	1.98	0.47
686	SLU 62	73	38	8406	-216.66	1.99	0.61
686	SLU 63	74	56	8400	-216.95	1.99	0.5
686	SLU 64	75	39	8133	-207.43	1.81	0.54
686	SLU 65	76	68	8122	-207.93	1.82	0.35
686	SLU 66	77	39	8267	-210.58	1.83	0.56
686	SLU 67	77	57	8260	-210.88	1.84	0.45
686	SLU 68	76	68	8208	-209.89	1.83	0.37
686	SLU 69	78	39	8352	-212.54	1.85	0.59
686	SLU 70	78	56	8346	-212.84	1.85	0.47
686	SLU 71	77	39	8305	-211.35	1.84	0.59
686	SLU 72	77	56	8298	-211.65	1.85	0.47
686	SLU 73	79	71	8898	-227.41	2.03	0.41
686	SLU 74	80	41	9042	-230.06	2.05	0.62
686	SLU 75	81	59	9035	-230.36	2.05	0.51
686	SLU 76	80	71	8983	-229.37	2.05	0.43
686	SLU 77	81	41	9128	-232.02	2.06	0.65
686	SLU 78	82	59	9121	-232.32	2.07	0.53
686	SLU 79	81	41	9080	-230.83	2.06	0.65
686	SLU 80	81	59	9074	-231.13	2.06	0.53
686	SLU 81	80	42	9241	-235.26	2.12	0.63
686	SLU 82	81	60	9234	-235.56	2.12	0.51
686	SLU 83	81	42	9327	-237.22	2.13	0.65
686	SLU 84	82	60	9320	-237.52	2.14	0.54
686	SLE RA 1	56	29	6054	-155.04	1.36	0.41
686	SLE RA 2	56	49	6047	-155.37	1.37	0.28
686	SLE RA 3	57	29	6143	-157.15	1.38	0.42
686	SLE RA 4	57	41	6139	-157.34	1.38	0.35
686	SLE RA 5	57	49	6104	-156.68	1.38	0.29
686	SLE RA 6	58	29	6200	-158.45	1.39	0.44
686	SLE RA 7	58	41	6196	-158.65	1.39	0.36
686	SLE RA 8	57	29	6168	-157.65	1.38	0.44
686	SLE RA 9	57	41	6164	-157.85	1.39	0.36
686	SLE RA 10	59	50	6564	-168.36	1.51	0.32
686	SLE RA 11	60	31	6660	-170.13	1.52	0.46
686	SLE RA 12	60	43	6655	-170.33	1.52	0.39
686	SLE RA 13	59	50	6621	-169.67	1.52	0.34
686	SLE RA 14	60	31	6717	-171.44	1.53	0.48
686	SLE RA 15	60	42	6713	-171.64	1.53	0.4
686	SLE RA 16	60	30	6685	-170.64	1.53	0.48
686	SLE RA 17	60	42	6681	-170.84	1.53	0.4
686	SLE RA 18	60	31	6793	-173.6	1.57	0.46
686	SLE RA 19	60	43	6788	-173.79	1.57	0.39
686	SLE RA 20	60	31	6850	-174.9	1.58	0.48
686	SLE RA 21	60	43	6845	-175.1	1.58	0.4
686	SLE FR 1	56	29	6054	-155.04	1.36	0.41
686	SLE FR 2	56	33	6053	-155.11	1.37	0.38
686	SLE FR 3	56	29	6077	-155.57	1.37	0.41
686	SLE FR 4	57	34	6274	-160.67	1.43	0.4
686	SLE FR 5	57	30	6299	-161.13	1.43	0.43
686	SLE FR 6	58	30	6423	-164.32	1.47	0.44
686	SLE QP 1	56	29	6054	-155.04	1.36	0.41
686	SLE QP 2	57	30	6276	-160.61	1.43	0.42
686	SLD 1	552	213	5623	-162.53	2.72	-0.62
686	SLD 2	552	262	5623	-161.72	2.75	-0.04
686	SLD 3	545	-161	5734	-148.49	2.62	1.81
686	SLD 4	545	-112	5735	-147.68	2.65	2.39
686	SLD 5	217	644	5910	-182.62	1.96	-3.68
686	SLD 6	217	676	5911	-182.1	1.98	-3.31
686	SLD 7	192	-604	6282	-135.82	1.63	4.43
686	SLD 8	192	-572	6283	-135.3	1.65	4.8
686	SLD 9	-78	632	6269	-185.92	1.2	-3.96
686	SLD 10	-78	663	6269	-185.4	1.22	-3.58
686	SLD 11	-103	-616	6640	-139.12	0.87	4.15
686	SLD 12	-102	-585	6641	-138.6	0.89	4.53
686	SLD 13	-430	172	6816	-173.53	0.2	-1.54
686	SLD 14	-430	221	6817	-172.72	0.23	-0.96
686	SLD 15	-438	-203	6928	-159.5	0.1	0.89
686	SLD 16	-438	-154	6929	-158.69	0.13	1.47
686	SLV 1	832	343	5248	-164.09	3.45	-1.39
686	SLV 2	832	421	5250	-162.82	3.5	-0.48
686	SLV 3	820	-295	5439	-140.11	3.29	2.76
686	SLV 4	820	-218	5440	-138.83	3.34	3.67
686	SLV 5	308	1078	5679	-198.27	2.28	-6.58
686	SLV 6	308	1130	5680	-197.41	2.31	-5.97
686	SLV 7	267	-1051	6313	-118.32	1.72	7.25
686	SLV 8	267	-999	6314	-117.46	1.75	7.86
686	SLV 9	-153	1058	6238	-203.76	1.1	-7.01
686	SLV 10	-153	1110	6239	-202.9	1.13	-6.4
686	SLV 11	-194	-1070	6871	-123.8	0.54	6.82
686	SLV 12	-194	-1018	6872	-122.94	0.57	7.43
686	SLV 13	-706	277	7111	-182.39	-0.48	-2.83
686	SLV 14	-706	355	7113	-181.11	-0.44	-1.91
686	SLV 15	-718	-361	7301	-158.4	-0.65	1.32
686	SLV 16	-718	-284	7303	-157.12	-0.6	2.24
686	SLV FO 1	910	375	5146	-164.44	3.66	-1.57
686	SLV FO 2	910	460	5147	-163.04	3.71	-0.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
686	SLV FO 3	896	-328	5355	-138.06	3.47	2.99
686	SLV FO 4	896	-243	5357	-136.65	3.53	4
686	SLV FO 5	333	1183	5619	-202.04	2.37	-7.28
686	SLV FO 6	333	1240	5620	-201.09	2.4	-6.61
686	SLV FO 7	288	-1159	6316	-114.09	1.75	7.93
686	SLV FO 8	288	-1101	6317	-113.14	1.78	8.61
686	SLV FO 9	-174	1161	6234	-208.08	1.07	-7.76
686	SLV FO 10	-174	1218	6235	-207.13	1.1	-7.08
686	SLV FO 11	-219	-1180	6931	-120.12	0.45	7.45
686	SLV FO 12	-219	-1123	6932	-119.18	0.48	8.13
686	SLV FO 13	-782	302	7195	-184.57	-0.68	-3.15
686	SLV FO 14	-782	387	7196	-183.16	-0.62	-2.15
686	SLV FO 15	-795	-400	7404	-158.18	-0.86	1.41
686	SLV FO 16	-795	-315	7406	-156.78	-0.81	2.42
686	CRTFP Ux+	0	0	0	0	0	0
686	CRTFP Ux-	0	0	0	0	0	0
686	CRTFP Uy+	0	0	0	0	0	0
686	CRTFP Uy-	0	0	0	0	0	0
687	SLU 1	56	29	5737	-148.92	1.78	0.03
687	SLU 2	57	58	5726	-149.41	1.79	-0.14
687	SLU 3	58	29	5869	-152.07	1.81	0.04
687	SLU 4	58	46	5863	-152.37	1.82	-0.06
687	SLU 5	58	57	5811	-151.37	1.81	-0.12
687	SLU 6	59	29	5955	-154.03	1.84	0.06
687	SLU 7	59	46	5948	-154.32	1.84	-0.04
687	SLU 8	58	29	5907	-152.84	1.82	0.07
687	SLU 9	59	46	5901	-153.13	1.83	-0.04
687	SLU 10	61	60	6492	-168.87	2.08	-0.11
687	SLU 11	62	32	6636	-171.53	2.11	0.08
687	SLU 12	62	49	6629	-171.83	2.11	-0.02
687	SLU 13	62	60	6578	-170.83	2.11	-0.09
687	SLU 14	63	32	6721	-173.49	2.13	0.1
687	SLU 15	63	49	6714	-173.78	2.14	0
687	SLU 16	62	31	6674	-172.3	2.12	0.1
687	SLU 17	62	49	6667	-172.59	2.13	0
687	SLU 18	62	33	6832	-176.72	2.2	0.07
687	SLU 19	62	50	6825	-177.02	2.21	-0.03
687	SLU 20	63	33	6917	-178.68	2.22	0.1
687	SLU 21	63	50	6911	-178.97	2.23	-0.01
687	SLU 22	65	33	6651	-169.48	2.01	0.03
687	SLU 23	65	62	6640	-169.96	2.02	-0.15
687	SLU 24	66	33	6783	-172.62	2.04	0.04
687	SLU 25	66	50	6777	-172.92	2.05	-0.06
687	SLU 26	66	62	6725	-171.92	2.04	-0.13
687	SLU 27	67	33	6869	-174.58	2.06	0.06
687	SLU 28	67	50	6862	-174.87	2.07	-0.04
687	SLU 29	67	33	6821	-173.39	2.05	0.07
687	SLU 30	67	50	6815	-173.68	2.06	-0.04
687	SLU 31	69	64	7406	-189.42	2.31	-0.11
687	SLU 32	70	36	7550	-192.08	2.34	0.08
687	SLU 33	70	53	7543	-192.38	2.34	-0.03
687	SLU 34	70	64	7492	-191.38	2.34	-0.09
687	SLU 35	71	36	7635	-194.04	2.36	0.1
687	SLU 36	71	53	7628	-194.33	2.36	-0.01
687	SLU 37	71	36	7588	-192.85	2.35	0.1
687	SLU 38	71	53	7581	-193.14	2.35	0
687	SLU 39	70	37	7746	-197.27	2.43	0.07
687	SLU 40	70	54	7739	-197.57	2.43	-0.03
687	SLU 41	71	37	7831	-199.23	2.45	0.09
687	SLU 42	71	54	7825	-199.52	2.46	-0.01
687	SLU 43	70	36	7145	-186.56	2.23	0.03
687	SLU 44	71	65	7134	-187.05	2.25	-0.14
687	SLU 45	72	37	7277	-189.7	2.27	0.05
687	SLU 46	72	54	7271	-190	2.27	-0.05
687	SLU 47	72	65	7219	-189	2.27	-0.12
687	SLU 48	73	36	7362	-191.66	2.29	0.07
687	SLU 49	73	54	7356	-191.95	2.3	-0.03
687	SLU 50	72	36	7315	-190.47	2.28	0.08
687	SLU 51	73	53	7309	-190.76	2.29	-0.03
687	SLU 52	75	67	7900	-206.51	2.54	-0.1
687	SLU 53	76	39	8044	-209.16	2.56	0.09
687	SLU 54	76	56	8037	-209.46	2.57	-0.02
687	SLU 55	76	67	7985	-208.46	2.56	-0.08
687	SLU 56	77	39	8129	-211.12	2.58	0.11
687	SLU 57	77	56	8122	-211.41	2.59	0
687	SLU 58	76	39	8082	-209.93	2.57	0.11
687	SLU 59	76	56	8075	-210.22	2.58	0.01
687	SLU 60	76	40	8240	-214.36	2.65	0.08
687	SLU 61	76	57	8233	-214.65	2.66	-0.02
687	SLU 62	77	40	8325	-216.31	2.68	0.1
687	SLU 63	77	57	8318	-216.61	2.68	0
687	SLU 64	79	40	8059	-207.11	2.46	0.03
687	SLU 65	79	69	8048	-207.6	2.47	-0.14
687	SLU 66	80	41	8191	-210.26	2.5	0.05
687	SLU 67	81	58	8185	-210.55	2.5	-0.05
687	SLU 68	80	69	8133	-209.55	2.5	-0.12
687	SLU 69	81	41	8276	-212.21	2.52	0.07
687	SLU 70	82	58	8270	-212.5	2.53	-0.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
687	SLU 71	81	40	8229	-211.02	2.51	0.07
687	SLU 72	81	57	8222	-211.31	2.52	-0.03
687	SLU 73	83	72	8814	-227.06	2.77	-0.1
687	SLU 74	84	43	8958	-229.71	2.79	0.09
687	SLU 75	84	60	8951	-230.01	2.8	-0.02
687	SLU 76	84	71	8899	-229.01	2.79	-0.08
687	SLU 77	85	43	9043	-231.67	2.81	0.11
687	SLU 78	85	60	9036	-231.96	2.82	0
687	SLU 79	85	43	8996	-230.48	2.8	0.11
687	SLU 80	85	60	8989	-230.77	2.81	0.01
687	SLU 81	84	44	9154	-234.91	2.88	0.08
687	SLU 82	84	61	9147	-235.2	2.89	-0.02
687	SLU 83	85	44	9239	-236.86	2.91	0.1
687	SLU 84	85	61	9232	-237.16	2.91	0
687	SLE RA 1	59	30	5998	-154.8	1.84	0.03
687	SLE RA 2	59	49	5991	-155.12	1.85	-0.09
687	SLE RA 3	60	30	6087	-156.9	1.87	0.04
687	SLE RA 4	60	42	6082	-157.09	1.87	-0.03
687	SLE RA 5	60	49	6048	-156.43	1.87	-0.07
687	SLE RA 6	61	30	6143	-158.2	1.88	0.05
687	SLE RA 7	61	42	6139	-158.39	1.89	-0.02
687	SLE RA 8	60	30	6112	-157.4	1.88	0.05
687	SLE RA 9	60	41	6107	-157.6	1.88	-0.02
687	SLE RA 10	62	51	6502	-168.1	2.05	-0.07
687	SLE RA 11	62	32	6598	-169.87	2.06	0.06
687	SLE RA 12	63	43	6593	-170.06	2.07	-0.01
687	SLE RA 13	62	51	6559	-169.4	2.06	-0.05
687	SLE RA 14	63	32	6654	-171.17	2.08	0.07
687	SLE RA 15	63	43	6650	-171.37	2.08	0.01
687	SLE RA 16	63	32	6623	-170.38	2.07	0.08
687	SLE RA 17	63	43	6618	-170.57	2.08	0.01
687	SLE RA 18	62	33	6728	-173.33	2.12	0.06
687	SLE RA 19	63	44	6724	-173.52	2.13	-0.01
687	SLE RA 20	63	33	6785	-174.63	2.14	0.07
687	SLE RA 21	63	44	6781	-174.83	2.14	0
687	SLE FR 1	59	30	5998	-154.8	1.84	0.03
687	SLE FR 2	59	34	5997	-154.86	1.85	0
687	SLE FR 3	59	30	6021	-155.32	1.85	0.03
687	SLE FR 4	60	35	6216	-160.42	1.93	0.01
687	SLE FR 5	60	31	6240	-160.88	1.93	0.04
687	SLE FR 6	61	31	6363	-164.06	1.98	0.04
687	SLE QP 1	59	30	5998	-154.8	1.84	0.03
687	SLE QP 2	60	31	6217	-160.36	1.93	0.04
687	SLD 1	554	209	5532	-162.18	2.47	-0.87
687	SLD 2	554	261	5532	-161.36	2.5	-0.27
687	SLD 3	547	-154	5649	-148.22	2.28	1.34
687	SLD 4	547	-102	5648	-147.4	2.31	1.93
687	SLD 5	219	626	5836	-182.22	2.37	-3.67
687	SLD 6	219	659	5835	-181.69	2.4	-3.29
687	SLD 7	195	-584	6223	-135.68	1.74	3.66
687	SLD 8	195	-551	6223	-135.16	1.76	4.04
687	SLD 9	-75	613	6212	-185.56	2.1	-3.97
687	SLD 10	-75	646	6212	-185.03	2.12	-3.59
687	SLD 11	-99	-597	6599	-139.02	1.46	3.36
687	SLD 12	-99	-564	6599	-138.49	1.48	3.75
687	SLD 13	-427	164	6786	-173.31	1.54	-1.86
687	SLD 14	-427	216	6786	-172.49	1.58	-1.26
687	SLD 15	-434	-199	6903	-159.35	1.35	0.34
687	SLD 16	-434	-147	6902	-158.53	1.39	0.94
687	SLV 1	833	335	5140	-163.69	2.78	-1.53
687	SLV 2	833	417	5140	-162.4	2.84	-0.6
687	SLV 3	821	-284	5338	-139.84	2.46	2.22
687	SLV 4	821	-202	5338	-138.55	2.52	3.16
687	SLV 5	310	1046	5594	-197.78	2.67	-6.3
687	SLV 6	310	1101	5593	-196.91	2.71	-5.67
687	SLV 7	270	-1018	6254	-118.26	1.58	6.21
687	SLV 8	270	-963	6254	-117.39	1.62	6.84
687	SLV 9	-151	1025	6181	-203.32	2.24	-6.77
687	SLV 10	-151	1080	6180	-202.45	2.27	-6.13
687	SLV 11	-190	-1039	6841	-123.8	1.15	5.74
687	SLV 12	-190	-984	6841	-122.94	1.19	6.37
687	SLV 13	-701	264	7097	-182.16	1.34	-3.08
687	SLV 14	-701	346	7096	-180.87	1.4	-2.15
687	SLV 15	-713	-355	7295	-158.31	1.02	0.67
687	SLV 16	-713	-273	7295	-157.02	1.07	1.61
687	SLV FO 1	910	366	5032	-164.03	2.87	-1.69
687	SLV FO 2	910	455	5032	-162.61	2.93	-0.66
687	SLV FO 3	897	-315	5251	-137.79	2.51	2.44
687	SLV FO 4	897	-226	5250	-136.37	2.58	3.47
687	SLV FO 5	335	1148	5531	-201.52	2.74	-6.93
687	SLV FO 6	335	1208	5531	-200.56	2.79	-6.24
687	SLV FO 7	292	-1123	6258	-114.05	1.55	6.82
687	SLV FO 8	292	-1062	6258	-113.1	1.59	7.52
687	SLV FO 9	-172	1124	6177	-207.61	2.27	-7.45
687	SLV FO 10	-172	1185	6177	-206.66	2.31	-6.75
687	SLV FO 11	-215	-1146	6904	-120.15	1.07	6.31
687	SLV FO 12	-215	-1086	6903	-119.19	1.12	7.01
687	SLV FO 13	-778	287	7185	-184.34	1.28	-3.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
687	SLV FO 14	-778	377	7184	-182.92	1.35	-2.36
687	SLV FO 15	-791	-394	7403	-158.11	0.92	0.73
687	SLV FO 16	-791	-304	7402	-156.68	0.99	1.76
687	CRTFP Ux+	0	0	0	0	0	0
687	CRTFP Ux-	0	0	0	0	0	0
687	CRTFP Uy+	0	0	0	0	0	0
687	CRTFP Uy-	0	0	0	0	0	0
688	SLU 1	108	48	10013	-255.8	-1355.49	5.48
688	SLU 2	109	97	9992	-256.55	-1352.51	11.8
688	SLU 3	111	49	10244	-261.23	-1386.84	5.58
688	SLU 4	111	78	10231	-261.68	-1385.05	9.36
688	SLU 5	110	97	10140	-259.93	-1372.65	11.84
688	SLU 6	113	49	10393	-264.61	-1406.98	5.62
688	SLU 7	113	78	10380	-265.06	-1405.19	9.41
688	SLU 8	112	48	10310	-262.55	-1395.78	5.57
688	SLU 9	112	78	10298	-263.01	-1393.99	9.36
688	SLU 10	116	102	11324	-290.05	-1532.41	12.45
688	SLU 11	119	54	11576	-294.73	-1566.74	6.23
688	SLU 12	119	83	11563	-295.18	-1564.95	10.02
688	SLU 13	118	102	11472	-293.43	-1552.55	12.49
688	SLU 14	120	54	11725	-298.11	-1586.89	6.27
688	SLU 15	121	83	11712	-298.56	-1585.1	10.06
688	SLU 16	119	53	11642	-296.05	-1575.68	6.23
688	SLU 17	120	83	11630	-296.51	-1573.89	10.01
688	SLU 18	119	55	11916	-303.66	-1612.5	6.42
688	SLU 19	119	85	11903	-304.11	-1610.71	10.21
688	SLU 20	121	55	12064	-307.03	-1632.64	6.46
688	SLU 21	121	85	12052	-307.49	-1630.85	10.25
688	SLU 22	124	55	11612	-291.43	-1572.29	6.29
688	SLU 23	124	104	11591	-292.18	-1569.31	12.6
688	SLU 24	127	56	11844	-296.86	-1603.64	6.38
688	SLU 25	127	85	11831	-297.31	-1601.85	10.17
688	SLU 26	126	104	11740	-295.56	-1589.45	12.65
688	SLU 27	129	56	11992	-300.23	-1623.78	6.43
688	SLU 28	129	85	11980	-300.69	-1621.99	10.21
688	SLU 29	127	55	11910	-298.18	-1612.58	6.38
688	SLU 30	128	85	11897	-298.63	-1610.79	10.17
688	SLU 31	132	109	12923	-325.68	-1749.21	13.26
688	SLU 32	134	61	13176	-330.36	-1783.54	7.04
688	SLU 33	134	90	13163	-330.81	-1781.75	10.82
688	SLU 34	133	109	13072	-329.06	-1769.36	13.3
688	SLU 35	136	61	13324	-333.73	-1803.69	7.08
688	SLU 36	136	90	13312	-334.19	-1801.9	10.87
688	SLU 37	135	60	13242	-331.68	-1792.48	7.03
688	SLU 38	135	89	13229	-332.13	-1790.69	10.82
688	SLU 39	134	62	13515	-339.28	-1829.3	7.22
688	SLU 40	135	91	13502	-339.73	-1827.51	11.01
688	SLU 41	136	62	13664	-342.66	-1849.44	7.27
688	SLU 42	136	91	13651	-343.11	-1847.65	11.06
688	SLU 43	135	60	12468	-320.33	-1687.8	6.85
688	SLU 44	136	109	12447	-321.08	-1684.82	13.17
688	SLU 45	138	61	12700	-325.76	-1719.15	6.95
688	SLU 46	138	90	12687	-326.21	-1717.36	10.73
688	SLU 47	137	109	12596	-324.46	-1704.96	13.21
688	SLU 48	140	61	12848	-329.14	-1739.3	6.99
688	SLU 49	140	90	12836	-329.59	-1737.51	10.78
688	SLU 50	139	61	12766	-327.08	-1728.09	6.94
688	SLU 51	139	90	12753	-327.53	-1726.3	10.73
688	SLU 52	143	114	13779	-354.58	-1864.72	13.82
688	SLU 53	146	66	14032	-359.26	-1899.06	7.6
688	SLU 54	146	95	14019	-359.71	-1897.27	11.39
688	SLU 55	145	114	13928	-357.96	-1884.87	13.86
688	SLU 56	147	66	14180	-362.64	-1919.2	7.64
688	SLU 57	148	95	14168	-363.09	-1917.41	11.43
688	SLU 58	146	65	14098	-360.58	-1908	7.6
688	SLU 59	147	95	14085	-361.03	-1906.21	11.38
688	SLU 60	146	67	14371	-368.18	-1944.81	7.79
688	SLU 61	146	97	14358	-368.63	-1943.02	11.57
688	SLU 62	148	68	14520	-371.56	-1964.95	7.83
688	SLU 63	148	97	14507	-372.01	-1963.16	11.62
688	SLU 64	151	67	14068	-355.95	-1904.6	7.66
688	SLU 65	151	116	14047	-356.7	-1901.62	13.97
688	SLU 66	154	68	14299	-361.38	-1935.95	7.75
688	SLU 67	154	97	14286	-361.84	-1934.16	11.54
688	SLU 68	153	116	14195	-360.08	-1921.77	14.02
688	SLU 69	156	68	14448	-364.76	-1956.1	7.8
688	SLU 70	156	97	14435	-365.21	-1954.31	11.58
688	SLU 71	154	67	14365	-362.71	-1944.89	7.75
688	SLU 72	155	97	14352	-363.16	-1943.1	11.53
688	SLU 73	159	121	15379	-390.2	-2081.53	14.63
688	SLU 74	161	73	15631	-394.88	-2115.86	8.41
688	SLU 75	161	102	15618	-395.34	-2114.07	12.19
688	SLU 76	161	121	15527	-393.58	-2101.67	14.67
688	SLU 77	163	73	15780	-398.26	-2136	8.45
688	SLU 78	163	102	15767	-398.71	-2134.21	12.24
688	SLU 79	162	72	15697	-396.21	-2124.8	8.4
688	SLU 80	162	102	15684	-396.66	-2123.01	12.19
688	SLU 81	161	74	15971	-403.81	-2161.61	8.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
688	SLU 82	162	104	15958	-404.26	-2159.82	12.38
688	SLU 83	163	74	16119	-407.19	-2181.76	8.64
688	SLU 84	164	104	16107	-407.64	-2179.97	12.42
688	SLE RA 1	113	50	10470	-265.98	-1417.43	5.71
688	SLE RA 2	113	83	10456	-266.48	-1415.44	9.92
688	SLE RA 3	115	51	10624	-269.6	-1438.33	5.78
688	SLE RA 4	115	70	10616	-269.9	-1437.14	8.3
688	SLE RA 5	114	83	10555	-268.73	-1428.87	9.95
688	SLE RA 6	116	51	10723	-271.85	-1451.76	5.81
688	SLE RA 7	116	70	10715	-272.15	-1450.57	8.33
688	SLE RA 8	115	50	10668	-270.48	-1444.29	5.77
688	SLE RA 9	115	70	10660	-270.78	-1443.1	8.3
688	SLE RA 10	118	86	11344	-288.81	-1535.38	10.36
688	SLE RA 11	120	54	11512	-291.93	-1558.27	6.21
688	SLE RA 12	120	73	11504	-292.23	-1557.07	8.74
688	SLE RA 13	119	86	11443	-291.07	-1548.81	10.39
688	SLE RA 14	121	54	11611	-294.19	-1571.7	6.24
688	SLE RA 15	121	73	11603	-294.49	-1570.5	8.77
688	SLE RA 16	120	54	11556	-292.81	-1564.23	6.21
688	SLE RA 17	120	73	11548	-293.12	-1563.03	8.73
688	SLE RA 18	120	55	11738	-297.88	-1588.77	6.34
688	SLE RA 19	120	74	11730	-298.18	-1587.58	8.86
688	SLE RA 20	121	55	11838	-300.14	-1602.2	6.37
688	SLE RA 21	121	74	11829	-300.44	-1601.01	8.89
688	SLE FR 1	113	50	10470	-265.98	-1417.43	5.71
688	SLE FR 2	113	57	10467	-266.08	-1417.03	6.56
688	SLE FR 3	113	50	10509	-266.88	-1422.8	5.73
688	SLE FR 4	115	58	10848	-275.65	-1468.43	6.74
688	SLE FR 5	115	52	10890	-276.45	-1474.2	5.91
688	SLE FR 6	116	53	11104	-281.93	-1503.1	6.03
688	SLE QP 1	113	50	10470	-265.98	-1417.43	5.71
688	SLE QP 2	115	52	10850	-275.55	-1468.83	5.9
688	SLD 1	986	357	9645	-277.24	-1307.87	46.43
688	SLD 2	986	456	9642	-275.82	-1307.09	61.4
688	SLD 3	974	-263	9873	-254.71	-1340.5	-33.92
688	SLD 4	974	-164	9869	-253.29	-1339.72	-18.95
688	SLD 5	394	1066	10145	-310.47	-1371.19	137.35
688	SLD 6	394	1130	10142	-309.55	-1370.69	146.99
688	SLD 7	355	-999	10903	-235.38	-1479.95	-130.48
688	SLD 8	355	-936	10900	-234.46	-1479.45	-120.84
688	SLD 9	-125	1039	10800	-316.64	-1458.21	132.65
688	SLD 10	-125	1103	10798	-315.72	-1457.71	142.29
688	SLD 11	-164	-1026	11559	-241.55	-1566.98	-135.19
688	SLD 12	-164	-962	11556	-240.63	-1566.48	-125.55
688	SLD 13	-745	267	11832	-297.81	-1597.95	30.75
688	SLD 14	-745	366	11828	-296.39	-1597.17	45.72
688	SLD 15	-756	-352	12059	-275.28	-1630.58	-49.6
688	SLD 16	-756	-253	12055	-273.86	-1629.8	-34.63
688	SLV 1	1479	572	8954	-279.04	-1215.34	74.96
688	SLV 2	1478	729	8948	-276.8	-1214.11	98.56
688	SLV 3	1459	-484	9342	-240.55	-1270.97	-62.11
688	SLV 4	1459	-328	9336	-238.31	-1269.74	-38.51
688	SLV 5	554	1782	9695	-335.4	-1308.64	230.11
688	SLV 6	553	1887	9690	-333.89	-1307.81	245.99
688	SLV 7	488	-1741	10987	-207.08	-1494.08	-226.8
688	SLV 8	488	-1636	10983	-205.58	-1493.25	-210.91
688	SLV 9	-259	1739	10718	-345.52	-1444.41	222.71
688	SLV 10	-259	1844	10714	-344.02	-1443.59	238.6
688	SLV 11	-324	-1783	12010	-217.21	-1629.86	-234.19
688	SLV 12	-324	-1678	12006	-215.7	-1629.03	-218.3
688	SLV 13	-1230	432	12365	-312.79	-1667.93	50.31
688	SLV 14	-1230	588	12359	-310.55	-1666.7	73.91
688	SLV 15	-1249	-625	12753	-274.3	-1723.56	-86.76
688	SLV 16	-1249	-469	12747	-272.06	-1722.33	-63.16
688	SLV FO 1	1615	625	8764	-279.39	-1189.99	81.87
688	SLV FO 2	1615	796	8758	-276.93	-1188.64	107.83
688	SLV FO 3	1593	-538	9191	-237.05	-1251.18	-68.91
688	SLV FO 4	1593	-366	9184	-234.58	-1249.83	-42.95
688	SLV FO 5	597	1955	9579	-341.38	-1292.62	252.53
688	SLV FO 6	597	2070	9574	-339.73	-1291.71	270
688	SLV FO 7	526	-1920	11001	-200.24	-1496.6	-250.07
688	SLV FO 8	526	-1805	10996	-198.58	-1495.69	-232.59
688	SLV FO 9	-296	1908	10705	-352.52	-1441.97	244.39
688	SLV FO 10	-296	2024	10700	-350.86	-1441.06	261.87
688	SLV FO 11	-368	-1967	12126	-211.37	-1645.96	-258.2
688	SLV FO 12	-368	-1851	12122	-209.72	-1645.05	-240.72
688	SLV FO 13	-1364	469	12517	-316.52	-1687.83	54.75
688	SLV FO 14	-1364	641	12510	-314.05	-1686.48	80.71
688	SLV FO 15	-1386	-693	12943	-274.17	-1749.03	-96.03
688	SLV FO 16	-1386	-521	12936	-271.71	-1747.68	-70.06
688	CRTFP Ux+	0	0	0	0	0	0
688	CRTFP Ux-	0	0	0	0	0	0
688	CRTFP Uy+	0	0	0	0	0	0
688	CRTFP Uy-	0	0	0	0	0	0
689	SLU 1	147	39	11347	831.16	381.33	-20.1
689	SLU 2	148	93	11320	827.78	380.71	-22.04
689	SLU 3	151	39	11610	851.03	390.01	-20.54
689	SLU 4	152	72	11594	849	389.64	-21.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
689	SLU 5	150	93	11489	840.67	386.29	-22.25
689	SLU 6	154	40	11779	863.92	395.59	-20.76
689	SLU 7	154	72	11763	861.89	395.22	-21.92
689	SLU 8	152	39	11685	856.95	392.48	-20.54
689	SLU 9	152	72	11669	854.92	392.11	-21.7
689	SLU 10	158	98	12819	937.34	431.99	-23.45
689	SLU 11	162	44	13109	960.59	441.3	-21.96
689	SLU 12	162	77	13093	958.56	440.92	-23.11
689	SLU 13	161	98	12988	950.24	437.57	-23.67
689	SLU 14	164	45	13279	973.49	446.87	-22.17
689	SLU 15	165	77	13262	971.46	446.5	-23.33
689	SLU 16	163	44	13184	966.51	443.77	-21.96
689	SLU 17	163	77	13168	964.48	443.39	-23.12
689	SLU 18	162	46	13489	987.68	454.59	-22.13
689	SLU 19	163	79	13473	985.65	454.22	-23.29
689	SLU 20	165	46	13658	1000.57	460.17	-22.35
689	SLU 21	165	79	13642	998.54	459.79	-23.5
689	SLU 22	168	45	13171	970.29	440.7	-22.79
689	SLU 23	169	99	13144	966.91	440.08	-24.72
689	SLU 24	172	45	13434	990.16	449.39	-23.23
689	SLU 25	172	78	13418	988.13	449.01	-24.39
689	SLU 26	171	99	13313	979.8	445.66	-24.94
689	SLU 27	174	46	13603	1003.05	454.96	-23.45
689	SLU 28	175	78	13587	1001.02	454.59	-24.61
689	SLU 29	173	45	13509	996.08	451.86	-23.23
689	SLU 30	173	78	13493	994.05	451.49	-24.39
689	SLU 31	179	104	14643	1076.47	491.36	-26.14
689	SLU 32	182	50	14933	1099.72	500.67	-24.65
689	SLU 33	183	83	14917	1097.69	500.3	-25.8
689	SLU 34	181	104	14812	1089.37	496.94	-26.36
689	SLU 35	185	51	15102	1112.62	506.25	-24.86
689	SLU 36	185	83	15086	1110.59	505.87	-26.02
689	SLU 37	183	50	15008	1105.64	503.14	-24.65
689	SLU 38	184	83	14992	1103.61	502.77	-25.81
689	SLU 39	183	52	15313	1126.81	513.96	-24.82
689	SLU 40	183	84	15296	1124.78	513.59	-25.98
689	SLU 41	185	52	15482	1139.7	519.54	-25.04
689	SLU 42	186	85	15466	1137.67	519.17	-26.19
689	SLU 43	185	48	14126	1032.8	475.37	-25.21
689	SLU 44	185	103	14099	1029.42	474.75	-27.14
689	SLU 45	188	49	14389	1052.67	484.06	-25.65
689	SLU 46	189	82	14373	1050.65	483.68	-26.81
689	SLU 47	188	103	14268	1042.32	480.33	-27.36
689	SLU 48	191	49	14558	1065.57	489.63	-25.87
689	SLU 49	191	82	14542	1063.54	489.26	-27.03
689	SLU 50	189	49	14464	1058.59	486.53	-25.65
689	SLU 51	190	82	14448	1056.57	486.16	-26.81
689	SLU 52	196	108	15598	1138.99	526.03	-28.56
689	SLU 53	199	54	15888	1162.24	535.34	-27.07
689	SLU 54	199	87	15872	1160.21	534.97	-28.22
689	SLU 55	198	108	15767	1151.88	531.61	-28.78
689	SLU 56	201	54	16057	1175.13	540.92	-27.28
689	SLU 57	202	87	16041	1173.1	540.54	-28.44
689	SLU 58	200	54	15963	1168.16	537.81	-27.07
689	SLU 59	200	87	15947	1166.13	537.44	-28.23
689	SLU 60	200	55	16268	1189.32	548.63	-27.24
689	SLU 61	200	88	16251	1187.3	548.26	-28.4
689	SLU 62	202	56	16437	1202.22	554.21	-27.46
689	SLU 63	202	88	16420	1200.19	553.84	-28.61
689	SLU 64	205	54	15949	1171.93	534.75	-27.9
689	SLU 65	206	109	15922	1168.55	534.13	-29.83
689	SLU 66	209	55	16213	1191.8	543.43	-28.34
689	SLU 67	209	88	16196	1189.77	543.06	-29.5
689	SLU 68	208	109	16092	1181.45	539.7	-30.05
689	SLU 69	211	55	16382	1204.7	549.01	-28.56
689	SLU 70	212	88	16366	1202.67	548.63	-29.71
689	SLU 71	210	55	16288	1197.72	545.9	-28.34
689	SLU 72	210	87	16271	1195.7	545.53	-29.5
689	SLU 73	216	114	17422	1278.12	585.41	-31.25
689	SLU 74	220	60	17712	1301.37	594.71	-29.75
689	SLU 75	220	93	17696	1299.34	594.34	-30.91
689	SLU 76	219	114	17591	1291.01	590.98	-31.47
689	SLU 77	222	60	17881	1314.26	600.29	-29.97
689	SLU 78	222	93	17865	1312.23	599.92	-31.13
689	SLU 79	220	60	17787	1307.29	597.18	-29.76
689	SLU 80	221	93	17771	1305.26	596.81	-30.92
689	SLU 81	220	61	18091	1328.45	608.01	-29.93
689	SLU 82	221	94	18075	1326.42	607.63	-31.09
689	SLU 83	223	62	18261	1341.35	613.58	-30.15
689	SLU 84	223	94	18244	1339.32	613.21	-31.3
689	SLE RA 1	153	40	11868	870.91	398.29	-20.87
689	SLE RA 2	154	77	11850	868.66	397.88	-22.16
689	SLE RA 3	156	41	12043	884.16	404.08	-21.16
689	SLE RA 4	156	63	12033	882.8	403.84	-21.93
689	SLE RA 5	155	77	11963	877.25	401.6	-22.31
689	SLE RA 6	157	41	12156	892.75	407.8	-21.31
689	SLE RA 7	158	63	12145	891.4	407.55	-22.08
689	SLE RA 8	156	41	12093	888.1	405.73	-21.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
689	SLE RA 9	157	63	12083	886.75	405.48	-21.94
689	SLE RA 10	161	80	12850	941.7	432.07	-23.1
689	SLE RA 11	163	44	13043	957.2	438.27	-22.11
689	SLE RA 12	163	66	13032	955.85	438.02	-22.88
689	SLE RA 13	162	80	12962	950.29	435.79	-23.25
689	SLE RA 14	164	44	13156	965.79	441.99	-22.25
689	SLE RA 15	165	66	13145	964.44	441.74	-23.02
689	SLE RA 16	163	44	13093	961.15	439.92	-22.11
689	SLE RA 17	164	66	13082	959.79	439.67	-22.88
689	SLE RA 18	163	45	13296	975.26	447.13	-22.22
689	SLE RA 19	164	67	13285	973.9	446.89	-22.99
689	SLE RA 20	165	45	13409	983.85	450.85	-22.37
689	SLE RA 21	165	67	13398	982.5	450.6	-23.14
689	SLE FR 1	153	40	11868	870.91	398.29	-20.87
689	SLE FR 2	153	48	11864	870.46	398.21	-21.13
689	SLE FR 3	154	41	11913	874.35	399.78	-20.93
689	SLE FR 4	156	49	12293	901.76	412.86	-21.54
689	SLE FR 5	157	42	12341	905.65	414.43	-21.34
689	SLE FR 6	158	43	12582	923.08	422.71	-21.55
689	SLE QP 1	153	40	11868	870.91	398.29	-20.87
689	SLE QP 2	156	42	12296	902.21	412.95	-21.28
689	SLD 1	1160	386	11027	782.92	360.91	-125.98
689	SLD 2	1158	516	11019	783.59	360.54	-126.79
689	SLD 3	1146	-306	11345	837.53	364.59	-101.25
689	SLD 4	1144	-176	11337	838.21	364.22	-102.05
689	SLD 5	479	1173	11436	783.48	391.81	-90.06
689	SLD 6	478	1256	11430	783.91	391.57	-90.58
689	SLD 7	432	-1135	12494	965.52	404.09	-7.62
689	SLD 8	431	-1051	12488	965.96	403.85	-8.14
689	SLD 9	-118	1135	12104	838.47	422.04	-34.42
689	SLD 10	-120	1218	12099	838.91	421.8	-34.94
689	SLD 11	-165	-1172	13162	1020.51	434.32	48.03
689	SLD 12	-167	-1089	13157	1020.95	434.08	47.51
689	SLD 13	-832	260	13256	966.22	461.67	59.5
689	SLD 14	-834	390	13248	966.9	461.3	58.69
689	SLD 15	-846	-432	13574	1020.83	465.36	84.23
689	SLD 16	-848	-302	13565	1021.51	464.99	83.42
689	SLV 1	1728	629	10294	712.11	331.4	-186.92
689	SLV 2	1725	833	10281	713.18	330.81	-188.19
689	SLV 3	1705	-552	10835	805.32	337.7	-144.73
689	SLV 4	1702	-347	10822	806.39	337.12	-146.01
689	SLV 5	664	1971	10877	703.61	379.03	-134.71
689	SLV 6	662	2108	10868	704.33	378.64	-135.56
689	SLV 7	586	-1965	12682	1014.31	400.04	5.9
689	SLV 8	584	-1828	12673	1015.03	399.65	5.04
689	SLV 9	-271	1912	11920	789.39	426.24	-47.6
689	SLV 10	-273	2049	11911	790.11	425.85	-48.45
689	SLV 11	-349	-2025	13725	1100.09	447.26	93.01
689	SLV 12	-352	-1887	13716	1100.81	446.86	92.15
689	SLV 13	-1389	431	13771	998.04	488.78	103.45
689	SLV 14	-1392	635	13758	999.11	488.19	102.18
689	SLV 15	-1413	-750	14312	1091.25	495.08	145.63
689	SLV 16	-1416	-546	14299	1092.32	494.5	144.36
689	SLV FO 1	1886	688	10093	693.1	323.24	-203.48
689	SLV FO 2	1882	913	10079	694.27	322.6	-204.88
689	SLV FO 3	1860	-611	10689	795.63	330.17	-157.08
689	SLV FO 4	1856	-386	10674	796.81	329.53	-158.48
689	SLV FO 5	715	2164	10735	683.75	375.64	-146.05
689	SLV FO 6	713	2315	10725	684.55	375.21	-146.99
689	SLV FO 7	629	-2166	12720	1025.53	398.75	8.61
689	SLV FO 8	626	-2015	12710	1026.32	398.32	7.67
689	SLV FO 9	-314	2099	11882	778.11	427.57	-50.23
689	SLV FO 10	-316	2250	11873	778.9	427.14	-51.17
689	SLV FO 11	-400	-2231	13868	1119.88	450.69	104.43
689	SLV FO 12	-402	-2080	13858	1120.67	450.25	103.49
689	SLV FO 13	-1544	470	13918	1007.62	496.36	115.92
689	SLV FO 14	-1547	695	13904	1008.79	495.72	114.52
689	SLV FO 15	-1569	-829	14514	1110.15	503.29	162.32
689	SLV FO 16	-1573	-604	14499	1111.33	502.65	160.92
689	CRTFP Ux+	0	0	0	0	0	0
689	CRTFP Ux-	0	0	0	0	0	0
689	CRTFP Uy+	0	0	0	0	0	0
689	CRTFP Uy-	0	0	0	0	0	0
693	SLU 1	137	-49	8008	-1492.84	33.19	34.12
693	SLU 2	138	-9	7987	-1491.44	29.64	34.01
693	SLU 3	140	-49	8190	-1526.12	34.34	34.89
693	SLU 4	141	-26	8178	-1525.28	32.21	34.82
693	SLU 5	140	-10	8103	-1512.49	30.52	34.45
693	SLU 6	142	-50	8306	-1547.17	35.22	35.33
693	SLU 7	143	-26	8294	-1546.33	33.09	35.26
693	SLU 8	141	-49	8240	-1534.94	34.95	35
693	SLU 9	142	-26	8228	-1534.1	32.82	34.93
693	SLU 10	148	-13	9039	-1687.23	33.22	36.8
693	SLU 11	151	-53	9242	-1721.91	37.92	37.67
693	SLU 12	151	-30	9230	-1721.07	35.79	37.61
693	SLU 13	150	-14	9155	-1708.28	34.11	37.23
693	SLU 14	152	-54	9358	-1742.96	38.8	38.11
693	SLU 15	153	-30	9346	-1742.12	36.67	38.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLU 16	151	-53	9292	-1730.73	38.54	37.78
693	SLU 17	152	-30	9280	-1729.89	36.41	37.72
693	SLU 18	151	-54	9511	-1772.55	38.31	38.1
693	SLU 19	152	-31	9498	-1771.7	36.18	38.03
693	SLU 20	153	-55	9627	-1793.6	39.19	38.54
693	SLU 21	154	-31	9614	-1792.75	37.06	38.47
693	SLU 22	155	-54	9294	-1730.66	37.97	38.4
693	SLU 23	155	-15	9273	-1729.25	34.42	38.29
693	SLU 24	158	-55	9476	-1763.94	39.12	39.17
693	SLU 25	158	-31	9464	-1763.09	36.99	39.1
693	SLU 26	157	-15	9389	-1750.3	35.3	38.73
693	SLU 27	160	-55	9592	-1784.99	40	39.6
693	SLU 28	160	-32	9580	-1784.14	37.87	39.54
693	SLU 29	158	-55	9526	-1772.76	39.73	39.28
693	SLU 30	159	-31	9513	-1771.91	37.6	39.21
693	SLU 31	165	-19	10325	-1925.04	38	41.07
693	SLU 32	168	-59	10528	-1959.73	42.7	41.95
693	SLU 33	168	-35	10516	-1958.88	40.57	41.88
693	SLU 34	167	-19	10441	-1946.09	38.88	41.51
693	SLU 35	170	-59	10644	-1980.78	43.58	42.39
693	SLU 36	170	-36	10632	-1979.93	41.45	42.32
693	SLU 37	169	-59	10578	-1968.55	43.32	42.06
693	SLU 38	169	-35	10565	-1967.7	41.19	41.99
693	SLU 39	169	-60	10797	-2010.36	43.09	42.38
693	SLU 40	169	-36	10784	-2009.52	40.96	42.31
693	SLU 41	171	-60	10913	-2031.41	43.97	42.81
693	SLU 42	171	-36	10900	-2030.57	41.84	42.75
693	SLU 43	172	-61	9969	-1859.16	41.51	42.9
693	SLU 44	173	-22	9949	-1857.75	37.96	42.78
693	SLU 45	176	-62	10152	-1892.44	42.65	43.66
693	SLU 46	176	-38	10139	-1891.6	40.52	43.59
693	SLU 47	175	-22	10065	-1878.8	38.84	43.22
693	SLU 48	178	-62	10268	-1913.49	43.54	44.1
693	SLU 49	178	-39	10255	-1912.64	41.41	44.03
693	SLU 50	176	-62	10201	-1901.26	43.27	43.77
693	SLU 51	177	-38	10189	-1900.41	41.14	43.7
693	SLU 52	183	-26	11001	-2053.54	41.54	45.57
693	SLU 53	186	-66	11204	-2088.23	46.24	46.44
693	SLU 54	186	-42	11191	-2087.39	44.11	46.38
693	SLU 55	185	-26	11117	-2074.59	42.42	46
693	SLU 56	188	-66	11320	-2109.28	47.12	46.88
693	SLU 57	188	-43	11307	-2108.44	44.99	46.81
693	SLU 58	186	-66	11253	-2097.05	46.86	46.55
693	SLU 59	187	-42	11241	-2096.21	44.73	46.49
693	SLU 60	187	-67	11472	-2138.86	46.63	46.87
693	SLU 61	187	-43	11460	-2138.02	44.5	46.8
693	SLU 62	189	-67	11588	-2159.91	47.51	47.31
693	SLU 63	189	-44	11576	-2159.07	45.38	47.24
693	SLU 64	190	-67	11255	-2096.98	46.29	47.17
693	SLU 65	191	-27	11235	-2095.57	42.74	47.06
693	SLU 66	193	-68	11438	-2130.25	47.43	47.94
693	SLU 67	194	-44	11425	-2129.41	45.3	47.87
693	SLU 68	192	-28	11351	-2116.62	43.62	47.5
693	SLU 69	195	-68	11554	-2151.3	48.32	48.38
693	SLU 70	196	-44	11541	-2150.46	46.19	48.31
693	SLU 71	194	-67	11487	-2139.07	48.05	48.05
693	SLU 72	194	-44	11475	-2138.23	45.92	47.98
693	SLU 73	201	-31	12287	-2291.36	46.32	49.84
693	SLU 74	203	-72	12490	-2326.05	51.02	50.72
693	SLU 75	204	-48	12477	-2325.2	48.89	50.65
693	SLU 76	203	-32	12403	-2312.41	47.2	50.28
693	SLU 77	205	-72	12606	-2347.09	51.9	51.16
693	SLU 78	206	-48	12593	-2346.25	49.77	51.09
693	SLU 79	204	-71	12539	-2334.87	51.64	50.83
693	SLU 80	204	-48	12527	-2334.02	49.51	50.76
693	SLU 81	204	-72	12758	-2376.68	51.41	51.15
693	SLU 82	205	-49	12746	-2375.83	49.28	51.08
693	SLU 83	206	-73	12874	-2397.73	52.29	51.59
693	SLU 84	207	-49	12862	-2396.88	50.16	51.52
693	SLE RA 1	142	-50	8375	-1560.79	34.55	35.35
693	SLE RA 2	143	-24	8361	-1559.85	32.19	35.27
693	SLE RA 3	144	-51	8497	-1582.98	35.32	35.86
693	SLE RA 4	145	-35	8489	-1582.41	33.9	35.81
693	SLE RA 5	144	-24	8439	-1573.89	32.78	35.56
693	SLE RA 6	146	-51	8574	-1597.01	35.91	36.15
693	SLE RA 7	146	-35	8566	-1596.45	34.49	36.1
693	SLE RA 8	145	-51	8530	-1588.86	35.73	35.93
693	SLE RA 9	145	-35	8522	-1588.29	34.31	35.88
693	SLE RA 10	149	-27	9063	-1690.38	34.58	37.13
693	SLE RA 11	151	-53	9198	-1713.5	37.71	37.71
693	SLE RA 12	151	-38	9190	-1712.94	36.29	37.67
693	SLE RA 13	151	-27	9140	-1704.41	35.17	37.42
693	SLE RA 14	152	-54	9275	-1727.54	38.3	38
693	SLE RA 15	153	-38	9267	-1726.97	36.88	37.96
693	SLE RA 16	151	-53	9231	-1719.38	38.12	37.79
693	SLE RA 17	152	-38	9223	-1718.82	36.7	37.74
693	SLE RA 18	152	-54	9377	-1747.26	37.97	38
693	SLE RA 19	152	-38	9369	-1746.7	36.55	37.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLE RA 20	153	-54	9454	-1761.29	38.56	38.29
693	SLE RA 21	153	-38	9446	-1760.73	37.14	38.24
693	SLE FR 1	142	-50	8375	-1560.79	34.55	35.35
693	SLE FR 2	142	-45	8372	-1560.6	34.08	35.33
693	SLE FR 3	143	-50	8406	-1566.4	34.79	35.46
693	SLE FR 4	145	-46	8673	-1616.54	35.11	36.13
693	SLE FR 5	146	-51	8707	-1622.34	35.81	36.26
693	SLE FR 6	147	-52	8876	-1654.03	36.26	36.67
693	SLE QP 1	142	-50	8375	-1560.79	34.55	35.35
693	SLE QP 2	145	-51	8676	-1616.73	35.58	36.14
693	SLD 1	822	223	7906	-1488.95	26.57	157.79
693	SLD 2	829	327	7889	-1488.15	21.87	161.44
693	SLD 3	808	-288	8116	-1496.46	69.44	160.65
693	SLD 4	815	-184	8100	-1495.66	64.74	164.29
693	SLD 5	368	788	8128	-1567.15	-31.34	67.68
693	SLD 6	373	855	8118	-1566.63	-34.36	70.03
693	SLD 7	322	-915	8830	-1592.18	111.57	77.2
693	SLD 8	326	-848	8819	-1591.66	108.54	79.54
693	SLD 9	-36	746	8532	-1641.8	-37.38	-7.26
693	SLD 10	-32	813	8522	-1641.29	-40.41	-4.91
693	SLD 11	-83	-958	9234	-1666.83	105.52	2.25
693	SLD 12	-78	-891	9223	-1666.32	102.49	4.6
693	SLD 13	-525	82	9252	-1737.8	6.42	-92.01
693	SLD 14	-518	186	9235	-1737	1.71	-88.36
693	SLD 15	-539	-429	9462	-1745.31	49.29	-89.16
693	SLD 16	-532	-325	9446	-1744.51	44.58	-85.51
693	SLV 1	1206	413	7459	-1416.78	18.96	226.39
693	SLV 2	1217	577	7433	-1415.51	11.54	232.14
693	SLV 3	1182	-459	7818	-1429.63	92.06	231.22
693	SLV 4	1193	-295	7792	-1428.36	84.65	236.96
693	SLV 5	497	1380	7771	-1537.49	-78.9	84.83
693	SLV 6	504	1490	7754	-1536.64	-83.89	88.7
693	SLV 7	418	-1527	8968	-1580.33	164.78	100.9
693	SLV 8	426	-1416	8950	-1579.47	159.79	104.77
693	SLV 9	-136	1314	8401	-1653.99	-88.64	-32.49
693	SLV 10	-128	1424	8384	-1653.14	-93.63	-28.62
693	SLV 11	-214	-1593	9598	-1696.82	155.05	-16.42
693	SLV 12	-207	-1482	9580	-1695.97	150.06	-12.55
693	SLV 13	-903	192	9559	-1805.1	-13.49	-164.68
693	SLV 14	-892	356	9534	-1803.83	-20.91	-158.93
693	SLV 15	-927	-680	9918	-1817.95	59.61	-159.86
693	SLV 16	-916	-516	9892	-1816.68	52.2	-154.11
693	SLV FO 1	1312	460	7337	-1396.79	17.29	245.42
693	SLV FO 2	1324	640	7309	-1395.39	9.14	251.74
693	SLV FO 3	1286	-499	7732	-1410.92	97.71	250.72
693	SLV FO 4	1298	-319	7704	-1409.52	89.56	257.05
693	SLV FO 5	532	1523	7681	-1529.57	-90.35	89.7
693	SLV FO 6	540	1644	7662	-1528.63	-95.84	93.96
693	SLV FO 7	446	-1674	8997	-1576.69	177.71	107.38
693	SLV FO 8	454	-1553	8978	-1575.75	172.22	111.64
693	SLV FO 9	-164	1450	8374	-1657.72	-101.06	-39.35
693	SLV FO 10	-156	1572	8355	-1656.78	-106.55	-35.1
693	SLV FO 11	-250	-1747	9690	-1704.83	167	-21.67
693	SLV FO 12	-242	-1626	9671	-1703.89	161.51	-17.42
693	SLV FO 13	-1008	217	9648	-1823.94	-18.4	-184.76
693	SLV FO 14	-996	397	9619	-1822.54	-26.55	-178.44
693	SLV FO 15	-1034	-743	10043	-1838.07	62.02	-179.46
693	SLV FO 16	-1022	-562	10014	-1836.68	53.86	-173.13
693	CRTFP Ux+	0	0	0	0	0	0
693	CRTFP Ux-	0	0	0	0	0	0
693	CRTFP Uy+	0	0	0	0	0	0
693	CRTFP Uy-	0	0	0	0	0	0
694	SLU 1	295	76	17525	2558.21	3174.98	-46.05
694	SLU 2	296	158	17499	2549.07	3166.92	-61.53
694	SLU 3	302	78	17929	2619.98	3248.92	-47.27
694	SLU 4	303	127	17913	2614.5	3244.08	-56.56
694	SLU 5	300	159	17757	2589.24	3214.4	-62.29
694	SLU 6	306	79	18186	2660.15	3296.39	-48.03
694	SLU 7	307	128	18171	2654.67	3291.55	-57.32
694	SLU 8	303	79	18040	2638.55	3269.93	-47.57
694	SLU 9	304	128	18025	2633.06	3265.09	-56.86
694	SLU 10	317	169	19809	2885.39	3584.39	-65.63
694	SLU 11	324	89	20239	2956.31	3666.38	-51.37
694	SLU 12	324	138	20223	2950.82	3661.54	-60.66
694	SLU 13	322	170	20067	2925.56	3631.86	-66.39
694	SLU 14	328	90	20497	2996.48	3713.85	-52.13
694	SLU 15	329	139	20481	2990.99	3709.02	-61.41
694	SLU 16	325	90	20351	2974.87	3687.39	-51.67
694	SLU 17	326	139	20335	2969.39	3682.55	-60.96
694	SLU 18	326	92	20825	3038.67	3771.36	-51.91
694	SLU 19	326	141	20810	3033.18	3766.52	-61.2
694	SLU 20	330	93	21083	3078.84	3818.83	-52.67
694	SLU 21	331	142	21067	3073.35	3814	-61.96
694	SLU 22	333	86	20360	2977.2	3688.6	-52.52
694	SLU 23	334	168	20335	2968.05	3680.54	-68
694	SLU 24	340	87	20764	3038.97	3762.53	-53.74
694	SLU 25	341	137	20749	3033.48	3757.7	-63.02
694	SLU 26	338	169	20593	3008.22	3728.01	-68.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
694	SLU 27	345	89	21022	3079.14	3810.01	-54.49
694	SLU 28	345	138	21007	3073.65	3805.17	-63.78
694	SLU 29	342	88	20876	3057.54	3783.54	-54.03
694	SLU 30	342	137	20861	3052.05	3778.71	-63.32
694	SLU 31	356	179	22645	3304.37	4098	-72.1
694	SLU 32	362	98	23074	3375.29	4180	-57.84
694	SLU 33	363	148	23059	3369.8	4175.16	-67.12
694	SLU 34	360	180	22903	3344.54	4145.48	-72.86
694	SLU 35	367	100	23332	3415.46	4227.47	-58.59
694	SLU 36	367	149	23317	3409.97	4222.63	-67.88
694	SLU 37	364	99	23186	3393.86	4201.01	-58.13
694	SLU 38	364	148	23171	3388.37	4196.17	-67.42
694	SLU 39	364	102	23661	3457.66	4284.98	-58.38
694	SLU 40	365	151	23645	3452.17	4280.14	-67.66
694	SLU 41	369	103	23918	3497.83	4332.45	-59.13
694	SLU 42	369	152	23903	3492.34	4327.61	-68.42
694	SLU 43	370	96	21810	3182.02	3951.38	-57.65
694	SLU 44	371	178	21784	3172.88	3943.32	-73.13
694	SLU 45	377	97	22214	3243.8	4025.31	-58.87
694	SLU 46	378	147	22198	3238.31	4020.48	-68.16
694	SLU 47	375	179	22042	3213.05	3990.79	-73.89
694	SLU 48	381	99	22472	3283.97	4072.79	-59.63
694	SLU 49	382	148	22456	3278.48	4067.95	-68.91
694	SLU 50	378	98	22326	3262.36	4046.32	-59.17
694	SLU 51	379	147	22310	3256.88	4041.49	-68.45
694	SLU 52	393	189	24095	3509.2	4360.79	-77.23
694	SLU 53	399	108	24524	3580.12	4442.78	-62.97
694	SLU 54	400	158	24509	3574.63	4437.94	-72.26
694	SLU 55	397	190	24352	3549.37	4408.26	-77.99
694	SLU 56	403	110	24782	3620.29	4490.25	-63.72
694	SLU 57	404	159	24766	3614.8	4485.41	-73.01
694	SLU 58	400	109	24636	3598.69	4463.79	-63.27
694	SLU 59	401	158	24620	3593.2	4458.95	-72.55
694	SLU 60	401	111	25110	3662.48	4547.76	-63.51
694	SLU 61	402	161	25095	3657	4542.92	-72.8
694	SLU 62	405	113	25368	3702.65	4595.23	-64.27
694	SLU 63	406	162	25353	3697.17	4590.39	-73.55
694	SLU 64	408	105	24646	3601.01	4465	-64.12
694	SLU 65	409	187	24620	3591.86	4456.94	-79.6
694	SLU 66	416	107	25049	3662.78	4538.93	-65.33
694	SLU 67	416	156	25034	3657.29	4534.1	-74.62
694	SLU 68	414	189	24878	3632.03	4504.41	-80.36
694	SLU 69	420	108	25307	3702.95	4586.4	-66.09
694	SLU 70	421	157	25292	3697.46	4581.57	-75.38
694	SLU 71	417	108	25161	3681.35	4559.94	-65.63
694	SLU 72	418	157	25146	3675.86	4555.11	-74.92
694	SLU 73	431	198	26930	3928.18	4874.4	-83.7
694	SLU 74	437	118	27360	3999.1	4956.4	-69.43
694	SLU 75	438	167	27344	3993.61	4951.56	-78.72
694	SLU 76	435	200	27188	3968.35	4921.87	-84.46
694	SLU 77	442	119	27617	4039.27	5003.87	-70.19
694	SLU 78	442	168	27602	4033.78	4999.03	-79.48
694	SLU 79	439	119	27471	4017.67	4977.41	-69.73
694	SLU 80	439	168	27456	4012.18	4972.57	-79.02
694	SLU 81	439	121	27946	4081.47	5061.38	-69.97
694	SLU 82	440	170	27930	4075.98	5056.54	-79.26
694	SLU 83	444	122	28204	4121.64	5108.85	-70.73
694	SLU 84	444	172	28188	4116.15	5104.01	-80.02
694	SLE RA 1	306	79	18335	2677.92	3321.73	-47.9
694	SLE RA 2	306	134	18318	2671.82	3316.36	-58.22
694	SLE RA 3	311	80	18604	2719.1	3371.02	-48.71
694	SLE RA 4	311	113	18594	2715.44	3367.8	-54.9
694	SLE RA 5	309	134	18490	2698.6	3348.01	-58.73
694	SLE RA 6	313	81	18776	2745.88	3402.67	-49.22
694	SLE RA 7	314	114	18766	2742.22	3399.44	-55.41
694	SLE RA 8	311	81	18679	2731.48	3385.03	-48.91
694	SLE RA 9	312	113	18668	2727.82	3381.8	-55.1
694	SLE RA 10	321	141	19858	2896.04	3594.67	-60.95
694	SLE RA 11	325	87	20144	2943.32	3649.33	-51.44
694	SLE RA 12	325	120	20134	2939.66	3646.11	-57.64
694	SLE RA 13	324	142	20030	2922.82	3626.32	-61.46
694	SLE RA 14	328	88	20316	2970.1	3680.98	-51.95
694	SLE RA 15	328	121	20306	2966.44	3677.75	-58.14
694	SLE RA 16	326	88	20219	2955.7	3663.34	-51.64
694	SLE RA 17	326	121	20209	2952.04	3660.11	-57.84
694	SLE RA 18	326	89	20535	2998.23	3719.32	-51.8
694	SLE RA 19	327	122	20525	2994.57	3716.09	-58
694	SLE RA 20	329	90	20707	3025.01	3750.96	-52.31
694	SLE RA 21	330	123	20697	3021.35	3747.74	-58.5
694	SLE FR 1	306	79	18335	2677.92	3321.73	-47.9
694	SLE FR 2	306	90	18332	2676.7	3320.66	-49.96
694	SLE FR 3	307	79	18404	2688.63	3334.39	-48.1
694	SLE FR 4	312	93	18992	2772.79	3439.93	-51.14
694	SLE FR 5	313	82	19064	2784.73	3453.67	-49.27
694	SLE FR 6	316	84	19435	2838.08	3520.52	-49.85
694	SLE QP 1	306	79	18335	2677.92	3321.73	-47.9
694	SLE QP 2	312	82	18995	2774.01	3441.01	-49.07
694	SLD 1	1787	587	17208	2452.54	3116.71	-360.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
694	SLD 2	1784	838	17206	2449.17	3114.75	-398.39
694	SLD 3	1765	-456	17510	2591.93	3219.44	-162.94
694	SLD 4	1762	-205	17508	2588.56	3217.47	-201.07
694	SLD 5	788	1772	18001	2466.75	3188.26	-435.15
694	SLD 6	786	1934	18000	2464.58	3187	-459.69
694	SLD 7	716	-1704	19007	2931.37	3530.67	222.59
694	SLD 8	714	-1543	19006	2929.2	3529.4	198.05
694	SLD 9	-90	1707	18984	2618.83	3352.61	-296.19
694	SLD 10	-92	1869	18982	2616.66	3351.35	-320.74
694	SLD 11	-162	-1770	19990	3083.45	3695.02	361.55
694	SLD 12	-164	-1608	19989	3081.28	3693.75	337
694	SLD 13	-1139	370	20482	2959.47	3664.54	102.92
694	SLD 14	-1142	620	20480	2956.1	3662.58	64.8
694	SLD 15	-1160	-674	20784	3098.86	3767.27	300.25
694	SLD 16	-1163	-423	20782	3095.49	3765.3	262.12
694	SLV 1	2622	945	16183	2262.06	2927.5	-549.86
694	SLV 2	2617	1340	16180	2256.74	2924.41	-609.95
694	SLV 3	2586	-835	16698	2499.97	3102.72	-213.22
694	SLV 4	2581	-439	16695	2494.65	3099.62	-273.31
694	SLV 5	1060	2966	17371	2260.59	3021.79	-698.67
694	SLV 6	1057	3232	17369	2257.01	3019.7	-739.12
694	SLV 7	940	-2966	19087	3053.62	3605.85	423.47
694	SLV 8	937	-2699	19085	3050.05	3603.76	383.02
694	SLV 9	-313	2864	18905	2497.98	3278.25	-481.16
694	SLV 10	-317	3130	18903	2494.4	3276.17	-521.61
694	SLV 11	-434	-3068	20621	3291.02	3862.31	640.97
694	SLV 12	-437	-2802	20619	3287.44	3860.23	600.52
694	SLV 13	-1958	603	21295	3053.38	3782.39	175.17
694	SLV 14	-1962	999	21292	3048.06	3779.29	115.08
694	SLV 15	-1994	-1176	21810	3291.29	3957.61	511.81
694	SLV 16	-1998	-781	21807	3285.97	3954.51	451.72
694	SLV FO 1	2853	1031	15902	2210.86	2876.15	-599.94
694	SLV FO 2	2848	1466	15899	2205.01	2872.75	-666.04
694	SLV FO 3	2813	-926	16468	2472.56	3068.89	-229.64
694	SLV FO 4	2808	-491	16465	2466.72	3065.49	-295.74
694	SLV FO 5	1135	3254	17209	2209.24	2979.86	-763.63
694	SLV FO 6	1132	3547	17207	2205.31	2977.57	-808.12
694	SLV FO 7	1003	-3270	19096	3081.59	3622.33	470.72
694	SLV FO 8	1000	-2978	19094	3077.65	3620.04	426.22
694	SLV FO 9	-376	3142	18896	2470.38	3261.98	-524.37
694	SLV FO 10	-379	3434	18894	2466.44	3259.68	-568.86
694	SLV FO 11	-508	-3383	20783	3342.72	3904.44	709.98
694	SLV FO 12	-512	-3090	20781	3338.78	3902.15	665.48
694	SLV FO 13	-2185	656	21525	3081.31	3816.53	197.59
694	SLV FO 14	-2190	1091	21522	3075.46	3813.12	131.49
694	SLV FO 15	-2224	-1302	22091	3343.01	4009.27	567.9
694	SLV FO 16	-2229	-867	22088	3337.17	4005.86	501.8
694	CRTFP Ux+	0	0	0	0	0	0
694	CRTFP Ux-	0	0	0	0	0	0
694	CRTFP Uy+	0	0	0	0	0	0
694	CRTFP Uy-	0	0	0	0	0	0
696	SLU 1	98	36	5592	-183.23	-112.38	5.34
696	SLU 2	98	61	5590	-185.15	-112.3	5.85
696	SLU 3	101	37	5720	-186.3	-114.96	5.45
696	SLU 4	101	52	5718	-187.45	-114.92	5.76
696	SLU 5	100	62	5671	-186.81	-113.95	5.92
696	SLU 6	102	37	5800	-187.95	-116.61	5.53
696	SLU 7	102	53	5799	-189.11	-116.56	5.83
696	SLU 8	101	37	5754	-186.54	-115.67	5.48
696	SLU 9	101	52	5752	-187.69	-115.62	5.79
696	SLU 10	106	66	6329	-209.75	-127.16	6.32
696	SLU 11	108	42	6459	-210.9	-129.82	5.92
696	SLU 12	108	57	6457	-212.06	-129.78	6.23
696	SLU 13	107	67	6410	-211.41	-128.81	6.39
696	SLU 14	109	42	6539	-212.56	-131.47	6
696	SLU 15	110	57	6538	-213.71	-131.42	6.3
696	SLU 16	108	42	6493	-211.14	-130.52	5.95
696	SLU 17	109	57	6491	-212.29	-130.48	6.26
696	SLU 18	109	43	6648	-218.37	-133.6	6.01
696	SLU 19	109	58	6647	-219.53	-133.56	6.32
696	SLU 20	110	43	6729	-220.03	-135.25	6.08
696	SLU 21	110	59	6728	-221.18	-135.2	6.39
696	SLU 22	111	40	6496	-210.94	-130.62	5.94
696	SLU 23	111	66	6494	-212.87	-130.55	6.46
696	SLU 24	113	41	6623	-214.02	-133.21	6.06
696	SLU 25	113	56	6622	-215.17	-133.16	6.37
696	SLU 26	112	66	6575	-214.53	-132.19	6.53
696	SLU 27	115	41	6704	-215.67	-134.85	6.13
696	SLU 28	115	57	6703	-216.83	-134.81	6.44
696	SLU 29	114	41	6657	-214.26	-133.91	6.09
696	SLU 30	114	56	6656	-215.41	-133.87	6.4
696	SLU 31	118	70	7233	-237.47	-145.4	6.93
696	SLU 32	121	46	7363	-238.62	-148.07	6.53
696	SLU 33	121	61	7361	-239.77	-148.02	6.84
696	SLU 34	120	71	7314	-239.13	-147.05	7
696	SLU 35	122	46	7443	-240.28	-149.71	6.6
696	SLU 36	122	61	7442	-241.43	-149.67	6.91
696	SLU 37	121	46	7397	-238.86	-148.77	6.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
696	SLU 38	121	61	7395	-240.01	-148.72	6.87
696	SLU 39	121	47	7552	-246.09	-151.85	6.61
696	SLU 40	121	62	7551	-247.24	-151.8	6.92
696	SLU 41	123	47	7633	-247.75	-153.49	6.69
696	SLU 42	123	63	7631	-248.9	-153.45	7
696	SLU 43	123	46	6960	-228.69	-139.83	6.73
696	SLU 44	124	71	6958	-230.62	-139.76	7.24
696	SLU 45	126	46	7087	-231.76	-142.42	6.85
696	SLU 46	126	61	7086	-232.92	-142.38	7.15
696	SLU 47	125	71	7038	-232.27	-141.41	7.32
696	SLU 48	127	47	7168	-233.42	-144.07	6.92
696	SLU 49	127	62	7167	-234.57	-144.02	7.23
696	SLU 50	126	47	7121	-232	-143.12	6.88
696	SLU 51	126	62	7120	-233.16	-143.08	7.18
696	SLU 52	131	76	7697	-255.22	-154.62	7.71
696	SLU 53	133	51	7827	-256.36	-157.28	7.32
696	SLU 54	133	66	7825	-257.52	-157.24	7.62
696	SLU 55	132	76	7778	-256.87	-156.26	7.79
696	SLU 56	135	51	7907	-258.02	-158.92	7.39
696	SLU 57	135	67	7906	-259.18	-158.88	7.7
696	SLU 58	134	51	7861	-256.6	-157.98	7.35
696	SLU 59	134	66	7859	-257.76	-157.94	7.66
696	SLU 60	134	52	8016	-263.83	-161.06	7.4
696	SLU 61	134	67	8015	-264.99	-161.02	7.71
696	SLU 62	135	53	8097	-265.49	-162.71	7.48
696	SLU 63	135	68	8095	-266.65	-162.66	7.78
696	SLU 64	136	50	7864	-256.41	-158.08	7.33
696	SLU 65	136	75	7862	-258.33	-158	7.85
696	SLU 66	138	50	7991	-259.48	-160.66	7.45
696	SLU 67	138	66	7990	-260.64	-160.62	7.76
696	SLU 68	138	75	7942	-259.99	-159.65	7.92
696	SLU 69	140	51	8072	-261.14	-162.31	7.52
696	SLU 70	140	66	8070	-262.29	-162.27	7.83
696	SLU 71	139	51	8025	-259.72	-161.37	7.48
696	SLU 72	139	66	8024	-260.88	-161.32	7.79
696	SLU 73	144	80	8601	-282.94	-172.86	8.32
696	SLU 74	146	55	8730	-284.08	-175.52	7.92
696	SLU 75	146	70	8729	-285.24	-175.48	8.23
696	SLU 76	145	80	8682	-284.59	-174.51	8.39
696	SLU 77	147	56	8811	-285.74	-177.17	7.99
696	SLU 78	147	71	8810	-286.89	-177.12	8.3
696	SLU 79	146	55	8764	-284.32	-176.23	7.95
696	SLU 80	146	71	8763	-285.48	-176.18	8.26
696	SLU 81	146	56	8920	-291.55	-179.3	8.01
696	SLU 82	147	72	8919	-292.71	-179.26	8.32
696	SLU 83	148	57	9001	-293.21	-180.95	8.08
696	SLU 84	148	72	8999	-294.36	-180.9	8.39
696	SLE RA 1	102	37	5851	-191.15	-117.59	5.51
696	SLE RA 2	102	54	5849	-192.43	-117.54	5.85
696	SLE RA 3	103	38	5935	-193.19	-119.31	5.59
696	SLE RA 4	103	48	5934	-193.96	-119.28	5.79
696	SLE RA 5	103	55	5903	-193.53	-118.64	5.9
696	SLE RA 6	104	38	5989	-194.3	-120.41	5.63
696	SLE RA 7	104	48	5988	-195.07	-120.38	5.84
696	SLE RA 8	104	38	5958	-193.35	-119.78	5.61
696	SLE RA 9	104	48	5957	-194.12	-119.75	5.81
696	SLE RA 10	107	57	6342	-208.83	-127.45	6.17
696	SLE RA 11	108	41	6428	-209.59	-129.22	5.9
696	SLE RA 12	108	51	6427	-210.37	-129.19	6.11
696	SLE RA 13	108	58	6396	-209.93	-128.54	6.21
696	SLE RA 14	109	41	6482	-210.7	-130.32	5.95
696	SLE RA 15	109	51	6481	-211.47	-130.29	6.15
696	SLE RA 16	109	41	6451	-209.75	-129.69	5.92
696	SLE RA 17	109	51	6450	-210.52	-129.66	6.13
696	SLE RA 18	109	42	6555	-214.58	-131.74	5.96
696	SLE RA 19	109	52	6554	-215.35	-131.71	6.16
696	SLE RA 20	110	42	6608	-215.68	-132.84	6.01
696	SLE RA 21	110	52	6607	-216.45	-132.81	6.21
696	SLE FR 1	102	37	5851	-191.15	-117.59	5.51
696	SLE FR 2	102	41	5850	-191.4	-117.58	5.58
696	SLE FR 3	102	37	5872	-191.59	-118.03	5.53
696	SLE FR 4	104	42	6062	-198.43	-121.82	5.71
696	SLE FR 5	104	39	6083	-198.62	-122.27	5.66
696	SLE FR 6	105	40	6203	-202.86	-124.66	5.73
696	SLE QP 1	102	37	5851	-191.15	-117.59	5.51
696	SLE QP 2	104	39	6062	-198.17	-121.83	5.64
696	SLD 1	554	190	5493	-202.66	-108.61	22.31
696	SLD 2	555	276	5496	-204.02	-108.64	25.1
696	SLD 3	547	-131	5504	-166.83	-109.45	15.81
696	SLD 4	549	-46	5506	-168.18	-109.48	18.6
696	SLD 5	249	557	5874	-253.64	-116.59	20.02
696	SLD 6	250	612	5876	-254.51	-116.61	21.82
696	SLD 7	226	-514	5910	-134.19	-119.38	-1.64
696	SLD 8	227	-459	5912	-135.06	-119.4	0.15
696	SLD 9	-20	536	6212	-261.29	-124.26	11.14
696	SLD 10	-19	592	6214	-262.16	-124.28	12.93
696	SLD 11	-42	-535	6248	-141.84	-127.06	-10.53
696	SLD 12	-41	-479	6249	-142.71	-127.08	-8.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
696	SLD 13	-341	123	6618	-228.17	-134.19	-7.31
696	SLD 14	-339	209	6620	-229.52	-134.22	-4.53
696	SLD 15	-348	-198	6628	-192.33	-135.03	-13.81
696	SLD 16	-346	-113	6631	-193.68	-135.06	-11.03
696	SLV 1	808	298	5173	-207.74	-101.12	32.19
696	SLV 2	811	433	5177	-209.88	-101.17	36.58
696	SLV 3	797	-250	5191	-146.55	-102.55	21.1
696	SLV 4	800	-115	5195	-148.69	-102.6	25.49
696	SLV 5	332	923	5768	-293.45	-113.44	29.61
696	SLV 6	334	1014	5770	-294.89	-113.47	32.57
696	SLV 7	294	-905	5827	-89.48	-118.21	-7.36
696	SLV 8	296	-814	5829	-90.92	-118.24	-4.41
696	SLV 9	-88	891	6294	-305.43	-125.43	15.69
696	SLV 10	-86	982	6297	-306.87	-125.46	18.65
696	SLV 11	-126	-936	6353	-101.46	-130.19	-21.28
696	SLV 12	-124	-845	6356	-102.9	-130.23	-18.32
696	SLV 13	-592	192	6929	-247.66	-141.07	-14.2
696	SLV 14	-589	328	6933	-249.8	-141.12	-9.81
696	SLV 15	-603	-356	6947	-186.47	-142.5	-25.29
696	SLV 16	-600	-221	6951	-188.61	-142.55	-20.9
696	SLV FO 1	879	324	5084	-208.7	-99.05	34.84
696	SLV FO 2	882	473	5089	-211.05	-99.1	39.67
696	SLV FO 3	866	-279	5103	-141.39	-100.62	22.64
696	SLV FO 4	869	-130	5108	-143.74	-100.68	27.47
696	SLV FO 5	355	1011	5738	-302.98	-112.6	32.01
696	SLV FO 6	357	1111	5741	-304.56	-112.64	35.26
696	SLV FO 7	313	-999	5803	-78.61	-117.85	-8.66
696	SLV FO 8	315	-899	5806	-80.19	-117.88	-5.41
696	SLV FO 9	-108	976	6318	-316.15	-125.79	16.7
696	SLV FO 10	-105	1076	6321	-317.74	-125.82	19.95
696	SLV FO 11	-149	-1034	6383	-91.79	-131.03	-23.97
696	SLV FO 12	-147	-934	6386	-93.37	-131.07	-20.72
696	SLV FO 13	-662	208	7016	-252.61	-142.99	-16.19
696	SLV FO 14	-658	357	7020	-254.96	-143.05	-11.36
696	SLV FO 15	-674	-395	7035	-185.3	-144.56	-28.39
696	SLV FO 16	-671	-246	7040	-187.65	-144.62	-23.56
696	CRTFP Ux+	0	0	0	0	0	0
696	CRTFP Ux-	0	0	0	0	0	0
696	CRTFP Uy+	0	0	0	0	0	0
696	CRTFP Uy-	0	0	0	0	0	0
697	SLU 1	114	48	6504	1.2	-5.24	1.33
697	SLU 2	114	77	6502	-1.17	-5.27	1.34
697	SLU 3	117	49	6652	2.45	-5.35	1.36
697	SLU 4	117	66	6651	1.03	-5.37	1.36
697	SLU 5	116	78	6595	-0.05	-5.33	1.37
697	SLU 6	118	50	6745	3.57	-5.42	1.38
697	SLU 7	118	67	6744	2.15	-5.43	1.39
697	SLU 8	117	49	6691	3.44	-5.37	1.38
697	SLU 9	117	67	6690	2.02	-5.39	1.39
697	SLU 10	123	83	7362	-1.46	-5.95	1.47
697	SLU 11	125	55	7512	2.16	-6.04	1.48
697	SLU 12	125	72	7510	0.74	-6.06	1.49
697	SLU 13	124	84	7455	-0.34	-6.02	1.49
697	SLU 14	127	56	7605	3.29	-6.11	1.51
697	SLU 15	127	73	7604	1.87	-6.12	1.51
697	SLU 16	126	55	7551	3.15	-6.06	1.51
697	SLU 17	126	73	7550	1.73	-6.07	1.51
697	SLU 18	126	57	7732	0.79	-6.22	1.51
697	SLU 19	126	74	7731	-0.64	-6.24	1.52
697	SLU 20	128	57	7826	1.91	-6.29	1.54
697	SLU 21	128	75	7825	0.49	-6.3	1.54
697	SLU 22	128	53	7556	3.51	-6.08	1.42
697	SLU 23	129	82	7554	1.14	-6.11	1.43
697	SLU 24	131	54	7704	4.77	-6.2	1.44
697	SLU 25	131	71	7702	3.35	-6.21	1.45
697	SLU 26	130	83	7647	2.27	-6.18	1.45
697	SLU 27	133	55	7797	5.89	-6.26	1.47
697	SLU 28	133	72	7796	4.47	-6.28	1.47
697	SLU 29	131	55	7743	5.76	-6.21	1.47
697	SLU 30	132	72	7742	4.34	-6.23	1.47
697	SLU 31	137	88	8414	0.86	-6.8	1.56
697	SLU 32	140	60	8563	4.48	-6.89	1.57
697	SLU 33	140	77	8562	3.06	-6.9	1.58
697	SLU 34	139	89	8507	1.98	-6.86	1.58
697	SLU 35	141	61	8657	5.6	-6.95	1.59
697	SLU 36	141	78	8656	4.18	-6.97	1.6
697	SLU 37	140	61	8603	5.47	-6.9	1.59
697	SLU 38	140	78	8602	4.05	-6.92	1.6
697	SLU 39	140	62	8784	3.1	-7.07	1.6
697	SLU 40	141	79	8783	1.68	-7.08	1.61
697	SLU 41	142	63	8878	4.22	-7.13	1.62
697	SLU 42	142	80	8877	2.8	-7.15	1.63
697	SLU 43	143	61	8094	0.76	-6.52	1.7
697	SLU 44	143	90	8092	-1.61	-6.55	1.71
697	SLU 45	146	62	8242	2.02	-6.63	1.73
697	SLU 46	146	79	8241	0.6	-6.65	1.73
697	SLU 47	145	90	8186	-0.48	-6.61	1.74
697	SLU 48	147	62	8336	3.14	-6.7	1.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
697	SLU 49	148	80	8335	1.72	-6.72	1.76
697	SLU 50	146	62	8281	3.01	-6.65	1.75
697	SLU 51	146	79	8280	1.59	-6.67	1.76
697	SLU 52	152	96	8952	-1.89	-7.24	1.84
697	SLU 53	154	68	9102	1.73	-7.32	1.86
697	SLU 54	154	85	9101	0.31	-7.34	1.86
697	SLU 55	153	96	9046	-0.77	-7.3	1.86
697	SLU 56	156	68	9196	2.85	-7.39	1.88
697	SLU 57	156	86	9194	1.43	-7.4	1.88
697	SLU 58	155	68	9141	2.72	-7.34	1.88
697	SLU 59	155	85	9140	1.3	-7.36	1.88
697	SLU 60	155	69	9323	0.35	-7.5	1.88
697	SLU 61	155	87	9321	-1.07	-7.52	1.89
697	SLU 62	157	70	9416	1.47	-7.57	1.91
697	SLU 63	157	87	9415	0.05	-7.58	1.91
697	SLU 64	157	66	9146	3.08	-7.36	1.79
697	SLU 65	158	95	9144	0.71	-7.39	1.8
697	SLU 66	160	67	9294	4.33	-7.48	1.81
697	SLU 67	160	84	9293	2.91	-7.5	1.82
697	SLU 68	159	95	9238	1.83	-7.46	1.82
697	SLU 69	162	68	9388	5.45	-7.54	1.84
697	SLU 70	162	85	9387	4.03	-7.56	1.84
697	SLU 71	161	67	9333	5.32	-7.49	1.84
697	SLU 72	161	85	9332	3.9	-7.51	1.84
697	SLU 73	166	101	10004	0.42	-8.08	1.93
697	SLU 74	169	73	10154	4.04	-8.17	1.94
697	SLU 75	169	90	10153	2.62	-8.18	1.95
697	SLU 76	168	101	10098	1.54	-8.15	1.95
697	SLU 77	170	74	10248	5.17	-8.23	1.96
697	SLU 78	171	91	10246	3.75	-8.25	1.97
697	SLU 79	169	73	10193	5.04	-8.18	1.96
697	SLU 80	169	91	10192	3.61	-8.2	1.97
697	SLU 81	170	75	10375	2.67	-8.35	1.97
697	SLU 82	170	92	10373	1.24	-8.36	1.98
697	SLU 83	171	75	10468	3.79	-8.41	1.99
697	SLU 84	171	92	10467	2.37	-8.43	2
697	SLE RA 1	118	50	6804	1.86	-5.48	1.36
697	SLE RA 2	118	69	6803	0.28	-5.5	1.37
697	SLE RA 3	120	50	6903	2.69	-5.56	1.37
697	SLE RA 4	120	62	6902	1.75	-5.57	1.38
697	SLE RA 5	119	69	6865	1.03	-5.54	1.38
697	SLE RA 6	121	51	6965	3.44	-5.6	1.39
697	SLE RA 7	121	62	6965	2.5	-5.61	1.39
697	SLE RA 8	120	50	6929	3.36	-5.57	1.39
697	SLE RA 9	120	62	6928	2.41	-5.58	1.39
697	SLE RA 10	124	73	7376	0.09	-5.96	1.45
697	SLE RA 11	125	54	7476	2.5	-6.01	1.46
697	SLE RA 12	126	66	7475	1.56	-6.03	1.46
697	SLE RA 13	125	73	7439	0.84	-6	1.47
697	SLE RA 14	127	55	7539	3.25	-6.06	1.47
697	SLE RA 15	127	66	7538	2.3	-6.07	1.48
697	SLE RA 16	126	54	7502	3.16	-6.03	1.47
697	SLE RA 17	126	66	7502	2.22	-6.04	1.48
697	SLE RA 18	126	55	7623	1.58	-6.13	1.48
697	SLE RA 19	126	67	7622	0.64	-6.15	1.48
697	SLE RA 20	127	56	7686	2.33	-6.18	1.49
697	SLE RA 21	127	67	7685	1.39	-6.19	1.5
697	SLE FR 1	118	50	6804	1.86	-5.48	1.36
697	SLE FR 2	118	53	6804	1.54	-5.48	1.36
697	SLE FR 3	118	50	6829	2.16	-5.5	1.36
697	SLE FR 4	120	55	7050	1.46	-5.68	1.4
697	SLE FR 5	121	51	7075	2.08	-5.69	1.4
697	SLE FR 6	122	52	7214	1.72	-5.81	1.42
697	SLE QP 1	118	50	6804	1.86	-5.48	1.36
697	SLE QP 2	120	51	7050	1.78	-5.68	1.39
697	SLD 1	630	221	6330	-24.28	-2.72	0.14
697	SLD 2	632	324	6334	-25.9	-2.73	1.37
697	SLD 3	623	-144	6321	17.66	-2.3	-0.03
697	SLD 4	624	-41	6324	16.04	-2.3	1.2
697	SLD 5	284	637	6847	-69.37	-5.44	1.07
697	SLD 6	285	704	6849	-70.41	-5.45	1.85
697	SLD 7	260	-578	6817	70.42	-4.01	0.5
697	SLD 8	261	-511	6819	69.38	-4.01	1.29
697	SLD 9	-20	614	7281	-65.83	-7.34	1.5
697	SLD 10	-19	681	7283	-66.87	-7.34	2.29
697	SLD 11	-44	-601	7251	73.96	-5.91	0.93
697	SLD 12	-43	-535	7253	72.92	-5.91	1.72
697	SLD 13	-384	143	7776	-12.49	-9.05	1.59
697	SLD 14	-382	247	7779	-14.11	-9.06	2.81
697	SLD 15	-391	-221	7766	29.45	-8.62	1.42
697	SLD 16	-390	-118	7770	27.83	-8.63	2.64
697	SLV 1	919	342	5926	-42.06	-1.1	-0.56
697	SLV 2	921	504	5932	-44.61	-1.11	1.37
697	SLV 3	907	-280	5912	29.55	-0.37	-0.85
697	SLV 4	909	-118	5917	27	-0.38	1.08
697	SLV 5	378	1051	6734	-119.5	-5.41	0.9
697	SLV 6	379	1161	6738	-121.22	-5.42	2.19
697	SLV 7	337	-1022	6685	119.18	-2.97	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
697	SLV 8	339	-912	6689	117.47	-2.98	1.21
697	SLV 9	-98	1015	7411	-113.92	-8.37	1.58
697	SLV 10	-97	1124	7415	-115.63	-8.38	2.88
697	SLV 11	-139	-1058	7362	124.77	-5.93	0.59
697	SLV 12	-137	-949	7366	123.05	-5.94	1.89
697	SLV 13	-668	220	8183	-23.45	-10.97	1.71
697	SLV 14	-666	383	8188	-25.99	-10.98	3.64
697	SLV 15	-680	-402	8168	48.16	-10.24	1.42
697	SLV 16	-678	-239	8174	45.61	-10.25	3.34
697	SLV FO 1	999	371	5814	-46.44	-0.64	-0.75
697	SLV FO 2	1001	550	5820	-49.24	-0.66	1.37
697	SLV FO 3	985	-314	5798	32.32	0.16	-1.08
697	SLV FO 4	988	-135	5804	29.52	0.15	1.04
697	SLV FO 5	404	1151	6702	-131.63	-5.38	0.85
697	SLV FO 6	405	1272	6706	-133.51	-5.39	2.28
697	SLV FO 7	359	-1129	6649	130.92	-2.7	-0.24
697	SLV FO 8	361	-1009	6653	129.04	-2.71	1.19
697	SLV FO 9	-120	1111	7447	-125.49	-8.64	1.6
697	SLV FO 10	-118	1232	7451	-127.37	-8.65	3.02
697	SLV FO 11	-165	-1169	7394	137.07	-5.96	0.51
697	SLV FO 12	-163	-1049	7398	135.18	-5.97	1.94
697	SLV FO 13	-747	237	8296	-25.97	-11.5	1.74
697	SLV FO 14	-745	416	8302	-28.77	-11.51	3.86
697	SLV FO 15	-760	-447	8280	52.8	-10.69	1.42
697	SLV FO 16	-758	-268	8286	50	-10.71	3.54
697	CRTFP Ux+	0	0	0	0	0	0
697	CRTFP Ux-	0	0	0	0	0	0
697	CRTFP Uy+	0	0	0	0	0	0
697	CRTFP Uy-	0	0	0	0	0	0
698	SLU 1	117	54	6662	1.12	-4.58	1.04
698	SLU 2	117	83	6661	-1.32	-4.59	1.06
698	SLU 3	119	55	6813	2.36	-4.68	1.06
698	SLU 4	120	72	6813	0.89	-4.69	1.08
698	SLU 5	119	84	6756	-0.22	-4.65	1.09
698	SLU 6	121	56	6909	3.46	-4.74	1.09
698	SLU 7	121	73	6908	2	-4.74	1.1
698	SLU 8	120	56	6853	3.33	-4.69	1.09
698	SLU 9	120	73	6852	1.86	-4.7	1.1
698	SLU 10	126	89	7541	-1.62	-5.16	1.16
698	SLU 11	128	62	7694	2.06	-5.25	1.16
698	SLU 12	128	79	7693	0.6	-5.25	1.17
698	SLU 13	127	90	7636	-0.51	-5.21	1.18
698	SLU 14	130	63	7789	3.16	-5.3	1.19
698	SLU 15	130	80	7788	1.7	-5.31	1.2
698	SLU 16	129	62	7733	3.03	-5.26	1.19
698	SLU 17	129	80	7733	1.57	-5.27	1.2
698	SLU 18	129	64	7919	0.7	-5.39	1.18
698	SLU 19	129	81	7919	-0.77	-5.4	1.19
698	SLU 20	131	64	8015	1.8	-5.45	1.2
698	SLU 21	131	82	8014	0.34	-5.45	1.22
698	SLU 22	131	60	7739	3.4	-5.29	1.09
698	SLU 23	132	88	7738	0.96	-5.3	1.11
698	SLU 24	134	61	7890	4.64	-5.39	1.11
698	SLU 25	134	78	7890	3.17	-5.39	1.12
698	SLU 26	133	89	7833	2.06	-5.35	1.13
698	SLU 27	136	61	7986	5.74	-5.44	1.14
698	SLU 28	136	79	7985	4.28	-5.45	1.15
698	SLU 29	135	61	7930	5.61	-5.4	1.14
698	SLU 30	135	78	7929	4.14	-5.41	1.15
698	SLU 31	140	95	8618	0.66	-5.86	1.2
698	SLU 32	143	67	8771	4.34	-5.95	1.21
698	SLU 33	143	84	8770	2.88	-5.96	1.22
698	SLU 34	142	96	8713	1.77	-5.92	1.23
698	SLU 35	144	68	8866	5.44	-6.01	1.23
698	SLU 36	145	85	8865	3.98	-6.02	1.24
698	SLU 37	143	68	8810	5.31	-5.97	1.23
698	SLU 38	143	85	8809	3.85	-5.97	1.25
698	SLU 39	144	69	8996	2.98	-6.1	1.22
698	SLU 40	144	86	8996	1.51	-6.1	1.24
698	SLU 41	145	70	9092	4.08	-6.15	1.25
698	SLU 42	145	87	9091	2.62	-6.16	1.26
698	SLU 43	147	68	8291	0.68	-5.71	1.34
698	SLU 44	147	97	8290	-1.76	-5.72	1.36
698	SLU 45	149	70	8443	1.91	-5.81	1.36
698	SLU 46	150	87	8442	0.45	-5.82	1.37
698	SLU 47	149	98	8386	-0.66	-5.78	1.38
698	SLU 48	151	70	8538	3.01	-5.87	1.39
698	SLU 49	151	88	8538	1.55	-5.87	1.4
698	SLU 50	150	70	8483	2.88	-5.82	1.39
698	SLU 51	150	87	8482	1.42	-5.83	1.4
698	SLU 52	156	104	9170	-2.06	-6.29	1.45
698	SLU 53	158	76	9323	1.61	-6.38	1.46
698	SLU 54	158	93	9322	0.15	-6.38	1.47
698	SLU 55	157	105	9266	-0.96	-6.34	1.48
698	SLU 56	160	77	9418	2.72	-6.43	1.48
698	SLU 57	160	94	9418	1.25	-6.44	1.49
698	SLU 58	159	77	9363	2.59	-6.39	1.49
698	SLU 59	159	94	9362	1.12	-6.4	1.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
698	SLU 60	159	78	9549	0.25	-6.52	1.48
698	SLU 61	159	95	9548	-1.21	-6.53	1.49
698	SLU 62	161	79	9644	1.36	-6.58	1.5
698	SLU 63	161	96	9644	-0.11	-6.58	1.51
698	SLU 64	161	74	9368	2.96	-6.42	1.38
698	SLU 65	161	103	9367	0.52	-6.43	1.4
698	SLU 66	164	75	9520	4.19	-6.52	1.41
698	SLU 67	164	92	9519	2.73	-6.53	1.42
698	SLU 68	163	104	9463	1.62	-6.49	1.43
698	SLU 69	166	76	9615	5.29	-6.58	1.43
698	SLU 70	166	93	9615	3.83	-6.58	1.44
698	SLU 71	165	76	9560	5.16	-6.53	1.43
698	SLU 72	165	93	9559	3.7	-6.54	1.45
698	SLU 73	170	109	10247	0.22	-7	1.5
698	SLU 74	173	82	10400	3.89	-7.09	1.5
698	SLU 75	173	99	10399	2.43	-7.09	1.52
698	SLU 76	172	110	10343	1.32	-7.05	1.53
698	SLU 77	174	82	10495	5	-7.14	1.53
698	SLU 78	175	100	10495	3.53	-7.15	1.54
698	SLU 79	173	82	10440	4.87	-7.1	1.53
698	SLU 80	173	99	10439	3.4	-7.1	1.54
698	SLU 81	174	83	10626	2.53	-7.23	1.52
698	SLU 82	174	101	10625	1.07	-7.23	1.53
698	SLU 83	175	84	10721	3.64	-7.28	1.55
698	SLU 84	175	101	10720	2.17	-7.29	1.56
698	SLE RA 1	121	56	6970	1.77	-4.78	1.05
698	SLE RA 2	121	75	6969	0.15	-4.79	1.07
698	SLE RA 3	123	56	7071	2.6	-4.85	1.07
698	SLE RA 4	123	68	7070	1.62	-4.85	1.08
698	SLE RA 5	122	75	7033	0.88	-4.83	1.08
698	SLE RA 6	124	57	7134	3.33	-4.89	1.09
698	SLE RA 7	124	68	7134	2.36	-4.89	1.09
698	SLE RA 8	123	57	7097	3.24	-4.86	1.09
698	SLE RA 9	123	68	7097	2.27	-4.86	1.1
698	SLE RA 10	127	79	7556	-0.05	-5.17	1.13
698	SLE RA 11	128	61	7657	2.4	-5.23	1.13
698	SLE RA 12	129	72	7657	1.42	-5.23	1.14
698	SLE RA 13	128	80	7619	0.68	-5.2	1.15
698	SLE RA 14	130	61	7721	3.13	-5.26	1.15
698	SLE RA 15	130	73	7721	2.16	-5.27	1.16
698	SLE RA 16	129	61	7684	3.05	-5.23	1.15
698	SLE RA 17	129	73	7683	2.07	-5.24	1.16
698	SLE RA 18	129	62	7808	1.49	-5.32	1.15
698	SLE RA 19	129	73	7807	0.51	-5.33	1.15
698	SLE RA 20	130	62	7872	2.23	-5.36	1.16
698	SLE RA 21	130	74	7871	1.25	-5.36	1.17
698	SLE FR 1	121	56	6970	1.77	-4.78	1.05
698	SLE FR 2	121	60	6970	1.45	-4.78	1.06
698	SLE FR 3	121	56	6995	2.07	-4.8	1.06
698	SLE FR 4	123	61	7221	1.36	-4.94	1.08
698	SLE FR 5	124	58	7247	1.98	-4.96	1.09
698	SLE FR 6	125	59	7389	1.63	-5.05	1.1
698	SLE QP 1	121	56	6970	1.77	-4.78	1.05
698	SLE QP 2	123	58	7221	1.69	-4.94	1.08
698	SLD 1	633	146	6393	-24.23	-1.33	-0.15
698	SLD 2	634	255	6396	-26.03	-1.32	1.1
698	SLD 3	625	-219	6379	18.36	-1.13	-0.43
698	SLD 4	627	-110	6382	16.56	-1.12	0.83
698	SLD 5	287	619	6994	-70.37	-4.17	0.92
698	SLD 6	287	689	6996	-71.53	-4.16	1.72
698	SLD 7	263	-598	6946	71.59	-3.49	-0.01
698	SLD 8	264	-527	6948	70.44	-3.49	0.8
698	SLD 9	-17	643	7494	-67.06	-6.4	1.36
698	SLD 10	-16	713	7497	-68.22	-6.4	2.17
698	SLD 11	-41	-574	7446	74.91	-5.72	0.44
698	SLD 12	-40	-504	7448	73.75	-5.72	1.25
698	SLD 13	-380	225	8061	-13.19	-8.76	1.34
698	SLD 14	-379	334	8064	-14.98	-8.76	2.59
698	SLD 15	-387	-140	8046	29.4	-8.56	1.06
698	SLD 16	-386	-31	8049	27.61	-8.56	2.31
698	SLV 1	921	221	5929	-41.98	0.68	-0.83
698	SLV 2	923	393	5934	-44.8	0.69	1.15
698	SLV 3	909	-402	5905	30.74	1.03	-1.31
698	SLV 4	911	-229	5910	27.91	1.03	0.66
698	SLV 5	380	1019	6869	-121.17	-3.78	0.87
698	SLV 6	381	1135	6872	-123.07	-3.78	2.2
698	SLV 7	341	-1057	6789	121.21	-2.63	-0.73
698	SLV 8	342	-941	6793	119.31	-2.63	0.6
698	SLV 9	-96	1056	7650	-115.93	-7.26	1.57
698	SLV 10	-94	1172	7653	-117.84	-7.26	2.9
698	SLV 11	-135	-1020	7570	126.45	-6.11	-0.03
698	SLV 12	-134	-904	7574	124.54	-6.11	1.29
698	SLV 13	-665	345	8532	-24.53	-10.92	1.5
698	SLV 14	-663	517	8537	-27.36	-10.91	3.47
698	SLV 15	-676	-278	8508	48.18	-10.58	1.02
698	SLV 16	-674	-106	8513	45.35	-10.57	2.99
698	SLV FO 1	1001	237	5800	-46.34	1.24	-1.02
698	SLV FO 2	1003	427	5806	-49.45	1.25	1.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
698	SLV FO 3	988	-448	5773	33.64	1.62	-1.55
698	SLV FO 4	990	-258	5779	30.53	1.63	0.62
698	SLV FO 5	406	1115	6834	-133.45	-3.66	0.85
698	SLV FO 6	407	1243	6838	-135.55	-3.66	2.31
698	SLV FO 7	362	-1169	6746	133.17	-2.4	-0.91
698	SLV FO 8	364	-1041	6750	131.07	-2.39	0.55
698	SLV FO 9	-118	1156	7693	-127.7	-7.49	1.62
698	SLV FO 10	-116	1284	7697	-129.79	-7.49	3.08
698	SLV FO 11	-161	-1128	7605	138.92	-6.23	-0.15
698	SLV FO 12	-159	-1000	7609	136.83	-6.22	1.31
698	SLV FO 13	-743	373	8663	-27.16	-11.52	1.54
698	SLV FO 14	-741	563	8669	-30.27	-11.51	3.71
698	SLV FO 15	-756	-312	8637	52.83	-11.14	1.01
698	SLV FO 16	-754	-122	8643	49.72	-11.13	3.18
698	CRTFP Ux+	0	0	0	0	0	0
698	CRTFP Ux-	0	0	0	0	0	0
698	CRTFP Uy+	0	0	0	0	0	0
698	CRTFP Uy-	0	0	0	0	0	0
699	SLU 1	119	59	6797	1.05	-3.82	0.8
699	SLU 2	119	88	6796	-1.47	-3.82	0.84
699	SLU 3	122	60	6951	2.26	-3.9	0.82
699	SLU 4	122	77	6951	0.75	-3.9	0.84
699	SLU 5	121	89	6893	-0.38	-3.87	0.86
699	SLU 6	123	61	7049	3.35	-3.95	0.85
699	SLU 7	124	78	7048	1.84	-3.95	0.87
699	SLU 8	122	61	6991	3.22	-3.91	0.85
699	SLU 9	122	78	6991	1.71	-3.91	0.88
699	SLU 10	128	95	7692	-1.77	-4.25	0.91
699	SLU 11	130	67	7848	1.96	-4.33	0.89
699	SLU 12	131	84	7847	0.45	-4.34	0.91
699	SLU 13	130	96	7789	-0.69	-4.3	0.94
699	SLU 14	132	68	7945	3.04	-4.38	0.92
699	SLU 15	132	85	7944	1.54	-4.38	0.94
699	SLU 16	131	68	7888	2.91	-4.34	0.92
699	SLU 17	131	85	7887	1.4	-4.34	0.95
699	SLU 18	131	69	8077	0.61	-4.44	0.9
699	SLU 19	131	86	8077	-0.9	-4.44	0.92
699	SLU 20	133	70	8174	1.7	-4.48	0.93
699	SLU 21	133	87	8174	0.19	-4.48	0.95
699	SLU 22	134	64	7894	3.3	-4.37	0.81
699	SLU 23	134	93	7893	0.78	-4.37	0.85
699	SLU 24	136	66	8049	4.51	-4.46	0.83
699	SLU 25	137	83	8048	3	-4.46	0.85
699	SLU 26	136	94	7990	1.86	-4.42	0.88
699	SLU 27	138	66	8146	5.6	-4.5	0.86
699	SLU 28	138	84	8145	4.09	-4.5	0.88
699	SLU 29	137	66	8089	5.47	-4.46	0.86
699	SLU 30	137	84	8088	3.96	-4.46	0.89
699	SLU 31	143	100	8789	0.47	-4.81	0.92
699	SLU 32	145	73	8945	4.21	-4.89	0.9
699	SLU 33	145	90	8944	2.7	-4.89	0.93
699	SLU 34	144	101	8887	1.56	-4.85	0.95
699	SLU 35	147	73	9042	5.29	-4.93	0.93
699	SLU 36	147	91	9041	3.78	-4.94	0.95
699	SLU 37	146	73	8985	5.16	-4.9	0.94
699	SLU 38	146	91	8984	3.65	-4.9	0.96
699	SLU 39	146	74	9174	2.86	-4.99	0.91
699	SLU 40	146	92	9174	1.35	-4.99	0.93
699	SLU 41	148	75	9272	3.95	-5.04	0.94
699	SLU 42	148	93	9271	2.44	-5.04	0.96
699	SLU 43	149	74	8460	0.59	-4.77	1.03
699	SLU 44	150	103	8459	-1.93	-4.78	1.07
699	SLU 45	152	76	8614	1.81	-4.86	1.05
699	SLU 46	152	93	8614	0.3	-4.86	1.08
699	SLU 47	151	104	8556	-0.84	-4.82	1.1
699	SLU 48	154	77	8711	2.89	-4.9	1.08
699	SLU 49	154	94	8711	1.38	-4.9	1.1
699	SLU 50	153	76	8654	2.76	-4.86	1.09
699	SLU 51	153	94	8654	1.25	-4.87	1.11
699	SLU 52	158	110	9355	-2.23	-5.21	1.14
699	SLU 53	161	83	9510	1.5	-5.29	1.12
699	SLU 54	161	100	9510	-0.01	-5.29	1.15
699	SLU 55	160	111	9452	-1.14	-5.25	1.17
699	SLU 56	163	84	9608	2.59	-5.34	1.15
699	SLU 57	163	101	9607	1.08	-5.34	1.18
699	SLU 58	162	83	9550	2.46	-5.3	1.16
699	SLU 59	162	101	9550	0.95	-5.3	1.18
699	SLU 60	162	84	9740	0.16	-5.39	1.13
699	SLU 61	162	102	9740	-1.35	-5.39	1.16
699	SLU 62	164	85	9837	1.24	-5.44	1.16
699	SLU 63	164	103	9837	-0.27	-5.44	1.19
699	SLU 64	164	80	9557	2.84	-5.33	1.04
699	SLU 65	164	109	9556	0.32	-5.33	1.08
699	SLU 66	167	81	9712	4.05	-5.41	1.06
699	SLU 67	167	99	9711	2.55	-5.41	1.09
699	SLU 68	166	110	9653	1.41	-5.37	1.11
699	SLU 69	169	82	9809	5.14	-5.46	1.09
699	SLU 70	169	100	9808	3.63	-5.46	1.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
699	SLU 71	168	82	9752	5.01	-5.42	1.1
699	SLU 72	168	99	9751	3.5	-5.42	1.12
699	SLU 73	173	116	10452	0.02	-5.76	1.16
699	SLU 74	176	88	10608	3.75	-5.84	1.14
699	SLU 75	176	106	10607	2.24	-5.85	1.16
699	SLU 76	175	117	10549	1.1	-5.81	1.18
699	SLU 77	177	89	10705	4.84	-5.89	1.16
699	SLU 78	178	107	10704	3.33	-5.89	1.19
699	SLU 79	176	89	10648	4.71	-5.85	1.17
699	SLU 80	176	106	10647	3.2	-5.85	1.19
699	SLU 81	177	90	10837	2.4	-5.95	1.15
699	SLU 82	177	107	10837	0.89	-5.95	1.17
699	SLU 83	178	91	10935	3.49	-5.99	1.17
699	SLU 84	178	108	10934	1.98	-5.99	1.2
699	SLE RA 1	123	60	7111	1.69	-3.98	0.8
699	SLE RA 2	123	80	7110	0.01	-3.98	0.83
699	SLE RA 3	125	61	7213	2.5	-4.03	0.81
699	SLE RA 4	125	73	7213	1.49	-4.03	0.83
699	SLE RA 5	124	80	7175	0.74	-4.01	0.85
699	SLE RA 6	126	62	7278	3.22	-4.06	0.83
699	SLE RA 7	126	73	7278	2.22	-4.06	0.85
699	SLE RA 8	125	62	7240	3.14	-4.04	0.84
699	SLE RA 9	125	73	7240	2.13	-4.04	0.85
699	SLE RA 10	129	84	7707	-0.19	-4.27	0.87
699	SLE RA 11	131	66	7811	2.3	-4.32	0.86
699	SLE RA 12	131	77	7810	1.29	-4.32	0.88
699	SLE RA 13	130	85	7772	0.53	-4.3	0.89
699	SLE RA 14	132	66	7876	3.02	-4.35	0.88
699	SLE RA 15	132	78	7875	2.01	-4.35	0.9
699	SLE RA 16	131	66	7838	2.93	-4.33	0.88
699	SLE RA 17	131	78	7837	1.93	-4.33	0.9
699	SLE RA 18	131	67	7964	1.4	-4.39	0.87
699	SLE RA 19	131	79	7964	0.39	-4.39	0.88
699	SLE RA 20	132	68	8029	2.12	-4.42	0.89
699	SLE RA 21	133	79	8028	1.12	-4.42	0.9
699	SLE FR 1	123	60	7111	1.69	-3.98	0.8
699	SLE FR 2	123	64	7110	1.35	-3.98	0.81
699	SLE FR 3	123	61	7136	1.98	-3.99	0.81
699	SLE FR 4	126	66	7366	1.27	-4.1	0.83
699	SLE FR 5	126	63	7392	1.89	-4.11	0.83
699	SLE FR 6	127	64	7537	1.54	-4.18	0.83
699	SLE QP 1	123	60	7111	1.69	-3.98	0.8
699	SLE QP 2	126	62	7367	1.6	-4.1	0.82
699	SLD 1	634	147	6416	-24.22	-0.16	-0.35
699	SLD 2	635	263	6419	-26.19	-0.14	0.98
699	SLD 3	627	-220	6398	19.08	-0.08	-0.85
699	SLD 4	629	-104	6401	17.1	-0.06	0.48
699	SLD 5	288	624	7109	-71.47	-3.04	1
699	SLD 6	289	698	7111	-72.74	-3.03	1.86
699	SLD 7	265	-598	7048	72.85	-2.78	-0.67
699	SLD 8	266	-523	7050	71.58	-2.77	0.19
699	SLD 9	-15	648	7683	-68.38	-5.43	1.45
699	SLD 10	-14	723	7685	-69.65	-5.42	2.31
699	SLD 11	-38	-574	7622	75.95	-5.17	-0.22
699	SLD 12	-37	-499	7624	74.68	-5.16	0.64
699	SLD 13	-377	228	8332	-13.9	-8.14	1.16
699	SLD 14	-376	344	8335	-15.87	-8.12	2.49
699	SLD 15	-384	-138	8314	29.4	-8.06	0.66
699	SLD 16	-383	-22	8317	27.43	-8.04	1.99
699	SLV 1	922	220	5884	-41.95	2.05	-0.98
699	SLV 2	924	402	5889	-45.06	2.07	1.12
699	SLV 3	911	-406	5854	31.97	2.18	-1.84
699	SLV 4	913	-223	5859	28.86	2.2	0.26
699	SLV 5	381	1024	6967	-122.99	-2.46	1.2
699	SLV 6	383	1147	6970	-125.08	-2.44	2.61
699	SLV 7	343	-1061	6866	123.4	-2.02	-1.68
699	SLV 8	345	-937	6869	121.31	-2.01	-0.26
699	SLV 9	-94	1062	7864	-118.1	-6.19	1.91
699	SLV 10	-92	1185	7867	-120.2	-6.18	3.32
699	SLV 11	-132	-1022	7763	128.29	-5.75	-0.97
699	SLV 12	-130	-899	7766	126.19	-5.74	0.44
699	SLV 13	-662	348	8875	-25.65	-10.4	1.38
699	SLV 14	-660	530	8879	-28.76	-10.38	3.48
699	SLV 15	-673	-278	8844	48.27	-10.27	0.52
699	SLV 16	-671	-95	8849	45.15	-10.25	2.62
699	SLV FO 1	1002	235	5736	-46.3	2.66	-1.16
699	SLV FO 2	1004	436	5741	-49.73	2.69	1.15
699	SLV FO 3	989	-453	5703	35	2.81	-2.11
699	SLV FO 4	991	-251	5708	31.58	2.83	0.2
699	SLV FO 5	407	1120	6927	-135.45	-2.29	1.24
699	SLV FO 6	408	1255	6931	-137.75	-2.28	2.79
699	SLV FO 7	365	-1173	6816	135.58	-1.81	-1.93
699	SLV FO 8	367	-1037	6819	133.28	-1.8	-0.37
699	SLV FO 9	-116	1162	7914	-130.07	-6.4	2.01
699	SLV FO 10	-114	1298	7917	-132.38	-6.39	3.57
699	SLV FO 11	-157	-1131	7802	140.96	-5.92	-1.15
699	SLV FO 12	-156	-995	7806	138.65	-5.9	0.41
699	SLV FO 13	-740	376	9025	-28.38	-11.03	1.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
699	SLV FO 14	-738	577	9031	-31.8	-11.01	3.75
699	SLV FO 15	-753	-312	8992	52.93	-10.89	0.49
699	SLV FO 16	-751	-111	8997	49.51	-10.86	2.8
699	CRTFP Ux+	0	0	0	0	0	0
699	CRTFP Ux-	0	0	0	0	0	0
699	CRTFP Uy+	0	0	0	0	0	0
699	CRTFP Uy-	0	0	0	0	0	0
700	SLU 1	121	62	6908	0.97	-3.12	0.59
700	SLU 2	121	91	6907	-1.62	-3.11	0.66
700	SLU 3	124	64	7065	2.17	-3.18	0.61
700	SLU 4	124	81	7064	0.62	-3.18	0.65
700	SLU 5	123	93	7006	-0.55	-3.15	0.69
700	SLU 6	125	65	7164	3.24	-3.22	0.64
700	SLU 7	125	82	7163	1.69	-3.22	0.68
700	SLU 8	124	64	7105	3.11	-3.19	0.65
700	SLU 9	124	82	7105	1.56	-3.19	0.69
700	SLU 10	130	99	7815	-1.93	-3.42	0.71
700	SLU 11	132	71	7973	1.86	-3.49	0.66
700	SLU 12	132	88	7972	0.3	-3.49	0.7
700	SLU 13	131	100	7914	-0.86	-3.46	0.74
700	SLU 14	134	72	8072	2.93	-3.53	0.69
700	SLU 15	134	89	8071	1.37	-3.53	0.73
700	SLU 16	133	72	8013	2.8	-3.5	0.7
700	SLU 17	133	89	8013	1.24	-3.5	0.74
700	SLU 18	133	73	8206	0.53	-3.56	0.67
700	SLU 19	133	90	8205	-1.03	-3.56	0.71
700	SLU 20	135	74	8304	1.6	-3.59	0.69
700	SLU 21	135	91	8303	0.04	-3.59	0.73
700	SLU 22	135	68	8021	3.19	-3.53	0.58
700	SLU 23	136	97	8020	0.6	-3.52	0.65
700	SLU 24	138	69	8178	4.39	-3.59	0.6
700	SLU 25	138	87	8177	2.84	-3.59	0.64
700	SLU 26	137	98	8118	1.67	-3.56	0.67
700	SLU 27	140	70	8276	5.46	-3.63	0.63
700	SLU 28	140	88	8276	3.9	-3.63	0.67
700	SLU 29	139	70	8218	5.33	-3.6	0.64
700	SLU 30	139	88	8217	3.77	-3.6	0.68
700	SLU 31	144	104	8928	0.29	-3.83	0.7
700	SLU 32	147	76	9086	4.08	-3.9	0.65
700	SLU 33	147	94	9085	2.52	-3.9	0.69
700	SLU 34	146	105	9026	1.35	-3.87	0.72
700	SLU 35	149	77	9184	5.15	-3.94	0.68
700	SLU 36	149	95	9184	3.59	-3.94	0.72
700	SLU 37	148	77	9126	5.02	-3.91	0.69
700	SLU 38	148	95	9125	3.46	-3.91	0.73
700	SLU 39	148	78	9318	2.75	-3.97	0.65
700	SLU 40	148	96	9318	1.19	-3.97	0.69
700	SLU 41	150	79	9417	3.81	-4.01	0.68
700	SLU 42	150	97	9416	2.26	-4	0.72
700	SLU 43	152	79	8599	0.5	-3.91	0.78
700	SLU 44	152	108	8598	-2.09	-3.91	0.84
700	SLU 45	155	80	8756	1.7	-3.98	0.8
700	SLU 46	155	98	8755	0.15	-3.98	0.84
700	SLU 47	154	109	8697	-1.02	-3.94	0.87
700	SLU 48	156	81	8855	2.77	-4.01	0.82
700	SLU 49	157	99	8854	1.22	-4.01	0.86
700	SLU 50	155	81	8796	2.64	-3.98	0.83
700	SLU 51	155	99	8796	1.09	-3.98	0.87
700	SLU 52	161	116	9506	-2.4	-4.22	0.89
700	SLU 53	163	88	9664	1.39	-4.29	0.85
700	SLU 54	164	105	9663	-0.17	-4.29	0.89
700	SLU 55	162	117	9605	-1.33	-4.25	0.92
700	SLU 56	165	89	9763	2.46	-4.32	0.88
700	SLU 57	165	106	9762	0.9	-4.32	0.92
700	SLU 58	164	88	9704	2.33	-4.29	0.89
700	SLU 59	164	106	9704	0.77	-4.29	0.93
700	SLU 60	164	89	9896	0.06	-4.35	0.85
700	SLU 61	164	107	9896	-1.5	-4.35	0.89
700	SLU 62	166	91	9995	1.13	-4.39	0.88
700	SLU 63	166	108	9994	-0.43	-4.39	0.92
700	SLU 64	166	85	9712	2.72	-4.32	0.76
700	SLU 65	167	114	9711	0.13	-4.32	0.83
700	SLU 66	169	86	9869	3.92	-4.39	0.78
700	SLU 67	170	103	9868	2.37	-4.39	0.82
700	SLU 68	168	115	9809	1.2	-4.35	0.86
700	SLU 69	171	87	9967	4.99	-4.42	0.81
700	SLU 70	171	104	9967	3.44	-4.42	0.85
700	SLU 71	170	87	9909	4.86	-4.39	0.82
700	SLU 72	170	104	9908	3.31	-4.39	0.86
700	SLU 73	175	121	10619	-0.18	-4.63	0.88
700	SLU 74	178	93	10777	3.61	-4.7	0.83
700	SLU 75	178	111	10776	2.05	-4.7	0.87
700	SLU 76	177	122	10717	0.89	-4.66	0.91
700	SLU 77	180	94	10875	4.68	-4.73	0.86
700	SLU 78	180	112	10875	3.12	-4.73	0.9
700	SLU 79	179	94	10817	4.55	-4.7	0.87
700	SLU 80	179	112	10816	2.99	-4.7	0.91
700	SLU 81	179	95	11009	2.28	-4.76	0.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
700	SLU 82	179	113	11009	0.72	-4.76	0.87
700	SLU 83	181	96	11108	3.35	-4.8	0.86
700	SLU 84	181	114	11107	1.79	-4.8	0.9
700	SLE RA 1	125	64	7226	1.61	-3.23	0.59
700	SLE RA 2	125	83	7225	-0.12	-3.23	0.63
700	SLE RA 3	127	65	7331	2.41	-3.28	0.6
700	SLE RA 4	127	76	7330	1.37	-3.28	0.63
700	SLE RA 5	126	84	7291	0.59	-3.26	0.65
700	SLE RA 6	128	65	7396	3.12	-3.3	0.62
700	SLE RA 7	128	77	7396	2.08	-3.3	0.65
700	SLE RA 8	127	65	7358	3.03	-3.28	0.63
700	SLE RA 9	127	77	7357	2	-3.28	0.65
700	SLE RA 10	131	88	7831	-0.33	-3.44	0.67
700	SLE RA 11	133	70	7936	2.2	-3.48	0.64
700	SLE RA 12	133	81	7936	1.16	-3.48	0.66
700	SLE RA 13	132	89	7896	0.38	-3.46	0.69
700	SLE RA 14	134	70	8002	2.91	-3.51	0.65
700	SLE RA 15	134	82	8001	1.87	-3.51	0.68
700	SLE RA 16	133	70	7963	2.82	-3.49	0.66
700	SLE RA 17	133	82	7962	1.79	-3.49	0.69
700	SLE RA 18	133	71	8091	1.31	-3.53	0.64
700	SLE RA 19	133	82	8091	0.27	-3.53	0.66
700	SLE RA 20	134	72	8157	2.02	-3.55	0.66
700	SLE RA 21	134	83	8156	0.98	-3.55	0.68
700	SLE FR 1	125	64	7226	1.61	-3.23	0.59
700	SLE FR 2	125	68	7226	1.26	-3.23	0.6
700	SLE FR 3	125	64	7252	1.89	-3.24	0.6
700	SLE FR 4	127	70	7485	1.17	-3.32	0.61
700	SLE FR 5	128	66	7512	1.8	-3.33	0.61
700	SLE FR 6	129	67	7659	1.46	-3.38	0.61
700	SLE QP 1	125	64	7226	1.61	-3.23	0.59
700	SLE QP 2	127	66	7486	1.52	-3.32	0.6
700	SLD 1	635	147	6406	-24.24	0.74	-0.47
700	SLD 2	636	270	6409	-26.4	0.76	0.98
700	SLD 3	629	-223	6387	19.82	0.78	-1.29
700	SLD 4	630	-100	6389	17.66	0.8	0.16
700	SLD 5	290	629	7191	-72.67	-2.16	1.28
700	SLD 6	290	709	7193	-74.06	-2.15	2.21
700	SLD 7	267	-602	7126	74.21	-2.03	-1.46
700	SLD 8	268	-523	7127	72.82	-2.02	-0.53
700	SLD 9	-14	655	7844	-69.78	-4.62	1.73
700	SLD 10	-13	734	7846	-71.17	-4.61	2.67
700	SLD 11	-36	-577	7778	77.09	-4.49	-1
700	SLD 12	-35	-498	7780	75.7	-4.48	-0.07
700	SLD 13	-375	232	8582	-14.63	-7.44	1.05
700	SLD 14	-374	355	8585	-16.78	-7.42	2.5
700	SLD 15	-382	-138	8562	29.44	-7.4	0.23
700	SLD 16	-381	-15	8565	27.28	-7.39	1.67
700	SLV 1	923	217	5802	-41.98	3.02	-1.02
700	SLV 2	925	411	5806	-45.38	3.05	1.26
700	SLV 3	912	-413	5770	33.24	3.08	-2.43
700	SLV 4	914	-219	5773	29.84	3.11	-0.15
700	SLV 5	382	1031	7030	-124.98	-1.52	1.83
700	SLV 6	384	1162	7032	-127.27	-1.5	3.36
700	SLV 7	346	-1070	6920	125.75	-1.31	-2.87
700	SLV 8	347	-940	6923	123.46	-1.29	-1.33
700	SLV 9	-92	1072	8048	-120.42	-5.35	2.54
700	SLV 10	-91	1202	8051	-122.71	-5.33	4.08
700	SLV 11	-129	-1030	7939	130.3	-5.14	-2.16
700	SLV 12	-128	-900	7942	128.02	-5.12	-0.62
700	SLV 13	-659	351	9198	-26.8	-9.75	1.35
700	SLV 14	-657	545	9202	-30.2	-9.72	3.64
700	SLV 15	-670	-280	9165	48.42	-9.69	-0.05
700	SLV 16	-668	-85	9169	45.02	-9.66	2.23
700	SLV FO 1	1002	233	5634	-46.33	3.65	-1.18
700	SLV FO 2	1004	446	5638	-50.07	3.68	1.33
700	SLV FO 3	990	-461	5598	36.41	3.72	-2.73
700	SLV FO 4	992	-248	5602	32.67	3.75	-0.22
700	SLV FO 5	408	1128	6984	-137.63	-1.34	1.95
700	SLV FO 6	409	1272	6987	-140.15	-1.32	3.64
700	SLV FO 7	367	-1184	6864	138.17	-1.11	-3.22
700	SLV FO 8	369	-1040	6867	135.66	-1.09	-1.53
700	SLV FO 9	-114	1172	8104	-132.62	-5.55	2.73
700	SLV FO 10	-113	1316	8107	-135.14	-5.53	4.42
700	SLV FO 11	-155	-1140	7984	143.18	-5.32	-2.43
700	SLV FO 12	-153	-996	7987	140.67	-5.3	-0.74
700	SLV FO 13	-737	380	9369	-29.63	-10.39	1.43
700	SLV FO 14	-735	593	9373	-33.37	-10.36	3.94
700	SLV FO 15	-750	-314	9333	53.11	-10.32	-0.12
700	SLV FO 16	-748	-101	9337	49.37	-10.29	2.39
700	CRTFP Ux+	0	0	0	0	0	0
700	CRTFP Ux-	0	0	0	0	0	0
700	CRTFP Uy+	0	0	0	0	0	0
700	CRTFP Uy-	0	0	0	0	0	0
701	SLU 1	122	65	6999	0.9	-2.52	0.42
701	SLU 2	122	94	6997	-1.77	-2.52	0.52
701	SLU 3	125	66	7157	2.09	-2.57	0.44
701	SLU 4	125	84	7157	0.48	-2.57	0.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
701	SLU 5	124	96	7097	-0.72	-2.54	0.55
701	SLU 6	127	67	7257	3.14	-2.6	0.47
701	SLU 7	127	85	7256	1.53	-2.6	0.53
701	SLU 8	126	67	7198	3.01	-2.57	0.48
701	SLU 9	126	85	7197	1.4	-2.57	0.54
701	SLU 10	131	102	7914	-2.1	-2.72	0.56
701	SLU 11	134	74	8074	1.76	-2.78	0.47
701	SLU 12	134	91	8073	0.16	-2.78	0.53
701	SLU 13	133	103	8013	-1.04	-2.75	0.58
701	SLU 14	135	75	8173	2.82	-2.81	0.5
701	SLU 15	136	93	8172	1.21	-2.8	0.56
701	SLU 16	134	75	8114	2.69	-2.78	0.52
701	SLU 17	134	93	8113	1.08	-2.78	0.57
701	SLU 18	135	76	8308	0.44	-2.81	0.47
701	SLU 19	135	93	8307	-1.16	-2.81	0.53
701	SLU 20	136	77	8407	1.5	-2.84	0.5
701	SLU 21	136	95	8406	-0.11	-2.84	0.56
701	SLU 22	137	70	8122	3.09	-2.81	0.39
701	SLU 23	137	100	8121	0.42	-2.8	0.49
701	SLU 24	140	72	8281	4.28	-2.86	0.4
701	SLU 25	140	89	8281	2.67	-2.86	0.46
701	SLU 26	139	101	8221	1.47	-2.83	0.51
701	SLU 27	142	73	8381	5.33	-2.89	0.43
701	SLU 28	142	91	8380	3.73	-2.89	0.49
701	SLU 29	140	73	8321	5.2	-2.86	0.45
701	SLU 30	140	90	8321	3.6	-2.86	0.5
701	SLU 31	146	107	9038	0.1	-3.01	0.52
701	SLU 32	149	79	9198	3.96	-3.07	0.44
701	SLU 33	149	97	9197	2.35	-3.06	0.5
701	SLU 34	148	109	9137	1.15	-3.04	0.55
701	SLU 35	150	80	9297	5.01	-3.09	0.47
701	SLU 36	150	98	9296	3.4	-3.09	0.53
701	SLU 37	149	80	9238	4.88	-3.07	0.48
701	SLU 38	149	98	9237	3.27	-3.06	0.54
701	SLU 39	149	81	9431	2.63	-3.1	0.44
701	SLU 40	149	99	9431	1.03	-3.1	0.49
701	SLU 41	151	82	9531	3.69	-3.13	0.46
701	SLU 42	151	100	9530	2.08	-3.12	0.52
701	SLU 43	154	82	8713	0.42	-3.17	0.57
701	SLU 44	154	112	8712	-2.26	-3.17	0.66
701	SLU 45	157	84	8872	1.6	-3.23	0.58
701	SLU 46	157	102	8871	0	-3.23	0.64
701	SLU 47	156	113	8811	-1.2	-3.2	0.69
701	SLU 48	158	85	8971	2.66	-3.26	0.61
701	SLU 49	158	103	8970	1.05	-3.26	0.67
701	SLU 50	157	85	8912	2.53	-3.23	0.62
701	SLU 51	157	103	8911	0.92	-3.23	0.68
701	SLU 52	163	120	9628	-2.58	-3.38	0.7
701	SLU 53	165	91	9788	1.28	-3.43	0.62
701	SLU 54	165	109	9787	-0.32	-3.43	0.67
701	SLU 55	164	121	9727	-1.52	-3.4	0.72
701	SLU 56	167	92	9887	2.34	-3.46	0.64
701	SLU 57	167	110	9887	0.73	-3.46	0.7
701	SLU 58	166	92	9828	2.21	-3.43	0.66
701	SLU 59	166	110	9827	0.6	-3.43	0.71
701	SLU 60	166	93	10022	-0.04	-3.47	0.61
701	SLU 61	166	111	10021	-1.65	-3.47	0.67
701	SLU 62	168	94	10121	1.01	-3.5	0.64
701	SLU 63	168	112	10121	-0.59	-3.49	0.7
701	SLU 64	168	88	9837	2.61	-3.46	0.53
701	SLU 65	169	117	9836	-0.06	-3.46	0.63
701	SLU 66	171	89	9995	3.8	-3.52	0.54
701	SLU 67	171	107	9995	2.19	-3.52	0.6
701	SLU 68	170	119	9935	0.99	-3.49	0.65
701	SLU 69	173	90	10095	4.85	-3.54	0.57
701	SLU 70	173	108	10094	3.24	-3.54	0.63
701	SLU 71	172	90	10036	4.72	-3.52	0.59
701	SLU 72	172	108	10035	3.12	-3.52	0.64
701	SLU 73	177	125	10752	-0.39	-3.67	0.66
701	SLU 74	180	97	10912	3.47	-3.72	0.58
701	SLU 75	180	114	10911	1.87	-3.72	0.64
701	SLU 76	179	126	10851	0.67	-3.69	0.69
701	SLU 77	182	98	11011	4.53	-3.75	0.61
701	SLU 78	182	116	11011	2.92	-3.75	0.67
701	SLU 79	181	98	10952	4.4	-3.72	0.62
701	SLU 80	181	116	10951	2.79	-3.72	0.68
701	SLU 81	181	99	11146	2.15	-3.76	0.58
701	SLU 82	181	116	11145	0.55	-3.75	0.63
701	SLU 83	183	100	11245	3.21	-3.78	0.6
701	SLU 84	183	118	11245	1.6	-3.78	0.66
701	SLE RA 1	126	66	7320	1.53	-2.6	0.41
701	SLE RA 2	126	86	7319	-0.26	-2.6	0.48
701	SLE RA 3	128	67	7426	2.32	-2.64	0.43
701	SLE RA 4	128	79	7425	1.25	-2.64	0.46
701	SLE RA 5	128	87	7385	0.45	-2.62	0.5
701	SLE RA 6	129	68	7492	3.02	-2.65	0.44
701	SLE RA 7	130	80	7491	1.95	-2.65	0.48
701	SLE RA 8	129	68	7452	2.93	-2.64	0.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
701	SLE RA 9	129	80	7452	1.86	-2.64	0.49
701	SLE RA 10	132	91	7930	-0.47	-2.74	0.5
701	SLE RA 11	134	72	8036	2.1	-2.77	0.45
701	SLE RA 12	134	84	8036	1.03	-2.77	0.49
701	SLE RA 13	133	92	7996	0.23	-2.75	0.52
701	SLE RA 14	135	73	8103	2.8	-2.79	0.47
701	SLE RA 15	135	85	8102	1.73	-2.79	0.51
701	SLE RA 16	134	73	8063	2.72	-2.77	0.48
701	SLE RA 17	135	85	8063	1.65	-2.77	0.51
701	SLE RA 18	135	74	8192	1.22	-2.8	0.45
701	SLE RA 19	135	85	8192	0.15	-2.79	0.48
701	SLE RA 20	136	74	8259	1.92	-2.81	0.47
701	SLE RA 21	136	86	8258	0.85	-2.81	0.5
701	SLE FR 1	126	66	7320	1.53	-2.6	0.41
701	SLE FR 2	126	70	7320	1.17	-2.6	0.43
701	SLE FR 3	127	67	7346	1.81	-2.61	0.42
701	SLE FR 4	129	72	7581	1.08	-2.66	0.44
701	SLE FR 5	129	69	7608	1.72	-2.67	0.43
701	SLE FR 6	130	70	7756	1.37	-2.7	0.43
701	SLE QP 1	126	66	7320	1.53	-2.6	0.41
701	SLE QP 2	129	69	7581	1.44	-2.66	0.42
701	SLD 1	636	146	6371	-24.3	1.46	-0.53
701	SLD 2	637	276	6373	-26.64	1.48	1.06
701	SLD 3	629	-229	6351	20.58	1.42	-1.72
701	SLD 4	630	-98	6353	18.24	1.44	-0.14
701	SLD 5	291	637	7248	-73.96	-1.35	1.68
701	SLD 6	291	721	7250	-75.47	-1.34	2.7
701	SLD 7	269	-611	7182	75.66	-1.51	-2.31
701	SLD 8	270	-527	7183	74.15	-1.5	-1.28
701	SLD 9	-12	664	7980	-71.28	-3.82	2.13
701	SLD 10	-11	748	7981	-72.79	-3.81	3.15
701	SLD 11	-34	-584	7913	78.34	-3.98	-1.85
701	SLD 12	-33	-500	7915	76.83	-3.96	-0.83
701	SLD 13	-373	235	8810	-15.37	-6.75	0.98
701	SLD 14	-372	366	8812	-17.71	-6.73	2.57
701	SLD 15	-379	-139	8790	29.51	-6.8	-0.21
701	SLD 16	-378	-9	8792	27.17	-6.78	1.38
701	SLV 1	923	214	5693	-42.08	3.78	-0.99
701	SLV 2	925	421	5696	-45.77	3.81	1.51
701	SLV 3	912	-425	5660	34.54	3.7	-3.04
701	SLV 4	914	-218	5663	30.85	3.73	-0.53
701	SLV 5	383	1043	7065	-127.14	-0.62	2.64
701	SLV 6	384	1182	7067	-129.62	-0.6	4.32
701	SLV 7	347	-1087	6954	128.26	-0.88	-4.19
701	SLV 8	348	-948	6956	125.78	-0.86	-2.5
701	SLV 9	-91	1085	8207	-122.91	-4.46	3.35
701	SLV 10	-90	1224	8209	-125.39	-4.44	5.03
701	SLV 11	-127	-1045	8096	132.49	-4.72	-3.47
701	SLV 12	-125	-906	8098	130.01	-4.7	-1.79
701	SLV 13	-656	355	9500	-27.98	-9.05	1.38
701	SLV 14	-655	562	9503	-31.67	-9.02	3.89
701	SLV 15	-667	-284	9467	48.64	-9.12	-0.66
701	SLV 16	-665	-77	9470	44.95	-9.09	1.84
701	SLV FO 1	1002	229	5504	-46.43	4.42	-1.13
701	SLV FO 2	1004	456	5508	-50.49	4.45	1.62
701	SLV FO 3	990	-474	5468	37.85	4.33	-3.38
701	SLV FO 4	992	-247	5471	33.79	4.37	-0.63
701	SLV FO 5	408	1140	7013	-140	-0.41	2.86
701	SLV FO 6	410	1293	7015	-142.73	-0.39	4.71
701	SLV FO 7	369	-1203	6892	140.95	-0.7	-4.65
701	SLV FO 8	370	-1050	6894	138.21	-0.67	-2.79
701	SLV FO 9	-113	1187	8269	-135.34	-4.64	3.64
701	SLV FO 10	-111	1340	8271	-138.08	-4.62	5.49
701	SLV FO 11	-152	-1156	8148	145.6	-4.93	-3.86
701	SLV FO 12	-151	-1003	8150	142.87	-4.91	-2.01
701	SLV FO 13	-735	384	9692	-30.92	-9.68	1.48
701	SLV FO 14	-733	611	9695	-34.98	-9.65	4.23
701	SLV FO 15	-747	-319	9655	53.36	-9.77	-0.77
701	SLV FO 16	-745	-92	9659	49.3	-9.74	1.98
701	CRTFP Ux+	0	0	0	0	0	0
701	CRTFP Ux-	0	0	0	0	0	0
701	CRTFP Uy+	0	0	0	0	0	0
701	CRTFP Uy-	0	0	0	0	0	0
702	SLU 1	123	67	7072	0.83	-2.03	0.28
702	SLU 2	124	97	7070	-1.93	-2.03	0.41
702	SLU 3	126	68	7232	2	-2.08	0.3
702	SLU 4	126	86	7231	0.34	-2.08	0.37
702	SLU 5	125	98	7171	-0.89	-2.05	0.44
702	SLU 6	128	69	7332	3.04	-2.1	0.33
702	SLU 7	128	88	7331	1.38	-2.1	0.4
702	SLU 8	127	69	7272	2.91	-2.08	0.34
702	SLU 9	127	87	7271	1.25	-2.07	0.42
702	SLU 10	132	104	7992	-2.26	-2.15	0.43
702	SLU 11	135	76	8153	1.67	-2.2	0.32
702	SLU 12	135	94	8153	0.01	-2.19	0.39
702	SLU 13	134	106	8092	-1.22	-2.17	0.46
702	SLU 14	137	77	8254	2.71	-2.22	0.34
702	SLU 15	137	95	8253	1.05	-2.22	0.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
702	SLU 16	135	77	8194	2.58	-2.19	0.36
702	SLU 17	136	95	8193	0.92	-2.19	0.44
702	SLU 18	136	77	8388	0.36	-2.2	0.31
702	SLU 19	136	96	8387	-1.3	-2.2	0.39
702	SLU 20	137	79	8488	1.4	-2.22	0.34
702	SLU 21	138	97	8487	-0.26	-2.22	0.41
702	SLU 22	138	72	8203	3	-2.22	0.23
702	SLU 23	138	102	8202	0.24	-2.22	0.36
702	SLU 24	141	73	8363	4.17	-2.26	0.24
702	SLU 25	141	91	8363	2.51	-2.26	0.32
702	SLU 26	140	103	8302	1.28	-2.24	0.39
702	SLU 27	143	75	8464	5.21	-2.28	0.27
702	SLU 28	143	93	8463	3.55	-2.28	0.35
702	SLU 29	142	75	8403	5.08	-2.26	0.28
702	SLU 30	142	93	8403	3.42	-2.26	0.36
702	SLU 31	147	110	9123	-0.09	-2.34	0.38
702	SLU 32	150	81	9285	3.84	-2.38	0.26
702	SLU 33	150	99	9284	2.18	-2.38	0.34
702	SLU 34	149	111	9223	0.95	-2.36	0.4
702	SLU 35	151	82	9385	4.88	-2.4	0.29
702	SLU 36	152	100	9384	3.22	-2.4	0.37
702	SLU 37	150	82	9325	4.75	-2.38	0.3
702	SLU 38	150	100	9324	3.09	-2.38	0.38
702	SLU 39	150	83	9519	2.52	-2.39	0.25
702	SLU 40	151	101	9519	0.87	-2.39	0.33
702	SLU 41	152	84	9620	3.56	-2.41	0.28
702	SLU 42	152	102	9619	1.91	-2.41	0.36
702	SLU 43	155	85	8805	0.33	-2.58	0.39
702	SLU 44	155	115	8804	-2.43	-2.58	0.51
702	SLU 45	158	86	8965	1.5	-2.63	0.4
702	SLU 46	158	104	8965	-0.15	-2.62	0.48
702	SLU 47	157	116	8904	-1.38	-2.6	0.54
702	SLU 48	160	88	9066	2.55	-2.65	0.43
702	SLU 49	160	106	9065	0.89	-2.64	0.51
702	SLU 50	159	88	9006	2.42	-2.62	0.44
702	SLU 51	159	106	9005	0.76	-2.62	0.52
702	SLU 52	164	123	9725	-2.76	-2.7	0.53
702	SLU 53	167	94	9887	1.17	-2.74	0.42
702	SLU 54	167	112	9886	-0.48	-2.74	0.5
702	SLU 55	166	124	9826	-1.72	-2.72	0.56
702	SLU 56	169	95	9987	2.21	-2.76	0.45
702	SLU 57	169	113	9986	0.56	-2.76	0.52
702	SLU 58	167	95	9927	2.08	-2.74	0.46
702	SLU 59	168	113	9926	0.43	-2.74	0.54
702	SLU 60	168	96	10121	-0.14	-2.75	0.41
702	SLU 61	168	114	10121	-1.79	-2.75	0.49
702	SLU 62	169	97	10222	0.9	-2.77	0.44
702	SLU 63	170	115	10221	-0.75	-2.77	0.52
702	SLU 64	170	90	9936	2.5	-2.77	0.33
702	SLU 65	170	120	9935	-0.26	-2.76	0.46
702	SLU 66	173	91	10097	3.67	-2.81	0.35
702	SLU 67	173	110	10096	2.02	-2.81	0.42
702	SLU 68	172	122	10035	0.78	-2.79	0.49
702	SLU 69	175	93	10197	4.71	-2.83	0.37
702	SLU 70	175	111	10196	3.06	-2.83	0.45
702	SLU 71	173	93	10137	4.58	-2.81	0.39
702	SLU 72	174	111	10136	2.93	-2.81	0.47
702	SLU 73	179	128	10857	-0.59	-2.88	0.48
702	SLU 74	182	99	11018	3.34	-2.93	0.36
702	SLU 75	182	117	11018	1.69	-2.93	0.44
702	SLU 76	181	129	10957	0.45	-2.9	0.51
702	SLU 77	183	100	11119	4.38	-2.95	0.39
702	SLU 78	184	119	11118	2.73	-2.95	0.47
702	SLU 79	182	100	11058	4.25	-2.93	0.41
702	SLU 80	182	118	11058	2.6	-2.92	0.48
702	SLU 81	182	101	11253	2.03	-2.94	0.36
702	SLU 82	183	119	11252	0.37	-2.93	0.44
702	SLU 83	184	102	11353	3.07	-2.96	0.39
702	SLU 84	184	120	11352	1.41	-2.95	0.46
702	SLE RA 1	127	68	7395	1.45	-2.09	0.27
702	SLE RA 2	128	88	7394	-0.39	-2.09	0.35
702	SLE RA 3	129	69	7502	2.23	-2.12	0.28
702	SLE RA 4	130	81	7501	1.12	-2.12	0.33
702	SLE RA 5	129	89	7461	0.3	-2.1	0.37
702	SLE RA 6	131	70	7569	2.92	-2.13	0.3
702	SLE RA 7	131	82	7568	1.82	-2.13	0.35
702	SLE RA 8	130	70	7528	2.84	-2.12	0.3
702	SLE RA 9	130	82	7528	1.73	-2.11	0.36
702	SLE RA 10	133	93	8008	-0.61	-2.16	0.37
702	SLE RA 11	135	74	8116	2.01	-2.2	0.29
702	SLE RA 12	135	86	8115	0.9	-2.19	0.34
702	SLE RA 13	135	94	8075	0.08	-2.18	0.38
702	SLE RA 14	136	75	8183	2.7	-2.21	0.31
702	SLE RA 15	137	87	8182	1.6	-2.21	0.36
702	SLE RA 16	136	75	8143	2.62	-2.19	0.32
702	SLE RA 17	136	87	8142	1.51	-2.19	0.37
702	SLE RA 18	136	75	8272	1.13	-2.2	0.28
702	SLE RA 19	136	87	8272	0.03	-2.2	0.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
702	SLE RA 20	137	76	8339	1.83	-2.21	0.3
702	SLE RA 21	137	88	8339	0.72	-2.21	0.36
702	SLE FR 1	127	68	7395	1.45	-2.09	0.27
702	SLE FR 2	128	72	7395	1.08	-2.09	0.28
702	SLE FR 3	128	68	7422	1.73	-2.09	0.27
702	SLE FR 4	130	74	7658	0.99	-2.12	0.29
702	SLE FR 5	130	71	7685	1.63	-2.13	0.28
702	SLE FR 6	132	72	7834	1.29	-2.14	0.28
702	SLE QP 1	127	68	7395	1.45	-2.09	0.27
702	SLE QP 2	130	70	7658	1.35	-2.12	0.27
702	SLD 1	636	144	6316	-24.4	1.99	-0.56
702	SLD 2	637	283	6317	-26.93	2.01	1.18
702	SLD 3	630	-238	6296	21.37	1.94	-2.14
702	SLD 4	631	-98	6297	18.84	1.96	-0.4
702	SLD 5	291	647	7285	-75.36	-0.81	2.12
702	SLD 6	292	737	7286	-76.98	-0.8	3.24
702	SLD 7	270	-625	7219	77.21	-0.99	-3.14
702	SLD 8	271	-535	7220	75.58	-0.97	-2.02
702	SLD 9	-11	676	8096	-72.88	-3.27	2.57
702	SLD 10	-10	765	8097	-74.51	-3.26	3.69
702	SLD 11	-32	-596	8030	79.69	-3.44	-2.69
702	SLD 12	-31	-506	8031	78.06	-3.43	-1.57
702	SLD 13	-371	239	9019	-16.13	-6.2	0.94
702	SLD 14	-370	378	9020	-18.66	-6.18	2.68
702	SLD 15	-377	-143	8999	29.64	-6.25	-0.63
702	SLD 16	-376	-3	9000	27.11	-6.23	1.1
702	SLV 1	923	211	5565	-42.24	4.3	-0.93
702	SLV 2	924	431	5567	-46.23	4.33	1.81
702	SLV 3	912	-440	5532	35.89	4.21	-3.63
702	SLV 4	914	-220	5534	31.9	4.24	-0.89
702	SLV 5	383	1059	7079	-129.47	-0.07	3.49
702	SLV 6	385	1207	7081	-132.16	-0.05	5.33
702	SLV 7	348	-1111	6970	130.95	-0.36	-5.5
702	SLV 8	349	-963	6971	128.27	-0.34	-3.65
702	SLV 9	-89	1104	8345	-125.56	-3.9	4.2
702	SLV 10	-88	1252	8346	-128.24	-3.88	6.04
702	SLV 11	-125	-1066	8235	134.86	-4.19	-4.79
702	SLV 12	-124	-918	8237	132.18	-4.17	-2.95
702	SLV 13	-654	361	9782	-29.19	-8.48	1.43
702	SLV 14	-652	581	9784	-33.18	-8.45	4.17
702	SLV 15	-664	-290	9749	48.93	-8.57	-1.27
702	SLV 16	-663	-70	9751	44.95	-8.54	1.47
702	SLV FO 1	1002	225	5355	-46.6	4.94	-1.05
702	SLV FO 2	1004	467	5358	-50.98	4.97	1.96
702	SLV FO 3	990	-491	5319	39.34	4.84	-4.02
702	SLV FO 4	992	-249	5322	34.96	4.88	-1
702	SLV FO 5	409	1158	7022	-142.56	0.14	3.81
702	SLV FO 6	410	1320	7023	-145.51	0.16	5.84
702	SLV FO 7	370	-1229	6901	143.91	-0.18	-6.08
702	SLV FO 8	371	-1067	6903	140.96	-0.16	-4.05
702	SLV FO 9	-111	1207	8413	-138.25	-4.08	4.59
702	SLV FO 10	-110	1370	8415	-141.2	-4.06	6.62
702	SLV FO 11	-150	-1180	8293	148.22	-4.4	-5.3
702	SLV FO 12	-149	-1017	8295	145.26	-4.38	-3.27
702	SLV FO 13	-732	390	9995	-32.25	-9.12	1.55
702	SLV FO 14	-730	632	9997	-36.63	-9.09	4.56
702	SLV FO 15	-744	-326	9958	53.69	-9.22	-1.42
702	SLV FO 16	-742	-85	9961	49.31	-9.18	1.59
702	CRTFP Ux+	0	0	0	0	0	0
702	CRTFP Ux-	0	0	0	0	0	0
702	CRTFP Uy+	0	0	0	0	0	0
702	CRTFP Uy-	0	0	0	0	0	0
703	SLU 1	124	68	7131	0.76	-1.69	0.16
703	SLU 2	125	99	7130	-2.09	-1.69	0.32
703	SLU 3	127	69	7293	1.92	-1.73	0.17
703	SLU 4	127	88	7292	0.21	-1.73	0.26
703	SLU 5	126	100	7231	-1.06	-1.7	0.34
703	SLU 6	129	71	7393	2.94	-1.74	0.2
703	SLU 7	129	89	7393	1.24	-1.74	0.29
703	SLU 8	128	71	7333	2.81	-1.72	0.21
703	SLU 9	128	89	7332	1.11	-1.72	0.31
703	SLU 10	133	106	8054	-2.43	-1.74	0.32
703	SLU 11	136	77	8217	1.57	-1.78	0.18
703	SLU 12	136	95	8216	-0.13	-1.78	0.27
703	SLU 13	135	108	8155	-1.4	-1.76	0.35
703	SLU 14	138	78	8318	2.6	-1.79	0.2
703	SLU 15	138	97	8317	0.89	-1.79	0.3
703	SLU 16	137	78	8257	2.47	-1.77	0.22
703	SLU 17	137	97	8256	0.76	-1.77	0.31
703	SLU 18	137	79	8451	0.27	-1.76	0.17
703	SLU 19	137	97	8450	-1.44	-1.76	0.26
703	SLU 20	138	80	8552	1.3	-1.78	0.19
703	SLU 21	139	99	8551	-0.41	-1.78	0.29
703	SLU 22	139	73	8267	2.9	-1.8	0.09
703	SLU 23	139	104	8266	0.06	-1.8	0.25
703	SLU 24	142	74	8429	4.06	-1.83	0.1
703	SLU 25	142	93	8428	2.35	-1.83	0.2
703	SLU 26	141	105	8367	1.09	-1.81	0.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
703	SLU 27	144	76	8530	5.09	-1.85	0.13
703	SLU 28	144	94	8529	3.38	-1.85	0.22
703	SLU 29	143	76	8469	4.96	-1.83	0.15
703	SLU 30	143	94	8468	3.25	-1.83	0.24
703	SLU 31	148	111	9190	-0.28	-1.85	0.26
703	SLU 32	151	82	9353	3.72	-1.89	0.11
703	SLU 33	151	100	9352	2.01	-1.89	0.2
703	SLU 34	150	113	9291	0.74	-1.86	0.28
703	SLU 35	153	83	9454	4.75	-1.9	0.14
703	SLU 36	153	102	9453	3.04	-1.9	0.23
703	SLU 37	151	83	9393	4.62	-1.88	0.15
703	SLU 38	151	102	9392	2.91	-1.88	0.25
703	SLU 39	151	84	9587	2.42	-1.87	0.1
703	SLU 40	152	102	9587	0.71	-1.87	0.19
703	SLU 41	153	85	9688	3.44	-1.89	0.13
703	SLU 42	153	104	9687	1.74	-1.89	0.22
703	SLU 43	157	86	8881	0.25	-2.16	0.23
703	SLU 44	157	117	8879	-2.6	-2.16	0.39
703	SLU 45	160	88	9042	1.41	-2.2	0.24
703	SLU 46	160	106	9042	-0.3	-2.2	0.34
703	SLU 47	159	119	8980	-1.57	-2.17	0.41
703	SLU 48	161	89	9143	2.44	-2.21	0.27
703	SLU 49	162	108	9142	0.73	-2.21	0.36
703	SLU 50	160	89	9083	2.31	-2.19	0.28
703	SLU 51	160	108	9082	0.6	-2.19	0.38
703	SLU 52	165	125	9804	-2.94	-2.21	0.39
703	SLU 53	168	96	9967	1.07	-2.25	0.25
703	SLU 54	168	114	9966	-0.64	-2.25	0.34
703	SLU 55	167	126	9904	-1.91	-2.23	0.42
703	SLU 56	170	97	10067	2.09	-2.26	0.27
703	SLU 57	170	116	10067	0.39	-2.26	0.37
703	SLU 58	169	97	10007	1.96	-2.24	0.29
703	SLU 59	169	116	10006	0.26	-2.24	0.38
703	SLU 60	169	97	10201	-0.24	-2.23	0.24
703	SLU 61	169	116	10200	-1.95	-2.23	0.33
703	SLU 62	171	99	10302	0.79	-2.25	0.26
703	SLU 63	171	117	10301	-0.92	-2.25	0.36
703	SLU 64	171	91	10017	2.4	-2.27	0.16
703	SLU 65	172	122	10016	-0.45	-2.27	0.32
703	SLU 66	174	93	10179	3.55	-2.3	0.17
703	SLU 67	174	111	10178	1.85	-2.3	0.27
703	SLU 68	173	124	10116	0.58	-2.28	0.35
703	SLU 69	176	94	10279	4.58	-2.32	0.2
703	SLU 70	176	113	10279	2.87	-2.32	0.3
703	SLU 71	175	94	10219	4.45	-2.3	0.22
703	SLU 72	175	113	10218	2.74	-2.3	0.31
703	SLU 73	180	130	10940	-0.79	-2.32	0.33
703	SLU 74	183	100	11103	3.21	-2.36	0.18
703	SLU 75	183	119	11102	1.5	-2.36	0.27
703	SLU 76	182	131	11041	0.24	-2.33	0.35
703	SLU 77	185	102	11204	4.24	-2.37	0.21
703	SLU 78	185	120	11203	2.53	-2.37	0.3
703	SLU 79	184	102	11143	4.11	-2.35	0.22
703	SLU 80	184	121	11142	2.4	-2.35	0.32
703	SLU 81	184	102	11337	1.91	-2.34	0.17
703	SLU 82	184	121	11336	0.2	-2.34	0.27
703	SLU 83	185	104	11438	2.94	-2.36	0.2
703	SLU 84	186	122	11437	1.23	-2.36	0.29
703	SLE RA 1	129	69	7456	1.37	-1.72	0.14
703	SLE RA 2	129	90	7455	-0.53	-1.72	0.24
703	SLE RA 3	131	70	7563	2.14	-1.75	0.15
703	SLE RA 4	131	82	7563	1	-1.74	0.21
703	SLE RA 5	130	91	7522	0.16	-1.73	0.26
703	SLE RA 6	132	71	7631	2.83	-1.76	0.17
703	SLE RA 7	132	83	7630	1.69	-1.76	0.23
703	SLE RA 8	131	71	7590	2.74	-1.74	0.17
703	SLE RA 9	131	83	7590	1.6	-1.74	0.24
703	SLE RA 10	134	95	8071	-0.75	-1.75	0.25
703	SLE RA 11	136	75	8179	1.92	-1.78	0.15
703	SLE RA 12	136	88	8179	0.78	-1.78	0.21
703	SLE RA 13	136	96	8138	-0.07	-1.77	0.27
703	SLE RA 14	138	76	8247	2.6	-1.79	0.17
703	SLE RA 15	138	89	8246	1.46	-1.79	0.23
703	SLE RA 16	137	76	8206	2.51	-1.78	0.18
703	SLE RA 17	137	89	8206	1.38	-1.78	0.24
703	SLE RA 18	137	76	8336	1.05	-1.77	0.15
703	SLE RA 19	137	89	8335	-0.09	-1.77	0.21
703	SLE RA 20	138	77	8403	1.73	-1.78	0.16
703	SLE RA 21	138	90	8402	0.59	-1.78	0.23
703	SLE FR 1	129	69	7456	1.37	-1.72	0.14
703	SLE FR 2	129	73	7455	0.99	-1.72	0.16
703	SLE FR 3	129	70	7483	1.65	-1.73	0.15
703	SLE FR 4	131	75	7719	0.89	-1.74	0.16
703	SLE FR 5	132	72	7747	1.55	-1.74	0.15
703	SLE FR 6	133	73	7896	1.21	-1.75	0.14
703	SLE QP 1	129	69	7456	1.37	-1.72	0.14
703	SLE QP 2	131	71	7720	1.27	-1.74	0.14
703	SLD 1	636	141	6247	-24.53	2.37	-0.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
703	SLD 2	637	290	6247	-27.25	2.39	1.3
703	SLD 3	630	-249	6227	22.18	2.32	-2.5
703	SLD 4	631	-100	6227	19.46	2.34	-0.62
703	SLD 5	292	659	7308	-76.86	-0.43	2.51
703	SLD 6	293	755	7308	-78.61	-0.41	3.72
703	SLD 7	271	-643	7241	78.87	-0.6	-3.89
703	SLD 8	272	-547	7242	77.12	-0.59	-2.68
703	SLD 9	-10	690	8198	-74.57	-2.88	2.96
703	SLD 10	-9	785	8198	-76.32	-2.87	4.17
703	SLD 11	-30	-612	8131	81.15	-3.06	-3.44
703	SLD 12	-30	-516	8131	79.4	-3.04	-2.23
703	SLD 13	-369	243	9212	-16.92	-5.81	0.9
703	SLD 14	-368	392	9213	-19.63	-5.79	2.79
703	SLD 15	-375	-148	9192	29.8	-5.87	-1.02
703	SLD 16	-374	1	9193	27.08	-5.85	0.87
703	SLV 1	922	207	5422	-42.47	4.68	-0.87
703	SLV 2	924	442	5423	-46.75	4.71	2.09
703	SLV 3	912	-459	5389	37.27	4.59	-4.15
703	SLV 4	913	-225	5390	32.99	4.62	-1.19
703	SLV 5	384	1079	7080	-131.99	0.31	4.26
703	SLV 6	385	1237	7080	-134.87	0.33	6.26
703	SLV 7	349	-1142	6971	133.81	0.03	-6.68
703	SLV 8	350	-984	6972	130.93	0.05	-4.68
703	SLV 9	-88	1127	8468	-128.38	-3.52	4.96
703	SLV 10	-87	1285	8468	-131.26	-3.5	6.96
703	SLV 11	-123	-1094	8359	137.42	-3.81	-5.98
703	SLV 12	-122	-937	8360	134.53	-3.78	-3.98
703	SLV 13	-651	367	10049	-30.44	-8.1	1.47
703	SLV 14	-650	602	10050	-34.73	-8.06	4.44
703	SLV 15	-662	-299	10017	49.3	-8.18	-1.81
703	SLV 16	-660	-65	10018	45.01	-8.15	1.15
703	SLV FO 1	1001	221	5192	-46.84	5.32	-0.97
703	SLV FO 2	1003	479	5193	-51.55	5.35	2.29
703	SLV FO 3	990	-512	5156	40.87	5.23	-4.58
703	SLV FO 4	991	-254	5157	36.16	5.26	-1.32
703	SLV FO 5	409	1180	7015	-145.31	0.52	4.67
703	SLV FO 6	410	1353	7016	-148.48	0.54	6.87
703	SLV FO 7	371	-1264	6896	147.06	0.2	-7.36
703	SLV FO 8	372	-1090	6897	143.89	0.23	-5.16
703	SLV FO 9	-110	1233	8543	-141.34	-3.7	5.45
703	SLV FO 10	-109	1406	8543	-144.52	-3.68	7.64
703	SLV FO 11	-148	-1211	8423	151.03	-4.01	-6.59
703	SLV FO 12	-147	-1037	8424	147.86	-3.99	-4.39
703	SLV FO 13	-729	397	10282	-33.61	-8.73	1.6
703	SLV FO 14	-728	655	10283	-38.32	-8.7	4.86
703	SLV FO 15	-741	-336	10246	54.1	-8.83	-2.01
703	SLV FO 16	-739	-78	10247	49.39	-8.79	1.25
703	CRTFP Ux+	0	0	0	0	0	0
703	CRTFP Ux-	0	0	0	0	0	0
703	CRTFP Uy+	0	0	0	0	0	0
703	CRTFP Uy-	0	0	0	0	0	0
704	SLU 1	125	68	7183	0.69	-1.58	0.05
704	SLU 2	126	100	7182	-2.25	-1.58	0.23
704	SLU 3	128	70	7346	1.83	-1.61	0.05
704	SLU 4	128	89	7345	0.07	-1.61	0.16
704	SLU 5	127	102	7283	-1.23	-1.59	0.25
704	SLU 6	130	71	7447	2.85	-1.63	0.08
704	SLU 7	130	90	7446	1.09	-1.63	0.19
704	SLU 8	129	72	7386	2.72	-1.61	0.09
704	SLU 9	129	91	7385	0.96	-1.61	0.2
704	SLU 10	134	108	8107	-2.6	-1.6	0.22
704	SLU 11	137	77	8271	1.48	-1.63	0.05
704	SLU 12	137	97	8270	-0.28	-1.63	0.16
704	SLU 13	136	109	8208	-1.59	-1.61	0.24
704	SLU 14	139	79	8372	2.5	-1.64	0.07
704	SLU 15	139	98	8371	0.74	-1.64	0.18
704	SLU 16	138	79	8311	2.37	-1.63	0.09
704	SLU 17	138	98	8310	0.61	-1.63	0.2
704	SLU 18	138	79	8505	0.19	-1.6	0.04
704	SLU 19	138	98	8504	-1.58	-1.6	0.15
704	SLU 20	139	81	8606	1.2	-1.62	0.06
704	SLU 21	140	100	8605	-0.56	-1.62	0.17
704	SLU 22	140	73	8322	2.82	-1.65	-0.03
704	SLU 23	140	105	8320	-0.12	-1.65	0.15
704	SLU 24	143	74	8484	3.96	-1.68	-0.02
704	SLU 25	143	93	8484	2.2	-1.68	0.09
704	SLU 26	142	106	8422	0.89	-1.66	0.17
704	SLU 27	145	76	8586	4.98	-1.7	0
704	SLU 28	145	95	8585	3.22	-1.7	0.11
704	SLU 29	144	76	8524	4.85	-1.68	0.02
704	SLU 30	144	95	8524	3.09	-1.68	0.13
704	SLU 31	149	112	9246	-0.47	-1.67	0.14
704	SLU 32	152	82	9410	3.61	-1.7	-0.03
704	SLU 33	152	101	9409	1.85	-1.7	0.08
704	SLU 34	151	114	9347	0.54	-1.68	0.17
704	SLU 35	154	84	9511	4.63	-1.72	0
704	SLU 36	154	103	9510	2.86	-1.72	0.1
704	SLU 37	152	84	9450	4.5	-1.7	0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
704	SLU 38	152	103	9449	2.73	-1.7	0.12
704	SLU 39	152	84	9643	2.31	-1.68	-0.04
704	SLU 40	153	103	9643	0.55	-1.68	0.07
704	SLU 41	154	85	9745	3.33	-1.69	-0.01
704	SLU 42	154	104	9744	1.57	-1.69	0.09
704	SLU 43	158	87	8947	0.16	-2.03	0.08
704	SLU 44	158	119	8946	-2.77	-2.03	0.26
704	SLU 45	161	89	9110	1.31	-2.06	0.09
704	SLU 46	161	108	9109	-0.45	-2.06	0.2
704	SLU 47	160	121	9047	-1.76	-2.04	0.29
704	SLU 48	163	90	9211	2.33	-2.07	0.12
704	SLU 49	163	109	9211	0.56	-2.07	0.23
704	SLU 50	161	90	9150	2.2	-2.06	0.13
704	SLU 51	162	110	9149	0.43	-2.06	0.24
704	SLU 52	167	127	9871	-3.13	-2.04	0.26
704	SLU 53	170	96	10035	0.96	-2.08	0.09
704	SLU 54	170	115	10034	-0.8	-2.08	0.2
704	SLU 55	168	128	9972	-2.11	-2.06	0.28
704	SLU 56	171	98	10137	1.98	-2.09	0.11
704	SLU 57	171	117	10136	0.21	-2.09	0.22
704	SLU 58	170	98	10075	1.85	-2.07	0.13
704	SLU 59	170	117	10074	0.08	-2.07	0.23
704	SLU 60	170	98	10269	-0.34	-2.05	0.08
704	SLU 61	170	117	10268	-2.1	-2.05	0.18
704	SLU 62	172	100	10370	0.68	-2.07	0.1
704	SLU 63	172	119	10370	-1.08	-2.07	0.21
704	SLU 64	173	92	10086	2.29	-2.1	0.01
704	SLU 65	173	123	10085	-0.65	-2.1	0.19
704	SLU 66	176	93	10249	3.44	-2.13	0.02
704	SLU 67	176	112	10248	1.68	-2.13	0.13
704	SLU 68	175	125	10186	0.37	-2.11	0.21
704	SLU 69	177	95	10350	4.46	-2.15	0.04
704	SLU 70	178	114	10349	2.69	-2.15	0.15
704	SLU 71	176	95	10289	4.33	-2.13	0.06
704	SLU 72	176	114	10288	2.56	-2.13	0.16
704	SLU 73	181	131	11010	-1	-2.12	0.18
704	SLU 74	184	101	11174	3.09	-2.15	0.01
704	SLU 75	184	120	11173	1.32	-2.15	0.12
704	SLU 76	183	133	11111	0.02	-2.13	0.21
704	SLU 77	186	103	11275	4.1	-2.17	0.04
704	SLU 78	186	122	11275	2.34	-2.17	0.14
704	SLU 79	185	103	11214	3.97	-2.15	0.05
704	SLU 80	185	122	11213	2.21	-2.15	0.16
704	SLU 81	185	103	11408	1.79	-2.12	0
704	SLU 82	185	122	11407	0.03	-2.12	0.11
704	SLU 83	187	104	11509	2.81	-2.14	0.03
704	SLU 84	187	123	11508	1.04	-2.14	0.13
704	SLE RA 1	130	70	7508	1.3	-1.6	0.02
704	SLE RA 2	130	91	7507	-0.66	-1.6	0.14
704	SLE RA 3	132	71	7617	2.06	-1.62	0.03
704	SLE RA 4	132	83	7616	0.88	-1.62	0.1
704	SLE RA 5	131	92	7575	0.01	-1.61	0.16
704	SLE RA 6	133	72	7684	2.74	-1.63	0.05
704	SLE RA 7	133	84	7684	1.56	-1.63	0.12
704	SLE RA 8	132	72	7643	2.65	-1.62	0.06
704	SLE RA 9	132	84	7643	1.48	-1.62	0.13
704	SLE RA 10	135	96	8124	-0.9	-1.61	0.14
704	SLE RA 11	137	76	8234	1.83	-1.63	0.03
704	SLE RA 12	137	88	8233	0.65	-1.63	0.1
704	SLE RA 13	137	97	8192	-0.22	-1.62	0.16
704	SLE RA 14	139	77	8301	2.5	-1.64	0.04
704	SLE RA 15	139	89	8301	1.33	-1.64	0.11
704	SLE RA 16	138	77	8260	2.42	-1.63	0.05
704	SLE RA 17	138	90	8260	1.24	-1.63	0.12
704	SLE RA 18	138	77	8389	0.96	-1.62	0.02
704	SLE RA 19	138	90	8389	-0.21	-1.62	0.09
704	SLE RA 20	139	78	8457	1.64	-1.63	0.03
704	SLE RA 21	139	91	8456	0.46	-1.63	0.11
704	SLE FR 1	130	70	7508	1.3	-1.6	0.02
704	SLE FR 2	130	74	7508	0.9	-1.6	0.05
704	SLE FR 3	130	70	7535	1.57	-1.6	0.03
704	SLE FR 4	132	76	7772	0.8	-1.6	0.05
704	SLE FR 5	132	72	7800	1.47	-1.61	0.03
704	SLE FR 6	134	73	7949	1.13	-1.61	0.02
704	SLE QP 1	130	70	7508	1.3	-1.6	0.02
704	SLE QP 2	132	72	7773	1.2	-1.6	0.02
704	SLD 1	636	139	6168	-24.71	2.56	-0.63
704	SLD 2	637	297	6168	-27.62	2.58	1.38
704	SLD 3	630	-263	6148	23.02	2.51	-2.81
704	SLD 4	631	-104	6148	20.1	2.53	-0.8
704	SLD 5	292	673	7322	-78.46	-0.28	2.79
704	SLD 6	293	775	7322	-80.33	-0.27	4.08
704	SLD 7	272	-664	7255	80.62	-0.45	-4.48
704	SLD 8	272	-562	7255	78.75	-0.44	-3.19
704	SLD 9	-8	706	8291	-76.36	-2.77	3.23
704	SLD 10	-8	808	8291	-78.23	-2.76	4.52
704	SLD 11	-29	-632	8223	82.72	-2.94	-4.03
704	SLD 12	-28	-530	8224	80.85	-2.92	-2.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
704	SLD 13	-367	247	9398	-17.71	-5.73	0.85
704	SLD 14	-366	406	9398	-20.63	-5.71	2.85
704	SLD 15	-373	-154	9377	30.01	-5.78	-1.33
704	SLD 16	-372	5	9378	27.1	-5.76	0.67
704	SLV 1	921	203	5269	-42.76	4.89	-0.85
704	SLV 2	923	454	5269	-47.35	4.92	2.3
704	SLV 3	911	-481	5236	38.7	4.81	-4.58
704	SLV 4	913	-231	5236	34.11	4.84	-1.42
704	SLV 5	384	1103	7071	-134.68	0.46	4.82
704	SLV 6	385	1271	7071	-137.77	0.48	6.94
704	SLV 7	350	-1179	6962	136.84	0.19	-7.59
704	SLV 8	351	-1011	6962	133.75	0.21	-5.47
704	SLV 9	-87	1154	8583	-131.36	-3.42	5.51
704	SLV 10	-86	1323	8583	-134.45	-3.4	7.64
704	SLV 11	-121	-1128	8474	140.16	-3.69	-6.9
704	SLV 12	-120	-960	8474	137.07	-3.67	-4.77
704	SLV 13	-649	374	10309	-31.72	-8.04	1.47
704	SLV 14	-647	625	10309	-36.31	-8.01	4.62
704	SLV 15	-659	-310	10276	49.74	-8.13	-2.26
704	SLV 16	-657	-60	10276	45.15	-8.1	0.9
704	SLV FO 1	1000	217	5019	-47.15	5.54	-0.94
704	SLV FO 2	1002	492	5019	-52.2	5.57	2.53
704	SLV FO 3	989	-536	4983	42.45	5.45	-5.04
704	SLV FO 4	991	-261	4983	37.4	5.48	-1.57
704	SLV FO 5	409	1206	7001	-148.26	0.67	5.3
704	SLV FO 6	410	1391	7001	-151.66	0.69	7.63
704	SLV FO 7	372	-1304	6881	150.41	0.37	-8.36
704	SLV FO 8	373	-1119	6881	147.01	0.39	-6.02
704	SLV FO 9	-109	1262	8664	-144.62	-3.6	6.06
704	SLV FO 10	-108	1448	8664	-148.02	-3.58	8.4
704	SLV FO 11	-146	-1248	8544	154.05	-3.9	-7.59
704	SLV FO 12	-145	-1063	8544	150.65	-3.88	-5.25
704	SLV FO 13	-727	405	10562	-35.01	-8.69	1.61
704	SLV FO 14	-725	680	10563	-40.06	-8.66	5.08
704	SLV FO 15	-738	-348	10526	54.59	-8.78	-2.49
704	SLV FO 16	-736	-73	10527	49.54	-8.74	0.98
704	CRTFP Ux+	0	0	0	0	0	0
704	CRTFP Ux-	0	0	0	0	0	0
704	CRTFP Uy+	0	0	0	0	0	0
704	CRTFP Uy-	0	0	0	0	0	0
705	SLU 1	126	68	7238	0.62	-1.91	-0.06
705	SLU 2	126	101	7236	-2.42	-1.91	0.13
705	SLU 3	129	70	7402	1.75	-1.95	-0.06
705	SLU 4	129	89	7401	-0.07	-1.95	0.06
705	SLU 5	128	103	7338	-1.41	-1.93	0.15
705	SLU 6	131	72	7503	2.76	-1.97	-0.04
705	SLU 7	131	91	7503	0.94	-1.97	0.07
705	SLU 8	130	72	7441	2.63	-1.95	-0.03
705	SLU 9	130	91	7441	0.81	-1.95	0.09
705	SLU 10	135	109	8162	-2.78	-1.96	0.11
705	SLU 11	138	77	8328	1.39	-2	-0.08
705	SLU 12	138	97	8327	-0.43	-2	0.04
705	SLU 13	137	110	8264	-1.77	-1.98	0.13
705	SLU 14	140	79	8430	2.4	-2.02	-0.06
705	SLU 15	140	99	8429	0.58	-2.02	0.06
705	SLU 16	138	79	8368	2.27	-2	-0.04
705	SLU 17	139	99	8367	0.45	-2	0.07
705	SLU 18	139	79	8561	0.1	-1.98	-0.09
705	SLU 19	139	99	8560	-1.72	-1.98	0.03
705	SLU 20	140	81	8663	1.11	-2	-0.07
705	SLU 21	140	101	8662	-0.71	-2	0.05
705	SLU 22	141	72	8379	2.73	-2.02	-0.15
705	SLU 23	141	105	8378	-0.3	-2.02	0.05
705	SLU 24	144	74	8543	3.87	-2.07	-0.14
705	SLU 25	144	94	8542	2.05	-2.07	-0.03
705	SLU 26	143	107	8480	0.7	-2.04	0.07
705	SLU 27	146	76	8645	4.87	-2.09	-0.12
705	SLU 28	146	95	8644	3.05	-2.09	-0.01
705	SLU 29	145	76	8583	4.74	-2.06	-0.11
705	SLU 30	145	95	8582	2.92	-2.06	0.01
705	SLU 31	150	113	9304	-0.67	-2.07	0.03
705	SLU 32	153	81	9469	3.5	-2.12	-0.16
705	SLU 33	153	101	9469	1.68	-2.12	-0.04
705	SLU 34	152	114	9406	0.34	-2.09	0.05
705	SLU 35	154	83	9571	4.51	-2.14	-0.14
705	SLU 36	155	103	9570	2.69	-2.14	-0.02
705	SLU 37	153	83	9509	4.38	-2.11	-0.12
705	SLU 38	153	103	9508	2.56	-2.11	-0.01
705	SLU 39	153	83	9702	2.21	-2.09	-0.17
705	SLU 40	153	103	9702	0.39	-2.09	-0.06
705	SLU 41	155	85	9804	3.22	-2.11	-0.15
705	SLU 42	155	105	9803	1.4	-2.11	-0.04
705	SLU 43	159	87	9018	0.08	-2.44	-0.06
705	SLU 44	159	120	9016	-2.95	-2.45	0.14
705	SLU 45	162	89	9181	1.22	-2.49	-0.05
705	SLU 46	162	108	9181	-0.6	-2.49	0.06
705	SLU 47	161	122	9118	-1.95	-2.47	0.16
705	SLU 48	164	91	9283	2.22	-2.51	-0.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
705	SLU 49	164	110	9283	0.4	-2.51	0.08
705	SLU 50	163	91	9221	2.09	-2.49	-0.02
705	SLU 51	163	110	9221	0.27	-2.49	0.1
705	SLU 52	168	128	9942	-3.32	-2.49	0.12
705	SLU 53	171	96	10108	0.85	-2.54	-0.07
705	SLU 54	171	116	10107	-0.97	-2.54	0.05
705	SLU 55	170	129	10044	-2.31	-2.51	0.14
705	SLU 56	173	98	10209	1.86	-2.56	-0.05
705	SLU 57	173	118	10209	0.04	-2.56	0.07
705	SLU 58	171	98	10147	1.73	-2.53	-0.03
705	SLU 59	171	118	10147	-0.09	-2.54	0.08
705	SLU 60	171	98	10341	-0.44	-2.52	-0.08
705	SLU 61	172	118	10340	-2.26	-2.52	0.03
705	SLU 62	173	100	10442	0.57	-2.54	-0.06
705	SLU 63	173	120	10442	-1.25	-2.54	0.05
705	SLU 64	174	91	10159	2.19	-2.56	-0.14
705	SLU 65	174	124	10158	-0.84	-2.56	0.05
705	SLU 66	177	93	10323	3.33	-2.6	-0.13
705	SLU 67	177	113	10322	1.51	-2.6	-0.02
705	SLU 68	176	126	10260	0.16	-2.58	0.07
705	SLU 69	179	95	10425	4.33	-2.62	-0.11
705	SLU 70	179	114	10424	2.51	-2.62	0
705	SLU 71	177	95	10363	4.2	-2.6	-0.1
705	SLU 72	177	115	10362	2.38	-2.6	0.02
705	SLU 73	183	132	11084	-1.21	-2.61	0.04
705	SLU 74	185	101	11249	2.96	-2.65	-0.15
705	SLU 75	186	120	11248	1.14	-2.65	-0.03
705	SLU 76	184	133	11186	-0.2	-2.63	0.06
705	SLU 77	187	102	11351	3.97	-2.67	-0.13
705	SLU 78	187	122	11350	2.15	-2.67	-0.01
705	SLU 79	186	102	11289	3.84	-2.65	-0.12
705	SLU 80	186	122	11288	2.02	-2.65	0
705	SLU 81	186	102	11482	1.67	-2.63	-0.16
705	SLU 82	186	122	11481	-0.15	-2.63	-0.05
705	SLU 83	188	104	11584	2.68	-2.65	-0.14
705	SLU 84	188	124	11583	0.86	-2.65	-0.03
705	SLE RA 1	130	69	7564	1.22	-1.94	-0.09
705	SLE RA 2	131	91	7563	-0.8	-1.94	0.04
705	SLE RA 3	132	70	7673	1.98	-1.97	-0.08
705	SLE RA 4	133	84	7673	0.77	-1.97	-0.01
705	SLE RA 5	132	92	7631	-0.13	-1.96	0.05
705	SLE RA 6	134	72	7741	2.65	-1.98	-0.07
705	SLE RA 7	134	85	7741	1.44	-1.98	0.01
705	SLE RA 8	133	72	7700	2.56	-1.97	-0.06
705	SLE RA 9	133	85	7699	1.35	-1.97	0.01
705	SLE RA 10	136	96	8180	-1.04	-1.98	0.03
705	SLE RA 11	138	75	8291	1.74	-2	-0.1
705	SLE RA 12	138	89	8290	0.52	-2	-0.02
705	SLE RA 13	138	97	8248	-0.37	-1.99	0.04
705	SLE RA 14	139	77	8358	2.41	-2.02	-0.08
705	SLE RA 15	140	90	8358	1.19	-2.02	-0.01
705	SLE RA 16	139	77	8317	2.32	-2	-0.07
705	SLE RA 17	139	90	8317	1.11	-2	0
705	SLE RA 18	139	77	8446	0.88	-1.99	-0.1
705	SLE RA 19	139	90	8445	-0.34	-1.99	-0.03
705	SLE RA 20	140	78	8514	1.55	-2	-0.09
705	SLE RA 21	140	91	8513	0.33	-2	-0.01
705	SLE FR 1	130	69	7564	1.22	-1.94	-0.09
705	SLE FR 2	130	74	7564	0.82	-1.94	-0.06
705	SLE FR 3	131	70	7591	1.49	-1.95	-0.08
705	SLE FR 4	133	76	7828	0.71	-1.96	-0.07
705	SLE FR 5	133	72	7856	1.39	-1.96	-0.09
705	SLE FR 6	135	73	8005	1.05	-1.97	-0.1
705	SLE QP 1	130	69	7564	1.22	-1.94	-0.09
705	SLE QP 2	133	72	7828	1.12	-1.96	-0.09
705	SLD 1	636	135	6089	-24.93	2.37	-0.71
705	SLD 2	637	305	6088	-28.03	2.39	1.37
705	SLD 3	630	-278	6068	23.87	2.33	-3.02
705	SLD 4	631	-108	6067	20.76	2.34	-0.94
705	SLD 5	293	688	7338	-80.17	-0.59	2.87
705	SLD 6	293	797	7338	-82.17	-0.58	4.21
705	SLD 7	273	-689	7269	82.48	-0.75	-4.83
705	SLD 8	273	-580	7269	80.48	-0.74	-3.49
705	SLD 9	-7	723	8388	-78.25	-3.18	3.31
705	SLD 10	-7	832	8388	-80.25	-3.17	4.64
705	SLD 11	-28	-654	8319	84.4	-3.34	-4.39
705	SLD 12	-27	-545	8319	82.4	-3.33	-3.05
705	SLD 13	-365	251	9590	-18.53	-6.26	0.75
705	SLD 14	-364	421	9589	-21.63	-6.24	2.83
705	SLD 15	-371	-162	9569	30.27	-6.31	-1.56
705	SLD 16	-370	8	9568	27.16	-6.29	0.52
705	SLV 1	920	199	5114	-43.12	4.8	-0.91
705	SLV 2	922	466	5113	-48.02	4.83	2.37
705	SLV 3	910	-506	5081	40.16	4.72	-4.85
705	SLV 4	912	-239	5080	35.26	4.75	-1.57
705	SLV 5	384	1129	7065	-137.55	0.18	5.03
705	SLV 6	385	1309	7064	-140.84	0.2	7.24
705	SLV 7	351	-1220	6954	140.05	-0.08	-8.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
705	SLV 8	352	-1041	6953	136.75	-0.06	-5.91
705	SLV 9	-86	1184	8704	-134.52	-3.86	5.72
705	SLV 10	-85	1363	8703	-137.81	-3.84	7.93
705	SLV 11	-119	-1166	8593	143.08	-4.12	-7.42
705	SLV 12	-118	-986	8592	139.78	-4.1	-5.22
705	SLV 13	-646	382	10577	-33.02	-8.66	1.39
705	SLV 14	-645	649	10576	-37.92	-8.64	4.67
705	SLV 15	-656	-323	10544	50.25	-8.74	-2.56
705	SLV 16	-655	-56	10543	45.36	-8.71	0.72
705	SLV FO 1	999	212	4843	-47.55	5.48	-0.99
705	SLV FO 2	1001	506	4842	-52.93	5.51	2.62
705	SLV FO 3	988	-563	4806	44.06	5.39	-5.33
705	SLV FO 4	990	-270	4805	38.67	5.42	-1.72
705	SLV FO 5	409	1235	6989	-151.41	0.4	5.54
705	SLV FO 6	410	1432	6988	-155.04	0.42	7.97
705	SLV FO 7	372	-1349	6866	153.94	0.11	-8.92
705	SLV FO 8	373	-1152	6866	150.31	0.13	-6.49
705	SLV FO 9	-108	1295	8791	-148.08	-4.05	6.3
705	SLV FO 10	-106	1492	8791	-151.71	-4.02	8.73
705	SLV FO 11	-145	-1289	8669	157.27	-4.33	-8.16
705	SLV FO 12	-144	-1092	8668	153.65	-4.31	-5.73
705	SLV FO 13	-724	413	10852	-36.44	-9.34	1.54
705	SLV FO 14	-722	706	10851	-41.82	-9.3	5.14
705	SLV FO 15	-735	-363	10815	55.17	-9.42	-2.8
705	SLV FO 16	-733	-69	10814	49.78	-9.39	0.81
705	CRTFP Ux+	0	0	0	0	0	0
705	CRTFP Ux-	0	0	0	0	0	0
705	CRTFP Uy+	0	0	0	0	0	0
705	CRTFP Uy-	0	0	0	0	0	0
706	SLU 1	127	68	7316	0.55	-3.09	-0.18
706	SLU 2	127	101	7314	-2.58	-3.09	0.01
706	SLU 3	130	69	7481	1.68	-3.16	-0.18
706	SLU 4	130	89	7481	-0.2	-3.16	-0.07
706	SLU 5	129	103	7417	-1.59	-3.13	0.02
706	SLU 6	132	71	7584	2.67	-3.2	-0.17
706	SLU 7	132	91	7583	0.8	-3.2	-0.05
706	SLU 8	131	71	7521	2.54	-3.17	-0.15
706	SLU 9	131	92	7520	0.66	-3.17	-0.04
706	SLU 10	136	109	8244	-2.96	-3.29	-0.02
706	SLU 11	139	77	8411	1.3	-3.36	-0.21
706	SLU 12	139	97	8410	-0.58	-3.36	-0.09
706	SLU 13	138	111	8347	-1.96	-3.33	-0.01
706	SLU 14	141	79	8514	2.3	-3.4	-0.2
706	SLU 15	141	99	8513	0.42	-3.4	-0.08
706	SLU 16	139	79	8451	2.17	-3.36	-0.18
706	SLU 17	139	99	8450	0.29	-3.37	-0.07
706	SLU 18	139	78	8644	0.01	-3.37	-0.22
706	SLU 19	140	99	8643	-1.86	-3.37	-0.11
706	SLU 20	141	80	8747	1.01	-3.41	-0.21
706	SLU 21	141	100	8746	-0.87	-3.41	-0.09
706	SLU 22	142	71	8464	2.64	-3.39	-0.26
706	SLU 23	142	105	8462	-0.49	-3.39	-0.07
706	SLU 24	145	73	8629	3.77	-3.46	-0.26
706	SLU 25	145	93	8628	1.89	-3.46	-0.15
706	SLU 26	144	107	8565	0.51	-3.43	-0.06
706	SLU 27	147	75	8732	4.77	-3.5	-0.25
706	SLU 28	147	95	8731	2.89	-3.5	-0.14
706	SLU 29	145	75	8669	4.64	-3.47	-0.24
706	SLU 30	146	95	8668	2.76	-3.47	-0.12
706	SLU 31	151	113	9392	-0.86	-3.59	-0.1
706	SLU 32	154	80	9559	3.4	-3.66	-0.29
706	SLU 33	154	101	9558	1.52	-3.66	-0.18
706	SLU 34	152	114	9495	0.14	-3.63	-0.09
706	SLU 35	155	82	9662	4.4	-3.7	-0.28
706	SLU 36	155	102	9661	2.52	-3.7	-0.17
706	SLU 37	154	82	9599	4.27	-3.67	-0.27
706	SLU 38	154	103	9598	2.39	-3.67	-0.15
706	SLU 39	154	82	9792	2.11	-3.67	-0.31
706	SLU 40	154	102	9791	0.23	-3.67	-0.19
706	SLU 41	156	84	9895	3.11	-3.71	-0.29
706	SLU 42	156	104	9894	1.23	-3.71	-0.18
706	SLU 43	160	87	9117	-0.01	-3.91	-0.21
706	SLU 44	160	120	9116	-3.14	-3.91	-0.01
706	SLU 45	163	88	9283	1.12	-3.98	-0.2
706	SLU 46	163	108	9282	-0.76	-3.98	-0.09
706	SLU 47	162	122	9218	-2.14	-3.95	0
706	SLU 48	165	90	9385	2.12	-4.02	-0.19
706	SLU 49	165	110	9385	0.24	-4.02	-0.08
706	SLU 50	164	90	9322	1.99	-3.99	-0.18
706	SLU 51	164	111	9322	0.11	-3.99	-0.06
706	SLU 52	169	128	10045	-3.51	-4.11	-0.04
706	SLU 53	172	96	10212	0.75	-4.18	-0.23
706	SLU 54	172	116	10211	-1.13	-4.18	-0.12
706	SLU 55	171	130	10148	-2.51	-4.15	-0.03
706	SLU 56	174	98	10315	1.74	-4.22	-0.22
706	SLU 57	174	118	10314	-0.13	-4.22	-0.11
706	SLU 58	172	98	10252	1.61	-4.19	-0.21
706	SLU 59	172	118	10251	-0.26	-4.19	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	SLU 60	172	97	10445	-0.54	-4.2	-0.25
706	SLU 61	173	118	10444	-2.42	-4.2	-0.13
706	SLU 62	174	99	10548	0.46	-4.24	-0.23
706	SLU 63	174	119	10547	-1.42	-4.24	-0.12
706	SLU 64	175	90	10265	2.09	-4.21	-0.29
706	SLU 65	175	124	10263	-1.04	-4.21	-0.1
706	SLU 66	178	92	10430	3.22	-4.28	-0.29
706	SLU 67	178	112	10430	1.34	-4.28	-0.17
706	SLU 68	177	126	10366	-0.04	-4.25	-0.08
706	SLU 69	180	94	10533	4.22	-4.32	-0.28
706	SLU 70	180	114	10532	2.34	-4.32	-0.16
706	SLU 71	178	94	10470	4.09	-4.29	-0.26
706	SLU 72	179	114	10469	2.21	-4.29	-0.15
706	SLU 73	184	132	11193	-1.41	-4.41	-0.13
706	SLU 74	187	99	11360	2.84	-4.48	-0.32
706	SLU 75	187	120	11359	0.97	-4.48	-0.2
706	SLU 76	186	133	11296	-0.42	-4.45	-0.11
706	SLU 77	188	101	11463	3.84	-4.52	-0.3
706	SLU 78	189	121	11462	1.96	-4.52	-0.19
706	SLU 79	187	101	11400	3.71	-4.49	-0.29
706	SLU 80	187	122	11399	1.83	-4.49	-0.18
706	SLU 81	187	101	11593	1.56	-4.5	-0.33
706	SLU 82	187	121	11592	-0.32	-4.5	-0.22
706	SLU 83	189	103	11696	2.55	-4.54	-0.32
706	SLU 84	189	123	11695	0.68	-4.54	-0.2
706	SLE RA 1	131	69	7644	1.15	-3.17	-0.2
706	SLE RA 2	131	91	7643	-0.94	-3.18	-0.08
706	SLE RA 3	133	70	7754	1.9	-3.22	-0.2
706	SLE RA 4	133	83	7754	0.65	-3.22	-0.13
706	SLE RA 5	133	92	7711	-0.28	-3.2	-0.07
706	SLE RA 6	135	71	7823	2.56	-3.25	-0.19
706	SLE RA 7	135	84	7822	1.31	-3.25	-0.12
706	SLE RA 8	134	71	7781	2.48	-3.23	-0.19
706	SLE RA 9	134	85	7780	1.22	-3.23	-0.11
706	SLE RA 10	137	96	8263	-1.19	-3.31	-0.1
706	SLE RA 11	139	75	8374	1.65	-3.36	-0.22
706	SLE RA 12	139	88	8373	0.4	-3.36	-0.15
706	SLE RA 13	138	97	8331	-0.52	-3.33	-0.09
706	SLE RA 14	140	76	8442	2.31	-3.38	-0.21
706	SLE RA 15	140	89	8442	1.06	-3.38	-0.14
706	SLE RA 16	139	76	8401	2.23	-3.36	-0.21
706	SLE RA 17	140	90	8400	0.98	-3.36	-0.13
706	SLE RA 18	140	76	8529	0.79	-3.36	-0.23
706	SLE RA 19	140	89	8529	-0.46	-3.37	-0.16
706	SLE RA 20	141	77	8598	1.46	-3.39	-0.22
706	SLE RA 21	141	91	8597	0.2	-3.39	-0.15
706	SLE FR 1	131	69	7644	1.15	-3.17	-0.2
706	SLE FR 2	131	73	7643	0.73	-3.17	-0.18
706	SLE FR 3	132	69	7671	1.41	-3.18	-0.2
706	SLE FR 4	134	75	7909	0.62	-3.23	-0.19
706	SLE FR 5	134	71	7937	1.31	-3.24	-0.21
706	SLE FR 6	135	72	8086	0.97	-3.27	-0.22
706	SLE QP 1	131	69	7644	1.15	-3.17	-0.2
706	SLE QP 2	134	71	7909	1.04	-3.23	-0.21
706	SLD 1	635	131	6026	-25.19	1.5	-0.86
706	SLD 2	636	312	6024	-28.49	1.52	1.24
706	SLD 3	629	-294	6004	24.74	1.45	-3.12
706	SLD 4	630	-113	6003	21.43	1.47	-1.02
706	SLD 5	293	703	7377	-81.98	-1.74	2.66
706	SLD 6	294	819	7376	-84.11	-1.73	4.01
706	SLD 7	273	-714	7306	84.44	-1.91	-4.87
706	SLD 8	274	-598	7305	82.31	-1.89	-3.52
706	SLD 9	-6	740	8514	-80.23	-4.57	3.1
706	SLD 10	-6	856	8513	-82.36	-4.56	4.45
706	SLD 11	-26	-677	8443	86.19	-4.74	-4.44
706	SLD 12	-26	-561	8442	84.06	-4.72	-3.08
706	SLD 13	-363	255	9815	-19.35	-7.93	0.6
706	SLD 14	-362	435	9814	-22.66	-7.91	2.7
706	SLD 15	-369	-170	9794	30.57	-7.98	-1.66
706	SLD 16	-368	10	9793	27.27	-7.96	0.44
706	SLV 1	919	194	4971	-43.56	4.15	-1.08
706	SLV 2	921	478	4969	-48.77	4.18	2.23
706	SLV 3	909	-531	4936	41.64	4.07	-4.94
706	SLV 4	911	-247	4935	36.43	4.1	-1.63
706	SLV 5	384	1155	7080	-140.59	-0.9	4.76
706	SLV 6	385	1346	7079	-144.1	-0.88	6.99
706	SLV 7	351	-1263	6966	143.42	-1.17	-8.1
706	SLV 8	352	-1072	6965	139.91	-1.15	-5.87
706	SLV 9	-84	1213	8854	-137.83	-5.31	5.45
706	SLV 10	-83	1404	8853	-141.34	-5.3	7.68
706	SLV 11	-118	-1205	8740	146.18	-5.58	-7.41
706	SLV 12	-117	-1014	8739	142.67	-5.56	-5.19
706	SLV 13	-643	389	10884	-34.35	-10.56	1.21
706	SLV 14	-642	673	10882	-39.56	-10.54	4.52
706	SLV 15	-653	-337	10850	50.85	-10.64	-2.65
706	SLV 16	-652	-53	10848	45.64	-10.62	0.66
706	SLV FO 1	998	207	4677	-48.02	4.89	-1.17
706	SLV FO 2	1000	519	4675	-53.75	4.92	2.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	SLV FO 3	987	-591	4639	45.71	4.8	-5.41
706	SLV FO 4	989	-279	4637	39.97	4.83	-1.77
706	SLV FO 5	409	1263	6997	-154.76	-0.67	5.26
706	SLV FO 6	411	1474	6996	-158.62	-0.65	7.71
706	SLV FO 7	373	-1396	6871	157.66	-0.96	-8.89
706	SLV FO 8	374	-1186	6870	153.8	-0.94	-6.44
706	SLV FO 9	-106	1328	8949	-151.72	-5.52	6.01
706	SLV FO 10	-105	1538	8947	-155.58	-5.5	8.46
706	SLV FO 11	-143	-1332	8823	160.7	-5.82	-8.13
706	SLV FO 12	-142	-1122	8821	156.84	-5.8	-5.68
706	SLV FO 13	-721	420	11181	-37.89	-11.3	1.35
706	SLV FO 14	-720	733	11179	-43.63	-11.27	4.99
706	SLV FO 15	-732	-378	11144	55.83	-11.39	-2.9
706	SLV FO 16	-731	-65	11142	50.1	-11.35	0.74
706	CRTFP Ux+	0	0	0	0	0	0
706	CRTFP Ux-	0	0	0	0	0	0
706	CRTFP Uy+	0	0	0	0	0	0
706	CRTFP Uy-	0	0	0	0	0	0
707	SLU 1	109	57	6344	0.42	173.68	-1.82
707	SLU 2	109	86	6342	-2.35	173.64	-2.51
707	SLU 3	111	58	6487	1.38	177.61	-1.87
707	SLU 4	111	76	6487	-0.28	177.59	-2.28
707	SLU 5	110	88	6431	-1.5	176.08	-2.55
707	SLU 6	113	60	6576	2.23	180.05	-1.91
707	SLU 7	113	77	6576	0.57	180.03	-2.32
707	SLU 8	112	60	6522	2.11	178.55	-1.9
707	SLU 9	112	78	6521	0.46	178.53	-2.32
707	SLU 10	116	93	7144	-2.68	195.69	-2.72
707	SLU 11	119	64	7289	1.05	199.66	-2.08
707	SLU 12	119	82	7288	-0.61	199.64	-2.49
707	SLU 13	118	94	7233	-1.83	198.13	-2.76
707	SLU 14	120	66	7378	1.9	202.1	-2.12
707	SLU 15	120	84	7377	0.24	202.08	-2.53
707	SLU 16	119	66	7323	1.78	200.6	-2.11
707	SLU 17	119	84	7322	0.13	200.58	-2.52
707	SLU 18	119	66	7489	-0.06	205.17	-2.12
707	SLU 19	119	83	7488	-1.71	205.16	-2.53
707	SLU 20	121	67	7578	0.79	207.61	-2.16
707	SLU 21	121	85	7577	-0.86	207.59	-2.57
707	SLU 22	121	59	7334	2.2	200.9	-1.97
707	SLU 23	122	89	7333	-0.56	200.87	-2.66
707	SLU 24	124	61	7478	3.17	204.83	-2.01
707	SLU 25	124	79	7478	1.51	204.82	-2.42
707	SLU 26	123	91	7422	0.29	203.31	-2.7
707	SLU 27	126	62	7567	4.01	207.27	-2.05
707	SLU 28	126	80	7567	2.36	207.25	-2.46
707	SLU 29	124	63	7513	3.9	205.78	-2.05
707	SLU 30	125	80	7512	2.24	205.76	-2.46
707	SLU 31	129	95	8135	-0.89	222.92	-2.86
707	SLU 32	131	67	8280	2.84	226.88	-2.22
707	SLU 33	132	85	8279	1.18	226.86	-2.63
707	SLU 34	131	97	8224	-0.04	225.36	-2.91
707	SLU 35	133	69	8369	3.68	229.32	-2.26
707	SLU 36	133	86	8368	2.03	229.3	-2.67
707	SLU 37	132	69	8314	3.57	227.83	-2.26
707	SLU 38	132	87	8313	1.91	227.81	-2.67
707	SLU 39	132	68	8479	1.73	232.4	-2.27
707	SLU 40	132	86	8479	0.08	232.38	-2.68
707	SLU 41	134	70	8568	2.58	234.84	-2.31
707	SLU 42	134	88	8568	0.92	234.82	-2.72
707	SLU 43	137	73	7907	-0.07	216.44	-2.32
707	SLU 44	137	102	7906	-2.84	216.41	-3.01
707	SLU 45	140	74	8051	0.89	220.37	-2.36
707	SLU 46	140	92	8050	-0.77	220.36	-2.77
707	SLU 47	139	104	7995	-1.99	218.85	-3.05
707	SLU 48	141	76	8140	1.74	222.81	-2.4
707	SLU 49	141	93	8139	0.08	222.79	-2.81
707	SLU 50	140	76	8085	1.62	221.32	-2.4
707	SLU 51	140	94	8084	-0.03	221.3	-2.81
707	SLU 52	145	109	8707	-3.16	238.46	-3.22
707	SLU 53	147	80	8852	0.56	242.42	-2.57
707	SLU 54	147	98	8851	-1.1	242.41	-2.98
707	SLU 55	146	110	8796	-2.32	240.9	-3.26
707	SLU 56	149	82	8941	1.41	244.86	-2.61
707	SLU 57	149	100	8940	-0.25	244.84	-3.02
707	SLU 58	148	82	8886	1.29	243.37	-2.61
707	SLU 59	148	100	8886	-0.36	243.35	-3.02
707	SLU 60	148	82	9052	-0.54	247.94	-2.62
707	SLU 61	148	99	9051	-2.2	247.92	-3.03
707	SLU 62	149	83	9141	0.3	250.38	-2.66
707	SLU 63	149	101	9140	-1.35	250.36	-3.07
707	SLU 64	150	75	8898	1.71	243.67	-2.47
707	SLU 65	150	105	8897	-1.05	243.64	-3.15
707	SLU 66	152	77	9042	2.68	247.6	-2.51
707	SLU 67	152	95	9041	1.02	247.58	-2.92
707	SLU 68	151	107	8986	-0.2	246.08	-3.19
707	SLU 69	154	78	9131	3.53	250.04	-2.55
707	SLU 70	154	96	9130	1.87	250.02	-2.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
707	SLU 71	153	79	9076	3.41	248.55	-2.55
707	SLU 72	153	96	9075	1.76	248.53	-2.96
707	SLU 73	157	111	9698	-1.38	265.69	-3.36
707	SLU 74	160	83	9843	2.35	269.65	-2.72
707	SLU 75	160	101	9842	0.69	269.63	-3.13
707	SLU 76	159	113	9787	-0.53	268.13	-3.4
707	SLU 77	161	85	9932	3.2	272.09	-2.76
707	SLU 78	161	102	9931	1.54	272.07	-3.17
707	SLU 79	160	85	9877	3.08	270.6	-2.76
707	SLU 80	160	103	9877	1.43	270.58	-3.17
707	SLU 81	160	84	10043	1.24	275.17	-2.77
707	SLU 82	160	102	10042	-0.41	275.15	-3.18
707	SLU 83	162	86	10132	2.09	277.61	-2.81
707	SLU 84	162	104	10131	0.44	277.59	-3.22
707	SLE RA 1	112	57	6627	0.93	181.45	-1.87
707	SLE RA 2	112	77	6626	-0.91	181.43	-2.32
707	SLE RA 3	114	58	6723	1.57	184.08	-1.89
707	SLE RA 4	114	70	6722	0.46	184.06	-2.17
707	SLE RA 5	114	78	6685	-0.35	183.06	-2.35
707	SLE RA 6	115	59	6782	2.13	185.7	-1.92
707	SLE RA 7	115	71	6781	1.03	185.69	-2.19
707	SLE RA 8	114	60	6745	2.06	184.71	-1.92
707	SLE RA 9	114	71	6745	0.95	184.69	-2.19
707	SLE RA 10	117	81	7160	-1.13	196.13	-2.46
707	SLE RA 11	119	63	7257	1.35	198.78	-2.03
707	SLE RA 12	119	74	7256	0.24	198.76	-2.31
707	SLE RA 13	118	82	7220	-0.57	197.76	-2.49
707	SLE RA 14	120	64	7316	1.91	200.4	-2.06
707	SLE RA 15	120	75	7316	0.81	200.39	-2.33
707	SLE RA 16	119	64	7280	1.84	199.41	-2.06
707	SLE RA 17	119	76	7279	0.73	199.39	-2.33
707	SLE RA 18	119	63	7390	0.61	202.45	-2.07
707	SLE RA 19	120	75	7390	-0.49	202.44	-2.34
707	SLE RA 20	120	65	7449	1.18	204.08	-2.09
707	SLE RA 21	121	76	7449	0.07	204.07	-2.37
707	SLE FR 1	112	57	6627	0.93	181.45	-1.87
707	SLE FR 2	112	61	6627	0.56	181.45	-1.96
707	SLE FR 3	113	58	6650	1.15	182.1	-1.88
707	SLE FR 4	115	63	6856	0.46	187.75	-2.02
707	SLE FR 5	115	60	6879	1.06	188.4	-1.94
707	SLE FR 6	116	60	7008	0.77	191.95	-1.97
707	SLE QP 1	112	57	6627	0.93	181.45	-1.87
707	SLE QP 2	114	59	6856	0.83	187.75	-1.93
707	SLD 1	541	108	5122	-21.82	142.72	-3.85
707	SLD 2	542	271	5121	-24.82	142.69	-6.71
707	SLD 3	536	-263	5103	21.89	142.21	4.88
707	SLD 4	537	-101	5102	18.9	142.18	2.02
707	SLD 5	250	610	6365	-71.75	175.02	-15.25
707	SLD 6	251	714	6364	-73.68	175	-17.09
707	SLD 7	233	-629	6301	73.96	173.32	13.84
707	SLD 8	234	-524	6300	72.04	173.31	12
707	SLD 9	-5	643	7411	-70.37	202.2	-15.86
707	SLD 10	-4	747	7410	-72.3	202.18	-17.7
707	SLD 11	-22	-595	7348	75.34	200.51	13.24
707	SLD 12	-21	-491	7347	73.41	200.49	11.4
707	SLD 13	-308	219	8610	-17.23	233.33	-5.87
707	SLD 14	-307	382	8608	-20.23	233.3	-8.73
707	SLD 15	-313	-152	8591	26.48	232.82	2.85
707	SLD 16	-312	10	8589	23.49	232.79	0
707	SLV 1	783	161	4151	-37.73	117.49	-5.53
707	SLV 2	784	417	4149	-42.45	117.45	-10.03
707	SLV 3	775	-473	4121	36.87	116.68	9.37
707	SLV 4	776	-217	4119	32.15	116.63	4.86
707	SLV 5	328	1004	6091	-123	167.92	-24.75
707	SLV 6	329	1176	6089	-126.18	167.89	-27.79
707	SLV 7	299	-1110	5990	125.67	165.2	24.89
707	SLV 8	300	-938	5988	122.49	165.17	21.86
707	SLV 9	-71	1056	7723	-120.83	210.34	-25.71
707	SLV 10	-70	1228	7722	-124	210.31	-28.74
707	SLV 11	-100	-1057	7622	127.84	207.62	23.93
707	SLV 12	-99	-885	7620	124.67	207.59	20.9
707	SLV 13	-547	336	9593	-30.49	258.88	-8.71
707	SLV 14	-546	591	9591	-35.21	258.83	-13.22
707	SLV 15	-555	-298	9562	44.11	258.06	6.18
707	SLV 16	-554	-43	9560	39.4	258.01	1.67
707	SLV FO 1	850	171	3881	-41.59	110.47	-5.89
707	SLV FO 2	851	452	3878	-46.78	110.42	-10.84
707	SLV FO 3	841	-526	3847	40.47	109.57	10.5
707	SLV FO 4	842	-245	3845	35.29	109.52	5.54
707	SLV FO 5	349	1098	6014	-135.39	165.94	-27.04
707	SLV FO 6	350	1287	6013	-138.88	165.91	-30.37
707	SLV FO 7	318	-1227	5903	138.15	162.95	27.57
707	SLV FO 8	319	-1037	5901	134.66	162.91	24.23
707	SLV FO 9	-90	1156	7810	-133	212.6	-28.09
707	SLV FO 10	-89	1345	7808	-136.49	212.56	-31.42
707	SLV FO 11	-121	-1169	7699	140.54	209.6	26.52
707	SLV FO 12	-120	-980	7697	137.05	209.57	23.18
707	SLV FO 13	-613	363	9866	-33.62	265.99	-9.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
707	SLV FO 14	-612	645	9864	-38.81	265.94	-14.35
707	SLV FO 15	-622	-334	9833	48.44	265.09	6.99
707	SLV FO 16	-621	-53	9831	43.25	265.04	2.03
707	CRTFP Ux+	0	0	0	0	0	0
707	CRTFP Ux-	0	0	0	0	0	0
707	CRTFP Uy+	0	0	0	0	0	0
707	CRTFP Uy-	0	0	0	0	0	0
709	SLU 1	185	96	10904	16.79	2591.29	-24.52
709	SLU 2	185	147	10902	14.26	2590.83	-37.06
709	SLU 3	190	98	11151	18.02	2649.87	-25.11
709	SLU 4	190	128	11150	16.51	2649.59	-32.63
709	SLU 5	188	149	11055	15.25	2627.15	-37.75
709	SLU 6	192	101	11304	19.02	2686.19	-25.81
709	SLU 7	192	131	11303	17.5	2685.91	-33.33
709	SLU 8	190	101	11210	18.77	2663.93	-25.92
709	SLU 9	191	132	11209	17.26	2663.65	-33.44
709	SLU 10	198	157	12276	16.03	2918.78	-39.76
709	SLU 11	202	108	12525	19.79	2977.82	-27.81
709	SLU 12	202	139	12524	18.28	2977.55	-35.33
709	SLU 13	201	160	12429	17.02	2955.1	-40.45
709	SLU 14	205	111	12678	20.79	3014.14	-28.51
709	SLU 15	205	142	12677	19.27	3013.86	-36.03
709	SLU 16	203	112	12584	20.54	2991.88	-28.62
709	SLU 17	203	142	12583	19.03	2991.6	-36.14
709	SLU 18	203	111	12867	19.32	3059.8	-28.38
709	SLU 19	203	141	12866	17.8	3059.52	-35.9
709	SLU 20	206	113	13020	20.31	3096.11	-29.08
709	SLU 21	206	144	13019	18.79	3095.84	-36.6
709	SLU 22	207	100	12604	20.96	2996.4	-25.76
709	SLU 23	207	151	12602	18.43	2995.94	-38.29
709	SLU 24	211	102	12851	22.19	3054.98	-26.35
709	SLU 25	211	133	12850	20.68	3054.7	-33.87
709	SLU 26	210	154	12755	19.42	3032.25	-38.99
709	SLU 27	214	105	13004	23.19	3091.29	-27.05
709	SLU 28	214	136	13003	21.67	3091.01	-34.57
709	SLU 29	212	106	12910	22.94	3069.03	-27.16
709	SLU 30	212	136	12909	21.43	3068.75	-34.68
709	SLU 31	220	162	13976	20.2	3323.89	-41
709	SLU 32	224	113	14226	23.97	3382.93	-29.05
709	SLU 33	224	144	14224	22.45	3382.65	-36.57
709	SLU 34	222	164	14129	21.2	3360.2	-41.69
709	SLU 35	226	116	14379	24.96	3419.25	-29.75
709	SLU 36	227	146	14377	23.44	3418.97	-37.27
709	SLU 37	225	116	14284	24.72	3396.98	-29.86
709	SLU 38	225	147	14283	23.2	3396.7	-37.38
709	SLU 39	225	115	14567	23.49	3464.9	-29.62
709	SLU 40	225	146	14566	21.97	3464.62	-37.14
709	SLU 41	227	118	14720	24.48	3501.22	-30.32
709	SLU 42	227	149	14719	22.97	3500.94	-37.84
709	SLU 43	233	123	13592	20.39	3229.79	-31.45
709	SLU 44	234	174	13590	17.86	3229.33	-43.99
709	SLU 45	238	125	13840	21.63	3288.37	-32.04
709	SLU 46	238	156	13838	20.11	3288.09	-39.56
709	SLU 47	236	177	13743	18.86	3265.64	-44.69
709	SLU 48	240	128	13993	22.62	3324.68	-32.74
709	SLU 49	241	158	13991	21.1	3324.4	-40.26
709	SLU 50	239	128	13898	22.38	3302.42	-32.85
709	SLU 51	239	159	13897	20.86	3302.14	-40.37
709	SLU 52	246	184	14965	19.64	3557.28	-46.69
709	SLU 53	250	136	15214	23.4	3616.32	-34.74
709	SLU 54	251	166	15213	21.88	3616.04	-42.27
709	SLU 55	249	187	15118	20.63	3593.59	-47.39
709	SLU 56	253	138	15367	24.39	3652.64	-35.44
709	SLU 57	253	169	15366	22.88	3652.36	-42.96
709	SLU 58	251	139	15273	24.15	3630.37	-35.55
709	SLU 59	251	169	15271	22.63	3630.09	-43.07
709	SLU 60	251	138	15556	22.92	3698.29	-35.31
709	SLU 61	252	168	15554	21.41	3698.01	-42.83
709	SLU 62	254	141	15709	23.92	3734.61	-36.01
709	SLU 63	254	171	15707	22.4	3734.33	-43.53
709	SLU 64	255	127	15292	24.56	3634.89	-32.69
709	SLU 65	255	178	15291	22.04	3634.43	-45.23
709	SLU 66	259	130	15540	25.8	3693.47	-33.28
709	SLU 67	259	160	15539	24.28	3693.19	-40.8
709	SLU 68	258	181	15444	23.03	3670.75	-45.92
709	SLU 69	262	132	15693	26.79	3729.79	-33.98
709	SLU 70	262	163	15692	25.28	3729.51	-41.5
709	SLU 71	260	133	15598	26.55	3707.53	-34.09
709	SLU 72	260	163	15597	25.03	3707.25	-41.61
709	SLU 73	268	189	16665	23.81	3962.38	-47.93
709	SLU 74	272	140	16914	27.57	4021.42	-35.98
709	SLU 75	272	171	16913	26.06	4021.15	-43.5
709	SLU 76	270	192	16818	24.8	3998.7	-48.63
709	SLU 77	275	143	17067	28.57	4057.74	-36.68
709	SLU 78	275	173	17066	27.05	4057.46	-44.2
709	SLU 79	273	143	16973	28.32	4035.48	-36.79
709	SLU 80	273	174	16972	26.81	4035.2	-44.31
709	SLU 81	273	142	17256	27.09	4103.4	-36.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
709	SLU 82	273	173	17255	25.58	4103.12	-44.07
709	SLU 83	275	145	17409	28.09	4139.71	-37.25
709	SLU 84	276	176	17407	26.57	4139.44	-44.77
709	SLE RA 1	191	97	11390	17.98	2707.04	-24.88
709	SLE RA 2	191	131	11389	16.29	2706.73	-33.23
709	SLE RA 3	194	98	11555	18.8	2746.09	-25.27
709	SLE RA 4	194	119	11554	17.79	2745.9	-30.28
709	SLE RA 5	193	133	11491	16.96	2730.94	-33.7
709	SLE RA 6	196	100	11657	19.46	2770.3	-25.73
709	SLE RA 7	196	121	11656	18.45	2770.12	-30.75
709	SLE RA 8	195	101	11594	19.3	2755.46	-25.81
709	SLE RA 9	195	121	11593	18.29	2755.27	-30.82
709	SLE RA 10	200	138	12305	17.47	2925.36	-35.03
709	SLE RA 11	203	105	12471	19.98	2964.73	-27.07
709	SLE RA 12	203	126	12470	18.97	2964.54	-32.08
709	SLE RA 13	202	140	12407	18.14	2949.57	-35.5
709	SLE RA 14	204	107	12573	20.65	2988.94	-27.54
709	SLE RA 15	205	128	12572	19.64	2988.75	-32.55
709	SLE RA 16	203	108	12510	20.48	2974.09	-27.61
709	SLE RA 17	203	128	12509	19.47	2973.91	-32.62
709	SLE RA 18	203	107	12699	19.67	3019.37	-27.45
709	SLE RA 19	203	127	12698	18.65	3019.19	-32.46
709	SLE RA 20	205	109	12801	20.33	3043.58	-27.91
709	SLE RA 21	205	129	12800	19.32	3043.4	-32.93
709	SLE FR 1	191	97	11390	17.98	2707.04	-24.88
709	SLE FR 2	191	104	11390	17.64	2706.98	-26.55
709	SLE FR 3	192	98	11431	18.24	2716.72	-25.06
709	SLE FR 4	195	107	11782	18.15	2800.68	-27.32
709	SLE FR 5	196	101	11823	18.75	2810.42	-25.83
709	SLE FR 6	197	102	12044	18.82	2863.21	-26.16
709	SLE QP 1	191	97	11390	17.98	2707.04	-24.88
709	SLE QP 2	195	100	11782	18.48	2800.74	-25.65
709	SLD 1	921	181	8725	-6.34	2117.89	-46.81
709	SLD 2	922	464	8723	-9.11	2117.43	-115.13
709	SLD 3	912	-458	8693	33.45	2110.19	110.61
709	SLD 4	913	-175	8690	30.68	2109.73	42.29
709	SLD 5	426	1046	10915	-48.84	2607.64	-259
709	SLD 6	426	1228	10914	-50.63	2607.34	-302.99
709	SLD 7	397	-1086	10806	83.81	2581.98	265.72
709	SLD 8	397	-904	10805	82.02	2581.68	221.74
709	SLD 9	-8	1104	12760	-45.05	3019.8	-273.03
709	SLD 10	-7	1286	12759	-46.84	3019.5	-317.02
709	SLD 11	-37	-1028	12651	87.59	2994.13	251.69
709	SLD 12	-36	-846	12649	85.81	2993.84	207.7
709	SLD 13	-523	375	14875	6.29	3491.75	-93.59
709	SLD 14	-522	658	14872	3.52	3491.29	-161.9
709	SLD 15	-532	-264	14842	46.08	3484.05	63.83
709	SLD 16	-531	18	14839	43.31	3483.59	-4.48
709	SLV 1	1332	270	7013	-23.16	1735.51	-69.36
709	SLV 2	1334	716	7009	-27.52	1734.78	-177.04
709	SLV 3	1317	-821	6961	44.76	1723.14	199.28
709	SLV 4	1319	-375	6957	40.39	1722.41	91.6
709	SLV 5	557	1723	10432	-96.2	2500.06	-426.1
709	SLV 6	559	2023	10429	-99.13	2499.57	-498.58
709	SLV 7	509	-1915	10258	130.18	2458.84	469.35
709	SLV 8	511	-1614	10255	127.24	2458.35	396.86
709	SLV 9	-121	1814	13310	-90.27	3143.12	-448.16
709	SLV 10	-120	2114	13307	-93.21	3142.63	-520.64
709	SLV 11	-169	-1823	13136	136.1	3101.91	447.29
709	SLV 12	-168	-1523	13133	133.16	3101.42	374.8
709	SLV 13	-929	575	16608	-3.42	3879.06	-142.89
709	SLV 14	-928	1021	16604	-7.79	3878.34	-250.57
709	SLV 15	-944	-516	16556	64.49	3866.7	125.74
709	SLV 16	-942	-71	16551	60.13	3865.97	18.06
709	SLV FO 1	1445	287	6537	-27.32	1628.98	-73.73
709	SLV FO 2	1448	778	6532	-32.12	1628.18	-192.18
709	SLV FO 3	1430	-913	6479	47.38	1615.38	221.77
709	SLV FO 4	1432	-423	6474	42.58	1614.58	103.32
709	SLV FO 5	594	1885	10297	-107.66	2469.99	-466.14
709	SLV FO 6	595	2215	10294	-110.9	2469.45	-545.88
709	SLV FO 7	541	-2116	10105	141.35	2424.65	518.85
709	SLV FO 8	542	-1786	10102	138.12	2424.12	439.12
709	SLV FO 9	-153	1986	13463	-101.15	3177.36	-490.41
709	SLV FO 10	-151	2316	13460	-104.38	3176.82	-570.14
709	SLV FO 11	-205	-2015	13271	147.86	3132.03	494.58
709	SLV FO 12	-204	-1685	13268	144.63	3131.49	414.85
709	SLV FO 13	-1042	622	17091	-5.61	3986.9	-154.62
709	SLV FO 14	-1040	1113	17086	-10.41	3986.1	-273.07
709	SLV FO 15	-1058	-578	17033	69.09	3973.3	140.88
709	SLV FO 16	-1056	-88	17028	64.29	3972.5	22.43
709	CRTFP Ux+	0	0	0	0	0.01	0
709	CRTFP Ux-	0	0	0	0	-0.01	0
709	CRTFP Uy+	0	0	0	0	0	0
709	CRTFP Uy-	0	0	0	0	0	0
768	SLU 1	70	37	4058	110.66	1249.42	-14.9
768	SLU 2	70	56	4052	110.37	1249.62	-21.64
768	SLU 3	72	38	4152	113.25	1277.49	-15.25
768	SLU 4	72	50	4148	113.07	1277.61	-19.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
768	SLU 5	71	58	4111	111.99	1267.06	-22.04
768	SLU 6	73	39	4210	114.87	1294.93	-15.65
768	SLU 7	73	51	4207	114.7	1295.05	-19.7
768	SLU 8	72	39	4175	113.91	1284.3	-15.69
768	SLU 9	72	51	4171	113.74	1284.42	-19.74
768	SLU 10	75	61	4563	124.24	1407.31	-23.2
768	SLU 11	77	42	4663	127.12	1435.18	-16.81
768	SLU 12	76	54	4659	126.95	1435.31	-20.86
768	SLU 13	76	62	4621	125.87	1424.75	-23.6
768	SLU 14	78	43	4721	128.75	1452.63	-17.21
768	SLU 15	77	55	4717	128.57	1452.75	-21.26
768	SLU 16	77	43	4686	127.79	1441.99	-17.25
768	SLU 17	77	55	4682	127.61	1442.11	-21.3
768	SLU 18	77	43	4788	130.48	1474.69	-17.12
768	SLU 19	77	55	4784	130.31	1474.81	-21.17
768	SLU 20	78	44	4846	132.11	1492.13	-17.52
768	SLU 21	78	56	4843	131.93	1492.25	-21.57
768	SLU 22	78	39	4694	128.03	1444.08	-15.74
768	SLU 23	78	58	4688	127.73	1444.29	-22.49
768	SLU 24	80	40	4787	130.61	1472.16	-16.1
768	SLU 25	80	51	4784	130.44	1472.28	-20.15
768	SLU 26	79	59	4746	129.36	1461.73	-22.89
768	SLU 27	81	41	4846	132.24	1489.6	-16.5
768	SLU 28	81	52	4842	132.06	1489.72	-20.55
768	SLU 29	80	41	4811	131.27	1478.97	-16.54
768	SLU 30	80	53	4807	131.1	1479.09	-20.59
768	SLU 31	83	62	5199	141.61	1601.98	-24.05
768	SLU 32	85	44	5298	144.49	1629.85	-17.66
768	SLU 33	85	56	5295	144.31	1629.97	-21.71
768	SLU 34	84	63	5257	143.23	1619.42	-24.45
768	SLU 35	86	45	5356	146.11	1647.29	-18.06
768	SLU 36	86	57	5353	145.94	1647.41	-22.11
768	SLU 37	85	45	5321	145.15	1636.66	-18.1
768	SLU 38	85	57	5318	144.97	1636.78	-22.15
768	SLU 39	85	45	5423	147.85	1669.36	-17.97
768	SLU 40	85	56	5420	147.67	1669.48	-22.02
768	SLU 41	86	46	5482	149.47	1686.8	-18.37
768	SLU 42	86	57	5478	149.3	1686.92	-22.42
768	SLU 43	88	48	5058	137.91	1557.5	-19.07
768	SLU 44	88	67	5052	137.61	1557.7	-25.82
768	SLU 45	90	49	5151	140.49	1585.57	-19.43
768	SLU 46	90	60	5148	140.32	1585.7	-23.47
768	SLU 47	89	68	5110	139.24	1575.14	-26.22
768	SLU 48	91	50	5210	142.12	1603.02	-19.83
768	SLU 49	91	61	5206	141.94	1603.14	-23.87
768	SLU 50	90	50	5175	141.16	1592.38	-19.87
768	SLU 51	90	61	5171	140.98	1592.5	-23.92
768	SLU 52	93	71	5563	151.49	1715.39	-27.38
768	SLU 53	95	53	5662	154.37	1743.27	-20.99
768	SLU 54	95	64	5659	154.19	1743.39	-25.03
768	SLU 55	94	72	5621	153.11	1732.83	-27.78
768	SLU 56	96	54	5720	155.99	1760.71	-21.39
768	SLU 57	96	65	5717	155.82	1760.83	-25.43
768	SLU 58	95	54	5685	155.03	1750.07	-21.43
768	SLU 59	95	65	5682	154.86	1750.19	-25.48
768	SLU 60	95	54	5787	157.73	1782.77	-21.3
768	SLU 61	95	65	5784	157.55	1782.9	-25.35
768	SLU 62	96	55	5846	159.35	1800.22	-21.7
768	SLU 63	96	66	5842	159.18	1800.34	-25.75
768	SLU 64	96	49	5693	155.27	1752.17	-19.92
768	SLU 65	96	69	5687	154.98	1752.37	-26.67
768	SLU 66	98	50	5787	157.86	1780.24	-20.28
768	SLU 67	98	62	5783	157.68	1780.36	-24.32
768	SLU 68	97	70	5746	156.6	1769.81	-27.07
768	SLU 69	99	51	5845	159.48	1797.68	-20.68
768	SLU 70	99	63	5842	159.31	1797.8	-24.72
768	SLU 71	98	52	5810	158.52	1787.05	-20.72
768	SLU 72	98	63	5807	158.34	1787.17	-24.77
768	SLU 73	101	73	6198	168.85	1910.06	-28.23
768	SLU 74	103	54	6298	171.73	1937.93	-21.84
768	SLU 75	103	66	6294	171.56	1938.05	-25.88
768	SLU 76	102	74	6257	170.48	1927.5	-28.63
768	SLU 77	104	56	6356	173.36	1955.37	-22.24
768	SLU 78	104	67	6352	173.18	1955.5	-26.28
768	SLU 79	103	56	6321	172.39	1944.74	-22.28
768	SLU 80	103	67	6317	172.22	1944.86	-26.33
768	SLU 81	103	55	6423	175.09	1977.44	-22.15
768	SLU 82	103	67	6419	174.92	1977.56	-26.2
768	SLU 83	104	56	6481	176.72	1994.88	-22.55
768	SLU 84	104	68	6478	176.54	1995	-26.6
768	SLE RA 1	72	38	4240	115.62	1305.04	-15.14
768	SLE RA 2	72	51	4236	115.43	1305.17	-19.64
768	SLE RA 3	74	38	4302	117.35	1323.75	-15.37
768	SLE RA 4	73	46	4300	117.23	1323.83	-18.07
768	SLE RA 5	73	51	4275	116.51	1316.8	-19.9
768	SLE RA 6	74	39	4341	118.43	1335.38	-15.64
768	SLE RA 7	74	47	4339	118.31	1335.46	-18.34
768	SLE RA 8	74	39	4318	117.79	1328.29	-15.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
768	SLE RA 9	74	47	4315	117.67	1328.37	-18.37
768	SLE RA 10	75	53	4576	124.68	1410.3	-20.67
768	SLE RA 11	77	41	4643	126.6	1428.88	-16.41
768	SLE RA 12	77	49	4640	126.48	1428.96	-19.11
768	SLE RA 13	76	54	4615	125.76	1421.93	-20.94
768	SLE RA 14	77	42	4682	127.68	1440.51	-16.68
768	SLE RA 15	77	49	4679	127.56	1440.59	-19.38
768	SLE RA 16	77	42	4658	127.04	1433.42	-16.71
768	SLE RA 17	77	50	4656	126.92	1433.5	-19.41
768	SLE RA 18	77	42	4726	128.84	1455.22	-16.62
768	SLE RA 19	77	49	4724	128.72	1455.3	-19.32
768	SLE RA 20	78	42	4765	129.92	1466.85	-16.89
768	SLE RA 21	78	50	4763	129.8	1466.93	-19.59
768	SLE FR 1	72	38	4240	115.62	1305.04	-15.14
768	SLE FR 2	72	40	4239	115.58	1305.06	-16.04
768	SLE FR 3	73	38	4255	116.06	1309.69	-15.24
768	SLE FR 4	74	41	4385	119.55	1350.12	-16.48
768	SLE FR 5	74	39	4401	120.02	1354.74	-15.69
768	SLE FR 6	75	40	4483	122.23	1380.13	-15.88
768	SLE QP 1	72	38	4240	115.62	1305.04	-15.14
768	SLE QP 2	74	39	4386	119.59	1350.09	-15.58
768	SLD 1	348	70	3222	86.89	1029.4	-53.81
768	SLD 2	342	177	3216	86.56	1030.16	-90.69
768	SLD 3	353	-172	3299	91.02	1021.91	30.74
768	SLD 4	347	-66	3292	90.68	1022.67	-6.14
768	SLD 5	149	397	3922	103.59	1265.11	-148.94
768	SLD 6	145	466	3917	103.37	1265.6	-172.69
768	SLD 7	166	-410	4177	117.33	1240.15	132.89
768	SLD 8	163	-342	4173	117.11	1240.64	109.14
768	SLD 9	-15	419	4599	122.07	1459.54	-140.31
768	SLD 10	-19	488	4594	121.85	1460.03	-164.06
768	SLD 11	2	-388	4854	135.81	1434.59	141.53
768	SLD 12	-1	-320	4850	135.59	1435.07	117.77
768	SLD 13	-199	143	5479	148.5	1677.51	-25.02
768	SLD 14	-205	249	5472	148.16	1678.27	-61.91
768	SLD 15	-194	-99	5556	152.62	1670.03	59.53
768	SLD 16	-200	7	5549	152.28	1670.78	22.64
768	SLV 1	502	104	2565	68.28	850.16	-81.27
768	SLV 2	493	272	2554	67.75	851.35	-139.41
768	SLV 3	511	-309	2696	75.32	837.59	63.02
768	SLV 4	502	-141	2685	74.78	838.79	4.87
768	SLV 5	191	654	3643	93.62	1218.95	-243.28
768	SLV 6	185	767	3636	93.26	1219.75	-282.42
768	SLV 7	220	-724	4079	117.08	1177.06	237.68
768	SLV 8	214	-611	4072	116.72	1177.86	198.54
768	SLV 9	-66	688	4700	122.46	1522.32	-229.71
768	SLV 10	-72	801	4692	122.1	1523.12	-268.85
768	SLV 11	-37	-689	5136	145.91	1480.43	251.25
768	SLV 12	-43	-576	5128	145.55	1481.23	212.11
768	SLV 13	-354	219	6086	164.39	1861.4	-36.04
768	SLV 14	-363	386	6076	163.86	1862.59	-94.19
768	SLV 15	-345	-194	6217	171.43	1848.83	108.25
768	SLV 16	-355	-27	6206	170.89	1850.02	50.1
768	SLV FO 1	545	111	2383	63.15	800.17	-87.84
768	SLV FO 2	535	295	2371	62.56	801.48	-151.8
768	SLV FO 3	555	-344	2527	70.89	786.34	70.88
768	SLV FO 4	545	-159	2515	70.3	787.66	6.92
768	SLV FO 5	202	716	3569	91.03	1205.83	-266.04
768	SLV FO 6	196	840	3561	90.63	1206.72	-309.1
768	SLV FO 7	234	-800	4049	116.83	1159.76	263.01
768	SLV FO 8	228	-676	4041	116.43	1160.64	219.95
768	SLV FO 9	-80	753	4731	122.74	1539.54	-251.12
768	SLV FO 10	-87	877	4723	122.35	1540.43	-294.17
768	SLV FO 11	-48	-762	5211	148.54	1493.47	277.93
768	SLV FO 12	-55	-638	5203	148.15	1494.35	234.88
768	SLV FO 13	-397	237	6256	168.87	1912.53	-38.09
768	SLV FO 14	-407	421	6245	168.29	1913.84	-102.05
768	SLV FO 15	-387	-218	6400	176.61	1898.7	120.63
768	SLV FO 16	-397	-33	6389	176.03	1900.02	56.67
768	CRTFP Ux+	0	0	0	0	0	0
768	CRTFP Ux-	0	0	0	0	0	0
768	CRTFP Uy+	0	0	0	0	0	0
768	CRTFP Uy-	0	0	0	0	0	0
769	SLU 1	-75	2	5398	633.66	-1195.97	9.55
769	SLU 2	-74	29	5390	632.2	-1196.38	16.08
769	SLU 3	-77	1	5530	649.23	-1224.51	9.57
769	SLU 4	-76	18	5525	648.35	-1224.75	13.49
769	SLU 5	-75	29	5476	642.41	-1215.03	16.13
769	SLU 6	-77	1	5617	659.45	-1243.15	9.61
769	SLU 7	-77	17	5611	658.57	-1243.4	13.53
769	SLU 8	-77	2	5571	654.1	-1233.26	9.65
769	SLU 9	-76	18	5566	653.22	-1233.51	13.57
769	SLU 10	-77	31	6072	712.09	-1348.1	16.89
769	SLU 11	-79	3	6213	729.12	-1376.22	10.37
769	SLU 12	-79	19	6208	728.24	-1376.47	14.29
769	SLU 13	-78	30	6159	722.3	-1366.74	16.94
769	SLU 14	-80	3	6299	739.34	-1394.87	10.42
769	SLU 15	-80	19	6294	738.46	-1395.11	14.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
769	SLU 16	-80	4	6254	733.99	-1384.98	10.45
769	SLU 17	-79	20	6248	733.11	-1385.22	14.37
769	SLU 18	-79	5	6374	747.79	-1412.71	10.7
769	SLU 19	-79	21	6368	746.91	-1412.95	14.62
769	SLU 20	-80	4	6460	758.01	-1431.35	10.75
769	SLU 21	-79	21	6455	757.13	-1431.6	14.67
769	SLU 22	-82	-1	6258	734.67	-1385.29	9.7
769	SLU 23	-81	26	6250	733.2	-1385.71	16.23
769	SLU 24	-84	-1	6390	750.24	-1413.83	9.71
769	SLU 25	-83	15	6385	749.36	-1414.08	13.63
769	SLU 26	-82	26	6336	743.42	-1404.35	16.28
769	SLU 27	-84	-1	6477	760.45	-1432.47	9.76
769	SLU 28	-84	15	6471	759.57	-1432.72	13.68
769	SLU 29	-84	-1	6431	755.1	-1422.58	9.79
769	SLU 30	-83	15	6426	754.22	-1422.83	13.71
769	SLU 31	-84	28	6932	813.09	-1537.42	17.04
769	SLU 32	-86	0	7073	830.13	-1565.54	10.52
769	SLU 33	-86	16	7067	829.24	-1565.79	14.44
769	SLU 34	-85	28	7019	823.31	-1556.07	17.09
769	SLU 35	-87	0	7159	840.34	-1584.19	10.57
769	SLU 36	-87	16	7154	839.46	-1584.44	14.49
769	SLU 37	-87	1	7114	834.99	-1574.3	10.6
769	SLU 38	-86	17	7108	834.11	-1574.55	14.52
769	SLU 39	-86	2	7234	848.79	-1602.03	10.85
769	SLU 40	-86	18	7228	847.91	-1602.28	14.77
769	SLU 41	-87	2	7320	859.01	-1620.67	10.9
769	SLU 42	-86	18	7315	858.13	-1620.92	14.82
769	SLU 43	-95	4	6723	789.13	-1489.85	12.36
769	SLU 44	-94	30	6714	787.67	-1490.26	18.9
769	SLU 45	-97	3	6855	804.7	-1518.39	12.38
769	SLU 46	-96	19	6850	803.82	-1518.63	16.3
769	SLU 47	-95	30	6801	797.88	-1508.91	18.94
769	SLU 48	-98	3	6941	814.92	-1537.03	12.43
769	SLU 49	-97	19	6936	814.04	-1537.28	16.35
769	SLU 50	-97	3	6896	809.57	-1527.14	12.46
769	SLU 51	-96	19	6891	808.69	-1527.39	16.38
769	SLU 52	-97	32	7397	867.56	-1641.98	19.7
769	SLU 53	-100	5	7538	884.59	-1670.1	13.19
769	SLU 54	-99	21	7532	883.71	-1670.35	17.11
769	SLU 55	-98	32	7483	877.77	-1660.62	19.75
769	SLU 56	-100	5	7624	894.81	-1688.75	13.24
769	SLU 57	-100	21	7619	893.93	-1688.99	17.16
769	SLU 58	-100	5	7578	889.46	-1678.86	13.27
769	SLU 59	-99	21	7573	888.58	-1679.1	17.19
769	SLU 60	-99	6	7698	903.26	-1706.59	13.52
769	SLU 61	-99	22	7693	902.38	-1706.83	17.44
769	SLU 62	-100	6	7785	913.48	-1725.23	13.57
769	SLU 63	-100	22	7779	912.6	-1725.48	17.48
769	SLU 64	-102	1	7583	890.14	-1679.17	12.51
769	SLU 65	-101	28	7574	888.67	-1679.59	19.04
769	SLU 66	-104	0	7715	905.71	-1707.71	12.53
769	SLU 67	-103	16	7710	904.83	-1707.96	16.45
769	SLU 68	-102	27	7661	898.89	-1698.23	19.09
769	SLU 69	-105	0	7801	915.92	-1726.35	12.58
769	SLU 70	-104	16	7796	915.04	-1726.6	16.5
769	SLU 71	-104	1	7756	910.57	-1716.46	12.61
769	SLU 72	-103	17	7751	909.69	-1716.71	16.53
769	SLU 73	-104	29	8257	968.56	-1831.3	19.85
769	SLU 74	-107	2	8398	985.6	-1859.42	13.34
769	SLU 75	-106	18	8392	984.72	-1859.67	17.26
769	SLU 76	-105	29	8343	978.78	-1849.95	19.9
769	SLU 77	-107	2	8484	995.81	-1878.07	13.38
769	SLU 78	-107	18	8479	994.93	-1878.32	17.3
769	SLU 79	-107	2	8438	990.46	-1868.18	13.42
769	SLU 80	-106	18	8433	989.58	-1868.43	17.34
769	SLU 81	-106	3	8558	1004.26	-1895.91	13.66
769	SLU 82	-106	19	8553	1003.38	-1896.16	17.58
769	SLU 83	-107	3	8645	1014.48	-1914.55	13.71
769	SLU 84	-107	19	8639	1013.6	-1914.8	17.63
769	SLE RA 1	-77	1	5644	662.52	-1250.06	9.59
769	SLE RA 2	-76	19	5638	661.54	-1250.34	13.95
769	SLE RA 3	-78	1	5732	672.9	-1269.09	9.6
769	SLE RA 4	-78	12	5728	672.31	-1269.25	12.22
769	SLE RA 5	-77	19	5696	668.36	-1262.77	13.98
769	SLE RA 6	-79	1	5790	679.71	-1281.52	9.64
769	SLE RA 7	-78	11	5786	679.13	-1281.68	12.25
769	SLE RA 8	-78	1	5759	676.15	-1274.92	9.66
769	SLE RA 9	-78	12	5756	675.56	-1275.09	12.27
769	SLE RA 10	-78	20	6093	714.8	-1351.48	14.48
769	SLE RA 11	-80	2	6187	726.16	-1370.23	10.14
769	SLE RA 12	-80	13	6184	725.57	-1370.39	12.75
769	SLE RA 13	-79	20	6151	721.62	-1363.91	14.52
769	SLE RA 14	-81	2	6245	732.97	-1382.66	10.17
769	SLE RA 15	-80	13	6241	732.39	-1382.82	12.79
769	SLE RA 16	-80	2	6214	729.41	-1376.07	10.19
769	SLE RA 17	-80	13	6211	728.82	-1376.23	12.81
769	SLE RA 18	-80	3	6294	738.61	-1394.55	10.36
769	SLE RA 19	-79	14	6291	738.02	-1394.72	12.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
769	SLE RA 20	-80	3	6352	745.42	-1406.98	10.39
769	SLE RA 21	-80	14	6348	744.83	-1407.15	13.01
769	SLE FR 1	-77	1	5644	662.52	-1250.06	9.59
769	SLE FR 2	-77	5	5643	662.33	-1250.12	10.46
769	SLE FR 3	-77	1	5667	665.25	-1255.03	9.6
769	SLE FR 4	-78	5	5838	685.15	-1293.47	10.69
769	SLE FR 5	-78	2	5862	688.07	-1298.38	9.84
769	SLE FR 6	-79	2	5969	700.56	-1322.31	9.98
769	SLE QP 1	-77	1	5644	662.52	-1250.06	9.59
769	SLE QP 2	-78	2	5839	685.35	-1293.41	9.82
769	SLD 1	301	186	7475	873.39	-1655.48	16.77
769	SLD 2	289	43	7487	875.1	-1654.43	-17.11
769	SLD 3	287	-148	7565	890.81	-1640.82	-64.89
769	SLD 4	275	-291	7577	892.53	-1639.76	-98.77
769	SLD 5	58	588	6191	715.04	-1424.45	141.58
769	SLD 6	50	496	6199	716.15	-1423.77	119.77
769	SLD 7	14	-525	6492	773.12	-1375.57	-130.62
769	SLD 8	6	-617	6499	774.22	-1374.9	-152.43
769	SLD 9	-162	621	5179	596.48	-1211.92	172.08
769	SLD 10	-169	529	5186	597.58	-1211.25	150.26
769	SLD 11	-206	-492	5480	654.55	-1163.05	-100.12
769	SLD 12	-214	-584	5487	655.65	-1162.37	-121.94
769	SLD 13	-431	294	4101	478.17	-947.06	118.42
769	SLD 14	-443	152	4113	479.88	-946	84.54
769	SLD 15	-444	-39	4192	495.59	-932.39	36.76
769	SLD 16	-457	-182	4203	497.31	-931.34	2.88
769	SLV 1	516	314	8385	977.47	-1859.36	26.72
769	SLV 2	497	89	8404	980.17	-1857.7	-26.68
769	SLV 3	493	-255	8538	1007.11	-1834.37	-112.55
769	SLV 4	474	-480	8557	1009.81	-1832.71	-165.96
769	SLV 5	138	1001	6367	727.53	-1501.41	236.08
769	SLV 6	125	850	6380	729.35	-1500.3	200.13
769	SLV 7	63	-897	6877	826.32	-1418.1	-228.15
769	SLV 8	50	-1049	6890	828.14	-1416.98	-264.1
769	SLV 9	-206	1052	4788	542.56	-1169.84	283.75
769	SLV 10	-218	901	4801	544.38	-1168.72	247.8
769	SLV 11	-281	-846	5299	641.34	-1086.52	-180.49
769	SLV 12	-294	-998	5311	643.16	-1085.41	-216.44
769	SLV 13	-630	484	3122	360.89	-754.11	185.6
769	SLV 14	-649	259	3140	363.59	-752.45	132.2
769	SLV 15	-653	-85	3275	390.52	-729.12	46.33
769	SLV 16	-672	-311	3293	393.22	-727.46	-7.07
769	SLV FO 1	576	346	8639	1006.68	-1915.96	28.41
769	SLV FO 2	554	98	8660	1009.66	-1914.13	-30.34
769	SLV FO 3	551	-281	8808	1039.28	-1888.46	-124.79
769	SLV FO 4	529	-529	8828	1042.26	-1886.64	-183.53
769	SLV FO 5	160	1101	6420	731.75	-1522.21	258.71
769	SLV FO 6	146	935	6434	733.75	-1520.98	219.16
769	SLV FO 7	77	-987	6981	840.41	-1430.57	-251.95
769	SLV FO 8	62	-1154	6995	842.42	-1429.34	-291.49
769	SLV FO 9	-218	1157	4683	528.28	-1157.48	311.14
769	SLV FO 10	-233	990	4697	530.28	-1156.25	271.6
769	SLV FO 11	-302	-931	5244	636.94	-1065.84	-199.52
769	SLV FO 12	-316	-1098	5258	638.94	-1064.61	-239.06
769	SLV FO 13	-685	532	2850	328.44	-700.18	203.18
769	SLV FO 14	-707	284	2870	331.41	-698.36	144.44
769	SLV FO 15	-710	-94	3018	361.04	-672.69	49.98
769	SLV FO 16	-732	-342	3039	364.01	-670.86	-8.76
769	CRTFP Ux+	0	0	0	0	0	0
769	CRTFP Ux-	0	0	0	0	0	0
769	CRTFP Uy+	0	0	0	0	0	0
769	CRTFP Uy-	0	0	0	0	0	0
772	SLU 1	78	43	4545	-6.61	1291	-14.83
772	SLU 2	77	65	4532	-6.82	1291.51	-22.67
772	SLU 3	79	44	4651	-6.71	1319.75	-15.18
772	SLU 4	79	57	4643	-6.84	1320.05	-19.88
772	SLU 5	78	66	4599	-6.87	1309.38	-23.1
772	SLU 6	80	45	4718	-6.75	1337.63	-15.61
772	SLU 7	80	58	4710	-6.88	1337.93	-20.31
772	SLU 8	80	45	4678	-6.7	1326.76	-15.69
772	SLU 9	79	59	4671	-6.83	1327.06	-20.39
772	SLU 10	82	70	5101	-7.77	1453.17	-24.3
772	SLU 11	85	49	5220	-7.66	1481.42	-16.81
772	SLU 12	84	62	5212	-7.79	1481.72	-21.51
772	SLU 13	83	71	5168	-7.82	1471.05	-24.73
772	SLU 14	86	50	5287	-7.7	1499.3	-17.24
772	SLU 15	85	63	5279	-7.83	1499.6	-21.94
772	SLU 16	85	50	5247	-7.65	1488.43	-17.32
772	SLU 17	85	63	5240	-7.78	1488.73	-22.02
772	SLU 18	85	50	5358	-7.96	1521.96	-17.16
772	SLU 19	85	63	5350	-8.09	1522.26	-21.86
772	SLU 20	86	51	5424	-8.01	1539.83	-17.59
772	SLU 21	86	64	5417	-8.14	1540.13	-22.29
772	SLU 22	87	45	5257	-7.63	1490.54	-15.51
772	SLU 23	86	67	5245	-7.84	1491.04	-23.35
772	SLU 24	88	46	5363	-7.73	1519.29	-15.86
772	SLU 25	88	59	5356	-7.86	1519.59	-20.56
772	SLU 26	87	68	5311	-7.89	1508.92	-23.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
772	SLU 27	89	47	5430	-7.77	1537.16	-16.29
772	SLU 28	89	60	5423	-7.9	1537.46	-20.99
772	SLU 29	89	47	5391	-7.72	1526.29	-16.36
772	SLU 30	88	61	5383	-7.85	1526.59	-21.07
772	SLU 31	91	72	5814	-8.79	1652.7	-24.98
772	SLU 32	94	51	5933	-8.68	1680.95	-17.49
772	SLU 33	93	64	5925	-8.81	1681.25	-22.19
772	SLU 34	92	73	5880	-8.84	1670.58	-25.4
772	SLU 35	95	52	5999	-8.72	1698.83	-17.91
772	SLU 36	94	65	5992	-8.85	1699.13	-22.62
772	SLU 37	94	52	5960	-8.67	1687.96	-17.99
772	SLU 38	94	65	5952	-8.8	1688.26	-22.69
772	SLU 39	94	52	6070	-8.98	1721.49	-17.84
772	SLU 40	94	65	6063	-9.11	1721.79	-22.54
772	SLU 41	95	53	6137	-9.03	1739.37	-18.27
772	SLU 42	95	66	6129	-9.16	1739.67	-22.97
772	SLU 43	98	55	5664	-8.24	1609.89	-19.05
772	SLU 44	97	77	5651	-8.46	1610.4	-26.89
772	SLU 45	100	56	5770	-8.34	1638.64	-19.4
772	SLU 46	99	69	5762	-8.47	1638.94	-24.1
772	SLU 47	98	79	5718	-8.5	1628.27	-27.31
772	SLU 48	101	57	5837	-8.38	1656.52	-19.83
772	SLU 49	100	71	5829	-8.51	1656.82	-24.53
772	SLU 50	100	57	5797	-8.33	1645.65	-19.9
772	SLU 51	99	71	5790	-8.46	1645.95	-24.61
772	SLU 52	102	82	6220	-9.41	1772.06	-28.52
772	SLU 53	105	61	6339	-9.29	1800.31	-21.03
772	SLU 54	104	74	6331	-9.42	1800.61	-25.73
772	SLU 55	103	83	6287	-9.45	1789.94	-28.94
772	SLU 56	106	62	6406	-9.33	1818.19	-21.45
772	SLU 57	105	75	6398	-9.46	1818.49	-26.16
772	SLU 58	105	62	6366	-9.28	1807.31	-21.53
772	SLU 59	105	76	6359	-9.41	1807.62	-26.23
772	SLU 60	105	62	6477	-9.6	1840.85	-21.38
772	SLU 61	105	75	6469	-9.73	1841.15	-26.08
772	SLU 62	106	63	6543	-9.64	1858.72	-21.81
772	SLU 63	106	76	6536	-9.77	1859.02	-26.51
772	SLU 64	107	57	6376	-9.26	1809.43	-19.73
772	SLU 65	106	79	6364	-9.48	1809.93	-27.57
772	SLU 66	109	58	6482	-9.36	1838.18	-20.08
772	SLU 67	108	71	6475	-9.49	1838.48	-24.78
772	SLU 68	107	81	6430	-9.52	1827.81	-27.99
772	SLU 69	110	59	6549	-9.4	1856.05	-20.5
772	SLU 70	109	73	6542	-9.53	1856.35	-25.21
772	SLU 71	109	59	6510	-9.35	1845.18	-20.58
772	SLU 72	108	73	6502	-9.48	1845.48	-25.28
772	SLU 73	111	84	6933	-10.43	1971.59	-29.2
772	SLU 74	114	63	7052	-10.31	1999.84	-21.71
772	SLU 75	113	76	7044	-10.44	2000.14	-26.41
772	SLU 76	112	85	7000	-10.47	1989.47	-29.62
772	SLU 77	115	64	7118	-10.35	2017.72	-22.13
772	SLU 78	115	77	7111	-10.48	2018.02	-26.83
772	SLU 79	114	64	7079	-10.3	2006.85	-22.21
772	SLU 80	114	78	7071	-10.43	2007.15	-26.91
772	SLU 81	114	64	7189	-10.62	2040.38	-22.06
772	SLU 82	114	77	7182	-10.75	2040.68	-26.76
772	SLU 83	115	65	7256	-10.66	2058.26	-22.48
772	SLU 84	115	78	7248	-10.79	2058.56	-27.18
772	SLE RA 1	80	43	4748	-6.9	1348.01	-15.03
772	SLE RA 2	80	58	4740	-7.04	1348.35	-20.25
772	SLE RA 3	81	44	4819	-6.96	1367.18	-15.26
772	SLE RA 4	81	53	4814	-7.05	1367.38	-18.39
772	SLE RA 5	80	59	4784	-7.07	1360.27	-20.54
772	SLE RA 6	82	45	4863	-6.99	1379.1	-15.54
772	SLE RA 7	82	54	4858	-7.08	1379.3	-18.68
772	SLE RA 8	82	45	4837	-6.96	1371.85	-15.6
772	SLE RA 9	81	54	4832	-7.05	1372.05	-18.73
772	SLE RA 10	83	61	5119	-7.68	1456.13	-21.34
772	SLE RA 11	85	47	5198	-7.6	1474.96	-16.35
772	SLE RA 12	85	56	5193	-7.68	1475.16	-19.48
772	SLE RA 13	84	62	5164	-7.71	1468.04	-21.62
772	SLE RA 14	86	48	5243	-7.63	1486.88	-16.63
772	SLE RA 15	85	57	5238	-7.71	1487.08	-19.76
772	SLE RA 16	85	48	5217	-7.59	1479.63	-16.68
772	SLE RA 17	85	57	5212	-7.68	1479.83	-19.82
772	SLE RA 18	85	48	5290	-7.8	1501.98	-16.58
772	SLE RA 19	85	57	5285	-7.89	1502.18	-19.71
772	SLE RA 20	86	49	5335	-7.83	1513.9	-16.86
772	SLE RA 21	86	58	5330	-7.92	1514.1	-20
772	SLE FR 1	80	43	4748	-6.9	1348.01	-15.03
772	SLE FR 2	80	46	4746	-6.93	1348.08	-16.07
772	SLE FR 3	80	44	4766	-6.91	1352.78	-15.14
772	SLE FR 4	81	48	4909	-7.2	1394.27	-16.54
772	SLE FR 5	82	45	4929	-7.18	1398.97	-15.61
772	SLE FR 6	83	46	5019	-7.35	1425	-15.8
772	SLE QP 1	80	43	4748	-6.9	1348.01	-15.03
772	SLE QP 2	82	45	4911	-7.17	1394.2	-15.49
772	SLD 1	399	81	3565	-6.87	1064.43	-28.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
772	SLD 2	386	204	3550	-7.13	1065.87	-71.26
772	SLD 3	408	-199	3743	-3.52	1053.62	69.71
772	SLD 4	395	-76	3728	-3.78	1055.06	26.82
772	SLD 5	165	460	4241	-12.12	1311.41	-160.72
772	SLD 6	157	539	4231	-12.28	1312.34	-188.34
772	SLD 7	195	-475	4832	-0.95	1275.4	166.18
772	SLD 8	187	-396	4822	-1.12	1276.32	138.57
772	SLD 9	-24	485	4999	-13.22	1512.09	-169.56
772	SLD 10	-32	565	4990	-13.39	1513.01	-197.17
772	SLD 11	6	-450	5590	-2.05	1476.07	157.35
772	SLD 12	-2	-370	5581	-2.22	1477	129.74
772	SLD 13	-232	166	6094	-10.56	1733.35	-57.8
772	SLD 14	-245	289	6079	-10.82	1734.79	-100.69
772	SLD 15	-223	-115	6271	-7.21	1722.54	40.27
772	SLD 16	-235	8	6256	-7.47	1723.98	-2.62
772	SLV 1	577	121	2798	-6.95	880.35	-42.24
772	SLV 2	558	315	2775	-7.36	882.62	-109.84
772	SLV 3	593	-358	3101	-1.23	862.08	125.13
772	SLV 4	573	-164	3078	-1.64	864.35	57.52
772	SLV 5	211	757	3822	-15.69	1267.33	-264.74
772	SLV 6	197	888	3806	-15.97	1268.86	-310.25
772	SLV 7	262	-838	4832	3.36	1206.44	293.14
772	SLV 8	249	-708	4816	3.08	1207.97	247.63
772	SLV 9	-86	797	5006	-17.42	1580.44	-278.62
772	SLV 10	-99	928	4990	-17.7	1581.97	-324.13
772	SLV 11	-34	-799	6015	1.63	1519.55	279.26
772	SLV 12	-47	-668	6000	1.35	1521.08	233.75
772	SLV 13	-410	253	6743	-12.69	1924.06	-88.51
772	SLV 14	-430	448	6720	-13.11	1926.33	-156.11
772	SLV 15	-394	-225	7046	-6.98	1905.79	78.85
772	SLV 16	-414	-31	7023	-7.39	1908.06	11.25
772	SLV FO 1	627	128	2587	-6.92	828.97	-44.91
772	SLV FO 2	605	342	2562	-7.38	831.46	-119.28
772	SLV FO 3	644	-398	2920	-0.64	808.87	139.19
772	SLV FO 4	622	-185	2895	-1.09	811.37	64.82
772	SLV FO 5	223	829	3713	-16.55	1254.64	-289.66
772	SLV FO 6	209	972	3696	-16.85	1256.32	-339.72
772	SLV FO 7	280	-927	4824	4.41	1187.66	324
772	SLV FO 8	266	-783	4807	4.1	1189.34	273.94
772	SLV FO 9	-102	872	5015	-18.44	1599.06	-304.93
772	SLV FO 10	-117	1016	4998	-18.75	1600.75	-354.99
772	SLV FO 11	-46	-883	6126	2.51	1532.09	308.73
772	SLV FO 12	-60	-739	6108	2.21	1533.77	258.67
772	SLV FO 13	-459	274	6927	-13.25	1977.04	-95.81
772	SLV FO 14	-481	488	6901	-13.7	1979.54	-170.18
772	SLV FO 15	-442	-252	7260	-6.96	1956.95	88.29
772	SLV FO 16	-464	-39	7234	-7.42	1959.44	13.92
772	CRTFP Ux+	0	0	0	0	0	0
772	CRTFP Ux-	0	0	0	0	0	0
772	CRTFP Uy+	0	0	0	0	0	0
772	CRTFP Uy-	0	0	0	0	0	0
774	SLU 1	-110	29	9454	-838.43	154.98	-9.8
774	SLU 2	-109	74	9431	-837.34	157.03	-10.51
774	SLU 3	-112	29	9688	-858.92	158.15	-9.97
774	SLU 4	-111	57	9675	-858.27	159.38	-10.39
774	SLU 5	-110	75	9585	-850.77	159.07	-10.59
774	SLU 6	-113	29	9842	-872.35	160.18	-10.05
774	SLU 7	-113	57	9828	-871.7	161.42	-10.47
774	SLU 8	-112	29	9762	-865.29	159.05	-9.96
774	SLU 9	-112	57	9748	-864.63	160.28	-10.38
774	SLU 10	-113	78	10696	-949.66	176.2	-10.81
774	SLU 11	-116	33	10953	-971.24	177.32	-10.27
774	SLU 12	-116	60	10939	-970.59	178.56	-10.69
774	SLU 13	-114	79	10849	-963.09	178.24	-10.89
774	SLU 14	-117	33	11107	-984.67	179.36	-10.35
774	SLU 15	-117	61	11093	-984.01	180.59	-10.77
774	SLU 16	-116	33	11026	-977.61	178.22	-10.27
774	SLU 17	-116	60	11013	-976.95	179.45	-10.69
774	SLU 18	-115	35	11261	-998.89	182.37	-10.24
774	SLU 19	-115	62	11247	-998.23	183.6	-10.66
774	SLU 20	-117	35	11414	-1012.32	184.4	-10.32
774	SLU 21	-116	62	11401	-1011.66	185.63	-10.74
774	SLU 22	-121	32	11021	-976.77	177.98	-10.65
774	SLU 23	-120	77	10998	-975.67	180.04	-11.35
774	SLU 24	-124	32	11256	-997.26	181.15	-10.82
774	SLU 25	-123	59	11242	-996.6	182.39	-11.24
774	SLU 26	-122	77	11152	-989.1	182.07	-11.43
774	SLU 27	-125	32	11409	-1010.69	183.19	-10.9
774	SLU 28	-124	59	11396	-1010.03	184.42	-11.32
774	SLU 29	-124	32	11329	-1003.63	182.05	-10.81
774	SLU 30	-123	59	11315	-1002.97	183.28	-11.23
774	SLU 31	-124	81	12263	-1087.99	199.21	-11.66
774	SLU 32	-128	36	12520	-1109.58	200.33	-11.12
774	SLU 33	-127	63	12506	-1108.92	201.56	-11.54
774	SLU 34	-126	81	12417	-1101.42	201.24	-11.74
774	SLU 35	-129	36	12674	-1123.01	202.36	-11.2
774	SLU 36	-128	63	12660	-1122.35	203.6	-11.62
774	SLU 37	-128	36	12593	-1115.95	201.22	-11.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
774	SLU 38	-127	63	12580	-1115.29	202.46	-11.54
774	SLU 39	-127	37	12828	-1137.23	205.37	-11.09
774	SLU 40	-126	64	12814	-1136.57	206.6	-11.51
774	SLU 41	-128	37	12981	-1150.66	207.41	-11.17
774	SLU 42	-128	64	12968	-1150	208.64	-11.59
774	SLU 43	-139	37	11753	-1042.53	193.58	-12.45
774	SLU 44	-138	82	11730	-1041.44	195.64	-13.16
774	SLU 45	-141	37	11987	-1063.02	196.75	-12.62
774	SLU 46	-140	64	11974	-1062.37	197.99	-13.04
774	SLU 47	-139	83	11884	-1054.87	197.67	-13.24
774	SLU 48	-142	37	12141	-1076.45	198.79	-12.7
774	SLU 49	-142	65	12127	-1075.79	200.02	-13.12
774	SLU 50	-141	37	12061	-1069.39	197.65	-12.61
774	SLU 51	-140	64	12047	-1068.73	198.88	-13.03
774	SLU 52	-142	86	12995	-1153.76	214.81	-13.46
774	SLU 53	-145	41	13252	-1175.34	215.93	-12.92
774	SLU 54	-144	68	13238	-1174.69	217.16	-13.34
774	SLU 55	-143	86	13148	-1167.18	216.85	-13.54
774	SLU 56	-146	41	13406	-1188.77	217.96	-13
774	SLU 57	-146	68	13392	-1188.11	219.2	-13.42
774	SLU 58	-145	41	13325	-1181.71	216.82	-12.92
774	SLU 59	-145	68	13312	-1181.05	218.06	-13.34
774	SLU 60	-144	42	13560	-1202.99	220.97	-12.89
774	SLU 61	-144	70	13546	-1202.33	222.2	-13.31
774	SLU 62	-146	43	13713	-1216.42	223.01	-12.97
774	SLU 63	-145	70	13700	-1215.76	224.24	-13.39
774	SLU 64	-150	39	13320	-1180.87	216.59	-13.3
774	SLU 65	-149	85	13297	-1179.77	218.64	-14
774	SLU 66	-152	40	13555	-1201.36	219.76	-13.47
774	SLU 67	-152	67	13541	-1200.7	220.99	-13.89
774	SLU 68	-150	85	13451	-1193.2	220.68	-14.08
774	SLU 69	-154	40	13708	-1214.79	221.79	-13.55
774	SLU 70	-153	67	13695	-1214.13	223.03	-13.97
774	SLU 71	-153	40	13628	-1207.73	220.66	-13.46
774	SLU 72	-152	67	13614	-1207.07	221.89	-13.88
774	SLU 73	-153	89	14562	-1292.09	237.81	-14.31
774	SLU 74	-157	44	14819	-1313.68	238.93	-13.77
774	SLU 75	-156	71	14805	-1313.02	240.17	-14.19
774	SLU 76	-155	89	14716	-1305.52	239.85	-14.39
774	SLU 77	-158	44	14973	-1327.11	240.97	-13.85
774	SLU 78	-157	71	14959	-1326.45	242.2	-14.27
774	SLU 79	-157	44	14892	-1320.05	239.83	-13.77
774	SLU 80	-156	71	14879	-1319.39	241.06	-14.19
774	SLU 81	-156	45	15127	-1341.33	243.98	-13.74
774	SLU 82	-155	72	15113	-1340.67	245.21	-14.16
774	SLU 83	-157	45	15280	-1354.75	246.01	-13.82
774	SLU 84	-157	72	15267	-1354.1	247.24	-14.24
774	SLE RA 1	-113	30	9902	-877.96	161.55	-10.05
774	SLE RA 2	-112	60	9887	-877.23	162.92	-10.51
774	SLE RA 3	-115	30	10058	-891.62	163.66	-10.16
774	SLE RA 4	-114	48	10049	-891.18	164.49	-10.44
774	SLE RA 5	-113	60	9989	-886.18	164.28	-10.57
774	SLE RA 6	-115	30	10161	-900.57	165.02	-10.21
774	SLE RA 7	-115	48	10151	-900.13	165.84	-10.49
774	SLE RA 8	-115	30	10107	-895.86	164.26	-10.15
774	SLE RA 9	-114	48	10098	-895.42	165.08	-10.43
774	SLE RA 10	-115	63	10730	-952.11	175.7	-10.72
774	SLE RA 11	-117	33	10901	-966.5	176.45	-10.36
774	SLE RA 12	-117	51	10892	-966.06	177.27	-10.64
774	SLE RA 13	-116	63	10832	-961.06	177.06	-10.77
774	SLE RA 14	-118	33	11004	-975.45	177.8	-10.41
774	SLE RA 15	-118	51	10994	-975.01	178.62	-10.69
774	SLE RA 16	-117	33	10950	-970.74	177.04	-10.35
774	SLE RA 17	-117	51	10941	-970.3	177.87	-10.64
774	SLE RA 18	-117	33	11106	-984.93	179.81	-10.33
774	SLE RA 19	-116	52	11097	-984.49	180.63	-10.62
774	SLE RA 20	-118	34	11209	-993.88	181.17	-10.39
774	SLE RA 21	-117	52	11200	-993.44	181.99	-10.67
774	SLE FR 1	-113	30	9902	-877.96	161.55	-10.05
774	SLE FR 2	-113	36	9899	-877.81	161.82	-10.14
774	SLE FR 3	-113	30	9943	-881.54	162.09	-10.07
774	SLE FR 4	-114	37	10260	-909.9	167.3	-10.23
774	SLE FR 5	-114	31	10304	-913.63	167.57	-10.15
774	SLE FR 6	-115	32	10504	-931.44	170.68	-10.19
774	SLE QP 1	-113	30	9902	-877.96	161.55	-10.05
774	SLE QP 2	-114	31	10263	-910.05	167.03	-10.13
774	SLD 1	667	320	11313	-1011.18	215.68	52.62
774	SLD 2	643	179	11310	-1010.27	214.08	55.28
774	SLD 3	654	-250	11647	-1025.74	187.66	61.57
774	SLD 4	630	-391	11644	-1024.83	186.05	64.23
774	SLD 5	143	1007	10071	-918.46	224.4	-5.35
774	SLD 6	128	916	10069	-917.88	223.37	-3.63
774	SLD 7	102	-894	11187	-966.99	130.99	24.5
774	SLD 8	86	-985	11185	-966.41	129.95	26.22
774	SLD 9	-314	1047	9342	-853.69	204.1	-46.48
774	SLD 10	-330	956	9340	-853.11	203.07	-44.77
774	SLD 11	-356	-854	10458	-902.22	110.68	-16.63
774	SLD 12	-372	-945	10456	-901.63	109.65	-14.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
774	SLD 13	-858	453	8882	-795.26	148	-84.5
774	SLD 14	-883	312	8879	-794.36	146.39	-81.84
774	SLD 15	-871	-117	9217	-809.82	119.97	-75.54
774	SLD 16	-895	-259	9214	-808.92	118.37	-72.88
774	SLV 1	1110	525	11876	-1066.81	245.14	87.47
774	SLV 2	1071	302	11871	-1065.39	242.61	91.66
774	SLV 3	1089	-448	12447	-1091.62	197.32	102.73
774	SLV 4	1050	-671	12443	-1090.19	194.79	106.92
774	SLV 5	292	1696	9882	-919.72	263.46	-4.78
774	SLV 6	266	1546	9879	-918.76	261.76	-1.96
774	SLV 7	222	-1546	11786	-1002.41	104.06	46.09
774	SLV 8	196	-1697	11782	-1001.45	102.36	48.91
774	SLV 9	-424	1758	8744	-818.65	231.69	-69.17
774	SLV 10	-450	1608	8741	-817.69	229.99	-66.35
774	SLV 11	-495	-1484	10648	-901.34	72.3	-18.31
774	SLV 12	-520	-1634	10645	-900.38	70.59	-15.48
774	SLV 13	-1279	733	8084	-729.9	139.26	-127.18
774	SLV 14	-1317	510	8079	-728.48	136.73	-122.99
774	SLV 15	-1300	-240	8655	-754.71	91.44	-111.92
774	SLV 16	-1338	-463	8650	-753.29	88.91	-107.73
774	SLV FO 1	1232	574	12037	-1082.49	252.95	97.23
774	SLV FO 2	1190	329	12032	-1080.92	250.17	101.84
774	SLV FO 3	1209	-496	12666	-1109.78	200.35	114.01
774	SLV FO 4	1167	-741	12660	-1108.21	197.57	118.62
774	SLV FO 5	333	1862	9844	-920.69	273.1	-4.25
774	SLV FO 6	304	1697	9840	-919.63	271.23	-1.14
774	SLV FO 7	256	-1704	11938	-1011.65	97.76	51.71
774	SLV FO 8	227	-1869	11934	-1010.59	95.89	54.81
774	SLV FO 9	-455	1931	8592	-809.51	238.16	-75.08
774	SLV FO 10	-484	1766	8589	-808.45	236.29	-71.97
774	SLV FO 11	-533	-1636	10686	-900.47	62.82	-19.12
774	SLV FO 12	-561	-1801	10683	-899.41	60.95	-16.02
774	SLV FO 13	-1395	803	7866	-711.89	136.48	-138.89
774	SLV FO 14	-1437	558	7861	-710.32	133.7	-134.28
774	SLV FO 15	-1418	-267	8494	-739.18	83.88	-122.1
774	SLV FO 16	-1461	-512	8489	-737.61	81.1	-117.49
774	CRTFP Ux+	0	0	0	0	0	0
774	CRTFP Ux-	0	0	0	0	0	0
774	CRTFP Uy+	0	0	0	0	0	0
774	CRTFP Uy-	0	0	0	0	0	0
777	SLU 1	-21	110	11904	137.99	-560.93	-2.05
777	SLU 2	-22	176	11881	136.56	-558.39	2
777	SLU 3	-21	112	12192	141.27	-573.63	-2.15
777	SLU 4	-21	152	12178	140.41	-572.1	0.28
777	SLU 5	-21	177	12070	138.76	-566.74	1.89
777	SLU 6	-20	113	12381	143.47	-581.98	-2.26
777	SLU 7	-21	153	12367	142.61	-580.45	0.17
777	SLU 8	-20	112	12282	142.38	-577.63	-2.28
777	SLU 9	-20	151	12268	141.53	-576.1	0.15
777	SLU 10	-19	185	13521	153.98	-636.15	1.89
777	SLU 11	-18	121	13832	158.69	-651.39	-2.26
777	SLU 12	-19	160	13818	157.83	-649.86	0.17
777	SLU 13	-19	185	13710	156.17	-644.5	1.77
777	SLU 14	-18	122	14021	160.88	-659.74	-2.38
777	SLU 15	-18	161	14007	160.02	-658.21	0.06
777	SLU 16	-17	120	13922	159.8	-655.39	-2.39
777	SLU 17	-18	160	13908	158.94	-653.87	0.04
777	SLU 18	-17	122	14247	162.87	-672.02	-2.21
777	SLU 19	-18	162	14234	162.01	-670.5	0.22
777	SLU 20	-17	123	14436	165.07	-680.37	-2.33
777	SLU 21	-17	163	14422	164.21	-678.85	0.1
777	SLU 22	-21	126	13868	161.24	-650.83	-2.12
777	SLU 23	-22	192	13845	159.81	-648.29	1.93
777	SLU 24	-21	128	14155	164.52	-663.53	-2.22
777	SLU 25	-21	167	14142	163.66	-662	0.21
777	SLU 26	-21	192	14033	162	-656.64	1.82
777	SLU 27	-20	129	14344	166.71	-671.88	-2.33
777	SLU 28	-21	168	14330	165.85	-670.35	0.1
777	SLU 29	-20	127	14245	165.63	-667.53	-2.35
777	SLU 30	-20	167	14231	164.77	-666.01	0.08
777	SLU 31	-19	200	15485	177.22	-726.05	1.82
777	SLU 32	-18	136	15795	181.93	-741.29	-2.33
777	SLU 33	-19	176	15782	181.07	-739.77	0.1
777	SLU 34	-19	201	15673	179.42	-734.4	1.71
777	SLU 35	-18	137	15984	184.12	-749.64	-2.45
777	SLU 36	-18	177	15970	183.27	-748.12	-0.01
777	SLU 37	-18	136	15885	183.04	-745.3	-2.46
777	SLU 38	-18	175	15871	182.18	-743.77	-0.03
777	SLU 39	-18	138	16210	186.12	-761.92	-2.28
777	SLU 40	-18	177	16197	185.26	-760.4	0.15
777	SLU 41	-17	139	16399	188.31	-770.27	-2.4
777	SLU 42	-17	178	16385	187.45	-768.75	0.04
777	SLU 43	-27	138	14803	171.42	-698.39	-2.64
777	SLU 44	-28	204	14780	169.99	-695.84	1.41
777	SLU 45	-27	140	15091	174.7	-711.08	-2.74
777	SLU 46	-27	180	15077	173.84	-709.56	-0.31
777	SLU 47	-27	205	14969	172.19	-704.19	1.3
777	SLU 48	-27	141	15279	176.9	-719.43	-2.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
777	SLU 49	-27	180	15266	176.04	-717.91	-0.42
777	SLU 50	-26	139	15180	175.81	-715.09	-2.87
777	SLU 51	-27	179	15167	174.96	-713.56	-0.44
777	SLU 52	-25	212	16420	187.41	-773.61	1.3
777	SLU 53	-24	149	16731	192.12	-788.85	-2.85
777	SLU 54	-25	188	16717	191.26	-787.32	-0.42
777	SLU 55	-25	213	16609	189.6	-781.96	1.18
777	SLU 56	-24	149	16919	194.31	-797.2	-2.97
777	SLU 57	-24	189	16906	193.45	-795.67	-0.54
777	SLU 58	-24	148	16820	193.23	-792.85	-2.98
777	SLU 59	-24	187	16807	192.37	-791.32	-0.55
777	SLU 60	-24	150	17146	196.3	-809.48	-2.8
777	SLU 61	-24	190	17132	195.44	-807.95	-0.37
777	SLU 62	-23	151	17334	198.5	-817.83	-2.92
777	SLU 63	-23	190	17321	197.64	-816.3	-0.49
777	SLU 64	-27	153	16766	194.67	-788.29	-2.71
777	SLU 65	-28	219	16743	193.24	-785.75	1.34
777	SLU 66	-27	156	17054	197.94	-800.98	-2.81
777	SLU 67	-28	195	17040	197.09	-799.46	-0.38
777	SLU 68	-27	220	16932	195.43	-794.1	1.23
777	SLU 69	-27	156	17242	200.14	-809.33	-2.92
777	SLU 70	-27	196	17229	199.28	-807.81	-0.49
777	SLU 71	-26	155	17144	199.06	-804.99	-2.94
777	SLU 72	-27	194	17130	198.2	-803.46	-0.51
777	SLU 73	-25	228	18383	210.65	-863.51	1.23
777	SLU 74	-25	164	18694	215.36	-878.75	-2.92
777	SLU 75	-25	204	18680	214.5	-877.22	-0.49
777	SLU 76	-25	229	18572	212.85	-871.86	1.11
777	SLU 77	-24	165	18882	217.55	-887.1	-3.04
777	SLU 78	-24	204	18869	216.7	-885.57	-0.61
777	SLU 79	-24	163	18784	216.47	-882.75	-3.05
777	SLU 80	-24	203	18770	215.61	-881.23	-0.62
777	SLU 81	-24	166	19109	219.54	-899.38	-2.87
777	SLU 82	-24	205	19095	218.69	-897.85	-0.44
777	SLU 83	-23	166	19298	221.74	-907.73	-2.99
777	SLU 84	-24	206	19284	220.88	-906.2	-0.56
777	SLE RA 1	-21	115	12465	144.64	-586.62	-2.07
777	SLE RA 2	-21	159	12450	143.68	-584.92	0.63
777	SLE RA 3	-21	116	12657	146.82	-595.08	-2.13
777	SLE RA 4	-21	142	12648	146.25	-594.06	-0.51
777	SLE RA 5	-21	159	12576	145.14	-590.49	0.56
777	SLE RA 6	-21	117	12783	148.28	-600.65	-2.21
777	SLE RA 7	-21	143	12774	147.71	-599.63	-0.59
777	SLE RA 8	-20	116	12717	147.56	-597.75	-2.22
777	SLE RA 9	-21	142	12708	146.99	-596.73	-0.6
777	SLE RA 10	-20	164	13543	155.29	-636.76	0.56
777	SLE RA 11	-19	122	13751	158.43	-646.92	-2.21
777	SLE RA 12	-19	148	13741	157.86	-645.91	-0.59
777	SLE RA 13	-19	165	13669	156.75	-642.33	0.48
777	SLE RA 14	-19	122	13876	159.89	-652.49	-2.29
777	SLE RA 15	-19	149	13867	159.32	-651.47	-0.67
777	SLE RA 16	-19	121	13810	159.17	-649.59	-2.3
777	SLE RA 17	-19	148	13801	158.6	-648.58	-0.68
777	SLE RA 18	-19	123	14027	161.22	-660.68	-2.18
777	SLE RA 19	-19	149	14018	160.65	-659.66	-0.56
777	SLE RA 20	-18	123	14153	162.68	-666.24	-2.25
777	SLE RA 21	-19	150	14144	162.11	-665.23	-0.63
777	SLE FR 1	-21	115	12465	144.64	-586.62	-2.07
777	SLE FR 2	-21	123	12462	144.44	-586.28	-1.53
777	SLE FR 3	-21	115	12516	145.22	-588.84	-2.1
777	SLE FR 4	-20	126	12931	149.42	-608.5	-1.56
777	SLE FR 5	-20	117	12984	150.2	-611.06	-2.13
777	SLE FR 6	-20	119	13246	152.93	-623.65	-2.12
777	SLE QP 1	-21	115	12465	144.64	-586.62	-2.07
777	SLE QP 2	-20	117	12934	149.61	-608.84	-2.1
777	SLD 1	1083	593	12876	162.17	-586.42	0.82
777	SLD 2	1049	525	12850	161.34	-584.44	2.04
777	SLD 3	1097	-222	13215	188.53	-623.71	-49.41
777	SLD 4	1063	-290	13190	187.7	-621.73	-48.19
777	SLD 5	295	1507	12405	113.54	-545.89	74.74
777	SLD 6	273	1464	12389	113.01	-544.61	75.53
777	SLD 7	342	-1209	13538	201.41	-670.2	-92.68
777	SLD 8	320	-1253	13522	200.88	-668.92	-91.9
777	SLD 9	-361	1487	12346	98.35	-548.75	87.69
777	SLD 10	-383	1443	12330	97.81	-547.47	88.48
777	SLD 11	-314	-1230	13479	186.22	-673.06	-79.74
777	SLD 12	-336	-1273	13463	185.68	-671.78	-78.95
777	SLD 13	-1104	524	12678	111.52	-595.94	43.98
777	SLD 14	-1138	457	12652	110.69	-593.96	45.21
777	SLD 15	-1089	-291	13018	137.88	-633.24	-6.25
777	SLD 16	-1124	-359	12992	137.05	-631.26	-5.02
777	SLV 1	1706	920	12819	167.3	-570.68	6.04
777	SLV 2	1652	813	12779	165.99	-567.56	7.97
777	SLV 3	1729	-470	13399	212.31	-634.33	-79.62
777	SLV 4	1675	-577	13359	211	-631.21	-77.69
777	SLV 5	472	2486	12027	86.89	-501.44	129.9
777	SLV 6	436	2414	12000	86.01	-499.34	131.2
777	SLV 7	550	-2147	13961	236.93	-713.6	-155.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
777	SLV 8	514	-2219	13934	236.05	-711.5	-154.34
777	SLV 9	-555	2453	11934	63.17	-506.17	150.13
777	SLV 10	-591	2381	11907	62.29	-504.07	151.43
777	SLV 11	-476	-2180	13868	213.21	-718.34	-135.4
777	SLV 12	-512	-2252	13841	212.33	-716.24	-134.1
777	SLV 13	-1716	811	12508	88.22	-586.47	73.49
777	SLV 14	-1770	704	12469	86.91	-583.34	75.42
777	SLV 15	-1693	-579	13089	133.24	-650.11	-12.17
777	SLV 16	-1746	-686	13049	131.93	-646.99	-10.24
777	SLV FO 1	1878	1000	12807	169.06	-566.86	6.85
777	SLV FO 2	1819	883	12764	167.62	-563.43	8.97
777	SLV FO 3	1904	-529	13446	218.58	-636.88	-87.37
777	SLV FO 4	1845	-646	13402	217.14	-633.44	-85.25
777	SLV FO 5	521	2723	11936	80.62	-490.7	143.1
777	SLV FO 6	481	2644	11907	79.65	-488.39	144.53
777	SLV FO 7	607	-2374	14064	245.67	-724.08	-170.99
777	SLV FO 8	568	-2453	14034	244.7	-721.77	-169.56
777	SLV FO 9	-608	2687	11834	54.53	-495.91	165.36
777	SLV FO 10	-648	2608	11804	53.56	-493.6	166.79
777	SLV FO 11	-522	-2410	13961	219.57	-729.29	-148.73
777	SLV FO 12	-562	-2489	13932	218.6	-726.98	-147.3
777	SLV FO 13	-1886	880	12466	82.08	-584.23	81.05
777	SLV FO 14	-1945	763	12422	80.64	-580.8	83.17
777	SLV FO 15	-1860	-649	13104	131.6	-654.24	-13.18
777	SLV FO 16	-1919	-766	13060	130.16	-650.81	-11.05
777	CRTFP Ux+	0	0	0	0	0	0
777	CRTFP Ux-	0	0	0	0	0	0
777	CRTFP Uy+	0	0	0	0	0	0
777	CRTFP Uy-	0	0	0	0	0	0
780	SLU 1	42	19	8633	-912.44	-52.95	4.3
780	SLU 2	44	76	8613	-910.49	-53.09	4.62
780	SLU 3	44	19	8828	-933.03	-54.53	4.44
780	SLU 4	45	53	8816	-931.86	-54.62	4.63
780	SLU 5	46	75	8739	-923.8	-54.08	4.7
780	SLU 6	45	18	8954	-946.35	-55.52	4.52
780	SLU 7	46	52	8942	-945.18	-55.61	4.71
780	SLU 8	45	17	8885	-939.07	-54.92	4.46
780	SLU 9	46	51	8873	-937.9	-55.01	4.65
780	SLU 10	48	77	9778	-1033.34	-59.04	4.91
780	SLU 11	47	20	9993	-1055.89	-60.48	4.73
780	SLU 12	48	54	9981	-1054.72	-60.56	4.92
780	SLU 13	49	76	9904	-1046.66	-60.02	4.99
780	SLU 14	48	19	10119	-1069.2	-61.46	4.81
780	SLU 15	49	53	10107	-1068.03	-61.55	5
780	SLU 16	48	18	10050	-1061.92	-60.86	4.76
780	SLU 17	49	52	10038	-1060.75	-60.95	4.95
780	SLU 18	47	21	10297	-1087.95	-61.43	4.72
780	SLU 19	48	55	10285	-1086.78	-61.52	4.91
780	SLU 20	48	20	10423	-1101.26	-62.42	4.8
780	SLU 21	49	54	10411	-1100.09	-62.51	4.99
780	SLU 22	50	23	10010	-1056.91	-61.11	5.18
780	SLU 23	52	79	9990	-1054.96	-61.26	5.49
780	SLU 24	52	22	10205	-1077.5	-62.7	5.31
780	SLU 25	53	56	10193	-1076.33	-62.79	5.5
780	SLU 26	53	78	10116	-1068.27	-62.25	5.57
780	SLU 27	53	21	10331	-1090.82	-63.69	5.39
780	SLU 28	54	55	10319	-1089.65	-63.78	5.58
780	SLU 29	52	20	10262	-1083.53	-63.09	5.34
780	SLU 30	54	55	10250	-1082.36	-63.17	5.53
780	SLU 31	55	80	11155	-1177.81	-67.2	5.79
780	SLU 32	55	23	11370	-1200.36	-68.64	5.61
780	SLU 33	56	57	11358	-1199.19	-68.73	5.8
780	SLU 34	57	79	11281	-1191.13	-68.19	5.87
780	SLU 35	56	22	11496	-1213.67	-69.63	5.69
780	SLU 36	57	56	11484	-1212.5	-69.72	5.88
780	SLU 37	55	21	11427	-1206.39	-69.03	5.63
780	SLU 38	57	55	11415	-1205.22	-69.11	5.82
780	SLU 39	55	24	11674	-1232.42	-69.6	5.6
780	SLU 40	56	58	11662	-1231.25	-69.69	5.78
780	SLU 41	56	23	11800	-1245.73	-70.59	5.68
780	SLU 42	57	57	11788	-1244.56	-70.67	5.87
780	SLU 43	52	24	10751	-1136.64	-66.03	5.29
780	SLU 44	54	81	10731	-1134.69	-66.18	5.61
780	SLU 45	54	23	10945	-1157.23	-67.62	5.43
780	SLU 46	55	57	10933	-1156.06	-67.71	5.62
780	SLU 47	56	80	10857	-1148	-67.16	5.69
780	SLU 48	55	22	11071	-1170.55	-68.6	5.51
780	SLU 49	56	56	11059	-1169.38	-68.69	5.7
780	SLU 50	55	22	11003	-1163.26	-68	5.46
780	SLU 51	56	56	10991	-1162.09	-68.09	5.64
780	SLU 52	58	82	11895	-1257.54	-72.12	5.9
780	SLU 53	57	24	12110	-1280.09	-73.56	5.72
780	SLU 54	58	58	12098	-1278.92	-73.65	5.91
780	SLU 55	59	81	12021	-1270.86	-73.11	5.98
780	SLU 56	58	23	12236	-1293.4	-74.54	5.8
780	SLU 57	59	57	12224	-1292.23	-74.63	5.99
780	SLU 58	58	23	12168	-1286.12	-73.94	5.75
780	SLU 59	59	57	12156	-1284.95	-74.03	5.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
780	SLU 60	57	25	12415	-1312.14	-74.52	5.71
780	SLU 61	58	59	12403	-1310.97	-74.61	5.9
780	SLU 62	58	24	12541	-1325.46	-75.5	5.79
780	SLU 63	59	58	12529	-1324.29	-75.59	5.98
780	SLU 64	60	27	12128	-1281.11	-74.2	6.17
780	SLU 65	62	84	12108	-1279.16	-74.35	6.48
780	SLU 66	62	27	12323	-1301.7	-75.79	6.3
780	SLU 67	63	61	12311	-1300.53	-75.87	6.49
780	SLU 68	63	83	12234	-1292.47	-75.33	6.56
780	SLU 69	63	25	12449	-1315.02	-76.77	6.38
780	SLU 70	64	60	12437	-1313.85	-76.86	6.57
780	SLU 71	62	25	12380	-1307.73	-76.17	6.33
780	SLU 72	64	59	12368	-1306.56	-76.26	6.52
780	SLU 73	65	85	13273	-1402.01	-80.29	6.78
780	SLU 74	65	28	13487	-1424.56	-81.73	6.6
780	SLU 75	66	62	13475	-1423.39	-81.81	6.79
780	SLU 76	66	84	13399	-1415.33	-81.27	6.86
780	SLU 77	66	26	13614	-1437.87	-82.71	6.68
780	SLU 78	67	61	13601	-1436.7	-82.8	6.87
780	SLU 79	65	26	13545	-1430.59	-82.11	6.62
780	SLU 80	67	60	13533	-1429.42	-82.2	6.81
780	SLU 81	65	29	13792	-1456.61	-82.69	6.59
780	SLU 82	66	63	13780	-1455.44	-82.77	6.78
780	SLU 83	66	28	13918	-1469.93	-83.67	6.67
780	SLU 84	67	62	13906	-1468.76	-83.76	6.86
780	SLE RA 1	45	20	9026	-953.71	-55.28	4.55
780	SLE RA 2	46	58	9013	-952.41	-55.38	4.76
780	SLE RA 3	46	20	9156	-967.44	-56.34	4.64
780	SLE RA 4	46	43	9148	-966.66	-56.4	4.77
780	SLE RA 5	47	57	9097	-961.29	-56.04	4.82
780	SLE RA 6	46	19	9240	-976.32	-57	4.7
780	SLE RA 7	47	42	9232	-975.54	-57.05	4.82
780	SLE RA 8	46	19	9194	-971.47	-56.6	4.66
780	SLE RA 9	47	42	9186	-970.69	-56.65	4.79
780	SLE RA 10	48	59	9790	-1034.32	-59.34	4.96
780	SLE RA 11	48	20	9933	-1049.35	-60.3	4.84
780	SLE RA 12	49	43	9925	-1048.57	-60.36	4.96
780	SLE RA 13	49	58	9874	-1043.19	-60	5.01
780	SLE RA 14	48	20	10017	-1058.22	-60.96	4.89
780	SLE RA 15	49	42	10009	-1057.44	-61.02	5.02
780	SLE RA 16	48	19	9971	-1053.37	-60.56	4.86
780	SLE RA 17	49	42	9963	-1052.59	-60.61	4.98
780	SLE RA 18	47	21	10136	-1070.72	-60.94	4.83
780	SLE RA 19	48	44	10128	-1069.94	-61	4.96
780	SLE RA 20	48	20	10220	-1079.6	-61.6	4.89
780	SLE RA 21	49	43	10212	-1078.82	-61.65	5.01
780	SLE FR 1	45	20	9026	-953.71	-55.28	4.55
780	SLE FR 2	45	28	9024	-953.45	-55.3	4.59
780	SLE FR 3	45	20	9060	-957.26	-55.54	4.57
780	SLE FR 4	46	28	9357	-988.56	-57	4.68
780	SLE FR 5	46	20	9393	-992.37	-57.24	4.66
780	SLE FR 6	46	21	9581	-1012.22	-58.11	4.69
780	SLE QP 1	45	20	9026	-953.71	-55.28	4.55
780	SLE QP 2	45	21	9359	-988.82	-56.98	4.64
780	SLD 1	906	327	8710	-928.66	-9.63	90.43
780	SLD 2	886	385	8726	-929.95	-10.01	91.23
780	SLD 3	877	-394	8979	-952.37	-8.42	86.11
780	SLD 4	858	-337	8995	-953.65	-8.81	86.91
780	SLD 5	350	1197	8754	-934.6	-44.54	36.78
780	SLD 6	338	1234	8764	-935.43	-44.79	37.3
780	SLD 7	255	-1208	9650	-1013.61	-40.51	22.39
780	SLD 8	242	-1171	9661	-1014.44	-40.76	22.91
780	SLD 9	-151	1212	9058	-963.19	-73.19	-13.64
780	SLD 10	-164	1249	9068	-964.02	-73.44	-13.12
780	SLD 11	-247	-1193	9954	-1042.2	-69.17	-28.03
780	SLD 12	-260	-1156	9965	-1043.03	-69.42	-27.51
780	SLD 13	-767	378	9724	-1023.98	-105.15	-77.64
780	SLD 14	-786	435	9739	-1025.27	-105.54	-76.84
780	SLD 15	-795	-344	9993	-1047.68	-103.94	-81.96
780	SLD 16	-815	-286	10008	-1048.97	-104.33	-81.16
780	SLV 1	1394	550	8327	-893.26	16.83	139.18
780	SLV 2	1363	640	8352	-895.29	16.22	140.44
780	SLV 3	1345	-681	8786	-933.66	18.87	131.82
780	SLV 4	1314	-590	8811	-935.69	18.25	133.09
780	SLV 5	530	2029	8349	-898.5	-37.8	55.92
780	SLV 6	509	2090	8366	-899.86	-38.22	56.77
780	SLV 7	367	-2073	9878	-1033.16	-31.03	31.4
780	SLV 8	346	-2012	9895	-1034.53	-31.44	32.25
780	SLV 9	-255	2053	8824	-943.1	-82.52	-22.98
780	SLV 10	-276	2114	8840	-944.47	-82.93	-22.12
780	SLV 11	-418	-2049	10352	-1077.77	-75.74	-47.5
780	SLV 12	-439	-1988	10369	-1079.13	-76.15	-46.65
780	SLV 13	-1223	631	9908	-1041.94	-132.21	-123.82
780	SLV 14	-1254	722	9933	-1043.97	-132.82	-122.55
780	SLV 15	-1272	-599	10366	-1082.34	-130.18	-131.17
780	SLV 16	-1303	-509	10391	-1084.37	-130.79	-129.91
780	SLV FO 1	1529	603	8224	-883.71	24.22	152.63
780	SLV FO 2	1495	702	8251	-885.94	23.54	154.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
780	SLV FO 3	1475	-751	8728	-928.15	26.45	144.54
780	SLV FO 4	1441	-651	8756	-930.38	25.78	145.93
780	SLV FO 5	578	2230	8248	-889.47	-35.89	61.05
780	SLV FO 6	555	2297	8267	-890.97	-36.34	61.99
780	SLV FO 7	399	-2283	9930	-1037.6	-28.43	34.07
780	SLV FO 8	376	-2215	9948	-1039.1	-28.88	35.01
780	SLV FO 9	-285	2256	8770	-938.53	-85.07	-25.74
780	SLV FO 10	-308	2324	8789	-940.03	-85.53	-24.8
780	SLV FO 11	-465	-2256	10452	-1086.66	-77.62	-52.72
780	SLV FO 12	-487	-2189	10470	-1088.16	-78.07	-51.78
780	SLV FO 13	-1350	692	9963	-1047.26	-139.74	-136.66
780	SLV FO 14	-1384	792	9990	-1049.48	-140.41	-135.27
780	SLV FO 15	-1404	-661	10467	-1091.7	-137.5	-144.75
780	SLV FO 16	-1438	-562	10495	-1093.92	-138.17	-143.36
780	CRTFP Ux+	0	0	0	0	0	0
780	CRTFP Ux-	0	0	0	0	0	0
780	CRTFP Uy+	0	0	0	0	0	0
780	CRTFP Uy-	0	0	0	0	0	0
783	SLU 1	130	49	8673	-695.58	-290.51	13.06
783	SLU 2	130	90	8646	-694.18	-291.43	14.35
783	SLU 3	134	50	8881	-711.92	-296.94	13.36
783	SLU 4	133	74	8864	-711.07	-297.5	14.13
783	SLU 5	132	90	8780	-704.69	-295.52	14.52
783	SLU 6	136	51	9016	-722.43	-301.02	13.53
783	SLU 7	136	75	8999	-721.58	-301.58	14.3
783	SLU 8	134	51	8943	-716.6	-298.67	13.4
783	SLU 9	134	75	8926	-715.76	-299.23	14.17
783	SLU 10	139	96	9785	-785.76	-329.64	15.41
783	SLU 11	143	57	10021	-803.5	-335.15	14.43
783	SLU 12	143	81	10004	-802.65	-335.71	15.2
783	SLU 13	141	97	9920	-796.27	-333.73	15.58
783	SLU 14	145	58	10156	-814.01	-339.23	14.6
783	SLU 15	145	82	10139	-813.16	-339.79	15.37
783	SLU 16	144	57	10083	-808.19	-336.88	14.47
783	SLU 17	143	82	10066	-807.34	-337.44	15.24
783	SLU 18	143	59	10301	-826.41	-345.09	14.58
783	SLU 19	143	83	10285	-825.57	-345.65	15.35
783	SLU 20	145	59	10436	-836.92	-349.18	14.75
783	SLU 21	145	84	10420	-836.08	-349.73	15.53
783	SLU 22	148	55	10090	-808.67	-337.04	14.75
783	SLU 23	148	96	10063	-807.27	-337.97	16.03
783	SLU 24	151	56	10298	-825	-343.47	15.05
783	SLU 25	151	80	10282	-824.16	-344.03	15.82
783	SLU 26	150	96	10198	-817.78	-342.05	16.21
783	SLU 27	154	57	10433	-835.51	-347.56	15.22
783	SLU 28	153	81	10416	-834.67	-348.11	15.99
783	SLU 29	152	57	10360	-829.69	-345.21	15.09
783	SLU 30	152	81	10343	-828.85	-345.76	15.86
783	SLU 31	157	102	11203	-898.85	-376.18	17.1
783	SLU 32	161	63	11438	-916.59	-381.69	16.11
783	SLU 33	160	87	11422	-915.74	-382.24	16.89
783	SLU 34	159	103	11337	-909.36	-380.26	17.27
783	SLU 35	163	64	11573	-927.1	-385.77	16.29
783	SLU 36	163	88	11556	-926.25	-386.33	17.06
783	SLU 37	161	63	11500	-921.27	-383.42	16.16
783	SLU 38	161	88	11483	-920.43	-383.98	16.93
783	SLU 39	161	65	11719	-939.5	-391.63	16.27
783	SLU 40	161	89	11702	-938.66	-392.18	17.04
783	SLU 41	163	66	11854	-950.01	-395.71	16.44
783	SLU 42	163	90	11837	-949.17	-396.27	17.22
783	SLU 43	163	62	10789	-865.48	-361.7	16.39
783	SLU 44	163	102	10762	-864.08	-362.63	17.68
783	SLU 45	167	63	10997	-881.82	-368.14	16.7
783	SLU 46	166	87	10980	-880.97	-368.69	17.47
783	SLU 47	165	103	10896	-874.59	-366.71	17.86
783	SLU 48	169	64	11132	-892.33	-372.22	16.87
783	SLU 49	169	88	11115	-891.48	-372.78	17.64
783	SLU 50	167	63	11059	-886.5	-369.87	16.74
783	SLU 51	167	88	11042	-885.66	-370.43	17.51
783	SLU 52	172	109	11901	-955.66	-400.84	18.75
783	SLU 53	176	70	12137	-973.4	-406.35	17.76
783	SLU 54	176	94	12120	-972.56	-406.9	18.54
783	SLU 55	174	110	12036	-966.17	-404.92	18.92
783	SLU 56	178	70	12272	-983.91	-410.43	17.94
783	SLU 57	178	95	12255	-983.07	-410.99	18.71
783	SLU 58	177	70	12199	-978.09	-408.08	17.81
783	SLU 59	176	94	12182	-977.24	-408.64	18.58
783	SLU 60	176	71	12417	-996.32	-416.29	17.92
783	SLU 61	176	96	12401	-995.47	-416.85	18.69
783	SLU 62	178	72	12552	-1006.83	-420.37	18.09
783	SLU 63	178	96	12536	-1005.98	-420.93	18.86
783	SLU 64	181	68	12206	-978.57	-408.24	18.08
783	SLU 65	181	108	12179	-977.17	-409.16	19.37
783	SLU 66	184	69	12414	-994.91	-414.67	18.38
783	SLU 67	184	93	12398	-994.06	-415.23	19.16
783	SLU 68	183	109	12314	-987.68	-413.25	19.54
783	SLU 69	187	70	12549	-1005.42	-418.76	18.56
783	SLU 70	186	94	12532	-1004.57	-419.31	19.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
783	SLU 71	185	69	12476	-999.59	-416.41	18.43
783	SLU 72	185	94	12459	-998.75	-416.96	19.2
783	SLU 73	190	115	13319	-1068.75	-447.37	20.44
783	SLU 74	194	76	13554	-1086.49	-452.88	19.45
783	SLU 75	193	100	13538	-1085.64	-453.44	20.23
783	SLU 76	192	116	13453	-1079.26	-451.46	20.61
783	SLU 77	196	76	13689	-1097	-456.97	19.62
783	SLU 78	195	101	13672	-1096.15	-457.52	20.4
783	SLU 79	194	76	13616	-1091.18	-454.62	19.5
783	SLU 80	194	100	13599	-1090.33	-455.17	20.27
783	SLU 81	194	77	13835	-1109.4	-462.82	19.61
783	SLU 82	194	102	13818	-1108.56	-463.38	20.38
783	SLU 83	196	78	13970	-1119.91	-466.91	19.78
783	SLU 84	196	102	13953	-1119.07	-467.46	20.55
783	SLE RA 1	135	51	9078	-727.89	-303.8	13.54
783	SLE RA 2	135	78	9060	-726.96	-304.42	14.4
783	SLE RA 3	138	52	9217	-738.78	-308.09	13.74
783	SLE RA 4	137	68	9206	-738.22	-308.46	14.26
783	SLE RA 5	136	78	9149	-733.96	-307.14	14.51
783	SLE RA 6	139	52	9306	-745.79	-310.81	13.86
783	SLE RA 7	139	68	9295	-745.23	-311.18	14.37
783	SLE RA 8	138	52	9258	-741.91	-309.25	13.77
783	SLE RA 9	138	68	9247	-741.35	-309.62	14.28
783	SLE RA 10	141	82	9820	-788.01	-329.89	15.11
783	SLE RA 11	144	56	9976	-799.84	-333.56	14.45
783	SLE RA 12	144	72	9965	-799.28	-333.93	14.97
783	SLE RA 13	143	83	9909	-795.02	-332.62	15.22
783	SLE RA 14	145	57	10066	-806.84	-336.29	14.57
783	SLE RA 15	145	73	10055	-806.28	-336.66	15.08
783	SLE RA 16	144	56	10018	-802.96	-334.72	14.48
783	SLE RA 17	144	73	10007	-802.4	-335.09	15
783	SLE RA 18	144	57	10164	-815.11	-340.19	14.55
783	SLE RA 19	144	73	10153	-814.55	-340.56	15.07
783	SLE RA 20	145	58	10253	-822.12	-342.92	14.67
783	SLE RA 21	145	74	10242	-821.56	-343.29	15.19
783	SLE FR 1	135	51	9078	-727.89	-303.8	13.54
783	SLE FR 2	135	56	9074	-727.71	-303.92	13.71
783	SLE FR 3	136	51	9114	-730.7	-304.89	13.58
783	SLE FR 4	138	58	9400	-753.87	-314.84	14.02
783	SLE FR 5	138	53	9440	-756.86	-315.81	13.89
783	SLE FR 6	140	54	9621	-771.5	-322	14.05
783	SLE QP 1	135	51	9078	-727.89	-303.8	13.54
783	SLE QP 2	138	53	9404	-754.06	-314.72	13.84
783	SLD 1	861	297	8335	-675.74	-282.1	78
783	SLD 2	840	424	8323	-675.36	-281.47	82.69
783	SLD 3	870	-215	8752	-695.86	-269.74	61.48
783	SLD 4	849	-89	8740	-695.48	-269.1	66.17
783	SLD 5	345	882	8452	-700.11	-323.8	57.34
783	SLD 6	331	964	8445	-699.87	-323.38	60.37
783	SLD 7	375	-827	9843	-767.18	-282.58	2.27
783	SLD 8	361	-746	9835	-766.94	-282.17	5.29
783	SLD 9	-86	851	8972	-741.18	-347.27	22.4
783	SLD 10	-99	933	8964	-740.94	-346.85	25.42
783	SLD 11	-55	-858	10363	-808.25	-306.05	-32.68
783	SLD 12	-69	-776	10355	-808.01	-305.64	-29.66
783	SLD 13	-573	194	10067	-812.64	-360.34	-38.48
783	SLD 14	-594	321	10055	-812.26	-359.7	-33.79
783	SLD 15	-564	-318	10485	-832.76	-347.97	-55.01
783	SLD 16	-585	-192	10473	-832.38	-347.33	-50.32
783	SLV 1	1269	471	7704	-630.32	-264.59	115.41
783	SLV 2	1236	671	7686	-629.72	-263.58	122.81
783	SLV 3	1285	-403	8416	-664.66	-243.48	87.22
783	SLV 4	1251	-204	8398	-664.06	-242.48	94.62
783	SLV 5	460	1468	7818	-664.97	-331.88	85.69
783	SLV 6	438	1602	7805	-664.56	-331.2	90.67
783	SLV 7	511	-1448	10191	-779.44	-261.53	-8.28
783	SLV 8	489	-1314	10178	-779.03	-260.85	-3.3
783	SLV 9	-213	1419	8629	-729.09	-368.59	30.99
783	SLV 10	-235	1554	8616	-728.68	-367.91	35.97
783	SLV 11	-162	-1497	11002	-843.56	-298.24	-62.98
783	SLV 12	-185	-1362	10990	-843.15	-297.56	-58
783	SLV 13	-976	309	10410	-844.06	-386.96	-66.93
783	SLV 14	-1009	509	10391	-843.46	-385.95	-59.53
783	SLV 15	-960	-565	11122	-878.4	-365.86	-95.12
783	SLV 16	-994	-366	11103	-877.8	-364.85	-87.72
783	SLV FO 1	1382	513	7535	-617.95	-259.58	125.57
783	SLV FO 2	1346	733	7514	-617.29	-258.47	133.7
783	SLV FO 3	1399	-449	8318	-655.72	-236.36	94.56
783	SLV FO 4	1363	-229	8297	-655.06	-235.25	102.69
783	SLV FO 5	493	1609	7659	-656.06	-333.6	92.87
783	SLV FO 6	468	1757	7645	-655.61	-332.85	98.35
783	SLV FO 7	548	-1598	10270	-781.97	-256.21	-10.49
783	SLV FO 8	524	-1450	10256	-781.53	-255.46	-5.01
783	SLV FO 9	-248	1556	8552	-726.59	-373.98	32.7
783	SLV FO 10	-273	1704	8538	-726.15	-373.23	38.18
783	SLV FO 11	-192	-1651	11162	-852.51	-296.59	-70.66
783	SLV FO 12	-217	-1504	11148	-852.06	-295.84	-65.19
783	SLV FO 13	-1087	335	10510	-853.06	-394.19	-75.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
783	SLV FO 14	-1124	555	10489	-852.4	-393.08	-66.87
783	SLV FO 15	-1070	-627	11293	-890.83	-370.97	-106.02
783	SLV FO 16	-1107	-408	11273	-890.17	-369.86	-97.88
783	CRTFP Ux+	0	0	0	0	0	0
783	CRTFP Ux-	0	0	0	0	0	0
783	CRTFP Uy+	0	0	0	0	0	0
783	CRTFP Uy-	0	0	0	0	0	0
785	SLU 1	-79	2	5442	-570.65	-890.07	-7.76
785	SLU 2	-78	30	5422	-569.18	-889.1	-0.51
785	SLU 3	-81	1	5577	-584.7	-910.54	-8.11
785	SLU 4	-80	18	5565	-583.82	-909.96	-3.76
785	SLU 5	-79	30	5511	-578.41	-902.42	-0.65
785	SLU 6	-82	1	5666	-593.93	-923.86	-8.25
785	SLU 7	-81	18	5654	-593.05	-923.28	-3.9
785	SLU 8	-81	1	5620	-589.11	-916.71	-8.05
785	SLU 9	-80	18	5608	-588.22	-916.13	-3.69
785	SLU 10	-82	32	6103	-641.01	-1002.66	-0.4
785	SLU 11	-84	3	6258	-656.53	-1024.1	-7.99
785	SLU 12	-84	20	6246	-655.65	-1023.52	-3.64
785	SLU 13	-82	32	6192	-650.23	-1015.98	-0.54
785	SLU 14	-85	3	6347	-665.76	-1037.42	-8.14
785	SLU 15	-84	20	6335	-664.88	-1036.84	-3.78
785	SLU 16	-84	3	6301	-660.93	-1030.27	-7.93
785	SLU 17	-84	20	6289	-660.05	-1029.69	-3.58
785	SLU 18	-84	4	6415	-673.26	-1052.3	-7.6
785	SLU 19	-84	21	6403	-672.38	-1051.72	-3.25
785	SLU 20	-85	4	6504	-682.49	-1065.62	-7.74
785	SLU 21	-84	21	6492	-681.61	-1065.04	-3.39
785	SLU 22	-87	-1	6309	-661.59	-1030.21	-9.34
785	SLU 23	-86	27	6289	-660.12	-1029.24	-2.08
785	SLU 24	-89	-2	6444	-675.65	-1050.68	-9.68
785	SLU 25	-88	15	6432	-674.77	-1050.1	-5.33
785	SLU 26	-87	27	6378	-669.35	-1042.56	-2.22
785	SLU 27	-89	-2	6533	-684.88	-1064	-9.82
785	SLU 28	-89	15	6521	-683.99	-1063.42	-5.47
785	SLU 29	-89	-2	6487	-680.05	-1056.85	-9.62
785	SLU 30	-88	15	6475	-679.17	-1056.27	-5.27
785	SLU 31	-89	29	6970	-731.95	-1142.8	-1.97
785	SLU 32	-92	0	7125	-747.48	-1164.24	-9.57
785	SLU 33	-91	17	7113	-746.59	-1163.66	-5.22
785	SLU 34	-90	29	7059	-741.18	-1156.13	-2.11
785	SLU 35	-93	-1	7214	-756.71	-1177.57	-9.71
785	SLU 36	-92	16	7202	-755.82	-1176.98	-5.36
785	SLU 37	-92	0	7168	-751.88	-1170.42	-9.5
785	SLU 38	-91	17	7156	-751	-1169.83	-5.15
785	SLU 39	-92	1	7282	-764.21	-1192.44	-9.17
785	SLU 40	-91	18	7270	-763.32	-1191.86	-4.82
785	SLU 41	-93	1	7371	-773.43	-1205.76	-9.31
785	SLU 42	-92	18	7359	-772.55	-1205.18	-4.96
785	SLU 43	-100	3	6777	-710.66	-1109.04	-9.55
785	SLU 44	-99	32	6757	-709.19	-1108.07	-2.3
785	SLU 45	-102	3	6912	-724.72	-1129.51	-9.9
785	SLU 46	-101	20	6900	-723.83	-1128.93	-5.55
785	SLU 47	-100	32	6846	-718.42	-1121.39	-2.44
785	SLU 48	-103	2	7001	-733.95	-1142.83	-10.04
785	SLU 49	-102	19	6989	-733.06	-1142.25	-5.69
785	SLU 50	-102	3	6955	-729.12	-1135.68	-9.84
785	SLU 51	-101	20	6943	-728.24	-1135.1	-5.48
785	SLU 52	-103	34	7438	-781.02	-1221.64	-2.19
785	SLU 53	-106	4	7593	-796.55	-1243.08	-9.78
785	SLU 54	-105	21	7581	-795.66	-1242.49	-5.43
785	SLU 55	-103	33	7527	-790.25	-1234.96	-2.33
785	SLU 56	-106	4	7682	-805.77	-1256.4	-9.93
785	SLU 57	-106	21	7670	-804.89	-1255.81	-5.57
785	SLU 58	-106	5	7636	-800.95	-1249.25	-9.72
785	SLU 59	-105	22	7624	-800.07	-1248.66	-5.37
785	SLU 60	-106	6	7750	-813.27	-1271.27	-9.39
785	SLU 61	-105	23	7738	-812.39	-1270.69	-5.04
785	SLU 62	-106	6	7839	-822.5	-1284.6	-9.53
785	SLU 63	-106	23	7827	-821.62	-1284.01	-5.18
785	SLU 64	-108	0	7644	-801.61	-1249.18	-11.13
785	SLU 65	-107	29	7624	-800.14	-1248.21	-3.87
785	SLU 66	-110	-1	7779	-815.66	-1269.65	-11.47
785	SLU 67	-109	16	7767	-814.78	-1269.07	-7.12
785	SLU 68	-108	28	7713	-809.37	-1261.53	-4.01
785	SLU 69	-111	-1	7868	-824.89	-1282.97	-11.61
785	SLU 70	-110	16	7856	-824.01	-1282.39	-7.26
785	SLU 71	-110	0	7822	-820.07	-1275.83	-11.41
785	SLU 72	-109	17	7810	-819.18	-1275.24	-7.06
785	SLU 73	-110	30	8305	-871.96	-1361.78	-3.76
785	SLU 74	-113	1	8460	-887.49	-1383.22	-11.36
785	SLU 75	-113	18	8448	-886.61	-1382.63	-7.01
785	SLU 76	-111	30	8394	-881.19	-1375.1	-3.9
785	SLU 77	-114	1	8549	-896.72	-1396.54	-11.5
785	SLU 78	-113	18	8537	-895.84	-1395.96	-7.15
785	SLU 79	-113	1	8503	-891.89	-1389.39	-11.29
785	SLU 80	-113	19	8491	-891.01	-1388.81	-6.94
785	SLU 81	-113	3	8617	-904.22	-1411.42	-10.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
785	SLU 82	-113	20	8605	-903.34	-1410.83	-6.61
785	SLU 83	-114	2	8706	-913.45	-1424.74	-11.1
785	SLU 84	-113	20	8694	-912.56	-1424.16	-6.75
785	SLE RA 1	-82	1	5689	-596.63	-930.11	-8.21
785	SLE RA 2	-81	20	5676	-595.65	-929.46	-3.38
785	SLE RA 3	-83	0	5780	-606	-943.76	-8.44
785	SLE RA 4	-82	12	5772	-605.41	-943.37	-5.54
785	SLE RA 5	-81	20	5735	-601.81	-938.34	-3.47
785	SLE RA 6	-83	0	5839	-612.16	-952.64	-8.54
785	SLE RA 7	-83	12	5831	-611.57	-952.25	-5.64
785	SLE RA 8	-83	0	5808	-608.94	-947.87	-8.4
785	SLE RA 9	-82	12	5800	-608.35	-947.48	-5.5
785	SLE RA 10	-83	21	6130	-643.54	-1005.17	-3.3
785	SLE RA 11	-85	2	6234	-653.89	-1019.47	-8.37
785	SLE RA 12	-84	13	6226	-653.3	-1019.08	-5.47
785	SLE RA 13	-84	21	6189	-649.69	-1014.05	-3.39
785	SLE RA 14	-85	1	6293	-660.04	-1028.35	-8.46
785	SLE RA 15	-85	13	6285	-659.45	-1027.96	-5.56
785	SLE RA 16	-85	2	6262	-656.82	-1023.58	-8.32
785	SLE RA 17	-84	13	6254	-656.24	-1023.19	-5.42
785	SLE RA 18	-85	3	6338	-665.04	-1038.27	-8.1
785	SLE RA 19	-84	14	6330	-664.45	-1037.88	-5.2
785	SLE RA 20	-85	2	6397	-671.19	-1047.15	-8.2
785	SLE RA 21	-85	14	6389	-670.6	-1046.76	-5.3
785	SLE FR 1	-82	1	5689	-596.63	-930.11	-8.21
785	SLE FR 2	-81	5	5687	-596.44	-929.98	-7.25
785	SLE FR 3	-82	1	5713	-599.09	-933.66	-8.25
785	SLE FR 4	-82	5	5881	-616.96	-962.43	-7.21
785	SLE FR 5	-83	1	5908	-619.62	-966.11	-8.22
785	SLE FR 6	-83	2	6014	-630.84	-984.19	-8.16
785	SLE QP 1	-82	1	5689	-596.63	-930.11	-8.21
785	SLE QP 2	-83	1	5884	-617.16	-962.56	-8.18
785	SLD 1	316	197	7428	-784.99	-1242.74	91.96
785	SLD 2	294	45	7448	-786.62	-1251.01	52.14
785	SLD 3	298	-157	7696	-803.16	-1230.88	1.53
785	SLD 4	276	-309	7716	-804.79	-1239.14	-38.29
785	SLD 5	68	624	5937	-639.67	-1063.19	165.86
785	SLD 6	54	527	5950	-640.72	-1068.51	140.22
785	SLD 7	8	-558	6831	-700.23	-1023.63	-135.57
785	SLD 8	-6	-656	6844	-701.28	-1028.96	-161.21
785	SLD 9	-159	659	4924	-533.03	-896.16	144.85
785	SLD 10	-173	561	4937	-534.08	-901.48	119.21
785	SLD 11	-219	-524	5818	-593.59	-856.6	-156.58
785	SLD 12	-233	-622	5831	-594.64	-861.92	-182.22
785	SLD 13	-441	312	4052	-429.53	-685.97	21.93
785	SLD 14	-463	160	4072	-431.16	-694.24	-17.89
785	SLD 15	-459	-43	4320	-447.69	-674.1	-68.5
785	SLD 16	-481	-195	4340	-449.33	-682.37	-108.32
785	SLV 1	543	334	8274	-877.69	-1400.49	155.37
785	SLV 2	508	94	8305	-880.26	-1413.52	92.6
785	SLV 3	512	-271	8730	-908.61	-1380.18	1.14
785	SLV 4	478	-511	8762	-911.18	-1393.21	-61.63
785	SLV 5	158	1064	5902	-647.93	-1122.31	286.52
785	SLV 6	134	902	5924	-649.66	-1131.08	244.26
785	SLV 7	56	-954	7425	-751.02	-1054.61	-227.59
785	SLV 8	33	-1115	7446	-752.75	-1063.38	-269.85
785	SLV 9	-198	1118	4322	-481.57	-861.73	253.49
785	SLV 10	-221	956	4343	-483.3	-870.51	211.23
785	SLV 11	-299	-900	5844	-584.65	-794.03	-260.62
785	SLV 12	-323	-1061	5866	-586.38	-802.8	-302.88
785	SLV 13	-643	513	3006	-323.13	-531.9	45.27
785	SLV 14	-678	274	3038	-325.7	-544.93	-17.5
785	SLV 15	-674	-92	3462	-354.05	-511.59	-108.96
785	SLV 16	-708	-331	3494	-356.62	-524.62	-171.73
785	SLV FO 1	605	367	8513	-903.74	-1444.29	171.72
785	SLV FO 2	568	104	8548	-906.57	-1458.62	102.68
785	SLV FO 3	572	-298	9015	-937.76	-1421.94	2.07
785	SLV FO 4	534	-562	9050	-940.58	-1436.28	-66.98
785	SLV FO 5	182	1170	5904	-651.01	-1138.29	315.99
785	SLV FO 6	156	993	5928	-652.92	-1147.94	269.51
785	SLV FO 7	70	-1049	7579	-764.4	-1063.81	-249.53
785	SLV FO 8	45	-1227	7602	-766.3	-1073.46	-296.01
785	SLV FO 9	-210	1229	4166	-468.01	-851.65	279.65
785	SLV FO 10	-235	1052	4189	-469.91	-861.3	233.17
785	SLV FO 11	-321	-990	5840	-581.4	-777.18	-285.87
785	SLV FO 12	-347	-1167	5864	-583.3	-786.83	-332.34
785	SLV FO 13	-699	565	2718	-293.73	-488.84	50.62
785	SLV FO 14	-737	301	2753	-296.56	-503.17	-18.43
785	SLV FO 15	-733	-101	3220	-327.74	-466.49	-119.04
785	SLV FO 16	-770	-365	3255	-330.57	-480.83	-188.08
785	CRTFP Ux+	0	0	0	0	0	0
785	CRTFP Ux-	0	0	0	0	0	0
785	CRTFP Uy+	0	0	0	0	0	0
785	CRTFP Uy-	0	0	0	0	0	0
788	SLU 1	73	42	4335	-7.24	1111.37	-14.62
788	SLU 2	72	65	4316	-7.47	1111.65	-22.47
788	SLU 3	75	43	4438	-7.35	1135.84	-14.96
788	SLU 4	74	57	4427	-7.49	1136.01	-19.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
788	SLU 5	73	66	4381	-7.53	1126.9	-22.89
788	SLU 6	76	44	4503	-7.4	1151.09	-15.38
788	SLU 7	75	58	4492	-7.54	1151.26	-20.09
788	SLU 8	75	45	4466	-7.34	1141.87	-15.46
788	SLU 9	74	58	4454	-7.48	1142.04	-20.17
788	SLU 10	77	69	4855	-8.52	1248.88	-24.07
788	SLU 11	80	48	4977	-8.39	1273.07	-16.56
788	SLU 12	79	61	4966	-8.53	1273.24	-21.27
788	SLU 13	78	70	4920	-8.57	1264.13	-24.49
788	SLU 14	81	49	5043	-8.44	1288.32	-16.98
788	SLU 15	80	62	5031	-8.58	1288.49	-21.69
788	SLU 16	80	49	5005	-8.38	1279.11	-17.06
788	SLU 17	79	63	4993	-8.53	1279.27	-21.77
788	SLU 18	80	49	5105	-8.72	1307.42	-16.9
788	SLU 19	79	62	5094	-8.87	1307.58	-21.62
788	SLU 20	81	50	5170	-8.78	1322.67	-17.33
788	SLU 21	80	63	5159	-8.92	1322.84	-22.04
788	SLU 22	81	44	5015	-8.36	1280.92	-15.25
788	SLU 23	80	67	4996	-8.6	1281.2	-23.1
788	SLU 24	83	45	5118	-8.47	1305.39	-15.59
788	SLU 25	82	59	5107	-8.62	1305.56	-20.3
788	SLU 26	81	68	5061	-8.65	1296.45	-23.52
788	SLU 27	84	46	5184	-8.52	1320.64	-16.01
788	SLU 28	84	60	5172	-8.67	1320.81	-20.72
788	SLU 29	83	46	5146	-8.47	1311.43	-16.09
788	SLU 30	83	60	5134	-8.61	1311.59	-20.8
788	SLU 31	85	71	5535	-9.64	1418.44	-24.7
788	SLU 32	88	50	5657	-9.51	1442.62	-17.18
788	SLU 33	87	63	5646	-9.66	1442.79	-21.9
788	SLU 34	86	72	5600	-9.69	1433.69	-25.12
788	SLU 35	89	51	5723	-9.57	1457.87	-17.61
788	SLU 36	88	64	5711	-9.71	1458.04	-22.32
788	SLU 37	88	51	5685	-9.51	1448.66	-17.69
788	SLU 38	88	65	5673	-9.65	1448.83	-22.4
788	SLU 39	88	51	5785	-9.85	1476.97	-17.53
788	SLU 40	88	64	5774	-9.99	1477.14	-22.25
788	SLU 41	89	52	5851	-9.9	1492.22	-17.95
788	SLU 42	89	65	5839	-10.04	1492.39	-22.67
788	SLU 43	92	54	5403	-9.02	1386.65	-18.79
788	SLU 44	91	77	5383	-9.26	1386.93	-26.64
788	SLU 45	94	55	5506	-9.13	1411.12	-19.13
788	SLU 46	93	69	5494	-9.28	1411.29	-23.84
788	SLU 47	92	78	5448	-9.31	1402.18	-27.07
788	SLU 48	95	56	5571	-9.18	1426.37	-19.55
788	SLU 49	94	70	5559	-9.33	1426.54	-24.26
788	SLU 50	94	57	5533	-9.13	1417.15	-19.63
788	SLU 51	93	70	5521	-9.27	1417.32	-24.34
788	SLU 52	96	81	5922	-10.3	1524.16	-28.24
788	SLU 53	98	60	6045	-10.17	1548.35	-20.73
788	SLU 54	98	73	6033	-10.32	1548.52	-25.44
788	SLU 55	97	83	5988	-10.35	1539.41	-28.66
788	SLU 56	100	61	6110	-10.23	1563.6	-21.15
788	SLU 57	99	74	6098	-10.37	1563.77	-25.86
788	SLU 58	99	61	6072	-10.17	1554.38	-21.23
788	SLU 59	98	75	6061	-10.31	1554.55	-25.94
788	SLU 60	99	61	6173	-10.51	1582.7	-21.08
788	SLU 61	98	74	6161	-10.65	1582.86	-25.79
788	SLU 62	100	62	6238	-10.56	1597.95	-21.5
788	SLU 63	99	75	6226	-10.7	1598.11	-26.21
788	SLU 64	100	56	6083	-10.14	1556.2	-19.42
788	SLU 65	99	79	6063	-10.38	1556.48	-27.27
788	SLU 66	102	57	6186	-10.26	1580.67	-19.76
788	SLU 67	101	71	6174	-10.4	1580.84	-24.47
788	SLU 68	100	80	6129	-10.44	1571.73	-27.69
788	SLU 69	103	58	6251	-10.31	1595.92	-20.18
788	SLU 70	102	72	6239	-10.45	1596.09	-24.89
788	SLU 71	102	59	6213	-10.25	1586.7	-20.26
788	SLU 72	102	72	6202	-10.39	1586.87	-24.97
788	SLU 73	104	83	6602	-11.43	1693.71	-28.87
788	SLU 74	107	62	6725	-11.3	1717.9	-21.36
788	SLU 75	106	75	6713	-11.44	1718.07	-26.07
788	SLU 76	105	84	6668	-11.48	1708.97	-29.29
788	SLU 77	108	63	6790	-11.35	1733.15	-21.78
788	SLU 78	107	76	6778	-11.49	1733.32	-26.49
788	SLU 79	107	63	6752	-11.29	1723.94	-21.86
788	SLU 80	107	77	6741	-11.44	1724.1	-26.57
788	SLU 81	107	63	6853	-11.63	1752.25	-21.7
788	SLU 82	107	76	6841	-11.78	1752.42	-26.42
788	SLU 83	108	64	6918	-11.69	1767.5	-22.12
788	SLU 84	108	77	6906	-11.83	1767.67	-26.84
788	SLE RA 1	75	43	4530	-7.56	1159.81	-14.8
788	SLE RA 2	75	58	4517	-7.72	1160	-20.04
788	SLE RA 3	76	43	4598	-7.63	1176.13	-15.02
788	SLE RA 4	76	52	4590	-7.73	1176.24	-18.17
788	SLE RA 5	75	59	4560	-7.75	1170.17	-20.32
788	SLE RA 6	77	44	4642	-7.67	1186.29	-15.3
788	SLE RA 7	77	53	4634	-7.76	1186.41	-18.45
788	SLE RA 8	77	44	4616	-7.63	1180.15	-15.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
788	SLE RA 9	76	53	4609	-7.72	1180.26	-18.5
788	SLE RA 10	78	61	4876	-8.41	1251.49	-21.1
788	SLE RA 11	80	46	4958	-8.33	1267.61	-16.09
788	SLE RA 12	79	55	4950	-8.42	1267.73	-19.23
788	SLE RA 13	79	62	4919	-8.45	1261.66	-21.38
788	SLE RA 14	80	47	5001	-8.36	1277.78	-16.37
788	SLE RA 15	80	56	4993	-8.46	1277.89	-19.51
788	SLE RA 16	80	47	4976	-8.32	1271.64	-16.43
788	SLE RA 17	80	56	4968	-8.42	1271.75	-19.57
788	SLE RA 18	80	47	5043	-8.55	1290.51	-16.32
788	SLE RA 19	80	56	5035	-8.64	1290.62	-19.46
788	SLE RA 20	81	48	5086	-8.58	1300.68	-16.6
788	SLE RA 21	80	57	5079	-8.68	1300.79	-19.74
788	SLE FR 1	75	43	4530	-7.56	1159.81	-14.8
788	SLE FR 2	75	46	4527	-7.59	1159.85	-15.85
788	SLE FR 3	76	43	4547	-7.57	1163.88	-14.91
788	SLE FR 4	77	47	4681	-7.89	1199.06	-16.3
788	SLE FR 5	77	44	4701	-7.87	1203.09	-15.37
788	SLE FR 6	78	45	4786	-8.05	1225.16	-15.56
788	SLE QP 1	75	43	4530	-7.56	1159.81	-14.8
788	SLE QP 2	77	44	4684	-7.85	1199.02	-15.26
788	SLD 1	395	80	3349	-7.5	915.75	-28.13
788	SLD 2	376	204	3326	-7.8	917	-71.07
788	SLD 3	407	-200	3630	-3.84	909.17	70.03
788	SLD 4	388	-77	3607	-4.13	910.42	27.09
788	SLD 5	157	460	3860	-13.26	1123.81	-160.62
788	SLD 6	145	539	3846	-13.45	1124.62	-188.26
788	SLD 7	197	-476	4798	-1.04	1101.87	166.59
788	SLD 8	185	-397	4783	-1.23	1102.68	138.94
788	SLD 9	-32	485	4584	-14.48	1295.37	-169.46
788	SLD 10	-44	564	4569	-14.67	1296.18	-197.11
788	SLD 11	8	-451	5521	-2.26	1273.43	157.75
788	SLD 12	-4	-371	5507	-2.45	1274.24	130.1
788	SLD 13	-235	165	5760	-11.57	1487.63	-57.61
788	SLD 14	-254	288	5737	-11.87	1488.88	-100.54
788	SLD 15	-223	-116	6041	-7.91	1481.05	40.56
788	SLD 16	-242	8	6018	-8.2	1482.3	-2.38
788	SLV 1	574	120	2580	-7.57	757.42	-42.01
788	SLV 2	544	314	2544	-8.04	759.39	-109.69
788	SLV 3	595	-359	3061	-1.32	746.35	125.51
788	SLV 4	565	-165	3024	-1.79	748.33	57.83
788	SLV 5	201	757	3331	-17.17	1082.96	-264.72
788	SLV 6	181	888	3307	-17.49	1084.29	-310.28
788	SLV 7	268	-840	4932	3.69	1046.07	293.67
788	SLV 8	248	-709	4907	3.37	1047.4	248.11
788	SLV 9	-95	797	4460	-19.08	1350.65	-278.62
788	SLV 10	-115	928	4435	-19.39	1351.98	-324.18
788	SLV 11	-27	-800	6060	1.78	1313.76	279.77
788	SLV 12	-47	-669	6036	1.46	1315.09	234.21
788	SLV 13	-412	253	6343	-13.92	1649.72	-88.34
788	SLV 14	-441	447	6306	-14.39	1651.69	-156.02
788	SLV 15	-391	-226	6823	-7.67	1638.65	79.18
788	SLV 16	-421	-32	6787	-8.14	1640.63	11.49
788	SLV FO 1	624	128	2370	-7.54	713.26	-44.68
788	SLV FO 2	591	341	2330	-8.06	715.43	-119.13
788	SLV FO 3	646	-399	2898	-0.66	701.09	139.59
788	SLV FO 4	614	-186	2858	-1.18	703.26	65.13
788	SLV FO 5	213	828	3196	-18.1	1071.35	-289.67
788	SLV FO 6	191	972	3169	-18.45	1072.81	-339.78
788	SLV FO 7	288	-928	4956	4.84	1030.78	324.56
788	SLV FO 8	266	-784	4929	4.49	1032.24	274.44
788	SLV FO 9	-112	872	4438	-20.2	1365.81	-304.96
788	SLV FO 10	-134	1016	4411	-20.55	1367.27	-355.07
788	SLV FO 11	-38	-884	6198	2.74	1325.23	309.27
788	SLV FO 12	-60	-740	6171	2.4	1326.7	259.15
788	SLV FO 13	-460	274	6509	-14.53	1694.79	-95.65
788	SLV FO 14	-493	488	6469	-15.05	1696.96	-170.1
788	SLV FO 15	-438	-253	7037	-7.65	1682.62	88.62
788	SLV FO 16	-471	-39	6997	-8.16	1684.79	14.17
788	CRTFP Ux+	0	0	0	0	0	0
788	CRTFP Ux-	0	0	0	0	0	0
788	CRTFP Uy+	0	0	0	0	0	0
788	CRTFP Uy-	0	0	0	0	0	0
790	SLU 1	91	38	6231	1.73	-18.32	0.04
790	SLU 2	90	67	6200	1.39	-19.48	0.16
790	SLU 3	93	39	6385	1.9	-18.4	0.01
790	SLU 4	93	56	6366	1.69	-19.1	0.08
790	SLU 5	91	67	6301	1.52	-19.5	0.13
790	SLU 6	95	39	6486	2.03	-18.41	-0.02
790	SLU 7	94	57	6467	1.82	-19.11	0.05
790	SLU 8	94	39	6433	1.99	-18.35	-0.02
790	SLU 9	93	56	6414	1.79	-19.05	0.05
790	SLU 10	96	72	7017	1.57	-21.73	0.18
790	SLU 11	99	44	7202	2.07	-20.65	0.03
790	SLU 12	99	61	7183	1.87	-21.35	0.1
790	SLU 13	97	72	7118	1.7	-21.75	0.15
790	SLU 14	101	44	7303	2.2	-20.66	0
790	SLU 15	100	62	7284	2	-21.36	0.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
790	SLU 16	100	44	7250	2.17	-20.6	0
790	SLU 17	100	61	7231	1.97	-21.3	0.07
790	SLU 18	99	45	7398	1.99	-21.53	0.07
790	SLU 19	99	63	7379	1.78	-22.23	0.14
790	SLU 20	101	46	7499	2.12	-21.54	0.04
790	SLU 21	101	63	7480	1.91	-22.25	0.11
790	SLU 22	103	43	7257	2.24	-20.49	0.03
790	SLU 23	102	71	7226	1.9	-21.66	0.15
790	SLU 24	106	43	7411	2.41	-20.57	0
790	SLU 25	105	61	7392	2.2	-21.27	0.07
790	SLU 26	104	72	7327	2.03	-21.67	0.12
790	SLU 27	107	44	7512	2.54	-20.58	-0.03
790	SLU 28	107	61	7493	2.33	-21.29	0.04
790	SLU 29	106	44	7459	2.5	-20.52	-0.03
790	SLU 30	106	61	7440	2.3	-21.22	0.04
790	SLU 31	108	77	8043	2.08	-23.91	0.17
790	SLU 32	112	49	8228	2.58	-22.82	0.02
790	SLU 33	111	66	8209	2.38	-23.52	0.09
790	SLU 34	110	77	8144	2.21	-23.92	0.14
790	SLU 35	114	49	8329	2.71	-22.83	-0.01
790	SLU 36	113	66	8310	2.51	-23.54	0.06
790	SLU 37	113	49	8276	2.68	-22.77	-0.01
790	SLU 38	112	66	8257	2.48	-23.47	0.06
790	SLU 39	112	50	8424	2.5	-23.7	0.06
790	SLU 40	111	67	8405	2.29	-24.4	0.13
790	SLU 41	114	50	8525	2.63	-23.72	0.03
790	SLU 42	113	68	8506	2.42	-24.42	0.1
790	SLU 43	113	48	7748	2.08	-23.07	0.05
790	SLU 44	112	77	7717	1.73	-24.23	0.17
790	SLU 45	116	49	7902	2.24	-23.15	0.02
790	SLU 46	115	66	7884	2.03	-23.85	0.1
790	SLU 47	114	77	7818	1.86	-24.25	0.14
790	SLU 48	118	49	8003	2.37	-23.16	0
790	SLU 49	117	66	7984	2.16	-23.86	0.07
790	SLU 50	117	49	7950	2.34	-23.1	-0.01
790	SLU 51	116	66	7931	2.13	-23.8	0.07
790	SLU 52	119	82	8534	1.91	-26.48	0.19
790	SLU 53	122	54	8719	2.42	-25.4	0.04
790	SLU 54	122	71	8701	2.21	-26.1	0.12
790	SLU 55	120	82	8635	2.04	-26.5	0.16
790	SLU 56	124	54	8820	2.55	-25.41	0.02
790	SLU 57	123	72	8801	2.34	-26.11	0.09
790	SLU 58	123	54	8767	2.52	-25.35	0.01
790	SLU 59	122	71	8748	2.31	-26.05	0.09
790	SLU 60	122	55	8915	2.33	-26.28	0.08
790	SLU 61	122	72	8897	2.13	-26.98	0.15
790	SLU 62	124	56	9016	2.46	-26.29	0.05
790	SLU 63	123	73	8998	2.26	-27	0.12
790	SLU 64	126	52	8774	2.59	-25.24	0.04
790	SLU 65	125	81	8743	2.24	-26.41	0.16
790	SLU 66	129	53	8928	2.75	-25.32	0.01
790	SLU 67	128	71	8910	2.54	-26.02	0.09
790	SLU 68	127	82	8844	2.37	-26.42	0.13
790	SLU 69	130	54	9029	2.88	-25.33	-0.01
790	SLU 70	130	71	9010	2.67	-26.04	0.06
790	SLU 71	129	54	8976	2.85	-25.27	-0.02
790	SLU 72	129	71	8957	2.64	-25.97	0.06
790	SLU 73	131	86	9560	2.42	-28.66	0.18
790	SLU 74	135	58	9745	2.93	-27.57	0.03
790	SLU 75	134	76	9727	2.72	-28.27	0.11
790	SLU 76	133	87	9661	2.55	-28.67	0.15
790	SLU 77	136	59	9846	3.06	-27.58	0.01
790	SLU 78	136	76	9828	2.85	-28.29	0.08
790	SLU 79	135	59	9793	3.03	-27.52	0
790	SLU 80	135	76	9774	2.82	-28.22	0.08
790	SLU 81	135	60	9942	2.84	-28.45	0.07
790	SLU 82	134	77	9923	2.64	-29.15	0.14
790	SLU 83	136	60	10042	2.97	-28.47	0.04
790	SLU 84	136	78	10024	2.77	-29.17	0.11
790	SLE RA 1	94	39	6524	1.88	-18.94	0.03
790	SLE RA 2	94	59	6503	1.65	-19.72	0.11
790	SLE RA 3	96	40	6627	1.99	-18.99	0.02
790	SLE RA 4	96	51	6614	1.85	-19.46	0.06
790	SLE RA 5	95	59	6571	1.74	-19.73	0.09
790	SLE RA 6	97	40	6694	2.07	-19	0
790	SLE RA 7	97	52	6681	1.94	-19.47	0.04
790	SLE RA 8	96	40	6658	2.05	-18.96	0
790	SLE RA 9	96	52	6646	1.91	-19.42	0.04
790	SLE RA 10	98	62	7048	1.77	-21.22	0.13
790	SLE RA 11	100	43	7171	2.11	-20.49	0.03
790	SLE RA 12	100	55	7159	1.97	-20.96	0.08
790	SLE RA 13	99	62	7115	1.85	-21.23	0.11
790	SLE RA 14	101	44	7239	2.19	-20.5	0.01
790	SLE RA 15	101	55	7226	2.06	-20.97	0.06
790	SLE RA 16	100	43	7203	2.17	-20.46	0.01
790	SLE RA 17	100	55	7191	2.03	-20.92	0.06
790	SLE RA 18	100	44	7302	2.05	-21.08	0.05
790	SLE RA 19	100	56	7290	1.91	-21.55	0.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
790	SLE RA 20	101	45	7369	2.14	-21.09	0.03
790	SLE RA 21	101	56	7357	2	-21.56	0.08
790	SLE FR 1	94	39	6524	1.88	-18.94	0.03
790	SLE FR 2	94	43	6520	1.83	-19.09	0.05
790	SLE FR 3	95	39	6551	1.91	-18.94	0.03
790	SLE FR 4	96	45	6753	1.88	-19.74	0.06
790	SLE FR 5	96	41	6784	1.96	-19.58	0.03
790	SLE FR 6	97	42	6913	1.96	-20.01	0.04
790	SLE QP 1	94	39	6524	1.88	-18.94	0.03
790	SLE QP 2	96	41	6757	1.93	-19.58	0.04
790	SLD 1	613	215	5884	-1.28	-19.3	-0.63
790	SLD 2	587	304	5865	-1.6	-18.7	1.24
790	SLD 3	627	-151	6368	4.18	-3.17	-2.31
790	SLD 4	601	-61	6350	3.85	-2.57	-0.44
790	SLD 5	235	632	5764	-7.25	-44.05	2.07
790	SLD 6	218	690	5752	-7.46	-43.67	3.27
790	SLD 7	280	-587	7379	10.93	9.69	-3.54
790	SLD 8	263	-529	7367	10.72	10.08	-2.33
790	SLD 9	-72	611	6148	-6.86	-49.24	2.41
790	SLD 10	-88	668	6136	-7.07	-48.85	3.62
790	SLD 11	-27	-608	7763	11.32	4.51	-3.19
790	SLD 12	-43	-550	7751	11.11	4.89	-1.99
790	SLD 13	-409	143	7165	0.01	-36.59	0.52
790	SLD 14	-435	233	7147	-0.32	-35.99	2.39
790	SLD 15	-396	-223	7650	5.46	-20.46	-1.16
790	SLD 16	-422	-133	7631	5.14	-19.86	0.71
790	SLV 1	905	338	5358	-3.48	-20.17	-0.9
790	SLV 2	864	480	5329	-3.99	-19.22	2.04
790	SLV 3	928	-285	6185	5.83	7.35	-3.77
790	SLV 4	887	-144	6156	5.32	8.3	-0.82
790	SLV 5	312	1050	5089	-13.71	-61.67	3.56
790	SLV 6	284	1145	5069	-14.06	-61.03	5.54
790	SLV 7	388	-1029	7846	17.31	30.06	-6.01
790	SLV 8	360	-934	7826	16.97	30.7	-4.02
790	SLV 9	-169	1016	5689	-13.11	-69.86	4.1
790	SLV 10	-196	1111	5669	-13.45	-69.22	6.09
790	SLV 11	-92	-1063	8446	17.92	21.87	-5.46
790	SLV 12	-120	-968	8426	17.57	22.51	-3.48
790	SLV 13	-695	226	7359	-1.46	-47.46	0.9
790	SLV 14	-736	367	7330	-1.97	-46.51	3.85
790	SLV 15	-672	-398	8186	7.85	-19.94	-1.96
790	SLV 16	-713	-257	8157	7.33	-18.99	0.98
790	SLV FO 1	986	368	5218	-4.02	-20.23	-1
790	SLV FO 2	941	523	5186	-4.58	-19.18	2.24
790	SLV FO 3	1011	-318	6128	6.22	10.05	-4.16
790	SLV FO 4	966	-163	6096	5.66	11.09	-0.91
790	SLV FO 5	333	1151	4922	-15.28	-65.88	3.91
790	SLV FO 6	303	1255	4900	-15.66	-65.18	6.09
790	SLV FO 7	417	-1137	7954	18.85	35.03	-6.61
790	SLV FO 8	387	-1032	7933	18.47	35.73	-4.43
790	SLV FO 9	-195	1113	5582	-14.61	-74.89	4.51
790	SLV FO 10	-225	1218	5560	-14.99	-74.19	6.69
790	SLV FO 11	-111	-1174	8615	19.52	26.02	-6.01
790	SLV FO 12	-141	-1069	8593	19.14	26.72	-3.83
790	SLV FO 13	-775	244	7419	-1.8	-50.25	0.99
790	SLV FO 14	-820	400	7387	-2.36	-49.21	4.23
790	SLV FO 15	-749	-442	8329	8.44	-19.98	-2.16
790	SLV FO 16	-794	-287	8297	7.88	-18.93	1.08
790	CRTFP Ux+	0	0	0	0	0	0
790	CRTFP Ux-	0	0	0	0	0	0
790	CRTFP Uy+	0	0	0	0	0	0
790	CRTFP Uy-	0	0	0	0	0	0
793	SLU 1	-79	22	6515	-0.87	1.23	0.71
793	SLU 2	-78	53	6487	-1.25	2.91	0.62
793	SLU 3	-81	22	6680	-0.8	0.77	0.74
793	SLU 4	-80	41	6663	-1.03	1.78	0.69
793	SLU 5	-79	54	6595	-1.19	2.58	0.64
793	SLU 6	-82	22	6789	-0.74	0.43	0.77
793	SLU 7	-81	41	6771	-0.97	1.44	0.71
793	SLU 8	-81	22	6732	-0.76	0.56	0.76
793	SLU 9	-80	41	6715	-0.98	1.57	0.7
793	SLU 10	-81	56	7355	-1.46	1.82	0.74
793	SLU 11	-84	25	7548	-1	-0.33	0.87
793	SLU 12	-83	44	7531	-1.23	0.68	0.81
793	SLU 13	-82	56	7464	-1.4	1.48	0.76
793	SLU 14	-85	25	7657	-0.95	-0.66	0.89
793	SLU 15	-84	44	7640	-1.17	0.35	0.83
793	SLU 16	-84	25	7601	-0.96	-0.53	0.88
793	SLU 17	-84	44	7584	-1.19	0.48	0.82
793	SLU 18	-84	26	7756	-1.16	-0.33	0.88
793	SLU 19	-83	45	7739	-1.39	0.68	0.83
793	SLU 20	-85	26	7864	-1.11	-0.67	0.91
793	SLU 21	-84	45	7847	-1.33	0.34	0.85
793	SLU 22	-88	24	7603	-0.81	-0.69	0.89
793	SLU 23	-87	55	7574	-1.19	0.99	0.8
793	SLU 24	-90	24	7767	-0.74	-1.15	0.92
793	SLU 25	-89	43	7750	-0.97	-0.14	0.87
793	SLU 26	-88	55	7683	-1.13	0.66	0.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
793	SLU 27	-91	24	7876	-0.68	-1.49	0.95
793	SLU 28	-90	43	7859	-0.91	-0.48	0.89
793	SLU 29	-90	24	7820	-0.7	-1.36	0.94
793	SLU 30	-89	43	7803	-0.92	-0.35	0.88
793	SLU 31	-90	58	8442	-1.4	-0.1	0.92
793	SLU 32	-93	27	8636	-0.94	-2.24	1.05
793	SLU 33	-92	46	8618	-1.17	-1.23	0.99
793	SLU 34	-91	58	8551	-1.34	-0.43	0.94
793	SLU 35	-94	27	8744	-0.89	-2.58	1.07
793	SLU 36	-93	46	8727	-1.11	-1.57	1.01
793	SLU 37	-93	27	8688	-0.9	-2.45	1.06
793	SLU 38	-92	46	8671	-1.13	-1.44	1
793	SLU 39	-93	28	8843	-1.1	-2.25	1.06
793	SLU 40	-92	47	8826	-1.33	-1.24	1.01
793	SLU 41	-94	28	8952	-1.05	-2.58	1.09
793	SLU 42	-93	47	8935	-1.27	-1.57	1.03
793	SLU 43	-99	28	8097	-1.16	2.25	0.86
793	SLU 44	-98	59	8068	-1.54	3.94	0.77
793	SLU 45	-101	28	8262	-1.08	1.79	0.9
793	SLU 46	-101	47	8245	-1.31	2.8	0.84
793	SLU 47	-99	60	8177	-1.48	3.6	0.79
793	SLU 48	-102	28	8370	-1.02	1.46	0.92
793	SLU 49	-102	47	8353	-1.25	2.47	0.86
793	SLU 50	-101	28	8314	-1.04	1.58	0.91
793	SLU 51	-101	47	8297	-1.27	2.59	0.85
793	SLU 52	-102	62	8937	-1.74	2.84	0.89
793	SLU 53	-105	31	9130	-1.29	0.7	1.02
793	SLU 54	-104	50	9113	-1.52	1.71	0.96
793	SLU 55	-103	62	9045	-1.68	2.51	0.91
793	SLU 56	-106	31	9239	-1.23	0.36	1.04
793	SLU 57	-105	50	9221	-1.46	1.37	0.98
793	SLU 58	-105	31	9183	-1.24	0.49	1.03
793	SLU 59	-104	50	9165	-1.47	1.5	0.97
793	SLU 60	-104	32	9337	-1.45	0.69	1.03
793	SLU 61	-104	51	9320	-1.68	1.7	0.98
793	SLU 62	-105	32	9446	-1.39	0.36	1.06
793	SLU 63	-105	51	9429	-1.62	1.37	1
793	SLU 64	-108	30	9184	-1.1	0.33	1.04
793	SLU 65	-107	61	9156	-1.48	2.02	0.95
793	SLU 66	-110	30	9349	-1.02	-0.13	1.08
793	SLU 67	-110	49	9332	-1.25	0.88	1.02
793	SLU 68	-108	61	9264	-1.42	1.68	0.97
793	SLU 69	-111	30	9458	-0.96	-0.46	1.1
793	SLU 70	-111	49	9441	-1.19	0.55	1.04
793	SLU 71	-110	30	9402	-0.98	-0.33	1.09
793	SLU 72	-110	49	9384	-1.21	0.68	1.03
793	SLU 73	-111	64	10024	-1.68	0.93	1.07
793	SLU 74	-114	33	10217	-1.23	-1.22	1.2
793	SLU 75	-113	52	10200	-1.46	-0.21	1.14
793	SLU 76	-112	64	10133	-1.62	0.59	1.09
793	SLU 77	-115	33	10326	-1.17	-1.55	1.22
793	SLU 78	-114	52	10309	-1.4	-0.54	1.16
793	SLU 79	-114	33	10270	-1.18	-1.43	1.21
793	SLU 80	-113	52	10253	-1.41	-0.42	1.15
793	SLU 81	-113	34	10425	-1.39	-1.22	1.21
793	SLU 82	-113	53	10408	-1.62	-0.21	1.16
793	SLU 83	-114	34	10533	-1.33	-1.56	1.24
793	SLU 84	-114	53	10516	-1.56	-0.55	1.18
793	SLE RA 1	-81	22	6826	-0.86	0.68	0.76
793	SLE RA 2	-81	43	6807	-1.11	1.8	0.7
793	SLE RA 3	-83	23	6936	-0.81	0.37	0.78
793	SLE RA 4	-82	35	6924	-0.96	1.04	0.75
793	SLE RA 5	-81	44	6879	-1.07	1.58	0.71
793	SLE RA 6	-83	23	7008	-0.77	0.15	0.8
793	SLE RA 7	-83	35	6997	-0.92	0.82	0.76
793	SLE RA 8	-83	23	6971	-0.78	0.23	0.79
793	SLE RA 9	-82	35	6959	-0.93	0.91	0.75
793	SLE RA 10	-83	45	7386	-1.25	1.07	0.78
793	SLE RA 11	-85	24	7515	-0.94	-0.36	0.86
793	SLE RA 12	-84	37	7503	-1.1	0.32	0.83
793	SLE RA 13	-84	45	7458	-1.21	0.85	0.8
793	SLE RA 14	-86	25	7587	-0.9	-0.58	0.88
793	SLE RA 15	-85	37	7576	-1.06	0.09	0.84
793	SLE RA 16	-85	24	7550	-0.91	-0.5	0.87
793	SLE RA 17	-85	37	7538	-1.07	0.18	0.84
793	SLE RA 18	-85	25	7653	-1.05	-0.36	0.88
793	SLE RA 19	-84	38	7641	-1.2	0.31	0.84
793	SLE RA 20	-85	25	7725	-1.01	-0.58	0.89
793	SLE RA 21	-85	38	7714	-1.16	0.09	0.85
793	SLE FR 1	-81	22	6826	-0.86	0.68	0.76
793	SLE FR 2	-81	27	6822	-0.91	0.9	0.75
793	SLE FR 3	-82	22	6855	-0.84	0.59	0.77
793	SLE FR 4	-82	27	7070	-0.96	0.59	0.78
793	SLE FR 5	-83	23	7103	-0.9	0.28	0.8
793	SLE FR 6	-83	24	7239	-0.95	0.16	0.82
793	SLE QP 1	-81	22	6826	-0.86	0.68	0.76
793	SLE QP 2	-82	23	7074	-0.91	0.37	0.79
793	SLD 1	465	225	7693	-4.18	21.5	-1.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
793	SLD 2	437	127	7701	-3.85	20.46	0.56
793	SLD 3	451	-171	8124	1.67	-1.29	-0.1
793	SLD 4	423	-268	8131	2.01	-2.33	1.75
793	SLD 5	108	700	6605	-10.83	41.45	-1.96
793	SLD 6	90	637	6610	-10.62	40.78	-0.77
793	SLD 7	61	-618	8040	8.68	-34.51	2.02
793	SLD 8	43	-680	8046	8.9	-35.19	3.21
793	SLD 9	-208	727	6102	-10.73	35.92	-1.62
793	SLD 10	-226	664	6107	-10.51	35.25	-0.43
793	SLD 11	-255	-591	7538	8.79	-40.04	2.36
793	SLD 12	-273	-653	7543	9	-40.72	3.55
793	SLD 13	-588	315	6017	-3.83	3.06	-0.16
793	SLD 14	-616	217	6024	-3.5	2.02	1.69
793	SLD 15	-602	-80	6447	2.02	-19.72	1.03
793	SLD 16	-630	-178	6455	2.35	-20.77	2.88
793	SLV 1	775	367	8009	-6.45	35.18	-2.56
793	SLV 2	731	213	8021	-5.92	33.53	0.35
793	SLV 3	752	-307	8743	3.54	-3.7	-0.53
793	SLV 4	708	-461	8755	4.06	-5.35	2.38
793	SLV 5	219	1177	6238	-17.82	70.09	-3.84
793	SLV 6	189	1074	6246	-17.47	68.98	-1.88
793	SLV 7	140	-1070	8686	15.47	-59.51	2.93
793	SLV 8	110	-1173	8695	15.83	-60.62	4.89
793	SLV 9	-275	1220	5453	-17.65	61.36	-3.31
793	SLV 10	-305	1116	5462	-17.3	60.25	-1.34
793	SLV 11	-354	-1027	7902	15.64	-68.24	3.47
793	SLV 12	-384	-1131	7910	15.99	-69.35	5.43
793	SLV 13	-872	508	5393	-5.89	6.08	-0.79
793	SLV 14	-917	354	5405	-5.37	4.43	2.12
793	SLV 15	-896	-166	6127	4.1	-32.8	1.24
793	SLV 16	-940	-320	6139	4.62	-34.45	4.15
793	SLV FO 1	861	401	8102	-7.01	38.66	-2.9
793	SLV FO 2	813	232	8116	-6.43	36.85	0.3
793	SLV FO 3	835	-340	8910	3.98	-4.1	-0.67
793	SLV FO 4	787	-510	8923	4.56	-5.92	2.54
793	SLV FO 5	249	1293	6155	-19.51	77.06	-4.3
793	SLV FO 6	217	1179	6164	-19.12	75.84	-2.14
793	SLV FO 7	162	-1179	8848	17.11	-65.5	3.15
793	SLV FO 8	130	-1293	8857	17.5	-66.72	5.3
793	SLV FO 9	-295	1339	5291	-19.33	67.45	-3.72
793	SLV FO 10	-327	1225	5300	-18.94	66.23	-1.56
793	SLV FO 11	-381	-1132	7984	17.3	-75.1	3.73
793	SLV FO 12	-414	-1246	7993	17.69	-76.32	5.89
793	SLV FO 13	-951	556	5225	-6.39	6.65	-0.95
793	SLV FO 14	-1000	387	5238	-5.81	4.84	2.25
793	SLV FO 15	-977	-185	6032	4.6	-36.12	1.29
793	SLV FO 16	-1026	-354	6046	5.18	-37.93	4.49
793	CRTFP Ux+	0	0	0	0	0	0
793	CRTFP Ux-	0	0	0	0	0	0
793	CRTFP Uy+	0	0	0	0	0	0
793	CRTFP Uy-	0	0	0	0	0	0
796	SLU 1	1	35	3035	-3.02	717.85	-8.95
796	SLU 2	1	52	3028	-3.11	714.53	-13.17
796	SLU 3	2	36	3109	-3.07	735.83	-9.13
796	SLU 4	2	46	3105	-3.13	733.84	-11.67
796	SLU 5	1	52	3077	-3.15	726.37	-13.25
796	SLU 6	2	36	3158	-3.11	747.68	-9.21
796	SLU 7	2	46	3154	-3.16	745.68	-11.75
796	SLU 8	2	35	3132	-3.09	741.54	-9.1
796	SLU 9	2	46	3128	-3.14	739.54	-11.64
796	SLU 10	2	54	3443	-3.64	811.98	-13.85
796	SLU 11	3	38	3524	-3.6	833.28	-9.81
796	SLU 12	3	48	3520	-3.65	831.29	-12.35
796	SLU 13	2	55	3491	-3.67	823.82	-13.93
796	SLU 14	3	39	3573	-3.63	845.13	-9.89
796	SLU 15	3	49	3568	-3.69	843.13	-12.42
796	SLU 16	3	38	3547	-3.61	838.99	-9.78
796	SLU 17	3	48	3543	-3.67	836.99	-12.31
796	SLU 18	3	39	3627	-3.77	857.07	-9.92
796	SLU 19	3	49	3623	-3.83	855.07	-12.45
796	SLU 20	3	39	3676	-3.8	868.91	-9.99
796	SLU 21	3	49	3672	-3.86	866.92	-12.53
796	SLU 22	2	40	3538	-3.49	836.77	-10.15
796	SLU 23	2	56	3531	-3.58	833.45	-14.37
796	SLU 24	2	40	3612	-3.54	854.75	-10.34
796	SLU 25	2	50	3608	-3.59	852.76	-12.87
796	SLU 26	2	57	3580	-3.61	845.29	-14.45
796	SLU 27	3	41	3661	-3.57	866.6	-10.41
796	SLU 28	3	51	3657	-3.63	864.6	-12.95
796	SLU 29	3	40	3636	-3.55	860.46	-10.31
796	SLU 30	3	50	3631	-3.61	858.46	-12.84
796	SLU 31	3	59	3946	-4.1	930.9	-15.05
796	SLU 32	3	43	4027	-4.06	952.2	-11.01
796	SLU 33	3	53	4023	-4.12	950.21	-13.55
796	SLU 34	3	59	3995	-4.14	942.74	-15.13
796	SLU 35	4	43	4076	-4.1	964.04	-11.09
796	SLU 36	4	53	4072	-4.15	962.05	-13.62
796	SLU 37	4	43	4050	-4.08	957.91	-10.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
796	SLU 38	4	53	4046	-4.13	955.91	-13.52
796	SLU 39	4	43	4130	-4.24	975.99	-11.12
796	SLU 40	3	54	4126	-4.29	973.99	-13.65
796	SLU 41	4	44	4179	-4.27	987.83	-11.2
796	SLU 42	4	54	4175	-4.32	985.83	-13.73
796	SLU 43	2	44	3773	-3.77	892.44	-11.22
796	SLU 44	1	61	3766	-3.86	889.11	-15.45
796	SLU 45	2	44	3847	-3.82	910.42	-11.41
796	SLU 46	2	55	3843	-3.88	908.42	-13.94
796	SLU 47	2	61	3815	-3.89	900.96	-15.52
796	SLU 48	2	45	3896	-3.85	922.26	-11.49
796	SLU 49	2	55	3892	-3.91	920.27	-14.02
796	SLU 50	2	44	3870	-3.83	916.12	-11.38
796	SLU 51	2	54	3866	-3.89	914.13	-13.91
796	SLU 52	2	63	4181	-4.39	986.56	-16.12
796	SLU 53	3	47	4262	-4.35	1007.87	-12.08
796	SLU 54	3	57	4258	-4.4	1005.87	-14.62
796	SLU 55	3	64	4229	-4.42	998.41	-16.2
796	SLU 56	3	47	4311	-4.38	1019.71	-12.16
796	SLU 57	3	58	4306	-4.43	1017.71	-14.7
796	SLU 58	3	47	4285	-4.36	1013.57	-12.05
796	SLU 59	3	57	4281	-4.41	1011.58	-14.59
796	SLU 60	3	48	4365	-4.52	1031.65	-12.19
796	SLU 61	3	58	4361	-4.57	1029.66	-14.72
796	SLU 62	3	48	4414	-4.55	1043.49	-12.27
796	SLU 63	3	58	4410	-4.61	1041.5	-14.8
796	SLU 64	2	48	4276	-4.23	1011.36	-12.42
796	SLU 65	2	65	4269	-4.33	1008.03	-16.65
796	SLU 66	3	49	4350	-4.29	1029.34	-12.61
796	SLU 67	2	59	4346	-4.34	1027.34	-15.14
796	SLU 68	2	66	4318	-4.36	1019.87	-16.72
796	SLU 69	3	49	4399	-4.32	1041.18	-12.69
796	SLU 70	3	60	4395	-4.37	1039.18	-15.22
796	SLU 71	3	49	4374	-4.3	1035.04	-12.58
796	SLU 72	3	59	4369	-4.35	1033.05	-15.11
796	SLU 73	3	68	4684	-4.85	1105.48	-17.32
796	SLU 74	4	52	4765	-4.81	1126.79	-13.29
796	SLU 75	3	62	4761	-4.87	1124.79	-15.82
796	SLU 76	3	68	4733	-4.88	1117.32	-17.4
796	SLU 77	4	52	4814	-4.84	1138.63	-13.36
796	SLU 78	4	62	4810	-4.9	1136.63	-15.9
796	SLU 79	4	52	4788	-4.82	1132.49	-13.26
796	SLU 80	4	62	4784	-4.88	1130.5	-15.79
796	SLU 81	4	52	4868	-4.98	1150.57	-13.39
796	SLU 82	4	62	4864	-5.04	1148.57	-15.92
796	SLU 83	4	53	4917	-5.02	1162.41	-13.47
796	SLU 84	4	63	4913	-5.07	1160.42	-16
796	SLE RA 1	2	36	3179	-3.16	751.83	-9.29
796	SLE RA 2	1	47	3174	-3.22	749.61	-12.11
796	SLE RA 3	2	37	3228	-3.19	763.82	-9.42
796	SLE RA 4	2	43	3225	-3.23	762.49	-11.11
796	SLE RA 5	2	48	3207	-3.24	757.51	-12.16
796	SLE RA 6	2	37	3261	-3.21	771.71	-9.47
796	SLE RA 7	2	44	3258	-3.25	770.38	-11.16
796	SLE RA 8	2	37	3244	-3.2	767.62	-9.4
796	SLE RA 9	2	43	3241	-3.23	766.29	-11.09
796	SLE RA 10	2	49	3450	-3.57	814.58	-12.56
796	SLE RA 11	2	38	3505	-3.54	828.78	-9.87
796	SLE RA 12	2	45	3502	-3.58	827.45	-11.56
796	SLE RA 13	2	49	3483	-3.59	822.48	-12.61
796	SLE RA 14	3	39	3537	-3.56	836.68	-9.92
796	SLE RA 15	3	45	3534	-3.6	835.35	-11.61
796	SLE RA 16	3	38	3520	-3.55	832.59	-9.85
796	SLE RA 17	3	45	3517	-3.58	831.26	-11.54
796	SLE RA 18	3	39	3574	-3.65	844.64	-9.94
796	SLE RA 19	3	46	3571	-3.69	843.31	-11.63
796	SLE RA 20	3	39	3606	-3.68	852.53	-9.99
796	SLE RA 21	3	46	3603	-3.71	851.2	-11.68
796	SLE FR 1	2	36	3179	-3.16	751.83	-9.29
796	SLE FR 2	2	38	3178	-3.17	751.39	-9.86
796	SLE FR 3	2	36	3192	-3.16	754.99	-9.31
796	SLE FR 4	2	39	3296	-3.32	779.23	-10.05
796	SLE FR 5	2	37	3310	-3.31	782.83	-9.51
796	SLE FR 6	2	37	3376	-3.4	798.23	-9.61
796	SLE QP 1	2	36	3179	-3.16	751.83	-9.29
796	SLE QP 2	2	37	3297	-3.3	779.67	-9.49
796	SLD 1	286	161	3309	-3.27	764.39	-40.61
796	SLD 2	273	141	3302	-3.27	764.32	-35.43
796	SLD 3	290	-48	3421	-1.69	812.15	11.54
796	SLD 4	277	-68	3414	-1.69	812.08	16.72
796	SLD 5	83	394	3132	-5.7	702.65	-98.81
796	SLD 6	75	381	3128	-5.69	702.61	-95.47
796	SLD 7	97	-301	3505	-0.42	861.87	75.02
796	SLD 8	89	-314	3501	-0.42	861.83	78.36
796	SLD 9	-85	388	3094	-6.19	697.52	-97.33
796	SLD 10	-93	375	3089	-6.19	697.47	-93.99
796	SLD 11	-71	-307	3466	-0.92	856.73	76.5
796	SLD 12	-79	-320	3462	-0.91	856.69	79.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
796	SLD 13	-273	142	3180	-4.92	747.26	-35.69
796	SLD 14	-286	122	3173	-4.92	747.19	-30.51
796	SLD 15	-269	-67	3292	-3.34	795.03	16.45
796	SLD 16	-282	-87	3285	-3.34	794.96	21.64
796	SLV 1	446	246	3308	-3.37	752.46	-61.95
796	SLV 2	426	214	3297	-3.37	752.35	-53.78
796	SLV 3	453	-110	3499	-0.67	833.96	26.98
796	SLV 4	433	-141	3488	-0.66	833.85	35.15
796	SLV 5	128	646	3013	-7.42	647.92	-161.63
796	SLV 6	115	624	3006	-7.42	647.85	-156.13
796	SLV 7	151	-541	3649	1.58	919.59	134.81
796	SLV 8	138	-562	3642	1.58	919.51	140.31
796	SLV 9	-134	636	2953	-8.19	639.83	-159.28
796	SLV 10	-147	615	2945	-8.19	639.76	-153.78
796	SLV 11	-111	-550	3589	0.81	911.5	137.16
796	SLV 12	-124	-572	3581	0.81	911.42	142.66
796	SLV 13	-429	215	3106	-5.95	725.5	-54.12
796	SLV 14	-449	184	3096	-5.94	725.39	-45.95
796	SLV 15	-422	-140	3297	-3.24	807	34.81
796	SLV 16	-442	-172	3287	-3.24	806.89	42.98
796	SLV FO 1	490	267	3309	-3.38	749.74	-67.2
796	SLV FO 2	468	232	3297	-3.37	749.62	-58.21
796	SLV FO 3	498	-124	3519	-0.41	839.39	30.62
796	SLV FO 4	476	-159	3507	-0.4	839.27	39.61
796	SLV FO 5	141	706	2985	-7.83	634.75	-176.85
796	SLV FO 6	126	683	2977	-7.83	634.67	-170.79
796	SLV FO 7	166	-599	3684	2.07	933.58	149.24
796	SLV FO 8	152	-622	3676	2.07	933.5	155.29
796	SLV FO 9	-148	696	2918	-8.68	625.85	-174.26
796	SLV FO 10	-162	673	2910	-8.68	625.77	-168.21
796	SLV FO 11	-122	-609	3618	1.22	924.68	151.82
796	SLV FO 12	-137	-632	3610	1.22	924.6	157.87
796	SLV FO 13	-472	233	3087	-6.21	720.08	-58.59
796	SLV FO 14	-494	198	3076	-6.2	719.96	-49.59
796	SLV FO 15	-465	-158	3297	-3.24	809.73	39.24
796	SLV FO 16	-486	-193	3286	-3.23	809.61	48.23
796	CRTFP Ux+	0	0	0	0	0	0
796	CRTFP Ux-	0	0	0	0	0	0
796	CRTFP Uy+	0	0	0	0	0	0
796	CRTFP Uy-	0	0	0	0	0	0
798	SLU 1	30	18	5314	-11.36	-43.48	-0.43
798	SLU 2	31	56	5298	-11.49	-43.38	-0.35
798	SLU 3	32	17	5434	-11.59	-44.79	-0.46
798	SLU 4	32	40	5424	-11.67	-44.74	-0.41
798	SLU 5	32	55	5376	-11.64	-44.21	-0.37
798	SLU 6	32	17	5512	-11.74	-45.62	-0.48
798	SLU 7	33	39	5502	-11.82	-45.57	-0.43
798	SLU 8	32	16	5470	-11.65	-45.14	-0.48
798	SLU 9	33	39	5460	-11.73	-45.08	-0.43
798	SLU 10	34	57	6017	-12.98	-48.3	-0.42
798	SLU 11	34	18	6153	-13.09	-49.71	-0.53
798	SLU 12	35	41	6144	-13.17	-49.65	-0.48
798	SLU 13	35	56	6095	-13.13	-49.12	-0.44
798	SLU 14	35	18	6231	-13.24	-50.54	-0.55
798	SLU 15	36	41	6222	-13.32	-50.48	-0.5
798	SLU 16	35	17	6189	-13.15	-50.05	-0.55
798	SLU 17	35	40	6179	-13.23	-49.99	-0.5
798	SLU 18	34	19	6341	-13.49	-50.5	-0.53
798	SLU 19	34	42	6332	-13.57	-50.44	-0.48
798	SLU 20	35	19	6419	-13.64	-51.32	-0.56
798	SLU 21	35	41	6410	-13.72	-51.27	-0.51
798	SLU 22	36	20	6173	-12.86	-50.07	-0.44
798	SLU 23	37	58	6157	-12.99	-49.97	-0.36
798	SLU 24	37	20	6293	-13.1	-51.38	-0.47
798	SLU 25	37	43	6284	-13.18	-51.33	-0.42
798	SLU 26	37	58	6235	-13.14	-50.8	-0.38
798	SLU 27	38	19	6371	-13.25	-52.21	-0.49
798	SLU 28	38	42	6362	-13.33	-52.15	-0.44
798	SLU 29	37	19	6329	-13.16	-51.72	-0.49
798	SLU 30	38	42	6320	-13.24	-51.67	-0.44
798	SLU 31	39	60	6877	-14.49	-54.88	-0.43
798	SLU 32	39	21	7013	-14.6	-56.29	-0.54
798	SLU 33	40	44	7003	-14.67	-56.24	-0.49
798	SLU 34	40	59	6955	-14.64	-55.71	-0.45
798	SLU 35	40	20	7091	-14.74	-57.12	-0.56
798	SLU 36	41	43	7081	-14.82	-57.07	-0.51
798	SLU 37	40	20	7048	-14.66	-56.64	-0.56
798	SLU 38	40	43	7039	-14.73	-56.58	-0.51
798	SLU 39	39	22	7201	-15	-57.08	-0.54
798	SLU 40	40	45	7191	-15.08	-57.03	-0.49
798	SLU 41	40	21	7279	-15.15	-57.91	-0.57
798	SLU 42	41	44	7269	-15.23	-57.86	-0.52
798	SLU 43	38	22	6613	-14.25	-54.26	-0.56
798	SLU 44	39	60	6597	-14.38	-54.17	-0.47
798	SLU 45	39	22	6733	-14.48	-55.58	-0.59
798	SLU 46	40	44	6724	-14.56	-55.52	-0.53
798	SLU 47	40	59	6675	-14.53	-55	-0.5
798	SLU 48	40	21	6811	-14.63	-56.41	-0.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
798	SLU 49	40	44	6802	-14.71	-56.35	-0.56
798	SLU 50	39	21	6769	-14.54	-55.92	-0.61
798	SLU 51	40	43	6760	-14.62	-55.86	-0.56
798	SLU 52	41	61	7317	-15.87	-59.08	-0.54
798	SLU 53	41	23	7453	-15.98	-60.49	-0.66
798	SLU 54	42	46	7443	-16.06	-60.43	-0.6
798	SLU 55	42	60	7395	-16.02	-59.91	-0.57
798	SLU 56	42	22	7531	-16.13	-61.32	-0.68
798	SLU 57	43	45	7521	-16.21	-61.26	-0.63
798	SLU 58	42	22	7488	-16.04	-60.83	-0.68
798	SLU 59	42	45	7479	-16.12	-60.78	-0.63
798	SLU 60	41	24	7641	-16.38	-61.28	-0.66
798	SLU 61	42	46	7631	-16.46	-61.22	-0.61
798	SLU 62	42	23	7719	-16.53	-62.11	-0.68
798	SLU 63	43	46	7709	-16.61	-62.05	-0.63
798	SLU 64	43	25	7473	-15.75	-60.85	-0.57
798	SLU 65	44	63	7457	-15.88	-60.76	-0.49
798	SLU 66	44	24	7593	-15.99	-62.17	-0.6
798	SLU 67	45	47	7583	-16.07	-62.11	-0.54
798	SLU 68	45	62	7535	-16.03	-61.59	-0.51
798	SLU 69	45	24	7671	-16.14	-63	-0.62
798	SLU 70	46	46	7661	-16.22	-62.94	-0.57
798	SLU 71	45	23	7629	-16.05	-62.51	-0.62
798	SLU 72	45	46	7619	-16.13	-62.45	-0.57
798	SLU 73	46	64	8176	-17.38	-65.67	-0.56
798	SLU 74	47	25	8312	-17.49	-67.08	-0.67
798	SLU 75	47	48	8303	-17.56	-67.02	-0.61
798	SLU 76	47	63	8254	-17.53	-66.5	-0.58
798	SLU 77	47	25	8390	-17.63	-67.91	-0.69
798	SLU 78	48	48	8381	-17.71	-67.85	-0.64
798	SLU 79	47	24	8348	-17.55	-67.42	-0.69
798	SLU 80	48	47	8338	-17.62	-67.36	-0.64
798	SLU 81	46	26	8500	-17.89	-67.87	-0.67
798	SLU 82	47	49	8491	-17.97	-67.81	-0.62
798	SLU 83	47	26	8578	-18.04	-68.7	-0.7
798	SLU 84	48	48	8569	-18.12	-68.64	-0.64
798	SLE RA 1	32	18	5559	-11.79	-45.36	-0.44
798	SLE RA 2	33	44	5549	-11.87	-45.3	-0.38
798	SLE RA 3	33	18	5639	-11.94	-46.24	-0.45
798	SLE RA 4	33	33	5633	-12	-46.2	-0.42
798	SLE RA 5	33	43	5601	-11.97	-45.85	-0.4
798	SLE RA 6	33	18	5691	-12.04	-46.79	-0.47
798	SLE RA 7	34	33	5685	-12.1	-46.75	-0.44
798	SLE RA 8	33	17	5663	-11.98	-46.47	-0.47
798	SLE RA 9	33	33	5657	-12.04	-46.43	-0.43
798	SLE RA 10	34	45	6028	-12.87	-48.57	-0.43
798	SLE RA 11	34	19	6119	-12.94	-49.51	-0.5
798	SLE RA 12	35	34	6113	-12.99	-49.48	-0.47
798	SLE RA 13	35	44	6080	-12.97	-49.13	-0.44
798	SLE RA 14	35	18	6171	-13.04	-50.07	-0.52
798	SLE RA 15	35	34	6165	-13.09	-50.03	-0.48
798	SLE RA 16	35	18	6143	-12.98	-49.74	-0.52
798	SLE RA 17	35	33	6136	-13.03	-49.7	-0.48
798	SLE RA 18	34	19	6245	-13.21	-50.04	-0.5
798	SLE RA 19	35	35	6238	-13.26	-50	-0.47
798	SLE RA 20	35	19	6296	-13.31	-50.59	-0.52
798	SLE RA 21	35	34	6290	-13.36	-50.55	-0.49
798	SLE FR 1	32	18	5559	-11.79	-45.36	-0.44
798	SLE FR 2	32	23	5557	-11.8	-45.35	-0.43
798	SLE FR 3	32	18	5580	-11.83	-45.58	-0.44
798	SLE FR 4	33	24	5763	-12.23	-46.75	-0.45
798	SLE FR 5	33	19	5786	-12.25	-46.99	-0.46
798	SLE FR 6	33	19	5902	-12.5	-47.7	-0.47
798	SLE QP 1	32	18	5559	-11.79	-45.36	-0.44
798	SLE QP 2	33	19	5765	-12.21	-46.76	-0.46
798	SLD 1	613	224	5262	-14.45	-14.14	-1.26
798	SLD 2	589	263	5275	-14.42	-14.39	0.39
798	SLD 3	599	-259	5502	-11.97	-16.35	-2.47
798	SLD 4	576	-221	5516	-11.93	-16.61	-0.82
798	SLD 5	232	807	5247	-16.66	-33.57	0.86
798	SLD 6	216	832	5255	-16.63	-33.73	1.92
798	SLD 7	186	-804	6049	-8.38	-40.96	-3.18
798	SLD 8	171	-780	6057	-8.36	-41.13	-2.12
798	SLD 9	-106	817	5473	-16.07	-52.4	1.21
798	SLD 10	-121	842	5481	-16.05	-52.57	2.27
798	SLD 11	-151	-794	6274	-7.8	-59.79	-2.83
798	SLD 12	-167	-769	6283	-7.77	-59.96	-1.77
798	SLD 13	-511	258	6014	-12.49	-76.92	-0.09
798	SLD 14	-534	297	6027	-12.46	-77.17	1.56
798	SLD 15	-524	-225	6255	-10.01	-79.13	-1.3
798	SLD 16	-548	-187	6268	-9.98	-79.39	0.35
798	SLV 1	942	373	4963	-15.9	4.3	-1.65
798	SLV 2	905	434	4983	-15.85	3.9	0.95
798	SLV 3	919	-451	5373	-11.67	0.52	-3.71
798	SLV 4	881	-390	5394	-11.61	0.12	-1.11
798	SLV 5	348	1364	4898	-19.76	-25.63	1.83
798	SLV 6	322	1405	4912	-19.72	-25.91	3.59
798	SLV 7	270	-1384	6266	-5.63	-38.24	-5.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
798	SLV 8	245	-1343	6280	-5.6	-38.51	-3.3
798	SLV 9	-180	1380	5250	-18.83	-55.02	2.39
798	SLV 10	-205	1421	5264	-18.8	-55.29	4.14
798	SLV 11	-257	-1368	6618	-4.71	-67.62	-4.5
798	SLV 12	-283	-1327	6632	-4.67	-67.9	-2.75
798	SLV 13	-816	428	6136	-12.82	-93.64	0.2
798	SLV 14	-854	489	6157	-12.76	-94.05	2.8
798	SLV 15	-840	-397	6547	-8.58	-97.43	-1.87
798	SLV 16	-877	-336	6567	-8.53	-97.83	0.73
798	SLV FO 1	1033	408	4882	-16.27	9.41	-1.76
798	SLV FO 2	992	476	4905	-16.21	8.96	1.1
798	SLV FO 3	1007	-498	5334	-11.61	5.25	-4.04
798	SLV FO 4	966	-431	5356	-11.55	4.8	-1.18
798	SLV FO 5	379	1498	4811	-20.51	-23.52	2.06
798	SLV FO 6	351	1544	4827	-20.47	-23.82	3.99
798	SLV FO 7	294	-1524	6316	-4.98	-37.39	-5.51
798	SLV FO 8	266	-1479	6331	-4.94	-37.69	-3.59
798	SLV FO 9	-201	1517	5199	-19.49	-55.84	2.67
798	SLV FO 10	-229	1562	5214	-19.45	-56.14	4.6
798	SLV FO 11	-286	-1506	6703	-3.96	-69.71	-4.9
798	SLV FO 12	-314	-1461	6719	-3.92	-70.01	-2.98
798	SLV FO 13	-901	469	6173	-12.88	-98.33	0.26
798	SLV FO 14	-942	536	6196	-12.82	-98.78	3.12
798	SLV FO 15	-927	-438	6625	-8.22	-102.49	-2.01
798	SLV FO 16	-968	-371	6648	-8.16	-102.94	0.85
798	CRTFP Ux+	0	0	0	0	0	0
798	CRTFP Ux-	0	0	0	0	0	0
798	CRTFP Uy+	0	0	0	0	0	0
798	CRTFP Uy-	0	0	0	0	0	0
800	SLU 1	-50	1	3390	-3.95	-430.68	0.13
800	SLU 2	-49	19	3370	-4.13	-430	4.81
800	SLU 3	-51	0	3476	-4.01	-440.2	0
800	SLU 4	-51	11	3464	-4.12	-439.8	2.8
800	SLU 5	-50	19	3427	-4.17	-436.19	4.76
800	SLU 6	-52	0	3532	-4.04	-446.4	-0.05
800	SLU 7	-51	11	3521	-4.15	-445.99	2.76
800	SLU 8	-51	0	3503	-4.01	-443.06	0.04
800	SLU 9	-51	12	3491	-4.12	-442.66	2.85
800	SLU 10	-52	21	3790	-4.73	-483.93	5.1
800	SLU 11	-54	1	3896	-4.6	-494.13	0.29
800	SLU 12	-53	13	3884	-4.71	-493.72	3.1
800	SLU 13	-53	20	3847	-4.76	-490.12	5.05
800	SLU 14	-54	1	3952	-4.64	-500.32	0.25
800	SLU 15	-54	12	3940	-4.75	-499.91	3.05
800	SLU 16	-54	1	3923	-4.61	-496.98	0.33
800	SLU 17	-54	13	3911	-4.72	-496.58	3.14
800	SLU 18	-54	2	3990	-4.8	-507.71	0.55
800	SLU 19	-54	14	3978	-4.91	-507.31	3.36
800	SLU 20	-55	2	4047	-4.83	-513.9	0.51
800	SLU 21	-54	13	4035	-4.94	-513.5	3.31
800	SLU 22	-56	-1	3931	-4.56	-496.89	-0.41
800	SLU 23	-55	17	3911	-4.74	-496.22	4.26
800	SLU 24	-57	-2	4016	-4.62	-506.42	-0.55
800	SLU 25	-56	9	4004	-4.73	-506.01	2.26
800	SLU 26	-55	17	3967	-4.77	-502.41	4.22
800	SLU 27	-57	-2	4073	-4.65	-512.61	-0.59
800	SLU 28	-57	9	4061	-4.76	-512.21	2.21
800	SLU 29	-57	-2	4044	-4.62	-509.28	-0.5
800	SLU 30	-56	9	4032	-4.73	-508.87	2.3
800	SLU 31	-57	18	4331	-5.34	-550.14	4.56
800	SLU 32	-59	-1	4436	-5.21	-560.34	-0.25
800	SLU 33	-59	10	4424	-5.32	-559.94	2.55
800	SLU 34	-58	18	4387	-5.37	-556.33	4.51
800	SLU 35	-60	-1	4493	-5.24	-566.53	-0.3
800	SLU 36	-59	10	4481	-5.36	-566.13	2.51
800	SLU 37	-59	-1	4464	-5.22	-563.2	-0.21
800	SLU 38	-59	11	4452	-5.33	-562.79	2.6
800	SLU 39	-59	0	4531	-5.41	-573.93	0.01
800	SLU 40	-59	11	4519	-5.52	-573.52	2.81
800	SLU 41	-60	0	4587	-5.44	-580.12	-0.04
800	SLU 42	-59	11	4575	-5.55	-579.71	2.77
800	SLU 43	-64	2	4222	-4.92	-537.18	0.36
800	SLU 44	-63	20	4202	-5.11	-536.5	5.03
800	SLU 45	-65	1	4307	-4.98	-546.71	0.22
800	SLU 46	-64	12	4296	-5.09	-546.3	3.03
800	SLU 47	-63	20	4259	-5.14	-542.7	4.99
800	SLU 48	-65	1	4364	-5.01	-552.9	0.18
800	SLU 49	-65	12	4352	-5.13	-552.49	2.98
800	SLU 50	-65	1	4335	-4.99	-549.56	0.27
800	SLU 51	-64	13	4323	-5.1	-549.16	3.07
800	SLU 52	-66	21	4622	-5.71	-590.43	5.33
800	SLU 53	-67	2	4727	-5.58	-600.63	0.52
800	SLU 54	-67	13	4715	-5.69	-600.22	3.32
800	SLU 55	-66	21	4678	-5.74	-596.62	5.28
800	SLU 56	-68	2	4784	-5.61	-606.82	0.47
800	SLU 57	-67	13	4772	-5.72	-606.41	3.28
800	SLU 58	-67	2	4755	-5.58	-603.49	0.56
800	SLU 59	-67	14	4743	-5.7	-603.08	3.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
800	SLU 60	-68	3	4822	-5.78	-614.21	0.78
800	SLU 61	-67	15	4810	-5.89	-613.81	3.58
800	SLU 62	-68	3	4878	-5.81	-620.4	0.73
800	SLU 63	-68	14	4866	-5.92	-620	3.54
800	SLU 64	-69	-1	4762	-5.53	-603.4	-0.19
800	SLU 65	-68	18	4742	-5.72	-602.72	4.49
800	SLU 66	-70	-1	4848	-5.59	-612.92	-0.32
800	SLU 67	-69	10	4836	-5.7	-612.52	2.48
800	SLU 68	-69	18	4799	-5.75	-608.91	4.44
800	SLU 69	-70	-1	4905	-5.62	-619.11	-0.37
800	SLU 70	-70	10	4893	-5.73	-618.71	2.44
800	SLU 71	-70	-1	4876	-5.6	-615.78	-0.28
800	SLU 72	-69	10	4864	-5.71	-615.37	2.53
800	SLU 73	-71	19	5162	-6.31	-656.64	4.78
800	SLU 74	-73	0	5268	-6.19	-666.84	-0.03
800	SLU 75	-72	11	5256	-6.3	-666.44	2.78
800	SLU 76	-71	19	5219	-6.35	-662.83	4.74
800	SLU 77	-73	0	5325	-6.22	-673.03	-0.07
800	SLU 78	-73	11	5313	-6.33	-672.63	2.73
800	SLU 79	-73	0	5296	-6.19	-669.7	0.02
800	SLU 80	-72	11	5284	-6.31	-669.3	2.82
800	SLU 81	-73	1	5362	-6.39	-680.43	0.23
800	SLU 82	-72	12	5350	-6.5	-680.02	3.04
800	SLU 83	-73	1	5419	-6.42	-686.62	0.19
800	SLU 84	-73	12	5407	-6.53	-686.21	2.99
800	SLE RA 1	-52	0	3544	-4.12	-449.6	-0.02
800	SLE RA 2	-51	13	3531	-4.25	-449.15	3.09
800	SLE RA 3	-52	0	3602	-4.16	-455.95	-0.11
800	SLE RA 4	-52	7	3594	-4.23	-455.68	1.76
800	SLE RA 5	-52	12	3569	-4.27	-453.28	3.06
800	SLE RA 6	-53	0	3639	-4.18	-460.08	-0.14
800	SLE RA 7	-52	7	3632	-4.26	-459.81	1.73
800	SLE RA 8	-52	0	3620	-4.16	-457.85	-0.08
800	SLE RA 9	-52	7	3612	-4.24	-457.58	1.79
800	SLE RA 10	-53	13	3811	-4.64	-485.1	3.29
800	SLE RA 11	-54	0	3882	-4.56	-491.9	0.08
800	SLE RA 12	-54	8	3874	-4.63	-491.63	1.95
800	SLE RA 13	-53	13	3849	-4.67	-489.22	3.26
800	SLE RA 14	-55	0	3919	-4.58	-496.02	0.05
800	SLE RA 15	-54	8	3911	-4.65	-495.75	1.92
800	SLE RA 16	-54	1	3900	-4.56	-493.8	0.11
800	SLE RA 17	-54	8	3892	-4.64	-493.53	1.98
800	SLE RA 18	-54	1	3944	-4.69	-500.95	0.26
800	SLE RA 19	-54	9	3936	-4.76	-500.68	2.13
800	SLE RA 20	-55	1	3982	-4.71	-505.08	0.23
800	SLE RA 21	-54	9	3974	-4.79	-504.81	2.1
800	SLE FR 1	-52	0	3544	-4.12	-449.6	-0.02
800	SLE FR 2	-52	3	3542	-4.15	-449.51	0.6
800	SLE FR 3	-52	0	3560	-4.13	-451.25	-0.04
800	SLE FR 4	-52	3	3662	-4.32	-464.91	0.68
800	SLE FR 5	-53	0	3680	-4.3	-466.66	0.05
800	SLE FR 6	-53	1	3744	-4.41	-475.28	0.12
800	SLE QP 1	-52	0	3544	-4.12	-449.6	-0.02
800	SLE QP 2	-53	0	3664	-4.29	-465	0.06
800	SLD 1	207	129	4558	-7.21	-600.69	32.21
800	SLD 2	188	29	4577	-7.03	-605.99	7.42
800	SLD 3	196	-103	4842	-4.28	-594.76	-25.92
800	SLD 4	177	-203	4861	-4.1	-600.07	-50.71
800	SLD 5	46	409	3498	-9.64	-513.78	102.14
800	SLD 6	34	345	3510	-9.53	-517.2	86.17
800	SLD 7	8	-366	4446	0.12	-494.03	-91.64
800	SLD 8	-5	-430	4458	0.24	-497.45	-107.6
800	SLD 9	-101	431	2871	-8.82	-432.56	107.72
800	SLD 10	-113	367	2883	-8.71	-435.98	91.76
800	SLD 11	-139	-344	3819	0.94	-412.81	-86.05
800	SLD 12	-151	-408	3831	1.06	-416.23	-102.02
800	SLD 13	-282	204	2468	-4.48	-329.94	50.83
800	SLD 14	-301	104	2487	-4.3	-335.25	26.04
800	SLD 15	-294	-29	2752	-1.55	-324.02	-7.3
800	SLD 16	-313	-128	2771	-1.37	-329.32	-32.09
800	SLV 1	355	219	5037	-9.06	-677.09	54.6
800	SLV 2	326	61	5067	-8.78	-685.46	15.52
800	SLV 3	336	-178	5522	-4.06	-666.92	-44.54
800	SLV 4	306	-335	5552	-3.78	-675.29	-83.63
800	SLV 5	105	697	3335	-13.36	-542.49	174.08
800	SLV 6	85	591	3356	-13.17	-548.13	147.78
800	SLV 7	39	-625	4952	3.31	-508.59	-156.4
800	SLV 8	19	-731	4972	3.5	-514.23	-182.71
800	SLV 9	-125	732	2357	-12.08	-415.78	182.83
800	SLV 10	-145	626	2377	-11.89	-421.41	156.52
800	SLV 11	-190	-590	3973	4.58	-381.88	-147.66
800	SLV 12	-211	-696	3994	4.77	-387.51	-173.96
800	SLV 13	-411	336	1777	-4.8	-254.72	83.75
800	SLV 14	-441	179	1807	-4.52	-263.09	44.66
800	SLV 15	-431	-61	2262	0.2	-244.55	-15.4
800	SLV 16	-461	-218	2292	0.48	-252.92	-54.48
800	SLV FO 1	396	240	5175	-9.54	-698.3	60.05
800	SLV FO 2	363	68	5208	-9.23	-707.51	17.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
800	SLV FO 3	375	-196	5708	-4.04	-687.11	-49
800	SLV FO 4	342	-369	5741	-3.73	-696.32	-91.99
800	SLV FO 5	121	766	3302	-14.26	-550.24	191.49
800	SLV FO 6	99	650	3325	-14.05	-556.44	162.55
800	SLV FO 7	49	-688	5080	4.07	-512.95	-172.05
800	SLV FO 8	27	-804	5103	4.27	-519.15	-200.98
800	SLV FO 9	-132	805	2226	-12.86	-410.86	201.1
800	SLV FO 10	-154	688	2249	-12.65	-417.06	172.17
800	SLV FO 11	-204	-649	4004	5.47	-373.57	-162.43
800	SLV FO 12	-226	-765	4027	5.68	-379.77	-191.37
800	SLV FO 13	-447	369	1588	-4.85	-233.69	92.11
800	SLV FO 14	-480	197	1621	-4.54	-242.89	49.12
800	SLV FO 15	-469	-67	2121	0.64	-222.5	-16.95
800	SLV FO 16	-501	-240	2154	0.95	-231.71	-59.94
800	CRTFP Ux+	0	0	0	0	0	0
800	CRTFP Ux-	0	0	0	0	0	0
800	CRTFP Uy+	0	0	0	0	0	0
800	CRTFP Uy-	0	0	0	0	0	0
803	SLU 1	69	41	4131	-6.34	944.47	-14.37
803	SLU 2	68	64	4104	-6.61	943.99	-22.24
803	SLU 3	70	42	4231	-6.43	965.05	-14.7
803	SLU 4	70	56	4215	-6.59	964.77	-19.42
803	SLU 5	69	65	4168	-6.65	956.88	-22.65
803	SLU 6	71	44	4295	-6.47	977.95	-15.11
803	SLU 7	71	57	4279	-6.63	977.66	-19.83
803	SLU 8	71	44	4259	-6.41	970.25	-15.2
803	SLU 9	70	57	4243	-6.57	969.97	-19.92
803	SLU 10	72	68	4614	-7.53	1058.31	-23.8
803	SLU 11	75	47	4740	-7.35	1079.38	-16.26
803	SLU 12	74	60	4724	-7.51	1079.09	-20.98
803	SLU 13	73	70	4677	-7.57	1071.21	-24.22
803	SLU 14	76	48	4804	-7.39	1092.27	-16.68
803	SLU 15	75	62	4788	-7.55	1091.98	-21.4
803	SLU 16	75	48	4768	-7.34	1084.58	-16.77
803	SLU 17	75	62	4752	-7.5	1084.29	-21.49
803	SLU 18	75	48	4859	-7.66	1107.79	-16.61
803	SLU 19	75	61	4843	-7.82	1107.5	-21.33
803	SLU 20	76	49	4923	-7.7	1120.69	-17.02
803	SLU 21	76	63	4907	-7.86	1120.4	-21.74
803	SLU 22	77	43	4779	-7.31	1086.2	-14.95
803	SLU 23	75	66	4753	-7.58	1085.72	-22.81
803	SLU 24	78	44	4880	-7.4	1106.79	-15.27
803	SLU 25	78	58	4863	-7.56	1106.5	-19.99
803	SLU 26	76	67	4817	-7.61	1098.61	-23.23
803	SLU 27	79	45	4943	-7.43	1119.68	-15.69
803	SLU 28	79	59	4927	-7.59	1119.39	-20.41
803	SLU 29	79	45	4907	-7.38	1111.99	-15.78
803	SLU 30	78	59	4891	-7.54	1111.7	-20.5
803	SLU 31	80	70	5262	-8.5	1200.05	-24.38
803	SLU 32	83	49	5389	-8.32	1221.11	-16.84
803	SLU 33	82	62	5373	-8.48	1220.82	-21.56
803	SLU 34	81	71	5326	-8.53	1212.94	-24.8
803	SLU 35	84	50	5453	-8.35	1234.01	-17.25
803	SLU 36	83	63	5437	-8.51	1233.72	-21.97
803	SLU 37	83	50	5417	-8.3	1226.31	-17.34
803	SLU 38	83	63	5401	-8.46	1226.02	-22.06
803	SLU 39	83	50	5507	-8.63	1249.53	-17.19
803	SLU 40	82	63	5491	-8.79	1249.24	-21.91
803	SLU 41	84	51	5571	-8.66	1262.42	-17.6
803	SLU 42	83	64	5555	-8.82	1262.13	-22.32
803	SLU 43	87	53	5148	-7.92	1179.22	-18.48
803	SLU 44	85	76	5121	-8.18	1178.73	-26.35
803	SLU 45	88	54	5248	-8	1199.8	-18.81
803	SLU 46	88	68	5232	-8.16	1199.51	-23.53
803	SLU 47	86	77	5185	-8.22	1191.63	-26.76
803	SLU 48	89	55	5312	-8.04	1212.69	-19.22
803	SLU 49	89	69	5296	-8.2	1212.4	-23.94
803	SLU 50	89	56	5276	-7.99	1205	-19.31
803	SLU 51	88	69	5259	-8.15	1204.71	-24.03
803	SLU 52	90	80	5631	-9.11	1293.06	-27.92
803	SLU 53	93	59	5757	-8.92	1314.13	-20.38
803	SLU 54	92	72	5741	-9.08	1313.84	-25.1
803	SLU 55	91	81	5694	-9.14	1305.95	-28.33
803	SLU 56	94	60	5821	-8.96	1327.02	-20.79
803	SLU 57	93	73	5805	-9.12	1326.73	-25.51
803	SLU 58	93	60	5785	-8.91	1319.33	-20.88
803	SLU 59	93	74	5769	-9.07	1319.04	-25.6
803	SLU 60	93	60	5876	-9.23	1342.54	-20.72
803	SLU 61	92	73	5860	-9.39	1342.25	-25.44
803	SLU 62	94	61	5940	-9.27	1355.43	-21.14
803	SLU 63	94	74	5924	-9.43	1355.14	-25.86
803	SLU 64	94	55	5796	-8.88	1320.95	-19.06
803	SLU 65	93	77	5770	-9.15	1320.47	-26.93
803	SLU 66	96	56	5896	-8.97	1341.53	-19.39
803	SLU 67	95	69	5880	-9.13	1341.25	-24.11
803	SLU 68	94	79	5833	-9.18	1333.36	-27.34
803	SLU 69	97	57	5960	-9	1354.43	-19.8
803	SLU 70	97	71	5944	-9.16	1354.14	-24.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
803	SLU 71	97	57	5924	-8.95	1346.73	-19.89
803	SLU 72	96	71	5908	-9.11	1346.45	-24.61
803	SLU 73	98	82	6279	-10.07	1434.79	-28.49
803	SLU 74	101	60	6406	-9.89	1455.86	-20.95
803	SLU 75	100	74	6390	-10.05	1455.57	-25.67
803	SLU 76	99	83	6343	-10.11	1447.69	-28.91
803	SLU 77	102	62	6470	-9.93	1468.75	-21.37
803	SLU 78	101	75	6454	-10.09	1468.46	-26.09
803	SLU 79	101	62	6434	-9.88	1461.06	-21.46
803	SLU 80	100	75	6418	-10.04	1460.77	-26.18
803	SLU 81	101	61	6524	-10.2	1484.27	-21.3
803	SLU 82	100	75	6508	-10.36	1483.98	-26.02
803	SLU 83	102	63	6588	-10.23	1497.16	-21.71
803	SLU 84	101	76	6572	-10.39	1496.88	-26.43
803	SLE RA 1	71	42	4316	-6.62	984.97	-14.53
803	SLE RA 2	70	57	4298	-6.8	984.64	-19.78
803	SLE RA 3	72	43	4383	-6.68	998.69	-14.75
803	SLE RA 4	72	52	4372	-6.78	998.5	-17.9
803	SLE RA 5	71	58	4341	-6.82	993.24	-20.06
803	SLE RA 6	73	43	4425	-6.7	1007.28	-15.03
803	SLE RA 7	72	52	4415	-6.81	1007.09	-18.18
803	SLE RA 8	72	43	4401	-6.67	1002.16	-15.09
803	SLE RA 9	72	52	4391	-6.77	1001.96	-18.23
803	SLE RA 10	73	60	4638	-7.41	1060.86	-20.82
803	SLE RA 11	75	46	4723	-7.29	1074.91	-15.8
803	SLE RA 12	75	55	4712	-7.4	1074.71	-18.94
803	SLE RA 13	74	61	4681	-7.44	1069.46	-21.1
803	SLE RA 14	76	46	4765	-7.32	1083.5	-16.07
803	SLE RA 15	75	55	4754	-7.42	1083.31	-19.22
803	SLE RA 16	75	46	4741	-7.28	1078.37	-16.13
803	SLE RA 17	75	55	4730	-7.39	1078.18	-19.28
803	SLE RA 18	75	46	4801	-7.5	1093.85	-16.03
803	SLE RA 19	75	55	4791	-7.6	1093.65	-19.17
803	SLE RA 20	76	47	4844	-7.52	1102.44	-16.3
803	SLE RA 21	76	56	4833	-7.63	1102.25	-19.45
803	SLE FR 1	71	42	4316	-6.62	984.97	-14.53
803	SLE FR 2	71	45	4313	-6.66	984.9	-15.58
803	SLE FR 3	71	42	4333	-6.63	988.4	-14.65
803	SLE FR 4	72	46	4458	-6.92	1017.57	-16.03
803	SLE FR 5	72	43	4479	-6.89	1021.07	-15.09
803	SLE FR 6	73	44	4559	-7.06	1039.41	-15.28
803	SLE QP 1	71	42	4316	-6.62	984.97	-14.53
803	SLE QP 2	72	43	4462	-6.88	1017.63	-14.98
803	SLD 1	393	80	3132	-6.96	773.66	-27.86
803	SLD 2	368	203	3099	-7.3	773.95	-70.83
803	SLD 3	408	-201	3527	-2.91	780.7	70.36
803	SLD 4	383	-78	3495	-3.25	780.99	27.39
803	SLD 5	151	459	3468	-13	933.71	-160.43
803	SLD 6	135	538	3447	-13.22	933.9	-188.09
803	SLD 7	199	-477	4787	0.52	957.18	166.98
803	SLD 8	183	-398	4766	0.3	957.37	139.31
803	SLD 9	-39	484	4157	-14.07	1077.89	-169.28
803	SLD 10	-55	564	4136	-14.28	1078.08	-196.94
803	SLD 11	10	-452	5476	-0.55	1101.36	158.13
803	SLD 12	-6	-373	5455	-0.76	1101.55	130.46
803	SLD 13	-238	164	5429	-10.52	1254.27	-57.36
803	SLD 14	-263	288	5396	-10.86	1254.56	-100.33
803	SLD 15	-224	-117	5824	-6.47	1261.31	40.86
803	SLD 16	-249	7	5792	-6.8	1261.6	-2.1
803	SLV 1	574	119	2358	-7.3	636.47	-41.74
803	SLV 2	535	314	2307	-7.83	636.92	-109.47
803	SLV 3	599	-360	3033	-0.38	648.45	125.88
803	SLV 4	559	-166	2982	-0.91	648.91	58.14
803	SLV 5	193	757	2816	-17.41	885.01	-264.59
803	SLV 6	166	888	2782	-17.76	885.32	-310.19
803	SLV 7	275	-841	5067	5.66	924.97	294.13
803	SLV 8	248	-710	5032	5.3	925.28	248.54
803	SLV 9	-104	797	3891	-19.07	1109.98	-278.5
803	SLV 10	-131	927	3857	-19.43	1110.29	-324.1
803	SLV 11	-22	-801	6142	4	1149.94	280.22
803	SLV 12	-48	-670	6108	3.64	1150.25	234.63
803	SLV 13	-415	252	5942	-12.85	1386.35	-88.11
803	SLV 14	-454	447	5890	-13.38	1386.81	-155.84
803	SLV 15	-390	-227	6617	-5.93	1398.34	79.51
803	SLV 16	-430	-33	6566	-6.46	1398.79	11.78
803	SLV FO 1	624	127	2147	-7.35	598.35	-44.42
803	SLV FO 2	581	341	2091	-7.93	598.85	-118.92
803	SLV FO 3	652	-401	2890	0.27	611.54	139.96
803	SLV FO 4	608	-187	2834	-0.32	612.04	65.46
803	SLV FO 5	205	828	2651	-18.46	871.75	-289.55
803	SLV FO 6	176	972	2614	-18.85	872.09	-339.71
803	SLV FO 7	295	-930	5127	6.92	915.71	325.04
803	SLV FO 8	266	-786	5090	6.52	916.05	274.89
803	SLV FO 9	-122	872	3834	-20.29	1119.21	-304.85
803	SLV FO 10	-151	1016	3796	-20.68	1119.55	-355.01
803	SLV FO 11	-31	-886	6310	5.08	1163.17	309.74
803	SLV FO 12	-60	-742	6272	4.69	1163.51	259.59
803	SLV FO 13	-464	273	6090	-13.45	1423.22	-95.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
803	SLV FO 14	-507	487	6033	-14.03	1423.72	-169.93
803	SLV FO 15	-437	-254	6832	-5.84	1436.41	88.96
803	SLV FO 16	-480	-40	6776	-6.42	1436.91	14.45
803	CRTFP Ux+	0	0	0	0	0	0
803	CRTFP Ux-	0	0	0	0	0	0
803	CRTFP Uy+	0	0	0	0	0	0
803	CRTFP Uy-	0	0	0	0	0	0
805	SLU 1	92	40	6290	1.91	-12	-0.42
805	SLU 2	90	69	6246	1.5	-13.19	-0.29
805	SLU 3	95	41	6449	2.09	-11.9	-0.46
805	SLU 4	94	58	6423	1.84	-12.62	-0.38
805	SLU 5	92	70	6352	1.63	-13.1	-0.32
805	SLU 6	96	42	6554	2.22	-11.81	-0.5
805	SLU 7	96	59	6528	1.97	-12.53	-0.42
805	SLU 8	95	42	6500	2.18	-11.81	-0.5
805	SLU 9	95	59	6474	1.93	-12.53	-0.42
805	SLU 10	96	75	7070	1.7	-14.54	-0.31
805	SLU 11	101	47	7272	2.29	-13.24	-0.48
805	SLU 12	100	64	7246	2.03	-13.96	-0.4
805	SLU 13	98	75	7175	1.83	-14.44	-0.35
805	SLU 14	103	47	7377	2.42	-13.15	-0.52
805	SLU 15	102	64	7351	2.17	-13.87	-0.44
805	SLU 16	102	47	7323	2.38	-13.15	-0.52
805	SLU 17	101	64	7297	2.13	-13.87	-0.44
805	SLU 18	101	48	7466	2.2	-13.91	-0.45
805	SLU 19	100	65	7440	1.95	-14.63	-0.37
805	SLU 20	103	49	7571	2.33	-13.82	-0.49
805	SLU 21	102	66	7545	2.08	-14.54	-0.41
805	SLU 22	105	45	7333	2.47	-12.99	-0.47
805	SLU 23	103	74	7290	2.06	-14.19	-0.34
805	SLU 24	107	46	7492	2.65	-12.9	-0.51
805	SLU 25	106	63	7466	2.39	-13.62	-0.43
805	SLU 26	105	75	7395	2.19	-14.1	-0.38
805	SLU 27	109	47	7597	2.78	-12.8	-0.55
805	SLU 28	108	64	7571	2.53	-13.52	-0.47
805	SLU 29	108	46	7543	2.74	-12.81	-0.55
805	SLU 30	107	64	7517	2.49	-13.52	-0.47
805	SLU 31	109	79	8113	2.26	-15.53	-0.36
805	SLU 32	114	51	8316	2.84	-14.24	-0.53
805	SLU 33	113	69	8290	2.59	-14.96	-0.45
805	SLU 34	111	80	8218	2.39	-15.44	-0.4
805	SLU 35	115	52	8421	2.98	-14.14	-0.57
805	SLU 36	114	69	8395	2.73	-14.86	-0.49
805	SLU 37	114	52	8366	2.94	-14.15	-0.57
805	SLU 38	113	69	8340	2.69	-14.87	-0.49
805	SLU 39	113	53	8509	2.76	-14.91	-0.5
805	SLU 40	112	70	8483	2.51	-15.63	-0.42
805	SLU 41	115	53	8614	2.89	-14.81	-0.54
805	SLU 42	114	71	8588	2.64	-15.53	-0.46
805	SLU 43	115	51	7819	2.3	-15.25	-0.53
805	SLU 44	113	80	7776	1.88	-16.45	-0.39
805	SLU 45	118	52	7978	2.47	-15.16	-0.57
805	SLU 46	117	69	7952	2.22	-15.88	-0.49
805	SLU 47	115	80	7881	2.01	-16.36	-0.43
805	SLU 48	120	52	8083	2.6	-15.06	-0.6
805	SLU 49	119	69	8057	2.35	-15.78	-0.52
805	SLU 50	119	52	8029	2.57	-15.07	-0.6
805	SLU 51	118	69	8003	2.32	-15.78	-0.52
805	SLU 52	120	85	8599	2.08	-17.79	-0.42
805	SLU 53	124	57	8801	2.67	-16.5	-0.59
805	SLU 54	123	74	8775	2.42	-17.22	-0.51
805	SLU 55	121	86	8704	2.21	-17.7	-0.45
805	SLU 56	126	58	8907	2.8	-16.4	-0.63
805	SLU 57	125	75	8881	2.55	-17.12	-0.55
805	SLU 58	125	57	8852	2.77	-16.41	-0.63
805	SLU 59	124	75	8826	2.52	-17.12	-0.55
805	SLU 60	124	58	8995	2.58	-17.17	-0.56
805	SLU 61	123	76	8969	2.33	-17.89	-0.48
805	SLU 62	126	59	9100	2.72	-17.07	-0.6
805	SLU 63	125	76	9074	2.47	-17.79	-0.52
805	SLU 64	128	56	8862	2.86	-16.25	-0.58
805	SLU 65	126	85	8819	2.44	-17.45	-0.45
805	SLU 66	131	57	9022	3.03	-16.16	-0.62
805	SLU 67	130	74	8996	2.78	-16.87	-0.54
805	SLU 68	128	85	8924	2.57	-17.35	-0.48
805	SLU 69	132	57	9127	3.16	-16.06	-0.66
805	SLU 70	131	74	9101	2.91	-16.78	-0.58
805	SLU 71	131	57	9073	3.13	-16.06	-0.66
805	SLU 72	130	74	9047	2.88	-16.78	-0.58
805	SLU 73	132	90	9642	2.64	-18.79	-0.47
805	SLU 74	137	62	9845	3.23	-17.5	-0.64
805	SLU 75	136	79	9819	2.98	-18.21	-0.56
805	SLU 76	134	90	9747	2.77	-18.7	-0.51
805	SLU 77	139	62	9950	3.36	-17.4	-0.68
805	SLU 78	138	80	9924	3.11	-18.12	-0.6
805	SLU 79	138	62	9896	3.33	-17.4	-0.68
805	SLU 80	137	79	9870	3.07	-18.12	-0.6
805	SLU 81	137	63	10038	3.14	-18.17	-0.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
805	SLU 82	136	81	10012	2.89	-18.88	-0.53
805	SLU 83	138	64	10143	3.28	-18.07	-0.65
805	SLU 84	138	81	10117	3.03	-18.79	-0.57
805	SLE RA 1	95	42	6588	2.07	-12.28	-0.43
805	SLE RA 2	94	61	6559	1.8	-13.08	-0.34
805	SLE RA 3	97	42	6694	2.19	-12.22	-0.46
805	SLE RA 4	97	54	6677	2.02	-12.7	-0.41
805	SLE RA 5	96	61	6629	1.89	-13.02	-0.37
805	SLE RA 6	99	43	6764	2.28	-12.15	-0.49
805	SLE RA 7	98	54	6747	2.11	-12.63	-0.43
805	SLE RA 8	98	43	6728	2.25	-12.16	-0.48
805	SLE RA 9	97	54	6711	2.09	-12.64	-0.43
805	SLE RA 10	99	65	7108	1.93	-13.97	-0.36
805	SLE RA 11	101	46	7243	2.32	-13.11	-0.47
805	SLE RA 12	101	57	7226	2.15	-13.59	-0.42
805	SLE RA 13	100	65	7178	2.02	-13.91	-0.39
805	SLE RA 14	103	46	7313	2.41	-13.05	-0.5
805	SLE RA 15	102	58	7296	2.24	-13.53	-0.45
805	SLE RA 16	102	46	7277	2.39	-13.05	-0.5
805	SLE RA 17	101	58	7259	2.22	-13.53	-0.45
805	SLE RA 18	101	47	7372	2.26	-13.56	-0.45
805	SLE RA 19	101	58	7355	2.1	-14.04	-0.4
805	SLE RA 20	103	47	7442	2.35	-13.5	-0.48
805	SLE RA 21	102	59	7425	2.19	-13.97	-0.43
805	SLE FR 1	95	42	6588	2.07	-12.28	-0.43
805	SLE FR 2	95	46	6582	2.02	-12.44	-0.42
805	SLE FR 3	96	42	6616	2.11	-12.26	-0.44
805	SLE FR 4	97	47	6817	2.08	-12.82	-0.42
805	SLE FR 5	98	43	6851	2.17	-12.64	-0.45
805	SLE FR 6	98	44	6980	2.17	-12.92	-0.44
805	SLE QP 1	95	42	6588	2.07	-12.28	-0.43
805	SLE QP 2	97	43	6823	2.13	-12.66	-0.44
805	SLD 1	616	217	5842	-1.39	-14.02	-1.21
805	SLD 2	580	306	5812	-1.82	-13.27	0.81
805	SLD 3	639	-149	6516	4.98	2.61	-3.12
805	SLD 4	603	-60	6486	4.55	3.37	-1.11
805	SLD 5	225	634	5512	-8.52	-38.44	1.88
805	SLD 6	202	692	5492	-8.79	-37.95	3.18
805	SLD 7	300	-584	7759	12.72	17.02	-4.49
805	SLD 8	277	-527	7739	12.45	17.51	-3.19
805	SLD 9	-82	613	5907	-8.19	-42.84	2.31
805	SLD 10	-106	671	5887	-8.46	-42.35	3.61
805	SLD 11	-7	-606	8154	13.05	12.62	-4.06
805	SLD 12	-31	-548	8135	12.78	13.11	-2.76
805	SLD 13	-408	146	7160	-0.29	-28.7	0.23
805	SLD 14	-444	236	7130	-0.71	-27.94	2.24
805	SLD 15	-386	-220	7835	6.08	-12.06	-1.69
805	SLD 16	-422	-130	7804	5.66	-11.3	0.33
805	SLV 1	908	340	5243	-3.83	-15.84	-1.53
805	SLV 2	851	481	5195	-4.5	-14.65	1.65
805	SLV 3	947	-284	6393	7.04	12.57	-4.79
805	SLV 4	890	-143	6345	6.37	13.75	-1.61
805	SLV 5	293	1052	4613	-16.02	-56.91	3.58
805	SLV 6	255	1147	4581	-16.47	-56.11	5.73
805	SLV 7	421	-1027	8448	20.22	37.76	-7.29
805	SLV 8	383	-932	8416	19.77	38.56	-5.14
805	SLV 9	-188	1019	5230	-15.5	-63.88	4.26
805	SLV 10	-226	1114	5198	-15.95	-63.09	6.41
805	SLV 11	-60	-1061	9066	20.73	30.78	-6.61
805	SLV 12	-99	-966	9033	20.28	31.58	-4.46
805	SLV 13	-695	229	7301	-2.11	-39.08	0.73
805	SLV 14	-752	370	7253	-2.77	-37.89	3.91
805	SLV 15	-657	-395	8451	8.77	-10.68	-2.53
805	SLV 16	-714	-253	8403	8.1	-9.49	0.65
805	SLV FO 1	989	370	5085	-4.43	-16.15	-1.64
805	SLV FO 2	927	525	5032	-5.17	-14.85	1.86
805	SLV FO 3	1032	-317	6350	7.53	15.09	-5.23
805	SLV FO 4	969	-161	6298	6.79	16.39	-1.73
805	SLV FO 5	313	1153	4392	-17.84	-61.34	3.99
805	SLV FO 6	270	1258	4356	-18.33	-60.46	6.34
805	SLV FO 7	453	-1134	8611	22.02	42.8	-7.97
805	SLV FO 8	411	-1030	8575	21.53	43.68	-5.61
805	SLV FO 9	-217	1116	5071	-17.27	-69.01	4.73
805	SLV FO 10	-259	1221	5035	-17.76	-68.13	7.09
805	SLV FO 11	-76	-1171	9290	22.59	35.13	-7.22
805	SLV FO 12	-118	-1066	9254	22.1	36.01	-4.87
805	SLV FO 13	-775	248	7349	-2.53	-41.72	0.85
805	SLV FO 14	-837	403	7296	-3.26	-40.42	4.35
805	SLV FO 15	-732	-438	8614	9.43	-10.48	-2.74
805	SLV FO 16	-795	-283	8561	8.69	-9.18	0.76
805	CRTFP Ux+	0	0	0	0	0	0
805	CRTFP Ux-	0	0	0	0	0	0
805	CRTFP Uy+	0	0	0	0	0	0
805	CRTFP Uy-	0	0	0	0	0	0
808	SLU 1	-84	23	6488	-0.89	-1.18	0.98
808	SLU 2	-82	55	6447	-1.34	0.51	0.87
808	SLU 3	-86	23	6655	-0.81	-1.7	1.02
808	SLU 4	-85	42	6630	-1.08	-0.69	0.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
808	SLU 5	-83	55	6557	-1.28	0.13	0.9
808	SLU 6	-87	23	6766	-0.75	-2.08	1.05
808	SLU 7	-86	42	6741	-1.02	-1.07	0.98
808	SLU 8	-86	23	6709	-0.76	-1.93	1.04
808	SLU 9	-85	42	6684	-1.03	-0.92	0.97
808	SLU 10	-86	57	7309	-1.55	-0.92	1.02
808	SLU 11	-90	26	7517	-1.03	-3.13	1.18
808	SLU 12	-89	45	7492	-1.29	-2.11	1.11
808	SLU 13	-87	57	7419	-1.49	-1.29	1.05
808	SLU 14	-91	26	7628	-0.96	-3.5	1.2
808	SLU 15	-90	45	7603	-1.23	-2.49	1.14
808	SLU 16	-90	26	7571	-0.98	-3.35	1.19
808	SLU 17	-89	45	7546	-1.25	-2.34	1.12
808	SLU 18	-89	27	7719	-1.2	-3.21	1.2
808	SLU 19	-88	46	7695	-1.46	-2.2	1.13
808	SLU 20	-91	27	7830	-1.13	-3.59	1.23
808	SLU 21	-90	46	7805	-1.4	-2.58	1.16
808	SLU 22	-94	25	7578	-0.82	-3.52	1.19
808	SLU 23	-92	56	7536	-1.27	-1.83	1.08
808	SLU 24	-96	25	7745	-0.74	-4.04	1.23
808	SLU 25	-95	44	7720	-1.01	-3.03	1.17
808	SLU 26	-93	57	7647	-1.21	-2.21	1.11
808	SLU 27	-97	25	7855	-0.68	-4.42	1.26
808	SLU 28	-96	44	7830	-0.95	-3.41	1.19
808	SLU 29	-96	25	7799	-0.7	-4.27	1.25
808	SLU 30	-95	44	7774	-0.96	-3.26	1.18
808	SLU 31	-96	59	8398	-1.48	-3.26	1.23
808	SLU 32	-100	28	8607	-0.96	-5.46	1.39
808	SLU 33	-99	47	8582	-1.23	-4.45	1.32
808	SLU 34	-97	59	8509	-1.42	-3.63	1.26
808	SLU 35	-101	28	8717	-0.89	-5.84	1.41
808	SLU 36	-100	47	8692	-1.16	-4.83	1.35
808	SLU 37	-100	28	8661	-0.91	-5.69	1.4
808	SLU 38	-99	47	8636	-1.18	-4.68	1.33
808	SLU 39	-99	29	8809	-1.13	-5.55	1.41
808	SLU 40	-98	48	8784	-1.4	-4.54	1.34
808	SLU 41	-101	29	8919	-1.06	-5.93	1.44
808	SLU 42	-100	48	8895	-1.33	-4.92	1.37
808	SLU 43	-105	29	8061	-1.18	-0.73	1.2
808	SLU 44	-104	61	8020	-1.63	0.95	1.09
808	SLU 45	-107	30	8228	-1.1	-1.25	1.25
808	SLU 46	-106	48	8203	-1.37	-0.24	1.18
808	SLU 47	-105	61	8130	-1.57	0.58	1.12
808	SLU 48	-108	30	8339	-1.04	-1.63	1.27
808	SLU 49	-107	49	8314	-1.31	-0.62	1.21
808	SLU 50	-107	30	8282	-1.06	-1.48	1.26
808	SLU 51	-106	48	8257	-1.32	-0.47	1.19
808	SLU 52	-108	64	8882	-1.84	-0.47	1.25
808	SLU 53	-111	32	9090	-1.32	-2.68	1.4
808	SLU 54	-110	51	9065	-1.58	-1.67	1.33
808	SLU 55	-109	64	8992	-1.78	-0.84	1.27
808	SLU 56	-112	32	9201	-1.25	-3.05	1.42
808	SLU 57	-111	51	9176	-1.52	-2.04	1.36
808	SLU 58	-112	32	9144	-1.27	-2.9	1.41
808	SLU 59	-110	51	9119	-1.54	-1.89	1.35
808	SLU 60	-111	33	9292	-1.49	-2.76	1.42
808	SLU 61	-110	52	9268	-1.75	-1.75	1.36
808	SLU 62	-112	33	9403	-1.42	-3.14	1.45
808	SLU 63	-111	52	9378	-1.69	-2.13	1.38
808	SLU 64	-115	31	9151	-1.11	-3.07	1.41
808	SLU 65	-114	63	9109	-1.56	-1.38	1.3
808	SLU 66	-117	31	9318	-1.03	-3.59	1.46
808	SLU 67	-116	50	9293	-1.3	-2.58	1.39
808	SLU 68	-115	63	9220	-1.5	-1.76	1.33
808	SLU 69	-118	32	9428	-0.97	-3.97	1.48
808	SLU 70	-117	50	9403	-1.24	-2.96	1.42
808	SLU 71	-117	31	9372	-0.99	-3.82	1.47
808	SLU 72	-116	50	9347	-1.26	-2.81	1.4
808	SLU 73	-118	65	9971	-1.77	-2.81	1.46
808	SLU 74	-121	34	10180	-1.25	-5.02	1.61
808	SLU 75	-120	53	10155	-1.52	-4.01	1.54
808	SLU 76	-119	66	10082	-1.71	-3.18	1.48
808	SLU 77	-122	34	10290	-1.18	-5.39	1.63
808	SLU 78	-121	53	10265	-1.45	-4.38	1.57
808	SLU 79	-122	34	10234	-1.2	-5.24	1.62
808	SLU 80	-120	53	10209	-1.47	-4.23	1.56
808	SLU 81	-121	35	10382	-1.42	-5.1	1.63
808	SLU 82	-120	54	10357	-1.69	-4.09	1.57
808	SLU 83	-122	35	10492	-1.35	-5.48	1.66
808	SLU 84	-121	54	10468	-1.62	-4.47	1.59
808	SLE RA 1	-86	24	6799	-0.87	-1.85	1.04
808	SLE RA 2	-85	45	6772	-1.17	-0.72	0.97
808	SLE RA 3	-88	24	6911	-0.82	-2.2	1.07
808	SLE RA 4	-87	36	6894	-1	-1.52	1.03
808	SLE RA 5	-86	45	6846	-1.13	-0.97	0.99
808	SLE RA 6	-88	24	6985	-0.78	-2.45	1.09
808	SLE RA 7	-88	36	6968	-0.96	-1.77	1.04
808	SLE RA 8	-88	24	6947	-0.79	-2.35	1.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
808	SLE RA 9	-87	36	6930	-0.97	-1.67	1.03
808	SLE RA 10	-88	46	7346	-1.31	-1.67	1.07
808	SLE RA 11	-91	26	7485	-0.96	-3.14	1.17
808	SLE RA 12	-90	38	7469	-1.14	-2.47	1.13
808	SLE RA 13	-89	47	7420	-1.27	-1.92	1.09
808	SLE RA 14	-91	26	7559	-0.92	-3.39	1.19
808	SLE RA 15	-91	38	7543	-1.1	-2.72	1.14
808	SLE RA 16	-91	26	7521	-0.93	-3.3	1.18
808	SLE RA 17	-90	38	7505	-1.11	-2.62	1.14
808	SLE RA 18	-90	26	7620	-1.07	-3.2	1.19
808	SLE RA 19	-90	39	7604	-1.25	-2.53	1.14
808	SLE RA 20	-91	26	7694	-1.03	-3.45	1.21
808	SLE RA 21	-90	39	7677	-1.21	-2.78	1.16
808	SLE FR 1	-86	24	6799	-0.87	-1.85	1.04
808	SLE FR 2	-86	28	6794	-0.93	-1.62	1.03
808	SLE FR 3	-87	24	6829	-0.85	-1.95	1.05
808	SLE FR 4	-87	29	7040	-0.99	-2.03	1.07
808	SLE FR 5	-88	24	7075	-0.92	-2.35	1.09
808	SLE FR 6	-88	25	7210	-0.97	-2.52	1.11
808	SLE QP 1	-86	24	6799	-0.87	-1.85	1.04
808	SLE QP 2	-88	24	7046	-0.93	-2.25	1.09
808	SLD 1	468	226	7560	-4.7	18.87	-1.35
808	SLD 2	430	129	7580	-4.27	17.83	0.69
808	SLD 3	448	-169	8185	1.99	-3.93	0.11
808	SLD 4	409	-266	8205	2.43	-4.97	2.14
808	SLD 5	117	701	6249	-12.3	38.86	-2.2
808	SLD 6	93	638	6261	-12.02	38.19	-0.89
808	SLD 7	48	-616	8332	10.03	-37.17	2.65
808	SLD 8	23	-679	8345	10.31	-37.84	3.96
808	SLD 9	-199	727	5747	-12.17	33.33	-1.79
808	SLD 10	-223	665	5759	-11.89	32.66	-0.48
808	SLD 11	-268	-589	7830	10.15	-42.69	3.06
808	SLD 12	-292	-652	7843	10.43	-43.36	4.37
808	SLD 13	-584	315	5887	-4.29	0.47	0.03
808	SLD 14	-623	218	5906	-3.86	-0.57	2.07
808	SLD 15	-605	-80	6512	2.4	-22.34	1.48
808	SLD 16	-643	-177	6531	2.84	-23.38	3.52
808	SLV 1	784	368	7803	-7.32	32.54	-2.84
808	SLV 2	724	215	7834	-6.63	30.89	0.37
808	SLV 3	749	-305	8869	4.11	-6.38	-0.37
808	SLV 4	689	-459	8900	4.8	-8.02	2.85
808	SLV 5	239	1178	5650	-20.31	67.5	-4.45
808	SLV 6	198	1075	5671	-19.84	66.4	-2.29
808	SLV 7	121	-1068	9204	17.78	-62.2	3.81
808	SLV 8	81	-1171	9225	18.25	-63.3	5.97
808	SLV 9	-256	1220	4866	-20.11	58.8	-3.8
808	SLV 10	-296	1116	4887	-19.65	57.69	-1.64
808	SLV 11	-373	-1026	8421	17.98	-70.91	4.46
808	SLV 12	-414	-1129	8442	18.44	-72.01	6.62
808	SLV 13	-864	508	5191	-6.66	3.51	-0.67
808	SLV 14	-924	354	5223	-5.97	1.87	2.54
808	SLV 15	-899	-166	6258	4.76	-35.4	1.8
808	SLV 16	-960	-320	6289	5.45	-37.04	5.02
808	SLV FO 1	872	403	7878	-7.96	36.01	-3.24
808	SLV FO 2	805	234	7913	-7.2	34.21	0.3
808	SLV FO 3	833	-338	9051	4.61	-6.79	-0.51
808	SLV FO 4	766	-507	9086	5.37	-8.59	3.02
808	SLV FO 5	271	1293	5510	-22.24	74.48	-5
808	SLV FO 6	227	1180	5533	-21.73	73.27	-2.63
808	SLV FO 7	142	-1177	9420	19.65	-68.19	4.08
808	SLV FO 8	97	-1291	9443	20.16	-69.41	6.46
808	SLV FO 9	-273	1339	4648	-22.03	64.9	-4.29
808	SLV FO 10	-317	1225	4672	-21.52	63.69	-1.91
808	SLV FO 11	-402	-1131	8558	19.87	-77.77	4.8
808	SLV FO 12	-447	-1245	8581	20.38	-78.99	7.18
808	SLV FO 13	-942	556	5006	-7.24	4.09	-0.85
808	SLV FO 14	-1008	387	5040	-6.48	2.28	2.68
808	SLV FO 15	-980	-185	6179	5.33	-38.72	1.88
808	SLV FO 16	-1047	-354	6213	6.09	-40.52	5.41
808	CRTFP Ux+	0	0	0	0	0	0
808	CRTFP Ux-	0	0	0	0	0	0
808	CRTFP Uy+	0	0	0	0	0	0
808	CRTFP Uy-	0	0	0	0	0	0
811	SLU 1	8	34	2773	-36.87	651.55	-8.56
811	SLU 2	7	50	2763	-36.86	648.53	-12.54
811	SLU 3	8	35	2841	-37.76	667.92	-8.73
811	SLU 4	8	44	2835	-37.75	666.11	-11.12
811	SLU 5	8	50	2808	-37.44	659.33	-12.61
811	SLU 6	8	35	2886	-38.34	678.72	-8.8
811	SLU 7	8	44	2881	-38.33	676.91	-11.19
811	SLU 8	8	34	2863	-38.03	673.14	-8.7
811	SLU 9	8	44	2857	-38.03	671.33	-11.09
811	SLU 10	9	52	3139	-41.95	735.88	-13.19
811	SLU 11	9	37	3217	-42.85	755.28	-9.38
811	SLU 12	9	47	3211	-42.84	753.47	-11.77
811	SLU 13	9	53	3184	-42.53	746.68	-13.26
811	SLU 14	10	37	3262	-43.43	766.07	-9.46
811	SLU 15	9	47	3256	-43.42	764.26	-11.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
811	SLU 16	10	37	3239	-43.12	760.49	-9.35
811	SLU 17	9	47	3233	-43.12	758.68	-11.74
811	SLU 18	9	38	3310	-44.14	776.33	-9.49
811	SLU 19	9	47	3304	-44.14	774.52	-11.88
811	SLU 20	10	38	3355	-44.73	787.13	-9.56
811	SLU 21	10	47	3349	-44.72	785.32	-11.95
811	SLU 22	9	38	3233	-42.96	759.08	-9.7
811	SLU 23	9	54	3224	-42.95	756.06	-13.68
811	SLU 24	9	39	3302	-43.85	775.45	-9.87
811	SLU 25	9	49	3296	-43.84	773.64	-12.26
811	SLU 26	9	55	3269	-43.53	766.86	-13.75
811	SLU 27	10	39	3347	-44.43	786.25	-9.95
811	SLU 28	10	49	3341	-44.42	784.44	-12.33
811	SLU 29	10	39	3323	-44.12	780.67	-9.84
811	SLU 30	10	48	3318	-44.12	778.86	-12.23
811	SLU 31	10	57	3600	-48.04	843.41	-14.33
811	SLU 32	11	42	3678	-48.94	862.81	-10.52
811	SLU 33	11	51	3672	-48.93	861	-12.91
811	SLU 34	10	57	3645	-48.62	854.21	-14.4
811	SLU 35	11	42	3723	-49.52	873.6	-10.6
811	SLU 36	11	52	3717	-49.52	871.79	-12.99
811	SLU 37	11	42	3699	-49.22	868.02	-10.49
811	SLU 38	11	51	3694	-49.21	866.21	-12.88
811	SLU 39	11	42	3770	-50.24	883.86	-10.63
811	SLU 40	11	52	3764	-50.23	882.06	-13.02
811	SLU 41	11	42	3815	-50.82	894.66	-10.7
811	SLU 42	11	52	3809	-50.81	892.85	-13.09
811	SLU 43	9	42	3447	-45.84	810.14	-10.73
811	SLU 44	9	58	3437	-45.83	807.13	-14.72
811	SLU 45	10	43	3515	-46.73	826.52	-10.91
811	SLU 46	10	53	3509	-46.72	824.71	-13.3
811	SLU 47	10	59	3482	-46.41	817.92	-14.79
811	SLU 48	10	43	3560	-47.31	837.32	-10.98
811	SLU 49	10	53	3554	-47.3	835.51	-13.37
811	SLU 50	10	43	3537	-47	831.73	-10.88
811	SLU 51	10	53	3531	-47	829.92	-13.27
811	SLU 52	10	61	3813	-50.92	894.48	-15.37
811	SLU 53	11	46	3891	-51.82	913.87	-11.56
811	SLU 54	11	55	3885	-51.81	912.06	-13.95
811	SLU 55	11	61	3858	-51.5	905.27	-15.44
811	SLU 56	11	46	3936	-52.4	924.67	-11.63
811	SLU 57	11	56	3930	-52.4	922.86	-14.02
811	SLU 58	11	46	3913	-52.1	919.09	-11.53
811	SLU 59	11	55	3907	-52.09	917.28	-13.92
811	SLU 60	11	46	3983	-53.12	934.93	-11.66
811	SLU 61	11	56	3978	-53.11	933.12	-14.05
811	SLU 62	12	46	4028	-53.7	945.73	-11.74
811	SLU 63	11	56	4023	-53.69	943.92	-14.12
811	SLU 64	11	47	3907	-51.94	917.67	-11.88
811	SLU 65	11	63	3898	-51.92	914.66	-15.86
811	SLU 66	11	48	3976	-52.82	934.05	-12.05
811	SLU 67	11	57	3970	-52.81	932.24	-14.44
811	SLU 68	11	63	3943	-52.51	925.45	-15.93
811	SLU 69	12	48	4021	-53.4	944.85	-12.12
811	SLU 70	11	57	4015	-53.4	943.04	-14.51
811	SLU 71	12	48	3997	-53.1	939.26	-12.02
811	SLU 72	11	57	3992	-53.09	937.45	-14.41
811	SLU 73	12	65	4273	-57.02	1002.01	-16.51
811	SLU 74	12	50	4351	-57.91	1021.4	-12.7
811	SLU 75	12	60	4346	-57.91	1019.59	-15.09
811	SLU 76	12	66	4318	-57.6	1012.8	-16.58
811	SLU 77	13	51	4397	-58.49	1032.2	-12.77
811	SLU 78	13	60	4391	-58.49	1030.39	-15.16
811	SLU 79	13	50	4373	-58.19	1026.62	-12.67
811	SLU 80	13	60	4367	-58.18	1024.81	-15.06
811	SLU 81	13	51	4444	-59.21	1042.46	-12.81
811	SLU 82	12	60	4438	-59.2	1040.65	-15.19
811	SLU 83	13	51	4489	-59.79	1053.26	-12.88
811	SLU 84	13	61	4483	-59.78	1051.45	-15.27
811	SLE RA 1	8	35	2904	-38.61	682.27	-8.88
811	SLE RA 2	8	46	2898	-38.6	680.26	-11.54
811	SLE RA 3	8	36	2950	-39.2	693.19	-9
811	SLE RA 4	8	42	2946	-39.2	691.98	-10.59
811	SLE RA 5	8	46	2928	-38.99	687.46	-11.59
811	SLE RA 6	9	36	2980	-39.59	700.38	-9.05
811	SLE RA 7	8	42	2976	-39.58	699.18	-10.64
811	SLE RA 8	8	36	2964	-39.39	696.66	-8.98
811	SLE RA 9	8	42	2961	-39.38	695.46	-10.57
811	SLE RA 10	9	47	3148	-42	738.49	-11.97
811	SLE RA 11	9	37	3200	-42.6	751.42	-9.43
811	SLE RA 12	9	44	3197	-42.59	750.22	-11.03
811	SLE RA 13	9	48	3178	-42.39	745.69	-12.02
811	SLE RA 14	9	38	3231	-42.98	758.62	-9.48
811	SLE RA 15	9	44	3227	-42.98	757.41	-11.08
811	SLE RA 16	9	37	3215	-42.78	754.9	-9.41
811	SLE RA 17	9	44	3211	-42.78	753.69	-11.01
811	SLE RA 18	9	38	3262	-43.46	765.46	-9.5
811	SLE RA 19	9	44	3258	-43.46	764.25	-11.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
811	SLE RA 20	9	38	3292	-43.85	772.66	-9.55
811	SLE RA 21	9	44	3288	-43.84	771.45	-11.14
811	SLE FR 1	8	35	2904	-38.61	682.27	-8.88
811	SLE FR 2	8	37	2903	-38.61	681.87	-9.42
811	SLE FR 3	8	35	2916	-38.77	685.15	-8.9
811	SLE FR 4	8	38	3010	-40.06	706.82	-9.6
811	SLE FR 5	8	36	3024	-40.22	710.11	-9.09
811	SLE FR 6	9	36	3083	-41.04	723.86	-9.19
811	SLE QP 1	8	35	2904	-38.61	682.27	-8.88
811	SLE QP 2	8	36	3012	-40.07	707.23	-9.07
811	SLD 1	277	153	3016	-40.54	696.24	-32.54
811	SLD 2	262	134	3010	-40.44	695.71	-27.85
811	SLD 3	281	-44	3170	-40.78	742.09	16.6
811	SLD 4	266	-63	3164	-40.68	741.56	21.28
811	SLD 5	85	372	2779	-39.85	634.48	-91.44
811	SLD 6	75	360	2776	-39.79	634.13	-88.43
811	SLD 7	99	-283	3295	-40.67	787.32	72.35
811	SLD 8	89	-295	3291	-40.6	786.98	75.37
811	SLD 9	-72	367	2732	-39.53	627.47	-93.51
811	SLD 10	-82	354	2728	-39.47	627.13	-90.49
811	SLD 11	-59	-288	3248	-40.34	780.32	70.29
811	SLD 12	-69	-300	3244	-40.28	779.98	73.3
811	SLD 13	-249	134	2859	-39.45	672.89	-39.42
811	SLD 14	-265	115	2853	-39.35	672.36	-34.74
811	SLD 15	-245	-62	3014	-39.69	718.75	9.71
811	SLD 16	-260	-81	3008	-39.6	718.21	14.4
811	SLV 1	429	233	3007	-40.78	686.79	-49.25
811	SLV 2	404	203	2997	-40.63	685.95	-41.86
811	SLV 3	436	-102	3271	-41.2	765.05	34.55
811	SLV 4	411	-132	3261	-41.05	764.21	41.94
811	SLV 5	129	609	2611	-39.67	582.56	-149.6
811	SLV 6	112	588	2605	-39.57	582	-144.62
811	SLV 7	152	-508	3491	-41.07	843.42	129.73
811	SLV 8	135	-528	3485	-40.97	842.85	134.7
811	SLV 9	-118	600	2538	-39.16	571.6	-152.84
811	SLV 10	-135	580	2532	-39.06	571.03	-147.87
811	SLV 11	-95	-517	3418	-40.56	832.46	126.48
811	SLV 12	-112	-537	3412	-40.46	831.89	131.46
811	SLV 13	-395	204	2762	-39.08	650.25	-60.08
811	SLV 14	-419	174	2753	-38.93	649.41	-52.69
811	SLV 15	-388	-131	3026	-39.5	728.5	23.72
811	SLV 16	-412	-161	3017	-39.35	727.66	31.11
811	SLV FO 1	471	253	3006	-40.85	684.75	-53.27
811	SLV FO 2	444	220	2996	-40.69	683.82	-45.14
811	SLV FO 3	478	-116	3296	-41.32	770.83	38.91
811	SLV FO 4	452	-149	3286	-41.15	769.9	47.04
811	SLV FO 5	141	666	2571	-39.63	570.1	-163.65
811	SLV FO 6	123	644	2565	-39.52	569.47	-158.18
811	SLV FO 7	166	-562	3539	-41.17	857.04	143.61
811	SLV FO 8	148	-584	3533	-41.06	856.41	149.08
811	SLV FO 9	-131	656	2491	-39.07	558.04	-167.22
811	SLV FO 10	-149	634	2484	-38.96	557.42	-161.75
811	SLV FO 11	-106	-572	3459	-40.61	844.98	140.04
811	SLV FO 12	-124	-594	3452	-40.5	844.36	145.51
811	SLV FO 13	-435	220	2737	-38.98	644.55	-65.18
811	SLV FO 14	-462	187	2727	-38.82	643.62	-57.05
811	SLV FO 15	-427	-148	3027	-39.44	730.63	27
811	SLV FO 16	-454	-181	3017	-39.28	729.71	35.13
811	CRTFP Ux+	0	0	0	0	0	0
811	CRTFP Ux-	0	0	0	0	0	0
811	CRTFP Uy+	0	0	0	0	0	0
811	CRTFP Uy-	0	0	0	0	0	0
813	SLU 1	31	20	4737	-65.1	-41.77	0.01
813	SLU 2	32	56	4717	-65.05	-41.63	0.12
813	SLU 3	33	20	4845	-66.54	-43.04	0.01
813	SLU 4	33	41	4833	-66.51	-42.96	0.07
813	SLU 5	33	55	4787	-65.98	-42.44	0.11
813	SLU 6	34	19	4915	-67.47	-43.84	0
813	SLU 7	34	41	4903	-67.44	-43.76	0.07
813	SLU 8	33	19	4877	-66.96	-43.38	0
813	SLU 9	33	40	4866	-66.93	-43.29	0.06
813	SLU 10	34	57	5359	-73.88	-46.35	0.1
813	SLU 11	35	21	5487	-75.37	-47.76	-0.01
813	SLU 12	36	43	5475	-75.34	-47.68	0.05
813	SLU 13	35	57	5429	-74.81	-47.15	0.09
813	SLU 14	36	21	5557	-76.3	-48.56	-0.02
813	SLU 15	37	42	5545	-76.27	-48.48	0.04
813	SLU 16	36	21	5519	-75.79	-48.09	-0.03
813	SLU 17	36	42	5507	-75.76	-48.01	0.04
813	SLU 18	35	22	5654	-77.71	-48.51	-0.02
813	SLU 19	35	44	5642	-77.68	-48.42	0.04
813	SLU 20	36	22	5724	-78.64	-49.31	-0.03
813	SLU 21	36	43	5712	-78.61	-49.23	0.04
813	SLU 22	36	23	5512	-75.49	-48.09	0.07
813	SLU 23	37	59	5492	-75.44	-47.96	0.18
813	SLU 24	38	23	5620	-76.93	-49.36	0.07
813	SLU 25	38	44	5608	-76.9	-49.28	0.13
813	SLU 26	38	58	5562	-76.37	-48.76	0.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
813	SLU 27	39	22	5690	-77.86	-50.17	0.06
813	SLU 28	39	44	5678	-77.84	-50.09	0.13
813	SLU 29	38	22	5652	-77.35	-49.7	0.06
813	SLU 30	39	44	5640	-77.32	-49.62	0.12
813	SLU 31	39	60	6133	-84.27	-52.67	0.15
813	SLU 32	40	24	6261	-85.76	-54.08	0.05
813	SLU 33	41	46	6249	-85.73	-54	0.11
813	SLU 34	40	60	6204	-85.2	-53.48	0.15
813	SLU 35	41	24	6332	-86.69	-54.89	0.04
813	SLU 36	42	45	6320	-86.67	-54.8	0.1
813	SLU 37	41	24	6294	-86.18	-54.42	0.03
813	SLU 38	41	45	6282	-86.16	-54.33	0.1
813	SLU 39	40	25	6428	-88.1	-54.83	0.04
813	SLU 40	40	47	6416	-88.08	-54.75	0.1
813	SLU 41	41	25	6499	-89.04	-55.63	0.03
813	SLU 42	41	46	6487	-89.01	-55.55	0.1
813	SLU 43	39	25	5893	-81.06	-52.13	0
813	SLU 44	39	61	5873	-81.01	-51.99	0.1
813	SLU 45	40	25	6001	-82.5	-53.4	-0.01
813	SLU 46	40	46	5989	-82.48	-53.32	0.06
813	SLU 47	40	60	5943	-81.95	-52.8	0.09
813	SLU 48	41	24	6071	-83.44	-54.21	-0.01
813	SLU 49	41	46	6059	-83.41	-54.12	0.05
813	SLU 50	41	24	6033	-82.92	-53.74	-0.02
813	SLU 51	41	46	6021	-82.9	-53.66	0.04
813	SLU 52	42	62	6514	-89.84	-56.71	0.08
813	SLU 53	43	26	6642	-91.33	-58.12	-0.03
813	SLU 54	43	48	6630	-91.31	-58.04	0.03
813	SLU 55	43	62	6585	-90.78	-57.51	0.07
813	SLU 56	44	26	6712	-92.27	-58.92	-0.04
813	SLU 57	44	47	6700	-92.24	-58.84	0.03
813	SLU 58	44	26	6675	-91.76	-58.45	-0.04
813	SLU 59	44	47	6663	-91.73	-58.37	0.02
813	SLU 60	43	27	6809	-93.68	-58.87	-0.04
813	SLU 61	43	49	6797	-93.65	-58.79	0.03
813	SLU 62	44	27	6879	-94.61	-59.67	-0.04
813	SLU 63	44	48	6868	-94.58	-59.59	0.02
813	SLU 64	44	28	6667	-91.45	-58.45	0.06
813	SLU 65	44	64	6647	-91.41	-58.32	0.16
813	SLU 66	45	28	6775	-92.9	-59.73	0.05
813	SLU 67	46	49	6763	-92.87	-59.64	0.12
813	SLU 68	45	63	6718	-92.34	-59.12	0.15
813	SLU 69	46	27	6845	-93.83	-60.53	0.05
813	SLU 70	47	49	6833	-93.8	-60.45	0.11
813	SLU 71	46	27	6808	-93.32	-60.06	0.04
813	SLU 72	46	49	6796	-93.29	-59.98	0.1
813	SLU 73	47	65	7289	-100.24	-63.03	0.14
813	SLU 74	48	30	7417	-101.73	-64.44	0.03
813	SLU 75	48	51	7405	-101.7	-64.36	0.09
813	SLU 76	48	65	7359	-101.17	-63.84	0.13
813	SLU 77	49	29	7487	-102.66	-65.25	0.02
813	SLU 78	49	50	7475	-102.63	-65.17	0.09
813	SLU 79	49	29	7449	-102.15	-64.78	0.02
813	SLU 80	49	50	7437	-102.12	-64.7	0.08
813	SLU 81	48	30	7584	-104.07	-65.19	0.02
813	SLU 82	48	52	7572	-104.04	-65.11	0.09
813	SLU 83	49	30	7654	-105	-66	0.02
813	SLU 84	49	51	7642	-104.97	-65.91	0.08
813	SLE RA 1	33	21	4958	-68.06	-43.57	0.03
813	SLE RA 2	33	45	4945	-68.03	-43.48	0.1
813	SLE RA 3	34	21	5030	-69.03	-44.42	0.03
813	SLE RA 4	34	35	5022	-69.01	-44.37	0.07
813	SLE RA 5	34	44	4992	-68.65	-44.02	0.1
813	SLE RA 6	34	21	5077	-69.65	-44.96	0.02
813	SLE RA 7	34	35	5069	-69.63	-44.9	0.07
813	SLE RA 8	34	20	5052	-69.31	-44.65	0.02
813	SLE RA 9	34	35	5044	-69.29	-44.59	0.06
813	SLE RA 10	35	46	5373	-73.92	-46.63	0.09
813	SLE RA 11	35	22	5458	-74.91	-47.57	0.01
813	SLE RA 12	36	36	5450	-74.9	-47.51	0.06
813	SLE RA 13	35	45	5420	-74.54	-47.16	0.08
813	SLE RA 14	36	22	5505	-75.54	-48.1	0.01
813	SLE RA 15	36	36	5497	-75.52	-48.05	0.05
813	SLE RA 16	36	21	5480	-75.19	-47.79	0
813	SLE RA 17	36	36	5472	-75.18	-47.74	0.05
813	SLE RA 18	35	22	5570	-76.48	-48.07	0.01
813	SLE RA 19	35	37	5562	-76.46	-48.01	0.05
813	SLE RA 20	36	22	5616	-77.1	-48.6	0
813	SLE RA 21	36	36	5608	-77.08	-48.55	0.05
813	SLE FR 1	33	21	4958	-68.06	-43.57	0.03
813	SLE FR 2	33	26	4956	-68.06	-43.56	0.04
813	SLE FR 3	33	21	4977	-68.31	-43.79	0.03
813	SLE FR 4	34	26	5139	-70.58	-44.9	0.04
813	SLE FR 5	34	21	5160	-70.84	-45.14	0.02
813	SLE FR 6	34	22	5264	-72.27	-45.82	0.02
813	SLE QP 1	33	21	4958	-68.06	-43.57	0.03
813	SLE QP 2	33	22	5142	-70.59	-44.92	0.02
813	SLD 1	583	213	4604	-66.08	-14.42	6.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
813	SLD 2	552	250	4617	-66.25	-14.66	7.27
813	SLD 3	575	-239	4916	-66.71	-17.14	4.63
813	SLD 4	544	-202	4929	-66.88	-17.37	5.85
813	SLD 5	215	759	4505	-68.25	-31.61	3.76
813	SLD 6	196	782	4513	-68.36	-31.77	4.55
813	SLD 7	189	-749	5546	-70.36	-40.66	-0.95
813	SLD 8	170	-725	5554	-70.47	-40.82	-0.16
813	SLD 9	-103	768	4730	-70.71	-49.03	0.21
813	SLD 10	-123	792	4738	-70.82	-49.18	1
813	SLD 11	-129	-739	5771	-72.82	-58.08	-4.5
813	SLD 12	-148	-716	5779	-72.93	-58.23	-3.71
813	SLD 13	-478	245	5355	-74.29	-72.47	-5.81
813	SLD 14	-508	282	5367	-74.47	-72.71	-4.58
813	SLD 15	-485	-207	5667	-74.93	-75.18	-7.22
813	SLD 16	-516	-170	5680	-75.1	-75.42	-5.99
813	SLV 1	894	353	4280	-63.5	2.86	9.53
813	SLV 2	845	410	4300	-63.77	2.49	11.47
813	SLV 3	881	-419	4812	-64.58	-1.77	7.12
813	SLV 4	832	-361	4832	-64.85	-2.14	9.06
813	SLV 5	320	1280	4072	-66.78	-23.49	6.17
813	SLV 6	288	1318	4085	-66.96	-23.75	7.47
813	SLV 7	277	-1291	5847	-70.37	-38.93	-1.86
813	SLV 8	244	-1252	5861	-70.55	-39.18	-0.56
813	SLV 9	-177	1295	4423	-70.62	-50.66	0.61
813	SLV 10	-210	1334	4436	-70.8	-50.92	1.91
813	SLV 11	-221	-1275	6199	-74.22	-66.1	-7.42
813	SLV 12	-253	-1237	6212	-74.4	-66.35	-6.12
813	SLV 13	-765	404	5451	-76.32	-87.7	-9.01
813	SLV 14	-814	462	5471	-76.59	-88.08	-7.08
813	SLV 15	-778	-367	5984	-77.4	-92.33	-11.42
813	SLV 16	-827	-310	6004	-77.67	-92.71	-9.49
813	SLV FO 1	980	386	4194	-62.8	7.64	10.49
813	SLV FO 2	926	449	4215	-63.09	7.23	12.61
813	SLV FO 3	965	-463	4779	-63.98	2.55	7.83
813	SLV FO 4	912	-399	4801	-64.28	2.13	9.96
813	SLV FO 5	349	1406	3965	-66.4	-21.35	6.79
813	SLV FO 6	313	1448	3979	-66.6	-21.63	8.22
813	SLV FO 7	301	-1422	5918	-70.35	-38.33	-2.05
813	SLV FO 8	265	-1380	5932	-70.55	-38.61	-0.62
813	SLV FO 9	-199	1423	4351	-70.63	-51.24	0.67
813	SLV FO 10	-234	1465	4366	-70.83	-51.52	2.1
813	SLV FO 11	-246	-1405	6304	-74.58	-68.21	-8.17
813	SLV FO 12	-282	-1363	6319	-74.78	-68.49	-6.74
813	SLV FO 13	-845	442	5482	-76.9	-91.98	-9.91
813	SLV FO 14	-899	506	5504	-77.19	-92.39	-7.79
813	SLV FO 15	-860	-406	6068	-78.08	-97.07	-12.56
813	SLV FO 16	-913	-343	6090	-78.38	-97.48	-10.44
813	CRTFP Ux+	0	0	0	0	0	0
813	CRTFP Ux-	0	0	0	0	0	0
813	CRTFP Uy+	0	0	0	0	0	0
813	CRTFP Uy-	0	0	0	0	0	0
828	SLU 1	-49	0	3281	-2.91	-368.88	0.03
828	SLU 2	-48	19	3255	-3.12	-368	4.72
828	SLU 3	-50	0	3365	-2.94	-376.96	-0.11
828	SLU 4	-49	11	3350	-3.06	-376.43	2.7
828	SLU 5	-49	19	3311	-3.13	-373.28	4.67
828	SLU 6	-50	0	3421	-2.95	-382.23	-0.16
828	SLU 7	-50	11	3406	-3.08	-381.71	2.65
828	SLU 8	-50	0	3393	-2.93	-379.43	-0.07
828	SLU 9	-49	11	3377	-3.06	-378.9	2.74
828	SLU 10	-51	20	3658	-3.57	-412.62	5
828	SLU 11	-53	1	3769	-3.39	-421.57	0.17
828	SLU 12	-52	12	3753	-3.51	-421.04	2.99
828	SLU 13	-52	20	3714	-3.58	-417.89	4.95
828	SLU 14	-53	1	3825	-3.4	-426.85	0.12
828	SLU 15	-53	12	3809	-3.52	-426.32	2.93
828	SLU 16	-53	1	3796	-3.38	-424.04	0.22
828	SLU 17	-52	12	3781	-3.51	-423.51	3.03
828	SLU 18	-53	2	3857	-3.55	-432.62	0.44
828	SLU 19	-53	13	3842	-3.67	-432.09	3.25
828	SLU 20	-54	2	3913	-3.56	-437.89	0.39
828	SLU 21	-53	13	3897	-3.69	-437.36	3.2
828	SLU 22	-54	-2	3805	-3.33	-424.13	-0.53
828	SLU 23	-54	17	3779	-3.53	-423.25	4.15
828	SLU 24	-55	-3	3890	-3.35	-432.21	-0.67
828	SLU 25	-55	9	3874	-3.48	-431.68	2.14
828	SLU 26	-54	17	3835	-3.55	-428.52	4.1
828	SLU 27	-56	-3	3946	-3.37	-437.48	-0.72
828	SLU 28	-55	8	3930	-3.49	-436.95	2.09
828	SLU 29	-55	-2	3917	-3.35	-434.68	-0.63
828	SLU 30	-55	9	3901	-3.48	-434.15	2.18
828	SLU 31	-56	18	4182	-3.98	-467.86	4.43
828	SLU 32	-58	-1	4293	-3.8	-476.82	-0.39
828	SLU 33	-58	10	4277	-3.93	-476.29	2.42
828	SLU 34	-57	18	4238	-4	-473.13	4.38
828	SLU 35	-59	-2	4349	-3.82	-482.09	-0.44
828	SLU 36	-58	10	4333	-3.94	-481.56	2.37
828	SLU 37	-58	-1	4320	-3.8	-479.29	-0.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
828	SLU 38	-58	10	4305	-3.93	-478.76	2.46
828	SLU 39	-59	0	4381	-3.97	-487.86	-0.13
828	SLU 40	-58	11	4366	-4.09	-487.33	2.68
828	SLU 41	-59	-1	4437	-3.98	-493.13	-0.18
828	SLU 42	-59	11	4422	-4.11	-492.61	2.63
828	SLU 43	-62	1	4086	-3.64	-460.61	0.24
828	SLU 44	-61	20	4059	-3.85	-459.73	4.92
828	SLU 45	-63	1	4170	-3.67	-468.68	0.1
828	SLU 46	-62	12	4154	-3.79	-468.16	2.91
828	SLU 47	-62	20	4115	-3.86	-465	4.87
828	SLU 48	-63	0	4226	-3.68	-473.96	0.05
828	SLU 49	-63	12	4210	-3.8	-473.43	2.86
828	SLU 50	-63	1	4197	-3.66	-471.15	0.14
828	SLU 51	-62	12	4182	-3.79	-470.63	2.95
828	SLU 52	-64	21	4463	-4.3	-504.34	5.2
828	SLU 53	-66	2	4573	-4.12	-513.3	0.38
828	SLU 54	-65	13	4558	-4.24	-512.77	3.19
828	SLU 55	-64	21	4519	-4.31	-509.61	5.15
828	SLU 56	-66	2	4629	-4.13	-518.57	0.33
828	SLU 57	-66	13	4614	-4.25	-518.04	3.14
828	SLU 58	-66	2	4601	-4.11	-515.77	0.42
828	SLU 59	-65	13	4585	-4.24	-515.24	3.23
828	SLU 60	-66	3	4662	-4.28	-524.34	0.64
828	SLU 61	-66	14	4646	-4.4	-523.81	3.45
828	SLU 62	-67	3	4718	-4.29	-529.61	0.59
828	SLU 63	-66	14	4702	-4.42	-529.08	3.4
828	SLU 64	-67	-1	4610	-4.06	-515.85	-0.33
828	SLU 65	-66	18	4584	-4.26	-514.97	4.36
828	SLU 66	-68	-2	4694	-4.08	-523.93	-0.47
828	SLU 67	-68	10	4679	-4.21	-523.4	2.34
828	SLU 68	-67	17	4640	-4.28	-520.24	4.31
828	SLU 69	-69	-2	4750	-4.1	-529.2	-0.52
828	SLU 70	-68	9	4734	-4.22	-528.67	2.29
828	SLU 71	-68	-2	4722	-4.08	-526.4	-0.43
828	SLU 72	-68	10	4706	-4.21	-525.87	2.38
828	SLU 73	-69	19	4987	-4.71	-559.58	4.64
828	SLU 74	-71	-1	5097	-4.53	-568.54	-0.19
828	SLU 75	-71	11	5082	-4.66	-568.01	2.62
828	SLU 76	-70	19	5043	-4.73	-564.86	4.59
828	SLU 77	-72	-1	5153	-4.55	-573.82	-0.24
828	SLU 78	-71	10	5138	-4.67	-573.29	2.57
828	SLU 79	-71	0	5125	-4.53	-571.01	-0.15
828	SLU 80	-71	11	5109	-4.66	-570.48	2.66
828	SLU 81	-71	0	5186	-4.7	-579.58	0.07
828	SLU 82	-71	12	5170	-4.82	-579.06	2.88
828	SLU 83	-72	0	5242	-4.71	-584.86	0.02
828	SLU 84	-71	11	5226	-4.83	-584.33	2.83
828	SLE RA 1	-50	0	3431	-3.03	-384.67	-0.13
828	SLE RA 2	-50	12	3413	-3.17	-384.08	2.99
828	SLE RA 3	-51	-1	3487	-3.05	-390.05	-0.22
828	SLE RA 4	-51	7	3477	-3.13	-389.7	1.65
828	SLE RA 5	-50	12	3451	-3.18	-387.6	2.96
828	SLE RA 6	-51	-1	3524	-3.06	-393.57	-0.26
828	SLE RA 7	-51	7	3514	-3.14	-393.22	1.62
828	SLE RA 8	-51	-1	3505	-3.04	-391.7	-0.2
828	SLE RA 9	-51	7	3495	-3.13	-391.35	1.68
828	SLE RA 10	-52	13	3682	-3.47	-413.82	3.18
828	SLE RA 11	-53	0	3756	-3.35	-419.79	-0.03
828	SLE RA 12	-53	7	3745	-3.43	-419.44	1.84
828	SLE RA 13	-52	13	3720	-3.47	-417.34	3.15
828	SLE RA 14	-53	0	3793	-3.35	-423.31	-0.07
828	SLE RA 15	-53	7	3783	-3.44	-422.96	1.81
828	SLE RA 16	-53	0	3774	-3.34	-421.44	-0.01
828	SLE RA 17	-53	8	3764	-3.43	-421.09	1.87
828	SLE RA 18	-53	1	3815	-3.46	-427.16	0.14
828	SLE RA 19	-53	8	3804	-3.54	-426.8	2.01
828	SLE RA 20	-54	1	3852	-3.46	-430.67	0.11
828	SLE RA 21	-53	8	3842	-3.55	-430.32	1.98
828	SLE FR 1	-50	0	3431	-3.03	-384.67	-0.13
828	SLE FR 2	-50	2	3427	-3.06	-384.55	0.5
828	SLE FR 3	-51	0	3446	-3.03	-386.07	-0.14
828	SLE FR 4	-51	2	3543	-3.18	-397.3	0.58
828	SLE FR 5	-51	0	3561	-3.16	-398.82	-0.06
828	SLE FR 6	-52	0	3623	-3.24	-405.91	0.01
828	SLE QP 1	-50	0	3431	-3.03	-384.67	-0.13
828	SLE QP 2	-51	0	3546	-3.16	-397.41	-0.05
828	SLD 1	211	129	4351	-5.85	-505.37	32.09
828	SLD 2	188	29	4376	-5.63	-509.17	7.29
828	SLD 3	200	-104	4732	-2.63	-510.73	-26.08
828	SLD 4	177	-204	4757	-2.41	-514.53	-50.88
828	SLD 5	49	409	3205	-8.88	-421.01	102.08
828	SLD 6	34	344	3221	-8.74	-423.46	86.11
828	SLD 7	11	-367	4476	1.84	-438.89	-91.82
828	SLD 8	-4	-431	4492	1.99	-441.34	-107.79
828	SLD 9	-99	431	2600	-8.3	-353.49	107.69
828	SLD 10	-114	367	2616	-8.16	-355.94	91.72
828	SLD 11	-136	-344	3871	2.43	-371.37	-86.21
828	SLD 12	-151	-409	3887	2.57	-373.82	-102.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
828	SLD 13	-280	204	2335	-3.9	-280.29	50.79
828	SLD 14	-303	104	2360	-3.68	-284.09	25.98
828	SLD 15	-291	-29	2716	-0.68	-285.66	-7.38
828	SLD 16	-314	-129	2741	-0.46	-289.46	-32.18
828	SLV 1	361	218	4773	-7.6	-565.4	54.47
828	SLV 2	325	61	4813	-7.25	-571.39	15.38
828	SLV 3	342	-178	5423	-2.11	-574.57	-44.73
828	SLV 4	306	-336	5464	-1.75	-580.56	-83.83
828	SLV 5	108	697	2921	-12.88	-432.8	174.07
828	SLV 6	84	591	2948	-12.65	-436.83	147.75
828	SLV 7	44	-626	5088	5.42	-463.34	-156.62
828	SLV 8	20	-732	5115	5.66	-467.37	-182.94
828	SLV 9	-123	732	1977	-11.97	-327.46	182.85
828	SLV 10	-147	626	2004	-11.73	-331.49	156.53
828	SLV 11	-187	-591	4144	6.33	-358	-147.84
828	SLV 12	-211	-697	4171	6.57	-362.03	-174.16
828	SLV 13	-408	336	1628	-4.56	-214.27	83.74
828	SLV 14	-445	178	1669	-4.2	-220.26	44.64
828	SLV 15	-428	-61	2279	0.93	-223.43	-15.47
828	SLV 16	-464	-218	2319	1.29	-229.42	-54.57
828	SLV FO 1	402	240	4896	-8.04	-582.2	59.92
828	SLV FO 2	363	67	4940	-7.65	-588.79	16.92
828	SLV FO 3	381	-196	5611	-2	-592.28	-49.2
828	SLV FO 4	341	-369	5655	-1.61	-598.87	-92.21
828	SLV FO 5	124	766	2858	-13.86	-436.33	191.48
828	SLV FO 6	97	650	2888	-13.6	-440.77	162.53
828	SLV FO 7	54	-689	5242	6.28	-469.93	-172.28
828	SLV FO 8	27	-805	5272	6.54	-474.37	-201.23
828	SLV FO 9	-130	805	1820	-12.85	-320.46	201.13
828	SLV FO 10	-157	688	1850	-12.59	-324.9	172.18
828	SLV FO 11	-200	-650	4204	7.28	-354.06	-162.62
828	SLV FO 12	-227	-766	4234	7.55	-358.49	-191.57
828	SLV FO 13	-444	369	1437	-4.7	-195.96	92.11
828	SLV FO 14	-484	196	1481	-4.31	-202.55	49.11
828	SLV FO 15	-465	-67	2152	1.34	-206.04	-17.01
828	SLV FO 16	-505	-240	2196	1.73	-212.62	-60.02
828	CRTFP Ux+	0	0	0	0	0	0
828	CRTFP Ux-	0	0	0	0	0	0
828	CRTFP Uy+	0	0	0	0	0	0
828	CRTFP Uy-	0	0	0	0	0	0
831	SLU 1	66	41	3969	-4.44	813.78	-14.11
831	SLU 2	64	63	3934	-4.74	811.87	-21.99
831	SLU 3	67	41	4067	-4.47	831.5	-14.42
831	SLU 4	67	55	4046	-4.65	830.36	-19.15
831	SLU 5	65	64	3997	-4.74	823.07	-22.39
831	SLU 6	68	43	4131	-4.47	842.7	-14.83
831	SLU 7	68	56	4109	-4.65	841.56	-19.56
831	SLU 8	68	43	4096	-4.44	836.18	-14.92
831	SLU 9	67	56	4075	-4.62	835.04	-19.65
831	SLU 10	69	67	4420	-5.4	908.05	-23.52
831	SLU 11	72	46	4553	-5.13	927.68	-15.96
831	SLU 12	71	59	4532	-5.31	926.54	-20.69
831	SLU 13	70	69	4483	-5.4	919.25	-23.93
831	SLU 14	73	47	4616	-5.13	938.88	-16.37
831	SLU 15	72	61	4595	-5.31	937.74	-21.09
831	SLU 16	72	47	4581	-5.1	932.36	-16.46
831	SLU 17	71	61	4560	-5.28	931.22	-21.19
831	SLU 18	72	47	4663	-5.38	951.18	-16.3
831	SLU 19	71	60	4642	-5.57	950.03	-21.03
831	SLU 20	73	48	4726	-5.39	962.38	-16.71
831	SLU 21	72	61	4705	-5.57	961.24	-21.44
831	SLU 22	73	42	4594	-5.07	933.95	-14.64
831	SLU 23	72	65	4558	-5.37	932.04	-22.51
831	SLU 24	75	43	4692	-5.1	951.67	-14.95
831	SLU 25	74	56	4671	-5.28	950.53	-19.68
831	SLU 26	73	66	4622	-5.37	943.24	-22.92
831	SLU 27	76	44	4755	-5.1	962.88	-15.36
831	SLU 28	75	58	4734	-5.28	961.73	-20.08
831	SLU 29	75	44	4720	-5.07	956.35	-15.45
831	SLU 30	75	58	4699	-5.25	955.21	-20.18
831	SLU 31	76	69	5044	-6.03	1028.22	-24.05
831	SLU 32	79	47	5178	-5.76	1047.85	-16.49
831	SLU 33	78	61	5156	-5.94	1046.71	-21.21
831	SLU 34	77	70	5107	-6.03	1039.42	-24.46
831	SLU 35	80	49	5241	-5.76	1059.05	-16.9
831	SLU 36	80	62	5220	-5.94	1057.91	-21.62
831	SLU 37	80	49	5206	-5.73	1052.53	-16.99
831	SLU 38	79	62	5185	-5.91	1051.39	-21.72
831	SLU 39	79	48	5288	-6.01	1071.35	-16.83
831	SLU 40	79	62	5266	-6.19	1070.21	-21.56
831	SLU 41	81	50	5351	-6.01	1082.55	-17.24
831	SLU 42	80	63	5330	-6.19	1081.41	-21.97
831	SLU 43	83	52	4946	-5.55	1016.71	-18.16
831	SLU 44	81	75	4910	-5.85	1014.8	-26.04
831	SLU 45	84	53	5044	-5.58	1034.43	-18.47
831	SLU 46	84	67	5023	-5.76	1033.29	-23.2
831	SLU 47	83	76	4974	-5.85	1026	-26.44
831	SLU 48	86	54	5107	-5.59	1045.64	-18.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
831	SLU 49	85	68	5086	-5.77	1044.49	-23.61
831	SLU 50	85	54	5072	-5.55	1039.11	-18.98
831	SLU 51	84	68	5051	-5.73	1037.97	-23.7
831	SLU 52	86	79	5396	-6.52	1110.98	-27.57
831	SLU 53	89	57	5530	-6.25	1130.61	-20.01
831	SLU 54	88	71	5508	-6.43	1129.47	-24.74
831	SLU 55	87	80	5459	-6.52	1122.18	-27.98
831	SLU 56	90	59	5593	-6.25	1141.81	-20.42
831	SLU 57	89	72	5572	-6.43	1140.67	-25.14
831	SLU 58	89	59	5558	-6.22	1135.29	-20.51
831	SLU 59	89	72	5537	-6.4	1134.15	-25.24
831	SLU 60	89	58	5640	-6.5	1154.11	-20.36
831	SLU 61	88	72	5618	-6.68	1152.97	-25.08
831	SLU 62	90	60	5703	-6.5	1165.31	-20.76
831	SLU 63	89	73	5682	-6.68	1164.17	-25.49
831	SLU 64	90	54	5570	-6.18	1136.88	-18.69
831	SLU 65	89	76	5535	-6.48	1134.98	-26.57
831	SLU 66	92	55	5668	-6.21	1154.61	-19
831	SLU 67	91	68	5647	-6.39	1153.46	-23.73
831	SLU 68	90	77	5598	-6.48	1146.18	-26.97
831	SLU 69	93	56	5732	-6.21	1165.81	-19.41
831	SLU 70	92	69	5711	-6.39	1164.66	-24.14
831	SLU 71	92	56	5697	-6.18	1159.29	-19.5
831	SLU 72	92	70	5676	-6.36	1158.14	-24.23
831	SLU 73	93	81	6021	-7.14	1231.15	-28.1
831	SLU 74	96	59	6154	-6.88	1250.79	-20.54
831	SLU 75	96	73	6133	-7.06	1249.64	-25.27
831	SLU 76	94	82	6084	-7.15	1242.36	-28.51
831	SLU 77	97	60	6217	-6.88	1261.99	-20.95
831	SLU 78	97	74	6196	-7.06	1260.84	-25.67
831	SLU 79	97	60	6183	-6.85	1255.47	-21.04
831	SLU 80	96	74	6161	-7.03	1254.32	-25.77
831	SLU 81	97	60	6264	-7.13	1274.28	-20.88
831	SLU 82	96	74	6243	-7.31	1273.14	-25.61
831	SLU 83	98	61	6327	-7.13	1285.48	-21.29
831	SLU 84	97	75	6306	-7.31	1284.34	-26.02
831	SLE RA 1	68	41	4148	-4.62	848.11	-14.26
831	SLE RA 2	67	56	4124	-4.82	846.84	-19.51
831	SLE RA 3	69	42	4213	-4.64	859.93	-14.47
831	SLE RA 4	68	51	4199	-4.76	859.17	-17.62
831	SLE RA 5	68	57	4166	-4.82	854.31	-19.78
831	SLE RA 6	70	42	4255	-4.64	867.4	-14.74
831	SLE RA 7	69	51	4241	-4.76	866.63	-17.89
831	SLE RA 8	69	43	4232	-4.62	863.05	-14.8
831	SLE RA 9	69	52	4218	-4.74	862.29	-17.95
831	SLE RA 10	70	59	4448	-5.26	910.96	-20.54
831	SLE RA 11	72	45	4537	-5.08	924.05	-15.49
831	SLE RA 12	71	54	4523	-5.2	923.29	-18.64
831	SLE RA 13	71	60	4490	-5.26	918.43	-20.81
831	SLE RA 14	73	45	4579	-5.08	931.52	-15.77
831	SLE RA 15	72	54	4565	-5.2	930.75	-18.92
831	SLE RA 16	72	45	4556	-5.06	927.17	-15.83
831	SLE RA 17	72	54	4542	-5.18	926.41	-18.98
831	SLE RA 18	72	45	4610	-5.25	939.71	-15.72
831	SLE RA 19	71	54	4596	-5.37	938.95	-18.87
831	SLE RA 20	73	46	4652	-5.25	947.18	-16
831	SLE RA 21	72	55	4638	-5.37	946.42	-19.15
831	SLE FR 1	68	41	4148	-4.62	848.11	-14.26
831	SLE FR 2	68	44	4143	-4.66	847.86	-15.31
831	SLE FR 3	68	41	4164	-4.62	851.1	-14.37
831	SLE FR 4	69	45	4282	-4.85	875.34	-15.75
831	SLE FR 5	69	43	4303	-4.81	878.58	-14.81
831	SLE FR 6	70	43	4379	-4.93	893.91	-14.99
831	SLE QP 1	68	41	4148	-4.62	848.11	-14.26
831	SLE QP 2	69	42	4286	-4.81	875.59	-14.7
831	SLD 1	395	79	2943	-5.67	657.82	-27.58
831	SLD 2	364	202	2900	-6.05	656.27	-70.56
831	SLD 3	412	-202	3466	-1.12	686.04	70.67
831	SLD 4	381	-79	3423	-1.5	684.49	27.69
831	SLD 5	146	458	3097	-11.89	767.73	-160.18
831	SLD 6	126	538	3070	-12.14	766.73	-187.86
831	SLD 7	203	-479	4841	3.26	861.8	167.31
831	SLD 8	183	-399	4813	3.01	860.8	139.64
831	SLD 9	-45	484	3760	-12.62	890.39	-169.03
831	SLD 10	-65	563	3732	-12.87	889.39	-196.71
831	SLD 11	12	-453	5503	2.52	984.46	158.46
831	SLD 12	-8	-374	5475	2.28	983.46	130.79
831	SLD 13	-243	163	5150	-8.11	1066.69	-57.08
831	SLD 14	-274	287	5107	-8.49	1065.14	-100.07
831	SLD 15	-226	-118	5673	-3.56	1094.92	41.16
831	SLD 16	-257	6	5630	-3.94	1093.37	-1.82
831	SLV 1	579	118	2152	-6.48	533.75	-41.46
831	SLV 2	530	313	2084	-7.08	531.31	-109.22
831	SLV 3	608	-361	3045	1.28	581.92	126.2
831	SLV 4	559	-167	2977	0.68	579.48	58.45
831	SLV 5	187	756	2305	-16.95	700.43	-264.38
831	SLV 6	154	887	2259	-17.36	698.79	-309.98
831	SLV 7	284	-842	5280	8.89	861.02	294.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
831	SLV 8	251	-711	5235	8.49	859.37	248.89
831	SLV 9	-113	796	3338	-18.1	891.82	-278.29
831	SLV 10	-146	927	3292	-18.5	890.17	-323.9
831	SLV 11	-16	-802	6314	7.75	1052.4	280.59
831	SLV 12	-49	-671	6268	7.34	1050.76	234.98
831	SLV 13	-421	251	5596	-10.29	1171.71	-87.85
831	SLV 14	-470	446	5528	-10.89	1169.26	-155.6
831	SLV 15	-392	-228	6489	-2.53	1219.88	79.82
831	SLV 16	-441	-34	6421	-3.13	1217.44	12.07
831	SLV FO 1	630	126	1938	-6.64	499.56	-44.14
831	SLV FO 2	576	340	1864	-7.3	496.88	-118.67
831	SLV FO 3	662	-402	2920	1.88	552.56	140.29
831	SLV FO 4	608	-188	2846	1.22	549.87	65.76
831	SLV FO 5	199	827	2107	-18.17	682.91	-289.35
831	SLV FO 6	162	971	2056	-18.61	681.1	-339.51
831	SLV FO 7	306	-931	5380	10.26	859.56	325.42
831	SLV FO 8	269	-787	5329	9.82	857.75	275.25
831	SLV FO 9	-131	871	3243	-19.43	893.44	-304.65
831	SLV FO 10	-168	1015	3193	-19.87	891.63	-354.82
831	SLV FO 11	-24	-887	6516	9	1070.08	310.12
831	SLV FO 12	-61	-743	6466	8.56	1068.28	259.95
831	SLV FO 13	-470	272	5727	-10.84	1201.32	-95.16
831	SLV FO 14	-524	486	5652	-11.5	1198.63	-169.69
831	SLV FO 15	-438	-255	6709	-2.31	1254.31	89.27
831	SLV FO 16	-492	-41	6634	-2.97	1251.63	14.74
831	CRTFP Ux+	0	0	0	0	0	0
831	CRTFP Ux-	0	0	0	0	0	0
831	CRTFP Uy+	0	0	0	0	0	0
831	CRTFP Uy-	0	0	0	0	0	0
833	SLU 1	95	42	6351	1.89	-5.69	-0.72
833	SLU 2	93	71	6293	1.43	-6.92	-0.58
833	SLU 3	98	43	6516	2.07	-5.42	-0.77
833	SLU 4	97	61	6481	1.79	-6.16	-0.68
833	SLU 5	95	72	6403	1.56	-6.72	-0.63
833	SLU 6	100	44	6625	2.2	-5.22	-0.81
833	SLU 7	99	61	6591	1.92	-5.96	-0.73
833	SLU 8	99	44	6570	2.16	-5.29	-0.81
833	SLU 9	98	61	6535	1.88	-6.02	-0.73
833	SLU 10	99	77	7123	1.62	-7.35	-0.63
833	SLU 11	105	49	7345	2.26	-5.85	-0.82
833	SLU 12	103	66	7311	1.98	-6.59	-0.73
833	SLU 13	101	77	7232	1.75	-7.15	-0.68
833	SLU 14	107	49	7455	2.39	-5.65	-0.86
833	SLU 15	105	67	7420	2.11	-6.39	-0.78
833	SLU 16	106	49	7399	2.35	-5.72	-0.86
833	SLU 17	104	66	7365	2.07	-6.46	-0.78
833	SLU 18	104	50	7536	2.17	-6.31	-0.79
833	SLU 19	103	68	7501	1.89	-7.05	-0.71
833	SLU 20	106	51	7645	2.3	-6.11	-0.84
833	SLU 21	105	68	7611	2.02	-6.85	-0.75
833	SLU 22	108	47	7412	2.46	-5.51	-0.8
833	SLU 23	106	76	7355	1.99	-6.74	-0.66
833	SLU 24	111	48	7577	2.63	-5.24	-0.84
833	SLU 25	110	66	7543	2.35	-5.98	-0.76
833	SLU 26	108	77	7464	2.12	-6.54	-0.7
833	SLU 27	113	49	7686	2.76	-5.04	-0.89
833	SLU 28	112	66	7652	2.48	-5.78	-0.8
833	SLU 29	112	49	7631	2.72	-5.11	-0.88
833	SLU 30	111	66	7597	2.44	-5.85	-0.8
833	SLU 31	112	82	8184	2.18	-7.18	-0.71
833	SLU 32	118	54	8407	2.82	-5.68	-0.89
833	SLU 33	116	71	8372	2.54	-6.41	-0.81
833	SLU 34	114	82	8294	2.31	-6.97	-0.75
833	SLU 35	120	54	8516	2.95	-5.47	-0.94
833	SLU 36	118	72	8481	2.67	-6.21	-0.85
833	SLU 37	119	54	8461	2.91	-5.54	-0.94
833	SLU 38	117	72	8426	2.63	-6.28	-0.85
833	SLU 39	117	55	8597	2.73	-6.13	-0.87
833	SLU 40	116	73	8563	2.45	-6.87	-0.79
833	SLU 41	119	56	8707	2.86	-5.93	-0.91
833	SLU 42	118	73	8672	2.58	-6.67	-0.83
833	SLU 43	119	53	7892	2.27	-7.46	-0.91
833	SLU 44	117	82	7835	1.8	-8.69	-0.77
833	SLU 45	122	54	8057	2.44	-7.19	-0.96
833	SLU 46	121	71	8023	2.16	-7.93	-0.87
833	SLU 47	119	83	7944	1.94	-8.49	-0.82
833	SLU 48	124	55	8167	2.58	-6.99	-1
833	SLU 49	123	72	8132	2.3	-7.72	-0.92
833	SLU 50	123	54	8111	2.54	-7.05	-1
833	SLU 51	122	72	8077	2.26	-7.79	-0.92
833	SLU 52	123	88	8664	1.99	-9.12	-0.82
833	SLU 53	129	60	8887	2.63	-7.62	-1.01
833	SLU 54	127	77	8852	2.35	-8.36	-0.92
833	SLU 55	125	88	8774	2.13	-8.92	-0.87
833	SLU 56	131	60	8996	2.77	-7.42	-1.05
833	SLU 57	129	78	8961	2.49	-8.16	-0.97
833	SLU 58	130	60	8941	2.73	-7.49	-1.05
833	SLU 59	128	77	8906	2.45	-8.23	-0.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
833	SLU 60	128	61	9077	2.54	-8.08	-0.98
833	SLU 61	127	78	9043	2.26	-8.82	-0.9
833	SLU 62	130	62	9187	2.68	-7.88	-1.03
833	SLU 63	129	79	9152	2.4	-8.61	-0.95
833	SLU 64	132	58	8954	2.83	-7.28	-0.99
833	SLU 65	130	87	8896	2.37	-8.51	-0.85
833	SLU 66	135	59	9119	3	-7.01	-1.03
833	SLU 67	134	77	9084	2.72	-7.75	-0.95
833	SLU 68	132	88	9006	2.5	-8.31	-0.89
833	SLU 69	137	60	9228	3.14	-6.81	-1.08
833	SLU 70	136	77	9193	2.86	-7.55	-0.99
833	SLU 71	136	60	9173	3.1	-6.88	-1.07
833	SLU 72	135	77	9138	2.82	-7.61	-0.99
833	SLU 73	136	93	9726	2.56	-8.95	-0.9
833	SLU 74	142	65	9948	3.2	-7.44	-1.08
833	SLU 75	140	82	9913	2.92	-8.18	-1
833	SLU 76	138	93	9835	2.69	-8.74	-0.94
833	SLU 77	144	65	10057	3.33	-7.24	-1.13
833	SLU 78	142	83	10023	3.05	-7.98	-1.04
833	SLU 79	143	65	10002	3.29	-7.31	-1.13
833	SLU 80	141	82	9967	3.01	-8.05	-1.04
833	SLU 81	141	66	10139	3.1	-7.9	-1.06
833	SLU 82	140	84	10104	2.82	-8.64	-0.98
833	SLU 83	143	67	10248	3.24	-7.7	-1.1
833	SLU 84	142	84	10214	2.96	-8.44	-1.02
833	SLE RA 1	99	44	6654	2.05	-5.64	-0.74
833	SLE RA 2	97	63	6616	1.74	-6.46	-0.65
833	SLE RA 3	101	44	6764	2.17	-5.46	-0.77
833	SLE RA 4	100	56	6741	1.98	-5.95	-0.72
833	SLE RA 5	99	63	6689	1.83	-6.33	-0.68
833	SLE RA 6	102	45	6837	2.26	-5.32	-0.8
833	SLE RA 7	101	56	6814	2.07	-5.82	-0.75
833	SLE RA 8	102	45	6800	2.23	-5.37	-0.8
833	SLE RA 9	101	56	6777	2.05	-5.86	-0.75
833	SLE RA 10	102	67	7169	1.87	-6.75	-0.68
833	SLE RA 11	105	48	7317	2.3	-5.75	-0.81
833	SLE RA 12	104	60	7294	2.11	-6.24	-0.75
833	SLE RA 13	103	67	7242	1.96	-6.61	-0.71
833	SLE RA 14	106	48	7390	2.39	-5.61	-0.84
833	SLE RA 15	106	60	7367	2.2	-6.11	-0.78
833	SLE RA 16	106	48	7353	2.36	-5.66	-0.83
833	SLE RA 17	105	60	7330	2.17	-6.15	-0.78
833	SLE RA 18	105	49	7444	2.24	-6.05	-0.79
833	SLE RA 19	104	61	7421	2.05	-6.55	-0.74
833	SLE RA 20	106	49	7517	2.33	-5.92	-0.82
833	SLE RA 21	105	61	7494	2.14	-6.41	-0.77
833	SLE FR 1	99	44	6654	2.05	-5.64	-0.74
833	SLE FR 2	98	48	6647	1.99	-5.81	-0.72
833	SLE FR 3	99	44	6683	2.09	-5.59	-0.75
833	SLE FR 4	100	49	6884	2.05	-5.93	-0.74
833	SLE FR 5	101	46	6920	2.15	-5.71	-0.77
833	SLE FR 6	102	46	7049	2.15	-5.85	-0.77
833	SLE QP 1	99	44	6654	2.05	-5.64	-0.74
833	SLE QP 2	101	45	6891	2.11	-5.76	-0.76
833	SLD 1	623	218	5795	-1.62	-8.75	-1.88
833	SLD 2	576	308	5750	-2.12	-7.85	0.26
833	SLD 3	656	-147	6683	5.37	8.42	-3.87
833	SLD 4	609	-58	6638	4.88	9.33	-1.74
833	SLD 5	216	636	5223	-9.53	-32.86	1.57
833	SLD 6	186	694	5194	-9.85	-32.28	2.94
833	SLD 7	325	-582	8184	13.78	24.39	-5.09
833	SLD 8	294	-525	8155	13.46	24.97	-3.71
833	SLD 9	-93	615	5628	-9.24	-36.5	2.2
833	SLD 10	-123	673	5598	-9.56	-35.91	3.57
833	SLD 11	16	-603	8589	14.07	20.75	-4.46
833	SLD 12	-15	-546	8560	13.75	21.34	-3.08
833	SLD 13	-407	149	7144	-0.66	-20.86	0.23
833	SLD 14	-454	238	7099	-1.15	-19.95	2.36
833	SLD 15	-375	-217	8033	6.33	-3.68	-1.77
833	SLD 16	-422	-127	7988	5.84	-2.78	0.36
833	SLV 1	916	341	5115	-4.22	-11.49	-2.39
833	SLV 2	842	482	5044	-5	-10.06	0.98
833	SLV 3	972	-282	6632	7.71	17.83	-5.8
833	SLV 4	898	-141	6560	6.93	19.26	-2.43
833	SLV 5	275	1054	4072	-17.74	-52.21	3.29
833	SLV 6	225	1149	4025	-18.26	-51.25	5.56
833	SLV 7	460	-1025	9126	22.03	45.51	-8.06
833	SLV 8	410	-930	9078	21.51	46.47	-5.8
833	SLV 9	-209	1021	4704	-17.29	-58	4.29
833	SLV 10	-259	1116	4656	-17.81	-57.04	6.55
833	SLV 11	-24	-1058	9758	22.48	39.72	-7.07
833	SLV 12	-73	-963	9710	21.96	40.69	-4.81
833	SLV 13	-697	232	7222	-2.71	-30.79	0.92
833	SLV 14	-771	373	7151	-3.49	-29.36	4.28
833	SLV 15	-641	-392	8738	9.22	-1.47	-2.49
833	SLV 16	-715	-251	8667	8.44	-0.04	0.88
833	SLV FO 1	998	371	4938	-4.86	-12.06	-2.55
833	SLV FO 2	917	526	4860	-5.71	-10.49	1.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
833	SLV FO 3	1059	-315	6606	8.27	20.19	-6.3
833	SLV FO 4	978	-160	6527	7.41	21.76	-2.6
833	SLV FO 5	292	1155	3791	-19.73	-56.86	3.7
833	SLV FO 6	237	1259	3738	-20.3	-55.8	6.19
833	SLV FO 7	496	-1132	9349	24.02	50.64	-8.79
833	SLV FO 8	441	-1028	9297	23.45	51.7	-6.3
833	SLV FO 9	-240	1119	4486	-19.23	-63.23	4.79
833	SLV FO 10	-295	1223	4433	-19.8	-62.17	7.28
833	SLV FO 11	-36	-1168	10045	24.52	44.27	-7.7
833	SLV FO 12	-91	-1064	9992	23.95	45.33	-5.21
833	SLV FO 13	-776	251	7255	-3.2	-33.29	1.09
833	SLV FO 14	-858	406	7177	-4.05	-31.72	4.79
833	SLV FO 15	-715	-435	8923	9.93	-1.04	-2.66
833	SLV FO 16	-797	-280	8844	9.08	0.53	1.04
833	CRTFP Ux+	0	0	0	0	0	0
833	CRTFP Ux-	0	0	0	0	0	0
833	CRTFP Uy+	0	0	0	0	0	0
833	CRTFP Uy-	0	0	0	0	0	0
836	SLU 1	-89	24	6459	-0.97	-3.59	1.14
836	SLU 2	-87	55	6403	-1.46	-1.9	1.02
836	SLU 3	-92	24	6629	-0.89	-4.17	1.18
836	SLU 4	-90	43	6595	-1.18	-3.16	1.11
836	SLU 5	-88	56	6516	-1.39	-2.31	1.05
836	SLU 6	-93	24	6741	-0.82	-4.59	1.21
836	SLU 7	-91	43	6708	-1.12	-3.58	1.14
836	SLU 8	-92	24	6684	-0.84	-4.42	1.2
836	SLU 9	-90	43	6651	-1.13	-3.41	1.13
836	SLU 10	-92	58	7259	-1.69	-3.66	1.2
836	SLU 11	-97	27	7484	-1.12	-5.93	1.36
836	SLU 12	-95	46	7450	-1.41	-4.92	1.29
836	SLU 13	-93	58	7371	-1.63	-4.07	1.22
836	SLU 14	-98	27	7596	-1.06	-6.35	1.38
836	SLU 15	-96	46	7563	-1.35	-5.33	1.31
836	SLU 16	-97	27	7539	-1.07	-6.17	1.37
836	SLU 17	-95	46	7506	-1.37	-5.16	1.3
836	SLU 18	-97	28	7681	-1.3	-6.1	1.39
836	SLU 19	-95	47	7647	-1.59	-5.08	1.32
836	SLU 20	-98	28	7793	-1.24	-6.51	1.42
836	SLU 21	-96	47	7760	-1.53	-5.5	1.35
836	SLU 22	-101	26	7551	-0.92	-6.35	1.37
836	SLU 23	-98	57	7495	-1.4	-4.66	1.25
836	SLU 24	-103	26	7720	-0.84	-6.94	1.41
836	SLU 25	-101	45	7687	-1.13	-5.92	1.34
836	SLU 26	-99	57	7607	-1.34	-5.08	1.28
836	SLU 27	-104	26	7833	-0.77	-7.35	1.44
836	SLU 28	-103	45	7799	-1.07	-6.34	1.37
836	SLU 29	-103	26	7776	-0.79	-7.18	1.42
836	SLU 30	-102	45	7742	-1.08	-6.17	1.35
836	SLU 31	-103	60	8350	-1.64	-6.42	1.42
836	SLU 32	-108	29	8575	-1.07	-8.69	1.58
836	SLU 33	-106	48	8542	-1.36	-7.68	1.51
836	SLU 34	-105	60	8462	-1.57	-6.84	1.45
836	SLU 35	-109	29	8688	-1.01	-9.11	1.61
836	SLU 36	-108	48	8654	-1.3	-8.1	1.54
836	SLU 37	-108	29	8631	-1.02	-8.94	1.6
836	SLU 38	-107	48	8597	-1.31	-7.93	1.53
836	SLU 39	-108	30	8772	-1.25	-8.86	1.61
836	SLU 40	-106	49	8739	-1.54	-7.85	1.54
836	SLU 41	-109	30	8885	-1.19	-9.28	1.64
836	SLU 42	-108	49	8851	-1.48	-8.26	1.57
836	SLU 43	-112	30	8023	-1.28	-3.71	1.41
836	SLU 44	-110	62	7967	-1.76	-2.03	1.29
836	SLU 45	-115	31	8193	-1.2	-4.3	1.45
836	SLU 46	-113	50	8159	-1.49	-3.29	1.38
836	SLU 47	-111	62	8080	-1.7	-2.44	1.32
836	SLU 48	-116	31	8305	-1.13	-4.72	1.48
836	SLU 49	-114	50	8272	-1.43	-3.7	1.4
836	SLU 50	-115	31	8248	-1.15	-4.55	1.46
836	SLU 51	-113	50	8215	-1.44	-3.53	1.39
836	SLU 52	-115	65	8822	-2	-3.78	1.46
836	SLU 53	-120	33	9048	-1.43	-6.06	1.62
836	SLU 54	-118	52	9014	-1.72	-5.04	1.55
836	SLU 55	-116	65	8935	-1.93	-4.2	1.49
836	SLU 56	-121	34	9160	-1.37	-6.47	1.65
836	SLU 57	-119	52	9127	-1.66	-5.46	1.58
836	SLU 58	-120	33	9103	-1.38	-6.3	1.63
836	SLU 59	-118	52	9070	-1.67	-5.29	1.56
836	SLU 60	-120	34	9245	-1.61	-6.22	1.65
836	SLU 61	-118	53	9211	-1.9	-5.21	1.58
836	SLU 62	-121	35	9357	-1.55	-6.64	1.68
836	SLU 63	-119	53	9323	-1.84	-5.63	1.61
836	SLU 64	-124	32	9114	-1.23	-6.48	1.63
836	SLU 65	-121	64	9058	-1.71	-4.79	1.51
836	SLU 66	-126	33	9284	-1.15	-7.06	1.67
836	SLU 67	-124	51	9250	-1.44	-6.05	1.6
836	SLU 68	-122	64	9171	-1.65	-5.21	1.54
836	SLU 69	-127	33	9396	-1.08	-7.48	1.7
836	SLU 70	-126	52	9363	-1.37	-6.47	1.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
836	SLU 71	-126	33	9339	-1.1	-7.31	1.69
836	SLU 72	-125	51	9306	-1.39	-6.3	1.62
836	SLU 73	-126	67	9914	-1.95	-6.55	1.69
836	SLU 74	-131	35	10139	-1.38	-8.82	1.85
836	SLU 75	-129	54	10105	-1.67	-7.81	1.78
836	SLU 76	-127	67	10026	-1.88	-6.96	1.71
836	SLU 77	-132	35	10251	-1.31	-9.24	1.87
836	SLU 78	-131	54	10218	-1.61	-8.22	1.8
836	SLU 79	-131	35	10194	-1.33	-9.07	1.86
836	SLU 80	-130	54	10161	-1.62	-8.05	1.79
836	SLU 81	-131	36	10336	-1.56	-8.99	1.88
836	SLU 82	-129	55	10302	-1.85	-7.98	1.81
836	SLU 83	-132	36	10448	-1.49	-9.4	1.91
836	SLU 84	-131	55	10415	-1.79	-8.39	1.84
836	SLE RA 1	-93	24	6771	-0.95	-4.37	1.21
836	SLE RA 2	-91	45	6734	-1.28	-3.25	1.13
836	SLE RA 3	-94	25	6884	-0.9	-4.77	1.23
836	SLE RA 4	-93	37	6862	-1.1	-4.09	1.19
836	SLE RA 5	-92	45	6809	-1.24	-3.53	1.15
836	SLE RA 6	-95	25	6959	-0.86	-5.04	1.25
836	SLE RA 7	-94	37	6937	-1.05	-4.37	1.2
836	SLE RA 8	-94	25	6921	-0.87	-4.93	1.24
836	SLE RA 9	-93	37	6899	-1.06	-4.25	1.2
836	SLE RA 10	-94	47	7304	-1.43	-4.42	1.24
836	SLE RA 11	-97	26	7454	-1.06	-5.94	1.35
836	SLE RA 12	-96	39	7432	-1.25	-5.26	1.3
836	SLE RA 13	-95	47	7379	-1.39	-4.7	1.26
836	SLE RA 14	-98	27	7529	-1.01	-6.21	1.37
836	SLE RA 15	-97	39	7507	-1.21	-5.54	1.32
836	SLE RA 16	-98	26	7491	-1.02	-6.1	1.36
836	SLE RA 17	-97	39	7469	-1.22	-5.43	1.31
836	SLE RA 18	-97	27	7586	-1.18	-6.05	1.37
836	SLE RA 19	-96	40	7563	-1.37	-5.37	1.32
836	SLE RA 20	-98	27	7661	-1.13	-6.33	1.39
836	SLE RA 21	-97	40	7638	-1.33	-5.65	1.34
836	SLE FR 1	-93	24	6771	-0.95	-4.37	1.21
836	SLE FR 2	-92	29	6764	-1.02	-4.15	1.19
836	SLE FR 3	-93	24	6801	-0.94	-4.49	1.21
836	SLE FR 4	-94	29	7008	-1.09	-4.65	1.24
836	SLE FR 5	-94	25	7046	-1	-4.99	1.26
836	SLE FR 6	-95	26	7178	-1.06	-5.21	1.29
836	SLE QP 1	-93	24	6771	-0.95	-4.37	1.21
836	SLE QP 2	-94	25	7016	-1.02	-4.88	1.25
836	SLD 1	475	227	7415	-5.09	16.27	-1.79
836	SLD 2	425	130	7449	-4.59	15.23	0.4
836	SLD 3	446	-167	8255	2.1	-6.59	-0.21
836	SLD 4	396	-265	8290	2.59	-7.63	1.98
836	SLD 5	129	701	5855	-13.23	36.32	-2.43
836	SLD 6	97	638	5877	-12.91	35.65	-1.02
836	SLD 7	33	-614	8656	10.73	-39.88	2.83
836	SLD 8	1	-677	8678	11.05	-40.55	4.24
836	SLD 9	-189	727	5353	-13.09	30.8	-1.73
836	SLD 10	-221	665	5375	-12.77	30.13	-0.32
836	SLD 11	-285	-588	8154	10.87	-45.4	3.53
836	SLD 12	-317	-651	8176	11.19	-46.07	4.94
836	SLD 13	-584	315	5741	-4.63	-2.12	0.53
836	SLD 14	-634	218	5776	-4.14	-3.16	2.72
836	SLD 15	-613	-80	6582	2.55	-24.99	2.11
836	SLD 16	-663	-177	6616	3.05	-26.02	4.3
836	SLV 1	799	370	7577	-7.91	29.93	-3.64
836	SLV 2	721	216	7631	-7.12	28.3	-0.19
836	SLV 3	750	-303	9011	4.36	-9.07	-0.95
836	SLV 4	672	-457	9065	5.14	-10.7	2.5
836	SLV 5	263	1178	5000	-21.83	65.02	-4.93
836	SLV 6	210	1075	5036	-21.31	63.92	-2.61
836	SLV 7	99	-1065	9778	19.05	-64.98	4.03
836	SLV 8	47	-1169	9815	19.57	-66.08	6.35
836	SLV 9	-235	1219	4216	-21.61	56.33	-3.84
836	SLV 10	-287	1116	4253	-21.09	55.23	-1.52
836	SLV 11	-398	-1024	8995	19.26	-73.67	5.12
836	SLV 12	-451	-1128	9031	19.79	-74.78	7.44
836	SLV 13	-860	507	4966	-7.18	0.95	0.01
836	SLV 14	-938	354	5020	-6.4	-0.69	3.46
836	SLV 15	-909	-166	6400	5.08	-38.05	2.7
836	SLV 16	-987	-319	6454	5.87	-39.69	6.15
836	SLV FO 1	888	404	7634	-8.59	33.41	-4.13
836	SLV FO 2	802	235	7693	-7.73	31.61	-0.33
836	SLV FO 3	834	-336	9210	4.9	-9.49	-1.17
836	SLV FO 4	748	-505	9270	5.76	-11.29	2.63
836	SLV FO 5	298	1293	4798	-23.91	72.01	-5.55
836	SLV FO 6	240	1180	4838	-23.33	70.8	-3
836	SLV FO 7	119	-1174	10054	21.05	-70.99	4.3
836	SLV FO 8	61	-1288	10095	21.63	-72.2	6.86
836	SLV FO 9	-249	1339	3937	-23.67	62.45	-4.35
836	SLV FO 10	-307	1225	3977	-23.09	61.24	-1.79
836	SLV FO 11	-428	-1129	9193	21.29	-80.55	5.51
836	SLV FO 12	-486	-1243	9233	21.87	-81.77	8.06
836	SLV FO 13	-936	555	4761	-7.8	1.53	-0.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
836	SLV FO 14	-1022	386	4821	-6.94	-0.27	3.68
836	SLV FO 15	-990	-185	6338	5.69	-41.37	2.84
836	SLV FO 16	-1076	-354	6398	6.55	-43.17	6.64
836	CRTFP Ux+	0	0	0	0	0	0
836	CRTFP Ux-	0	0	0	0	0	0
836	CRTFP Uy+	0	0	0	0	0	0
836	CRTFP Uy-	0	0	0	0	0	0
839	SLU 1	31	79	6137	-81.91	426.46	-6.55
839	SLU 2	31	116	6106	-83.81	424.6	-8.9
839	SLU 3	33	80	6289	-83.53	437.55	-6.69
839	SLU 4	32	103	6270	-84.67	436.44	-8.1
839	SLU 5	32	117	6206	-84.83	431.91	-8.97
839	SLU 6	34	81	6389	-84.55	444.87	-6.76
839	SLU 7	34	104	6371	-85.69	443.75	-8.17
839	SLU 8	33	80	6338	-83.95	441.09	-6.68
839	SLU 9	33	103	6319	-85.09	439.97	-8.1
839	SLU 10	35	123	6932	-96.38	481.13	-9.38
839	SLU 11	36	87	7115	-96.1	494.09	-7.17
839	SLU 12	36	109	7096	-97.24	492.97	-8.58
839	SLU 13	36	123	7032	-97.4	488.45	-9.45
839	SLU 14	37	88	7215	-97.12	501.41	-7.24
839	SLU 15	37	110	7197	-98.26	500.29	-8.65
839	SLU 16	37	87	7164	-96.52	497.63	-7.16
839	SLU 17	37	109	7145	-97.66	496.51	-8.57
839	SLU 18	36	88	7317	-99.87	507.22	-7.23
839	SLU 19	36	110	7298	-101.01	506.1	-8.65
839	SLU 20	37	89	7417	-100.89	514.54	-7.3
839	SLU 21	37	111	7398	-102.03	513.42	-8.71
839	SLU 22	36	90	7159	-94.87	497.2	-7.39
839	SLU 23	36	127	7127	-96.77	495.33	-9.74
839	SLU 24	37	91	7311	-96.48	508.29	-7.53
839	SLU 25	37	114	7292	-97.63	507.18	-8.94
839	SLU 26	37	128	7228	-97.79	502.65	-9.81
839	SLU 27	38	92	7411	-97.51	515.61	-7.6
839	SLU 28	38	114	7392	-98.65	514.49	-9.01
839	SLU 29	38	91	7359	-96.91	511.83	-7.52
839	SLU 30	38	113	7341	-98.05	510.71	-8.94
839	SLU 31	39	133	7953	-109.34	551.87	-10.22
839	SLU 32	41	98	8137	-109.06	564.83	-8.01
839	SLU 33	41	120	8118	-110.2	563.71	-9.42
839	SLU 34	40	134	8054	-110.36	559.19	-10.29
839	SLU 35	42	98	8237	-110.08	572.14	-8.08
839	SLU 36	42	121	8218	-111.22	571.03	-9.49
839	SLU 37	42	97	8185	-109.48	568.36	-8
839	SLU 38	42	120	8167	-110.62	567.25	-9.42
839	SLU 39	41	99	8339	-112.82	577.96	-8.08
839	SLU 40	41	121	8320	-113.97	576.84	-9.49
839	SLU 41	42	99	8439	-113.85	585.28	-8.14
839	SLU 42	42	122	8420	-114.99	584.16	-9.55
839	SLU 43	39	99	7628	-102.04	530.14	-8.23
839	SLU 44	39	136	7596	-103.94	528.28	-10.58
839	SLU 45	40	100	7780	-103.66	541.24	-8.37
839	SLU 46	40	123	7761	-104.8	540.12	-9.78
839	SLU 47	40	137	7697	-104.96	535.6	-10.65
839	SLU 48	41	101	7880	-104.68	548.55	-8.43
839	SLU 49	41	124	7861	-105.82	547.44	-9.85
839	SLU 50	41	100	7828	-104.08	544.77	-8.36
839	SLU 51	41	123	7810	-105.22	543.66	-9.77
839	SLU 52	42	143	8422	-116.51	584.81	-11.06
839	SLU 53	44	107	8606	-116.23	597.77	-8.85
839	SLU 54	44	129	8587	-117.37	596.66	-10.26
839	SLU 55	43	143	8523	-117.53	592.13	-11.13
839	SLU 56	45	108	8706	-117.25	605.09	-8.91
839	SLU 57	45	130	8687	-118.39	603.97	-10.33
839	SLU 58	45	107	8654	-116.65	601.31	-8.84
839	SLU 59	44	129	8636	-117.79	600.19	-10.25
839	SLU 60	44	108	8808	-120	610.91	-8.91
839	SLU 61	44	130	8789	-121.14	609.79	-10.32
839	SLU 62	45	109	8908	-121.02	618.22	-8.98
839	SLU 63	45	131	8889	-122.16	617.11	-10.39
839	SLU 64	44	110	8649	-115	600.88	-9.07
839	SLU 65	44	147	8618	-116.9	599.02	-11.42
839	SLU 66	45	111	8802	-116.61	611.98	-9.21
839	SLU 67	45	134	8783	-117.76	610.86	-10.62
839	SLU 68	45	148	8718	-117.92	606.34	-11.49
839	SLU 69	46	112	8902	-117.63	619.29	-9.28
839	SLU 70	46	134	8883	-118.78	618.18	-10.69
839	SLU 71	46	111	8850	-117.04	615.51	-9.2
839	SLU 72	46	133	8831	-118.18	614.4	-10.61
839	SLU 73	47	153	9444	-129.47	655.55	-11.9
839	SLU 74	49	118	9628	-129.19	668.51	-9.69
839	SLU 75	49	140	9609	-130.33	667.39	-11.1
839	SLU 76	48	154	9544	-130.49	662.87	-11.97
839	SLU 77	50	118	9728	-130.21	675.83	-9.75
839	SLU 78	50	141	9709	-131.35	674.71	-11.17
839	SLU 79	49	117	9676	-129.61	672.05	-9.68
839	SLU 80	49	140	9657	-130.75	670.93	-11.09
839	SLU 81	49	119	9829	-132.95	681.64	-9.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
839	SLU 82	49	141	9811	-134.1	680.53	-11.16
839	SLU 83	50	119	9930	-133.97	688.96	-9.82
839	SLU 84	50	142	9911	-135.12	687.84	-11.23
839	SLE RA 1	33	82	6429	-85.61	446.67	-6.79
839	SLE RA 2	33	107	6408	-86.88	445.43	-8.36
839	SLE RA 3	33	83	6530	-86.69	454.07	-6.88
839	SLE RA 4	33	98	6518	-87.45	453.32	-7.83
839	SLE RA 5	33	107	6475	-87.56	450.3	-8.4
839	SLE RA 6	34	83	6597	-87.37	458.94	-6.93
839	SLE RA 7	34	98	6585	-88.13	458.2	-7.87
839	SLE RA 8	34	83	6563	-86.97	456.42	-6.88
839	SLE RA 9	34	98	6550	-87.73	455.68	-7.82
839	SLE RA 10	35	111	6959	-95.26	483.12	-8.68
839	SLE RA 11	36	87	7081	-95.07	491.76	-7.2
839	SLE RA 12	36	102	7068	-95.83	491.01	-8.15
839	SLE RA 13	36	112	7025	-95.94	488	-8.72
839	SLE RA 14	36	88	7148	-95.75	496.63	-7.25
839	SLE RA 15	36	103	7135	-96.51	495.89	-8.19
839	SLE RA 16	36	87	7113	-95.35	494.11	-7.2
839	SLE RA 17	36	102	7101	-96.11	493.37	-8.14
839	SLE RA 18	36	88	7215	-97.58	500.51	-7.25
839	SLE RA 19	36	103	7203	-98.34	499.77	-8.19
839	SLE RA 20	37	88	7282	-98.26	505.39	-7.29
839	SLE RA 21	37	103	7270	-99.02	504.64	-8.23
839	SLE FR 1	33	82	6429	-85.61	446.67	-6.79
839	SLE FR 2	33	87	6425	-85.86	446.42	-7.1
839	SLE FR 3	33	82	6456	-85.88	448.62	-6.81
839	SLE FR 4	34	89	6661	-89.46	462.57	-7.24
839	SLE FR 5	34	84	6692	-89.47	464.77	-6.95
839	SLE FR 6	34	85	6822	-91.6	473.59	-7.02
839	SLE QP 1	33	82	6429	-85.61	446.67	-6.79
839	SLE QP 2	34	84	6665	-89.2	462.82	-6.93
839	SLD 1	677	356	6648	-99.23	455.28	-20.85
839	SLD 2	632	315	6636	-98.56	454.66	-16.97
839	SLD 3	685	-106	7146	-70.13	485.51	8.06
839	SLD 4	640	-147	7135	-69.46	484.89	11.94
839	SLD 5	222	872	5906	-136.45	414.81	-55.62
839	SLD 6	193	846	5899	-136.02	414.41	-53.12
839	SLD 7	249	-666	7567	-39.47	515.59	40.75
839	SLD 8	220	-693	7559	-39.04	515.19	43.25
839	SLD 9	-153	860	5770	-139.37	410.45	-57.11
839	SLD 10	-182	833	5763	-138.94	410.05	-54.61
839	SLD 11	-126	-678	7431	-42.38	511.23	39.27
839	SLD 12	-155	-705	7423	-41.95	510.83	41.77
839	SLD 13	-572	314	6195	-108.94	440.75	-25.8
839	SLD 14	-618	273	6183	-108.27	440.13	-21.92
839	SLD 15	-564	-147	6693	-79.85	470.98	3.11
839	SLD 16	-610	-188	6681	-79.18	470.36	6.99
839	SLV 1	1041	543	6602	-106.97	448.94	-30.74
839	SLV 2	969	478	6584	-105.92	447.96	-24.63
839	SLV 3	1054	-244	7453	-57.33	500.56	18.56
839	SLV 4	982	-309	7434	-56.27	499.58	24.67
839	SLV 5	329	1427	5360	-170.03	380.55	-89.99
839	SLV 6	280	1384	5347	-169.31	379.89	-85.87
839	SLV 7	373	-1196	8194	-4.54	552.61	74.35
839	SLV 8	325	-1240	8182	-3.83	551.96	78.47
839	SLV 9	-258	1408	5148	-174.57	373.69	-92.33
839	SLV 10	-306	1364	5135	-173.86	373.03	-88.21
839	SLV 11	-213	-1216	7982	-9.09	545.75	72.02
839	SLV 12	-262	-1260	7970	-8.38	545.09	76.13
839	SLV 13	-915	477	5895	-122.13	426.06	-38.53
839	SLV 14	-987	412	5877	-121.08	425.08	-32.42
839	SLV 15	-901	-310	6746	-72.49	477.68	10.77
839	SLV 16	-973	-375	6727	-71.43	476.7	16.89
839	SLV FO 1	1141	589	6596	-108.75	447.55	-33.13
839	SLV FO 2	1062	517	6576	-107.59	446.48	-26.4
839	SLV FO 3	1156	-277	7531	-54.14	504.34	21.11
839	SLV FO 4	1077	-349	7511	-52.98	503.26	27.83
839	SLV FO 5	358	1562	5229	-178.11	372.32	-98.3
839	SLV FO 6	305	1514	5216	-177.32	371.6	-93.77
839	SLV FO 7	407	-1324	8347	3.92	561.59	82.48
839	SLV FO 8	354	-1372	8333	4.71	560.87	87.01
839	SLV FO 9	-287	1540	4996	-183.11	364.77	-100.87
839	SLV FO 10	-340	1492	4982	-182.33	364.05	-96.34
839	SLV FO 11	-238	-1346	8114	-1.08	554.04	79.91
839	SLV FO 12	-291	-1394	8100	-0.3	553.32	84.44
839	SLV FO 13	-1010	516	5818	-125.43	422.38	-41.69
839	SLV FO 14	-1089	445	5798	-124.26	421.31	-34.96
839	SLV FO 15	-995	-350	6754	-70.82	479.16	12.54
839	SLV FO 16	-1074	-421	6733	-69.66	478.09	19.27
839	CRTFP Ux+	0	0	0	0	0	0
839	CRTFP Ux-	0	0	0	0	0	0
839	CRTFP Uy+	0	0	0	0	0	0
839	CRTFP Uy-	0	0	0	0	0	0
841	SLU 1	84	191	16023	582.04	729.66	-17.74
841	SLU 2	84	295	15934	566.61	725.51	-21.87
841	SLU 3	88	195	16412	598.34	749.01	-18.25
841	SLU 4	88	257	16359	589.08	746.52	-20.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
841	SLU 5	87	296	16190	577.61	738.29	-22.18
841	SLU 6	91	196	16669	609.34	761.79	-18.56
841	SLU 7	91	259	16616	600.08	759.3	-21.03
841	SLU 8	90	194	16537	604.04	755.21	-18.37
841	SLU 9	90	256	16483	594.78	752.72	-20.85
841	SLU 10	94	311	18096	636.8	821.94	-23.06
841	SLU 11	97	210	18574	668.53	845.44	-19.43
841	SLU 12	97	273	18521	659.27	842.95	-21.91
841	SLU 13	97	312	18353	647.8	834.71	-23.37
841	SLU 14	100	212	18831	679.53	858.21	-19.74
841	SLU 15	100	275	18778	670.27	855.73	-22.22
841	SLU 16	100	209	18699	674.23	851.64	-19.56
841	SLU 17	100	272	18645	664.97	849.15	-22.03
841	SLU 18	98	214	19112	682.31	867.41	-19.44
841	SLU 19	98	276	19058	673.06	864.93	-21.92
841	SLU 20	101	215	19369	693.31	880.19	-19.75
841	SLU 21	101	278	19315	684.05	877.7	-22.23
841	SLU 22	97	217	18688	682.25	851.21	-20
841	SLU 23	97	322	18599	666.82	847.06	-24.12
841	SLU 24	101	221	19077	698.55	870.56	-20.5
841	SLU 25	101	284	19024	689.29	868.07	-22.97
841	SLU 26	100	323	18856	677.82	859.84	-24.44
841	SLU 27	104	222	19334	709.54	883.34	-20.81
841	SLU 28	104	285	19281	700.29	880.85	-23.29
841	SLU 29	103	220	19202	704.25	876.76	-20.62
841	SLU 30	103	283	19148	694.99	874.27	-23.1
841	SLU 31	107	338	20761	737.01	943.49	-25.31
841	SLU 32	110	237	21239	768.74	966.99	-21.68
841	SLU 33	110	300	21186	759.48	964.5	-24.16
841	SLU 34	110	339	21018	748.01	956.26	-25.62
841	SLU 35	113	238	21496	779.73	979.76	-22
841	SLU 36	113	301	21443	770.48	977.28	-24.47
841	SLU 37	113	236	21364	774.43	973.19	-21.81
841	SLU 38	113	299	21311	765.18	970.7	-24.28
841	SLU 39	111	240	21777	782.52	988.96	-21.69
841	SLU 40	111	303	21723	773.26	986.47	-24.17
841	SLU 41	114	241	22034	793.52	1001.74	-22
841	SLU 42	114	304	21980	784.26	999.25	-24.48
841	SLU 43	105	239	19916	722.3	906.88	-22.3
841	SLU 44	105	343	19827	706.87	902.73	-26.42
841	SLU 45	109	243	20305	738.59	926.23	-22.8
841	SLU 46	109	305	20252	729.34	923.75	-25.27
841	SLU 47	108	345	20084	717.87	915.51	-26.74
841	SLU 48	112	244	20562	749.59	939.01	-23.11
841	SLU 49	112	307	20509	740.34	936.52	-25.58
841	SLU 50	111	242	20430	744.29	932.43	-22.92
841	SLU 51	111	304	20376	735.04	929.95	-25.4
841	SLU 52	115	359	21989	777.06	999.16	-27.61
841	SLU 53	118	259	22467	808.78	1022.66	-23.98
841	SLU 54	118	321	22414	799.53	1020.17	-26.46
841	SLU 55	117	361	22246	788.06	1011.94	-27.92
841	SLU 56	121	260	22724	819.78	1035.44	-24.3
841	SLU 57	121	323	22671	810.53	1032.95	-26.77
841	SLU 58	120	258	22592	814.48	1028.86	-24.11
841	SLU 59	120	320	22539	805.23	1026.37	-26.58
841	SLU 60	119	262	23005	822.57	1044.64	-23.99
841	SLU 61	119	324	22951	813.31	1042.15	-26.47
841	SLU 62	122	263	23262	833.56	1057.41	-24.3
841	SLU 63	122	326	23208	824.31	1054.92	-26.78
841	SLU 64	118	265	22581	822.5	1028.43	-24.55
841	SLU 65	118	370	22492	807.08	1024.28	-28.67
841	SLU 66	122	269	22970	838.8	1047.78	-25.05
841	SLU 67	122	332	22917	829.55	1045.29	-27.52
841	SLU 68	121	371	22749	818.08	1037.06	-28.99
841	SLU 69	125	271	23227	849.8	1060.56	-25.36
841	SLU 70	125	333	23174	840.54	1058.07	-27.84
841	SLU 71	124	268	23095	844.5	1053.98	-25.17
841	SLU 72	124	331	23041	835.24	1051.49	-27.65
841	SLU 73	128	386	24654	877.27	1120.71	-29.86
841	SLU 74	131	285	25133	908.99	1144.21	-26.24
841	SLU 75	131	348	25079	899.73	1141.72	-28.71
841	SLU 76	130	387	24911	888.26	1133.49	-30.17
841	SLU 77	134	287	25390	919.99	1156.99	-26.55
841	SLU 78	134	349	25336	910.73	1154.5	-29.02
841	SLU 79	133	284	25257	914.69	1150.41	-26.36
841	SLU 80	133	347	25204	905.43	1147.92	-28.84
841	SLU 81	132	288	25670	922.77	1166.19	-26.24
841	SLU 82	132	351	25616	913.52	1163.7	-28.72
841	SLU 83	135	290	25927	933.77	1178.96	-26.56
841	SLU 84	135	352	25873	924.52	1176.47	-29.03
841	SLE RA 1	88	198	16784	610.67	764.39	-18.39
841	SLE RA 2	88	268	16725	600.39	761.62	-21.14
841	SLE RA 3	91	201	17044	621.54	777.29	-18.72
841	SLE RA 4	91	243	17008	615.37	775.63	-20.37
841	SLE RA 5	90	269	16896	607.72	770.14	-21.35
841	SLE RA 6	92	202	17215	628.87	785.81	-18.93
841	SLE RA 7	92	243	17179	622.7	784.15	-20.58
841	SLE RA 8	92	200	17127	625.34	781.42	-18.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
841	SLE RA 9	92	242	17091	619.17	779.76	-20.46
841	SLE RA 10	94	279	18166	647.18	825.91	-21.93
841	SLE RA 11	97	211	18485	668.33	841.57	-19.51
841	SLE RA 12	97	253	18450	662.16	839.92	-21.16
841	SLE RA 13	96	279	18338	654.51	834.42	-22.14
841	SLE RA 14	99	212	18657	675.66	850.09	-19.72
841	SLE RA 15	99	254	18621	669.49	848.43	-21.37
841	SLE RA 16	98	211	18568	672.13	845.71	-19.6
841	SLE RA 17	98	253	18533	665.96	844.05	-21.25
841	SLE RA 18	97	214	18843	677.52	856.22	-19.52
841	SLE RA 19	97	255	18808	671.35	854.57	-21.17
841	SLE RA 20	99	214	19015	684.85	864.74	-19.73
841	SLE RA 21	99	256	18979	678.68	863.08	-21.38
841	SLE FR 1	88	198	16784	610.67	764.39	-18.39
841	SLE FR 2	88	212	16772	608.61	763.83	-18.94
841	SLE FR 3	89	199	16853	613.6	767.79	-18.47
841	SLE FR 4	91	217	17390	628.67	791.39	-19.28
841	SLE FR 5	92	203	17470	633.66	795.35	-18.81
841	SLE FR 6	93	206	17814	644.09	810.31	-18.95
841	SLE QP 1	88	198	16784	610.67	764.39	-18.39
841	SLE QP 2	91	203	17402	630.73	791.94	-18.73
841	SLD 1	1923	945	17427	577.36	770.14	-155.59
841	SLD 2	1789	853	17395	579.05	769.34	-134.96
841	SLD 3	1945	-345	18831	815.73	836.33	-105.58
841	SLD 4	1811	-438	18800	817.42	835.53	-84.95
841	SLD 5	631	2398	15284	252.89	685.15	-139.18
841	SLD 6	544	2339	15264	253.98	684.64	-125.9
841	SLD 7	703	-1903	19966	1047.47	905.77	27.52
841	SLD 8	617	-1962	19946	1048.56	905.26	40.81
841	SLD 9	-435	2368	14857	212.89	678.62	-78.26
841	SLD 10	-522	2308	14837	213.98	678.1	-64.98
841	SLD 11	-362	-1933	19540	1007.47	899.24	88.45
841	SLD 12	-449	-1992	19519	1008.56	898.72	101.73
841	SLD 13	-1629	843	16004	444.03	748.35	47.49
841	SLD 14	-1764	751	15972	445.72	747.55	68.12
841	SLD 15	-1607	-447	17408	682.4	814.54	97.5
841	SLD 16	-1742	-539	17377	684.09	813.74	118.13
841	SLV 1	2958	1457	17338	530.01	753.34	-236.5
841	SLV 2	2746	1312	17288	532.67	752.08	-203.98
841	SLV 3	2994	-743	19735	936.78	866.32	-151.23
841	SLV 4	2782	-889	19686	939.44	865.06	-118.71
841	SLV 5	936	3944	13756	-16.91	609.23	-219.46
841	SLV 6	793	3846	13723	-15.12	608.39	-197.57
841	SLV 7	1056	-3391	21747	1338.97	985.85	64.78
841	SLV 8	913	-3489	21714	1340.76	985	86.67
841	SLV 9	-732	3895	13090	-79.31	598.88	-124.13
841	SLV 10	-875	3797	13057	-77.52	598.03	-102.24
841	SLV 11	-611	-3440	21081	1276.57	975.49	160.11
841	SLV 12	-754	-3538	21048	1278.36	974.65	182
841	SLV 13	-2601	1294	15118	322.01	718.81	81.25
841	SLV 14	-2813	1149	15069	324.67	717.56	113.77
841	SLV 15	-2564	-906	17515	728.78	831.8	166.53
841	SLV 16	-2776	-1051	17466	731.44	830.54	199.05
841	SLV FO 1	3245	1583	17331	519.94	749.48	-258.28
841	SLV FO 2	3012	1423	17277	522.87	748.09	-222.51
841	SLV FO 3	3284	-838	19969	967.38	873.76	-164.48
841	SLV FO 4	3051	-998	19914	970.31	872.38	-128.71
841	SLV FO 5	1020	4318	13391	-81.67	590.96	-239.53
841	SLV FO 6	863	4210	13355	-79.7	590.03	-215.45
841	SLV FO 7	1153	-3750	22182	1409.79	1005.24	73.14
841	SLV FO 8	996	-3858	22145	1411.76	1004.31	97.22
841	SLV FO 9	-814	4264	12659	-150.31	579.57	-134.67
841	SLV FO 10	-971	4156	12622	-148.34	578.64	-110.59
841	SLV FO 11	-682	-3804	21449	1341.15	993.85	177.99
841	SLV FO 12	-839	-3912	21412	1343.12	992.92	202.07
841	SLV FO 13	-2870	1404	14890	291.14	711.5	91.25
841	SLV FO 14	-3103	1244	14835	294.07	710.12	127.02
841	SLV FO 15	-2830	-1017	17527	738.58	835.79	185.05
841	SLV FO 16	-3063	-1177	17472	741.51	834.4	220.82
841	CRTFP Ux+	0	0	0	0	0	0
841	CRTFP Ux-	0	0	0	0	0	0
841	CRTFP Uy+	0	0	0	0	0	0
841	CRTFP Uy-	0	0	0	0	0	0
842	SLU 1	43	70	6551	-97.06	667.19	-8.86
842	SLU 2	43	117	6515	-101.59	663.58	-13.54
842	SLU 3	45	71	6702	-98.45	682.89	-9.04
842	SLU 4	45	99	6681	-101.17	680.72	-11.85
842	SLU 5	45	117	6615	-102.4	673.93	-13.61
842	SLU 6	47	72	6802	-99.26	693.24	-9.11
842	SLU 7	46	100	6780	-101.98	691.07	-11.92
842	SLU 8	46	71	6750	-98.68	687.9	-8.99
842	SLU 9	46	99	6729	-101.4	685.73	-11.8
842	SLU 10	48	123	7411	-117.18	754.32	-14.29
842	SLU 11	50	78	7598	-114.03	773.63	-9.79
842	SLU 12	50	106	7576	-116.75	771.46	-12.6
842	SLU 13	49	123	7510	-117.99	764.67	-14.36
842	SLU 14	51	78	7697	-114.84	783.98	-9.86
842	SLU 15	51	106	7676	-117.56	781.81	-12.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
842	SLU 16	51	77	7646	-114.26	778.64	-9.75
842	SLU 17	51	105	7624	-116.98	776.47	-12.56
842	SLU 18	50	79	7831	-119.32	796.83	-9.93
842	SLU 19	50	107	7809	-122.04	794.66	-12.74
842	SLU 20	51	79	7930	-120.13	807.18	-10
842	SLU 21	51	107	7909	-122.85	805.01	-12.81
842	SLU 22	50	80	7642	-110.82	778.17	-10.1
842	SLU 23	50	127	7606	-115.36	774.56	-14.79
842	SLU 24	52	81	7793	-112.21	793.87	-10.28
842	SLU 25	52	109	7772	-114.93	791.7	-13.09
842	SLU 26	51	127	7706	-116.17	784.91	-14.85
842	SLU 27	53	81	7893	-113.02	804.22	-10.35
842	SLU 28	53	110	7871	-115.74	802.05	-13.16
842	SLU 29	53	81	7841	-112.44	798.88	-10.24
842	SLU 30	53	109	7820	-115.16	796.71	-13.05
842	SLU 31	54	133	8502	-130.94	865.3	-15.54
842	SLU 32	56	88	8689	-127.79	884.61	-11.04
842	SLU 33	56	116	8667	-130.51	882.44	-13.85
842	SLU 34	56	133	8601	-131.75	875.65	-15.61
842	SLU 35	58	88	8788	-128.6	894.96	-11.1
842	SLU 36	58	116	8767	-131.32	892.79	-13.91
842	SLU 37	57	87	8737	-128.02	889.62	-10.99
842	SLU 38	57	115	8715	-130.74	887.45	-13.8
842	SLU 39	57	89	8922	-133.08	907.81	-11.18
842	SLU 40	57	117	8900	-135.8	905.64	-13.99
842	SLU 41	58	89	9021	-133.89	918.16	-11.25
842	SLU 42	58	117	9000	-136.61	915.99	-14.06
842	SLU 43	54	87	8143	-121.46	829.3	-11.09
842	SLU 44	54	134	8107	-125.99	825.69	-15.77
842	SLU 45	56	89	8294	-122.85	844.99	-11.27
842	SLU 46	56	117	8272	-125.57	842.83	-14.08
842	SLU 47	55	135	8206	-126.8	836.04	-15.84
842	SLU 48	57	89	8393	-123.66	855.35	-11.34
842	SLU 49	57	117	8372	-126.38	853.18	-14.15
842	SLU 50	57	88	8342	-123.08	850.01	-11.23
842	SLU 51	57	116	8320	-125.8	847.84	-14.04
842	SLU 52	58	141	9002	-141.58	916.43	-16.53
842	SLU 53	60	95	9189	-138.43	935.74	-12.02
842	SLU 54	60	123	9168	-141.15	933.57	-14.83
842	SLU 55	60	141	9102	-142.39	926.78	-16.59
842	SLU 56	62	95	9289	-139.24	946.09	-12.09
842	SLU 57	62	123	9267	-141.96	943.92	-14.9
842	SLU 58	62	95	9237	-138.66	940.75	-11.98
842	SLU 59	61	123	9216	-141.38	938.58	-14.79
842	SLU 60	61	97	9422	-143.72	958.93	-12.16
842	SLU 61	61	125	9401	-146.44	956.77	-14.97
842	SLU 62	62	97	9522	-144.53	969.29	-12.23
842	SLU 63	62	125	9500	-147.25	967.12	-15.04
842	SLU 64	61	97	9234	-135.22	940.28	-12.33
842	SLU 65	60	144	9198	-139.75	936.66	-17.02
842	SLU 66	62	99	9385	-136.61	955.97	-12.51
842	SLU 67	62	127	9363	-139.33	953.8	-15.32
842	SLU 68	62	145	9297	-140.56	947.02	-17.09
842	SLU 69	64	99	9484	-137.42	966.33	-12.58
842	SLU 70	64	127	9462	-140.14	964.16	-15.39
842	SLU 71	64	98	9433	-136.84	960.99	-12.47
842	SLU 72	63	126	9411	-139.56	958.82	-15.28
842	SLU 73	65	151	10093	-155.34	1027.41	-17.77
842	SLU 74	67	105	10280	-152.19	1046.72	-13.27
842	SLU 75	67	133	10259	-154.91	1044.55	-16.08
842	SLU 76	67	151	10193	-156.15	1037.76	-17.84
842	SLU 77	69	105	10380	-153	1057.07	-13.33
842	SLU 78	68	133	10358	-155.72	1054.9	-16.15
842	SLU 79	68	105	10328	-152.42	1051.73	-13.22
842	SLU 80	68	133	10307	-155.14	1049.56	-16.03
842	SLU 81	67	107	10513	-157.48	1069.91	-13.41
842	SLU 82	67	135	10491	-160.2	1067.74	-16.22
842	SLU 83	69	107	10613	-158.29	1080.27	-13.48
842	SLU 84	69	135	10591	-161.01	1078.1	-16.29
842	SLE RA 1	45	73	6863	-100.99	698.9	-9.21
842	SLE RA 2	45	104	6839	-104.01	696.49	-12.34
842	SLE RA 3	46	74	6964	-101.92	709.36	-9.33
842	SLE RA 4	46	92	6949	-103.73	707.92	-11.21
842	SLE RA 5	46	104	6905	-104.55	703.39	-12.38
842	SLE RA 6	47	74	7030	-102.46	716.27	-9.38
842	SLE RA 7	47	93	7016	-104.27	714.82	-11.25
842	SLE RA 8	47	73	6996	-102.07	712.71	-9.3
842	SLE RA 9	47	92	6981	-103.88	711.26	-11.18
842	SLE RA 10	48	108	7436	-114.4	756.99	-12.84
842	SLE RA 11	50	78	7561	-112.31	769.86	-9.84
842	SLE RA 12	49	97	7546	-114.12	768.41	-11.71
842	SLE RA 13	49	108	7502	-114.94	763.89	-12.88
842	SLE RA 14	50	78	7627	-112.85	776.76	-9.88
842	SLE RA 15	50	97	7613	-114.66	775.32	-11.75
842	SLE RA 16	50	77	7593	-112.46	773.2	-9.81
842	SLE RA 17	50	96	7578	-114.27	771.76	-11.68
842	SLE RA 18	50	79	7716	-115.83	785.32	-9.93
842	SLE RA 19	50	98	7702	-117.65	783.88	-11.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
842	SLE RA 20	51	79	7782	-116.37	792.23	-9.98
842	SLE RA 21	51	98	7768	-118.19	790.78	-11.85
842	SLE FR 1	45	73	6863	-100.99	698.9	-9.21
842	SLE FR 2	45	79	6858	-101.6	698.42	-9.84
842	SLE FR 3	46	73	6890	-101.21	701.66	-9.23
842	SLE FR 4	46	81	7114	-106.05	724.35	-10.05
842	SLE FR 5	47	75	7145	-105.66	727.59	-9.45
842	SLE FR 6	47	76	7290	-108.41	742.11	-9.57
842	SLE QP 1	45	73	6863	-100.99	698.9	-9.21
842	SLE QP 2	47	75	7119	-105.44	724.83	-9.43
842	SLD 1	893	398	7247	-134.21	734.69	-42.85
842	SLD 2	833	371	7232	-133.71	733.16	-38.46
842	SLD 3	904	-183	7812	-64.61	791.53	14.97
842	SLD 4	843	-210	7797	-64.11	790.01	19.36
842	SLD 5	294	1057	6303	-219.71	641.84	-107.9
842	SLD 6	256	1040	6293	-219.39	640.86	-105.07
842	SLD 7	330	-879	8187	12.28	831.31	84.83
842	SLD 8	292	-896	8177	12.6	830.33	87.65
842	SLD 9	-199	1045	6061	-223.49	619.33	-106.51
842	SLD 10	-237	1028	6051	-223.17	618.34	-103.68
842	SLD 11	-163	-891	7945	8.51	808.8	86.22
842	SLD 12	-201	-908	7935	8.83	807.82	89.04
842	SLD 13	-750	359	6441	-146.78	659.65	-38.22
842	SLD 14	-810	332	6425	-146.28	658.12	-33.83
842	SLD 15	-740	-222	7006	-77.18	716.49	19.6
842	SLD 16	-800	-249	6991	-76.68	714.97	23.99
842	SLV 1	1370	622	7278	-155.39	736.09	-65.9
842	SLV 2	1275	580	7255	-154.61	733.69	-58.98
842	SLV 3	1388	-368	8243	-36.64	833.1	32.71
842	SLV 4	1293	-410	8219	-35.86	830.7	39.62
842	SLV 5	434	1749	5709	-300.69	581.53	-177.21
842	SLV 6	370	1721	5693	-300.16	579.91	-172.55
842	SLV 7	494	-1553	8923	95.16	904.88	151.47
842	SLV 8	430	-1581	8907	95.69	903.27	156.12
842	SLV 9	-337	1730	5331	-306.58	546.39	-174.98
842	SLV 10	-401	1702	5315	-306.05	544.77	-170.33
842	SLV 11	-277	-1571	8545	89.27	869.74	153.69
842	SLV 12	-341	-1600	8529	89.8	868.13	158.35
842	SLV 13	-1200	559	6019	-175.03	618.96	-58.48
842	SLV 14	-1295	517	5995	-174.25	616.56	-51.56
842	SLV 15	-1182	-431	6983	-56.28	715.97	40.12
842	SLV 16	-1277	-473	6959	-55.49	713.56	47.04
842	SLV FO 1	1503	677	7294	-160.39	737.22	-71.54
842	SLV FO 2	1398	631	7268	-159.53	734.58	-63.94
842	SLV FO 3	1522	-412	8355	-29.76	843.93	36.92
842	SLV FO 4	1418	-458	8329	-28.9	841.28	44.53
842	SLV FO 5	473	1916	5568	-320.21	567.2	-193.98
842	SLV FO 6	403	1885	5550	-319.63	565.42	-188.86
842	SLV FO 7	539	-1715	9104	115.22	922.89	167.56
842	SLV FO 8	468	-1746	9086	115.8	921.11	172.68
842	SLV FO 9	-375	1895	5152	-326.69	528.55	-191.54
842	SLV FO 10	-446	1864	5134	-326.11	526.77	-186.42
842	SLV FO 11	-310	-1736	8688	108.74	884.23	170.01
842	SLV FO 12	-380	-1767	8670	109.32	882.46	175.13
842	SLV FO 13	-1325	608	5909	-181.99	608.37	-63.38
842	SLV FO 14	-1429	562	5883	-181.13	605.73	-55.78
842	SLV FO 15	-1305	-482	6970	-51.36	715.08	45.08
842	SLV FO 16	-1410	-528	6943	-50.5	712.44	52.68
842	CRTFP Ux+	0	0	0	0	0	0
842	CRTFP Ux-	0	0	0	0	0	0
842	CRTFP Uy+	0	0	0	0	0	0
842	CRTFP Uy-	0	0	0	0	0	0
843	SLU 1	31	40	4147	-63.76	5.41	-0.92
843	SLU 2	30	72	4123	-67.01	5.39	-0.95
843	SLU 3	32	41	4239	-64.59	5.6	-0.95
843	SLU 4	32	60	4225	-66.54	5.59	-0.97
843	SLU 5	31	72	4184	-67.48	5.52	-0.97
843	SLU 6	33	41	4300	-65.06	5.73	-0.96
843	SLU 7	33	60	4286	-67.01	5.72	-0.98
843	SLU 8	33	41	4268	-64.7	5.66	-0.95
843	SLU 9	32	59	4254	-66.65	5.65	-0.97
843	SLU 10	34	75	4695	-77.2	6.02	-1.02
843	SLU 11	35	45	4811	-74.79	6.23	-1.02
843	SLU 12	35	63	4797	-76.74	6.22	-1.04
843	SLU 13	35	75	4756	-77.68	6.15	-1.04
843	SLU 14	36	45	4872	-75.26	6.36	-1.03
843	SLU 15	36	64	4858	-77.21	6.35	-1.05
843	SLU 16	36	44	4840	-74.9	6.3	-1.02
843	SLU 17	36	63	4826	-76.85	6.29	-1.04
843	SLU 18	35	46	4963	-78.33	6.31	-1.02
843	SLU 19	35	64	4949	-80.27	6.3	-1.04
843	SLU 20	36	46	5024	-78.8	6.44	-1.03
843	SLU 21	36	65	5010	-80.75	6.43	-1.05
843	SLU 22	35	46	4839	-72.49	6.27	-1.05
843	SLU 23	35	77	4815	-75.74	6.25	-1.09
843	SLU 24	36	47	4931	-73.32	6.46	-1.08
843	SLU 25	36	65	4917	-75.27	6.45	-1.1
843	SLU 26	36	77	4876	-76.21	6.38	-1.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
843	SLU 27	37	47	4992	-73.8	6.59	-1.1
843	SLU 28	37	66	4978	-75.75	6.58	-1.12
843	SLU 29	37	46	4960	-73.44	6.53	-1.08
843	SLU 30	37	65	4946	-75.39	6.52	-1.1
843	SLU 31	38	81	5387	-85.94	6.89	-1.15
843	SLU 32	40	51	5503	-83.52	7.09	-1.15
843	SLU 33	40	69	5489	-85.47	7.08	-1.17
843	SLU 34	39	81	5448	-86.41	7.01	-1.17
843	SLU 35	41	51	5564	-83.99	7.22	-1.17
843	SLU 36	41	69	5549	-85.94	7.21	-1.19
843	SLU 37	40	50	5532	-83.64	7.16	-1.15
843	SLU 38	40	69	5518	-85.58	7.15	-1.17
843	SLU 39	40	52	5655	-87.06	7.17	-1.15
843	SLU 40	40	70	5641	-89.01	7.16	-1.17
843	SLU 41	41	52	5716	-87.53	7.3	-1.17
843	SLU 42	41	70	5702	-89.48	7.29	-1.19
843	SLU 43	38	50	5153	-79.89	6.74	-1.15
843	SLU 44	38	82	5130	-83.14	6.72	-1.18
843	SLU 45	39	51	5246	-80.72	6.93	-1.17
843	SLU 46	39	70	5232	-82.67	6.92	-1.2
843	SLU 47	39	82	5191	-83.61	6.85	-1.2
843	SLU 48	40	51	5307	-81.19	7.06	-1.19
843	SLU 49	40	70	5293	-83.14	7.05	-1.21
843	SLU 50	40	51	5275	-80.84	6.99	-1.18
843	SLU 51	40	69	5261	-82.79	6.98	-1.2
843	SLU 52	41	85	5702	-93.34	7.35	-1.25
843	SLU 53	43	55	5817	-90.92	7.56	-1.24
843	SLU 54	42	74	5803	-92.87	7.55	-1.26
843	SLU 55	42	86	5763	-93.81	7.48	-1.27
843	SLU 56	44	55	5878	-91.39	7.69	-1.26
843	SLU 57	43	74	5864	-93.34	7.68	-1.28
843	SLU 58	43	54	5847	-91.03	7.62	-1.25
843	SLU 59	43	73	5833	-92.98	7.61	-1.27
843	SLU 60	43	56	5970	-94.46	7.64	-1.25
843	SLU 61	43	75	5956	-96.41	7.63	-1.27
843	SLU 62	44	56	6031	-94.93	7.77	-1.26
843	SLU 63	44	75	6017	-96.88	7.76	-1.28
843	SLU 64	43	56	5845	-88.62	7.6	-1.28
843	SLU 65	43	87	5822	-91.87	7.58	-1.31
843	SLU 66	44	57	5938	-89.46	7.79	-1.31
843	SLU 67	44	76	5924	-91.4	7.78	-1.33
843	SLU 68	44	88	5883	-92.35	7.71	-1.33
843	SLU 69	45	57	5999	-89.93	7.92	-1.33
843	SLU 70	45	76	5985	-91.88	7.91	-1.35
843	SLU 71	45	56	5967	-89.57	7.85	-1.31
843	SLU 72	45	75	5953	-91.52	7.84	-1.33
843	SLU 73	46	91	6394	-102.07	8.21	-1.38
843	SLU 74	47	61	6509	-99.65	8.42	-1.38
843	SLU 75	47	79	6495	-101.6	8.41	-1.4
843	SLU 76	47	91	6454	-102.54	8.34	-1.4
843	SLU 77	48	61	6570	-100.13	8.55	-1.39
843	SLU 78	48	79	6556	-102.08	8.54	-1.42
843	SLU 79	48	60	6539	-99.77	8.49	-1.38
843	SLU 80	48	79	6525	-101.72	8.48	-1.4
843	SLU 81	47	62	6662	-103.19	8.5	-1.38
843	SLU 82	47	80	6648	-105.14	8.49	-1.4
843	SLU 83	48	62	6723	-103.67	8.63	-1.4
843	SLU 84	48	80	6709	-105.61	8.62	-1.42
843	SLE RA 1	32	42	4344	-66.25	5.65	-0.96
843	SLE RA 2	32	63	4329	-68.42	5.64	-0.98
843	SLE RA 3	33	42	4406	-66.81	5.78	-0.97
843	SLE RA 4	33	55	4397	-68.11	5.78	-0.99
843	SLE RA 5	32	63	4369	-68.73	5.73	-0.99
843	SLE RA 6	33	42	4446	-67.12	5.87	-0.99
843	SLE RA 7	33	55	4437	-68.42	5.86	-1
843	SLE RA 8	33	42	4426	-66.88	5.83	-0.98
843	SLE RA 9	33	55	4416	-68.18	5.82	-0.99
843	SLE RA 10	34	65	4710	-75.22	6.06	-1.02
843	SLE RA 11	35	45	4787	-73.61	6.2	-1.02
843	SLE RA 12	35	57	4778	-74.91	6.2	-1.03
843	SLE RA 13	35	65	4750	-75.53	6.15	-1.04
843	SLE RA 14	36	45	4828	-73.92	6.29	-1.03
843	SLE RA 15	35	57	4818	-75.22	6.28	-1.05
843	SLE RA 16	35	45	4807	-73.68	6.25	-1.02
843	SLE RA 17	35	57	4797	-74.98	6.24	-1.04
843	SLE RA 18	35	46	4889	-75.97	6.26	-1.02
843	SLE RA 19	35	58	4879	-77.26	6.25	-1.04
843	SLE RA 20	36	46	4929	-76.28	6.34	-1.03
843	SLE RA 21	36	58	4920	-77.58	6.34	-1.05
843	SLE FR 1	32	42	4344	-66.25	5.65	-0.96
843	SLE FR 2	32	46	4341	-66.69	5.65	-0.96
843	SLE FR 3	32	42	4361	-66.38	5.69	-0.96
843	SLE FR 4	33	47	4505	-69.6	5.83	-0.98
843	SLE FR 5	33	43	4524	-69.29	5.87	-0.98
843	SLE FR 6	33	44	4617	-71.11	5.96	-0.99
843	SLE QP 1	32	42	4344	-66.25	5.65	-0.96
843	SLE QP 2	33	43	4508	-69.17	5.84	-0.98
843	SLD 1	606	255	4604	-91.03	6.32	-1.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
843	SLD 2	565	244	4594	-90.84	6.28	-0.31
843	SLD 3	613	-133	4968	-41.15	6.64	-0.88
843	SLD 4	572	-145	4959	-40.96	6.59	-0.02
843	SLD 5	200	698	3985	-151.41	5.51	-1.62
843	SLD 6	174	690	3979	-151.29	5.48	-1.07
843	SLD 7	225	-597	5201	14.86	6.56	-0.65
843	SLD 8	199	-604	5195	14.98	6.53	-0.1
843	SLD 9	-133	690	3820	-153.31	5.14	-1.85
843	SLD 10	-160	683	3815	-153.19	5.11	-1.3
843	SLD 11	-109	-604	5037	12.95	6.19	-0.88
843	SLD 12	-135	-612	5031	13.07	6.16	-0.33
843	SLD 13	-507	231	4056	-97.37	5.08	-1.93
843	SLD 14	-548	219	4047	-97.18	5.04	-1.07
843	SLD 15	-499	-157	4421	-47.49	5.39	-1.64
843	SLD 16	-540	-169	4412	-47.3	5.35	-0.78
843	SLV 1	929	403	4631	-106.91	6.58	-1.3
843	SLV 2	865	385	4617	-106.61	6.51	0.05
843	SLV 3	941	-259	5254	-21.8	7.11	-0.8
843	SLV 4	877	-278	5240	-21.51	7.04	0.55
843	SLV 5	295	1159	3603	-209.62	5.26	-2.08
843	SLV 6	252	1147	3594	-209.43	5.21	-1.17
843	SLV 7	336	-1049	5678	74.07	7.05	-0.42
843	SLV 8	293	-1061	5669	74.27	7	0.49
843	SLV 9	-227	1147	3347	-212.6	4.67	-2.44
843	SLV 10	-271	1135	3337	-212.4	4.62	-1.53
843	SLV 11	-186	-1061	5422	71.09	6.46	-0.78
843	SLV 12	-229	-1073	5412	71.29	6.41	0.13
843	SLV 13	-812	364	3776	-116.83	4.63	-2.5
843	SLV 14	-876	345	3761	-116.53	4.56	-1.15
843	SLV 15	-799	-299	4398	-31.72	5.17	-2
843	SLV 16	-863	-317	4384	-31.42	5.09	-0.65
843	SLV FO 1	1019	439	4644	-110.68	6.65	-1.33
843	SLV FO 2	948	419	4628	-110.36	6.57	0.16
843	SLV FO 3	1032	-289	5329	-17.06	7.24	-0.79
843	SLV FO 4	962	-310	5313	-16.74	7.16	0.7
843	SLV FO 5	321	1271	3513	-223.67	5.2	-2.19
843	SLV FO 6	273	1257	3502	-223.45	5.15	-1.19
843	SLV FO 7	367	-1158	5795	88.39	7.17	-0.37
843	SLV FO 8	319	-1172	5785	88.61	7.11	0.63
843	SLV FO 9	-253	1258	3231	-226.94	4.56	-2.58
843	SLV FO 10	-301	1244	3220	-226.72	4.5	-1.58
843	SLV FO 11	-208	-1171	5513	85.12	6.52	-0.76
843	SLV FO 12	-255	-1185	5502	85.34	6.47	0.24
843	SLV FO 13	-896	396	3703	-121.59	4.51	-2.65
843	SLV FO 14	-967	375	3687	-121.27	4.43	-1.16
843	SLV FO 15	-882	-333	4387	-27.97	5.1	-2.11
843	SLV FO 16	-953	-353	4372	-27.65	5.02	-0.62
843	CRTFP Ux+	0	0	0	0	0	0
843	CRTFP Ux-	0	0	0	0	0	0
843	CRTFP Uy+	0	0	0	0	0	0
843	CRTFP Uy-	0	0	0	0	0	0
844	SLU 1	32	36	4028	-61.35	2.53	-0.74
844	SLU 2	32	67	4005	-64.63	2.52	-0.73
844	SLU 3	33	36	4116	-62.11	2.62	-0.76
844	SLU 4	33	55	4102	-64.08	2.62	-0.76
844	SLU 5	33	67	4063	-65.05	2.59	-0.75
844	SLU 6	34	36	4174	-62.53	2.69	-0.78
844	SLU 7	34	55	4160	-64.5	2.69	-0.77
844	SLU 8	34	36	4144	-62.2	2.66	-0.77
844	SLU 9	34	55	4130	-64.16	2.65	-0.76
844	SLU 10	35	70	4563	-74.42	2.81	-0.79
844	SLU 11	36	40	4674	-71.9	2.91	-0.83
844	SLU 12	36	59	4660	-73.87	2.9	-0.82
844	SLU 13	36	70	4621	-74.85	2.87	-0.81
844	SLU 14	37	40	4732	-72.32	2.97	-0.84
844	SLU 15	37	59	4718	-74.29	2.97	-0.84
844	SLU 16	37	39	4702	-71.99	2.94	-0.83
844	SLU 17	37	58	4688	-73.96	2.94	-0.83
844	SLU 18	36	41	4825	-75.34	2.93	-0.83
844	SLU 19	36	59	4812	-77.31	2.93	-0.82
844	SLU 20	37	41	4883	-75.76	3	-0.84
844	SLU 21	37	60	4870	-77.73	3	-0.84
844	SLU 22	37	41	4701	-69.59	2.92	-0.85
844	SLU 23	36	72	4678	-72.86	2.92	-0.85
844	SLU 24	38	42	4789	-70.34	3.02	-0.88
844	SLU 25	38	60	4776	-72.31	3.02	-0.87
844	SLU 26	37	72	4736	-73.29	2.98	-0.86
844	SLU 27	39	42	4847	-70.76	3.08	-0.89
844	SLU 28	39	60	4834	-72.73	3.08	-0.89
844	SLU 29	39	41	4817	-70.43	3.05	-0.88
844	SLU 30	39	60	4804	-72.4	3.05	-0.88
844	SLU 31	40	76	5236	-82.66	3.2	-0.91
844	SLU 32	41	45	5348	-80.13	3.3	-0.94
844	SLU 33	41	64	5334	-82.1	3.3	-0.94
844	SLU 34	41	76	5294	-83.08	3.27	-0.92
844	SLU 35	42	45	5406	-80.56	3.37	-0.96
844	SLU 36	42	64	5392	-82.52	3.37	-0.95
844	SLU 37	42	45	5375	-80.22	3.34	-0.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
844	SLU 38	42	63	5362	-82.19	3.33	-0.94
844	SLU 39	41	46	5499	-83.57	3.33	-0.94
844	SLU 40	41	65	5485	-85.54	3.32	-0.94
844	SLU 41	42	46	5557	-84	3.39	-0.96
844	SLU 42	42	65	5543	-85.96	3.39	-0.95
844	SLU 43	40	45	5006	-76.94	3.15	-0.92
844	SLU 44	39	76	4983	-80.22	3.14	-0.91
844	SLU 45	41	45	5094	-77.69	3.24	-0.94
844	SLU 46	41	64	5080	-79.66	3.24	-0.94
844	SLU 47	40	76	5041	-80.64	3.21	-0.93
844	SLU 48	42	45	5152	-78.12	3.31	-0.96
844	SLU 49	42	64	5138	-80.08	3.31	-0.95
844	SLU 50	42	45	5122	-77.78	3.28	-0.95
844	SLU 51	42	64	5108	-79.75	3.28	-0.94
844	SLU 52	43	79	5541	-90.01	3.43	-0.98
844	SLU 53	44	49	5652	-87.49	3.53	-1.01
844	SLU 54	44	68	5638	-89.45	3.53	-1
844	SLU 55	44	80	5599	-90.43	3.49	-0.99
844	SLU 56	45	49	5710	-87.91	3.59	-1.02
844	SLU 57	45	68	5696	-89.87	3.59	-1.02
844	SLU 58	45	48	5680	-87.57	3.56	-1.01
844	SLU 59	45	67	5666	-89.54	3.56	-1.01
844	SLU 60	44	50	5803	-90.93	3.55	-1.01
844	SLU 61	44	69	5789	-92.89	3.55	-1.01
844	SLU 62	45	50	5861	-91.35	3.62	-1.02
844	SLU 63	45	69	5847	-93.32	3.62	-1.02
844	SLU 64	44	50	5679	-85.17	3.54	-1.03
844	SLU 65	44	81	5656	-88.45	3.54	-1.03
844	SLU 66	46	51	5767	-85.92	3.64	-1.06
844	SLU 67	46	69	5753	-87.89	3.64	-1.06
844	SLU 68	45	81	5714	-88.87	3.6	-1.04
844	SLU 69	47	51	5825	-86.35	3.71	-1.07
844	SLU 70	47	69	5811	-88.31	3.7	-1.07
844	SLU 71	47	50	5795	-86.01	3.67	-1.06
844	SLU 72	46	69	5781	-87.98	3.67	-1.06
844	SLU 73	48	85	6214	-98.24	3.82	-1.09
844	SLU 74	49	54	6325	-95.72	3.92	-1.12
844	SLU 75	49	73	6311	-97.68	3.92	-1.12
844	SLU 76	49	85	6272	-98.66	3.89	-1.11
844	SLU 77	50	54	6383	-96.14	3.99	-1.14
844	SLU 78	50	73	6369	-98.11	3.99	-1.13
844	SLU 79	50	54	6353	-95.81	3.96	-1.13
844	SLU 80	50	72	6339	-97.77	3.96	-1.12
844	SLU 81	49	55	6476	-99.16	3.95	-1.13
844	SLU 82	49	74	6462	-101.12	3.95	-1.12
844	SLU 83	50	55	6534	-99.58	4.01	-1.14
844	SLU 84	50	74	6520	-101.55	4.01	-1.14
844	SLE RA 1	33	37	4221	-63.71	2.64	-0.77
844	SLE RA 2	33	58	4205	-65.89	2.64	-0.77
844	SLE RA 3	34	38	4279	-64.21	2.7	-0.79
844	SLE RA 4	34	50	4270	-65.52	2.7	-0.78
844	SLE RA 5	34	58	4244	-66.17	2.68	-0.78
844	SLE RA 6	35	38	4318	-64.49	2.75	-0.8
844	SLE RA 7	35	50	4309	-65.8	2.75	-0.79
844	SLE RA 8	34	37	4298	-64.27	2.73	-0.79
844	SLE RA 9	34	50	4289	-65.58	2.72	-0.79
844	SLE RA 10	35	60	4577	-72.42	2.83	-0.81
844	SLE RA 11	36	40	4651	-70.74	2.89	-0.83
844	SLE RA 12	36	52	4642	-72.05	2.89	-0.83
844	SLE RA 13	36	60	4616	-72.7	2.87	-0.82
844	SLE RA 14	37	40	4690	-71.02	2.94	-0.84
844	SLE RA 15	37	52	4681	-72.33	2.93	-0.84
844	SLE RA 16	37	40	4670	-70.8	2.92	-0.83
844	SLE RA 17	37	52	4661	-72.11	2.91	-0.83
844	SLE RA 18	36	41	4752	-73.03	2.91	-0.83
844	SLE RA 19	36	53	4743	-74.34	2.91	-0.83
844	SLE RA 20	37	41	4791	-73.31	2.95	-0.84
844	SLE RA 21	37	53	4781	-74.62	2.95	-0.84
844	SLE FR 1	33	37	4221	-63.71	2.64	-0.77
844	SLE FR 2	33	42	4217	-64.14	2.64	-0.77
844	SLE FR 3	33	37	4236	-63.82	2.66	-0.77
844	SLE FR 4	34	42	4377	-66.94	2.72	-0.79
844	SLE FR 5	34	38	4395	-66.62	2.74	-0.79
844	SLE FR 6	35	39	4486	-68.37	2.77	-0.8
844	SLE QP 1	33	37	4221	-63.71	2.64	-0.77
844	SLE QP 2	34	38	4380	-66.5	2.72	-0.79
844	SLD 1	608	248	4446	-89.19	4.22	-0.6
844	SLD 2	567	241	4439	-89.09	4.15	0.18
844	SLD 3	615	-140	4806	-38.85	4.32	-0.94
844	SLD 4	575	-147	4798	-38.75	4.25	-0.15
844	SLD 5	202	692	3857	-149.68	3.04	-0.36
844	SLD 6	175	687	3852	-149.62	2.99	0.15
844	SLD 7	227	-603	5054	18.13	3.35	-1.48
844	SLD 8	201	-608	5049	18.2	3.31	-0.97
844	SLD 9	-133	684	3711	-151.2	2.13	-0.61
844	SLD 10	-159	679	3706	-151.14	2.08	-0.1
844	SLD 11	-107	-610	4908	16.61	2.45	-1.72
844	SLD 12	-134	-615	4903	16.67	2.4	-1.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
844	SLD 13	-506	224	3962	-94.26	1.19	-1.43
844	SLD 14	-547	217	3954	-94.16	1.12	-0.64
844	SLD 15	-499	-164	4321	-43.92	1.29	-1.76
844	SLD 16	-540	-172	4314	-43.82	1.22	-0.97
844	SLV 1	932	395	4458	-105.56	5.06	-0.47
844	SLV 2	867	383	4447	-105.4	4.95	0.77
844	SLV 3	944	-267	5071	-19.66	5.22	-1.05
844	SLV 4	880	-279	5060	-19.5	5.11	0.19
844	SLV 5	296	1152	3476	-208.54	3.19	-0.06
844	SLV 6	253	1144	3469	-208.43	3.12	0.78
844	SLV 7	338	-1056	5519	77.81	3.74	-1.97
844	SLV 8	295	-1063	5511	77.91	3.66	-1.13
844	SLV 9	-227	1140	3249	-210.92	1.77	-0.44
844	SLV 10	-270	1132	3241	-210.81	1.7	0.39
844	SLV 11	-185	-1067	5292	75.42	2.32	-2.36
844	SLV 12	-228	-1075	5284	75.53	2.25	-1.52
844	SLV 13	-812	356	3700	-113.51	0.33	-1.77
844	SLV 14	-876	344	3689	-113.35	0.22	-0.53
844	SLV 15	-799	-307	4313	-27.61	0.49	-2.34
844	SLV 16	-864	-319	4302	-27.45	0.38	-1.1
844	SLV FO 1	1021	431	4466	-109.47	5.29	-0.44
844	SLV FO 2	951	418	4453	-109.29	5.17	0.92
844	SLV FO 3	1035	-298	5140	-14.97	5.47	-1.07
844	SLV FO 4	964	-311	5128	-14.8	5.35	0.29
844	SLV FO 5	322	1263	3386	-222.74	3.24	0.02
844	SLV FO 6	275	1255	3377	-222.62	3.16	0.93
844	SLV FO 7	369	-1165	5633	92.24	3.84	-2.08
844	SLV FO 8	321	-1174	5624	92.35	3.76	-1.17
844	SLV FO 9	-253	1250	3136	-225.36	1.68	-0.41
844	SLV FO 10	-301	1242	3127	-225.24	1.6	0.51
844	SLV FO 11	-207	-1178	5383	89.61	2.28	-2.51
844	SLV FO 12	-254	-1187	5374	89.73	2.2	-1.59
844	SLV FO 13	-896	387	3633	-118.21	0.09	-1.87
844	SLV FO 14	-967	374	3620	-118.03	-0.03	-0.5
844	SLV FO 15	-882	-341	4307	-23.72	0.27	-2.5
844	SLV FO 16	-953	-354	4294	-23.54	0.15	-1.13
844	CRTFP Ux+	0	0	0	0	0	0
844	CRTFP Ux-	0	0	0	0	0	0
844	CRTFP Uy+	0	0	0	0	0	0
844	CRTFP Uy-	0	0	0	0	0	0
845	SLU 1	33	32	3989	-59.05	0.14	-0.57
845	SLU 2	33	64	3966	-62.36	0.15	-0.52
845	SLU 3	34	33	4075	-59.73	0.16	-0.59
845	SLU 4	34	52	4062	-61.72	0.17	-0.56
845	SLU 5	34	64	4023	-62.73	0.17	-0.53
845	SLU 6	35	33	4132	-60.1	0.17	-0.6
845	SLU 7	35	52	4118	-62.09	0.18	-0.57
845	SLU 8	35	32	4103	-59.79	0.17	-0.6
845	SLU 9	35	51	4089	-61.78	0.18	-0.56
845	SLU 10	36	67	4520	-71.76	0.16	-0.57
845	SLU 11	38	36	4629	-69.13	0.17	-0.65
845	SLU 12	38	55	4615	-71.12	0.17	-0.62
845	SLU 13	37	67	4577	-72.14	0.17	-0.59
845	SLU 14	39	36	4686	-69.5	0.18	-0.66
845	SLU 15	39	55	4672	-71.49	0.19	-0.63
845	SLU 16	38	35	4657	-69.2	0.18	-0.65
845	SLU 17	38	54	4643	-71.18	0.18	-0.62
845	SLU 18	38	37	4780	-72.48	0.15	-0.65
845	SLU 19	38	56	4766	-74.47	0.16	-0.62
845	SLU 20	39	37	4837	-72.85	0.17	-0.66
845	SLU 21	39	56	4823	-74.84	0.17	-0.63
845	SLU 22	38	37	4656	-66.79	0.16	-0.67
845	SLU 23	38	68	4633	-70.11	0.17	-0.61
845	SLU 24	39	37	4743	-67.47	0.18	-0.69
845	SLU 25	39	56	4729	-69.46	0.18	-0.66
845	SLU 26	39	68	4690	-70.48	0.18	-0.63
845	SLU 27	40	37	4799	-67.85	0.19	-0.7
845	SLU 28	40	56	4786	-69.83	0.2	-0.67
845	SLU 29	40	37	4770	-67.54	0.19	-0.69
845	SLU 30	40	56	4756	-69.52	0.19	-0.66
845	SLU 31	41	71	5187	-79.51	0.18	-0.67
845	SLU 32	43	40	5296	-76.88	0.18	-0.74
845	SLU 33	43	59	5283	-78.86	0.19	-0.71
845	SLU 34	42	71	5244	-79.88	0.19	-0.68
845	SLU 35	44	40	5353	-77.25	0.2	-0.76
845	SLU 36	44	59	5339	-79.24	0.2	-0.73
845	SLU 37	44	40	5324	-76.94	0.19	-0.75
845	SLU 38	43	59	5310	-78.93	0.2	-0.72
845	SLU 39	43	41	5447	-80.22	0.17	-0.75
845	SLU 40	43	60	5434	-82.21	0.18	-0.71
845	SLU 41	44	41	5504	-80.6	0.18	-0.76
845	SLU 42	44	60	5490	-82.58	0.19	-0.73
845	SLU 43	41	41	4957	-74.11	0.18	-0.71
845	SLU 44	41	72	4934	-77.42	0.19	-0.65
845	SLU 45	43	41	5043	-74.79	0.2	-0.73
845	SLU 46	42	60	5030	-76.78	0.2	-0.7
845	SLU 47	42	72	4991	-77.79	0.2	-0.67
845	SLU 48	44	41	5100	-75.16	0.21	-0.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
845	SLU 49	43	60	5086	-77.15	0.22	-0.71
845	SLU 50	43	41	5071	-74.85	0.21	-0.73
845	SLU 51	43	59	5057	-76.84	0.21	-0.7
845	SLU 52	44	75	5488	-86.82	0.2	-0.71
845	SLU 53	46	44	5597	-84.19	0.2	-0.79
845	SLU 54	46	63	5583	-86.18	0.21	-0.75
845	SLU 55	45	75	5545	-87.2	0.21	-0.72
845	SLU 56	47	44	5654	-84.56	0.22	-0.8
845	SLU 57	47	63	5640	-86.55	0.22	-0.77
845	SLU 58	47	44	5625	-84.26	0.21	-0.79
845	SLU 59	47	62	5611	-86.24	0.22	-0.76
845	SLU 60	46	45	5748	-87.54	0.19	-0.79
845	SLU 61	46	64	5734	-89.53	0.19	-0.76
845	SLU 62	47	45	5805	-87.91	0.2	-0.8
845	SLU 63	47	64	5791	-89.9	0.21	-0.77
845	SLU 64	46	45	5624	-81.85	0.2	-0.8
845	SLU 65	46	76	5601	-85.17	0.21	-0.75
845	SLU 66	48	46	5711	-82.53	0.22	-0.82
845	SLU 67	47	64	5697	-84.52	0.22	-0.79
845	SLU 68	47	76	5658	-85.54	0.22	-0.76
845	SLU 69	49	45	5767	-82.91	0.23	-0.84
845	SLU 70	49	64	5754	-84.89	0.23	-0.81
845	SLU 71	48	45	5738	-82.6	0.23	-0.83
845	SLU 72	48	64	5724	-84.58	0.23	-0.8
845	SLU 73	49	80	6155	-94.57	0.21	-0.81
845	SLU 74	51	49	6264	-91.94	0.22	-0.88
845	SLU 75	51	67	6251	-93.92	0.23	-0.85
845	SLU 76	50	79	6212	-94.94	0.23	-0.82
845	SLU 77	52	49	6321	-92.31	0.23	-0.9
845	SLU 78	52	67	6307	-94.3	0.24	-0.86
845	SLU 79	52	48	6292	-92	0.23	-0.89
845	SLU 80	52	67	6278	-93.99	0.24	-0.86
845	SLU 81	51	50	6415	-95.28	0.21	-0.88
845	SLU 82	51	68	6402	-97.27	0.21	-0.85
845	SLU 83	52	50	6472	-95.66	0.22	-0.9
845	SLU 84	52	68	6458	-97.64	0.23	-0.87
845	SLE RA 1	34	34	4180	-61.26	0.15	-0.6
845	SLE RA 2	34	55	4164	-63.47	0.16	-0.56
845	SLE RA 3	35	34	4237	-61.72	0.16	-0.61
845	SLE RA 4	35	46	4228	-63.04	0.16	-0.59
845	SLE RA 5	35	55	4202	-63.72	0.16	-0.57
845	SLE RA 6	36	34	4275	-61.96	0.17	-0.62
845	SLE RA 7	36	46	4266	-63.29	0.17	-0.6
845	SLE RA 8	36	34	4255	-61.76	0.17	-0.61
845	SLE RA 9	36	46	4246	-63.08	0.17	-0.59
845	SLE RA 10	37	57	4533	-69.74	0.16	-0.6
845	SLE RA 11	38	36	4607	-67.98	0.16	-0.65
845	SLE RA 12	38	49	4597	-69.31	0.17	-0.63
845	SLE RA 13	37	57	4571	-69.99	0.17	-0.61
845	SLE RA 14	38	36	4644	-68.23	0.17	-0.66
845	SLE RA 15	38	49	4635	-69.56	0.18	-0.64
845	SLE RA 16	38	36	4625	-68.03	0.17	-0.65
845	SLE RA 17	38	48	4615	-69.35	0.17	-0.63
845	SLE RA 18	38	37	4707	-70.22	0.15	-0.65
845	SLE RA 19	38	49	4698	-71.54	0.16	-0.63
845	SLE RA 20	38	37	4745	-70.46	0.16	-0.66
845	SLE RA 21	38	49	4736	-71.79	0.17	-0.64
845	SLE FR 1	34	34	4180	-61.26	0.15	-0.6
845	SLE FR 2	34	38	4177	-61.7	0.15	-0.59
845	SLE FR 3	35	34	4195	-61.36	0.15	-0.6
845	SLE FR 4	35	39	4335	-64.39	0.15	-0.61
845	SLE FR 5	36	35	4353	-64.05	0.15	-0.62
845	SLE FR 6	36	35	4443	-65.74	0.15	-0.62
845	SLE QP 1	34	34	4180	-61.26	0.15	-0.6
845	SLE QP 2	35	35	4338	-63.95	0.15	-0.61
845	SLD 1	610	245	4348	-87.45	2.46	-0.13
845	SLD 2	569	241	4343	-87.44	2.37	0.62
845	SLD 3	618	-147	4708	-36.56	2.31	-1.02
845	SLD 4	577	-150	4703	-36.55	2.23	-0.26
845	SLD 5	203	692	3796	-148.19	1.08	0.74
845	SLD 6	177	690	3792	-148.18	1.02	1.23
845	SLD 7	229	-613	4996	21.45	0.6	-2.2
845	SLD 8	202	-615	4993	21.46	0.54	-1.71
845	SLD 9	-132	684	3683	-149.35	-0.24	0.49
845	SLD 10	-158	682	3680	-149.34	-0.29	0.98
845	SLD 11	-106	-620	4884	20.28	-0.72	-2.45
845	SLD 12	-132	-623	4880	20.29	-0.77	-1.96
845	SLD 13	-506	219	3973	-91.35	-1.93	-0.97
845	SLD 14	-547	216	3968	-91.33	-2.01	-0.21
845	SLD 15	-498	-172	4333	-40.46	-2.07	-1.85
845	SLD 16	-539	-175	4328	-40.44	-2.16	-1.09
845	SLV 1	934	392	4328	-104.31	3.76	0.2
845	SLV 2	870	386	4320	-104.29	3.63	1.39
845	SLV 3	947	-276	4942	-17.48	3.52	-1.31
845	SLV 4	882	-281	4934	-17.46	3.38	-0.12
845	SLV 5	298	1155	3405	-207.76	1.63	1.69
845	SLV 6	254	1151	3399	-207.74	1.54	2.5
845	SLV 7	340	-1070	5453	81.69	0.81	-3.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
845	SLV 8	297	-1073	5447	81.7	0.72	-2.53
845	SLV 9	-226	1143	3229	-209.6	-0.42	1.3
845	SLV 10	-270	1139	3223	-209.58	-0.51	2.11
845	SLV 11	-183	-1082	5277	79.85	-1.24	-3.72
845	SLV 12	-227	-1086	5271	79.86	-1.33	-2.92
845	SLV 13	-812	350	3742	-110.44	-3.08	-1.11
845	SLV 14	-876	345	3734	-110.41	-3.22	0.09
845	SLV 15	-799	-317	4356	-23.6	-3.33	-2.62
845	SLV 16	-863	-322	4348	-23.58	-3.46	-1.42
845	SLV FO 1	1024	427	4327	-108.35	4.12	0.28
845	SLV FO 2	953	421	4318	-108.33	3.98	1.59
845	SLV FO 3	1038	-307	5003	-12.83	3.85	-1.38
845	SLV FO 4	967	-313	4994	-12.81	3.71	-0.07
845	SLV FO 5	324	1267	3311	-222.14	1.78	1.92
845	SLV FO 6	276	1263	3305	-222.12	1.68	2.81
845	SLV FO 7	371	-1180	5564	96.25	0.88	-3.6
845	SLV FO 8	323	-1184	5558	96.27	0.78	-2.72
845	SLV FO 9	-252	1253	3118	-224.16	-0.48	1.49
845	SLV FO 10	-300	1249	3112	-224.15	-0.58	2.38
845	SLV FO 11	-205	-1194	5371	94.23	-1.38	-4.03
845	SLV FO 12	-253	-1198	5365	94.25	-1.48	-3.15
845	SLV FO 13	-896	382	3682	-115.09	-3.4	-1.16
845	SLV FO 14	-967	376	3673	-115.06	-3.55	0.16
845	SLV FO 15	-882	-352	4358	-19.57	-3.67	-2.82
845	SLV FO 16	-953	-358	4349	-19.54	-3.82	-1.5
845	CRTFP Ux+	0	0	0	0	0	0
845	CRTFP Ux-	0	0	0	0	0	0
845	CRTFP Uy+	0	0	0	0	0	0
845	CRTFP Uy-	0	0	0	0	0	0
846	SLU 1	34	30	4014	-56.84	-1.73	-0.42
846	SLU 2	34	62	3990	-60.19	-1.71	-0.32
846	SLU 3	36	30	4101	-57.45	-1.78	-0.44
846	SLU 4	36	49	4087	-59.46	-1.77	-0.38
846	SLU 5	35	61	4047	-60.52	-1.74	-0.33
846	SLU 6	37	30	4158	-57.77	-1.81	-0.45
846	SLU 7	37	49	4144	-59.78	-1.79	-0.39
846	SLU 8	36	30	4128	-57.49	-1.79	-0.44
846	SLU 9	36	49	4114	-59.5	-1.78	-0.38
846	SLU 10	37	64	4547	-69.22	-1.92	-0.37
846	SLU 11	39	33	4658	-66.47	-1.99	-0.49
846	SLU 12	39	52	4644	-68.49	-1.98	-0.43
846	SLU 13	39	64	4604	-69.54	-1.95	-0.38
846	SLU 14	40	33	4715	-66.8	-2.02	-0.5
846	SLU 15	40	52	4701	-68.81	-2.01	-0.44
846	SLU 16	40	32	4685	-66.51	-2	-0.49
846	SLU 17	40	51	4671	-68.52	-1.99	-0.43
846	SLU 18	39	34	4810	-69.74	-2.03	-0.49
846	SLU 19	39	53	4795	-71.75	-2.02	-0.43
846	SLU 20	40	34	4867	-70.06	-2.06	-0.5
846	SLU 21	40	53	4853	-72.07	-2.05	-0.44
846	SLU 22	39	34	4685	-64.11	-2.01	-0.49
846	SLU 23	39	66	4661	-67.46	-1.99	-0.39
846	SLU 24	41	34	4772	-64.71	-2.05	-0.51
846	SLU 25	41	53	4758	-66.73	-2.04	-0.45
846	SLU 26	40	65	4719	-67.78	-2.01	-0.41
846	SLU 27	42	34	4829	-65.04	-2.08	-0.52
846	SLU 28	42	53	4815	-67.05	-2.07	-0.47
846	SLU 29	42	34	4799	-64.75	-2.06	-0.52
846	SLU 30	42	53	4785	-66.76	-2.05	-0.46
846	SLU 31	43	68	5218	-76.49	-2.2	-0.44
846	SLU 32	44	37	5329	-73.74	-2.26	-0.56
846	SLU 33	44	56	5315	-75.75	-2.25	-0.5
846	SLU 34	44	68	5276	-76.81	-2.22	-0.46
846	SLU 35	45	37	5386	-74.06	-2.29	-0.57
846	SLU 36	45	56	5372	-76.08	-2.28	-0.51
846	SLU 37	45	36	5356	-73.78	-2.27	-0.57
846	SLU 38	45	56	5342	-75.79	-2.26	-0.51
846	SLU 39	44	38	5481	-77	-2.31	-0.56
846	SLU 40	44	57	5467	-79.02	-2.29	-0.5
846	SLU 41	45	38	5538	-77.33	-2.33	-0.58
846	SLU 42	45	57	5524	-79.34	-2.32	-0.52
846	SLU 43	43	37	4988	-71.4	-2.16	-0.52
846	SLU 44	43	69	4964	-74.75	-2.14	-0.42
846	SLU 45	44	38	5075	-72.01	-2.2	-0.54
846	SLU 46	44	57	5061	-74.02	-2.19	-0.48
846	SLU 47	44	69	5021	-75.08	-2.16	-0.43
846	SLU 48	45	38	5132	-72.33	-2.23	-0.55
846	SLU 49	45	57	5118	-74.34	-2.22	-0.49
846	SLU 50	45	37	5102	-72.05	-2.21	-0.54
846	SLU 51	45	56	5088	-74.06	-2.2	-0.48
846	SLU 52	46	72	5521	-83.78	-2.35	-0.47
846	SLU 53	48	40	5632	-81.04	-2.41	-0.59
846	SLU 54	47	59	5618	-83.05	-2.4	-0.53
846	SLU 55	47	72	5578	-84.1	-2.37	-0.48
846	SLU 56	49	40	5689	-81.36	-2.44	-0.6
846	SLU 57	49	59	5675	-83.37	-2.43	-0.54
846	SLU 58	48	40	5659	-81.07	-2.42	-0.59
846	SLU 59	48	59	5645	-83.09	-2.41	-0.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
846	SLU 60	48	41	5784	-84.3	-2.46	-0.59
846	SLU 61	48	60	5770	-86.31	-2.44	-0.53
846	SLU 62	49	41	5841	-84.62	-2.48	-0.6
846	SLU 63	49	60	5827	-86.63	-2.47	-0.54
846	SLU 64	48	41	5659	-78.67	-2.43	-0.59
846	SLU 65	48	73	5635	-82.02	-2.41	-0.49
846	SLU 66	49	42	5746	-79.28	-2.48	-0.61
846	SLU 67	49	61	5732	-81.29	-2.47	-0.55
846	SLU 68	49	73	5693	-82.34	-2.44	-0.51
846	SLU 69	50	42	5803	-79.6	-2.51	-0.62
846	SLU 70	50	61	5789	-81.61	-2.5	-0.56
846	SLU 71	50	41	5773	-79.31	-2.49	-0.62
846	SLU 72	50	60	5759	-81.33	-2.48	-0.56
846	SLU 73	51	76	6193	-91.05	-2.62	-0.54
846	SLU 74	53	45	6303	-88.3	-2.69	-0.66
846	SLU 75	53	64	6289	-90.31	-2.68	-0.6
846	SLU 76	52	76	6250	-91.37	-2.65	-0.55
846	SLU 77	54	44	6360	-88.62	-2.72	-0.67
846	SLU 78	54	63	6346	-90.64	-2.71	-0.61
846	SLU 79	54	44	6330	-88.34	-2.7	-0.67
846	SLU 80	53	63	6316	-90.35	-2.69	-0.61
846	SLU 81	53	45	6455	-91.56	-2.73	-0.66
846	SLU 82	53	65	6441	-93.58	-2.72	-0.6
846	SLU 83	54	45	6512	-91.89	-2.76	-0.68
846	SLU 84	54	64	6498	-93.9	-2.75	-0.62
846	SLE RA 1	36	31	4206	-58.92	-1.81	-0.44
846	SLE RA 2	36	52	4190	-61.15	-1.8	-0.37
846	SLE RA 3	37	31	4264	-59.32	-1.84	-0.45
846	SLE RA 4	37	44	4254	-60.66	-1.83	-0.41
846	SLE RA 5	36	52	4228	-61.37	-1.82	-0.38
846	SLE RA 6	37	31	4302	-59.54	-1.86	-0.46
846	SLE RA 7	37	44	4292	-60.88	-1.85	-0.42
846	SLE RA 8	37	31	4282	-59.35	-1.85	-0.46
846	SLE RA 9	37	43	4272	-60.69	-1.84	-0.42
846	SLE RA 10	38	54	4561	-67.17	-1.94	-0.41
846	SLE RA 11	39	33	4635	-65.34	-1.98	-0.48
846	SLE RA 12	39	46	4625	-66.68	-1.97	-0.44
846	SLE RA 13	39	54	4599	-67.39	-1.96	-0.41
846	SLE RA 14	40	33	4673	-65.55	-2	-0.49
846	SLE RA 15	40	46	4664	-66.9	-1.99	-0.45
846	SLE RA 16	39	33	4653	-65.36	-1.99	-0.49
846	SLE RA 17	39	45	4644	-66.71	-1.98	-0.45
846	SLE RA 18	39	34	4736	-67.51	-2.01	-0.49
846	SLE RA 19	39	46	4727	-68.86	-2	-0.45
846	SLE RA 20	40	34	4774	-67.73	-2.03	-0.49
846	SLE RA 21	40	46	4765	-69.07	-2.02	-0.45
846	SLE FR 1	36	31	4206	-58.92	-1.81	-0.44
846	SLE FR 2	36	35	4202	-59.36	-1.81	-0.43
846	SLE FR 3	36	31	4221	-59	-1.82	-0.44
846	SLE FR 4	37	36	4362	-61.94	-1.87	-0.44
846	SLE FR 5	37	32	4380	-61.58	-1.88	-0.46
846	SLE FR 6	37	32	4471	-63.22	-1.91	-0.46
846	SLE QP 1	36	31	4206	-58.92	-1.81	-0.44
846	SLE QP 2	37	32	4365	-61.5	-1.87	-0.45
846	SLD 1	612	244	4299	-85.77	0.97	0.27
846	SLD 2	571	245	4297	-85.84	0.88	1.05
846	SLD 3	620	-154	4666	-34.25	0.65	-1.18
846	SLD 4	579	-153	4664	-34.32	0.55	-0.4
846	SLD 5	205	698	3789	-146.9	-0.51	1.83
846	SLD 6	178	699	3787	-146.95	-0.57	2.33
846	SLD 7	231	-627	5012	24.82	-1.59	-3
846	SLD 8	204	-627	5011	24.78	-1.65	-2.5
846	SLD 9	-131	690	3719	-147.77	-2.09	1.6
846	SLD 10	-157	691	3717	-147.82	-2.15	2.1
846	SLD 11	-105	-635	4942	23.95	-3.17	-3.24
846	SLD 12	-131	-635	4941	23.91	-3.23	-2.73
846	SLD 13	-505	217	4066	-88.67	-4.29	-0.5
846	SLD 14	-546	217	4064	-88.74	-4.39	0.28
846	SLD 15	-497	-181	4433	-37.15	-4.62	-1.95
846	SLD 16	-539	-180	4431	-37.22	-4.71	-1.17
846	SLV 1	937	392	4237	-103.09	2.59	0.77
846	SLV 2	872	393	4234	-103.2	2.44	2
846	SLV 3	950	-286	4863	-15.19	2.04	-1.7
846	SLV 4	885	-285	4860	-15.3	1.89	-0.47
846	SLV 5	299	1168	3377	-207.28	0.33	3.44
846	SLV 6	255	1169	3375	-207.35	0.23	4.26
846	SLV 7	342	-1092	5465	85.74	-1.51	-4.81
846	SLV 8	299	-1091	5462	85.67	-1.61	-3.98
846	SLV 9	-225	1155	3267	-208.66	-2.13	3.08
846	SLV 10	-269	1156	3265	-208.73	-2.23	3.9
846	SLV 11	-182	-1105	5355	84.36	-3.97	-5.17
846	SLV 12	-226	-1105	5352	84.28	-4.07	-4.34
846	SLV 13	-811	348	3870	-107.7	-5.63	-0.43
846	SLV 14	-876	349	3866	-107.81	-5.78	0.79
846	SLV 15	-798	-330	4496	-19.79	-6.18	-2.91
846	SLV 16	-863	-329	4492	-19.9	-6.33	-1.68
846	SLV FO 1	1027	428	4224	-107.25	3.04	0.9
846	SLV FO 2	955	429	4220	-107.37	2.87	2.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
846	SLV FO 3	1041	-317	4913	-10.55	2.43	-1.82
846	SLV FO 4	970	-316	4909	-10.68	2.26	-0.48
846	SLV FO 5	325	1282	3279	-221.85	0.55	3.83
846	SLV FO 6	277	1283	3276	-221.94	0.44	4.74
846	SLV FO 7	373	-1204	5575	100.46	-1.47	-5.24
846	SLV FO 8	325	-1204	5572	100.38	-1.58	-4.34
846	SLV FO 9	-252	1267	3158	-223.37	-2.16	3.43
846	SLV FO 10	-300	1268	3155	-223.46	-2.27	4.34
846	SLV FO 11	-204	-1219	5454	98.94	-4.18	-5.64
846	SLV FO 12	-252	-1218	5451	98.86	-4.29	-4.73
846	SLV FO 13	-896	380	3820	-112.31	-6	-0.43
846	SLV FO 14	-968	381	3816	-112.44	-6.17	0.92
846	SLV FO 15	-882	-366	4509	-15.62	-6.61	-3.15
846	SLV FO 16	-953	-365	4505	-15.74	-6.78	-1.8
846	CRTFP Ux+	0	0	0	0	0	0
846	CRTFP Ux-	0	0	0	0	0	0
846	CRTFP Uy+	0	0	0	0	0	0
846	CRTFP Uy-	0	0	0	0	0	0
847	SLU 1	35	28	4089	-54.72	-3.21	-0.29
847	SLU 2	35	60	4065	-58.12	-3.18	-0.15
847	SLU 3	37	28	4178	-55.26	-3.31	-0.3
847	SLU 4	37	48	4163	-57.3	-3.29	-0.22
847	SLU 5	36	60	4123	-58.4	-3.24	-0.16
847	SLU 6	38	28	4237	-55.53	-3.37	-0.32
847	SLU 7	38	47	4222	-57.57	-3.35	-0.23
847	SLU 8	38	28	4206	-55.27	-3.33	-0.31
847	SLU 9	37	47	4191	-57.31	-3.32	-0.23
847	SLU 10	39	63	4631	-66.79	-3.56	-0.19
847	SLU 11	40	31	4744	-63.92	-3.69	-0.34
847	SLU 12	40	50	4729	-65.96	-3.67	-0.26
847	SLU 13	40	63	4689	-67.06	-3.62	-0.2
847	SLU 14	41	31	4802	-64.2	-3.75	-0.36
847	SLU 15	41	50	4788	-66.24	-3.73	-0.27
847	SLU 16	41	30	4772	-63.94	-3.71	-0.35
847	SLU 17	41	50	4757	-65.98	-3.69	-0.27
847	SLU 18	40	32	4898	-67.11	-3.75	-0.35
847	SLU 19	40	51	4883	-69.15	-3.73	-0.26
847	SLU 20	41	31	4956	-67.38	-3.81	-0.36
847	SLU 21	41	51	4941	-69.42	-3.79	-0.27
847	SLU 22	41	32	4772	-61.53	-3.71	-0.34
847	SLU 23	40	64	4748	-64.93	-3.68	-0.2
847	SLU 24	42	32	4861	-62.06	-3.81	-0.36
847	SLU 25	42	51	4846	-64.1	-3.79	-0.27
847	SLU 26	42	64	4806	-65.2	-3.75	-0.21
847	SLU 27	43	32	4920	-62.33	-3.87	-0.37
847	SLU 28	43	51	4905	-64.37	-3.86	-0.29
847	SLU 29	43	31	4889	-62.07	-3.84	-0.37
847	SLU 30	43	51	4874	-64.11	-3.82	-0.28
847	SLU 31	44	67	5314	-73.59	-4.06	-0.24
847	SLU 32	46	34	5427	-70.73	-4.19	-0.4
847	SLU 33	46	54	5412	-72.77	-4.17	-0.31
847	SLU 34	45	66	5372	-73.87	-4.12	-0.25
847	SLU 35	47	34	5486	-71	-4.25	-0.41
847	SLU 36	47	54	5471	-73.04	-4.23	-0.33
847	SLU 37	46	34	5455	-70.74	-4.22	-0.41
847	SLU 38	46	53	5440	-72.78	-4.2	-0.32
847	SLU 39	46	35	5581	-73.91	-4.26	-0.4
847	SLU 40	46	55	5566	-75.95	-4.24	-0.32
847	SLU 41	47	35	5639	-74.18	-4.32	-0.41
847	SLU 42	47	55	5624	-76.22	-4.3	-0.33
847	SLU 43	44	35	5082	-68.81	-4	-0.36
847	SLU 44	44	67	5057	-72.21	-3.97	-0.21
847	SLU 45	45	35	5171	-69.34	-4.1	-0.37
847	SLU 46	45	55	5156	-71.38	-4.08	-0.29
847	SLU 47	45	67	5116	-72.48	-4.03	-0.23
847	SLU 48	47	35	5229	-69.62	-4.16	-0.38
847	SLU 49	47	54	5214	-71.66	-4.14	-0.3
847	SLU 50	46	35	5198	-69.36	-4.12	-0.38
847	SLU 51	46	54	5184	-71.39	-4.11	-0.3
847	SLU 52	47	70	5623	-80.88	-4.35	-0.26
847	SLU 53	49	38	5737	-78.01	-4.48	-0.41
847	SLU 54	49	57	5722	-80.05	-4.46	-0.33
847	SLU 55	48	70	5682	-81.15	-4.41	-0.27
847	SLU 56	50	38	5795	-78.28	-4.54	-0.43
847	SLU 57	50	57	5780	-80.32	-4.52	-0.34
847	SLU 58	50	37	5764	-78.02	-4.5	-0.42
847	SLU 59	50	57	5750	-80.06	-4.48	-0.34
847	SLU 60	49	39	5890	-81.19	-4.54	-0.41
847	SLU 61	49	58	5875	-83.23	-4.52	-0.33
847	SLU 62	50	39	5948	-81.46	-4.6	-0.43
847	SLU 63	50	58	5934	-83.5	-4.59	-0.34
847	SLU 64	49	39	5765	-75.61	-4.5	-0.41
847	SLU 65	49	71	5740	-79.01	-4.48	-0.27
847	SLU 66	51	39	5854	-76.15	-4.6	-0.43
847	SLU 67	51	58	5839	-78.19	-4.59	-0.34
847	SLU 68	50	71	5799	-79.28	-4.54	-0.28
847	SLU 69	52	39	5912	-76.42	-4.66	-0.44
847	SLU 70	52	58	5897	-78.46	-4.65	-0.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
847	SLU 71	52	38	5881	-76.16	-4.63	-0.43
847	SLU 72	52	58	5867	-78.2	-4.61	-0.35
847	SLU 73	53	74	6306	-87.68	-4.85	-0.31
847	SLU 74	54	42	6420	-84.81	-4.98	-0.47
847	SLU 75	54	61	6405	-86.85	-4.96	-0.38
847	SLU 76	54	74	6365	-87.95	-4.92	-0.32
847	SLU 77	55	41	6478	-85.09	-5.04	-0.48
847	SLU 78	55	61	6463	-87.13	-5.03	-0.39
847	SLU 79	55	41	6447	-84.82	-5.01	-0.47
847	SLU 80	55	60	6433	-86.86	-4.99	-0.39
847	SLU 81	54	43	6573	-87.99	-5.05	-0.47
847	SLU 82	54	62	6558	-90.03	-5.03	-0.38
847	SLU 83	56	42	6632	-88.27	-5.11	-0.48
847	SLU 84	55	62	6617	-90.31	-5.09	-0.4
847	SLE RA 1	37	29	4284	-56.67	-3.35	-0.3
847	SLE RA 2	37	51	4268	-58.93	-3.33	-0.21
847	SLE RA 3	38	29	4344	-57.02	-3.42	-0.31
847	SLE RA 4	38	42	4334	-58.38	-3.41	-0.26
847	SLE RA 5	37	50	4307	-59.12	-3.38	-0.22
847	SLE RA 6	39	29	4382	-57.21	-3.46	-0.32
847	SLE RA 7	38	42	4373	-58.57	-3.45	-0.27
847	SLE RA 8	38	29	4362	-57.03	-3.44	-0.32
847	SLE RA 9	38	42	4352	-58.39	-3.42	-0.26
847	SLE RA 10	39	52	4645	-64.71	-3.59	-0.24
847	SLE RA 11	40	31	4721	-62.8	-3.67	-0.34
847	SLE RA 12	40	44	4711	-64.16	-3.66	-0.28
847	SLE RA 13	40	52	4684	-64.89	-3.63	-0.24
847	SLE RA 14	41	31	4760	-62.98	-3.71	-0.35
847	SLE RA 15	41	44	4750	-64.34	-3.7	-0.29
847	SLE RA 16	41	31	4739	-62.81	-3.69	-0.35
847	SLE RA 17	41	43	4730	-64.17	-3.68	-0.29
847	SLE RA 18	40	32	4823	-64.92	-3.72	-0.34
847	SLE RA 19	40	44	4813	-66.28	-3.7	-0.29
847	SLE RA 20	41	31	4862	-65.1	-3.76	-0.35
847	SLE RA 21	41	44	4852	-66.46	-3.74	-0.29
847	SLE FR 1	37	29	4284	-56.67	-3.35	-0.3
847	SLE FR 2	37	33	4281	-57.12	-3.35	-0.28
847	SLE FR 3	37	29	4300	-56.74	-3.37	-0.31
847	SLE FR 4	38	34	4443	-59.6	-3.46	-0.3
847	SLE FR 5	38	30	4461	-59.22	-3.48	-0.32
847	SLE FR 6	38	30	4554	-60.79	-3.53	-0.32
847	SLE QP 1	37	29	4284	-56.67	-3.35	-0.3
847	SLE QP 2	38	30	4446	-59.14	-3.46	-0.31
847	SLD 1	614	245	4302	-84.01	-0.29	0.57
847	SLD 2	572	250	4302	-84.16	-0.39	1.42
847	SLD 3	622	-161	4681	-31.78	-0.77	-1.39
847	SLD 4	580	-157	4681	-31.94	-0.87	-0.54
847	SLD 5	206	711	3828	-145.79	-1.77	2.78
847	SLD 6	179	714	3828	-145.89	-1.83	3.32
847	SLD 7	232	-645	5091	28.3	-3.36	-3.75
847	SLD 8	205	-642	5092	28.2	-3.43	-3.21
847	SLD 9	-130	702	3800	-146.49	-3.5	2.58
847	SLD 10	-156	705	3800	-146.59	-3.56	3.13
847	SLD 11	-103	-654	5064	27.6	-5.09	-3.95
847	SLD 12	-130	-651	5064	27.5	-5.16	-3.41
847	SLD 13	-505	216	4210	-86.35	-6.05	-0.09
847	SLD 14	-546	221	4211	-86.51	-6.15	0.76
847	SLD 15	-497	-191	4589	-34.12	-6.53	-2.05
847	SLD 16	-538	-186	4590	-34.28	-6.63	-1.2
847	SLV 1	939	396	4198	-101.7	1.52	1.21
847	SLV 2	874	404	4199	-101.95	1.36	2.54
847	SLV 3	952	-297	4844	-12.58	0.7	-2.13
847	SLV 4	887	-290	4845	-12.83	0.55	-0.8
847	SLV 5	300	1191	3390	-207.03	-0.7	4.97
847	SLV 6	256	1196	3391	-207.19	-0.8	5.86
847	SLV 7	344	-1122	5546	90.03	-3.42	-6.18
847	SLV 8	300	-1117	5547	89.87	-3.53	-5.29
847	SLV 9	-225	1177	3345	-208.15	-3.4	4.66
847	SLV 10	-269	1182	3345	-208.32	-3.5	5.55
847	SLV 11	-181	-1136	5501	88.9	-6.12	-6.49
847	SLV 12	-225	-1131	5502	88.74	-6.23	-5.6
847	SLV 13	-811	349	4046	-105.46	-7.47	0.17
847	SLV 14	-876	357	4047	-105.71	-7.63	1.5
847	SLV 15	-798	-345	4693	-16.34	-8.29	-3.17
847	SLV 16	-863	-337	4694	-16.59	-8.45	-1.84
847	SLV FO 1	1029	433	4173	-105.96	2.02	1.37
847	SLV FO 2	957	442	4174	-106.23	1.85	2.83
847	SLV FO 3	1043	-330	4884	-7.93	1.12	-2.31
847	SLV FO 4	972	-322	4885	-8.2	0.95	-0.85
847	SLV FO 5	326	1307	3285	-221.81	-0.42	5.5
847	SLV FO 6	278	1313	3285	-222	-0.54	6.48
847	SLV FO 7	375	-1237	5656	104.95	-3.42	-6.77
847	SLV FO 8	327	-1232	5657	104.77	-3.54	-5.78
847	SLV FO 9	-251	1291	3235	-223.05	-3.39	5.15
847	SLV FO 10	-299	1297	3235	-223.24	-3.51	6.14
847	SLV FO 11	-203	-1253	5606	103.71	-6.39	-7.11
847	SLV FO 12	-251	-1247	5607	103.53	-6.5	-6.13
847	SLV FO 13	-896	381	4006	-110.09	-7.87	0.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
847	SLV FO 14	-968	390	4007	-110.36	-8.04	1.69
847	SLV FO 15	-881	-382	4718	-12.06	-8.77	-3.46
847	SLV FO 16	-953	-374	4719	-12.33	-8.94	-1.99
847	CRTFP Ux+	0	0	0	0	0	0
847	CRTFP Ux-	0	0	0	0	0	0
847	CRTFP Uy+	0	0	0	0	0	0
847	CRTFP Uy-	0	0	0	0	0	0
848	SLU 1	36	27	4203	-52.7	-4.3	-0.18
848	SLU 2	36	60	4177	-56.15	-4.26	-0.01
848	SLU 3	38	27	4295	-53.16	-4.43	-0.2
848	SLU 4	37	47	4280	-55.23	-4.41	-0.09
848	SLU 5	37	60	4238	-56.37	-4.35	-0.02
848	SLU 6	39	27	4356	-53.38	-4.52	-0.21
848	SLU 7	39	47	4341	-55.45	-4.5	-0.1
848	SLU 8	38	26	4324	-53.14	-4.47	-0.21
848	SLU 9	38	46	4309	-55.22	-4.45	-0.1
848	SLU 10	39	62	4757	-64.47	-4.76	-0.04
848	SLU 11	41	29	4875	-61.48	-4.93	-0.23
848	SLU 12	41	49	4859	-63.55	-4.91	-0.13
848	SLU 13	41	62	4817	-64.69	-4.85	-0.05
848	SLU 14	42	29	4935	-61.7	-5.02	-0.24
848	SLU 15	42	49	4920	-63.77	-5	-0.14
848	SLU 16	42	29	4903	-61.47	-4.97	-0.24
848	SLU 17	42	49	4888	-63.54	-4.95	-0.14
848	SLU 18	41	30	5030	-64.58	-5.01	-0.23
848	SLU 19	41	50	5015	-66.65	-4.99	-0.13
848	SLU 20	42	30	5091	-64.81	-5.1	-0.24
848	SLU 21	42	50	5076	-66.88	-5.08	-0.14
848	SLU 22	42	30	4903	-59.05	-4.97	-0.21
848	SLU 23	41	63	4878	-62.5	-4.93	-0.04
848	SLU 24	43	30	4996	-59.51	-5.1	-0.23
848	SLU 25	43	50	4981	-61.58	-5.08	-0.12
848	SLU 26	43	63	4939	-62.72	-5.02	-0.05
848	SLU 27	44	30	5057	-59.73	-5.19	-0.24
848	SLU 28	44	50	5042	-61.8	-5.17	-0.14
848	SLU 29	44	30	5025	-59.49	-5.14	-0.24
848	SLU 30	44	50	5010	-61.56	-5.12	-0.13
848	SLU 31	45	66	5457	-70.82	-5.43	-0.07
848	SLU 32	47	33	5575	-67.83	-5.6	-0.26
848	SLU 33	47	53	5560	-69.9	-5.58	-0.16
848	SLU 34	46	66	5518	-71.04	-5.52	-0.09
848	SLU 35	48	32	5636	-68.05	-5.69	-0.27
848	SLU 36	48	52	5621	-70.12	-5.67	-0.17
848	SLU 37	47	32	5604	-67.81	-5.64	-0.27
848	SLU 38	47	52	5589	-69.89	-5.62	-0.17
848	SLU 39	47	34	5731	-70.93	-5.68	-0.26
848	SLU 40	46	54	5716	-73	-5.66	-0.16
848	SLU 41	48	33	5792	-71.16	-5.77	-0.27
848	SLU 42	48	53	5777	-73.23	-5.75	-0.17
848	SLU 43	45	34	5223	-66.33	-5.36	-0.23
848	SLU 44	45	67	5198	-69.78	-5.32	-0.05
848	SLU 45	47	34	5316	-66.79	-5.49	-0.24
848	SLU 46	46	54	5301	-68.86	-5.47	-0.14
848	SLU 47	46	67	5259	-70	-5.4	-0.07
848	SLU 48	48	33	5377	-67.01	-5.58	-0.25
848	SLU 49	48	53	5361	-69.08	-5.55	-0.15
848	SLU 50	47	33	5345	-66.78	-5.53	-0.25
848	SLU 51	47	53	5329	-68.85	-5.5	-0.15
848	SLU 52	48	69	5777	-78.1	-5.82	-0.09
848	SLU 53	50	36	5895	-75.11	-5.99	-0.27
848	SLU 54	50	56	5880	-77.18	-5.97	-0.17
848	SLU 55	50	69	5838	-78.32	-5.91	-0.1
848	SLU 56	51	36	5956	-75.33	-6.08	-0.29
848	SLU 57	51	56	5941	-77.41	-6.06	-0.18
848	SLU 58	51	35	5924	-75.1	-6.03	-0.28
848	SLU 59	51	55	5909	-77.17	-6.01	-0.18
848	SLU 60	50	37	6051	-78.21	-6.07	-0.27
848	SLU 61	50	57	6036	-80.28	-6.05	-0.17
848	SLU 62	51	37	6111	-78.44	-6.16	-0.29
848	SLU 63	51	57	6096	-80.51	-6.14	-0.18
848	SLU 64	51	37	5924	-72.68	-6.03	-0.26
848	SLU 65	50	70	5899	-76.13	-5.99	-0.09
848	SLU 66	52	37	6017	-73.14	-6.16	-0.27
848	SLU 67	52	57	6001	-75.21	-6.14	-0.17
848	SLU 68	51	70	5959	-76.35	-6.07	-0.1
848	SLU 69	53	37	6077	-73.36	-6.25	-0.28
848	SLU 70	53	57	6062	-75.43	-6.22	-0.18
848	SLU 71	53	37	6045	-73.13	-6.2	-0.28
848	SLU 72	53	57	6030	-75.2	-6.18	-0.18
848	SLU 73	54	73	6478	-84.45	-6.49	-0.12
848	SLU 74	56	40	6596	-81.46	-6.66	-0.31
848	SLU 75	55	59	6581	-83.53	-6.64	-0.2
848	SLU 76	55	72	6539	-84.67	-6.58	-0.13
848	SLU 77	57	39	6657	-81.68	-6.75	-0.32
848	SLU 78	57	59	6641	-83.75	-6.73	-0.21
848	SLU 79	56	39	6625	-81.45	-6.7	-0.32
848	SLU 80	56	59	6609	-83.52	-6.68	-0.21
848	SLU 81	56	41	6752	-84.56	-6.74	-0.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
848	SLU 82	55	60	6736	-86.63	-6.72	-0.2
848	SLU 83	57	40	6812	-84.79	-6.83	-0.32
848	SLU 84	57	60	6797	-86.86	-6.81	-0.21
848	SLE RA 1	38	28	4403	-54.51	-4.49	-0.19
848	SLE RA 2	38	50	4386	-56.81	-4.46	-0.08
848	SLE RA 3	39	28	4465	-54.82	-4.58	-0.2
848	SLE RA 4	39	41	4455	-56.2	-4.56	-0.13
848	SLE RA 5	38	50	4426	-56.96	-4.52	-0.08
848	SLE RA 6	39	28	4505	-54.97	-4.64	-0.21
848	SLE RA 7	39	41	4495	-56.35	-4.62	-0.14
848	SLE RA 8	39	27	4484	-54.81	-4.6	-0.21
848	SLE RA 9	39	41	4474	-56.19	-4.59	-0.14
848	SLE RA 10	40	51	4772	-62.36	-4.8	-0.1
848	SLE RA 11	41	29	4851	-60.37	-4.91	-0.22
848	SLE RA 12	41	43	4841	-61.75	-4.9	-0.15
848	SLE RA 13	41	51	4813	-62.51	-4.86	-0.11
848	SLE RA 14	42	29	4891	-60.51	-4.97	-0.23
848	SLE RA 15	42	43	4881	-61.9	-4.95	-0.16
848	SLE RA 16	42	29	4870	-60.36	-4.94	-0.23
848	SLE RA 17	41	42	4860	-61.74	-4.92	-0.16
848	SLE RA 18	41	30	4955	-62.43	-4.97	-0.22
848	SLE RA 19	41	43	4944	-63.81	-4.95	-0.15
848	SLE RA 20	42	30	4995	-62.58	-5.02	-0.23
848	SLE RA 21	42	43	4985	-63.96	-5.01	-0.16
848	SLE FR 1	38	28	4403	-54.51	-4.49	-0.19
848	SLE FR 2	38	32	4400	-54.97	-4.48	-0.17
848	SLE FR 3	38	28	4419	-54.57	-4.51	-0.19
848	SLE FR 4	39	33	4565	-57.35	-4.63	-0.18
848	SLE FR 5	39	28	4585	-56.95	-4.65	-0.2
848	SLE FR 6	39	29	4679	-58.47	-4.73	-0.21
848	SLE QP 1	38	28	4403	-54.51	-4.49	-0.19
848	SLE QP 2	39	28	4568	-56.89	-4.63	-0.2
848	SLD 1	615	248	4298	-84.54	-1.3	0.19
848	SLD 2	574	258	4301	-84.78	-1.4	1.14
848	SLD 3	623	-170	4693	-31.51	-1.89	-2.17
848	SLD 4	581	-161	4697	-31.76	-1.99	-1.21
848	SLD 5	207	728	3887	-145.56	-2.72	3.32
848	SLD 6	180	734	3889	-145.71	-2.78	3.94
848	SLD 7	233	-668	5205	31.18	-4.69	-4.53
848	SLD 8	206	-662	5207	31.03	-4.75	-3.91
848	SLD 9	-129	719	3930	-144.8	-4.51	3.51
848	SLD 10	-156	725	3932	-144.96	-4.57	4.12
848	SLD 11	-103	-677	5247	31.94	-6.48	-4.34
848	SLD 12	-129	-671	5250	31.78	-6.55	-3.72
848	SLD 13	-504	218	4440	-82.02	-7.28	0.81
848	SLD 14	-546	227	4444	-82.26	-7.37	1.76
848	SLD 15	-496	-201	4836	-29	-7.87	-1.55
848	SLD 16	-538	-191	4839	-29.24	-7.97	-0.59
848	SLV 1	940	403	4115	-103.95	0.61	0.57
848	SLV 2	875	418	4120	-104.33	0.46	2.07
848	SLV 3	953	-311	4789	-13.47	-0.39	-3.45
848	SLV 4	888	-296	4795	-13.86	-0.55	-1.94
848	SLV 5	301	1221	3408	-208.15	-1.5	5.84
848	SLV 6	257	1231	3412	-208.41	-1.6	6.85
848	SLV 7	345	-1159	5656	93.42	-4.86	-7.55
848	SLV 8	301	-1149	5660	93.17	-4.97	-6.53
848	SLV 9	-224	1206	3477	-206.94	-4.3	6.13
848	SLV 10	-268	1216	3481	-207.2	-4.4	7.15
848	SLV 11	-180	-1174	5725	94.63	-7.66	-7.26
848	SLV 12	-224	-1164	5728	94.38	-7.76	-6.24
848	SLV 13	-811	353	4342	-99.92	-8.71	1.54
848	SLV 14	-876	368	4348	-100.3	-8.87	3.05
848	SLV 15	-798	-361	5017	-9.44	-9.72	-2.47
848	SLV 16	-863	-346	5022	-9.83	-9.88	-0.97
848	SLV FO 1	1030	440	4069	-108.65	1.14	0.64
848	SLV FO 2	958	457	4076	-109.07	0.97	2.3
848	SLV FO 3	1045	-345	4811	-9.13	0.03	-3.78
848	SLV FO 4	973	-329	4817	-9.55	-0.14	-2.12
848	SLV FO 5	327	1340	3292	-223.28	-1.19	6.44
848	SLV FO 6	279	1351	3297	-223.56	-1.3	7.56
848	SLV FO 7	376	-1278	5765	108.46	-4.88	-8.28
848	SLV FO 8	328	-1267	5769	108.17	-5	-7.17
848	SLV FO 9	-250	1324	3368	-221.95	-4.26	6.77
848	SLV FO 10	-299	1335	3372	-222.23	-4.38	7.88
848	SLV FO 11	-202	-1294	5840	109.79	-7.96	-7.96
848	SLV FO 12	-250	-1283	5844	109.5	-8.08	-6.85
848	SLV FO 13	-896	386	4320	-104.22	-9.12	1.72
848	SLV FO 14	-968	402	4326	-104.64	-9.29	3.37
848	SLV FO 15	-881	-400	5061	-4.7	-10.23	-2.7
848	SLV FO 16	-953	-383	5068	-5.12	-10.4	-1.04
848	CRTFP Ux+	0	0	0	0	0	0
848	CRTFP Ux-	0	0	0	0	0	0
848	CRTFP Uy+	0	0	0	0	0	0
848	CRTFP Uy-	0	0	0	0	0	0
849	SLU 1	36	26	4344	-50.75	-5.02	-0.11
849	SLU 2	36	60	4317	-54.26	-4.97	0.08
849	SLU 3	38	26	4441	-51.14	-5.17	-0.12
849	SLU 4	38	47	4425	-53.25	-5.15	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
849	SLU 5	37	60	4381	-54.44	-5.08	0.07
849	SLU 6	39	26	4504	-51.32	-5.28	-0.13
849	SLU 7	39	46	4488	-53.42	-5.25	-0.02
849	SLU 8	39	25	4471	-51.1	-5.22	-0.13
849	SLU 9	39	46	4455	-53.21	-5.19	-0.02
849	SLU 10	40	62	4913	-62.25	-5.56	0.06
849	SLU 11	41	28	5036	-59.13	-5.76	-0.14
849	SLU 12	41	49	5021	-61.24	-5.73	-0.03
849	SLU 13	41	62	4976	-62.42	-5.66	0.05
849	SLU 14	43	28	5100	-59.31	-5.86	-0.16
849	SLU 15	42	49	5084	-61.41	-5.83	-0.04
849	SLU 16	42	28	5066	-59.09	-5.8	-0.16
849	SLU 17	42	48	5050	-61.2	-5.78	-0.04
849	SLU 18	41	29	5195	-62.16	-5.85	-0.14
849	SLU 19	41	50	5179	-64.27	-5.82	-0.03
849	SLU 20	42	29	5258	-62.34	-5.95	-0.16
849	SLU 21	42	49	5242	-64.44	-5.92	-0.04
849	SLU 22	42	29	5066	-56.66	-5.79	-0.12
849	SLU 23	42	64	5040	-60.17	-5.75	0.07
849	SLU 24	43	29	5163	-57.05	-5.95	-0.13
849	SLU 25	43	50	5148	-59.15	-5.93	-0.01
849	SLU 26	43	63	5103	-60.34	-5.86	0.06
849	SLU 27	45	29	5227	-57.23	-6.05	-0.14
849	SLU 28	44	50	5211	-59.33	-6.03	-0.03
849	SLU 29	44	29	5193	-57.01	-6	-0.14
849	SLU 30	44	49	5177	-59.12	-5.97	-0.03
849	SLU 31	45	66	5636	-68.15	-6.34	0.05
849	SLU 32	47	32	5759	-65.04	-6.54	-0.16
849	SLU 33	47	52	5743	-67.14	-6.51	-0.04
849	SLU 34	46	66	5699	-68.33	-6.44	0.04
849	SLU 35	48	31	5823	-65.21	-6.64	-0.17
849	SLU 36	48	52	5807	-67.32	-6.61	-0.05
849	SLU 37	48	31	5789	-65	-6.58	-0.17
849	SLU 38	48	52	5773	-67.1	-6.56	-0.05
849	SLU 39	47	33	5917	-68.07	-6.63	-0.15
849	SLU 40	47	53	5901	-70.18	-6.6	-0.04
849	SLU 41	48	32	5981	-68.25	-6.73	-0.17
849	SLU 42	48	53	5965	-70.35	-6.7	-0.05
849	SLU 43	45	33	5399	-63.95	-6.25	-0.13
849	SLU 44	45	67	5372	-67.46	-6.21	0.06
849	SLU 45	47	33	5496	-64.34	-6.41	-0.15
849	SLU 46	47	53	5480	-66.45	-6.39	-0.03
849	SLU 47	46	67	5436	-67.64	-6.31	0.04
849	SLU 48	48	32	5560	-64.52	-6.51	-0.16
849	SLU 49	48	53	5544	-66.62	-6.49	-0.04
849	SLU 50	48	32	5526	-64.31	-6.46	-0.16
849	SLU 51	48	53	5510	-66.41	-6.43	-0.04
849	SLU 52	49	69	5968	-75.45	-6.79	0.03
849	SLU 53	50	35	6092	-72.33	-6.99	-0.17
849	SLU 54	50	55	6076	-74.44	-6.97	-0.06
849	SLU 55	50	69	6032	-75.62	-6.9	0.02
849	SLU 56	52	35	6155	-72.51	-7.1	-0.18
849	SLU 57	51	55	6139	-74.61	-7.07	-0.07
849	SLU 58	51	34	6122	-72.29	-7.04	-0.18
849	SLU 59	51	55	6106	-74.4	-7.01	-0.07
849	SLU 60	50	36	6250	-75.36	-7.09	-0.17
849	SLU 61	50	56	6234	-77.47	-7.06	-0.06
849	SLU 62	52	36	6313	-75.54	-7.19	-0.18
849	SLU 63	51	56	6298	-77.65	-7.16	-0.07
849	SLU 64	51	36	6122	-69.86	-7.03	-0.15
849	SLU 65	51	70	6095	-73.37	-6.99	0.05
849	SLU 66	52	36	6219	-70.25	-7.19	-0.16
849	SLU 67	52	57	6203	-72.36	-7.17	-0.04
849	SLU 68	52	70	6159	-73.54	-7.09	0.03
849	SLU 69	54	36	6282	-70.43	-7.29	-0.17
849	SLU 70	53	56	6266	-72.53	-7.27	-0.06
849	SLU 71	53	35	6249	-70.21	-7.23	-0.17
849	SLU 72	53	56	6233	-72.32	-7.21	-0.05
849	SLU 73	54	73	6691	-81.36	-7.57	0.02
849	SLU 74	56	38	6814	-78.24	-7.77	-0.18
849	SLU 75	56	59	6799	-80.34	-7.75	-0.07
849	SLU 76	55	72	6754	-81.53	-7.68	0.01
849	SLU 77	57	38	6878	-78.41	-7.87	-0.2
849	SLU 78	57	59	6862	-80.52	-7.85	-0.08
849	SLU 79	57	38	6844	-78.2	-7.82	-0.2
849	SLU 80	57	58	6828	-80.3	-7.79	-0.08
849	SLU 81	56	39	6973	-81.27	-7.86	-0.18
849	SLU 82	56	60	6957	-83.38	-7.84	-0.07
849	SLU 83	57	39	7036	-81.45	-7.97	-0.19
849	SLU 84	57	60	7020	-83.55	-7.94	-0.08
849	SLE RA 1	38	27	4550	-52.44	-5.24	-0.11
849	SLE RA 2	38	50	4532	-54.78	-5.21	0.02
849	SLE RA 3	39	27	4615	-52.7	-5.34	-0.12
849	SLE RA 4	39	41	4604	-54.1	-5.33	-0.04
849	SLE RA 5	39	50	4575	-54.9	-5.28	0.01
849	SLE RA 6	40	27	4657	-52.82	-5.41	-0.13
849	SLE RA 7	40	40	4647	-54.22	-5.4	-0.05
849	SLE RA 8	39	27	4635	-52.68	-5.37	-0.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
849	SLE RA 9	39	40	4624	-54.08	-5.36	-0.05
849	SLE RA 10	40	51	4930	-60.1	-5.6	0
849	SLE RA 11	41	29	5012	-58.03	-5.73	-0.14
849	SLE RA 12	41	42	5001	-59.43	-5.72	-0.06
849	SLE RA 13	41	51	4972	-60.22	-5.67	-0.01
849	SLE RA 14	42	28	5054	-58.14	-5.8	-0.14
849	SLE RA 15	42	42	5044	-59.55	-5.78	-0.07
849	SLE RA 16	42	28	5032	-58	-5.76	-0.14
849	SLE RA 17	42	42	5021	-59.4	-5.75	-0.07
849	SLE RA 18	41	29	5118	-60.05	-5.79	-0.13
849	SLE RA 19	41	43	5107	-61.45	-5.78	-0.06
849	SLE RA 20	42	29	5160	-60.17	-5.86	-0.14
849	SLE RA 21	42	43	5149	-61.57	-5.84	-0.07
849	SLE FR 1	38	27	4550	-52.44	-5.24	-0.11
849	SLE FR 2	38	32	4547	-52.91	-5.23	-0.08
849	SLE FR 3	38	27	4567	-52.49	-5.26	-0.11
849	SLE FR 4	39	32	4717	-55.19	-5.4	-0.09
849	SLE FR 5	39	28	4737	-54.77	-5.43	-0.12
849	SLE FR 6	40	28	4834	-56.24	-5.52	-0.12
849	SLE QP 1	38	27	4550	-52.44	-5.24	-0.11
849	SLE QP 2	39	28	4720	-54.72	-5.4	-0.12
849	SLD 1	616	252	4354	-83.16	-2.04	0.19
849	SLD 2	574	267	4361	-83.49	-2.13	1.31
849	SLD 3	624	-180	4768	-29.26	-2.69	-2.38
849	SLD 4	582	-165	4775	-29.59	-2.78	-1.26
849	SLD 5	207	748	3981	-144.95	-3.39	3.68
849	SLD 6	180	758	3986	-145.16	-3.45	4.4
849	SLD 7	233	-693	5362	34.72	-5.56	-4.89
849	SLD 8	207	-683	5366	34.51	-5.62	-4.17
849	SLD 9	-129	739	4075	-143.96	-5.19	3.93
849	SLD 10	-156	748	4079	-144.17	-5.24	4.65
849	SLD 11	-102	-702	5455	35.72	-7.36	-4.63
849	SLD 12	-129	-693	5459	35.5	-7.42	-3.92
849	SLD 13	-504	221	4666	-79.85	-8.02	1.03
849	SLD 14	-546	236	4672	-80.18	-8.12	2.14
849	SLD 15	-496	-212	5080	-25.95	-8.68	-1.54
849	SLD 16	-538	-197	5086	-26.28	-8.77	-0.43
849	SLV 1	941	410	4118	-103.07	-0.11	0.54
849	SLV 2	876	433	4128	-103.59	-0.25	2.3
849	SLV 3	954	-328	4825	-11.1	-1.22	-3.84
849	SLV 4	889	-304	4835	-11.62	-1.36	-2.09
849	SLV 5	302	1256	3466	-208.63	-2.1	6.4
849	SLV 6	258	1272	3473	-208.97	-2.2	7.59
849	SLV 7	346	-1201	5821	97.95	-5.81	-8.21
849	SLV 8	302	-1186	5828	97.61	-5.91	-7.03
849	SLV 9	-224	1241	3613	-207.05	-4.9	6.8
849	SLV 10	-268	1257	3620	-207.4	-5	7.98
849	SLV 11	-180	-1217	5968	99.53	-8.61	-7.82
849	SLV 12	-224	-1201	5974	99.18	-8.71	-6.64
849	SLV 13	-811	359	4606	-97.83	-9.44	1.86
849	SLV 14	-876	383	4616	-98.34	-9.59	3.61
849	SLV 15	-798	-378	5312	-5.85	-10.56	-2.53
849	SLV 16	-863	-354	5323	-6.37	-10.7	-0.78
849	SLV FO 1	1031	448	4058	-107.91	0.42	0.61
849	SLV FO 2	959	474	4069	-108.48	0.26	2.54
849	SLV FO 3	1046	-363	4835	-6.74	-0.8	-4.22
849	SLV FO 4	974	-337	4846	-7.31	-0.96	-2.29
849	SLV FO 5	328	1379	3341	-224.02	-1.77	7.06
849	SLV FO 6	279	1396	3348	-224.4	-1.88	8.36
849	SLV FO 7	377	-1324	5931	113.22	-5.85	-9.02
849	SLV FO 8	328	-1307	5939	112.84	-5.96	-7.72
849	SLV FO 9	-250	1362	3502	-222.28	-4.85	7.49
849	SLV FO 10	-299	1380	3509	-222.67	-4.96	8.79
849	SLV FO 11	-202	-1341	6092	114.95	-8.93	-8.59
849	SLV FO 12	-250	-1323	6100	114.57	-9.04	-7.29
849	SLV FO 13	-896	392	4595	-102.14	-9.85	2.05
849	SLV FO 14	-968	418	4606	-102.71	-10.01	3.98
849	SLV FO 15	-881	-419	5372	-0.96	-11.07	-2.77
849	SLV FO 16	-953	-393	5383	-1.54	-11.23	-0.84
849	CRTFP Ux+	0	0	0	0	0	0
849	CRTFP Ux-	0	0	0	0	0	0
849	CRTFP Uy+	0	0	0	0	0	0
849	CRTFP Uy-	0	0	0	0	0	0
850	SLU 1	36	26	4499	-48.89	-5.22	-0.06
850	SLU 2	36	61	4471	-52.46	-5.18	0.13
850	SLU 3	38	26	4601	-49.21	-5.39	-0.07
850	SLU 4	38	47	4584	-51.35	-5.36	0.04
850	SLU 5	37	61	4538	-52.59	-5.29	0.12
850	SLU 6	39	25	4667	-49.34	-5.49	-0.09
850	SLU 7	39	46	4651	-51.48	-5.47	0.03
850	SLU 8	39	25	4632	-49.15	-5.43	-0.09
850	SLU 9	38	46	4615	-51.29	-5.41	0.03
850	SLU 10	39	63	5085	-60.13	-5.79	0.11
850	SLU 11	41	28	5214	-56.88	-5.99	-0.09
850	SLU 12	41	49	5198	-59.02	-5.97	0.02
850	SLU 13	41	63	5151	-60.26	-5.89	0.1
850	SLU 14	42	27	5281	-57.01	-6.1	-0.11
850	SLU 15	42	49	5264	-59.15	-6.07	0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
850	SLU 16	42	27	5246	-56.82	-6.04	-0.11
850	SLU 17	42	48	5229	-58.96	-6.01	0.01
850	SLU 18	41	29	5376	-59.85	-6.08	-0.09
850	SLU 19	41	50	5359	-61.99	-6.06	0.02
850	SLU 20	42	28	5442	-59.97	-6.19	-0.1
850	SLU 21	42	49	5425	-62.12	-6.17	0.01
850	SLU 22	42	29	5246	-54.36	-6.03	-0.05
850	SLU 23	42	64	5218	-57.93	-5.99	0.14
850	SLU 24	43	29	5348	-54.68	-6.19	-0.07
850	SLU 25	43	50	5331	-56.83	-6.17	0.05
850	SLU 26	43	64	5284	-58.06	-6.09	0.12
850	SLU 27	44	29	5414	-54.81	-6.3	-0.08
850	SLU 28	44	50	5398	-56.95	-6.27	0.04
850	SLU 29	44	28	5379	-54.62	-6.24	-0.08
850	SLU 30	44	49	5362	-56.76	-6.22	0.04
850	SLU 31	45	66	5832	-65.6	-6.59	0.12
850	SLU 32	47	31	5961	-62.35	-6.8	-0.08
850	SLU 33	47	52	5945	-64.49	-6.77	0.03
850	SLU 34	46	66	5898	-65.73	-6.7	0.1
850	SLU 35	48	31	6028	-62.48	-6.9	-0.1
850	SLU 36	48	52	6011	-64.62	-6.88	0.02
850	SLU 37	47	30	5993	-62.29	-6.84	-0.1
850	SLU 38	47	52	5976	-64.43	-6.82	0.02
850	SLU 39	47	32	6122	-65.32	-6.89	-0.08
850	SLU 40	47	53	6106	-67.46	-6.87	0.03
850	SLU 41	48	32	6189	-65.45	-7	-0.09
850	SLU 42	48	53	6172	-67.59	-6.97	0.02
850	SLU 43	45	32	5592	-61.68	-6.51	-0.09
850	SLU 44	45	67	5565	-65.25	-6.47	0.11
850	SLU 45	47	32	5694	-62	-6.68	-0.1
850	SLU 46	47	53	5678	-64.14	-6.65	0.02
850	SLU 47	46	67	5631	-65.38	-6.58	0.09
850	SLU 48	48	32	5761	-62.13	-6.78	-0.11
850	SLU 49	48	53	5744	-64.27	-6.76	0.01
850	SLU 50	48	31	5726	-61.94	-6.72	-0.11
850	SLU 51	47	53	5709	-64.08	-6.7	0
850	SLU 52	48	70	6178	-72.92	-7.08	0.09
850	SLU 53	50	34	6308	-69.67	-7.28	-0.12
850	SLU 54	50	55	6291	-71.81	-7.26	0
850	SLU 55	50	69	6245	-73.05	-7.18	0.07
850	SLU 56	51	34	6375	-69.8	-7.38	-0.13
850	SLU 57	51	55	6358	-71.94	-7.36	-0.01
850	SLU 58	51	34	6339	-69.61	-7.32	-0.13
850	SLU 59	51	55	6323	-71.75	-7.3	-0.02
850	SLU 60	50	35	6469	-72.64	-7.37	-0.11
850	SLU 61	50	56	6452	-74.78	-7.35	0
850	SLU 62	51	35	6536	-72.76	-7.48	-0.13
850	SLU 63	51	56	6519	-74.91	-7.46	-0.01
850	SLU 64	51	36	6339	-67.16	-7.32	-0.08
850	SLU 65	51	71	6311	-70.73	-7.28	0.11
850	SLU 66	52	36	6441	-67.48	-7.48	-0.09
850	SLU 67	52	57	6424	-69.62	-7.46	0.03
850	SLU 68	52	70	6378	-70.85	-7.38	0.1
850	SLU 69	53	35	6508	-67.6	-7.59	-0.1
850	SLU 70	53	56	6491	-69.75	-7.56	0.02
850	SLU 71	53	35	6472	-67.41	-7.53	-0.1
850	SLU 72	53	56	6456	-69.55	-7.5	0.01
850	SLU 73	54	73	6925	-78.39	-7.88	0.09
850	SLU 74	56	38	7055	-75.14	-8.09	-0.11
850	SLU 75	56	59	7038	-77.29	-8.06	0.01
850	SLU 76	55	73	6992	-78.52	-7.99	0.08
850	SLU 77	57	37	7121	-75.27	-8.19	-0.12
850	SLU 78	57	58	7105	-77.41	-8.17	0
850	SLU 79	56	37	7086	-75.08	-8.13	-0.12
850	SLU 80	56	58	7069	-77.22	-8.11	-0.01
850	SLU 81	56	39	7216	-78.11	-8.18	-0.1
850	SLU 82	55	60	7199	-80.25	-8.16	0.01
850	SLU 83	57	38	7282	-78.24	-8.29	-0.12
850	SLU 84	57	59	7266	-80.38	-8.26	0
850	SLE RA 1	38	27	4712	-50.46	-5.45	-0.06
850	SLE RA 2	38	50	4694	-52.84	-5.43	0.07
850	SLE RA 3	39	27	4780	-50.67	-5.56	-0.07
850	SLE RA 4	39	41	4769	-52.1	-5.55	0.01
850	SLE RA 5	38	50	4738	-52.92	-5.5	0.06
850	SLE RA 6	40	26	4825	-50.75	-5.63	-0.08
850	SLE RA 7	40	40	4813	-52.18	-5.62	0
850	SLE RA 8	39	26	4801	-50.63	-5.59	-0.08
850	SLE RA 9	39	40	4790	-52.05	-5.58	0
850	SLE RA 10	40	52	5103	-57.95	-5.83	0.05
850	SLE RA 11	41	28	5189	-55.78	-5.96	-0.08
850	SLE RA 12	41	42	5178	-57.21	-5.95	0
850	SLE RA 13	41	51	5147	-58.03	-5.9	0.05
850	SLE RA 14	42	28	5234	-55.87	-6.03	-0.09
850	SLE RA 15	42	42	5223	-57.29	-6.02	-0.01
850	SLE RA 16	42	28	5210	-55.74	-5.99	-0.09
850	SLE RA 17	42	42	5199	-57.17	-5.98	-0.01
850	SLE RA 18	41	29	5297	-57.76	-6.03	-0.08
850	SLE RA 19	41	43	5286	-59.19	-6.01	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
850	SLE RA 20	42	28	5341	-57.84	-6.1	-0.09
850	SLE RA 21	42	43	5330	-59.27	-6.08	-0.01
850	SLE FR 1	38	27	4712	-50.46	-5.45	-0.06
850	SLE FR 2	38	31	4708	-50.93	-5.45	-0.04
850	SLE FR 3	38	27	4730	-50.49	-5.48	-0.06
850	SLE FR 4	39	32	4884	-53.12	-5.62	-0.04
850	SLE FR 5	39	27	4905	-52.68	-5.65	-0.07
850	SLE FR 6	39	28	5004	-54.11	-5.74	-0.07
850	SLE QP 1	38	27	4712	-50.46	-5.45	-0.06
850	SLE QP 2	39	27	4887	-52.65	-5.62	-0.07
850	SLD 1	616	255	4423	-82.07	-2.36	-0.11
850	SLD 2	574	277	4432	-82.49	-2.44	1.2
850	SLD 3	624	-191	4857	-27.2	-2.99	-2.66
850	SLD 4	582	-170	4866	-27.62	-3.07	-1.34
850	SLD 5	207	769	4089	-144.62	-3.68	3.56
850	SLD 6	180	783	4095	-144.89	-3.73	4.41
850	SLD 7	233	-719	5534	38.28	-5.77	-4.93
850	SLD 8	206	-705	5540	38.01	-5.82	-4.09
850	SLD 9	-129	760	4235	-143.3	-5.42	3.96
850	SLD 10	-156	774	4241	-143.57	-5.47	4.8
850	SLD 11	-103	-729	5680	39.6	-7.52	-4.54
850	SLD 12	-130	-715	5686	39.33	-7.57	-3.69
850	SLD 13	-504	224	4909	-77.67	-8.18	1.21
850	SLD 14	-546	246	4918	-78.09	-8.26	2.53
850	SLD 15	-497	-222	5343	-22.8	-8.81	-1.34
850	SLD 16	-538	-201	5352	-23.22	-8.88	-0.02
850	SLV 1	941	416	4131	-102.6	-0.49	0.04
850	SLV 2	876	450	4145	-103.25	-0.61	2.11
850	SLV 3	955	-345	4870	-8.98	-1.56	-4.31
850	SLV 4	889	-312	4885	-9.63	-1.68	-2.24
850	SLV 5	302	1293	3536	-209.51	-2.44	6.17
850	SLV 6	258	1315	3546	-209.95	-2.52	7.56
850	SLV 7	346	-1246	6001	102.57	-6.01	-8.32
850	SLV 8	301	-1223	6011	102.13	-6.09	-6.93
850	SLV 9	-224	1278	3764	-207.42	-5.16	6.79
850	SLV 10	-268	1300	3774	-207.87	-5.24	8.19
850	SLV 11	-180	-1261	6229	104.66	-8.73	-7.7
850	SLV 12	-224	-1238	6239	104.21	-8.81	-6.3
850	SLV 13	-811	366	4890	-95.66	-9.56	2.11
850	SLV 14	-877	400	4905	-96.32	-9.69	4.18
850	SLV 15	-798	-395	5630	-2.04	-10.64	-2.24
850	SLV 16	-864	-362	5644	-2.69	-10.76	-0.17
850	SLV FO 1	1032	455	4055	-107.59	0.02	0.05
850	SLV FO 2	959	492	4071	-108.32	-0.11	2.32
850	SLV FO 3	1046	-383	4869	-4.61	-1.16	-4.74
850	SLV FO 4	974	-345	4884	-5.33	-1.29	-2.46
850	SLV FO 5	328	1419	3401	-225.19	-2.12	6.8
850	SLV FO 6	280	1444	3411	-225.68	-2.21	8.33
850	SLV FO 7	376	-1373	6113	118.1	-6.05	-9.15
850	SLV FO 8	328	-1348	6123	117.61	-6.14	-7.61
850	SLV FO 9	-250	1403	3652	-222.9	-5.11	7.48
850	SLV FO 10	-299	1428	3662	-223.39	-5.2	9.01
850	SLV FO 11	-202	-1390	6363	120.39	-9.04	-8.46
850	SLV FO 12	-251	-1365	6374	119.9	-9.13	-6.93
850	SLV FO 13	-896	400	4891	-99.96	-9.96	2.33
850	SLV FO 14	-969	437	4906	-100.68	-10.09	4.6
850	SLV FO 15	-882	-438	5704	3.02	-11.14	-2.46
850	SLV FO 16	-954	-401	5720	2.3	-11.27	-0.18
850	CRTFP Ux+	0	0	0	0	0	0
850	CRTFP Ux-	0	0	0	0	0	0
850	CRTFP Uy+	0	0	0	0	0	0
850	CRTFP Uy-	0	0	0	0	0	0
851	SLU 1	33	24	4362	-44.43	50.11	-0.35
851	SLU 2	33	58	4335	-47.85	49.8	-0.62
851	SLU 3	35	24	4462	-44.67	51.23	-0.36
851	SLU 4	35	44	4446	-46.72	51.04	-0.52
851	SLU 5	34	57	4401	-47.93	50.53	-0.62
851	SLU 6	36	23	4528	-44.75	51.96	-0.36
851	SLU 7	36	44	4512	-46.8	51.77	-0.52
851	SLU 8	35	23	4493	-44.59	51.57	-0.36
851	SLU 9	35	43	4477	-46.64	51.38	-0.52
851	SLU 10	36	60	4927	-54.8	56.68	-0.65
851	SLU 11	38	26	5055	-51.61	58.11	-0.39
851	SLU 12	38	46	5038	-53.67	57.93	-0.55
851	SLU 13	37	59	4993	-54.87	57.42	-0.66
851	SLU 14	39	25	5120	-51.69	58.84	-0.4
851	SLU 15	39	46	5104	-53.74	58.66	-0.56
851	SLU 16	38	25	5085	-51.53	58.46	-0.4
851	SLU 17	38	45	5069	-53.58	58.27	-0.56
851	SLU 18	38	27	5208	-54.35	59.95	-0.4
851	SLU 19	38	47	5192	-56.4	59.76	-0.56
851	SLU 20	39	26	5274	-54.43	60.68	-0.41
851	SLU 21	39	47	5257	-56.48	60.49	-0.57
851	SLU 22	38	27	5085	-49.2	58.46	-0.36
851	SLU 23	38	61	5058	-52.62	58.15	-0.63
851	SLU 24	40	27	5185	-49.44	59.57	-0.37
851	SLU 25	40	47	5169	-51.49	59.39	-0.53
851	SLU 26	39	61	5123	-52.7	58.88	-0.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
851	SLU 27	41	27	5250	-49.52	60.3	-0.38
851	SLU 28	41	47	5234	-51.57	60.12	-0.54
851	SLU 29	40	26	5215	-49.36	59.92	-0.38
851	SLU 30	40	47	5199	-51.41	59.73	-0.54
851	SLU 31	41	63	5650	-59.57	65.03	-0.67
851	SLU 32	43	29	5777	-56.38	66.46	-0.41
851	SLU 33	43	49	5761	-58.44	66.27	-0.57
851	SLU 34	42	63	5715	-59.64	65.76	-0.68
851	SLU 35	44	29	5842	-56.46	67.19	-0.41
851	SLU 36	44	49	5826	-58.51	67	-0.58
851	SLU 37	44	28	5808	-56.3	66.8	-0.41
851	SLU 38	43	49	5791	-58.35	66.62	-0.57
851	SLU 39	43	30	5931	-59.12	68.29	-0.42
851	SLU 40	43	50	5914	-61.17	68.11	-0.58
851	SLU 41	44	29	5996	-59.2	69.02	-0.42
851	SLU 42	44	50	5980	-61.25	68.84	-0.58
851	SLU 43	42	30	5423	-56.12	62.28	-0.45
851	SLU 44	41	64	5396	-59.55	61.97	-0.71
851	SLU 45	43	30	5523	-56.36	63.4	-0.45
851	SLU 46	43	50	5507	-58.42	63.21	-0.62
851	SLU 47	42	64	5462	-59.62	62.7	-0.72
851	SLU 48	44	29	5589	-56.44	64.13	-0.46
851	SLU 49	44	50	5573	-58.49	63.94	-0.62
851	SLU 50	44	29	5554	-56.28	63.74	-0.46
851	SLU 51	44	49	5538	-58.33	63.55	-0.62
851	SLU 52	44	66	5988	-66.49	68.86	-0.75
851	SLU 53	46	32	6116	-63.31	70.28	-0.49
851	SLU 54	46	52	6099	-65.36	70.1	-0.65
851	SLU 55	46	65	6054	-66.57	69.59	-0.76
851	SLU 56	47	31	6181	-63.38	71.01	-0.5
851	SLU 57	47	52	6165	-65.44	70.83	-0.66
851	SLU 58	47	31	6146	-63.22	70.63	-0.5
851	SLU 59	47	51	6130	-65.28	70.44	-0.66
851	SLU 60	46	33	6269	-66.04	72.12	-0.5
851	SLU 61	46	53	6253	-68.1	71.93	-0.66
851	SLU 62	47	32	6335	-66.12	72.85	-0.51
851	SLU 63	47	53	6318	-68.17	72.66	-0.67
851	SLU 64	47	33	6146	-60.9	70.63	-0.46
851	SLU 65	46	67	6119	-64.32	70.32	-0.73
851	SLU 66	48	33	6246	-61.13	71.74	-0.47
851	SLU 67	48	53	6230	-63.19	71.56	-0.63
851	SLU 68	48	67	6184	-64.4	71.05	-0.74
851	SLU 69	49	33	6311	-61.21	72.47	-0.48
851	SLU 70	49	53	6295	-63.26	72.29	-0.64
851	SLU 71	49	32	6276	-61.05	72.09	-0.48
851	SLU 72	49	53	6260	-63.1	71.9	-0.64
851	SLU 73	50	69	6711	-71.26	77.2	-0.77
851	SLU 74	51	35	6838	-68.08	78.63	-0.51
851	SLU 75	51	55	6822	-70.13	78.44	-0.67
851	SLU 76	51	69	6776	-71.34	77.93	-0.77
851	SLU 77	52	35	6903	-68.15	79.36	-0.51
851	SLU 78	52	55	6887	-70.21	79.17	-0.67
851	SLU 79	52	34	6869	-67.99	78.97	-0.51
851	SLU 80	52	55	6852	-70.05	78.79	-0.67
851	SLU 81	51	36	6992	-70.81	80.46	-0.52
851	SLU 82	51	56	6975	-72.87	80.28	-0.68
851	SLU 83	52	35	7057	-70.89	81.19	-0.52
851	SLU 84	52	56	7041	-72.94	81.01	-0.68
851	SLE RA 1	35	25	4569	-45.79	52.49	-0.35
851	SLE RA 2	35	47	4551	-48.08	52.29	-0.53
851	SLE RA 3	36	25	4635	-45.95	53.24	-0.36
851	SLE RA 4	36	38	4625	-47.32	53.11	-0.46
851	SLE RA 5	35	47	4594	-48.13	52.77	-0.54
851	SLE RA 6	36	24	4679	-46	53.73	-0.36
851	SLE RA 7	36	38	4668	-47.37	53.6	-0.47
851	SLE RA 8	36	24	4656	-45.9	53.47	-0.36
851	SLE RA 9	36	38	4645	-47.27	53.34	-0.47
851	SLE RA 10	37	49	4945	-52.7	56.88	-0.56
851	SLE RA 11	38	26	5030	-50.58	57.83	-0.38
851	SLE RA 12	38	40	5019	-51.95	57.7	-0.49
851	SLE RA 13	37	48	4989	-52.76	57.36	-0.56
851	SLE RA 14	38	26	5074	-50.63	58.32	-0.39
851	SLE RA 15	38	39	5063	-52	58.19	-0.49
851	SLE RA 16	38	26	5051	-50.53	58.06	-0.39
851	SLE RA 17	38	39	5040	-51.89	57.93	-0.49
851	SLE RA 18	38	27	5133	-52.41	59.05	-0.39
851	SLE RA 19	38	40	5122	-53.78	58.93	-0.49
851	SLE RA 20	38	26	5176	-52.46	59.54	-0.39
851	SLE RA 21	38	40	5165	-53.83	59.41	-0.5
851	SLE FR 1	35	25	4569	-45.79	52.49	-0.35
851	SLE FR 2	35	29	4565	-46.25	52.45	-0.39
851	SLE FR 3	35	25	4586	-45.81	52.69	-0.35
851	SLE FR 4	36	30	4734	-48.23	54.42	-0.4
851	SLE FR 5	36	25	4755	-47.8	54.66	-0.36
851	SLE FR 6	36	26	4851	-49.1	55.77	-0.37
851	SLE QP 1	35	25	4569	-45.79	52.49	-0.35
851	SLE QP 2	36	25	4738	-47.78	54.46	-0.36
851	SLD 1	577	242	4216	-76.47	50.46	-3.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
851	SLD 2	538	269	4227	-76.94	50.54	-2.39
851	SLD 3	585	-189	4639	-23.86	55.28	-0.18
851	SLD 4	545	-162	4649	-24.33	55.37	0.91
851	SLD 5	194	740	3939	-136.09	45.93	-6.49
851	SLD 6	169	757	3945	-136.39	45.98	-5.79
851	SLD 7	218	-698	5348	39.27	62.01	4.51
851	SLD 8	193	-681	5354	38.96	62.06	5.21
851	SLD 9	-122	731	4122	-134.52	46.86	-5.93
851	SLD 10	-147	749	4128	-134.82	46.91	-5.24
851	SLD 11	-97	-707	5531	40.84	62.94	5.06
851	SLD 12	-123	-689	5537	40.53	62.99	5.76
851	SLD 13	-474	213	4826	-71.22	53.56	-1.64
851	SLD 14	-514	240	4837	-71.69	53.64	-0.55
851	SLD 15	-467	-218	5249	-18.62	58.38	1.66
851	SLD 16	-506	-191	5259	-19.09	58.46	2.75
851	SLV 1	883	395	3893	-96.41	47.85	-5.47
851	SLV 2	821	438	3909	-97.15	47.98	-3.76
851	SLV 3	895	-341	4614	-6.64	56.08	0.15
851	SLV 4	833	-298	4630	-7.38	56.21	1.86
851	SLV 5	283	1244	3388	-198.37	39.97	-10.74
851	SLV 6	241	1273	3398	-198.87	40.06	-9.59
851	SLV 7	323	-1208	5792	100.84	67.4	8
851	SLV 8	282	-1180	5802	100.34	67.49	9.15
851	SLV 9	-211	1230	3673	-195.9	41.43	-9.88
851	SLV 10	-252	1259	3684	-196.4	41.52	-8.73
851	SLV 11	-170	-1222	6077	103.32	68.86	8.87
851	SLV 12	-212	-1194	6088	102.82	68.95	10.02
851	SLV 13	-762	349	4846	-88.17	52.71	-2.59
851	SLV 14	-824	391	4862	-88.91	52.84	-0.88
851	SLV 15	-750	-387	5567	1.59	60.94	3.03
851	SLV 16	-812	-345	5583	0.85	61.07	4.75
851	SLV FO 1	968	432	3808	-101.27	47.19	-5.98
851	SLV FO 2	900	479	3826	-102.09	47.33	-4.1
851	SLV FO 3	981	-377	4602	-2.53	56.24	0.2
851	SLV FO 4	913	-330	4620	-3.35	56.39	2.09
851	SLV FO 5	308	1366	3252	-213.43	38.52	-11.78
851	SLV FO 6	262	1398	3264	-213.98	38.62	-10.52
851	SLV FO 7	352	-1332	5897	115.71	68.7	8.84
851	SLV FO 8	306	-1300	5909	115.16	68.79	10.11
851	SLV FO 9	-235	1351	3567	-210.71	40.13	-10.83
851	SLV FO 10	-281	1382	3579	-211.26	40.23	-9.56
851	SLV FO 11	-191	-1347	6211	118.42	70.3	9.79
851	SLV FO 12	-237	-1316	6223	117.88	70.4	11.06
851	SLV FO 13	-842	381	4856	-92.21	52.54	-2.81
851	SLV FO 14	-910	428	4874	-93.03	52.68	-0.93
851	SLV FO 15	-829	-429	5650	6.53	61.59	3.37
851	SLV FO 16	-897	-382	5667	5.72	61.73	5.26
851	CRTFP Ux+	0	0	0	0	0	0
851	CRTFP Ux-	0	0	0	0	0	0
851	CRTFP Uy+	0	0	0	0	0	0
851	CRTFP Uy-	0	0	0	0	0	0
853	SLU 1	57	42	7912	-77.91	254.19	-1.41
853	SLU 2	57	103	7863	-80.14	252.51	-3.57
853	SLU 3	60	41	8095	-79.13	259.69	-1.4
853	SLU 4	59	78	8066	-80.47	258.69	-2.7
853	SLU 5	59	102	7983	-80.87	256.13	-3.55
853	SLU 6	61	41	8215	-79.87	263.31	-1.38
853	SLU 7	61	77	8186	-81.21	262.31	-2.68
853	SLU 8	61	40	8151	-79.39	261.43	-1.37
853	SLU 9	61	77	8122	-80.72	260.42	-2.67
853	SLU 10	62	106	8933	-91.31	288	-3.69
853	SLU 11	65	45	9165	-90.31	295.19	-1.52
853	SLU 12	65	81	9136	-91.64	294.18	-2.82
853	SLU 13	64	105	9052	-92.05	291.62	-3.67
853	SLU 14	67	44	9284	-91.05	298.81	-1.5
853	SLU 15	67	81	9255	-92.38	297.8	-2.79
853	SLU 16	66	43	9221	-90.57	296.92	-1.49
853	SLU 17	66	80	9191	-91.9	295.92	-2.78
853	SLU 18	65	46	9440	-93.88	304.9	-1.58
853	SLU 19	64	83	9411	-95.21	303.89	-2.87
853	SLU 20	66	45	9559	-94.62	308.52	-1.56
853	SLU 21	66	82	9530	-95.95	307.51	-2.85
853	SLU 22	66	48	9220	-88.87	296.91	-1.53
853	SLU 23	66	109	9171	-91.09	295.23	-3.69
853	SLU 24	68	47	9403	-90.09	302.42	-1.52
853	SLU 25	68	84	9374	-91.42	301.41	-2.81
853	SLU 26	68	108	9290	-91.83	298.85	-3.66
853	SLU 27	70	47	9522	-90.82	306.04	-1.49
853	SLU 28	70	83	9493	-92.16	305.03	-2.79
853	SLU 29	70	46	9458	-90.34	304.15	-1.48
853	SLU 30	69	83	9429	-91.67	303.14	-2.78
853	SLU 31	71	112	10240	-102.26	330.73	-3.8
853	SLU 32	73	51	10472	-101.26	337.91	-1.63
853	SLU 33	73	87	10443	-102.6	336.91	-2.93
853	SLU 34	73	111	10360	-103	334.35	-3.78
853	SLU 35	75	50	10592	-102	341.53	-1.61
853	SLU 36	75	87	10563	-103.33	340.53	-2.91
853	SLU 37	75	49	10528	-101.52	339.65	-1.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
853	SLU 38	75	86	10499	-102.85	338.64	-2.89
853	SLU 39	73	52	10747	-104.83	347.62	-1.69
853	SLU 40	73	89	10718	-106.17	346.61	-2.99
853	SLU 41	75	51	10867	-105.57	351.24	-1.67
853	SLU 42	75	88	10838	-106.9	350.23	-2.96
853	SLU 43	71	52	9837	-97.53	315.79	-1.8
853	SLU 44	71	113	9789	-99.75	314.11	-3.96
853	SLU 45	74	52	10021	-98.75	321.3	-1.79
853	SLU 46	74	89	9991	-100.09	320.29	-3.09
853	SLU 47	73	113	9908	-100.49	317.73	-3.94
853	SLU 48	76	51	10140	-99.49	324.92	-1.77
853	SLU 49	76	88	10111	-100.82	323.91	-3.06
853	SLU 50	75	50	10076	-99.01	323.03	-1.76
853	SLU 51	75	87	10047	-100.34	322.03	-3.05
853	SLU 52	76	117	10858	-110.93	349.61	-4.07
853	SLU 53	79	55	11090	-109.93	356.8	-1.9
853	SLU 54	79	92	11061	-111.26	355.79	-3.2
853	SLU 55	78	116	10978	-111.67	353.23	-4.05
853	SLU 56	81	54	11210	-110.67	360.42	-1.88
853	SLU 57	81	91	11180	-112	359.41	-3.18
853	SLU 58	80	54	11146	-110.19	358.53	-1.87
853	SLU 59	80	90	11117	-111.52	357.52	-3.17
853	SLU 60	79	57	11365	-113.5	366.5	-1.96
853	SLU 61	79	93	11336	-114.83	365.5	-3.26
853	SLU 62	81	56	11485	-114.24	370.12	-1.94
853	SLU 63	80	93	11456	-115.57	369.12	-3.24
853	SLU 64	80	58	11145	-108.48	358.52	-1.91
853	SLU 65	80	119	11096	-110.71	356.84	-4.07
853	SLU 66	82	58	11328	-109.7	364.02	-1.9
853	SLU 67	82	95	11299	-111.04	363.02	-3.2
853	SLU 68	82	119	11216	-111.44	360.46	-4.05
853	SLU 69	84	57	11448	-110.44	367.64	-1.88
853	SLU 70	84	94	11418	-111.78	366.64	-3.18
853	SLU 71	84	56	11384	-109.96	365.76	-1.87
853	SLU 72	84	93	11355	-111.29	364.75	-3.16
853	SLU 73	85	123	12166	-121.88	392.33	-4.19
853	SLU 74	88	61	12398	-120.88	399.52	-2.02
853	SLU 75	88	98	12368	-122.22	398.51	-3.31
853	SLU 76	87	122	12285	-122.62	395.95	-4.17
853	SLU 77	89	60	12517	-121.62	403.14	-2
853	SLU 78	89	97	12488	-122.95	402.13	-3.29
853	SLU 79	89	60	12453	-121.14	401.25	-1.98
853	SLU 80	89	96	12424	-122.47	400.25	-3.28
853	SLU 81	87	63	12673	-124.45	409.23	-2.08
853	SLU 82	87	100	12644	-125.79	408.22	-3.37
853	SLU 83	89	62	12792	-125.19	412.85	-2.05
853	SLU 84	89	99	12763	-126.52	411.84	-3.35
853	SLE RA 1	60	43	8286	-81.04	266.39	-1.45
853	SLE RA 2	60	84	8253	-82.52	265.27	-2.89
853	SLE RA 3	61	43	8408	-81.86	270.06	-1.44
853	SLE RA 4	61	68	8388	-82.74	269.39	-2.3
853	SLE RA 5	61	84	8333	-83.02	267.69	-2.87
853	SLE RA 6	63	43	8487	-82.35	272.48	-1.43
853	SLE RA 7	62	67	8468	-83.24	271.81	-2.29
853	SLE RA 8	62	42	8445	-82.03	271.22	-1.42
853	SLE RA 9	62	67	8425	-82.92	270.55	-2.28
853	SLE RA 10	63	86	8966	-89.98	288.94	-2.96
853	SLE RA 11	65	45	9121	-89.31	293.73	-1.52
853	SLE RA 12	65	70	9101	-90.2	293.06	-2.38
853	SLE RA 13	64	86	9046	-90.47	291.35	-2.95
853	SLE RA 14	66	45	9200	-89.8	296.14	-1.5
853	SLE RA 15	66	69	9181	-90.69	295.47	-2.37
853	SLE RA 16	66	44	9158	-89.48	294.88	-1.49
853	SLE RA 17	65	69	9138	-90.37	294.21	-2.36
853	SLE RA 18	65	46	9304	-91.69	300.2	-1.55
853	SLE RA 19	64	71	9285	-92.58	299.53	-2.42
853	SLE RA 20	66	46	9384	-92.18	302.61	-1.54
853	SLE RA 21	66	70	9364	-93.07	301.94	-2.4
853	SLE FR 1	60	43	8286	-81.04	266.39	-1.45
853	SLE FR 2	60	51	8279	-81.34	266.17	-1.73
853	SLE FR 3	60	43	8317	-81.24	267.36	-1.44
853	SLE FR 4	61	52	8585	-84.53	276.31	-1.77
853	SLE FR 5	62	44	8623	-84.43	277.5	-1.47
853	SLE FR 6	62	45	8795	-86.37	283.3	-1.5
853	SLE QP 1	60	43	8286	-81.04	266.39	-1.45
853	SLE QP 2	61	44	8591	-84.24	276.53	-1.48
853	SLD 1	1018	376	7538	-98.93	272.88	-11.78
853	SLD 2	949	437	7558	-99.43	273.37	-11.53
853	SLD 3	1030	-403	8301	-64.86	298.64	15.5
853	SLD 4	961	-342	8321	-65.35	299.13	15.75
853	SLD 5	341	1314	7115	-140.24	236.29	-45.99
853	SLD 6	296	1354	7128	-140.56	236.6	-45.83
853	SLD 7	383	-1282	9658	-26.66	322.15	44.95
853	SLD 8	338	-1242	9671	-26.98	322.46	45.12
853	SLD 9	-216	1331	7512	-141.5	230.6	-48.07
853	SLD 10	-261	1371	7525	-141.82	230.92	-47.91
853	SLD 11	-174	-1266	10055	-27.91	316.47	42.88
853	SLD 12	-219	-1226	10068	-28.23	316.78	43.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
853	SLD 13	-839	430	8861	-103.12	253.94	-18.71
853	SLD 14	-908	492	8881	-103.62	254.43	-18.46
853	SLD 15	-826	-349	9624	-69.05	279.7	8.57
853	SLD 16	-896	-287	9644	-69.54	280.19	8.83
853	SLV 1	1558	616	6892	-109.64	269.07	-19.52
853	SLV 2	1449	713	6924	-110.42	269.83	-19.13
853	SLV 3	1579	-713	8194	-51.5	313.01	27.01
853	SLV 4	1469	-616	8225	-52.28	313.78	27.4
853	SLV 5	499	2213	6102	-179.9	207.5	-77.54
853	SLV 6	425	2278	6123	-180.43	208.02	-77.27
853	SLV 7	568	-2216	10440	13.92	353.98	77.56
853	SLV 8	495	-2151	10461	13.39	354.5	77.83
853	SLV 9	-373	2239	6721	-181.86	198.57	-80.79
853	SLV 10	-446	2304	6742	-182.39	199.09	-80.52
853	SLV 11	-303	-2189	11060	11.95	345.05	74.31
853	SLV 12	-377	-2124	11081	11.43	345.57	74.58
853	SLV 13	-1347	704	8957	-116.19	239.29	-30.36
853	SLV 14	-1457	801	8988	-116.98	240.06	-29.96
853	SLV 15	-1326	-624	10259	-58.05	283.23	16.17
853	SLV 16	-1436	-527	10290	-58.83	284	16.57
853	SLV FO 1	1708	673	6722	-112.18	268.32	-21.33
853	SLV FO 2	1587	780	6757	-113.04	269.16	-20.89
853	SLV FO 3	1731	-788	8154	-48.22	316.66	29.86
853	SLV FO 4	1610	-682	8189	-49.08	317.5	30.29
853	SLV FO 5	543	2429	5853	-189.47	200.6	-85.14
853	SLV FO 6	462	2501	5876	-190.04	201.17	-84.85
853	SLV FO 7	619	-2442	10625	23.73	361.73	85.47
853	SLV FO 8	538	-2370	10648	23.16	362.3	85.76
853	SLV FO 9	-416	2458	6534	-191.63	190.77	-88.72
853	SLV FO 10	-497	2530	6557	-192.21	191.34	-88.43
853	SLV FO 11	-340	-2413	11306	21.57	351.9	81.89
853	SLV FO 12	-421	-2341	11330	20.99	352.47	82.19
853	SLV FO 13	-1488	770	8994	-119.39	235.56	-33.25
853	SLV FO 14	-1608	877	9028	-120.25	236.41	-32.81
853	SLV FO 15	-1465	-691	10425	-55.43	283.9	17.94
853	SLV FO 16	-1585	-585	10460	-56.29	284.75	18.37
853	CRTFP Ux+	0	0	0	0	0	0
853	CRTFP Ux-	0	0	0	0	0	0
853	CRTFP Uy+	0	0	0	0	0	0
853	CRTFP Uy-	0	0	0	0	0	0
855	SLU 1	-48	0	3210	-1.54	-330.89	-0.07
855	SLU 2	-47	19	3177	-1.78	-329.29	4.62
855	SLU 3	-49	-1	3294	-1.53	-338.2	-0.22
855	SLU 4	-48	11	3274	-1.67	-337.24	2.6
855	SLU 5	-48	18	3233	-1.76	-334.1	4.57
855	SLU 6	-49	-1	3350	-1.52	-343.01	-0.27
855	SLU 7	-49	10	3330	-1.66	-342.05	2.54
855	SLU 8	-49	-1	3322	-1.52	-340.51	-0.18
855	SLU 9	-48	11	3302	-1.66	-339.55	2.64
855	SLU 10	-50	20	3569	-2.03	-367.91	4.89
855	SLU 11	-52	0	3686	-1.79	-376.81	0.05
855	SLU 12	-52	12	3666	-1.93	-375.86	2.87
855	SLU 13	-51	19	3625	-2.02	-372.71	4.84
855	SLU 14	-52	0	3742	-1.78	-381.62	0
855	SLU 15	-52	11	3722	-1.92	-380.66	2.81
855	SLU 16	-52	0	3714	-1.77	-379.12	0.09
855	SLU 17	-52	12	3694	-1.91	-378.16	2.91
855	SLU 18	-52	1	3770	-1.91	-386.05	0.32
855	SLU 19	-52	13	3750	-2.05	-385.09	3.13
855	SLU 20	-53	1	3826	-1.9	-390.86	0.26
855	SLU 21	-52	12	3806	-2.04	-389.9	3.08
855	SLU 22	-53	-3	3725	-1.71	-379.48	-0.66
855	SLU 23	-53	16	3692	-1.95	-377.89	4.03
855	SLU 24	-54	-3	3809	-1.7	-386.79	-0.81
855	SLU 25	-54	8	3789	-1.84	-385.84	2.01
855	SLU 26	-53	16	3748	-1.93	-382.69	3.98
855	SLU 27	-55	-3	3865	-1.69	-391.6	-0.86
855	SLU 28	-54	8	3845	-1.83	-390.64	1.95
855	SLU 29	-54	-3	3837	-1.69	-389.1	-0.77
855	SLU 30	-54	8	3817	-1.83	-388.14	2.05
855	SLU 31	-56	17	4084	-2.2	-416.5	4.3
855	SLU 32	-57	-2	4201	-1.96	-425.4	-0.54
855	SLU 33	-57	9	4181	-2.1	-424.45	2.28
855	SLU 34	-56	17	4140	-2.19	-421.3	4.25
855	SLU 35	-58	-2	4257	-1.95	-430.21	-0.59
855	SLU 36	-57	9	4237	-2.09	-429.25	2.22
855	SLU 37	-58	-2	4229	-1.94	-427.71	-0.5
855	SLU 38	-57	9	4209	-2.08	-426.75	2.32
855	SLU 39	-58	-1	4285	-2.08	-434.64	-0.27
855	SLU 40	-57	10	4265	-2.22	-433.68	2.54
855	SLU 41	-58	-1	4341	-2.07	-439.45	-0.33
855	SLU 42	-58	10	4321	-2.21	-438.49	2.49
855	SLU 43	-60	1	3997	-1.95	-413.5	0.11
855	SLU 44	-60	19	3964	-2.18	-411.9	4.8
855	SLU 45	-61	0	4081	-1.94	-420.81	-0.04
855	SLU 46	-61	11	4061	-2.08	-419.85	2.78
855	SLU 47	-60	19	4020	-2.17	-416.71	4.75
855	SLU 48	-62	0	4137	-1.92	-425.62	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
855	SLU 49	-61	11	4117	-2.07	-424.66	2.72
855	SLU 50	-61	0	4109	-1.92	-423.11	0
855	SLU 51	-61	11	4089	-2.06	-422.16	2.82
855	SLU 52	-63	20	4356	-2.44	-450.51	5.07
855	SLU 53	-65	1	4473	-2.19	-459.42	0.23
855	SLU 54	-64	12	4453	-2.33	-458.46	3.05
855	SLU 55	-63	20	4412	-2.42	-455.32	5.02
855	SLU 56	-65	1	4529	-2.18	-464.23	0.18
855	SLU 57	-65	12	4509	-2.32	-463.27	2.99
855	SLU 58	-65	1	4501	-2.18	-461.72	0.27
855	SLU 59	-64	12	4481	-2.32	-460.77	3.09
855	SLU 60	-65	2	4557	-2.31	-468.66	0.5
855	SLU 61	-65	13	4537	-2.45	-467.7	3.31
855	SLU 62	-65	2	4613	-2.3	-473.46	0.44
855	SLU 63	-65	13	4593	-2.44	-472.51	3.26
855	SLU 64	-66	-2	4512	-2.12	-462.09	-0.48
855	SLU 65	-65	17	4479	-2.35	-460.49	4.21
855	SLU 66	-67	-2	4596	-2.11	-469.4	-0.63
855	SLU 67	-66	9	4576	-2.25	-468.44	2.19
855	SLU 68	-66	17	4534	-2.34	-465.3	4.16
855	SLU 69	-67	-3	4652	-2.09	-474.21	-0.68
855	SLU 70	-67	9	4632	-2.23	-473.25	2.13
855	SLU 71	-67	-2	4623	-2.09	-471.7	-0.59
855	SLU 72	-66	9	4604	-2.23	-470.75	2.23
855	SLU 73	-68	18	4871	-2.61	-499.1	4.48
855	SLU 74	-70	-1	4988	-2.36	-508.01	-0.36
855	SLU 75	-69	10	4968	-2.5	-507.05	2.46
855	SLU 76	-69	18	4927	-2.59	-503.91	4.43
855	SLU 77	-70	-2	5044	-2.35	-512.82	-0.41
855	SLU 78	-70	10	5024	-2.49	-511.86	2.4
855	SLU 79	-70	-1	5016	-2.35	-510.31	-0.32
855	SLU 80	-70	10	4996	-2.49	-509.36	2.5
855	SLU 81	-70	0	5072	-2.48	-517.25	-0.09
855	SLU 82	-70	11	5052	-2.62	-516.29	2.72
855	SLU 83	-71	-1	5128	-2.47	-522.05	-0.15
855	SLU 84	-70	11	5108	-2.61	-521.1	2.67
855	SLE RA 1	-49	-1	3357	-1.59	-344.77	-0.24
855	SLE RA 2	-49	12	3335	-1.75	-343.71	2.89
855	SLE RA 3	-50	-1	3413	-1.58	-349.65	-0.34
855	SLE RA 4	-50	6	3400	-1.68	-349.01	1.54
855	SLE RA 5	-49	12	3373	-1.74	-346.91	2.85
855	SLE RA 6	-50	-1	3451	-1.58	-352.85	-0.37
855	SLE RA 7	-50	6	3437	-1.67	-352.21	1.5
855	SLE RA 8	-50	-1	3432	-1.57	-351.18	-0.31
855	SLE RA 9	-50	6	3419	-1.67	-350.54	1.57
855	SLE RA 10	-51	12	3597	-1.92	-369.45	3.07
855	SLE RA 11	-52	-1	3675	-1.76	-375.39	-0.16
855	SLE RA 12	-52	7	3661	-1.85	-374.75	1.72
855	SLE RA 13	-51	12	3634	-1.91	-372.66	3.03
855	SLE RA 14	-53	-1	3712	-1.75	-378.59	-0.19
855	SLE RA 15	-52	7	3699	-1.84	-377.95	1.68
855	SLE RA 16	-52	0	3693	-1.74	-376.92	-0.13
855	SLE RA 17	-52	7	3680	-1.84	-376.29	1.75
855	SLE RA 18	-53	0	3731	-1.83	-381.55	0.02
855	SLE RA 19	-52	8	3717	-1.93	-380.91	1.9
855	SLE RA 20	-53	0	3768	-1.83	-384.75	-0.02
855	SLE RA 21	-53	8	3755	-1.92	-384.11	1.86
855	SLE FR 1	-49	-1	3357	-1.59	-344.77	-0.24
855	SLE FR 2	-49	2	3353	-1.62	-344.56	0.39
855	SLE FR 3	-50	-1	3372	-1.59	-346.06	-0.25
855	SLE FR 4	-50	2	3465	-1.7	-355.59	0.47
855	SLE FR 5	-51	-1	3484	-1.66	-357.09	-0.17
855	SLE FR 6	-51	0	3544	-1.71	-363.16	-0.11
855	SLE QP 1	-49	-1	3357	-1.59	-344.77	-0.24
855	SLE QP 2	-50	-1	3469	-1.66	-355.8	-0.16
855	SLD 1	219	128	4194	-4.05	-442.74	31.94
855	SLD 2	192	29	4227	-3.78	-446.15	7.14
855	SLD 3	208	-104	4681	-0.51	-461.05	-26.24
855	SLD 4	180	-204	4715	-0.25	-464.45	-51.04
855	SLD 5	53	408	2941	-7.79	-353.54	101.98
855	SLD 6	35	344	2963	-7.62	-355.73	86.01
855	SLD 7	14	-368	4567	4	-414.55	-91.96
855	SLD 8	-3	-432	4588	4.17	-416.75	-107.93
855	SLD 9	-97	431	2350	-7.5	-294.86	107.61
855	SLD 10	-115	366	2372	-7.33	-297.06	91.64
855	SLD 11	-136	-345	3976	4.29	-355.88	-86.33
855	SLD 12	-153	-409	3997	4.46	-358.07	-102.3
855	SLD 13	-281	203	2224	-3.08	-247.16	50.72
855	SLD 14	-308	103	2257	-2.81	-250.56	25.92
855	SLD 15	-292	-30	2712	0.46	-265.46	-7.46
855	SLD 16	-320	-129	2745	0.72	-268.87	-32.26
855	SLV 1	372	218	4564	-5.65	-490.07	54.3
855	SLV 2	329	61	4616	-5.23	-495.44	15.21
855	SLV 3	353	-179	5396	0.39	-521.3	-44.92
855	SLV 4	310	-336	5448	0.81	-526.68	-84.02
855	SLV 5	114	697	2527	-12.09	-347.7	173.97
855	SLV 6	85	591	2562	-11.81	-351.32	147.65
855	SLV 7	49	-627	5299	8.02	-451.83	-156.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
855	SLV 8	20	-733	5334	8.31	-455.45	-183.11
855	SLV 9	-121	732	1605	-11.63	-256.16	182.78
855	SLV 10	-150	626	1640	-11.35	-259.78	156.47
855	SLV 11	-186	-592	4377	8.48	-360.29	-147.97
855	SLV 12	-215	-698	4412	8.76	-363.91	-174.29
855	SLV 13	-410	335	1491	-4.13	-184.93	83.7
855	SLV 14	-454	178	1543	-3.71	-190.31	44.6
855	SLV 15	-430	-62	2322	1.9	-216.17	-15.53
855	SLV 16	-473	-219	2375	2.32	-221.54	-54.62
855	SLV FO 1	415	240	4673	-6.05	-503.49	59.75
855	SLV FO 2	367	67	4731	-5.59	-509.4	16.75
855	SLV FO 3	393	-197	5588	0.59	-537.85	-49.4
855	SLV FO 4	346	-370	5646	1.05	-543.76	-92.4
855	SLV FO 5	130	766	2432	-13.13	-346.89	191.38
855	SLV FO 6	98	650	2471	-12.82	-350.87	162.43
855	SLV FO 7	59	-689	5482	8.99	-461.44	-172.45
855	SLV FO 8	27	-806	5520	9.3	-465.41	-201.4
855	SLV FO 9	-128	805	1418	-12.63	-246.2	201.08
855	SLV FO 10	-160	688	1457	-12.32	-250.17	172.13
855	SLV FO 11	-199	-651	4467	9.49	-360.74	-162.75
855	SLV FO 12	-231	-767	4506	9.8	-364.72	-191.7
855	SLV FO 13	-446	369	1293	-4.38	-167.85	92.08
855	SLV FO 14	-494	196	1350	-3.92	-173.76	49.08
855	SLV FO 15	-468	-68	2208	2.26	-202.21	-17.07
855	SLV FO 16	-515	-241	2265	2.72	-208.12	-60.07
855	CRTFP Ux+	0	0	0	0	0	0
855	CRTFP Ux-	0	0	0	0	0	0
855	CRTFP Uy+	0	0	0	0	0	0
855	CRTFP Uy-	0	0	0	0	0	0
871	SLU 1	99	44	6410	1.8	0.61	-0.86
871	SLU 2	96	73	6337	1.3	-0.66	-0.72
871	SLU 3	103	45	6580	1.97	1.05	-0.9
871	SLU 4	101	62	6537	1.67	0.3	-0.82
871	SLU 5	99	74	6451	1.43	-0.35	-0.77
871	SLU 6	105	46	6694	2.1	1.37	-0.95
871	SLU 7	103	63	6650	1.8	0.61	-0.87
871	SLU 8	104	45	6637	2.06	1.23	-0.95
871	SLU 9	102	63	6594	1.76	0.47	-0.87
871	SLU 10	103	79	7172	1.47	-0.18	-0.79
871	SLU 11	110	51	7416	2.13	1.53	-0.97
871	SLU 12	108	68	7372	1.84	0.77	-0.89
871	SLU 13	106	79	7286	1.6	0.13	-0.83
871	SLU 14	112	51	7529	2.26	1.84	-1.01
871	SLU 15	110	69	7485	1.97	1.08	-0.93
871	SLU 16	111	51	7472	2.22	1.7	-1.01
871	SLU 17	109	68	7429	1.93	0.95	-0.93
871	SLU 18	109	52	7603	2.04	1.28	-0.95
871	SLU 19	107	69	7559	1.74	0.52	-0.87
871	SLU 20	111	53	7717	2.17	1.59	-0.99
871	SLU 21	110	70	7673	1.87	0.84	-0.92
871	SLU 22	113	49	7489	2.34	1.96	-0.94
871	SLU 23	110	78	7416	1.84	0.69	-0.81
871	SLU 24	116	50	7659	2.5	2.41	-0.98
871	SLU 25	114	68	7616	2.21	1.65	-0.9
871	SLU 26	112	79	7530	1.97	1.01	-0.85
871	SLU 27	119	51	7773	2.63	2.72	-1.03
871	SLU 28	117	68	7729	2.34	1.96	-0.95
871	SLU 29	118	51	7716	2.6	2.58	-1.03
871	SLU 30	116	68	7673	2.3	1.82	-0.95
871	SLU 31	117	84	8251	2.01	1.17	-0.87
871	SLU 32	123	56	8495	2.67	2.88	-1.05
871	SLU 33	121	73	8451	2.38	2.12	-0.97
871	SLU 34	119	85	8365	2.14	1.48	-0.92
871	SLU 35	125	57	8608	2.8	3.19	-1.09
871	SLU 36	124	74	8564	2.51	2.43	-1.02
871	SLU 37	124	56	8551	2.76	3.06	-1.09
871	SLU 38	123	74	8508	2.47	2.3	-1.01
871	SLU 39	123	57	8682	2.58	2.63	-1.03
871	SLU 40	121	75	8638	2.28	1.88	-0.95
871	SLU 41	125	58	8796	2.71	2.95	-1.08
871	SLU 42	123	75	8752	2.41	2.19	-1
871	SLU 43	125	55	7963	2.15	0.32	-1.09
871	SLU 44	122	84	7890	1.66	-0.94	-0.95
871	SLU 45	128	56	8133	2.32	0.77	-1.13
871	SLU 46	126	74	8090	2.02	0.01	-1.05
871	SLU 47	124	85	8004	1.79	-0.63	-1
871	SLU 48	130	57	8247	2.45	1.08	-1.18
871	SLU 49	128	74	8203	2.15	0.33	-1.1
871	SLU 50	129	57	8190	2.41	0.95	-1.18
871	SLU 51	127	74	8147	2.11	0.19	-1.1
871	SLU 52	128	90	8725	1.82	-0.47	-1.02
871	SLU 53	135	62	8969	2.49	1.25	-1.2
871	SLU 54	133	79	8925	2.19	0.49	-1.12
871	SLU 55	131	91	8839	1.95	-0.15	-1.06
871	SLU 56	137	63	9082	2.62	1.56	-1.24
871	SLU 57	135	80	9038	2.32	0.8	-1.16
871	SLU 58	136	62	9026	2.58	1.42	-1.24
871	SLU 59	134	80	8982	2.28	0.66	-1.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
871	SLU 60	134	64	9156	2.39	1	-1.18
871	SLU 61	133	81	9112	2.09	0.24	-1.1
871	SLU 62	137	64	9270	2.52	1.31	-1.22
871	SLU 63	135	82	9226	2.22	0.55	-1.14
871	SLU 64	138	61	9042	2.69	1.68	-1.17
871	SLU 65	135	90	8969	2.2	0.41	-1.04
871	SLU 66	141	62	9212	2.86	2.12	-1.21
871	SLU 67	140	79	9169	2.56	1.37	-1.13
871	SLU 68	137	90	9083	2.32	0.72	-1.08
871	SLU 69	144	62	9326	2.99	2.44	-1.26
871	SLU 70	142	80	9282	2.69	1.68	-1.18
871	SLU 71	143	62	9269	2.95	2.3	-1.26
871	SLU 72	141	79	9226	2.65	1.54	-1.18
871	SLU 73	142	95	9804	2.36	0.89	-1.1
871	SLU 74	148	67	10048	3.03	2.6	-1.28
871	SLU 75	146	85	10004	2.73	1.84	-1.2
871	SLU 76	144	96	9918	2.49	1.2	-1.15
871	SLU 77	151	68	10161	3.16	2.91	-1.32
871	SLU 78	149	85	10117	2.86	2.15	-1.24
871	SLU 79	150	68	10105	3.12	2.77	-1.32
871	SLU 80	148	85	10061	2.82	2.02	-1.24
871	SLU 81	148	69	10235	2.93	2.35	-1.26
871	SLU 82	146	86	10192	2.63	1.59	-1.18
871	SLU 83	150	69	10349	3.06	2.66	-1.31
871	SLU 84	148	87	10305	2.76	1.91	-1.23
871	SLE RA 1	103	46	6718	1.95	0.99	-0.88
871	SLE RA 2	101	65	6670	1.62	0.15	-0.79
871	SLE RA 3	105	46	6832	2.06	1.29	-0.91
871	SLE RA 4	104	58	6803	1.87	0.79	-0.86
871	SLE RA 5	103	65	6745	1.71	0.36	-0.82
871	SLE RA 6	107	47	6908	2.15	1.5	-0.94
871	SLE RA 7	106	58	6878	1.95	0.99	-0.89
871	SLE RA 8	106	46	6870	2.12	1.41	-0.94
871	SLE RA 9	105	58	6841	1.93	0.9	-0.89
871	SLE RA 10	106	69	7227	1.73	0.47	-0.84
871	SLE RA 11	110	50	7389	2.18	1.61	-0.95
871	SLE RA 12	109	61	7359	1.98	1.1	-0.9
871	SLE RA 13	107	69	7302	1.82	0.67	-0.87
871	SLE RA 14	112	50	7464	2.26	1.81	-0.98
871	SLE RA 15	110	62	7435	2.06	1.31	-0.93
871	SLE RA 16	111	50	7427	2.24	1.72	-0.98
871	SLE RA 17	110	62	7397	2.04	1.22	-0.93
871	SLE RA 18	110	51	7514	2.11	1.44	-0.94
871	SLE RA 19	109	63	7485	1.91	0.94	-0.89
871	SLE RA 20	111	51	7590	2.2	1.65	-0.97
871	SLE RA 21	110	63	7560	2	1.15	-0.92
871	SLE FR 1	103	46	6718	1.95	0.99	-0.88
871	SLE FR 2	103	49	6709	1.88	0.82	-0.86
871	SLE FR 3	104	46	6749	1.99	1.08	-0.89
871	SLE FR 4	105	51	6947	1.93	0.96	-0.88
871	SLE FR 5	106	47	6987	2.03	1.21	-0.91
871	SLE FR 6	107	48	7116	2.03	1.22	-0.91
871	SLE QP 1	103	46	6718	1.95	0.99	-0.88
871	SLE QP 2	105	47	6957	2	1.13	-0.9
871	SLD 1	634	219	5740	-1.87	-3.46	-2.58
871	SLD 2	576	309	5679	-2.4	-2.4	-0.36
871	SLD 3	677	-146	6858	5.47	14.28	-4.51
871	SLD 4	618	-57	6797	4.94	15.34	-2.3
871	SLD 5	209	638	4907	-10.2	-27.33	1.15
871	SLD 6	171	695	4867	-10.54	-26.64	2.58
871	SLD 7	352	-580	8633	14.26	31.79	-5.3
871	SLD 8	314	-523	8594	13.92	32.47	-3.87
871	SLD 9	-104	617	5320	-9.92	-30.21	2.08
871	SLD 10	-141	675	5281	-10.26	-29.53	3.5
871	SLD 11	39	-601	9047	14.54	28.9	-4.37
871	SLD 12	2	-543	9007	14.2	29.58	-2.95
871	SLD 13	-408	151	7117	-0.94	-13.08	0.5
871	SLD 14	-466	240	7056	-1.47	-12.02	2.71
871	SLD 15	-365	-214	8235	6.4	4.65	-1.43
871	SLD 16	-423	-125	8174	5.87	5.71	0.78
871	SLV 1	930	342	4977	-4.58	-7.09	-3.41
871	SLV 2	838	483	4880	-5.4	-5.42	0.08
871	SLV 3	1003	-281	6884	7.94	23.18	-6.71
871	SLV 4	911	-140	6787	7.11	24.85	-3.22
871	SLV 5	259	1055	3488	-18.81	-47.57	2.71
871	SLV 6	197	1150	3422	-19.36	-46.44	5.05
871	SLV 7	503	-1023	9847	22.93	53.35	-8.3
871	SLV 8	441	-928	9781	22.37	54.47	-5.95
871	SLV 9	-231	1022	4133	-18.37	-52.22	4.16
871	SLV 10	-292	1117	4067	-18.93	-51.09	6.5
871	SLV 11	13	-1055	10492	23.36	48.7	-6.85
871	SLV 12	-48	-960	10426	22.8	49.82	-4.5
871	SLV 13	-701	235	7127	-3.12	-22.6	1.43
871	SLV 14	-793	375	7030	-3.95	-20.93	4.91
871	SLV 15	-628	-389	9034	9.4	7.68	-1.88
871	SLV 16	-719	-248	8937	8.57	9.35	1.61
871	SLV FO 1	1012	372	4779	-5.23	-7.92	-3.66
871	SLV FO 2	911	527	4672	-6.15	-6.08	0.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
871	SLV FO 3	1093	-314	6877	8.54	25.39	-7.29
871	SLV FO 4	992	-159	6770	7.63	27.22	-3.46
871	SLV FO 5	274	1155	3141	-20.89	-52.44	3.07
871	SLV FO 6	206	1260	3069	-21.5	-51.2	5.65
871	SLV FO 7	542	-1130	10136	25.02	58.57	-9.04
871	SLV FO 8	475	-1026	10064	24.4	59.81	-6.46
871	SLV FO 9	-264	1120	3850	-20.41	-57.55	4.66
871	SLV FO 10	-332	1224	3778	-21.02	-56.32	7.24
871	SLV FO 11	4	-1165	10845	25.5	53.45	-7.44
871	SLV FO 12	-64	-1061	10773	24.89	54.69	-4.86
871	SLV FO 13	-782	253	7143	-3.63	-24.97	1.66
871	SLV FO 14	-882	408	7037	-4.54	-23.13	5.49
871	SLV FO 15	-701	-432	9242	10.14	8.33	-1.97
871	SLV FO 16	-802	-277	9135	9.23	10.17	1.86
871	CRTFP Ux+	0	0	0	0	0	0
871	CRTFP Ux-	0	0	0	0	0	0
871	CRTFP Uy+	0	0	0	0	0	0
871	CRTFP Uy-	0	0	0	0	0	0
874	SLU 1	64	40	3874	-1.86	735.65	-13.85
874	SLU 2	63	62	3830	-2.2	731.49	-21.73
874	SLU 3	66	40	3973	-1.82	751.98	-14.15
874	SLU 4	65	54	3946	-2.03	749.48	-18.88
874	SLU 5	64	63	3894	-2.16	741.96	-22.13
874	SLU 6	67	42	4037	-1.77	762.46	-14.55
874	SLU 7	66	55	4010	-1.98	759.96	-19.28
874	SLU 8	66	42	4002	-1.77	756.6	-14.65
874	SLU 9	66	55	3975	-1.97	754.1	-19.38
874	SLU 10	67	66	4301	-2.52	816.51	-23.24
874	SLU 11	70	45	4444	-2.13	837.01	-15.66
874	SLU 12	69	58	4417	-2.34	834.51	-20.38
874	SLU 13	68	68	4365	-2.47	826.99	-23.64
874	SLU 14	71	46	4508	-2.09	847.49	-16.06
874	SLU 15	70	59	4481	-2.29	844.99	-20.78
874	SLU 16	71	46	4473	-2.08	841.63	-16.15
874	SLU 17	70	60	4447	-2.29	839.13	-20.88
874	SLU 18	70	46	4547	-2.31	857.12	-16
874	SLU 19	69	59	4521	-2.51	854.62	-20.73
874	SLU 20	71	47	4611	-2.26	867.59	-16.4
874	SLU 21	71	60	4584	-2.47	865.09	-21.13
874	SLU 22	71	41	4487	-2.03	843.41	-14.33
874	SLU 23	70	64	4442	-2.38	839.24	-22.21
874	SLU 24	73	42	4585	-1.99	859.74	-14.63
874	SLU 25	72	55	4558	-2.2	857.24	-19.36
874	SLU 26	71	65	4506	-2.33	849.72	-22.61
874	SLU 27	74	43	4649	-1.95	870.21	-15.03
874	SLU 28	73	57	4622	-2.15	867.71	-19.76
874	SLU 29	74	43	4615	-1.94	864.35	-15.13
874	SLU 30	73	57	4588	-2.15	861.86	-19.86
874	SLU 31	74	68	4913	-2.69	924.27	-23.72
874	SLU 32	77	46	5056	-2.31	944.77	-16.14
874	SLU 33	76	60	5029	-2.51	942.27	-20.87
874	SLU 34	75	69	4977	-2.64	934.74	-24.12
874	SLU 35	79	47	5120	-2.26	955.24	-16.54
874	SLU 36	78	61	5093	-2.47	952.74	-21.27
874	SLU 37	78	48	5086	-2.25	949.38	-16.64
874	SLU 38	77	61	5059	-2.46	946.88	-21.37
874	SLU 39	77	47	5160	-2.48	964.87	-16.48
874	SLU 40	77	61	5133	-2.69	962.37	-21.21
874	SLU 41	79	48	5224	-2.43	975.35	-16.88
874	SLU 42	78	62	5197	-2.64	972.85	-21.61
874	SLU 43	81	51	4827	-2.36	919.4	-17.83
874	SLU 44	79	74	4782	-2.7	915.24	-25.72
874	SLU 45	82	52	4925	-2.32	935.73	-18.14
874	SLU 46	82	65	4898	-2.52	933.23	-22.86
874	SLU 47	80	75	4846	-2.65	925.71	-26.12
874	SLU 48	84	53	4989	-2.27	946.21	-18.54
874	SLU 49	83	67	4962	-2.48	943.71	-23.27
874	SLU 50	83	53	4955	-2.27	940.35	-18.63
874	SLU 51	82	67	4928	-2.47	937.85	-23.36
874	SLU 52	84	78	5253	-3.01	1000.26	-27.22
874	SLU 53	87	56	5396	-2.63	1020.76	-19.64
874	SLU 54	86	70	5369	-2.84	1018.26	-24.37
874	SLU 55	85	79	5317	-2.97	1010.74	-27.62
874	SLU 56	88	57	5460	-2.59	1031.24	-20.04
874	SLU 57	87	71	5433	-2.79	1028.74	-24.77
874	SLU 58	87	58	5426	-2.58	1025.38	-20.14
874	SLU 59	87	71	5399	-2.78	1022.88	-24.87
874	SLU 60	87	57	5500	-2.81	1040.87	-19.99
874	SLU 61	86	71	5473	-3.01	1038.37	-24.72
874	SLU 62	88	58	5564	-2.76	1051.34	-20.39
874	SLU 63	87	72	5537	-2.97	1048.85	-25.12
874	SLU 64	88	52	5439	-2.53	1027.16	-18.32
874	SLU 65	87	75	5394	-2.87	1022.99	-26.2
874	SLU 66	90	53	5538	-2.49	1043.49	-18.62
874	SLU 67	89	67	5511	-2.7	1040.99	-23.35
874	SLU 68	88	76	5458	-2.83	1033.47	-26.6
874	SLU 69	91	54	5602	-2.45	1053.96	-19.02
874	SLU 70	90	68	5575	-2.65	1051.46	-23.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
874	SLU 71	90	55	5567	-2.44	1048.11	-19.12
874	SLU 72	90	68	5540	-2.64	1045.61	-23.85
874	SLU 73	91	79	5866	-3.19	1108.02	-27.71
874	SLU 74	94	58	6009	-2.81	1128.52	-20.13
874	SLU 75	93	71	5982	-3.01	1126.02	-24.86
874	SLU 76	92	80	5930	-3.14	1118.49	-28.11
874	SLU 77	95	59	6073	-2.76	1138.99	-20.53
874	SLU 78	94	72	6046	-2.96	1136.49	-25.26
874	SLU 79	95	59	6038	-2.75	1133.13	-20.63
874	SLU 80	94	73	6011	-2.96	1130.63	-25.35
874	SLU 81	94	59	6112	-2.98	1148.62	-20.47
874	SLU 82	93	72	6085	-3.18	1146.13	-25.2
874	SLU 83	95	60	6176	-2.93	1159.1	-20.87
874	SLU 84	95	73	6149	-3.14	1156.6	-25.6
874	SLE RA 1	66	40	4049	-1.91	766.44	-13.98
874	SLE RA 2	65	55	4020	-2.14	763.66	-19.24
874	SLE RA 3	67	41	4115	-1.88	777.33	-14.19
874	SLE RA 4	67	50	4097	-2.02	775.66	-17.34
874	SLE RA 5	66	56	4062	-2.11	770.64	-19.51
874	SLE RA 6	68	41	4158	-1.85	784.31	-14.45
874	SLE RA 7	67	50	4140	-1.99	782.64	-17.61
874	SLE RA 8	68	42	4135	-1.85	780.4	-14.52
874	SLE RA 9	67	51	4117	-1.98	778.74	-17.67
874	SLE RA 10	68	58	4334	-2.35	820.35	-20.24
874	SLE RA 11	70	43	4429	-2.09	834.01	-15.19
874	SLE RA 12	70	52	4411	-2.23	832.35	-18.34
874	SLE RA 13	69	59	4376	-2.32	827.33	-20.51
874	SLE RA 14	71	44	4472	-2.06	840.99	-15.46
874	SLE RA 15	70	53	4454	-2.2	839.33	-18.61
874	SLE RA 16	71	44	4449	-2.06	837.09	-15.52
874	SLE RA 17	70	53	4431	-2.19	835.42	-18.68
874	SLE RA 18	70	44	4498	-2.21	847.42	-15.42
874	SLE RA 19	70	53	4480	-2.34	845.75	-18.57
874	SLE RA 20	71	45	4541	-2.18	854.4	-15.69
874	SLE RA 21	70	54	4523	-2.31	852.73	-18.84
874	SLE FR 1	66	40	4049	-1.91	766.44	-13.98
874	SLE FR 2	66	43	4043	-1.95	765.88	-15.04
874	SLE FR 3	66	40	4066	-1.9	769.23	-14.09
874	SLE FR 4	67	44	4178	-2.04	790.18	-15.47
874	SLE FR 5	68	42	4201	-1.99	793.52	-14.52
874	SLE FR 6	68	42	4274	-2.06	806.93	-14.7
874	SLE QP 1	66	40	4049	-1.91	766.44	-13.98
874	SLE QP 2	67	41	4184	-2	790.73	-14.41
874	SLD 1	401	78	2799	-3.88	578.77	-27.3
874	SLD 2	363	201	2744	-4.32	574.33	-70.28
874	SLD 3	422	-203	3466	1.28	640.75	70.95
874	SLD 4	384	-80	3411	0.84	636.32	27.97
874	SLD 5	143	457	2767	-10.31	633.89	-159.89
874	SLD 6	119	537	2731	-10.59	631.03	-187.57
874	SLD 7	211	-480	4990	6.88	840.51	167.59
874	SLD 8	186	-400	4954	6.6	837.66	139.92
874	SLD 9	-52	483	3414	-10.6	743.81	-168.75
874	SLD 10	-76	562	3379	-10.88	740.95	-196.42
874	SLD 11	16	-454	5637	6.59	950.43	158.74
874	SLD 12	-9	-375	5601	6.32	947.57	131.06
874	SLD 13	-249	162	4957	-4.84	945.15	-56.8
874	SLD 14	-287	286	4902	-5.27	940.71	-99.78
874	SLD 15	-229	-119	5624	0.32	1007.13	41.45
874	SLD 16	-267	5	5569	-0.11	1002.69	-1.53
874	SLV 1	589	117	1975	-5.31	455.51	-41.18
874	SLV 2	529	312	1888	-5.99	448.52	-108.93
874	SLV 3	623	-362	3113	3.49	561.29	126.48
874	SLV 4	564	-168	3026	2.81	554.3	58.73
874	SLV 5	182	755	1812	-16.21	531.03	-264.09
874	SLV 6	142	886	1753	-16.67	526.32	-309.69
874	SLV 7	298	-844	5605	13.12	883.64	294.77
874	SLV 8	258	-713	5546	12.66	878.93	249.17
874	SLV 9	-123	795	2822	-16.66	702.53	-278
874	SLV 10	-163	926	2763	-17.12	697.82	-323.6
874	SLV 11	-7	-804	6615	12.67	1055.14	280.86
874	SLV 12	-48	-673	6556	12.21	1050.43	235.26
874	SLV 13	-429	250	5342	-6.8	1027.16	-87.56
874	SLV 14	-489	445	5255	-7.49	1020.17	-155.31
874	SLV 15	-394	-229	6480	2	1132.95	80.1
874	SLV 16	-454	-35	6393	1.31	1125.95	12.35
874	SLV FO 1	641	125	1755	-5.64	421.99	-43.86
874	SLV FO 2	575	339	1659	-6.39	414.29	-118.38
874	SLV FO 3	679	-403	3006	4.04	538.35	140.57
874	SLV FO 4	613	-189	2911	3.29	530.66	66.04
874	SLV FO 5	194	827	1575	-17.63	505.06	-289.05
874	SLV FO 6	150	971	1510	-18.14	499.88	-339.22
874	SLV FO 7	321	-932	5747	14.64	892.93	325.69
874	SLV FO 8	277	-788	5683	14.13	887.75	275.53
874	SLV FO 9	-142	870	2685	-18.13	693.71	-304.36
874	SLV FO 10	-186	1015	2621	-18.63	688.53	-354.52
874	SLV FO 11	-15	-888	6858	14.14	1081.58	310.39
874	SLV FO 12	-59	-744	6793	13.64	1076.4	260.22
874	SLV FO 13	-479	271	5457	-7.28	1050.81	-94.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
874	SLV FO 14	-544	485	5362	-8.04	1043.11	-169.4
874	SLV FO 15	-441	-256	6709	2.4	1167.17	89.55
874	SLV FO 16	-506	-42	6613	1.64	1159.47	15.03
874	CRTFP Ux+	0	0	0	0	0	0
874	CRTFP Ux-	0	0	0	0	0	0
874	CRTFP Uy+	0	0	0	0	0	0
874	CRTFP Uy-	0	0	0	0	0	0
876	SLU 1	-96	25	6429	-0.94	-6	1.17
876	SLU 2	-93	56	6358	-1.45	-4.31	1.06
876	SLU 3	-98	25	6601	-0.86	-6.65	1.21
876	SLU 4	-96	44	6559	-1.17	-5.63	1.14
876	SLU 5	-94	56	6473	-1.38	-4.76	1.08
876	SLU 6	-100	25	6716	-0.8	-7.11	1.24
876	SLU 7	-98	44	6673	-1.1	-6.09	1.17
876	SLU 8	-98	25	6658	-0.82	-6.91	1.22
876	SLU 9	-97	44	6616	-1.12	-5.9	1.16
876	SLU 10	-99	59	7206	-1.69	-6.4	1.24
876	SLU 11	-104	28	7449	-1.11	-8.74	1.4
876	SLU 12	-102	47	7406	-1.41	-7.73	1.33
876	SLU 13	-100	59	7320	-1.63	-6.86	1.27
876	SLU 14	-106	28	7564	-1.05	-9.2	1.42
876	SLU 15	-104	47	7521	-1.35	-8.18	1.35
876	SLU 16	-104	28	7506	-1.06	-9.01	1.41
876	SLU 17	-103	47	7463	-1.36	-7.99	1.34
876	SLU 18	-104	29	7640	-1.3	-8.99	1.44
876	SLU 19	-103	48	7598	-1.6	-7.97	1.37
876	SLU 20	-106	29	7755	-1.23	-9.45	1.46
876	SLU 21	-104	48	7712	-1.53	-8.43	1.39
876	SLU 22	-108	26	7522	-0.91	-9.19	1.4
876	SLU 23	-105	58	7451	-1.41	-7.5	1.28
876	SLU 24	-111	27	7694	-0.83	-9.84	1.44
876	SLU 25	-109	46	7651	-1.13	-8.83	1.37
876	SLU 26	-107	58	7565	-1.35	-7.96	1.31
876	SLU 27	-112	27	7809	-0.77	-10.3	1.47
876	SLU 28	-110	46	7766	-1.07	-9.28	1.4
876	SLU 29	-111	27	7751	-0.78	-10.11	1.45
876	SLU 30	-109	46	7708	-1.08	-9.09	1.38
876	SLU 31	-111	61	8298	-1.66	-9.59	1.47
876	SLU 32	-117	30	8542	-1.07	-11.93	1.62
876	SLU 33	-115	48	8499	-1.38	-10.92	1.55
876	SLU 34	-113	61	8413	-1.59	-10.05	1.49
876	SLU 35	-118	30	8656	-1.01	-12.39	1.65
876	SLU 36	-116	49	8613	-1.31	-11.38	1.58
876	SLU 37	-117	30	8599	-1.03	-12.2	1.64
876	SLU 38	-115	48	8556	-1.33	-11.18	1.57
876	SLU 39	-117	31	8733	-1.26	-12.18	1.66
876	SLU 40	-115	49	8690	-1.56	-11.17	1.59
876	SLU 41	-118	31	8847	-1.2	-12.64	1.69
876	SLU 42	-116	50	8805	-1.5	-11.62	1.62
876	SLU 43	-120	31	7984	-1.24	-6.7	1.45
876	SLU 44	-117	63	7912	-1.74	-5.01	1.33
876	SLU 45	-123	32	8156	-1.16	-7.35	1.49
876	SLU 46	-121	50	8113	-1.46	-6.34	1.42
876	SLU 47	-119	63	8027	-1.68	-5.47	1.36
876	SLU 48	-124	32	8270	-1.1	-7.81	1.51
876	SLU 49	-122	51	8227	-1.4	-6.79	1.44
876	SLU 50	-123	32	8213	-1.11	-7.62	1.5
876	SLU 51	-121	50	8170	-1.41	-6.6	1.43
876	SLU 52	-123	66	8760	-1.99	-7.1	1.52
876	SLU 53	-129	34	9003	-1.41	-9.45	1.67
876	SLU 54	-127	53	8960	-1.71	-8.43	1.6
876	SLU 55	-125	66	8874	-1.92	-7.56	1.54
876	SLU 56	-130	35	9118	-1.34	-9.9	1.7
876	SLU 57	-128	53	9075	-1.64	-8.89	1.63
876	SLU 58	-129	34	9060	-1.36	-9.71	1.68
876	SLU 59	-127	53	9017	-1.66	-8.7	1.61
876	SLU 60	-129	35	9195	-1.59	-9.69	1.71
876	SLU 61	-127	54	9152	-1.89	-8.68	1.64
876	SLU 62	-130	35	9309	-1.53	-10.15	1.74
876	SLU 63	-128	54	9266	-1.83	-9.14	1.67
876	SLU 64	-133	33	9076	-1.2	-9.89	1.67
876	SLU 65	-130	65	9005	-1.71	-8.2	1.56
876	SLU 66	-135	33	9248	-1.12	-10.55	1.71
876	SLU 67	-133	52	9206	-1.42	-9.53	1.64
876	SLU 68	-131	65	9120	-1.64	-8.66	1.58
876	SLU 69	-136	34	9363	-1.06	-11	1.74
876	SLU 70	-135	52	9320	-1.36	-9.99	1.67
876	SLU 71	-135	33	9305	-1.08	-10.81	1.73
876	SLU 72	-134	52	9263	-1.38	-9.79	1.66
876	SLU 73	-136	68	9853	-1.95	-10.3	1.74
876	SLU 74	-141	36	10096	-1.37	-12.64	1.9
876	SLU 75	-139	55	10053	-1.67	-11.62	1.83
876	SLU 76	-137	68	9967	-1.89	-10.75	1.77
876	SLU 77	-142	36	10210	-1.31	-13.1	1.92
876	SLU 78	-141	55	10168	-1.61	-12.08	1.85
876	SLU 79	-141	36	10153	-1.32	-12.9	1.91
876	SLU 80	-140	55	10110	-1.62	-11.89	1.84
876	SLU 81	-141	37	10287	-1.56	-12.89	1.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
876	SLU 82	-139	56	10244	-1.86	-11.87	1.87
876	SLU 83	-143	37	10402	-1.49	-13.34	1.96
876	SLU 84	-141	56	10359	-1.79	-12.33	1.89
876	SLE RA 1	-99	25	6742	-0.93	-6.91	1.24
876	SLE RA 2	-97	46	6694	-1.27	-5.78	1.16
876	SLE RA 3	-101	25	6856	-0.88	-7.34	1.26
876	SLE RA 4	-100	38	6828	-1.08	-6.67	1.22
876	SLE RA 5	-98	46	6770	-1.23	-6.09	1.18
876	SLE RA 6	-102	25	6933	-0.84	-7.65	1.28
876	SLE RA 7	-101	38	6904	-1.04	-6.97	1.24
876	SLE RA 8	-101	25	6894	-0.85	-7.52	1.27
876	SLE RA 9	-100	38	6866	-1.05	-6.84	1.23
876	SLE RA 10	-101	48	7259	-1.43	-7.18	1.28
876	SLE RA 11	-105	27	7421	-1.04	-8.74	1.39
876	SLE RA 12	-104	40	7393	-1.25	-8.06	1.34
876	SLE RA 13	-102	48	7335	-1.39	-7.48	1.3
876	SLE RA 14	-106	27	7498	-1	-9.04	1.4
876	SLE RA 15	-105	40	7469	-1.2	-8.37	1.36
876	SLE RA 16	-105	27	7459	-1.01	-8.92	1.39
876	SLE RA 17	-104	40	7431	-1.21	-8.24	1.35
876	SLE RA 18	-105	28	7549	-1.17	-8.9	1.41
876	SLE RA 19	-104	40	7520	-1.37	-8.23	1.37
876	SLE RA 20	-106	28	7625	-1.13	-9.21	1.43
876	SLE RA 21	-105	41	7597	-1.33	-8.53	1.38
876	SLE FR 1	-99	25	6742	-0.93	-6.91	1.24
876	SLE FR 2	-99	29	6732	-1	-6.68	1.22
876	SLE FR 3	-100	25	6772	-0.92	-7.03	1.24
876	SLE FR 4	-101	30	6974	-1.07	-7.28	1.27
876	SLE FR 5	-101	26	7014	-0.99	-7.63	1.3
876	SLE FR 6	-102	26	7145	-1.05	-7.91	1.32
876	SLE QP 1	-99	25	6742	-0.93	-6.91	1.24
876	SLE QP 2	-101	26	6984	-1	-7.51	1.29
876	SLD 1	485	228	7266	-4.67	13.69	-2.47
876	SLD 2	423	131	7315	-4.16	12.65	-0.17
876	SLD 3	448	-166	8331	2.68	-9.26	-0.91
876	SLD 4	386	-263	8381	3.19	-10.3	1.39
876	SLD 5	142	701	5444	-13.33	33.83	-2.6
876	SLD 6	102	638	5476	-13.01	33.16	-1.12
876	SLD 7	18	-613	8995	11.16	-42.66	2.6
876	SLD 8	-22	-675	9027	11.48	-43.32	4.08
876	SLD 9	-180	727	4940	-13.49	28.31	-1.5
876	SLD 10	-220	664	4972	-13.17	27.64	-0.02
876	SLD 11	-304	-587	8492	11	-48.18	3.7
876	SLD 12	-344	-649	8524	11.32	-48.85	5.18
876	SLD 13	-588	315	5587	-5.2	-4.72	1.19
876	SLD 14	-650	218	5637	-4.69	-5.75	3.49
876	SLD 15	-625	-79	6652	2.15	-27.66	2.75
876	SLD 16	-687	-176	6702	2.66	-28.7	5.05
876	SLV 1	819	371	7345	-7.25	27.37	-4.72
876	SLV 2	722	218	7424	-6.45	25.74	-1.1
876	SLV 3	756	-301	9163	5.28	-11.78	-2.07
876	SLV 4	659	-454	9242	6.08	-13.41	1.56
876	SLV 5	289	1177	4321	-22.04	62.63	-5.22
876	SLV 6	224	1074	4374	-21.5	61.53	-2.78
876	SLV 7	78	-1063	10380	19.74	-67.86	3.63
876	SLV 8	13	-1166	10433	20.28	-68.96	6.07
876	SLV 9	-215	1218	3535	-22.29	53.94	-3.49
876	SLV 10	-280	1115	3588	-21.75	52.84	-1.05
876	SLV 11	-426	-1022	9594	19.49	-76.55	5.36
876	SLV 12	-491	-1125	9647	20.03	-77.65	7.8
876	SLV 13	-861	506	4726	-8.09	-1.6	1.02
876	SLV 14	-958	353	4805	-7.29	-3.24	4.65
876	SLV 15	-924	-166	6544	4.44	-40.75	3.68
876	SLV 16	-1021	-319	6622	5.24	-42.39	7.3
876	SLV FO 1	911	405	7381	-7.88	30.86	-5.32
876	SLV FO 2	805	237	7468	-7	29.06	-1.34
876	SLV FO 3	842	-334	9381	5.91	-12.2	-2.4
876	SLV FO 4	735	-503	9467	6.79	-14	1.59
876	SLV FO 5	328	1292	4055	-24.14	69.65	-5.87
876	SLV FO 6	256	1179	4113	-23.55	68.44	-3.18
876	SLV FO 7	96	-1172	10719	21.82	-73.89	3.87
876	SLV FO 8	24	-1285	10777	22.41	-75.1	6.55
876	SLV FO 9	-226	1337	3190	-24.42	60.09	-3.97
876	SLV FO 10	-298	1224	3248	-23.83	58.88	-1.29
876	SLV FO 11	-458	-1127	9855	21.54	-83.45	5.76
876	SLV FO 12	-530	-1241	9913	22.13	-84.66	8.45
876	SLV FO 13	-937	554	4500	-8.8	-1.01	0.99
876	SLV FO 14	-1044	386	4587	-7.92	-2.81	4.98
876	SLV FO 15	-1007	-185	6500	4.99	-44.08	3.92
876	SLV FO 16	-1113	-353	6586	5.87	-45.87	7.9
876	CRTFP Ux+	0	0	0	0	0	0
876	CRTFP Ux-	0	0	0	0	0	0
876	CRTFP Uy+	0	0	0	0	0	0
876	CRTFP Uy-	0	0	0	0	0	0
879	SLU 1	12	34	2345	26.94	461.5	-8.64
879	SLU 2	12	49	2329	26.63	460.02	-12.26
879	SLU 3	13	35	2405	27.65	472.75	-8.82
879	SLU 4	13	44	2395	27.46	471.86	-11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
879	SLU 5	13	49	2368	27.1	467.43	-12.34
879	SLU 6	13	35	2444	28.12	480.16	-8.9
879	SLU 7	13	44	2434	27.93	479.27	-11.08
879	SLU 8	13	35	2424	27.88	476.32	-8.8
879	SLU 9	13	44	2414	27.7	475.44	-10.98
879	SLU 10	14	52	2641	30.15	519.68	-12.96
879	SLU 11	14	38	2717	31.17	532.4	-9.53
879	SLU 12	14	47	2707	30.98	531.52	-11.7
879	SLU 13	14	52	2681	30.62	527.09	-13.05
879	SLU 14	14	38	2756	31.64	539.82	-9.61
879	SLU 15	14	47	2747	31.45	538.93	-11.78
879	SLU 16	14	38	2736	31.4	535.98	-9.51
879	SLU 17	14	46	2727	31.22	535.09	-11.68
879	SLU 18	14	38	2791	31.97	546.72	-9.64
879	SLU 19	14	47	2782	31.78	545.84	-11.82
879	SLU 20	14	39	2831	32.44	554.14	-9.73
879	SLU 21	14	47	2821	32.25	553.25	-11.9
879	SLU 22	14	39	2737	31.47	535.71	-9.79
879	SLU 23	14	53	2721	31.17	534.24	-13.42
879	SLU 24	15	40	2796	32.18	546.96	-9.98
879	SLU 25	15	48	2787	32	546.08	-12.15
879	SLU 26	15	54	2760	31.63	541.65	-13.5
879	SLU 27	15	40	2836	32.65	554.38	-10.06
879	SLU 28	15	49	2826	32.47	553.49	-12.24
879	SLU 29	15	40	2815	32.41	550.54	-9.96
879	SLU 30	15	48	2806	32.23	549.65	-12.14
879	SLU 31	15	56	3033	34.68	593.9	-14.12
879	SLU 32	16	42	3109	35.7	606.62	-10.68
879	SLU 33	16	51	3099	35.52	605.74	-12.86
879	SLU 34	16	57	3073	35.15	601.31	-14.21
879	SLU 35	16	43	3148	36.17	614.03	-10.77
879	SLU 36	16	51	3138	35.98	613.15	-12.94
879	SLU 37	16	42	3128	35.93	610.2	-10.67
879	SLU 38	16	51	3118	35.75	609.31	-12.84
879	SLU 39	16	43	3183	36.5	620.94	-10.8
879	SLU 40	16	52	3174	36.32	620.06	-12.98
879	SLU 41	16	43	3223	36.97	628.35	-10.88
879	SLU 42	16	52	3213	36.79	627.47	-13.06
879	SLU 43	15	43	2914	33.47	574.5	-10.83
879	SLU 44	16	57	2898	33.16	573.02	-14.45
879	SLU 45	16	44	2974	34.18	585.75	-11.01
879	SLU 46	16	52	2964	33.99	584.86	-13.19
879	SLU 47	16	58	2938	33.63	580.44	-14.54
879	SLU 48	16	44	3013	34.65	593.16	-11.1
879	SLU 49	16	53	3003	34.46	592.28	-13.27
879	SLU 50	16	44	2993	34.41	589.32	-11
879	SLU 51	16	52	2983	34.23	588.44	-13.17
879	SLU 52	17	60	3211	36.68	632.68	-15.16
879	SLU 53	17	47	3286	37.7	645.41	-11.72
879	SLU 54	17	55	3277	37.51	644.52	-13.89
879	SLU 55	17	61	3250	37.15	640.09	-15.24
879	SLU 56	17	47	3326	38.17	652.82	-11.8
879	SLU 57	18	56	3316	37.98	651.93	-13.98
879	SLU 58	17	46	3305	37.93	648.98	-11.7
879	SLU 59	17	55	3296	37.74	648.1	-13.88
879	SLU 60	17	47	3361	38.5	659.73	-11.84
879	SLU 61	17	56	3351	38.31	658.84	-14.01
879	SLU 62	17	47	3400	38.97	667.14	-11.92
879	SLU 63	18	56	3390	38.78	666.25	-14.1
879	SLU 64	17	48	3306	38	648.72	-11.99
879	SLU 65	17	62	3290	37.69	647.24	-15.61
879	SLU 66	18	48	3365	38.71	659.97	-12.17
879	SLU 67	18	57	3356	38.53	659.08	-14.35
879	SLU 68	18	62	3329	38.16	654.65	-15.7
879	SLU 69	18	49	3405	39.18	667.38	-12.26
879	SLU 70	18	57	3395	38.99	666.49	-14.43
879	SLU 71	18	48	3385	38.94	663.54	-12.16
879	SLU 72	18	57	3375	38.76	662.66	-14.33
879	SLU 73	18	65	3602	41.21	706.9	-16.32
879	SLU 74	19	51	3678	42.23	719.63	-12.88
879	SLU 75	19	60	3668	42.04	718.74	-15.05
879	SLU 76	19	65	3642	41.68	714.31	-16.4
879	SLU 77	19	52	3717	42.7	727.04	-12.96
879	SLU 78	19	60	3708	42.51	726.15	-15.14
879	SLU 79	19	51	3697	42.46	723.2	-12.86
879	SLU 80	19	60	3688	42.28	722.32	-15.03
879	SLU 81	19	52	3752	43.03	733.94	-12.99
879	SLU 82	19	60	3743	42.85	733.06	-15.17
879	SLU 83	19	52	3792	43.5	741.36	-13.08
879	SLU 84	19	61	3782	43.32	740.47	-15.25
879	SLE RA 1	13	36	2457	28.24	482.7	-8.97
879	SLE RA 2	13	45	2446	28.03	481.72	-11.38
879	SLE RA 3	13	36	2497	28.71	490.2	-9.09
879	SLE RA 4	13	42	2490	28.59	489.61	-10.54
879	SLE RA 5	13	45	2472	28.34	486.66	-11.44
879	SLE RA 6	13	36	2523	29.02	495.14	-9.15
879	SLE RA 7	13	42	2516	28.9	494.55	-10.6
879	SLE RA 8	13	36	2509	28.86	492.58	-9.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
879	SLE RA 9	13	42	2503	28.74	491.99	-10.53
879	SLE RA 10	14	47	2655	30.38	521.49	-11.85
879	SLE RA 11	14	38	2705	31.05	529.97	-9.56
879	SLE RA 12	14	44	2699	30.93	529.38	-11.01
879	SLE RA 13	14	47	2681	30.69	526.43	-11.91
879	SLE RA 14	14	38	2731	31.37	534.92	-9.62
879	SLE RA 15	14	44	2725	31.24	534.32	-11.07
879	SLE RA 16	14	38	2718	31.21	532.36	-9.55
879	SLE RA 17	14	44	2711	31.09	531.77	-11
879	SLE RA 18	14	38	2755	31.59	539.52	-9.64
879	SLE RA 19	14	44	2748	31.47	538.93	-11.09
879	SLE RA 20	14	39	2781	31.9	544.46	-9.69
879	SLE RA 21	14	44	2774	31.78	543.87	-11.14
879	SLE FR 1	13	36	2457	28.24	482.7	-8.97
879	SLE FR 2	13	38	2455	28.2	482.5	-9.45
879	SLE FR 3	13	36	2467	28.36	484.68	-8.99
879	SLE FR 4	13	38	2544	29.2	499.55	-9.65
879	SLE FR 5	13	37	2557	29.37	501.72	-9.19
879	SLE FR 6	13	37	2606	29.91	511.11	-9.3
879	SLE QP 1	13	36	2457	28.24	482.7	-8.97
879	SLE QP 2	13	36	2546	29.24	499.75	-9.17
879	SLD 1	268	143	2512	28.17	501.68	-38.22
879	SLD 2	246	126	2509	28.18	500.44	-33.5
879	SLD 3	265	-35	2765	32.94	527.51	6.44
879	SLD 4	243	-53	2762	32.95	526.28	11.17
879	SLD 5	98	342	2153	21.67	461.35	-86.43
879	SLD 6	84	331	2151	21.68	460.56	-83.39
879	SLD 7	88	-253	2996	37.6	547.48	62.44
879	SLD 8	74	-264	2994	37.6	546.68	65.48
879	SLD 9	-48	337	2098	20.88	452.81	-83.82
879	SLD 10	-61	326	2096	20.89	452.02	-80.77
879	SLD 11	-58	-258	2942	36.81	538.94	65.05
879	SLD 12	-71	-269	2940	36.81	538.14	68.1
879	SLD 13	-217	126	2330	25.53	473.22	-29.5
879	SLD 14	-238	108	2327	25.54	471.98	-24.78
879	SLD 15	-220	-53	2583	30.31	499.05	15.16
879	SLD 16	-241	-70	2580	30.32	497.82	19.88
879	SLV 1	411	216	2475	27.21	500.87	-57.84
879	SLV 2	378	189	2470	27.23	498.92	-50.39
879	SLV 3	406	-88	2907	35.37	544.99	18.33
879	SLV 4	373	-116	2902	35.38	543.05	25.78
879	SLV 5	147	557	1871	16.27	433.52	-140.67
879	SLV 6	124	538	1868	16.28	432.21	-135.66
879	SLV 7	130	-457	3310	43.44	580.61	113.2
879	SLV 8	107	-476	3307	43.45	579.3	118.22
879	SLV 9	-81	549	1786	15.04	420.19	-136.55
879	SLV 10	-103	530	1782	15.04	418.88	-131.54
879	SLV 11	-98	-465	3225	42.21	567.29	117.32
879	SLV 12	-120	-484	3222	42.22	565.98	122.33
879	SLV 13	-347	189	2191	23.11	456.45	-44.11
879	SLV 14	-380	161	2186	23.12	454.5	-36.66
879	SLV 15	-352	-116	2622	31.26	500.57	32.05
879	SLV 16	-385	-143	2618	31.27	498.63	39.5
879	SLV FO 1	451	234	2468	27.01	500.98	-62.7
879	SLV FO 2	414	204	2462	27.03	498.84	-54.51
879	SLV FO 3	446	-101	2943	35.98	549.52	21.08
879	SLV FO 4	409	-131	2937	35.99	547.38	29.27
879	SLV FO 5	160	609	1803	14.97	426.9	-153.82
879	SLV FO 6	135	588	1800	14.98	425.45	-148.31
879	SLV FO 7	141	-507	3386	44.86	588.7	125.44
879	SLV FO 8	117	-527	3383	44.87	587.26	130.96
879	SLV FO 9	-90	600	1710	13.61	412.24	-149.29
879	SLV FO 10	-115	579	1706	13.62	410.79	-143.78
879	SLV FO 11	-109	-516	3293	43.51	574.04	129.97
879	SLV FO 12	-134	-536	3289	43.52	572.6	135.48
879	SLV FO 13	-383	204	2155	22.49	452.12	-47.61
879	SLV FO 14	-419	174	2150	22.51	449.97	-39.41
879	SLV FO 15	-388	-131	2630	31.46	500.66	36.17
879	SLV FO 16	-425	-161	2625	31.47	498.52	44.37
879	CRTFP Ux+	0	0	0	0	0	0
879	CRTFP Ux-	0	0	0	0	0	0
879	CRTFP Uy+	0	0	0	0	0	0
879	CRTFP Uy-	0	0	0	0	0	0
881	SLU 1	29	25	4092	50.17	-36.86	-0.12
881	SLU 2	29	57	4057	49.48	-36.71	-0.04
881	SLU 3	31	25	4189	51.43	-37.99	-0.13
881	SLU 4	30	44	4168	51.01	-37.89	-0.08
881	SLU 5	30	57	4121	50.31	-37.42	-0.06
881	SLU 6	32	25	4252	52.25	-38.7	-0.15
881	SLU 7	31	44	4232	51.84	-38.61	-0.1
881	SLU 8	31	24	4219	51.82	-38.28	-0.15
881	SLU 9	31	44	4198	51.41	-38.19	-0.11
881	SLU 10	31	59	4608	56.15	-40.84	-0.03
881	SLU 11	33	27	4739	58.1	-42.12	-0.12
881	SLU 12	33	46	4719	57.68	-42.03	-0.07
881	SLU 13	32	59	4671	56.98	-41.56	-0.04
881	SLU 14	34	27	4803	58.92	-42.84	-0.14
881	SLU 15	34	46	4782	58.51	-42.75	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
881	SLU 16	34	26	4769	58.49	-42.42	-0.14
881	SLU 17	34	46	4749	58.08	-42.33	-0.09
881	SLU 18	33	28	4878	59.7	-42.77	-0.1
881	SLU 19	33	47	4858	59.29	-42.68	-0.06
881	SLU 20	34	28	4942	60.52	-43.48	-0.12
881	SLU 21	34	47	4921	60.11	-43.39	-0.07
881	SLU 22	34	29	4774	58.68	-42.41	-0.08
881	SLU 23	33	61	4739	58	-42.26	0
881	SLU 24	35	29	4871	59.94	-43.54	-0.09
881	SLU 25	35	48	4850	59.53	-43.45	-0.04
881	SLU 26	34	61	4803	58.82	-42.97	-0.02
881	SLU 27	36	28	4934	60.76	-44.25	-0.11
881	SLU 28	36	48	4914	60.35	-44.16	-0.06
881	SLU 29	36	28	4901	60.34	-43.84	-0.11
881	SLU 30	35	47	4880	59.92	-43.75	-0.06
881	SLU 31	36	63	5290	64.67	-46.4	0.01
881	SLU 32	37	31	5421	66.61	-47.68	-0.08
881	SLU 33	37	50	5401	66.2	-47.59	-0.03
881	SLU 34	37	63	5353	65.49	-47.11	0
881	SLU 35	38	30	5485	67.44	-48.39	-0.09
881	SLU 36	38	50	5464	67.02	-48.3	-0.05
881	SLU 37	38	30	5451	67.01	-47.98	-0.1
881	SLU 38	38	49	5431	66.59	-47.89	-0.05
881	SLU 39	37	32	5560	68.21	-48.32	-0.06
881	SLU 40	37	51	5540	67.8	-48.23	-0.01
881	SLU 41	38	31	5624	69.04	-49.04	-0.08
881	SLU 42	38	51	5603	68.63	-48.95	-0.03
881	SLU 43	37	31	5086	62.3	-46.01	-0.17
881	SLU 44	36	64	5051	61.62	-45.86	-0.09
881	SLU 45	38	31	5183	63.56	-47.14	-0.18
881	SLU 46	38	51	5162	63.15	-47.05	-0.14
881	SLU 47	37	63	5115	62.44	-46.57	-0.11
881	SLU 48	39	31	5246	64.39	-47.85	-0.2
881	SLU 49	39	50	5225	63.97	-47.76	-0.15
881	SLU 50	39	31	5213	63.96	-47.44	-0.2
881	SLU 51	38	50	5192	63.54	-47.35	-0.16
881	SLU 52	39	66	5602	68.29	-50	-0.08
881	SLU 53	41	33	5733	70.23	-51.28	-0.17
881	SLU 54	40	53	5712	69.82	-51.19	-0.12
881	SLU 55	40	65	5665	69.11	-50.71	-0.1
881	SLU 56	42	33	5797	71.06	-51.99	-0.19
881	SLU 57	41	52	5776	70.64	-51.9	-0.14
881	SLU 58	41	33	5763	70.63	-51.58	-0.19
881	SLU 59	41	52	5742	70.21	-51.48	-0.14
881	SLU 60	41	34	5872	71.83	-51.92	-0.15
881	SLU 61	40	54	5851	71.42	-51.83	-0.11
881	SLU 62	42	34	5935	72.66	-52.64	-0.17
881	SLU 63	41	53	5915	72.25	-52.55	-0.12
881	SLU 64	41	35	5768	70.81	-51.57	-0.13
881	SLU 65	40	67	5733	70.13	-51.41	-0.05
881	SLU 66	42	35	5865	72.07	-52.69	-0.14
881	SLU 67	42	54	5844	71.66	-52.6	-0.09
881	SLU 68	41	67	5797	70.95	-52.13	-0.07
881	SLU 69	43	35	5928	72.9	-53.41	-0.16
881	SLU 70	43	54	5908	72.49	-53.31	-0.11
881	SLU 71	43	34	5895	72.47	-52.99	-0.16
881	SLU 72	43	54	5874	72.06	-52.9	-0.11
881	SLU 73	43	69	6284	76.8	-55.55	-0.04
881	SLU 74	45	37	6415	78.74	-56.83	-0.13
881	SLU 75	45	56	6394	78.33	-56.74	-0.08
881	SLU 76	44	69	6347	77.62	-56.27	-0.05
881	SLU 77	46	37	6479	79.57	-57.54	-0.14
881	SLU 78	46	56	6458	79.16	-57.45	-0.1
881	SLU 79	46	36	6445	79.14	-57.13	-0.15
881	SLU 80	45	56	6424	78.73	-57.04	-0.1
881	SLU 81	45	38	6554	80.34	-57.48	-0.11
881	SLU 82	44	57	6533	79.93	-57.39	-0.06
881	SLU 83	46	38	6617	81.17	-58.19	-0.13
881	SLU 84	45	57	6597	80.76	-58.1	-0.08
881	SLE RA 1	31	26	4287	52.6	-38.45	-0.11
881	SLE RA 2	30	48	4264	52.14	-38.34	-0.06
881	SLE RA 3	31	26	4351	53.44	-39.2	-0.12
881	SLE RA 4	31	39	4338	53.16	-39.14	-0.09
881	SLE RA 5	31	47	4306	52.7	-38.82	-0.07
881	SLE RA 6	32	26	4394	53.99	-39.67	-0.13
881	SLE RA 7	32	39	4380	53.72	-39.61	-0.1
881	SLE RA 8	32	26	4371	53.7	-39.4	-0.13
881	SLE RA 9	32	38	4358	53.43	-39.33	-0.1
881	SLE RA 10	32	49	4631	56.59	-41.1	-0.05
881	SLE RA 11	33	28	4718	57.89	-41.96	-0.11
881	SLE RA 12	33	40	4705	57.61	-41.89	-0.08
881	SLE RA 13	33	49	4673	57.14	-41.58	-0.06
881	SLE RA 14	34	27	4761	58.44	-42.43	-0.12
881	SLE RA 15	34	40	4747	58.16	-42.37	-0.09
881	SLE RA 16	34	27	4738	58.15	-42.15	-0.12
881	SLE RA 17	33	40	4725	57.88	-42.09	-0.09
881	SLE RA 18	33	28	4811	58.95	-42.39	-0.1
881	SLE RA 19	33	41	4797	58.68	-42.33	-0.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
881	SLE RA 20	34	28	4853	59.5	-42.86	-0.11
881	SLE RA 21	34	41	4840	59.23	-42.8	-0.08
881	SLE FR 1	31	26	4287	52.6	-38.45	-0.11
881	SLE FR 2	31	30	4282	52.51	-38.42	-0.1
881	SLE FR 3	31	26	4304	52.82	-38.64	-0.11
881	SLE FR 4	31	31	4439	54.42	-39.61	-0.1
881	SLE FR 5	32	27	4461	54.73	-39.82	-0.11
881	SLE FR 6	32	27	4549	55.78	-40.42	-0.1
881	SLE QP 1	31	26	4287	52.6	-38.45	-0.11
881	SLE QP 2	31	27	4444	54.51	-39.63	-0.11
881	SLD 1	542	200	3814	44.7	-12.57	-8.61
881	SLD 2	497	233	3822	44.76	-12.73	-6.32
881	SLD 3	554	-208	4350	55.24	-15.39	-9.71
881	SLD 4	508	-175	4359	55.29	-15.55	-7.42
881	SLD 5	175	692	3439	35.57	-27.22	-1.38
881	SLD 6	146	713	3445	35.61	-27.32	0.1
881	SLD 7	213	-668	5228	70.7	-36.6	-5.06
881	SLD 8	184	-647	5234	70.73	-36.7	-3.58
881	SLD 9	-121	700	3654	38.28	-42.56	3.37
881	SLD 10	-150	721	3660	38.31	-42.66	4.84
881	SLD 11	-84	-659	5443	73.41	-51.94	-0.31
881	SLD 12	-113	-638	5449	73.44	-52.04	1.16
881	SLD 13	-446	229	4529	53.72	-63.71	7.21
881	SLD 14	-491	262	4538	53.77	-63.87	9.5
881	SLD 15	-435	-179	5066	64.26	-66.52	6.1
881	SLD 16	-480	-146	5075	64.31	-66.68	8.39
881	SLV 1	831	325	3421	38.44	2.78	-13.34
881	SLV 2	759	377	3435	38.52	2.54	-9.73
881	SLV 3	850	-370	4337	56.42	-2.02	-15.23
881	SLV 4	778	-318	4350	56.5	-2.26	-11.62
881	SLV 5	256	1162	2746	22.4	-19.58	-1.89
881	SLV 6	208	1197	2755	22.46	-19.75	0.54
881	SLV 7	319	-1157	5798	82.34	-35.58	-8.17
881	SLV 8	271	-1122	5807	82.39	-35.74	-5.74
881	SLV 9	-208	1176	3081	26.62	-43.51	5.53
881	SLV 10	-256	1211	3090	26.68	-43.68	7.96
881	SLV 11	-145	-1143	6133	86.56	-59.51	-0.75
881	SLV 12	-193	-1108	6142	86.61	-59.67	1.68
881	SLV 13	-716	372	4538	52.51	-76.99	11.4
881	SLV 14	-787	424	4552	52.59	-77.24	15.01
881	SLV 15	-697	-324	5453	70.49	-81.79	9.52
881	SLV 16	-768	-272	5467	70.57	-82.04	13.13
881	SLV FO 1	910	355	3319	36.83	7.02	-14.67
881	SLV FO 2	832	412	3334	36.93	6.75	-10.7
881	SLV FO 3	931	-410	4326	56.61	1.75	-16.74
881	SLV FO 4	853	-353	4341	56.7	1.47	-12.77
881	SLV FO 5	278	1275	2576	19.19	-17.58	-2.07
881	SLV FO 6	225	1314	2586	19.25	-17.76	0.6
881	SLV FO 7	348	-1276	5933	85.12	-35.17	-8.98
881	SLV FO 8	295	-1237	5944	85.18	-35.35	-6.31
881	SLV FO 9	-232	1290	2944	23.83	-43.9	6.09
881	SLV FO 10	-285	1329	2955	23.9	-44.08	8.77
881	SLV FO 11	-162	-1260	6302	89.76	-61.5	-0.81
881	SLV FO 12	-215	-1222	6312	89.82	-61.68	1.86
881	SLV FO 13	-790	406	4547	52.31	-80.73	12.56
881	SLV FO 14	-869	464	4562	52.4	-81	16.53
881	SLV FO 15	-769	-359	5554	72.09	-86.01	10.48
881	SLV FO 16	-848	-302	5570	72.18	-86.28	14.45
881	CRTFP Ux+	0	0	0	0	0	0
881	CRTFP Ux-	0	0	0	0	0	0
881	CRTFP Uy+	0	0	0	0	0	0
881	CRTFP Uy-	0	0	0	0	0	0
883	SLU 1	-47	-1	3187	0.08	-322.73	-0.18
883	SLU 2	-47	18	3146	-0.19	-319.83	4.52
883	SLU 3	-48	-1	3272	0.13	-330.13	-0.33
883	SLU 4	-48	10	3247	-0.03	-328.39	2.48
883	SLU 5	-47	18	3203	-0.14	-324.74	4.46
883	SLU 6	-49	-2	3328	0.17	-335.04	-0.39
883	SLU 7	-48	10	3304	0.02	-333.3	2.42
883	SLU 8	-48	-1	3300	0.16	-332.55	-0.3
883	SLU 9	-48	10	3276	0	-330.81	2.52
883	SLU 10	-50	19	3533	-0.22	-356.55	4.77
883	SLU 11	-52	0	3659	0.1	-366.86	-0.08
883	SLU 12	-51	11	3635	-0.06	-365.12	2.74
883	SLU 13	-51	19	3590	-0.18	-361.47	4.71
883	SLU 14	-52	-1	3716	0.14	-371.77	-0.14
883	SLU 15	-52	11	3691	-0.02	-370.03	2.68
883	SLU 16	-52	0	3688	0.13	-369.28	-0.04
883	SLU 17	-51	11	3663	-0.03	-367.54	2.77
883	SLU 18	-52	1	3740	0.03	-375.19	0.19
883	SLU 19	-52	12	3716	-0.13	-373.45	3
883	SLU 20	-53	0	3797	0.07	-380.1	0.13
883	SLU 21	-52	12	3772	-0.08	-378.37	2.94
883	SLU 22	-53	-3	3701	0.2	-370.05	-0.79
883	SLU 23	-52	16	3660	-0.06	-367.15	3.9
883	SLU 24	-54	-4	3786	0.25	-377.45	-0.95
883	SLU 25	-54	7	3761	0.1	-375.71	1.87
883	SLU 26	-53	15	3717	-0.02	-372.07	3.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
883	SLU 27	-55	-4	3842	0.3	-382.37	-1.01
883	SLU 28	-54	7	3818	0.14	-380.63	1.81
883	SLU 29	-54	-4	3814	0.28	-379.88	-0.91
883	SLU 30	-54	8	3790	0.13	-378.14	1.9
883	SLU 31	-56	17	4047	-0.1	-403.88	4.16
883	SLU 32	-57	-3	4173	0.22	-414.18	-0.69
883	SLU 33	-57	8	4149	0.06	-412.44	2.12
883	SLU 34	-56	16	4104	-0.05	-408.79	4.1
883	SLU 35	-58	-3	4230	0.26	-419.09	-0.75
883	SLU 36	-57	8	4205	0.11	-417.35	2.06
883	SLU 37	-58	-3	4202	0.25	-416.6	-0.66
883	SLU 38	-57	9	4177	0.1	-414.86	2.16
883	SLU 39	-58	-2	4254	0.15	-422.52	-0.43
883	SLU 40	-58	9	4230	0	-420.78	2.39
883	SLU 41	-59	-2	4311	0.2	-427.43	-0.49
883	SLU 42	-58	9	4286	0.04	-425.69	2.33
883	SLU 43	-60	0	3966	0.06	-403.32	-0.02
883	SLU 44	-59	19	3925	-0.21	-400.42	4.67
883	SLU 45	-61	-1	4051	0.11	-410.72	-0.18
883	SLU 46	-60	11	4027	-0.05	-408.98	2.64
883	SLU 47	-59	18	3982	-0.16	-405.33	4.61
883	SLU 48	-61	-1	4108	0.15	-415.63	-0.24
883	SLU 49	-61	10	4084	0	-413.9	2.58
883	SLU 50	-61	-1	4080	0.14	-413.14	-0.14
883	SLU 51	-60	11	4055	-0.01	-411.41	2.67
883	SLU 52	-62	20	4313	-0.24	-437.15	4.93
883	SLU 53	-64	0	4439	0.08	-447.45	0.08
883	SLU 54	-64	12	4414	-0.08	-445.71	2.89
883	SLU 55	-63	19	4370	-0.19	-442.06	4.87
883	SLU 56	-65	0	4496	0.12	-452.36	0.02
883	SLU 57	-64	11	4471	-0.03	-450.62	2.83
883	SLU 58	-64	0	4467	0.11	-449.87	0.11
883	SLU 59	-64	12	4443	-0.05	-448.13	2.93
883	SLU 60	-65	1	4520	0.01	-455.79	0.34
883	SLU 61	-64	13	4495	-0.15	-454.05	3.16
883	SLU 62	-65	1	4577	0.05	-460.7	0.28
883	SLU 63	-65	12	4552	-0.1	-458.96	3.1
883	SLU 64	-65	-3	4480	0.18	-450.64	-0.64
883	SLU 65	-65	16	4439	-0.08	-447.75	4.06
883	SLU 66	-66	-3	4565	0.23	-458.05	-0.79
883	SLU 67	-66	8	4541	0.08	-456.31	2.03
883	SLU 68	-65	16	4496	-0.04	-452.66	4
883	SLU 69	-67	-3	4622	0.28	-462.96	-0.85
883	SLU 70	-66	8	4598	0.12	-461.22	1.97
883	SLU 71	-66	-3	4594	0.27	-460.47	-0.76
883	SLU 72	-66	8	4569	0.11	-458.73	2.06
883	SLU 73	-68	17	4827	-0.11	-484.47	4.31
883	SLU 74	-70	-2	4953	0.2	-494.77	-0.54
883	SLU 75	-69	9	4928	0.04	-493.03	2.28
883	SLU 76	-68	17	4884	-0.07	-489.38	4.25
883	SLU 77	-70	-2	5010	0.25	-499.68	-0.6
883	SLU 78	-70	9	4985	0.09	-497.95	2.22
883	SLU 79	-70	-2	4981	0.23	-497.2	-0.5
883	SLU 80	-69	9	4957	0.08	-495.46	2.32
883	SLU 81	-70	-1	5034	0.13	-503.11	-0.27
883	SLU 82	-70	10	5009	-0.02	-501.37	2.55
883	SLU 83	-71	-1	5091	0.18	-508.02	-0.33
883	SLU 84	-70	10	5066	0.02	-506.28	2.49
883	SLE RA 1	-49	-1	3333	0.11	-336.25	-0.35
883	SLE RA 2	-48	11	3306	-0.06	-334.32	2.78
883	SLE RA 3	-50	-2	3390	0.15	-341.18	-0.46
883	SLE RA 4	-49	6	3374	0.04	-340.02	1.42
883	SLE RA 5	-49	11	3344	-0.04	-337.59	2.74
883	SLE RA 6	-50	-2	3428	0.18	-344.46	-0.5
883	SLE RA 7	-50	6	3412	0.07	-343.3	1.38
883	SLE RA 8	-50	-2	3409	0.17	-342.8	-0.43
883	SLE RA 9	-49	6	3393	0.06	-341.64	1.44
883	SLE RA 10	-51	12	3565	-0.09	-358.8	2.95
883	SLE RA 11	-52	-1	3648	0.13	-365.67	-0.29
883	SLE RA 12	-52	6	3632	0.02	-364.51	1.59
883	SLE RA 13	-51	12	3602	-0.06	-362.07	2.91
883	SLE RA 14	-52	-1	3686	0.15	-368.94	-0.33
883	SLE RA 15	-52	6	3670	0.05	-367.78	1.55
883	SLE RA 16	-52	-1	3667	0.15	-367.28	-0.26
883	SLE RA 17	-52	6	3651	0.04	-366.12	1.61
883	SLE RA 18	-52	0	3702	0.08	-371.23	-0.11
883	SLE RA 19	-52	7	3686	-0.02	-370.07	1.77
883	SLE RA 20	-53	-1	3740	0.11	-374.5	-0.15
883	SLE RA 21	-52	7	3724	0	-373.34	1.73
883	SLE FR 1	-49	-1	3333	0.11	-336.25	-0.35
883	SLE FR 2	-49	1	3328	0.08	-335.86	0.27
883	SLE FR 3	-49	-1	3349	0.12	-337.56	-0.37
883	SLE FR 4	-50	1	3439	0.07	-346.36	0.34
883	SLE FR 5	-50	-1	3459	0.11	-348.05	-0.3
883	SLE FR 6	-51	-1	3518	0.1	-353.74	-0.23
883	SLE QP 1	-49	-1	3333	0.11	-336.25	-0.35
883	SLE QP 2	-50	-1	3444	0.1	-346.74	-0.28
883	SLD 1	230	128	4099	-1.86	-418.08	31.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
883	SLD 2	197	28	4142	-1.55	-422.21	6.98
883	SLD 3	217	-105	4704	2.06	-457.67	-26.4
883	SLD 4	185	-205	4747	2.37	-461.8	-51.19
883	SLD 5	59	408	2716	-6.48	-307.39	101.82
883	SLD 6	38	344	2743	-6.28	-310.05	85.86
883	SLD 7	17	-368	4732	6.58	-439.36	-92.07
883	SLD 8	-4	-433	4760	6.77	-442.01	-108.04
883	SLD 9	-96	430	2129	-6.57	-251.47	107.47
883	SLD 10	-117	366	2156	-6.37	-254.13	91.51
883	SLD 11	-138	-346	4145	6.49	-383.44	-86.42
883	SLD 12	-159	-410	4172	6.68	-386.09	-102.38
883	SLD 13	-285	203	2142	-2.16	-231.69	50.62
883	SLD 14	-318	103	2184	-1.85	-235.81	25.83
883	SLD 15	-298	-30	2747	1.75	-271.28	-7.54
883	SLD 16	-330	-130	2789	2.06	-275.4	-32.33
883	SLV 1	390	218	4422	-3.24	-455.11	54.11
883	SLV 2	338	60	4489	-2.76	-461.61	15.03
883	SLV 3	368	-179	5454	3.44	-522.67	-45.1
883	SLV 4	317	-337	5521	3.92	-529.16	-84.17
883	SLV 5	124	696	2160	-11.13	-275.58	173.79
883	SLV 6	89	590	2205	-10.8	-279.96	147.48
883	SLV 7	52	-628	5600	11.15	-500.77	-156.89
883	SLV 8	18	-734	5644	11.48	-505.14	-183.2
883	SLV 9	-118	731	1244	-11.27	-188.34	182.64
883	SLV 10	-153	625	1289	-10.95	-192.72	156.33
883	SLV 11	-189	-593	4683	11.01	-413.53	-148.04
883	SLV 12	-224	-699	4728	11.33	-417.9	-174.35
883	SLV 13	-417	335	1368	-3.72	-164.32	83.61
883	SLV 14	-468	177	1434	-3.24	-170.82	44.53
883	SLV 15	-438	-63	2400	2.96	-231.87	-15.59
883	SLV 16	-490	-220	2466	3.45	-238.37	-54.67
883	SLV FO 1	434	240	4520	-3.58	-465.95	59.55
883	SLV FO 2	377	66	4593	-3.04	-473.1	16.56
883	SLV FO 3	410	-197	5655	3.77	-540.26	-49.58
883	SLV FO 4	353	-370	5728	4.31	-547.41	-92.56
883	SLV FO 5	141	766	2032	-12.25	-268.47	191.19
883	SLV FO 6	103	649	2081	-11.89	-273.28	162.26
883	SLV FO 7	63	-690	5815	12.25	-516.17	-172.55
883	SLV FO 8	25	-807	5864	12.61	-520.98	-201.49
883	SLV FO 9	-125	805	1024	-12.41	-172.5	200.93
883	SLV FO 10	-163	688	1073	-12.05	-177.32	171.99
883	SLV FO 11	-203	-652	4807	12.1	-420.21	-162.82
883	SLV FO 12	-242	-768	4857	12.45	-425.02	-191.75
883	SLV FO 13	-453	368	1160	-4.1	-146.08	92
883	SLV FO 14	-510	195	1233	-3.57	-153.22	49.01
883	SLV FO 15	-477	-69	2295	3.25	-220.39	-17.12
883	SLV FO 16	-534	-242	2368	3.78	-227.54	-60.11
883	CRTFP Ux+	0	0	0	0	0	0
883	CRTFP Ux-	0	0	0	0	0	0
883	CRTFP Uy+	0	0	0	0	0	0
883	CRTFP Uy-	0	0	0	0	0	0
886	SLU 1	104	45	6466	1.7	6.9	-0.82
886	SLU 2	100	74	6377	1.19	5.61	-0.7
886	SLU 3	108	46	6641	1.86	7.53	-0.86
886	SLU 4	105	64	6588	1.56	6.75	-0.79
886	SLU 5	103	75	6495	1.32	6.03	-0.74
886	SLU 6	110	47	6759	1.98	7.95	-0.9
886	SLU 7	108	64	6706	1.68	7.17	-0.83
886	SLU 8	109	47	6701	1.95	7.75	-0.9
886	SLU 9	107	64	6648	1.64	6.97	-0.83
886	SLU 10	108	80	7217	1.34	6.99	-0.76
886	SLU 11	115	52	7482	2	8.91	-0.92
886	SLU 12	113	70	7428	1.7	8.13	-0.85
886	SLU 13	110	81	7335	1.46	7.41	-0.8
886	SLU 14	117	53	7599	2.13	9.33	-0.96
886	SLU 15	115	70	7546	1.82	8.55	-0.89
886	SLU 16	116	53	7541	2.09	9.13	-0.96
886	SLU 17	114	70	7488	1.79	8.35	-0.89
886	SLU 18	114	54	7666	1.9	8.88	-0.91
886	SLU 19	112	71	7613	1.6	8.1	-0.84
886	SLU 20	117	54	7784	2.03	9.3	-0.95
886	SLU 21	115	72	7730	1.72	8.52	-0.88
886	SLU 22	118	51	7562	2.2	9.43	-0.88
886	SLU 23	114	80	7473	1.7	8.13	-0.77
886	SLU 24	122	52	7737	2.37	10.06	-0.92
886	SLU 25	119	69	7684	2.06	9.28	-0.85
886	SLU 26	117	80	7590	1.82	8.56	-0.81
886	SLU 27	124	53	7855	2.49	10.48	-0.96
886	SLU 28	122	70	7801	2.19	9.7	-0.89
886	SLU 29	123	52	7797	2.45	10.28	-0.96
886	SLU 30	121	70	7744	2.15	9.5	-0.89
886	SLU 31	122	86	8313	1.84	9.52	-0.83
886	SLU 32	129	58	8577	2.51	11.44	-0.99
886	SLU 33	127	75	8524	2.21	10.66	-0.92
886	SLU 34	124	86	8430	1.96	9.94	-0.87
886	SLU 35	131	58	8695	2.63	11.86	-1.03
886	SLU 36	129	76	8642	2.33	11.08	-0.96
886	SLU 37	130	58	8637	2.59	11.66	-1.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
886	SLU 38	128	75	8584	2.29	10.88	-0.96
886	SLU 39	128	59	8762	2.41	11.4	-0.97
886	SLU 40	126	77	8708	2.11	10.63	-0.9
886	SLU 41	131	60	8880	2.53	11.83	-1.02
886	SLU 42	129	77	8826	2.23	11.05	-0.95
886	SLU 43	131	57	8030	2.04	8.11	-1.04
886	SLU 44	127	86	7941	1.53	6.81	-0.92
886	SLU 45	134	58	8206	2.2	8.73	-1.08
886	SLU 46	132	75	8152	1.89	7.95	-1.01
886	SLU 47	129	87	8059	1.65	7.23	-0.96
886	SLU 48	137	59	8323	2.32	9.15	-1.12
886	SLU 49	134	76	8270	2.02	8.38	-1.05
886	SLU 50	136	59	8265	2.28	8.95	-1.12
886	SLU 51	133	76	8212	1.98	8.17	-1.05
886	SLU 52	134	92	8781	1.67	8.19	-0.99
886	SLU 53	141	64	9046	2.34	10.11	-1.14
886	SLU 54	139	81	8992	2.04	9.34	-1.07
886	SLU 55	137	93	8899	1.8	8.61	-1.03
886	SLU 56	144	65	9163	2.46	10.54	-1.18
886	SLU 57	142	82	9110	2.16	9.76	-1.11
886	SLU 58	143	64	9106	2.43	10.33	-1.18
886	SLU 59	141	82	9052	2.12	9.55	-1.11
886	SLU 60	141	66	9230	2.24	10.08	-1.13
886	SLU 61	139	83	9177	1.94	9.3	-1.06
886	SLU 62	143	66	9348	2.36	10.5	-1.17
886	SLU 63	141	84	9295	2.06	9.72	-1.1
886	SLU 64	144	63	9126	2.54	10.64	-1.1
886	SLU 65	141	92	9037	2.04	9.34	-0.99
886	SLU 66	148	64	9301	2.7	11.26	-1.15
886	SLU 67	146	81	9248	2.4	10.48	-1.08
886	SLU 68	143	92	9154	2.16	9.76	-1.03
886	SLU 69	151	64	9419	2.83	11.68	-1.19
886	SLU 70	148	82	9366	2.52	10.9	-1.12
886	SLU 71	150	64	9361	2.79	11.48	-1.19
886	SLU 72	147	81	9308	2.48	10.7	-1.12
886	SLU 73	148	97	9877	2.18	10.72	-1.05
886	SLU 74	155	69	10141	2.85	12.64	-1.21
886	SLU 75	153	87	10088	2.54	11.86	-1.14
886	SLU 76	150	98	9995	2.3	11.14	-1.09
886	SLU 77	158	70	10259	2.97	13.06	-1.25
886	SLU 78	155	87	10206	2.67	12.29	-1.18
886	SLU 79	157	70	10201	2.93	12.86	-1.25
886	SLU 80	154	87	10148	2.63	12.08	-1.18
886	SLU 81	155	71	10326	2.75	12.61	-1.2
886	SLU 82	152	88	10273	2.44	11.83	-1.13
886	SLU 83	157	72	10444	2.87	13.03	-1.24
886	SLU 84	155	89	10390	2.57	12.25	-1.17
886	SLE RA 1	108	47	6779	1.84	7.63	-0.84
886	SLE RA 2	106	66	6720	1.51	6.76	-0.76
886	SLE RA 3	110	48	6896	1.95	8.04	-0.86
886	SLE RA 4	109	59	6860	1.75	7.52	-0.82
886	SLE RA 5	107	67	6798	1.59	7.04	-0.78
886	SLE RA 6	112	48	6974	2.03	8.32	-0.89
886	SLE RA 7	111	60	6939	1.83	7.8	-0.84
886	SLE RA 8	111	48	6936	2.01	8.19	-0.89
886	SLE RA 9	110	59	6900	1.81	7.67	-0.84
886	SLE RA 10	110	70	7280	1.6	7.68	-0.8
886	SLE RA 11	115	52	7456	2.05	8.96	-0.91
886	SLE RA 12	114	63	7421	1.84	8.44	-0.86
886	SLE RA 13	112	71	7358	1.68	7.96	-0.83
886	SLE RA 14	117	52	7535	2.13	9.24	-0.93
886	SLE RA 15	115	64	7499	1.93	8.73	-0.89
886	SLE RA 16	116	52	7496	2.1	9.11	-0.93
886	SLE RA 17	115	63	7460	1.9	8.59	-0.89
886	SLE RA 18	115	53	7579	1.98	8.94	-0.9
886	SLE RA 19	113	64	7544	1.78	8.42	-0.85
886	SLE RA 20	117	53	7658	2.06	9.22	-0.92
886	SLE RA 21	115	65	7622	1.86	8.7	-0.88
886	SLE FR 1	108	47	6779	1.84	7.63	-0.84
886	SLE FR 2	108	51	6767	1.78	7.45	-0.82
886	SLE FR 3	109	47	6810	1.88	7.74	-0.85
886	SLE FR 4	110	53	7007	1.82	7.85	-0.84
886	SLE FR 5	111	49	7050	1.92	8.13	-0.86
886	SLE FR 6	111	50	7179	1.91	8.28	-0.87
886	SLE QP 1	108	47	6779	1.84	7.63	-0.84
886	SLE QP 2	110	49	7019	1.88	8.02	-0.85
886	SLD 1	648	220	5678	-2.11	1.91	-3.22
886	SLD 2	579	310	5599	-2.64	3.12	-0.97
886	SLD 3	701	-145	7033	5.34	20.22	-4.94
886	SLD 4	631	-55	6954	4.81	21.44	-2.69
886	SLD 5	204	638	4575	-10.52	-21.8	0.66
886	SLD 6	159	696	4525	-10.86	-21.02	2.11
886	SLD 7	379	-578	9091	14.31	39.25	-5.08
886	SLD 8	334	-521	9041	13.97	40.03	-3.63
886	SLD 9	-114	618	4997	-10.2	-23.99	1.92
886	SLD 10	-159	676	4947	-10.54	-23.21	3.37
886	SLD 11	61	-599	9513	14.63	37.06	-3.81
886	SLD 12	16	-541	9463	14.29	37.84	-2.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
886	SLD 13	-411	153	7084	-1.05	-5.39	0.99
886	SLD 14	-481	242	7006	-1.57	-4.18	3.23
886	SLD 15	-358	-212	8439	6.4	12.92	-0.74
886	SLD 16	-428	-123	8360	5.88	14.14	1.51
886	SLV 1	949	343	4827	-4.89	-2.58	-4.45
886	SLV 2	840	484	4704	-5.72	-0.66	-0.91
886	SLV 3	1039	-280	7139	7.82	28.69	-7.39
886	SLV 4	929	-139	7015	6.99	30.61	-3.85
886	SLV 5	246	1055	2878	-19.27	-42.94	1.86
886	SLV 6	172	1150	2795	-19.83	-41.65	4.24
886	SLV 7	545	-1021	10584	23.1	61.29	-7.93
886	SLV 8	471	-926	10501	22.54	62.58	-5.55
886	SLV 9	-251	1023	3537	-18.77	-46.54	3.84
886	SLV 10	-325	1118	3454	-19.33	-45.25	6.22
886	SLV 11	48	-1052	11243	23.6	57.69	-5.95
886	SLV 12	-26	-958	11160	23.04	58.98	-3.57
886	SLV 13	-709	236	7023	-3.22	-14.57	2.14
886	SLV 14	-819	377	6899	-4.05	-12.65	5.68
886	SLV 15	-619	-386	9334	9.49	16.7	-0.8
886	SLV 16	-729	-245	9211	8.66	18.62	2.74
886	SLV FO 1	1033	372	4608	-5.57	-3.64	-4.81
886	SLV FO 2	912	527	4472	-6.48	-1.53	-0.92
886	SLV FO 3	1132	-313	7151	8.42	30.76	-8.04
886	SLV FO 4	1011	-158	7015	7.5	32.87	-4.15
886	SLV FO 5	260	1156	2464	-21.39	-48.04	2.13
886	SLV FO 6	179	1260	2373	-22	-46.62	4.75
886	SLV FO 7	589	-1127	10941	25.22	66.62	-8.64
886	SLV FO 8	507	-1023	10849	24.61	68.04	-6.02
886	SLV FO 9	-287	1121	3189	-20.84	-51.99	4.31
886	SLV FO 10	-369	1225	3097	-21.45	-50.58	6.93
886	SLV FO 11	42	-1163	11665	25.77	62.66	-6.46
886	SLV FO 12	-40	-1058	11574	25.16	64.08	-3.84
886	SLV FO 13	-791	255	7023	-3.74	-16.83	2.44
886	SLV FO 14	-912	410	6887	-4.65	-14.72	6.33
886	SLV FO 15	-692	-430	9566	10.25	17.57	-0.79
886	SLV FO 16	-813	-275	9430	9.33	19.68	3.1
886	CRTFP Ux+	0	0	0	0	0	0
886	CRTFP Ux-	0	0	0	0	0	0
886	CRTFP Uy+	0	0	0	0	0	0
886	CRTFP Uy-	0	0	0	0	0	0
889	SLU 1	64	39	3863	1.15	721.1	-13.59
889	SLU 2	62	61	3807	0.75	713.65	-21.47
889	SLU 3	66	40	3964	1.27	737.84	-13.88
889	SLU 4	65	53	3930	1.03	733.37	-18.61
889	SLU 5	64	62	3874	0.85	724.58	-21.86
889	SLU 6	67	41	4030	1.37	748.77	-14.27
889	SLU 7	66	54	3997	1.14	744.3	-19
889	SLU 8	67	41	3995	1.35	742.96	-14.37
889	SLU 9	66	54	3962	1.11	738.49	-19.1
889	SLU 10	67	66	4275	0.85	796.01	-22.95
889	SLU 11	70	44	4432	1.36	820.2	-15.36
889	SLU 12	69	57	4398	1.13	815.73	-20.09
889	SLU 13	68	67	4341	0.95	806.94	-23.34
889	SLU 14	72	45	4498	1.47	831.13	-15.75
889	SLU 15	71	58	4464	1.23	826.66	-20.48
889	SLU 16	71	45	4463	1.44	825.32	-15.85
889	SLU 17	70	59	4430	1.21	820.85	-20.58
889	SLU 18	70	45	4531	1.28	838.75	-15.7
889	SLU 19	69	58	4498	1.04	834.28	-20.43
889	SLU 20	72	46	4597	1.38	849.68	-16.09
889	SLU 21	71	59	4564	1.15	845.22	-20.82
889	SLU 22	71	40	4478	1.51	827.55	-14.03
889	SLU 23	70	63	4423	1.11	820.11	-21.91
889	SLU 24	73	41	4579	1.63	844.3	-14.32
889	SLU 25	72	54	4546	1.39	839.83	-19.05
889	SLU 26	71	64	4489	1.21	831.04	-22.3
889	SLU 27	75	42	4645	1.73	855.23	-14.71
889	SLU 28	74	55	4612	1.5	850.76	-19.44
889	SLU 29	74	42	4611	1.71	849.42	-14.81
889	SLU 30	73	56	4577	1.47	844.95	-19.54
889	SLU 31	74	67	4890	1.21	902.46	-23.39
889	SLU 32	78	45	5047	1.72	926.66	-15.8
889	SLU 33	76	59	5013	1.49	922.19	-20.53
889	SLU 34	75	68	4956	1.31	913.4	-23.78
889	SLU 35	79	46	5113	1.83	937.59	-16.19
889	SLU 36	78	60	5079	1.59	933.12	-20.92
889	SLU 37	78	46	5078	1.8	931.78	-16.29
889	SLU 38	77	60	5045	1.57	927.31	-21.02
889	SLU 39	78	46	5146	1.64	945.21	-16.14
889	SLU 40	76	60	5113	1.4	940.74	-20.87
889	SLU 41	79	47	5213	1.74	956.14	-16.54
889	SLU 42	78	61	5179	1.51	951.67	-21.27
889	SLU 43	81	50	4811	1.37	900.92	-17.51
889	SLU 44	79	72	4756	0.97	893.48	-25.39
889	SLU 45	83	51	4912	1.49	917.67	-17.8
889	SLU 46	82	64	4878	1.25	913.2	-22.53
889	SLU 47	80	74	4822	1.07	904.41	-25.78
889	SLU 48	84	52	4978	1.59	928.6	-18.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
889	SLU 49	83	65	4945	1.36	924.13	-22.92
889	SLU 50	83	52	4944	1.57	922.79	-18.29
889	SLU 51	82	66	4910	1.33	918.32	-23.02
889	SLU 52	83	77	5223	1.07	975.83	-26.87
889	SLU 53	87	55	5380	1.58	1000.03	-19.28
889	SLU 54	86	69	5346	1.35	995.56	-24.01
889	SLU 55	85	78	5289	1.17	986.77	-27.26
889	SLU 56	88	56	5446	1.69	1010.96	-19.67
889	SLU 57	87	70	5412	1.45	1006.49	-24.4
889	SLU 58	88	56	5411	1.66	1005.15	-19.77
889	SLU 59	87	70	5378	1.43	1000.68	-24.5
889	SLU 60	87	56	5479	1.5	1018.58	-19.62
889	SLU 61	86	69	5446	1.26	1014.11	-24.35
889	SLU 62	88	57	5546	1.6	1029.51	-20.02
889	SLU 63	87	71	5512	1.37	1025.04	-24.75
889	SLU 64	88	51	5426	1.73	1007.38	-17.95
889	SLU 65	86	74	5371	1.33	999.93	-25.84
889	SLU 66	90	52	5527	1.85	1024.13	-18.24
889	SLU 67	89	66	5494	1.61	1019.66	-22.97
889	SLU 68	88	75	5437	1.43	1010.87	-26.23
889	SLU 69	91	53	5593	1.95	1035.06	-18.64
889	SLU 70	90	67	5560	1.72	1030.59	-23.37
889	SLU 71	91	53	5559	1.93	1029.25	-18.74
889	SLU 72	90	67	5525	1.69	1024.78	-23.47
889	SLU 73	91	78	5838	1.43	1082.29	-27.32
889	SLU 74	94	56	5995	1.94	1106.49	-19.72
889	SLU 75	93	70	5961	1.71	1102.02	-24.45
889	SLU 76	92	79	5905	1.53	1093.23	-27.71
889	SLU 77	96	57	6061	2.05	1117.42	-20.12
889	SLU 78	95	71	6027	1.81	1112.95	-24.85
889	SLU 79	95	58	6026	2.02	1111.61	-20.22
889	SLU 80	94	71	5993	1.79	1107.14	-24.95
889	SLU 81	94	57	6095	1.86	1125.04	-20.07
889	SLU 82	93	71	6061	1.62	1120.57	-24.8
889	SLU 83	96	58	6161	1.96	1135.97	-20.46
889	SLU 84	95	72	6127	1.73	1131.5	-25.19
889	SLE RA 1	66	39	4039	1.25	751.51	-13.71
889	SLE RA 2	65	54	4002	0.99	746.55	-18.97
889	SLE RA 3	67	40	4106	1.33	762.68	-13.91
889	SLE RA 4	67	49	4084	1.17	759.7	-17.06
889	SLE RA 5	66	55	4046	1.05	753.84	-19.23
889	SLE RA 6	68	40	4150	1.4	769.96	-14.17
889	SLE RA 7	68	49	4128	1.24	766.98	-17.32
889	SLE RA 8	68	41	4127	1.38	766.09	-14.24
889	SLE RA 9	67	50	4105	1.23	763.11	-17.39
889	SLE RA 10	68	57	4314	1.05	801.45	-19.95
889	SLE RA 11	70	42	4418	1.39	817.58	-14.89
889	SLE RA 12	70	51	4396	1.24	814.6	-18.05
889	SLE RA 13	69	58	4358	1.12	808.74	-20.22
889	SLE RA 14	71	43	4462	1.46	824.87	-15.15
889	SLE RA 15	70	52	4440	1.3	821.89	-18.31
889	SLE RA 16	71	43	4439	1.45	821	-15.22
889	SLE RA 17	70	52	4417	1.29	818.02	-18.38
889	SLE RA 18	70	43	4484	1.34	829.95	-15.12
889	SLE RA 19	70	52	4462	1.18	826.97	-18.28
889	SLE RA 20	71	44	4528	1.41	837.24	-15.38
889	SLE RA 21	70	53	4506	1.25	834.26	-18.54
889	SLE FR 1	66	39	4039	1.25	751.51	-13.71
889	SLE FR 2	66	42	4031	1.2	750.52	-14.76
889	SLE FR 3	66	39	4057	1.28	754.43	-13.82
889	SLE FR 4	67	43	4165	1.22	774.05	-15.19
889	SLE FR 5	68	41	4190	1.3	777.96	-14.24
889	SLE FR 6	68	41	4262	1.29	790.73	-14.42
889	SLE QP 1	66	39	4039	1.25	751.51	-13.71
889	SLE QP 2	67	40	4173	1.28	775.04	-14.14
889	SLD 1	411	77	2713	-1.9	544	-27.02
889	SLD 2	366	200	2644	-2.4	535.4	-69.98
889	SLD 3	435	-204	3544	4.01	655.01	71.2
889	SLD 4	390	-81	3475	3.51	646.41	28.23
889	SLD 5	141	456	2486	-8.56	538.85	-159.57
889	SLD 6	112	536	2442	-8.88	533.31	-187.23
889	SLD 7	223	-481	5256	11.15	908.87	167.81
889	SLD 8	194	-401	5212	10.83	903.34	140.14
889	SLD 9	-59	482	3133	-8.28	646.75	-168.41
889	SLD 10	-88	561	3089	-8.6	641.21	-196.08
889	SLD 11	23	-455	5903	11.43	1016.78	158.96
889	SLD 12	-6	-376	5859	11.11	1011.24	131.3
889	SLD 13	-256	161	4870	-0.96	903.68	-56.5
889	SLD 14	-300	285	4801	-1.46	895.08	-99.47
889	SLD 15	-231	-120	5701	4.95	1014.68	41.71
889	SLD 16	-276	4	5632	4.45	1006.09	-1.25
889	SLV 1	603	116	1835	-4.11	406.51	-40.9
889	SLV 2	533	311	1727	-4.89	392.96	-108.62
889	SLV 3	645	-363	3253	5.98	595.93	126.7
889	SLV 4	574	-169	3145	5.2	582.38	58.98
889	SLV 5	178	754	1341	-15.49	379.73	-263.72
889	SLV 6	130	885	1268	-16.02	370.6	-309.31
889	SLV 7	317	-845	6068	18.13	1011.13	294.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
889	SLV 8	270	-714	5994	17.6	1002	249.36
889	SLV 9	-135	794	2351	-15.05	548.08	-277.63
889	SLV 10	-183	925	2278	-15.58	538.96	-323.22
889	SLV 11	4	-805	7077	18.57	1179.48	281.04
889	SLV 12	-43	-674	7004	18.04	1170.36	235.45
889	SLV 13	-440	249	5201	-2.64	967.71	-87.25
889	SLV 14	-510	444	5092	-3.43	954.15	-154.97
889	SLV 15	-398	-230	6618	7.44	1157.13	80.35
889	SLV 16	-469	-36	6510	6.66	1143.57	12.63
889	SLV FO 1	657	124	1602	-4.64	369.66	-43.57
889	SLV FO 2	579	338	1482	-5.51	354.75	-118.07
889	SLV FO 3	703	-404	3161	6.45	578.02	140.79
889	SLV FO 4	625	-190	3042	5.59	563.11	66.29
889	SLV FO 5	189	826	1058	-17.17	340.2	-288.68
889	SLV FO 6	137	970	978	-17.75	330.16	-338.83
889	SLV FO 7	342	-933	6257	19.82	1034.73	325.86
889	SLV FO 8	290	-789	6177	19.24	1024.7	275.71
889	SLV FO 9	-155	870	2169	-16.69	525.39	-303.98
889	SLV FO 10	-208	1014	2088	-17.27	515.35	-354.13
889	SLV FO 11	-2	-889	7368	20.3	1219.93	310.56
889	SLV FO 12	-54	-745	7287	19.72	1209.89	260.41
889	SLV FO 13	-490	270	5303	-3.04	986.97	-94.56
889	SLV FO 14	-568	484	5184	-3.9	972.06	-169.06
889	SLV FO 15	-444	-257	6863	8.06	1195.33	89.8
889	SLV FO 16	-522	-43	6743	7.2	1180.43	15.3
889	CRTFP Ux+	0	0	0	0	0	0
889	CRTFP Ux-	0	0	0	0	0	0
889	CRTFP Uy+	0	0	0	0	0	0
889	CRTFP Uy-	0	0	0	0	0	0
891	SLU 1	-102	25	6405	-0.57	-8.42	1.07
891	SLU 2	-98	57	6318	-1.07	-6.72	0.96
891	SLU 3	-105	26	6580	-0.49	-9.13	1.1
891	SLU 4	-102	44	6527	-0.78	-8.11	1.04
891	SLU 5	-100	57	6435	-1	-7.22	0.99
891	SLU 6	-106	26	6696	-0.42	-9.63	1.12
891	SLU 7	-104	45	6644	-0.72	-8.61	1.06
891	SLU 8	-105	26	6638	-0.44	-9.42	1.11
891	SLU 9	-103	44	6586	-0.73	-8.4	1.05
891	SLU 10	-105	60	7159	-1.29	-9.15	1.15
891	SLU 11	-112	28	7420	-0.71	-11.57	1.28
891	SLU 12	-109	47	7368	-1	-10.55	1.22
891	SLU 13	-107	60	7275	-1.22	-9.65	1.17
891	SLU 14	-113	29	7536	-0.64	-12.07	1.3
891	SLU 15	-111	47	7484	-0.94	-11.05	1.24
891	SLU 16	-112	28	7478	-0.66	-11.85	1.29
891	SLU 17	-110	47	7426	-0.95	-10.83	1.23
891	SLU 18	-112	29	7605	-0.89	-11.89	1.33
891	SLU 19	-110	48	7553	-1.18	-10.87	1.27
891	SLU 20	-113	29	7722	-0.82	-12.39	1.35
891	SLU 21	-111	48	7670	-1.12	-11.37	1.29
891	SLU 22	-115	27	7499	-0.51	-12.04	1.28
891	SLU 23	-112	59	7412	-1	-10.35	1.18
891	SLU 24	-118	27	7674	-0.42	-12.76	1.31
891	SLU 25	-116	46	7622	-0.72	-11.74	1.25
891	SLU 26	-113	59	7529	-0.94	-10.84	1.2
891	SLU 27	-120	28	7790	-0.36	-13.26	1.33
891	SLU 28	-118	46	7738	-0.65	-12.24	1.27
891	SLU 29	-119	27	7732	-0.37	-13.04	1.32
891	SLU 30	-116	46	7680	-0.67	-12.02	1.26
891	SLU 31	-119	61	8253	-1.22	-12.78	1.36
891	SLU 32	-125	30	8514	-0.64	-15.19	1.49
891	SLU 33	-123	49	8462	-0.94	-14.17	1.43
891	SLU 34	-120	62	8369	-1.16	-13.28	1.38
891	SLU 35	-127	30	8630	-0.58	-15.69	1.51
891	SLU 36	-125	49	8578	-0.87	-14.67	1.45
891	SLU 37	-125	30	8572	-0.59	-15.48	1.5
891	SLU 38	-123	49	8520	-0.89	-14.46	1.44
891	SLU 39	-125	31	8699	-0.82	-15.52	1.54
891	SLU 40	-123	50	8647	-1.12	-14.5	1.48
891	SLU 41	-127	31	8816	-0.76	-16.02	1.56
891	SLU 42	-125	50	8764	-1.05	-15	1.5
891	SLU 43	-128	32	7951	-0.77	-9.7	1.31
891	SLU 44	-124	64	7865	-1.26	-8	1.21
891	SLU 45	-130	32	8126	-0.68	-10.42	1.35
891	SLU 46	-128	51	8074	-0.98	-9.4	1.29
891	SLU 47	-126	64	7981	-1.19	-8.5	1.23
891	SLU 48	-132	33	8242	-0.61	-10.91	1.37
891	SLU 49	-130	51	8190	-0.91	-9.9	1.31
891	SLU 50	-131	33	8184	-0.63	-10.7	1.36
891	SLU 51	-129	51	8132	-0.93	-9.68	1.3
891	SLU 52	-131	66	8705	-1.48	-10.43	1.39
891	SLU 53	-137	35	8966	-0.9	-12.85	1.53
891	SLU 54	-135	54	8914	-1.2	-11.83	1.47
891	SLU 55	-133	67	8821	-1.41	-10.93	1.42
891	SLU 56	-139	35	9083	-0.83	-13.35	1.55
891	SLU 57	-137	54	9031	-1.13	-12.33	1.49
891	SLU 58	-138	35	9025	-0.85	-13.13	1.54
891	SLU 59	-136	54	8973	-1.15	-12.11	1.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
891	SLU 60	-138	36	9152	-1.08	-13.18	1.57
891	SLU 61	-136	55	9100	-1.38	-12.16	1.51
891	SLU 62	-139	36	9268	-1.01	-13.68	1.6
891	SLU 63	-137	55	9216	-1.31	-12.66	1.53
891	SLU 64	-141	34	9045	-0.7	-13.33	1.52
891	SLU 65	-138	66	8959	-1.2	-11.63	1.42
891	SLU 66	-144	34	9220	-0.62	-14.04	1.56
891	SLU 67	-142	53	9168	-0.91	-13.02	1.5
891	SLU 68	-139	66	9075	-1.13	-12.13	1.44
891	SLU 69	-146	35	9336	-0.55	-14.54	1.58
891	SLU 70	-143	53	9284	-0.85	-13.52	1.52
891	SLU 71	-144	34	9278	-0.57	-14.33	1.57
891	SLU 72	-142	53	9226	-0.86	-13.31	1.51
891	SLU 73	-145	68	9799	-1.42	-14.06	1.6
891	SLU 74	-151	37	10060	-0.84	-16.48	1.74
891	SLU 75	-149	56	10008	-1.13	-15.46	1.68
891	SLU 76	-146	69	9915	-1.35	-14.56	1.63
891	SLU 77	-153	37	10177	-0.77	-16.98	1.76
891	SLU 78	-150	56	10125	-1.07	-15.96	1.7
891	SLU 79	-151	37	10119	-0.79	-16.76	1.75
891	SLU 80	-149	56	10067	-1.08	-15.74	1.69
891	SLU 81	-151	38	10246	-1.02	-16.8	1.78
891	SLU 82	-149	57	10194	-1.31	-15.78	1.72
891	SLU 83	-153	38	10362	-0.95	-17.3	1.81
891	SLU 84	-151	57	10310	-1.25	-16.28	1.75
891	SLE RA 1	-106	26	6718	-0.55	-9.45	1.13
891	SLE RA 2	-103	47	6660	-0.88	-8.32	1.06
891	SLE RA 3	-108	26	6834	-0.5	-9.93	1.15
891	SLE RA 4	-106	39	6799	-0.69	-9.25	1.11
891	SLE RA 5	-104	47	6737	-0.84	-8.65	1.07
891	SLE RA 6	-109	26	6912	-0.45	-10.26	1.16
891	SLE RA 7	-107	39	6877	-0.65	-9.58	1.12
891	SLE RA 8	-108	26	6873	-0.46	-10.12	1.15
891	SLE RA 9	-106	39	6838	-0.66	-9.44	1.11
891	SLE RA 10	-108	49	7220	-1.03	-9.94	1.18
891	SLE RA 11	-112	28	7394	-0.64	-11.55	1.27
891	SLE RA 12	-111	40	7359	-0.84	-10.87	1.23
891	SLE RA 13	-109	49	7298	-0.99	-10.28	1.19
891	SLE RA 14	-113	28	7472	-0.6	-11.89	1.28
891	SLE RA 15	-112	41	7437	-0.8	-11.21	1.24
891	SLE RA 16	-112	28	7433	-0.61	-11.74	1.28
891	SLE RA 17	-111	40	7398	-0.81	-11.06	1.24
891	SLE RA 18	-112	29	7518	-0.76	-11.77	1.3
891	SLE RA 19	-111	41	7483	-0.96	-11.09	1.26
891	SLE RA 20	-113	29	7596	-0.72	-12.11	1.31
891	SLE RA 21	-112	41	7561	-0.92	-11.43	1.27
891	SLE FR 1	-106	26	6718	-0.55	-9.45	1.13
891	SLE FR 2	-105	30	6706	-0.62	-9.23	1.11
891	SLE FR 3	-106	26	6749	-0.54	-9.59	1.13
891	SLE FR 4	-107	31	6946	-0.68	-9.92	1.16
891	SLE FR 5	-108	27	6989	-0.6	-10.28	1.18
891	SLE FR 6	-109	27	7118	-0.66	-10.61	1.21
891	SLE QP 1	-106	26	6718	-0.55	-9.45	1.13
891	SLE QP 2	-108	27	6958	-0.62	-10.15	1.18
891	SLD 1	499	229	7126	-4.1	11.12	-3.27
891	SLD 2	425	132	7191	-3.63	10.08	-0.91
891	SLD 3	454	-164	8417	3.17	-11.95	-1.88
891	SLD 4	380	-261	8482	3.64	-12.99	0.48
891	SLD 5	156	701	5038	-12.76	31.39	-2.68
891	SLD 6	108	638	5080	-12.46	30.72	-1.16
891	SLD 7	5	-610	9343	11.46	-45.49	1.97
891	SLD 8	-43	-673	9385	11.76	-46.16	3.49
891	SLD 9	-173	726	4530	-13	25.86	-1.13
891	SLD 10	-221	664	4572	-12.69	25.19	0.38
891	SLD 11	-324	-585	8835	11.23	-51.02	3.51
891	SLD 12	-371	-647	8877	11.53	-51.69	5.03
891	SLD 13	-596	315	5433	-4.87	-7.31	1.87
891	SLD 14	-670	218	5498	-4.4	-8.35	4.23
891	SLD 15	-641	-79	6724	2.39	-30.38	3.27
891	SLD 16	-715	-176	6790	2.86	-31.42	5.63
891	SLV 1	846	372	7125	-6.58	24.84	-5.9
891	SLV 2	730	219	7228	-5.84	23.21	-2.18
891	SLV 3	769	-299	9329	5.82	-14.51	-3.52
891	SLV 4	653	-452	9431	6.56	-16.14	0.2
891	SLV 5	317	1176	3647	-21.35	60.34	-5.24
891	SLV 6	238	1073	3716	-20.85	59.24	-2.74
891	SLV 7	60	-1060	10992	19.98	-70.84	2.67
891	SLV 8	-18	-1163	11061	20.48	-71.94	5.18
891	SLV 9	-198	1216	2855	-21.71	51.64	-2.82
891	SLV 10	-276	1113	2924	-21.21	50.54	-0.32
891	SLV 11	-454	-1020	10199	19.61	-79.53	5.09
891	SLV 12	-532	-1123	10268	20.11	-80.64	7.59
891	SLV 13	-869	505	4484	-7.79	-4.16	2.16
891	SLV 14	-985	352	4587	-7.05	-5.79	5.88
891	SLV 15	-946	-165	6688	4.6	-43.51	4.53
891	SLV 16	-1062	-318	6790	5.34	-45.14	8.25
891	SLV FO 1	942	406	7142	-7.18	28.34	-6.6
891	SLV FO 2	814	238	7255	-6.36	26.54	-2.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
891	SLV FO 3	857	-332	9566	6.46	-14.94	-3.99
891	SLV FO 4	729	-500	9679	7.28	-16.74	0.1
891	SLV FO 5	359	1291	3316	-23.42	67.38	-5.88
891	SLV FO 6	273	1178	3392	-22.87	66.17	-3.13
891	SLV FO 7	77	-1169	11395	22.04	-76.9	2.82
891	SLV FO 8	-9	-1282	11471	22.58	-78.11	5.58
891	SLV FO 9	-207	1335	2444	-23.82	57.82	-3.22
891	SLV FO 10	-293	1222	2520	-23.27	56.6	-0.47
891	SLV FO 11	-489	-1124	10524	21.64	-86.47	5.48
891	SLV FO 12	-575	-1238	10600	22.18	-87.68	8.24
891	SLV FO 13	-945	553	4237	-8.51	-3.56	2.26
891	SLV FO 14	-1073	385	4350	-7.7	-5.35	6.35
891	SLV FO 15	-1029	-185	6660	5.13	-46.84	4.87
891	SLV FO 16	-1157	-353	6773	5.94	-48.64	8.96
891	CRTFP Ux+	0	0	0	0	0	0
891	CRTFP Ux-	0	0	0	0	0	0
891	CRTFP Uy+	0	0	0	0	0	0
891	CRTFP Uy-	0	0	0	0	0	0
894	SLU 1	8	38	2438	-1.95	383.76	-9.29
894	SLU 2	8	54	2416	-2.11	382.79	-13.17
894	SLU 3	8	39	2501	-1.96	392.73	-9.49
894	SLU 4	8	48	2488	-2.06	392.15	-11.82
894	SLU 5	8	54	2458	-2.12	388.7	-13.26
894	SLU 6	8	39	2542	-1.97	398.64	-9.58
894	SLU 7	9	49	2529	-2.07	398.07	-11.9
894	SLU 8	8	39	2521	-1.96	395.58	-9.47
894	SLU 9	9	48	2508	-2.06	395	-11.8
894	SLU 10	8	57	2738	-2.46	430.57	-13.94
894	SLU 11	8	42	2823	-2.31	440.51	-10.26
894	SLU 12	9	51	2810	-2.41	439.93	-12.58
894	SLU 13	9	57	2780	-2.46	436.48	-14.03
894	SLU 14	9	42	2864	-2.31	446.42	-10.34
894	SLU 15	9	52	2851	-2.41	445.84	-12.67
894	SLU 16	9	42	2843	-2.31	443.36	-10.24
894	SLU 17	9	51	2830	-2.4	442.78	-12.56
894	SLU 18	8	43	2898	-2.44	452.01	-10.39
894	SLU 19	8	52	2885	-2.54	451.43	-12.72
894	SLU 20	9	43	2940	-2.45	457.92	-10.48
894	SLU 21	9	52	2927	-2.55	457.34	-12.8
894	SLU 22	8	43	2846	-2.23	443.39	-10.53
894	SLU 23	9	59	2824	-2.39	442.42	-14.41
894	SLU 24	9	44	2909	-2.25	452.36	-10.73
894	SLU 25	9	53	2896	-2.34	451.78	-13.05
894	SLU 26	9	59	2866	-2.4	448.34	-14.5
894	SLU 27	9	44	2951	-2.25	458.28	-10.81
894	SLU 28	9	54	2938	-2.35	457.7	-13.14
894	SLU 29	9	44	2930	-2.24	455.22	-10.71
894	SLU 30	9	53	2916	-2.34	454.64	-13.03
894	SLU 31	9	62	3147	-2.74	490.2	-15.18
894	SLU 32	9	47	3231	-2.59	500.14	-11.49
894	SLU 33	9	57	3218	-2.69	499.56	-13.82
894	SLU 34	9	62	3188	-2.74	496.11	-15.26
894	SLU 35	10	48	3273	-2.6	506.06	-11.58
894	SLU 36	10	57	3260	-2.69	505.48	-13.91
894	SLU 37	9	47	3252	-2.59	502.99	-11.47
894	SLU 38	10	56	3239	-2.69	502.41	-13.8
894	SLU 39	9	48	3306	-2.72	511.64	-11.63
894	SLU 40	9	57	3293	-2.82	511.06	-13.95
894	SLU 41	9	48	3348	-2.73	517.56	-11.72
894	SLU 42	9	57	3335	-2.83	516.98	-14.04
894	SLU 43	10	48	3029	-2.44	478.44	-11.66
894	SLU 44	10	63	3007	-2.6	477.47	-15.54
894	SLU 45	10	49	3092	-2.45	487.41	-11.85
894	SLU 46	10	58	3079	-2.55	486.83	-14.18
894	SLU 47	10	64	3049	-2.61	483.38	-15.62
894	SLU 48	10	49	3134	-2.46	493.33	-11.94
894	SLU 49	11	58	3120	-2.56	492.75	-14.27
894	SLU 50	10	48	3112	-2.45	490.27	-11.83
894	SLU 51	11	58	3099	-2.55	489.69	-14.16
894	SLU 52	10	66	3329	-2.94	525.25	-16.3
894	SLU 53	10	52	3414	-2.8	535.19	-12.62
894	SLU 54	11	61	3401	-2.89	534.61	-14.95
894	SLU 55	11	67	3371	-2.95	531.16	-16.39
894	SLU 56	11	52	3456	-2.8	541.1	-12.71
894	SLU 57	11	61	3443	-2.9	540.52	-15.03
894	SLU 58	11	52	3434	-2.79	538.04	-12.6
894	SLU 59	11	61	3421	-2.89	537.46	-14.93
894	SLU 60	10	52	3489	-2.93	546.69	-12.75
894	SLU 61	10	62	3476	-3.03	546.11	-15.08
894	SLU 62	11	53	3531	-2.94	552.6	-12.84
894	SLU 63	11	62	3518	-3.03	552.02	-15.17
894	SLU 64	10	53	3438	-2.72	538.07	-12.9
894	SLU 65	11	68	3416	-2.88	537.1	-16.77
894	SLU 66	11	54	3500	-2.73	547.04	-13.09
894	SLU 67	11	63	3487	-2.83	546.46	-15.42
894	SLU 68	11	69	3457	-2.89	543.02	-16.86
894	SLU 69	11	54	3542	-2.74	552.96	-13.18
894	SLU 70	11	63	3529	-2.84	552.38	-15.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
894	SLU 71	11	54	3521	-2.73	549.9	-13.07
894	SLU 72	11	63	3508	-2.83	549.32	-15.4
894	SLU 73	11	72	3738	-3.23	584.88	-17.54
894	SLU 74	11	57	3823	-3.08	594.82	-13.86
894	SLU 75	11	66	3809	-3.18	594.24	-16.19
894	SLU 76	12	72	3779	-3.23	590.79	-17.63
894	SLU 77	12	57	3864	-3.08	600.74	-13.95
894	SLU 78	12	67	3851	-3.18	600.16	-16.27
894	SLU 79	12	57	3843	-3.08	597.68	-13.84
894	SLU 80	12	66	3830	-3.17	597.1	-16.16
894	SLU 81	11	57	3898	-3.21	606.32	-13.99
894	SLU 82	11	67	3885	-3.31	605.74	-16.32
894	SLU 83	11	58	3939	-3.22	612.24	-14.08
894	SLU 84	12	67	3926	-3.32	611.66	-16.41
894	SLE RA 1	8	40	2554	-2.03	400.79	-9.65
894	SLE RA 2	8	50	2540	-2.14	400.15	-12.23
894	SLE RA 3	8	40	2596	-2.04	406.78	-9.78
894	SLE RA 4	8	46	2588	-2.1	406.39	-11.33
894	SLE RA 5	8	50	2568	-2.14	404.09	-12.29
894	SLE RA 6	8	40	2624	-2.04	410.72	-9.84
894	SLE RA 7	8	47	2615	-2.11	410.33	-11.39
894	SLE RA 8	8	40	2610	-2.04	408.68	-9.76
894	SLE RA 9	8	46	2601	-2.1	408.29	-11.32
894	SLE RA 10	8	52	2755	-2.37	432	-12.74
894	SLE RA 11	8	42	2811	-2.27	438.63	-10.29
894	SLE RA 12	9	48	2802	-2.33	438.24	-11.84
894	SLE RA 13	9	52	2782	-2.37	435.94	-12.8
894	SLE RA 14	9	42	2839	-2.27	442.57	-10.35
894	SLE RA 15	9	49	2830	-2.34	442.18	-11.9
894	SLE RA 16	9	42	2825	-2.27	440.53	-10.28
894	SLE RA 17	9	48	2816	-2.33	440.14	-11.83
894	SLE RA 18	8	43	2861	-2.36	446.3	-10.38
894	SLE RA 19	8	49	2853	-2.42	445.91	-11.93
894	SLE RA 20	8	43	2889	-2.36	450.24	-10.44
894	SLE RA 21	9	49	2880	-2.43	449.85	-11.99
894	SLE FR 1	8	40	2554	-2.03	400.79	-9.65
894	SLE FR 2	8	42	2552	-2.05	400.66	-10.17
894	SLE FR 3	8	40	2566	-2.03	402.37	-9.67
894	SLE FR 4	8	43	2644	-2.15	414.31	-10.38
894	SLE FR 5	8	41	2658	-2.13	416.02	-9.89
894	SLE FR 6	8	41	2708	-2.19	423.54	-10.01
894	SLE QP 1	8	40	2554	-2.03	400.79	-9.65
894	SLE QP 2	8	40	2647	-2.13	414.44	-9.87
894	SLD 1	288	155	2581	-3.18	421.24	-38.63
894	SLD 2	261	136	2580	-3.1	419.96	-33.8
894	SLD 3	284	-36	2921	-0.78	439.74	9.16
894	SLD 4	256	-55	2920	-0.7	438.46	14
894	SLD 5	104	367	2112	-6.1	388.65	-91.82
894	SLD 6	86	355	2111	-6.05	387.82	-88.7
894	SLD 7	89	-269	3244	1.91	450.31	67.5
894	SLD 8	71	-281	3244	1.96	449.48	70.61
894	SLD 9	-55	362	2049	-6.21	379.4	-90.35
894	SLD 10	-73	350	2049	-6.16	378.58	-87.23
894	SLD 11	-70	-275	3182	1.79	441.06	68.97
894	SLD 12	-88	-287	3181	1.85	440.24	72.08
894	SLD 13	-240	136	2373	-3.56	390.43	-33.73
894	SLD 14	-268	117	2372	-3.48	389.15	-28.89
894	SLD 15	-245	-55	2713	-1.15	408.93	14.06
894	SLD 16	-272	-74	2712	-1.08	407.65	18.9
894	SLV 1	447	233	2520	-3.94	423.68	-58.33
894	SLV 2	404	203	2518	-3.82	421.66	-50.71
894	SLV 3	440	-93	3099	0.15	455.29	23.18
894	SLV 4	396	-122	3098	0.28	453.27	30.8
894	SLV 5	159	597	1729	-8.91	369.65	-149.44
894	SLV 6	130	578	1728	-8.83	368.29	-144.31
894	SLV 7	134	-488	3662	4.75	475.02	122.24
894	SLV 8	105	-508	3661	4.83	473.66	127.37
894	SLV 9	-89	589	1632	-9.09	355.23	-147.11
894	SLV 10	-118	569	1631	-9.01	353.87	-141.97
894	SLV 11	-114	-497	3565	4.57	460.6	124.58
894	SLV 12	-143	-517	3564	4.66	459.24	129.71
894	SLV 13	-380	203	2195	-4.53	375.61	-50.53
894	SLV 14	-424	174	2194	-4.41	373.6	-42.91
894	SLV 15	-388	-122	2775	-0.44	407.22	30.97
894	SLV 16	-431	-152	2774	-0.31	405.21	38.59
894	SLV FO 1	491	252	2507	-4.13	424.6	-63.17
894	SLV FO 2	443	220	2505	-3.99	422.39	-54.79
894	SLV FO 3	483	-106	3145	0.38	459.37	26.48
894	SLV FO 4	435	-138	3143	0.52	457.16	34.87
894	SLV FO 5	174	653	1638	-9.59	365.17	-163.4
894	SLV FO 6	142	631	1636	-9.5	363.67	-157.76
894	SLV FO 7	147	-541	3764	5.44	481.07	135.45
894	SLV FO 8	115	-562	3762	5.53	479.58	141.09
894	SLV FO 9	-99	643	1531	-9.79	349.31	-160.83
894	SLV FO 10	-131	622	1529	-9.69	347.81	-155.19
894	SLV FO 11	-126	-550	3657	5.24	465.21	138.02
894	SLV FO 12	-158	-572	3655	5.34	463.72	143.67
894	SLV FO 13	-419	219	2150	-4.78	371.73	-54.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
894	SLV FO 14	-467	187	2148	-4.64	369.51	-46.22
894	SLV FO 15	-427	-139	2788	-0.27	406.5	35.05
894	SLV FO 16	-475	-171	2786	-0.13	404.29	43.44
894	CRTFP Ux+	0	0	0	0	0	0
894	CRTFP Ux-	0	0	0	0	0	0
894	CRTFP Uy+	0	0	0	0	0	0
894	CRTFP Uy-	0	0	0	0	0	0
896	SLU 1	29	31	4391	1.34	-36.72	0.55
896	SLU 2	28	65	4344	0.97	-36.57	0.6
896	SLU 3	31	31	4498	1.47	-37.84	0.56
896	SLU 4	30	51	4470	1.25	-37.75	0.59
896	SLU 5	29	65	4414	1.06	-37.28	0.6
896	SLU 6	32	30	4569	1.56	-38.55	0.57
896	SLU 7	31	51	4540	1.34	-38.46	0.6
896	SLU 8	31	30	4532	1.52	-38.14	0.56
896	SLU 9	31	51	4503	1.3	-38.05	0.59
896	SLU 10	31	68	4931	1.02	-40.66	0.7
896	SLU 11	33	33	5086	1.52	-41.93	0.67
896	SLU 12	32	54	5057	1.3	-41.84	0.7
896	SLU 13	32	67	5001	1.12	-41.37	0.7
896	SLU 14	34	33	5156	1.62	-42.64	0.67
896	SLU 15	34	54	5127	1.4	-42.55	0.7
896	SLU 16	34	33	5119	1.58	-42.23	0.66
896	SLU 17	33	53	5090	1.36	-42.14	0.69
896	SLU 18	33	34	5230	1.42	-42.56	0.69
896	SLU 19	32	55	5202	1.2	-42.47	0.72
896	SLU 20	34	34	5301	1.51	-43.27	0.7
896	SLU 21	33	55	5272	1.29	-43.18	0.73
896	SLU 22	33	35	5129	1.73	-42.22	0.7
896	SLU 23	32	69	5081	1.36	-42.07	0.75
896	SLU 24	34	35	5236	1.86	-43.34	0.72
896	SLU 25	34	56	5207	1.64	-43.25	0.75
896	SLU 26	33	69	5151	1.45	-42.78	0.76
896	SLU 27	36	35	5306	1.95	-44.05	0.72
896	SLU 28	35	55	5278	1.73	-43.96	0.75
896	SLU 29	35	34	5269	1.92	-43.64	0.71
896	SLU 30	35	55	5241	1.69	-43.55	0.74
896	SLU 31	35	72	5669	1.42	-46.16	0.86
896	SLU 32	37	38	5823	1.92	-47.43	0.82
896	SLU 33	36	58	5795	1.7	-47.34	0.85
896	SLU 34	36	72	5739	1.51	-46.86	0.86
896	SLU 35	38	37	5893	2.01	-48.14	0.83
896	SLU 36	37	58	5865	1.79	-48.05	0.86
896	SLU 37	38	37	5857	1.97	-47.73	0.81
896	SLU 38	37	58	5828	1.75	-47.63	0.84
896	SLU 39	37	39	5968	1.81	-48.06	0.85
896	SLU 40	36	59	5939	1.59	-47.97	0.88
896	SLU 41	38	38	6038	1.9	-48.77	0.85
896	SLU 42	37	59	6010	1.68	-48.68	0.88
896	SLU 43	37	38	5456	1.6	-45.86	0.66
896	SLU 44	36	73	5408	1.23	-45.7	0.71
896	SLU 45	38	38	5563	1.73	-46.98	0.68
896	SLU 46	38	59	5534	1.51	-46.88	0.71
896	SLU 47	37	72	5478	1.32	-46.41	0.71
896	SLU 48	39	38	5633	1.83	-47.68	0.68
896	SLU 49	39	59	5605	1.6	-47.59	0.71
896	SLU 50	39	38	5596	1.79	-47.27	0.67
896	SLU 51	38	58	5568	1.57	-47.18	0.7
896	SLU 52	38	75	5996	1.29	-49.79	0.81
896	SLU 53	40	41	6150	1.79	-51.06	0.78
896	SLU 54	40	62	6122	1.57	-50.97	0.81
896	SLU 55	39	75	6066	1.38	-50.5	0.81
896	SLU 56	42	41	6220	1.88	-51.77	0.78
896	SLU 57	41	61	6192	1.66	-51.68	0.81
896	SLU 58	41	40	6184	1.84	-51.36	0.77
896	SLU 59	41	61	6155	1.62	-51.27	0.8
896	SLU 60	40	42	6295	1.68	-51.7	0.81
896	SLU 61	40	63	6266	1.46	-51.6	0.83
896	SLU 62	41	42	6365	1.78	-52.4	0.81
896	SLU 63	41	62	6337	1.55	-52.31	0.84
896	SLU 64	41	43	6194	1.99	-51.35	0.81
896	SLU 65	40	77	6146	1.63	-51.2	0.86
896	SLU 66	42	43	6301	2.13	-52.47	0.83
896	SLU 67	41	63	6272	1.91	-52.38	0.86
896	SLU 68	41	77	6216	1.72	-51.91	0.87
896	SLU 69	43	42	6371	2.22	-53.18	0.84
896	SLU 70	42	63	6342	2	-53.09	0.87
896	SLU 71	43	42	6334	2.18	-52.77	0.82
896	SLU 72	42	63	6305	1.96	-52.68	0.85
896	SLU 73	42	80	6733	1.68	-55.29	0.97
896	SLU 74	44	45	6888	2.18	-56.56	0.93
896	SLU 75	44	66	6859	1.96	-56.47	0.96
896	SLU 76	43	79	6803	1.78	-56	0.97
896	SLU 77	45	45	6958	2.28	-57.27	0.94
896	SLU 78	45	66	6929	2.06	-57.18	0.97
896	SLU 79	45	45	6921	2.24	-56.86	0.93
896	SLU 80	45	65	6893	2.02	-56.77	0.95
896	SLU 81	44	46	7033	2.08	-57.19	0.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
896	SLU 82	43	67	7004	1.86	-57.1	0.99
896	SLU 83	45	46	7103	2.17	-57.9	0.97
896	SLU 84	45	67	7074	1.95	-57.81	0.99
896	SLE RA 1	30	32	4602	1.45	-38.29	0.59
896	SLE RA 2	30	55	4570	1.2	-38.19	0.63
896	SLE RA 3	31	32	4674	1.54	-39.04	0.6
896	SLE RA 4	31	46	4654	1.39	-38.98	0.62
896	SLE RA 5	30	55	4617	1.26	-38.66	0.63
896	SLE RA 6	32	32	4720	1.6	-39.51	0.61
896	SLE RA 7	32	45	4701	1.45	-39.45	0.63
896	SLE RA 8	32	31	4696	1.57	-39.24	0.6
896	SLE RA 9	31	45	4677	1.42	-39.18	0.62
896	SLE RA 10	31	57	4962	1.24	-40.92	0.69
896	SLE RA 11	33	34	5065	1.57	-41.77	0.67
896	SLE RA 12	32	47	5046	1.43	-41.71	0.69
896	SLE RA 13	32	56	5009	1.3	-41.39	0.7
896	SLE RA 14	34	33	5112	1.64	-42.24	0.67
896	SLE RA 15	33	47	5093	1.49	-42.18	0.69
896	SLE RA 16	33	33	5087	1.61	-41.96	0.67
896	SLE RA 17	33	47	5068	1.46	-41.9	0.69
896	SLE RA 18	33	34	5161	1.5	-42.19	0.69
896	SLE RA 19	32	48	5142	1.36	-42.13	0.71
896	SLE RA 20	33	34	5208	1.56	-42.66	0.69
896	SLE RA 21	33	48	5189	1.42	-42.6	0.71
896	SLE FR 1	30	32	4602	1.45	-38.29	0.59
896	SLE FR 2	30	36	4596	1.4	-38.27	0.6
896	SLE FR 3	31	32	4621	1.47	-38.48	0.59
896	SLE FR 4	31	37	4764	1.41	-39.44	0.63
896	SLE FR 5	31	33	4789	1.49	-39.65	0.62
896	SLE FR 6	32	33	4882	1.48	-40.24	0.64
896	SLE QP 1	30	32	4602	1.45	-38.29	0.59
896	SLE QP 2	31	33	4770	1.46	-39.46	0.62
896	SLD 1	593	217	4015	-1.36	-11.48	-2.87
896	SLD 2	535	252	4021	-1.45	-11.56	-0.75
896	SLD 3	609	-218	4750	4.13	-14.33	-3.54
896	SLD 4	550	-183	4757	4.04	-14.42	-1.43
896	SLD 5	186	742	3427	-7.69	-26.72	0.23
896	SLD 6	148	765	3431	-7.75	-26.77	1.6
896	SLD 7	238	-709	5878	10.61	-36.24	-2.02
896	SLD 8	201	-686	5883	10.55	-36.3	-0.65
896	SLD 9	-139	751	3657	-7.62	-42.63	1.9
896	SLD 10	-176	774	3662	-7.68	-42.68	3.26
896	SLD 11	-86	-699	6109	10.68	-52.15	-0.35
896	SLD 12	-124	-677	6113	10.62	-52.21	1.01
896	SLD 13	-488	248	4783	-1.11	-64.51	2.67
896	SLD 14	-547	283	4790	-1.2	-64.59	4.79
896	SLD 15	-472	-187	5518	4.38	-67.36	1.99
896	SLD 16	-531	-152	5525	4.29	-67.45	4.11
896	SLV 1	910	351	3538	-3.36	4.41	-4.81
896	SLV 2	818	407	3548	-3.5	4.27	-1.47
896	SLV 3	936	-391	4792	6.01	-0.47	-5.96
896	SLV 4	844	-336	4803	5.87	-0.6	-2.62
896	SLV 5	271	1244	2495	-14.16	-18.89	0.12
896	SLV 6	209	1281	2502	-14.26	-18.98	2.36
896	SLV 7	360	-1231	6678	17.07	-35.13	-3.72
896	SLV 8	299	-1193	6685	16.97	-35.22	-1.48
896	SLV 9	-236	1259	2855	-14.04	-43.71	2.72
896	SLV 10	-298	1296	2862	-14.14	-43.8	4.97
896	SLV 11	-147	-1216	7038	17.19	-59.95	-1.12
896	SLV 12	-209	-1178	7045	17.09	-60.04	1.13
896	SLV 13	-782	401	4737	-2.94	-78.32	3.87
896	SLV 14	-874	457	4748	-3.08	-78.46	7.2
896	SLV 15	-755	-341	5992	6.43	-83.2	2.71
896	SLV 16	-847	-286	6002	6.29	-83.33	6.05
896	SLV FO 1	997	383	3414	-3.84	8.79	-5.35
896	SLV FO 2	896	444	3426	-4	8.64	-1.68
896	SLV FO 3	1027	-434	4795	6.47	3.43	-6.62
896	SLV FO 4	926	-373	4806	6.31	3.29	-2.95
896	SLV FO 5	295	1365	2268	-15.73	-16.83	0.07
896	SLV FO 6	227	1406	2276	-15.84	-16.93	2.54
896	SLV FO 7	393	-1357	6869	18.63	-34.69	-4.16
896	SLV FO 8	325	-1316	6877	18.52	-34.79	-1.69
896	SLV FO 9	-263	1381	2663	-15.59	-44.13	2.93
896	SLV FO 10	-331	1422	2671	-15.7	-44.23	5.4
896	SLV FO 11	-165	-1341	7264	18.76	-62	-1.29
896	SLV FO 12	-233	-1299	7272	18.66	-62.1	1.18
896	SLV FO 13	-864	438	4733	-3.38	-82.21	4.19
896	SLV FO 14	-965	499	4745	-3.54	-82.36	7.86
896	SLV FO 15	-834	-379	6114	6.93	-87.57	2.92
896	SLV FO 16	-935	-318	6126	6.77	-87.72	6.6
896	CRTFP Ux+	0	0	0	0	0	0
896	CRTFP Ux-	0	0	0	0	0	0
896	CRTFP Uy+	0	0	0	0	0	0
896	CRTFP Uy-	0	0	0	0	0	0
898	SLU 1	-48	-1	3217	1.9	-349.46	-0.3
898	SLU 2	-47	17	3168	1.6	-344.59	4.4
898	SLU 3	-49	-2	3305	2	-357.97	-0.46
898	SLU 4	-48	9	3275	1.83	-355.04	2.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
898	SLU 5	-47	17	3226	1.68	-350.28	4.33
898	SLU 6	-50	-2	3364	2.08	-363.66	-0.52
898	SLU 7	-49	9	3334	1.9	-360.74	2.29
898	SLU 8	-49	-2	3335	2.05	-360.85	-0.43
898	SLU 9	-48	9	3305	1.87	-357.92	2.39
898	SLU 10	-51	18	3558	1.82	-384.17	4.64
898	SLU 11	-53	-1	3695	2.22	-397.55	-0.22
898	SLU 12	-52	10	3665	2.04	-394.63	2.6
898	SLU 13	-51	18	3617	1.9	-389.87	4.57
898	SLU 14	-53	-1	3754	2.3	-403.25	-0.28
898	SLU 15	-53	10	3724	2.12	-400.32	2.53
898	SLU 16	-53	-1	3725	2.27	-400.44	-0.19
898	SLU 17	-52	10	3695	2.09	-397.51	2.63
898	SLU 18	-53	0	3775	2.21	-406.01	0.05
898	SLU 19	-53	11	3745	2.03	-403.09	2.86
898	SLU 20	-54	0	3834	2.29	-411.71	-0.02
898	SLU 21	-53	11	3804	2.11	-408.78	2.8
898	SLU 22	-54	-4	3740	2.35	-401.78	-0.93
898	SLU 23	-53	15	3691	2.05	-396.91	3.76
898	SLU 24	-55	-5	3828	2.45	-410.29	-1.1
898	SLU 25	-54	7	3798	2.28	-407.36	1.72
898	SLU 26	-53	15	3749	2.13	-402.6	3.7
898	SLU 27	-56	-5	3887	2.53	-415.98	-1.16
898	SLU 28	-55	6	3857	2.35	-413.06	1.66
898	SLU 29	-55	-4	3858	2.5	-413.17	-1.06
898	SLU 30	-54	7	3828	2.33	-410.25	1.75
898	SLU 31	-57	16	4081	2.27	-436.49	4
898	SLU 32	-59	-4	4218	2.67	-449.87	-0.85
898	SLU 33	-58	8	4189	2.49	-446.95	1.96
898	SLU 34	-57	16	4140	2.35	-442.19	3.94
898	SLU 35	-59	-4	4277	2.75	-455.57	-0.92
898	SLU 36	-59	7	4247	2.57	-452.64	1.9
898	SLU 37	-59	-4	4248	2.72	-452.76	-0.82
898	SLU 38	-58	8	4218	2.54	-449.83	1.99
898	SLU 39	-59	-3	4298	2.66	-458.33	-0.59
898	SLU 40	-59	9	4268	2.48	-455.41	2.23
898	SLU 41	-60	-3	4357	2.74	-464.03	-0.65
898	SLU 42	-59	8	4327	2.56	-461.1	2.16
898	SLU 43	-60	-1	4003	2.31	-436.36	-0.17
898	SLU 44	-59	18	3954	2.01	-431.49	4.53
898	SLU 45	-61	-2	4091	2.42	-444.87	-0.33
898	SLU 46	-61	10	4061	2.24	-441.94	2.49
898	SLU 47	-60	18	4012	2.09	-437.18	4.46
898	SLU 48	-62	-2	4149	2.49	-450.56	-0.39
898	SLU 49	-61	10	4120	2.32	-447.64	2.42
898	SLU 50	-61	-1	4121	2.47	-447.75	-0.3
898	SLU 51	-61	10	4091	2.29	-444.82	2.52
898	SLU 52	-63	19	4344	2.23	-471.07	4.77
898	SLU 53	-65	-1	4481	2.63	-484.45	-0.09
898	SLU 54	-64	11	4451	2.46	-481.53	2.73
898	SLU 55	-63	19	4403	2.31	-476.77	4.7
898	SLU 56	-66	-1	4540	2.71	-490.15	-0.15
898	SLU 57	-65	10	4510	2.54	-487.22	2.66
898	SLU 58	-65	0	4511	2.68	-487.33	-0.06
898	SLU 59	-64	11	4481	2.51	-484.41	2.76
898	SLU 60	-66	0	4561	2.62	-492.91	0.18
898	SLU 61	-65	12	4531	2.44	-489.99	2.99
898	SLU 62	-66	0	4620	2.7	-498.61	0.11
898	SLU 63	-66	12	4590	2.52	-495.68	2.93
898	SLU 64	-66	-3	4526	2.76	-488.68	-0.8
898	SLU 65	-65	15	4477	2.46	-483.81	3.89
898	SLU 66	-67	-4	4614	2.87	-497.19	-0.97
898	SLU 67	-67	7	4584	2.69	-494.26	1.85
898	SLU 68	-66	15	4535	2.54	-489.5	3.83
898	SLU 69	-68	-4	4672	2.95	-502.88	-1.03
898	SLU 70	-67	7	4643	2.77	-499.96	1.79
898	SLU 71	-67	-4	4644	2.92	-500.07	-0.93
898	SLU 72	-67	7	4614	2.74	-497.15	1.88
898	SLU 73	-69	16	4867	2.68	-523.39	4.13
898	SLU 74	-71	-3	5004	3.09	-536.77	-0.73
898	SLU 75	-70	8	4974	2.91	-533.85	2.09
898	SLU 76	-69	16	4926	2.76	-529.09	4.07
898	SLU 77	-72	-3	5063	3.16	-542.47	-0.79
898	SLU 78	-71	8	5033	2.99	-539.54	2.03
898	SLU 79	-71	-3	5034	3.14	-539.66	-0.69
898	SLU 80	-70	8	5004	2.96	-536.73	2.12
898	SLU 81	-72	-2	5084	3.07	-545.23	-0.46
898	SLU 82	-71	9	5054	2.89	-542.31	2.36
898	SLU 83	-72	-2	5143	3.15	-550.93	-0.53
898	SLU 84	-71	9	5113	2.97	-548	2.29
898	SLE RA 1	-50	-2	3367	2.02	-364.41	-0.48
898	SLE RA 2	-49	10	3334	1.83	-361.16	2.65
898	SLE RA 3	-50	-3	3425	2.1	-370.08	-0.59
898	SLE RA 4	-50	5	3405	1.98	-368.13	1.29
898	SLE RA 5	-49	10	3373	1.88	-364.96	2.61
898	SLE RA 6	-51	-3	3464	2.15	-373.88	-0.63
898	SLE RA 7	-50	5	3444	2.03	-371.93	1.25
898	SLE RA 8	-50	-2	3445	2.13	-372	-0.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
898	SLE RA 9	-50	5	3425	2.01	-370.05	1.31
898	SLE RA 10	-51	11	3594	1.97	-387.55	2.81
898	SLE RA 11	-53	-2	3685	2.24	-396.47	-0.43
898	SLE RA 12	-52	6	3666	2.12	-394.52	1.45
898	SLE RA 13	-52	11	3633	2.02	-391.35	2.77
898	SLE RA 14	-53	-2	3725	2.29	-400.27	-0.47
898	SLE RA 15	-53	5	3705	2.18	-398.32	1.41
898	SLE RA 16	-53	-2	3705	2.27	-398.39	-0.4
898	SLE RA 17	-52	6	3685	2.16	-396.44	1.47
898	SLE RA 18	-53	-1	3739	2.23	-402.11	-0.25
898	SLE RA 19	-53	6	3719	2.11	-400.16	1.63
898	SLE RA 20	-54	-1	3778	2.28	-405.91	-0.29
898	SLE RA 21	-53	6	3758	2.17	-403.96	1.59
898	SLE FR 1	-50	-2	3367	2.02	-364.41	-0.48
898	SLE FR 2	-50	0	3360	1.98	-363.76	0.15
898	SLE FR 3	-50	-2	3382	2.04	-365.93	-0.5
898	SLE FR 4	-51	1	3472	2.05	-375.07	0.22
898	SLE FR 5	-51	-2	3494	2.11	-377.24	-0.43
898	SLE FR 6	-51	-2	3553	2.13	-383.26	-0.36
898	SLE QP 1	-50	-2	3367	2.02	-364.41	-0.48
898	SLE QP 2	-51	-2	3478	2.09	-375.72	-0.41
898	SLD 1	244	127	4076	0.45	-437.93	31.6
898	SLD 2	205	27	4129	0.8	-443.83	6.83
898	SLD 3	228	-106	4812	4.83	-507.97	-26.53
898	SLD 4	190	-205	4864	5.18	-513.88	-51.3
898	SLD 5	67	407	2533	-5.11	-287.14	101.61
898	SLD 6	43	343	2567	-4.88	-290.94	85.66
898	SLD 7	16	-369	4985	9.49	-520.61	-92.15
898	SLD 8	-8	-433	5019	9.72	-524.41	-108.1
898	SLD 9	-93	430	1938	-5.55	-227.03	107.28
898	SLD 10	-118	365	1972	-5.32	-230.83	91.33
898	SLD 11	-144	-347	4390	9.05	-460.5	-86.48
898	SLD 12	-169	-411	4424	9.28	-464.3	-102.43
898	SLD 13	-291	202	2092	-1.01	-237.56	50.48
898	SLD 14	-330	102	2145	-0.66	-243.47	25.71
898	SLD 15	-307	-31	2828	3.37	-307.61	-7.65
898	SLD 16	-345	-131	2881	3.72	-313.51	-32.42
898	SLV 1	412	217	4357	-0.79	-467.6	53.91
898	SLV 2	351	60	4440	-0.23	-476.91	14.86
898	SLV 3	386	-180	5611	6.69	-587.11	-45.22
898	SLV 4	325	-337	5694	7.24	-596.41	-84.27
898	SLV 5	139	696	1823	-10.21	-220.3	173.53
898	SLV 6	98	590	1879	-9.84	-226.57	147.24
898	SLV 7	52	-628	6006	14.7	-618.65	-156.92
898	SLV 8	11	-734	6062	15.07	-624.91	-183.21
898	SLV 9	-113	731	895	-10.9	-126.53	182.39
898	SLV 10	-154	625	951	-10.52	-132.79	156.1
898	SLV 11	-199	-593	5077	14.01	-524.87	-148.06
898	SLV 12	-240	-699	5133	14.39	-531.14	-174.35
898	SLV 13	-426	334	1262	-3.07	-155.03	83.45
898	SLV 14	-487	176	1345	-2.51	-164.33	44.4
898	SLV 15	-452	-63	2517	4.4	-274.53	-15.68
898	SLV 16	-513	-221	2600	4.96	-283.84	-54.73
898	SLV FO 1	458	239	4444	-1.07	-476.79	59.34
898	SLV FO 2	391	66	4536	-0.46	-487.03	16.39
898	SLV FO 3	429	-198	5825	7.15	-608.25	-49.71
898	SLV FO 4	363	-371	5916	7.76	-618.48	-92.66
898	SLV FO 5	158	766	1658	-11.44	-204.76	190.92
898	SLV FO 6	113	649	1719	-11.03	-211.65	162.01
898	SLV FO 7	62	-691	6258	15.96	-642.94	-172.57
898	SLV FO 8	17	-808	6320	16.37	-649.83	-201.49
898	SLV FO 9	-119	804	637	-12.2	-101.61	200.67
898	SLV FO 10	-164	687	698	-11.79	-108.5	171.75
898	SLV FO 11	-214	-653	5237	15.2	-539.79	-162.83
898	SLV FO 12	-259	-769	5299	15.62	-546.68	-191.74
898	SLV FO 13	-464	367	1041	-3.58	-132.96	91.84
898	SLV FO 14	-531	194	1132	-2.97	-143.19	48.88
898	SLV FO 15	-493	-70	2421	4.64	-264.41	-17.21
898	SLV FO 16	-559	-243	2512	5.25	-274.65	-60.16
898	CRTFP Ux+	0	0	0	0	0	0
898	CRTFP Ux-	0	0	0	0	0	0
898	CRTFP Uy+	0	0	0	0	0	0
898	CRTFP Uy-	0	0	0	0	0	0
901	SLU 1	108	47	6519	1.66	13.21	-0.59
901	SLU 2	104	76	6414	1.16	11.88	-0.5
901	SLU 3	112	48	6700	1.81	14.01	-0.62
901	SLU 4	109	65	6637	1.51	13.21	-0.56
901	SLU 5	107	76	6536	1.27	12.41	-0.53
901	SLU 6	115	48	6821	1.93	14.55	-0.65
901	SLU 7	112	66	6758	1.63	13.74	-0.59
901	SLU 8	114	48	6762	1.89	14.27	-0.65
901	SLU 9	111	65	6699	1.59	13.47	-0.6
901	SLU 10	111	81	7259	1.28	14.17	-0.54
901	SLU 11	119	54	7544	1.93	16.3	-0.66
901	SLU 12	117	71	7481	1.63	15.5	-0.61
901	SLU 13	114	82	7380	1.39	14.7	-0.58
901	SLU 14	122	54	7666	2.05	16.84	-0.69
901	SLU 15	119	72	7603	1.75	16.03	-0.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
901	SLU 16	121	54	7607	2.01	16.56	-0.7
901	SLU 17	118	71	7544	1.71	15.76	-0.64
901	SLU 18	119	55	7726	1.83	16.48	-0.65
901	SLU 19	116	72	7663	1.53	15.68	-0.6
901	SLU 20	121	56	7847	1.95	17.01	-0.69
901	SLU 21	119	73	7784	1.65	16.21	-0.63
901	SLU 22	122	52	7631	2.13	16.92	-0.62
901	SLU 23	118	81	7526	1.62	15.58	-0.53
901	SLU 24	126	53	7811	2.28	17.72	-0.65
901	SLU 25	123	71	7748	1.98	16.92	-0.59
901	SLU 26	121	82	7647	1.74	16.12	-0.56
901	SLU 27	129	54	7933	2.39	18.25	-0.68
901	SLU 28	126	71	7870	2.09	17.45	-0.62
901	SLU 29	128	54	7874	2.36	17.98	-0.68
901	SLU 30	125	71	7811	2.05	17.18	-0.63
901	SLU 31	126	87	8370	1.75	17.87	-0.57
901	SLU 32	133	59	8656	2.4	20.01	-0.69
901	SLU 33	131	76	8593	2.1	19.21	-0.64
901	SLU 34	128	88	8491	1.86	18.41	-0.61
901	SLU 35	136	60	8777	2.51	20.54	-0.72
901	SLU 36	134	77	8714	2.21	19.74	-0.67
901	SLU 37	135	60	8718	2.48	20.27	-0.73
901	SLU 38	133	77	8655	2.18	19.47	-0.67
901	SLU 39	133	61	8837	2.3	20.19	-0.68
901	SLU 40	130	78	8774	2	19.39	-0.63
901	SLU 41	136	61	8958	2.41	20.72	-0.72
901	SLU 42	133	79	8895	2.11	19.92	-0.66
901	SLU 43	136	59	8094	2	15.9	-0.75
901	SLU 44	131	88	7989	1.5	14.57	-0.66
901	SLU 45	139	60	8275	2.15	16.71	-0.78
901	SLU 46	137	77	8212	1.85	15.9	-0.73
901	SLU 47	134	88	8111	1.61	15.1	-0.69
901	SLU 48	142	60	8396	2.26	17.24	-0.81
901	SLU 49	140	78	8333	1.96	16.44	-0.76
901	SLU 50	141	60	8337	2.23	16.97	-0.82
901	SLU 51	139	77	8274	1.93	16.17	-0.76
901	SLU 52	139	94	8834	1.62	16.86	-0.71
901	SLU 53	147	66	9119	2.27	19	-0.83
901	SLU 54	144	83	9056	1.97	18.19	-0.77
901	SLU 55	142	94	8955	1.73	17.39	-0.74
901	SLU 56	150	66	9241	2.39	19.53	-0.86
901	SLU 57	147	84	9178	2.08	18.73	-0.81
901	SLU 58	149	66	9182	2.35	19.26	-0.86
901	SLU 59	146	83	9119	2.05	18.46	-0.81
901	SLU 60	146	67	9301	2.17	19.17	-0.82
901	SLU 61	144	85	9237	1.87	18.37	-0.77
901	SLU 62	149	68	9422	2.29	19.71	-0.85
901	SLU 63	146	85	9359	1.98	18.91	-0.8
901	SLU 64	150	64	9206	2.46	19.61	-0.78
901	SLU 65	146	93	9100	1.96	18.28	-0.69
901	SLU 66	154	65	9386	2.62	20.41	-0.81
901	SLU 67	151	83	9323	2.32	19.61	-0.76
901	SLU 68	148	94	9222	2.08	18.81	-0.72
901	SLU 69	156	66	9508	2.73	20.95	-0.84
901	SLU 70	154	83	9444	2.43	20.14	-0.79
901	SLU 71	155	66	9448	2.69	20.67	-0.85
901	SLU 72	153	83	9385	2.39	19.87	-0.79
901	SLU 73	153	99	9945	2.08	20.57	-0.74
901	SLU 74	161	71	10230	2.74	22.7	-0.86
901	SLU 75	159	89	10167	2.44	21.9	-0.8
901	SLU 76	156	100	10066	2.2	21.1	-0.77
901	SLU 77	164	72	10352	2.85	23.23	-0.89
901	SLU 78	161	89	10289	2.55	22.43	-0.84
901	SLU 79	163	72	10293	2.81	22.96	-0.89
901	SLU 80	160	89	10230	2.51	22.16	-0.84
901	SLU 81	161	73	10412	2.64	22.88	-0.85
901	SLU 82	158	90	10349	2.34	22.08	-0.8
901	SLU 83	163	74	10533	2.75	23.41	-0.88
901	SLU 84	161	91	10470	2.45	22.61	-0.83
901	SLE RA 1	112	48	6837	1.79	14.27	-0.6
901	SLE RA 2	109	67	6767	1.46	13.38	-0.54
901	SLE RA 3	115	49	6957	1.89	14.81	-0.61
901	SLE RA 4	113	60	6915	1.69	14.27	-0.58
901	SLE RA 5	111	68	6848	1.54	13.74	-0.56
901	SLE RA 6	116	49	7038	1.97	15.16	-0.64
901	SLE RA 7	115	61	6996	1.77	14.63	-0.6
901	SLE RA 8	116	49	6999	1.95	14.98	-0.64
901	SLE RA 9	114	61	6957	1.75	14.45	-0.6
901	SLE RA 10	114	71	7330	1.54	14.91	-0.57
901	SLE RA 11	120	53	7520	1.97	16.33	-0.65
901	SLE RA 12	118	64	7478	1.77	15.8	-0.61
901	SLE RA 13	116	72	7411	1.62	15.26	-0.59
901	SLE RA 14	121	53	7601	2.05	16.69	-0.67
901	SLE RA 15	120	65	7559	1.85	16.15	-0.63
901	SLE RA 16	121	53	7562	2.03	16.51	-0.67
901	SLE RA 17	119	65	7520	1.83	15.97	-0.63
901	SLE RA 18	119	54	7641	1.91	16.45	-0.64
901	SLE RA 19	118	65	7599	1.71	15.92	-0.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
901	SLE RA 20	121	54	7722	1.98	16.81	-0.66
901	SLE RA 21	119	66	7680	1.78	16.27	-0.63
901	SLE FR 1	112	48	6837	1.79	14.27	-0.6
901	SLE FR 2	112	52	6823	1.73	14.09	-0.58
901	SLE FR 3	113	48	6869	1.82	14.41	-0.6
901	SLE FR 4	114	54	7064	1.76	14.75	-0.6
901	SLE FR 5	115	50	7111	1.86	15.07	-0.62
901	SLE FR 6	116	51	7239	1.85	15.36	-0.62
901	SLE QP 1	112	48	6837	1.79	14.27	-0.6
901	SLE QP 2	114	50	7078	1.83	14.92	-0.61
901	SLD 1	666	221	5607	-2.34	7.44	-3.71
901	SLD 2	585	310	5513	-2.83	8.81	-1.48
901	SLD 3	727	-143	7199	5.02	26.36	-5.06
901	SLD 4	646	-54	7105	4.53	27.73	-2.83
901	SLD 5	202	639	4239	-10.51	-16.25	0.13
901	SLD 6	149	696	4178	-10.83	-15.37	1.56
901	SLD 7	404	-576	9545	14.04	46.82	-4.38
901	SLD 8	352	-519	9484	13.73	47.7	-2.94
901	SLD 9	-123	619	4672	-10.07	-17.85	1.72
901	SLD 10	-176	676	4611	-10.39	-16.97	3.16
901	SLD 11	79	-596	9979	14.48	45.22	-2.78
901	SLD 12	27	-539	9918	14.17	46.1	-1.34
901	SLD 13	-417	154	7052	-0.88	2.12	1.61
901	SLD 14	-498	243	6957	-1.37	3.49	3.84
901	SLD 15	-356	-210	8644	6.49	21.04	0.26
901	SLD 16	-438	-121	8549	6	22.41	2.49
901	SLV 1	975	343	4667	-5.22	2.23	-5.38
901	SLV 2	846	484	4518	-5.99	4.39	-1.87
901	SLV 3	1078	-279	7384	7.35	34.54	-7.69
901	SLV 4	950	-138	7234	6.58	36.7	-4.18
901	SLV 5	239	1055	2263	-19.2	-38.28	0.8
901	SLV 6	153	1150	2162	-19.72	-36.83	3.16
901	SLV 7	584	-1018	11318	22.69	69.4	-6.88
901	SLV 8	498	-923	11217	22.17	70.86	-4.52
901	SLV 9	-270	1023	2939	-18.52	-41.01	3.3
901	SLV 10	-356	1118	2839	-19.04	-39.55	5.66
901	SLV 11	76	-1050	11994	23.38	66.68	-4.38
901	SLV 12	-11	-955	11894	22.86	68.13	-2.02
901	SLV 13	-721	238	6922	-2.93	-6.85	2.96
901	SLV 14	-850	379	6773	-3.7	-4.69	6.47
901	SLV 15	-618	-384	9639	9.64	25.45	0.65
901	SLV 16	-746	-243	9489	8.87	27.62	4.17
901	SLV FO 1	1061	373	4426	-5.92	0.96	-5.86
901	SLV FO 2	919	527	4262	-6.77	3.34	-2
901	SLV FO 3	1175	-311	7414	7.91	36.5	-8.4
901	SLV FO 4	1033	-157	7250	7.06	38.88	-4.53
901	SLV FO 5	252	1155	1781	-21.31	-43.6	0.94
901	SLV FO 6	157	1259	1671	-21.88	-42	3.54
901	SLV FO 7	632	-1125	11742	24.78	74.85	-7.51
901	SLV FO 8	537	-1021	11631	24.21	76.45	-4.91
901	SLV FO 9	-308	1121	2525	-20.55	-46.6	3.69
901	SLV FO 10	-403	1225	2415	-21.12	-45	6.29
901	SLV FO 11	72	-1160	12486	25.53	71.85	-4.76
901	SLV FO 12	-23	-1055	12375	24.96	73.45	-2.16
901	SLV FO 13	-805	257	6906	-3.4	-9.03	3.32
901	SLV FO 14	-946	411	6742	-4.25	-6.65	7.18
901	SLV FO 15	-691	-427	9895	10.42	26.51	0.78
901	SLV FO 16	-832	-273	9730	9.57	28.88	4.64
901	CRTFP Ux+	0	0	0	0	0	0
901	CRTFP Ux-	0	0	0	0	0	0
901	CRTFP Uy+	0	0	0	0	0	0
901	CRTFP Uy-	0	0	0	0	0	0
904	SLU 1	66	38	3945	4.4	777.34	-13.33
904	SLU 2	63	60	3877	3.94	765.36	-21.21
904	SLU 3	68	39	4051	4.61	796.54	-13.61
904	SLU 4	66	52	4010	4.34	789.35	-18.34
904	SLU 5	65	61	3947	4.11	778.1	-21.59
904	SLU 6	69	40	4121	4.78	809.28	-13.99
904	SLU 7	68	53	4080	4.51	802.1	-18.72
904	SLU 8	69	40	4085	4.73	802.83	-14.1
904	SLU 9	67	54	4044	4.45	795.64	-18.82
904	SLU 10	68	65	4354	4.48	854.48	-22.66
904	SLU 11	72	43	4528	5.15	885.66	-15.06
904	SLU 12	71	56	4487	4.88	878.48	-19.79
904	SLU 13	69	66	4424	4.64	867.23	-23.05
904	SLU 14	74	44	4598	5.31	898.41	-15.45
904	SLU 15	72	57	4557	5.04	891.22	-20.18
904	SLU 16	73	44	4562	5.26	891.95	-15.55
904	SLU 17	72	58	4521	4.99	884.76	-20.28
904	SLU 18	72	44	4627	5.16	904.66	-15.41
904	SLU 19	71	57	4586	4.89	897.47	-20.13
904	SLU 20	73	45	4697	5.32	917.4	-15.79
904	SLU 21	72	58	4656	5.05	910.22	-20.52
904	SLU 22	73	39	4580	5.34	894.95	-13.73
904	SLU 23	71	62	4511	4.88	882.97	-21.61
904	SLU 24	75	40	4685	5.55	914.15	-14.01
904	SLU 25	74	53	4644	5.28	906.97	-18.74
904	SLU 26	73	63	4581	5.04	895.72	-22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
904	SLU 27	77	41	4755	5.72	926.9	-14.4
904	SLU 28	76	54	4714	5.44	919.71	-19.13
904	SLU 29	76	41	4720	5.66	920.44	-14.5
904	SLU 30	75	55	4679	5.39	913.25	-19.23
904	SLU 31	76	66	4988	5.41	972.1	-23.07
904	SLU 32	80	44	5162	6.09	1003.28	-15.47
904	SLU 33	78	57	5121	5.81	996.09	-20.2
904	SLU 34	77	67	5058	5.58	984.84	-23.45
904	SLU 35	81	45	5232	6.25	1016.02	-15.85
904	SLU 36	80	59	5191	5.98	1008.83	-20.58
904	SLU 37	81	45	5197	6.2	1009.56	-15.96
904	SLU 38	79	59	5156	5.93	1002.38	-20.69
904	SLU 39	80	45	5261	6.1	1022.27	-15.81
904	SLU 40	78	58	5220	5.83	1015.09	-20.54
904	SLU 41	81	46	5331	6.26	1035.02	-16.2
904	SLU 42	80	60	5290	5.99	1027.83	-20.92
904	SLU 43	83	49	4911	5.39	970.22	-17.19
904	SLU 44	81	71	4843	4.94	958.24	-25.07
904	SLU 45	85	50	5017	5.61	989.42	-17.47
904	SLU 46	83	63	4976	5.34	982.23	-22.2
904	SLU 47	82	72	4913	5.1	970.98	-25.45
904	SLU 48	86	51	5087	5.78	1002.16	-17.85
904	SLU 49	85	64	5046	5.5	994.97	-22.58
904	SLU 50	86	51	5051	5.72	995.7	-17.96
904	SLU 51	84	65	5010	5.45	988.52	-22.68
904	SLU 52	85	76	5320	5.47	1047.36	-26.52
904	SLU 53	89	54	5494	6.15	1078.54	-18.92
904	SLU 54	88	67	5453	5.87	1071.35	-23.65
904	SLU 55	86	77	5390	5.64	1060.1	-26.91
904	SLU 56	91	55	5564	6.31	1091.28	-19.31
904	SLU 57	89	68	5523	6.04	1084.1	-24.03
904	SLU 58	90	55	5529	6.26	1084.83	-19.41
904	SLU 59	89	69	5488	5.98	1077.64	-24.14
904	SLU 60	89	55	5593	6.16	1097.54	-19.27
904	SLU 61	88	68	5552	5.88	1090.35	-23.99
904	SLU 62	91	56	5663	6.32	1110.28	-19.65
904	SLU 63	89	69	5622	6.05	1103.09	-24.38
904	SLU 64	90	50	5546	6.33	1087.83	-17.59
904	SLU 65	88	73	5477	5.88	1075.85	-25.47
904	SLU 66	92	51	5651	6.55	1107.03	-17.87
904	SLU 67	91	64	5610	6.28	1099.84	-22.6
904	SLU 68	90	74	5547	6.04	1088.59	-25.86
904	SLU 69	94	52	5722	6.72	1119.77	-18.26
904	SLU 70	93	65	5681	6.44	1112.59	-22.99
904	SLU 71	93	52	5686	6.66	1113.32	-18.36
904	SLU 72	92	66	5645	6.39	1106.13	-23.09
904	SLU 73	93	77	5954	6.41	1164.98	-26.93
904	SLU 74	97	55	6128	7.08	1196.16	-19.33
904	SLU 75	95	68	6087	6.81	1188.97	-24.06
904	SLU 76	94	78	6024	6.58	1177.72	-27.31
904	SLU 77	98	56	6199	7.25	1208.9	-19.71
904	SLU 78	97	69	6158	6.98	1201.71	-24.44
904	SLU 79	98	56	6163	7.2	1202.44	-19.82
904	SLU 80	96	70	6122	6.92	1195.25	-24.54
904	SLU 81	97	56	6227	7.1	1215.15	-19.67
904	SLU 82	95	69	6186	6.82	1207.96	-24.4
904	SLU 83	98	57	6297	7.26	1227.89	-20.06
904	SLU 84	97	70	6256	6.99	1220.71	-24.78
904	SLE RA 1	68	38	4126	4.66	810.94	-13.44
904	SLE RA 2	66	53	4081	4.36	802.96	-18.7
904	SLE RA 3	69	39	4197	4.81	823.74	-13.63
904	SLE RA 4	68	48	4170	4.63	818.95	-16.78
904	SLE RA 5	67	54	4128	4.47	811.45	-18.95
904	SLE RA 6	70	39	4244	4.92	832.24	-13.89
904	SLE RA 7	69	48	4216	4.74	827.45	-17.04
904	SLE RA 8	70	40	4220	4.88	827.93	-13.96
904	SLE RA 9	69	49	4193	4.7	823.14	-17.11
904	SLE RA 10	69	56	4399	4.72	862.37	-19.67
904	SLE RA 11	72	41	4515	5.17	883.16	-14.6
904	SLE RA 12	71	50	4488	4.98	878.37	-17.75
904	SLE RA 13	70	57	4446	4.83	870.87	-19.92
904	SLE RA 14	73	42	4562	5.28	891.66	-14.86
904	SLE RA 15	72	51	4534	5.09	886.86	-18.01
904	SLE RA 16	73	42	4538	5.24	887.35	-14.93
904	SLE RA 17	72	51	4511	5.06	882.56	-18.08
904	SLE RA 18	72	42	4581	5.17	895.82	-14.83
904	SLE RA 19	71	51	4553	4.99	891.03	-17.98
904	SLE RA 20	73	43	4628	5.28	904.32	-15.09
904	SLE RA 21	72	52	4600	5.1	899.53	-18.24
904	SLE FR 1	68	38	4126	4.66	810.94	-13.44
904	SLE FR 2	67	41	4117	4.6	809.35	-14.5
904	SLE FR 3	68	38	4145	4.71	814.34	-13.55
904	SLE FR 4	69	42	4254	4.76	834.81	-14.91
904	SLE FR 5	69	40	4281	4.86	839.81	-13.96
904	SLE FR 6	70	40	4354	4.92	853.38	-14.14
904	SLE QP 1	68	38	4126	4.66	810.94	-13.44
904	SLE QP 2	69	39	4263	4.82	836.41	-13.86
904	SLD 1	423	76	2690	0.3	557.7	-26.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
904	SLD 2	371	199	2605	-0.28	543.41	-69.67
904	SLD 3	453	-205	3709	7.1	736.31	71.42
904	SLD 4	401	-82	3624	6.53	722.02	28.48
904	SLD 5	138	455	2259	-6.76	484.36	-159.2
904	SLD 6	105	535	2205	-7.13	475.16	-186.85
904	SLD 7	239	-481	5658	15.93	1079.73	167.97
904	SLD 8	205	-402	5603	15.56	1070.53	140.32
904	SLD 9	-67	481	2923	-5.92	602.29	-168.04
904	SLD 10	-101	560	2868	-6.29	593.09	-195.69
904	SLD 11	33	-456	6321	16.77	1197.66	159.13
904	SLD 12	0	-377	6266	16.4	1188.46	131.48
904	SLD 13	-263	161	4901	3.11	950.8	-56.2
904	SLD 14	-315	284	4816	2.53	936.51	-99.14
904	SLD 15	-232	-121	5921	9.91	1129.41	41.95
904	SLD 16	-285	3	5836	9.34	1115.12	-0.99
904	SLV 1	621	115	1735	-2.73	388.62	-40.6
904	SLV 2	539	310	1601	-3.64	366.09	-108.29
904	SLV 3	673	-364	3475	8.88	693.38	126.89
904	SLV 4	590	-170	3341	7.98	670.85	59.21
904	SLV 5	172	753	891	-14.89	244.05	-263.29
904	SLV 6	116	884	801	-15.5	228.89	-308.85
904	SLV 7	344	-845	6690	23.82	1259.93	295.03
904	SLV 8	288	-714	6600	23.21	1244.76	249.47
904	SLV 9	-150	793	1926	-13.57	428.05	-277.19
904	SLV 10	-206	924	1836	-14.19	412.89	-322.75
904	SLV 11	22	-805	7725	25.14	1443.93	281.13
904	SLV 12	-34	-675	7635	24.53	1428.76	235.57
904	SLV 13	-452	248	5185	1.66	1001.96	-86.93
904	SLV 14	-535	443	5051	0.75	979.43	-154.61
904	SLV 15	-401	-231	6925	13.27	1306.72	80.57
904	SLV 16	-483	-37	6791	12.36	1284.2	12.88
904	SLV FO 1	676	123	1482	-3.48	343.84	-43.28
904	SLV FO 2	586	337	1335	-4.48	319.06	-117.73
904	SLV FO 3	733	-405	3396	9.29	679.08	140.97
904	SLV FO 4	642	-191	3248	8.29	654.3	66.51
904	SLV FO 5	182	825	554	-16.86	184.82	-288.23
904	SLV FO 6	121	969	454	-17.53	168.13	-338.35
904	SLV FO 7	371	-934	6933	25.72	1302.28	325.92
904	SLV FO 8	310	-790	6833	25.05	1285.6	275.8
904	SLV FO 9	-172	869	1692	-15.41	387.22	-303.52
904	SLV FO 10	-233	1013	1593	-16.09	370.54	-353.64
904	SLV FO 11	17	-890	8071	27.17	1504.68	310.63
904	SLV FO 12	-44	-746	7972	26.5	1488	260.51
904	SLV FO 13	-504	269	5277	1.34	1018.52	-94.23
904	SLV FO 14	-595	483	5130	0.34	993.74	-168.69
904	SLV FO 15	-448	-258	7191	14.12	1353.76	90.01
904	SLV FO 16	-538	-44	7043	13.12	1328.97	15.56
904	CRTFP Ux+	0	0	0	0	0	0
904	CRTFP Ux-	0	0	0	0	0	0
904	CRTFP Uy+	0	0	0	0	0	0
904	CRTFP Uy-	0	0	0	0	0	0
906	SLU 1	-107	26	6402	0.47	-10.85	0.81
906	SLU 2	-103	57	6300	0	-9.14	0.73
906	SLU 3	-110	26	6579	0.58	-11.63	0.83
906	SLU 4	-108	45	6518	0.3	-10.61	0.78
906	SLU 5	-105	58	6419	0.08	-9.68	0.74
906	SLU 6	-112	27	6698	0.66	-12.18	0.84
906	SLU 7	-109	45	6637	0.38	-11.15	0.8
906	SLU 8	-110	26	6639	0.64	-11.94	0.84
906	SLU 9	-108	45	6578	0.35	-10.91	0.79
906	SLU 10	-111	60	7135	-0.11	-11.92	0.9
906	SLU 11	-118	29	7414	0.47	-14.41	1
906	SLU 12	-115	48	7353	0.19	-13.38	0.95
906	SLU 13	-113	60	7254	-0.03	-12.46	0.91
906	SLU 14	-120	29	7533	0.55	-14.95	1.01
906	SLU 15	-117	48	7472	0.27	-13.93	0.97
906	SLU 16	-118	29	7474	0.53	-14.71	1
906	SLU 17	-116	48	7413	0.24	-13.69	0.96
906	SLU 18	-118	30	7594	0.32	-14.82	1.05
906	SLU 19	-116	49	7533	0.03	-13.79	1
906	SLU 20	-120	30	7713	0.4	-15.36	1.06
906	SLU 21	-118	49	7652	0.11	-14.34	1.02
906	SLU 22	-122	28	7499	0.67	-14.92	0.98
906	SLU 23	-118	59	7398	0.19	-13.21	0.91
906	SLU 24	-125	28	7677	0.78	-15.7	1.01
906	SLU 25	-122	47	7616	0.49	-14.67	0.96
906	SLU 26	-119	60	7517	0.28	-13.75	0.92
906	SLU 27	-126	28	7796	0.86	-16.24	1.02
906	SLU 28	-124	47	7735	0.57	-15.22	0.98
906	SLU 29	-125	28	7737	0.83	-16	1.01
906	SLU 30	-123	47	7676	0.55	-14.98	0.97
906	SLU 31	-126	62	8233	0.08	-15.98	1.08
906	SLU 32	-133	31	8512	0.67	-18.48	1.18
906	SLU 33	-130	50	8451	0.38	-17.45	1.13
906	SLU 34	-127	62	8351	0.16	-16.53	1.09
906	SLU 35	-134	31	8631	0.75	-19.02	1.19
906	SLU 36	-132	50	8570	0.46	-17.99	1.14
906	SLU 37	-133	31	8572	0.72	-18.78	1.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
906	SLU 38	-131	50	8511	0.44	-17.75	1.14
906	SLU 39	-133	32	8692	0.51	-18.88	1.23
906	SLU 40	-131	51	8631	0.23	-17.86	1.18
906	SLU 41	-135	32	8811	0.59	-19.43	1.24
906	SLU 42	-132	51	8750	0.31	-18.4	1.19
906	SLU 43	-134	33	7946	0.55	-12.71	0.99
906	SLU 44	-130	65	7844	0.07	-11	0.91
906	SLU 45	-137	33	8123	0.66	-13.49	1.01
906	SLU 46	-135	52	8062	0.37	-12.47	0.96
906	SLU 47	-132	65	7963	0.16	-11.55	0.93
906	SLU 48	-139	34	8242	0.74	-14.04	1.03
906	SLU 49	-136	52	8181	0.45	-13.01	0.98
906	SLU 50	-137	34	8183	0.71	-13.8	1.02
906	SLU 51	-135	52	8122	0.43	-12.77	0.97
906	SLU 52	-138	67	8679	-0.04	-13.78	1.08
906	SLU 53	-145	36	8958	0.55	-16.27	1.18
906	SLU 54	-143	55	8897	0.26	-15.24	1.13
906	SLU 55	-140	68	8798	0.05	-14.32	1.09
906	SLU 56	-147	37	9077	0.63	-16.81	1.19
906	SLU 57	-144	55	9016	0.34	-15.79	1.15
906	SLU 58	-145	36	9018	0.6	-16.57	1.19
906	SLU 59	-143	55	8957	0.32	-15.55	1.14
906	SLU 60	-146	37	9139	0.39	-16.68	1.23
906	SLU 61	-143	56	9078	0.11	-15.65	1.18
906	SLU 62	-147	37	9257	0.47	-17.22	1.24
906	SLU 63	-145	56	9196	0.19	-16.2	1.2
906	SLU 64	-149	35	9044	0.74	-16.78	1.17
906	SLU 65	-145	67	8942	0.27	-15.07	1.09
906	SLU 66	-152	35	9221	0.85	-17.56	1.19
906	SLU 67	-149	54	9160	0.57	-16.53	1.14
906	SLU 68	-147	67	9061	0.35	-15.61	1.1
906	SLU 69	-153	36	9340	0.93	-18.1	1.2
906	SLU 70	-151	54	9279	0.65	-17.08	1.16
906	SLU 71	-152	35	9281	0.91	-17.86	1.19
906	SLU 72	-150	54	9220	0.62	-16.84	1.15
906	SLU 73	-153	69	9777	0.16	-17.85	1.26
906	SLU 74	-160	38	10056	0.74	-20.34	1.36
906	SLU 75	-157	57	9995	0.46	-19.31	1.31
906	SLU 76	-154	70	9896	0.24	-18.39	1.27
906	SLU 77	-161	38	10175	0.82	-20.88	1.37
906	SLU 78	-159	57	10114	0.54	-19.85	1.33
906	SLU 79	-160	38	10116	0.8	-20.64	1.36
906	SLU 80	-158	57	10055	0.51	-19.61	1.32
906	SLU 81	-160	39	10236	0.59	-20.75	1.41
906	SLU 82	-158	58	10175	0.3	-19.72	1.36
906	SLU 83	-162	39	10355	0.67	-21.29	1.42
906	SLU 84	-159	58	10294	0.38	-20.26	1.37
906	SLE RA 1	-111	27	6715	0.53	-12.01	0.86
906	SLE RA 2	-109	48	6648	0.21	-10.87	0.81
906	SLE RA 3	-113	27	6834	0.6	-12.53	0.87
906	SLE RA 4	-112	39	6793	0.41	-11.85	0.84
906	SLE RA 5	-110	48	6727	0.27	-11.23	0.82
906	SLE RA 6	-114	27	6913	0.66	-12.9	0.88
906	SLE RA 7	-113	39	6872	0.47	-12.21	0.85
906	SLE RA 8	-113	27	6874	0.64	-12.74	0.88
906	SLE RA 9	-112	39	6833	0.45	-12.05	0.85
906	SLE RA 10	-114	49	7204	0.14	-12.72	0.92
906	SLE RA 11	-118	29	7390	0.53	-14.39	0.99
906	SLE RA 12	-117	41	7350	0.34	-13.7	0.95
906	SLE RA 13	-115	50	7283	0.19	-13.09	0.93
906	SLE RA 14	-120	29	7469	0.58	-14.75	1
906	SLE RA 15	-118	41	7429	0.39	-14.06	0.96
906	SLE RA 16	-119	29	7430	0.57	-14.59	0.99
906	SLE RA 17	-117	41	7390	0.38	-13.9	0.96
906	SLE RA 18	-119	29	7511	0.42	-14.66	1.02
906	SLE RA 19	-117	42	7470	0.23	-13.97	0.99
906	SLE RA 20	-120	29	7590	0.48	-15.02	1.03
906	SLE RA 21	-118	42	7549	0.29	-14.34	1
906	SLE FR 1	-111	27	6715	0.53	-12.01	0.86
906	SLE FR 2	-111	31	6702	0.47	-11.78	0.85
906	SLE FR 3	-112	27	6747	0.55	-12.16	0.86
906	SLE FR 4	-113	32	6940	0.43	-12.58	0.9
906	SLE FR 5	-114	27	6986	0.52	-12.95	0.91
906	SLE FR 6	-115	28	7113	0.48	-13.34	0.94
906	SLE QP 1	-111	27	6715	0.53	-12.01	0.86
906	SLE QP 2	-114	27	6954	0.5	-12.81	0.91
906	SLD 1	518	230	7019	-2.58	8.56	-4.1
906	SLD 2	432	133	7098	-2.18	7.52	-1.74
906	SLD 3	466	-163	8533	4.52	-14.66	-3.03
906	SLD 4	380	-259	8611	4.92	-15.7	-0.67
906	SLD 5	170	700	4664	-11.26	29	-2.64
906	SLD 6	114	638	4715	-11.01	28.33	-1.12
906	SLD 7	-4	-608	9710	12.41	-48.4	0.96
906	SLD 8	-59	-670	9760	12.66	-49.07	2.48
906	SLD 9	-168	725	4148	-11.67	23.45	-0.66
906	SLD 10	-224	663	4198	-11.41	22.79	0.86
906	SLD 11	-341	-583	9193	12	-53.94	2.93
906	SLD 12	-397	-645	9243	12.26	-54.61	4.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
906	SLD 13	-607	314	5296	-3.93	-9.92	2.48
906	SLD 14	-694	217	5375	-3.53	-10.96	4.84
906	SLD 15	-659	-78	6810	3.18	-33.14	3.55
906	SLD 16	-746	-175	6889	3.57	-34.18	5.92
906	SLV 1	880	372	6945	-4.82	22.35	-7.02
906	SLV 2	744	220	7069	-4.19	20.71	-3.3
906	SLV 3	792	-297	9527	7.3	-17.27	-5.19
906	SLV 4	655	-450	9651	7.92	-18.91	-1.47
906	SLV 5	344	1174	3012	-19.59	58.13	-4.95
906	SLV 6	252	1072	3095	-19.17	57.02	-2.44
906	SLV 7	49	-1056	11619	20.8	-73.92	1.17
906	SLV 8	-42	-1159	11702	21.22	-75.02	3.67
906	SLV 9	-185	1214	2205	-20.22	49.41	-1.86
906	SLV 10	-276	1111	2289	-19.8	48.31	0.65
906	SLV 11	-480	-1017	10813	20.17	-82.64	4.26
906	SLV 12	-571	-1119	10896	20.59	-83.74	6.76
906	SLV 13	-883	504	4257	-6.93	-6.71	3.28
906	SLV 14	-1019	352	4381	-6.3	-8.34	7
906	SLV 15	-971	-165	6839	5.19	-46.32	5.11
906	SLV 16	-1107	-317	6963	5.82	-47.96	8.83
906	SLV FO 1	979	407	6944	-5.35	25.86	-7.82
906	SLV FO 2	830	239	7080	-4.66	24.06	-3.72
906	SLV FO 3	882	-329	9784	7.98	-17.71	-5.8
906	SLV FO 4	732	-497	9920	8.67	-19.52	-1.71
906	SLV FO 5	390	1289	2618	-21.6	65.22	-5.54
906	SLV FO 6	289	1176	2709	-21.14	64.01	-2.78
906	SLV FO 7	66	-1165	12086	22.83	-80.03	1.19
906	SLV FO 8	-35	-1278	12177	23.29	-81.24	3.95
906	SLV FO 9	-192	1333	1731	-22.3	55.63	-2.14
906	SLV FO 10	-293	1220	1822	-21.83	54.42	0.62
906	SLV FO 11	-516	-1121	11199	22.13	-89.62	4.59
906	SLV FO 12	-617	-1234	11290	22.6	-90.83	7.35
906	SLV FO 13	-960	552	3987	-7.67	-6.1	3.52
906	SLV FO 14	-1109	384	4124	-6.98	-7.9	7.61
906	SLV FO 15	-1057	-184	6828	5.66	-49.67	5.53
906	SLV FO 16	-1207	-352	6964	6.35	-51.47	9.63
906	CRTFP Ux+	0	0	0	0	0	0
906	CRTFP Ux-	0	0	0	0	0	0
906	CRTFP Uy+	0	0	0	0	0	0
906	CRTFP Uy-	0	0	0	0	0	0
909	SLU 1	0	39	2392	-0.81	314.12	-9.41
909	SLU 2	0	54	2365	-1	312.95	-13.28
909	SLU 3	0	39	2455	-0.78	321.25	-9.6
909	SLU 4	0	49	2439	-0.9	320.55	-11.93
909	SLU 5	0	55	2406	-0.98	317.66	-13.37
909	SLU 6	0	40	2497	-0.77	325.97	-9.69
909	SLU 7	0	49	2480	-0.88	325.27	-12.02
909	SLU 8	0	39	2476	-0.77	323.54	-9.58
909	SLU 9	0	49	2459	-0.89	322.84	-11.91
909	SLU 10	0	57	2678	-1.19	350.4	-14.06
909	SLU 11	-1	43	2769	-0.97	358.7	-10.38
909	SLU 12	0	52	2752	-1.09	358	-12.71
909	SLU 13	0	58	2720	-1.17	355.11	-14.15
909	SLU 14	-1	43	2810	-0.95	363.41	-10.47
909	SLU 15	0	52	2794	-1.07	362.71	-12.8
909	SLU 16	-1	43	2789	-0.96	360.99	-10.36
909	SLU 17	0	52	2773	-1.07	360.29	-12.69
909	SLU 18	-1	43	2840	-1.07	367.61	-10.52
909	SLU 19	-1	53	2823	-1.19	366.91	-12.85
909	SLU 20	-1	44	2882	-1.05	372.33	-10.61
909	SLU 21	-1	53	2865	-1.17	371.63	-12.94
909	SLU 22	-1	44	2795	-0.88	361.37	-10.65
909	SLU 23	0	59	2767	-1.08	360.2	-14.53
909	SLU 24	-1	45	2858	-0.86	368.51	-10.85
909	SLU 25	0	54	2841	-0.98	367.8	-13.17
909	SLU 26	0	60	2809	-1.06	364.91	-14.61
909	SLU 27	-1	45	2900	-0.84	373.22	-10.93
909	SLU 28	0	54	2883	-0.96	372.52	-13.26
909	SLU 29	-1	45	2878	-0.85	370.79	-10.83
909	SLU 30	0	54	2862	-0.96	370.09	-13.15
909	SLU 31	-1	63	3081	-1.26	397.65	-15.31
909	SLU 32	-1	48	3171	-1.05	405.95	-11.63
909	SLU 33	-1	57	3155	-1.16	405.25	-13.95
909	SLU 34	-1	63	3122	-1.24	402.36	-15.4
909	SLU 35	-1	48	3213	-1.03	410.67	-11.72
909	SLU 36	-1	58	3196	-1.15	409.97	-14.04
909	SLU 37	-1	48	3192	-1.03	408.24	-11.61
909	SLU 38	-1	57	3175	-1.15	407.54	-13.93
909	SLU 39	-2	48	3243	-1.15	414.87	-11.77
909	SLU 40	-2	58	3226	-1.26	414.17	-14.09
909	SLU 41	-2	49	3284	-1.13	419.58	-11.86
909	SLU 42	-1	58	3268	-1.25	418.88	-14.18
909	SLU 43	0	48	2972	-1.02	392.15	-11.8
909	SLU 44	0	64	2944	-1.22	390.99	-15.68
909	SLU 45	0	49	3035	-1	399.29	-12
909	SLU 46	0	59	3018	-1.12	398.59	-14.32
909	SLU 47	1	64	2986	-1.2	395.7	-15.77
909	SLU 48	0	50	3077	-0.98	404	-12.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLU 49	1	59	3060	-1.1	403.3	-14.41
909	SLU 50	0	49	3056	-0.99	401.58	-11.98
909	SLU 51	1	59	3039	-1.1	400.88	-14.3
909	SLU 52	0	67	3258	-1.4	428.43	-16.46
909	SLU 53	-1	53	3348	-1.19	436.74	-12.78
909	SLU 54	0	62	3332	-1.3	436.04	-15.11
909	SLU 55	0	68	3300	-1.38	433.15	-16.55
909	SLU 56	0	53	3390	-1.17	441.45	-12.87
909	SLU 57	0	62	3374	-1.29	440.75	-15.19
909	SLU 58	0	52	3369	-1.17	439.03	-12.76
909	SLU 59	0	62	3352	-1.29	438.33	-15.09
909	SLU 60	-1	53	3420	-1.29	445.65	-12.92
909	SLU 61	-1	62	3403	-1.4	444.95	-15.24
909	SLU 62	-1	53	3461	-1.27	450.36	-13.01
909	SLU 63	-1	63	3445	-1.39	449.66	-15.33
909	SLU 64	-1	54	3375	-1.1	439.4	-13.04
909	SLU 65	0	69	3347	-1.29	438.24	-16.92
909	SLU 66	-1	54	3437	-1.08	446.54	-13.24
909	SLU 67	0	64	3421	-1.19	445.84	-15.57
909	SLU 68	0	69	3389	-1.27	442.95	-17.01
909	SLU 69	0	55	3479	-1.06	451.25	-13.33
909	SLU 70	0	64	3463	-1.18	450.55	-15.66
909	SLU 71	0	54	3458	-1.06	448.83	-13.22
909	SLU 72	0	64	3442	-1.18	448.13	-15.55
909	SLU 73	-1	72	3660	-1.48	475.68	-17.7
909	SLU 74	-1	58	3751	-1.26	483.99	-14.02
909	SLU 75	-1	67	3734	-1.38	483.29	-16.35
909	SLU 76	-1	73	3702	-1.46	480.4	-17.79
909	SLU 77	-1	58	3793	-1.25	488.7	-14.11
909	SLU 78	-1	67	3776	-1.36	488	-16.44
909	SLU 79	-1	58	3771	-1.25	486.28	-14
909	SLU 80	-1	67	3755	-1.37	485.58	-16.33
909	SLU 81	-2	58	3822	-1.36	492.9	-14.16
909	SLU 82	-1	68	3806	-1.48	492.2	-16.49
909	SLU 83	-1	59	3864	-1.35	497.61	-14.25
909	SLU 84	-1	68	3847	-1.46	496.91	-16.58
909	SLE RA 1	0	40	2507	-0.83	327.62	-9.76
909	SLE RA 2	0	50	2489	-0.96	326.84	-12.34
909	SLE RA 3	0	41	2549	-0.81	332.38	-9.89
909	SLE RA 4	0	47	2538	-0.89	331.91	-11.44
909	SLE RA 5	0	51	2517	-0.95	329.98	-12.4
909	SLE RA 6	0	41	2577	-0.8	335.52	-9.95
909	SLE RA 7	0	47	2566	-0.88	335.05	-11.5
909	SLE RA 8	0	41	2563	-0.8	333.9	-9.88
909	SLE RA 9	0	47	2552	-0.88	333.43	-11.43
909	SLE RA 10	-1	53	2698	-1.08	351.8	-12.87
909	SLE RA 11	-1	43	2758	-0.94	357.34	-10.41
909	SLE RA 12	-1	49	2747	-1.02	356.87	-11.96
909	SLE RA 13	0	53	2726	-1.07	354.95	-12.93
909	SLE RA 14	-1	43	2786	-0.93	360.48	-10.47
909	SLE RA 15	0	49	2775	-1	360.02	-12.02
909	SLE RA 16	-1	43	2772	-0.93	358.87	-10.4
909	SLE RA 17	0	49	2761	-1.01	358.4	-11.95
909	SLE RA 18	-1	43	2806	-1.01	363.28	-10.51
909	SLE RA 19	-1	49	2795	-1.08	362.82	-12.06
909	SLE RA 20	-1	43	2834	-0.99	366.42	-10.56
909	SLE RA 21	-1	50	2823	-1.07	365.96	-12.12
909	SLE FR 1	0	40	2507	-0.83	327.62	-9.76
909	SLE FR 2	0	42	2504	-0.85	327.46	-10.28
909	SLE FR 3	0	40	2518	-0.82	328.87	-9.78
909	SLE FR 4	-1	43	2593	-0.91	338.16	-10.5
909	SLE FR 5	-1	41	2608	-0.88	339.57	-10.01
909	SLE FR 6	-1	42	2657	-0.92	345.45	-10.13
909	SLE QP 1	0	40	2507	-0.83	327.62	-9.76
909	SLE QP 2	-1	41	2597	-0.88	338.32	-9.98
909	SLD 1	292	155	2493	-2.17	344.75	-38.83
909	SLD 2	258	137	2495	-2.07	343.81	-33.97
909	SLD 3	286	-36	2918	0.68	365.76	8.93
909	SLD 4	252	-54	2920	0.78	364.83	13.8
909	SLD 5	102	368	1922	-5.6	308.54	-91.92
909	SLD 6	80	356	1923	-5.54	307.93	-88.78
909	SLD 7	82	-268	3337	3.89	378.58	67.29
909	SLD 8	60	-280	3338	3.95	377.98	70.43
909	SLD 9	-62	362	1856	-5.72	298.65	-90.4
909	SLD 10	-83	350	1857	-5.65	298.05	-87.26
909	SLD 11	-82	-274	3271	3.78	368.7	68.81
909	SLD 12	-103	-286	3272	3.84	368.1	71.95
909	SLD 13	-254	136	2274	-2.54	311.81	-33.76
909	SLD 14	-287	118	2276	-2.44	310.87	-28.9
909	SLD 15	-259	-54	2699	0.31	332.82	14
909	SLD 16	-293	-73	2700	0.41	331.89	18.86
909	SLV 1	458	234	2404	-3.1	346.8	-58.57
909	SLV 2	405	204	2407	-2.94	345.32	-50.9
909	SLV 3	448	-92	3129	1.76	382.69	22.88
909	SLV 4	395	-121	3131	1.92	381.22	30.55
909	SLV 5	162	598	1440	-8.94	286.69	-149.53
909	SLV 6	126	578	1442	-8.84	285.7	-144.36
909	SLV 7	129	-487	3854	7.25	406.35	121.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLV 8	93	-507	3856	7.36	405.35	127.14
909	SLV 9	-94	589	1337	-9.12	271.28	-147.11
909	SLV 10	-130	569	1339	-9.02	270.29	-141.95
909	SLV 11	-127	-496	3752	7.08	390.93	124.39
909	SLV 12	-163	-516	3754	7.18	389.94	129.56
909	SLV 13	-396	203	2062	-3.68	295.42	-50.52
909	SLV 14	-449	174	2065	-3.53	293.94	-42.85
909	SLV 15	-406	-122	2787	1.18	331.31	30.93
909	SLV 16	-459	-151	2789	1.33	329.84	38.6
909	SLV FO 1	504	253	2385	-3.32	347.65	-63.43
909	SLV FO 2	445	220	2388	-3.15	346.02	-54.99
909	SLV FO 3	493	-105	3182	2.03	387.13	26.17
909	SLV FO 4	434	-138	3185	2.2	385.51	34.61
909	SLV FO 5	178	654	1324	-9.75	281.53	-163.48
909	SLV FO 6	139	632	1326	-9.64	280.44	-157.8
909	SLV FO 7	141	-540	3980	8.07	413.15	135.18
909	SLV FO 8	102	-562	3982	8.18	412.06	140.85
909	SLV FO 9	-103	644	1211	-9.94	264.58	-160.82
909	SLV FO 10	-143	622	1213	-9.83	263.49	-155.14
909	SLV FO 11	-140	-550	3867	7.87	396.19	137.83
909	SLV FO 12	-179	-572	3869	7.99	395.1	143.51
909	SLV FO 13	-435	220	2009	-3.96	291.13	-54.57
909	SLV FO 14	-494	187	2012	-3.79	289.5	-46.14
909	SLV FO 15	-446	-138	2806	1.39	330.61	35.02
909	SLV FO 16	-505	-171	2809	1.56	328.99	43.46
909	CRTFP Ux+	0	0	0	0	0	0
909	CRTFP Ux-	0	0	0	0	0	0
909	CRTFP Uy+	0	0	0	0	0	0
909	CRTFP Uy-	0	0	0	0	0	0
911	SLU 1	26	34	4464	3.11	-34.01	0.75
911	SLU 2	25	69	4403	2.69	-33.86	0.77
911	SLU 3	27	34	4576	3.3	-35.04	0.77
911	SLU 4	26	55	4540	3.05	-34.96	0.79
911	SLU 5	26	68	4477	2.83	-34.52	0.78
911	SLU 6	28	34	4650	3.43	-35.7	0.78
911	SLU 7	27	55	4614	3.18	-35.61	0.8
911	SLU 8	28	34	4611	3.37	-35.32	0.77
911	SLU 9	27	54	4575	3.12	-35.23	0.78
911	SLU 10	26	72	4996	2.97	-37.61	0.92
911	SLU 11	29	38	5169	3.57	-38.79	0.92
911	SLU 12	28	58	5133	3.32	-38.7	0.93
911	SLU 13	27	71	5070	3.1	-38.26	0.93
911	SLU 14	30	37	5243	3.7	-39.44	0.93
911	SLU 15	29	58	5206	3.45	-39.36	0.94
911	SLU 16	30	37	5204	3.64	-39.06	0.91
911	SLU 17	29	57	5168	3.4	-38.97	0.92
911	SLU 18	28	39	5311	3.5	-39.36	0.95
911	SLU 19	28	59	5274	3.25	-39.27	0.97
911	SLU 20	29	38	5384	3.63	-40.02	0.96
911	SLU 21	29	59	5348	3.38	-39.93	0.98
911	SLU 22	29	39	5219	3.79	-39.06	0.94
911	SLU 23	28	73	5158	3.38	-38.91	0.97
911	SLU 24	30	39	5331	3.98	-40.1	0.97
911	SLU 25	29	60	5295	3.73	-40.01	0.98
911	SLU 26	29	73	5232	3.51	-39.57	0.98
911	SLU 27	31	39	5405	4.11	-40.75	0.98
911	SLU 28	30	60	5369	3.86	-40.66	0.99
911	SLU 29	31	39	5366	4.05	-40.37	0.96
911	SLU 30	30	59	5330	3.8	-40.28	0.98
911	SLU 31	29	76	5751	3.65	-42.66	1.11
911	SLU 32	32	42	5924	4.25	-43.84	1.11
911	SLU 33	31	63	5888	4.01	-43.75	1.13
911	SLU 34	30	76	5825	3.78	-43.31	1.12
911	SLU 35	33	42	5998	4.38	-44.5	1.12
911	SLU 36	32	63	5961	4.14	-44.41	1.14
911	SLU 37	33	42	5959	4.33	-44.11	1.11
911	SLU 38	32	62	5923	4.08	-44.03	1.12
911	SLU 39	31	44	6066	4.18	-44.41	1.15
911	SLU 40	30	64	6029	3.94	-44.33	1.16
911	SLU 41	32	43	6139	4.31	-45.07	1.16
911	SLU 42	32	64	6103	4.07	-44.98	1.17
911	SLU 43	33	43	5544	3.8	-42.48	0.91
911	SLU 44	31	77	5484	3.39	-42.33	0.93
911	SLU 45	34	43	5656	3.99	-43.52	0.93
911	SLU 46	33	64	5620	3.75	-43.43	0.95
911	SLU 47	33	77	5558	3.52	-42.99	0.94
911	SLU 48	35	43	5730	4.12	-44.17	0.94
911	SLU 49	34	63	5694	3.88	-44.08	0.95
911	SLU 50	35	42	5692	4.07	-43.79	0.92
911	SLU 51	34	63	5656	3.82	-43.7	0.94
911	SLU 52	33	80	6076	3.67	-46.08	1.07
911	SLU 53	35	46	6249	4.27	-47.26	1.07
911	SLU 54	35	67	6213	4.02	-47.17	1.09
911	SLU 55	34	80	6150	3.8	-46.73	1.08
911	SLU 56	37	46	6323	4.4	-47.92	1.08
911	SLU 57	36	66	6287	4.15	-47.83	1.1
911	SLU 58	36	45	6284	4.34	-47.53	1.07
911	SLU 59	36	66	6248	4.09	-47.45	1.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
911	SLU 60	35	47	6391	4.2	-47.83	1.11
911	SLU 61	34	68	6355	3.95	-47.74	1.13
911	SLU 62	36	47	6465	4.33	-48.49	1.12
911	SLU 63	35	68	6428	4.08	-48.4	1.13
911	SLU 64	35	48	6299	4.49	-47.53	1.1
911	SLU 65	34	82	6239	4.08	-47.38	1.12
911	SLU 66	37	48	6411	4.68	-48.57	1.13
911	SLU 67	36	69	6375	4.43	-48.48	1.14
911	SLU 68	35	82	6313	4.21	-48.04	1.13
911	SLU 69	38	48	6485	4.81	-49.22	1.13
911	SLU 70	37	68	6449	4.56	-49.13	1.15
911	SLU 71	38	47	6447	4.75	-48.84	1.12
911	SLU 72	37	68	6411	4.5	-48.75	1.13
911	SLU 73	36	85	6832	4.35	-51.13	1.27
911	SLU 74	38	51	7004	4.95	-52.31	1.27
911	SLU 75	38	72	6968	4.7	-52.22	1.28
911	SLU 76	37	85	6905	4.48	-51.78	1.28
911	SLU 77	39	51	7078	5.08	-52.97	1.28
911	SLU 78	39	71	7042	4.84	-52.88	1.29
911	SLU 79	39	50	7039	5.02	-52.59	1.26
911	SLU 80	39	71	7003	4.78	-52.5	1.28
911	SLU 81	38	52	7146	4.88	-52.88	1.31
911	SLU 82	37	73	7110	4.63	-52.8	1.32
911	SLU 83	39	52	7220	5.01	-53.54	1.32
911	SLU 84	38	72	7184	4.76	-53.45	1.33
911	SLE RA 1	27	36	4680	3.3	-35.45	0.8
911	SLE RA 2	26	59	4639	3.03	-35.35	0.82
911	SLE RA 3	27	36	4754	3.43	-36.14	0.82
911	SLE RA 4	27	50	4730	3.26	-36.08	0.83
911	SLE RA 5	27	58	4689	3.11	-35.79	0.83
911	SLE RA 6	28	36	4804	3.51	-36.58	0.83
911	SLE RA 7	28	49	4779	3.35	-36.52	0.84
911	SLE RA 8	28	35	4778	3.48	-36.32	0.82
911	SLE RA 9	28	49	4754	3.31	-36.27	0.83
911	SLE RA 10	27	61	5034	3.21	-37.85	0.92
911	SLE RA 11	29	38	5150	3.61	-38.64	0.92
911	SLE RA 12	28	52	5125	3.45	-38.58	0.93
911	SLE RA 13	28	60	5084	3.3	-38.29	0.92
911	SLE RA 14	29	38	5199	3.7	-39.08	0.92
911	SLE RA 15	29	51	5175	3.53	-39.02	0.93
911	SLE RA 16	29	37	5173	3.66	-38.82	0.91
911	SLE RA 17	29	51	5149	3.5	-38.76	0.92
911	SLE RA 18	28	39	5244	3.56	-39.02	0.94
911	SLE RA 19	28	52	5220	3.4	-38.96	0.95
911	SLE RA 20	29	38	5293	3.65	-39.46	0.95
911	SLE RA 21	29	52	5269	3.49	-39.4	0.96
911	SLE FR 1	27	36	4680	3.3	-35.45	0.8
911	SLE FR 2	26	40	4671	3.25	-35.43	0.81
911	SLE FR 3	27	36	4699	3.34	-35.63	0.81
911	SLE FR 4	27	41	4841	3.33	-36.5	0.85
911	SLE FR 5	27	37	4869	3.42	-36.7	0.85
911	SLE FR 6	27	37	4962	3.43	-37.24	0.87
911	SLE QP 1	27	36	4680	3.3	-35.45	0.8
911	SLE QP 2	27	37	4849	3.38	-36.52	0.84
911	SLD 1	610	220	4002	0.19	-9.44	-3.57
911	SLD 2	540	255	4005	0.08	-9.44	-1.29
911	SLD 3	628	-213	4925	6.29	-12.15	-3.93
911	SLD 4	558	-178	4928	6.19	-12.15	-1.64
911	SLD 5	186	743	3194	-6.82	-24.29	-0.33
911	SLD 6	141	766	3196	-6.88	-24.29	1.14
911	SLD 7	247	-702	6271	13.53	-33.32	-1.53
911	SLD 8	202	-680	6273	13.46	-33.32	-0.05
911	SLD 9	-148	753	3424	-6.7	-39.73	1.74
911	SLD 10	-192	775	3427	-6.77	-39.73	3.21
911	SLD 11	-87	-693	6501	13.65	-48.75	0.55
911	SLD 12	-132	-670	6504	13.58	-48.75	2.02
911	SLD 13	-504	251	4769	0.57	-60.9	3.33
911	SLD 14	-573	287	4773	0.47	-60.9	5.62
911	SLD 15	-485	-182	5693	6.68	-63.6	2.98
911	SLD 16	-555	-147	5696	6.57	-63.6	5.26
911	SLV 1	938	354	3460	-2.07	5.92	-6.07
911	SLV 2	828	409	3465	-2.23	5.92	-2.46
911	SLV 3	968	-386	5035	8.35	1.3	-6.68
911	SLV 4	858	-331	5040	8.18	1.3	-3.07
911	SLV 5	274	1243	2042	-14.02	-16.79	-0.98
911	SLV 6	200	1281	2046	-14.13	-16.79	1.45
911	SLV 7	377	-1223	7292	20.7	-32.18	-3.01
911	SLV 8	303	-1185	7296	20.59	-32.18	-0.58
911	SLV 9	-248	1258	2401	-13.83	-40.87	2.27
911	SLV 10	-322	1296	2405	-13.94	-40.87	4.7
911	SLV 11	-146	-1207	7652	20.89	-56.26	0.24
911	SLV 12	-220	-1170	7656	20.78	-56.26	2.67
911	SLV 13	-804	404	4657	-1.42	-74.35	4.76
911	SLV 14	-914	459	4663	-1.59	-74.35	8.36
911	SLV 15	-773	-336	6233	9	-78.97	4.15
911	SLV 16	-883	-281	6238	8.83	-78.96	7.75
911	SLV FO 1	1029	385	3321	-2.61	10.16	-6.76
911	SLV FO 2	908	446	3327	-2.8	10.16	-2.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
911	SLV FO 3	1062	-428	5053	8.85	5.08	-7.43
911	SLV FO 4	941	-367	5059	8.66	5.09	-3.46
911	SLV FO 5	299	1364	1761	-15.76	-14.82	-1.16
911	SLV FO 6	217	1405	1766	-15.89	-14.82	1.51
911	SLV FO 7	412	-1348	7537	22.43	-31.74	-3.39
911	SLV FO 8	330	-1307	7541	22.31	-31.74	-0.72
911	SLV FO 9	-276	1381	2157	-15.55	-41.31	2.41
911	SLV FO 10	-357	1422	2161	-15.67	-41.3	5.08
911	SLV FO 11	-163	-1332	7932	22.65	-58.23	0.18
911	SLV FO 12	-245	-1291	7936	22.52	-58.23	2.85
911	SLV FO 13	-887	441	4638	-1.9	-78.13	5.15
911	SLV FO 14	-1008	501	4645	-2.09	-78.13	9.12
911	SLV FO 15	-853	-373	6371	9.56	-83.21	4.48
911	SLV FO 16	-974	-312	6377	9.37	-83.21	8.45
911	CRTFP Ux+	0	0	0	0	0	0
911	CRTFP Ux-	0	0	0	0	0	0
911	CRTFP Uy+	0	0	0	0	0	0
911	CRTFP Uy-	0	0	0	0	0	0
913	SLU 1	-50	-2	3308	3.9	-416.11	-0.42
913	SLU 2	-48	17	3249	3.56	-408.47	4.27
913	SLU 3	-51	-3	3400	4.06	-426.9	-0.59
913	SLU 4	-50	9	3365	3.86	-422.32	2.22
913	SLU 5	-49	17	3311	3.68	-415.74	4.2
913	SLU 6	-52	-3	3462	4.18	-434.17	-0.66
913	SLU 7	-51	8	3426	3.98	-429.58	2.15
913	SLU 8	-51	-3	3432	4.13	-430.65	-0.56
913	SLU 9	-50	9	3396	3.93	-426.06	2.25
913	SLU 10	-52	18	3650	4.05	-456.27	4.49
913	SLU 11	-55	-2	3802	4.56	-474.7	-0.37
913	SLU 12	-54	9	3766	4.35	-470.12	2.45
913	SLU 13	-53	17	3712	4.17	-463.54	4.42
913	SLU 14	-56	-2	3864	4.67	-481.97	-0.44
913	SLU 15	-55	9	3828	4.47	-477.38	2.38
913	SLU 16	-55	-2	3834	4.62	-478.45	-0.34
913	SLU 17	-54	10	3798	4.42	-473.86	2.48
913	SLU 18	-55	-1	3882	4.6	-484.4	-0.1
913	SLU 19	-55	10	3846	4.4	-479.81	2.71
913	SLU 20	-56	-1	3944	4.72	-491.66	-0.17
913	SLU 21	-55	10	3908	4.52	-487.08	2.64
913	SLU 22	-56	-5	3851	4.71	-480.58	-1.08
913	SLU 23	-55	14	3792	4.38	-472.94	3.61
913	SLU 24	-57	-5	3943	4.88	-491.37	-1.25
913	SLU 25	-57	6	3908	4.68	-486.78	1.56
913	SLU 26	-56	14	3854	4.49	-480.2	3.54
913	SLU 27	-58	-6	4005	4.99	-498.63	-1.32
913	SLU 28	-57	6	3969	4.79	-494.05	1.49
913	SLU 29	-58	-5	3975	4.95	-495.11	-1.22
913	SLU 30	-57	6	3939	4.75	-490.53	1.59
913	SLU 31	-59	15	4193	4.87	-520.74	3.83
913	SLU 32	-61	-5	4345	5.37	-539.17	-1.03
913	SLU 33	-61	7	4309	5.17	-534.58	1.79
913	SLU 34	-59	15	4255	4.98	-528	3.76
913	SLU 35	-62	-5	4407	5.49	-546.43	-1.1
913	SLU 36	-61	6	4371	5.28	-541.85	1.72
913	SLU 37	-62	-4	4376	5.44	-542.91	-1
913	SLU 38	-61	7	4341	5.24	-538.33	1.82
913	SLU 39	-62	-4	4425	5.41	-548.86	-0.77
913	SLU 40	-61	8	4389	5.21	-544.28	2.05
913	SLU 41	-63	-4	4487	5.53	-556.13	-0.83
913	SLU 42	-62	7	4451	5.33	-551.55	1.98
913	SLU 43	-63	-2	4115	4.79	-518.85	-0.33
913	SLU 44	-61	17	4055	4.45	-511.2	4.37
913	SLU 45	-64	-2	4207	4.96	-529.63	-0.49
913	SLU 46	-63	9	4171	4.75	-525.05	2.32
913	SLU 47	-62	17	4117	4.57	-518.47	4.3
913	SLU 48	-64	-3	4269	5.07	-536.9	-0.56
913	SLU 49	-64	9	4233	4.87	-532.32	2.25
913	SLU 50	-64	-2	4238	5.03	-533.38	-0.46
913	SLU 51	-63	9	4203	4.82	-528.79	2.35
913	SLU 52	-65	18	4457	4.95	-559	4.59
913	SLU 53	-68	-2	4608	5.45	-577.43	-0.27
913	SLU 54	-67	10	4573	5.25	-572.85	2.54
913	SLU 55	-66	18	4519	5.06	-566.27	4.52
913	SLU 56	-68	-2	4670	5.56	-584.7	-0.34
913	SLU 57	-67	9	4634	5.36	-580.12	2.48
913	SLU 58	-68	-1	4640	5.52	-581.18	-0.24
913	SLU 59	-67	10	4604	5.31	-576.59	2.58
913	SLU 60	-68	0	4688	5.49	-587.13	-0.01
913	SLU 61	-67	11	4653	5.29	-582.55	2.81
913	SLU 62	-69	-1	4750	5.61	-594.4	-0.07
913	SLU 63	-68	11	4715	5.41	-589.81	2.74
913	SLU 64	-69	-4	4658	5.6	-583.31	-0.99
913	SLU 65	-68	14	4598	5.27	-575.67	3.71
913	SLU 66	-70	-5	4750	5.77	-594.1	-1.15
913	SLU 67	-69	6	4714	5.57	-589.51	1.66
913	SLU 68	-68	14	4660	5.38	-582.94	3.64
913	SLU 69	-71	-5	4811	5.89	-601.37	-1.22
913	SLU 70	-70	6	4776	5.68	-596.78	1.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
913	SLU 71	-70	-5	4781	5.84	-597.84	-1.12
913	SLU 72	-69	6	4746	5.64	-593.26	1.69
913	SLU 73	-72	15	5000	5.76	-623.47	3.93
913	SLU 74	-74	-4	5151	6.26	-641.9	-0.93
913	SLU 75	-73	7	5115	6.06	-637.31	1.88
913	SLU 76	-72	15	5062	5.88	-630.74	3.86
913	SLU 77	-75	-5	5213	6.38	-649.17	-1
913	SLU 78	-74	7	5177	6.18	-644.58	1.82
913	SLU 79	-74	-4	5183	6.33	-645.64	-0.9
913	SLU 80	-73	7	5147	6.13	-641.06	1.92
913	SLU 81	-75	-3	5231	6.3	-651.59	-0.67
913	SLU 82	-74	8	5196	6.1	-647.01	2.15
913	SLU 83	-75	-3	5293	6.42	-658.86	-0.73
913	SLU 84	-74	8	5257	6.22	-654.28	2.08
913	SLE RA 1	-52	-3	3464	4.13	-434.53	-0.61
913	SLE RA 2	-51	10	3424	3.91	-429.44	2.51
913	SLE RA 3	-52	-3	3525	4.24	-441.72	-0.73
913	SLE RA 4	-52	4	3501	4.11	-438.67	1.15
913	SLE RA 5	-51	10	3465	3.99	-434.28	2.47
913	SLE RA 6	-53	-3	3566	4.32	-446.57	-0.77
913	SLE RA 7	-52	4	3542	4.19	-443.51	1.11
913	SLE RA 8	-53	-3	3546	4.29	-444.22	-0.7
913	SLE RA 9	-52	4	3522	4.15	-441.17	1.17
913	SLE RA 10	-53	10	3692	4.23	-461.3	2.66
913	SLE RA 11	-55	-3	3793	4.57	-473.59	-0.58
913	SLE RA 12	-55	5	3769	4.43	-470.53	1.3
913	SLE RA 13	-54	10	3733	4.31	-466.15	2.62
913	SLE RA 14	-56	-3	3834	4.65	-478.44	-0.62
913	SLE RA 15	-55	5	3810	4.51	-475.38	1.25
913	SLE RA 16	-55	-3	3814	4.61	-476.09	-0.56
913	SLE RA 17	-55	5	3790	4.48	-473.03	1.32
913	SLE RA 18	-55	-2	3846	4.6	-480.06	-0.4
913	SLE RA 19	-55	6	3822	4.46	-477	1.48
913	SLE RA 20	-56	-2	3887	4.68	-484.9	-0.45
913	SLE RA 21	-55	5	3863	4.54	-481.84	1.43
913	SLE FR 1	-52	-3	3464	4.13	-434.53	-0.61
913	SLE FR 2	-52	0	3456	4.09	-433.51	0.01
913	SLE FR 3	-52	-3	3480	4.16	-436.47	-0.63
913	SLE FR 4	-53	0	3570	4.23	-447.17	0.08
913	SLE FR 5	-53	-3	3595	4.3	-450.13	-0.57
913	SLE FR 6	-54	-2	3655	4.36	-457.29	-0.51
913	SLE QP 1	-52	-3	3464	4.13	-434.53	-0.61
913	SLE QP 2	-53	-3	3578	4.27	-448.19	-0.55
913	SLD 1	259	127	4130	2.99	-508.1	31.43
913	SLD 2	214	27	4194	3.4	-516.87	6.69
913	SLD 3	239	-106	5012	7.94	-619.83	-26.63
913	SLD 4	194	-206	5077	8.34	-628.59	-51.37
913	SLD 5	78	407	2394	-3.68	-295.21	101.36
913	SLD 6	49	342	2436	-3.42	-300.85	85.42
913	SLD 7	12	-370	5336	12.8	-667.62	-92.17
913	SLD 8	-17	-434	5377	13.06	-673.26	-108.11
913	SLD 9	-89	429	1779	-4.51	-223.11	107.01
913	SLD 10	-118	365	1821	-4.25	-228.76	91.08
913	SLD 11	-155	-348	4721	11.96	-595.53	-86.52
913	SLD 12	-184	-412	4762	12.22	-601.17	-102.46
913	SLD 13	-300	201	2080	0.2	-267.79	50.28
913	SLD 14	-344	101	2144	0.61	-276.55	25.53
913	SLD 15	-319	-32	2962	5.15	-379.51	-7.78
913	SLD 16	-364	-132	3027	5.55	-388.28	-32.53
913	SLV 1	436	217	4374	1.91	-533.42	53.72
913	SLV 2	366	59	4476	2.55	-547.24	14.71
913	SLV 3	403	-181	5879	10.34	-724.02	-45.3
913	SLV 4	332	-338	5981	10.98	-737.84	-84.31
913	SLV 5	158	695	1515	-9.34	-182.11	173.19
913	SLV 6	110	589	1584	-8.91	-191.41	146.93
913	SLV 7	46	-629	6532	18.76	-817.44	-156.87
913	SLV 8	-2	-735	6601	19.19	-826.74	-183.13
913	SLV 9	-104	730	556	-10.65	-69.64	182.04
913	SLV 10	-152	624	624	-10.22	-78.94	155.78
913	SLV 11	-216	-594	5573	17.46	-704.97	-148.03
913	SLV 12	-264	-700	5642	17.88	-714.27	-174.29
913	SLV 13	-438	333	1176	-2.44	-158.54	83.21
913	SLV 14	-508	176	1277	-1.8	-172.36	44.2
913	SLV 15	-471	-64	2681	5.99	-349.14	-15.81
913	SLV 16	-542	-222	2783	6.63	-362.96	-54.82
913	SLV FO 1	485	239	4453	1.68	-541.94	59.15
913	SLV FO 2	407	65	4565	2.38	-557.14	16.24
913	SLV FO 3	448	-198	6109	10.95	-751.6	-49.77
913	SLV FO 4	370	-372	6221	11.65	-766.8	-92.68
913	SLV FO 5	179	765	1309	-10.7	-155.5	190.56
913	SLV FO 6	127	648	1384	-10.23	-165.73	161.68
913	SLV FO 7	56	-692	6828	20.21	-854.36	-172.51
913	SLV FO 8	3	-808	6903	20.68	-864.59	-201.39
913	SLV FO 9	-109	803	253	-12.14	-31.79	200.29
913	SLV FO 10	-162	687	329	-11.67	-42.02	171.41
913	SLV FO 11	-232	-653	5773	18.77	-730.65	-162.78
913	SLV FO 12	-285	-770	5848	19.24	-740.88	-191.66
913	SLV FO 13	-476	367	935	-3.11	-129.58	91.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
913	SLV FO 14	-554	193	1047	-2.41	-144.78	48.67
913	SLV FO 15	-513	-70	2591	6.17	-339.24	-17.34
913	SLV FO 16	-591	-244	2703	6.86	-354.44	-60.25
913	CRTFP Ux+	0	0	0	0	0	0
913	CRTFP Ux-	0	0	0	0	0	0
913	CRTFP Uy+	0	0	0	0	0	0
913	CRTFP Uy-	0	0	0	0	0	0
916	SLU 1	110	48	6574	1.75	19.53	-0.16
916	SLU 2	106	76	6453	1.27	18.16	-0.1
916	SLU 3	114	49	6759	1.89	20.52	-0.17
916	SLU 4	111	66	6686	1.6	19.69	-0.13
916	SLU 5	109	77	6578	1.37	18.81	-0.12
916	SLU 6	117	49	6884	2	21.16	-0.18
916	SLU 7	114	67	6811	1.71	20.34	-0.15
916	SLU 8	116	49	6824	1.96	20.82	-0.19
916	SLU 9	113	66	6751	1.67	20	-0.16
916	SLU 10	113	83	7301	1.38	21.36	-0.12
916	SLU 11	122	55	7607	2	23.72	-0.18
916	SLU 12	119	72	7534	1.71	22.89	-0.15
916	SLU 13	116	83	7426	1.48	22.01	-0.13
916	SLU 14	125	55	7732	2.11	24.36	-0.2
916	SLU 15	122	73	7659	1.82	23.54	-0.16
916	SLU 16	124	55	7672	2.07	24.02	-0.2
916	SLU 17	121	72	7599	1.78	23.2	-0.17
916	SLU 18	121	56	7785	1.91	24.11	-0.17
916	SLU 19	119	74	7713	1.62	23.29	-0.14
916	SLU 20	124	57	7910	2.01	24.75	-0.19
916	SLU 21	121	74	7838	1.72	23.93	-0.16
916	SLU 22	125	53	7699	2.19	24.43	-0.13
916	SLU 23	120	82	7578	1.7	23.05	-0.07
916	SLU 24	128	54	7884	2.33	25.41	-0.14
916	SLU 25	126	72	7812	2.04	24.59	-0.1
916	SLU 26	123	83	7703	1.81	23.7	-0.09
916	SLU 27	131	55	8009	2.43	26.05	-0.15
916	SLU 28	129	72	7937	2.14	25.23	-0.12
916	SLU 29	130	55	7949	2.39	25.71	-0.16
916	SLU 30	128	72	7877	2.1	24.89	-0.13
916	SLU 31	128	88	8426	1.81	26.26	-0.09
916	SLU 32	136	60	8733	2.44	28.61	-0.15
916	SLU 33	133	78	8660	2.15	27.79	-0.12
916	SLU 34	131	89	8551	1.91	26.9	-0.1
916	SLU 35	139	61	8857	2.54	29.25	-0.17
916	SLU 36	136	78	8785	2.25	28.43	-0.13
916	SLU 37	138	61	8797	2.5	28.91	-0.17
916	SLU 38	135	78	8725	2.21	28.09	-0.14
916	SLU 39	136	62	8911	2.34	29	-0.14
916	SLU 40	133	79	8838	2.05	28.18	-0.11
916	SLU 41	138	63	9036	2.45	29.64	-0.16
916	SLU 42	136	80	8963	2.15	28.82	-0.13
916	SLU 43	139	60	8160	2.13	23.72	-0.21
916	SLU 44	134	89	8039	1.64	22.35	-0.16
916	SLU 45	142	61	8345	2.27	24.7	-0.22
916	SLU 46	140	78	8272	1.98	23.88	-0.19
916	SLU 47	137	90	8164	1.75	22.99	-0.18
916	SLU 48	145	62	8470	2.37	25.34	-0.24
916	SLU 49	143	79	8397	2.08	24.52	-0.21
916	SLU 50	144	61	8410	2.34	25	-0.25
916	SLU 51	142	79	8337	2.05	24.18	-0.22
916	SLU 52	142	95	8887	1.75	25.55	-0.17
916	SLU 53	150	67	9193	2.38	27.9	-0.24
916	SLU 54	147	84	9121	2.09	27.08	-0.2
916	SLU 55	145	96	9012	1.86	26.19	-0.19
916	SLU 56	153	68	9318	2.48	28.54	-0.25
916	SLU 57	150	85	9245	2.19	27.72	-0.22
916	SLU 58	152	67	9258	2.45	28.21	-0.26
916	SLU 59	149	85	9185	2.15	27.38	-0.23
916	SLU 60	150	69	9371	2.28	28.29	-0.23
916	SLU 61	147	86	9299	1.99	27.47	-0.2
916	SLU 62	152	69	9496	2.39	28.93	-0.25
916	SLU 63	150	87	9424	2.1	28.11	-0.22
916	SLU 64	153	66	9285	2.56	28.61	-0.18
916	SLU 65	148	95	9164	2.08	27.24	-0.13
916	SLU 66	157	67	9471	2.7	29.59	-0.19
916	SLU 67	154	84	9398	2.41	28.77	-0.16
916	SLU 68	151	95	9289	2.18	27.88	-0.15
916	SLU 69	160	67	9596	2.81	30.23	-0.21
916	SLU 70	157	85	9523	2.52	29.41	-0.18
916	SLU 71	159	67	9535	2.77	29.9	-0.22
916	SLU 72	156	84	9463	2.48	29.07	-0.19
916	SLU 73	156	101	10013	2.19	30.44	-0.14
916	SLU 74	164	73	10319	2.81	32.79	-0.21
916	SLU 75	162	90	10246	2.52	31.97	-0.17
916	SLU 76	159	101	10137	2.29	31.08	-0.16
916	SLU 77	167	73	10444	2.92	33.44	-0.22
916	SLU 78	164	91	10371	2.63	32.61	-0.19
916	SLU 79	166	73	10383	2.88	33.1	-0.23
916	SLU 80	163	90	10311	2.59	32.27	-0.2
916	SLU 81	164	74	10497	2.72	33.18	-0.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
916	SLU 82	161	92	10424	2.43	32.36	-0.17
916	SLU 83	167	75	10622	2.82	33.83	-0.22
916	SLU 84	164	92	10549	2.53	33	-0.19
916	SLE RA 1	114	49	6895	1.87	20.93	-0.15
916	SLE RA 2	111	69	6815	1.55	20.02	-0.11
916	SLE RA 3	117	50	7019	1.97	21.59	-0.15
916	SLE RA 4	115	62	6970	1.78	21.04	-0.13
916	SLE RA 5	113	69	6898	1.62	20.45	-0.12
916	SLE RA 6	119	50	7102	2.04	22.02	-0.17
916	SLE RA 7	117	62	7054	1.85	21.47	-0.14
916	SLE RA 8	118	50	7062	2.01	21.79	-0.17
916	SLE RA 9	116	62	7013	1.82	21.24	-0.15
916	SLE RA 10	116	73	7380	1.62	22.15	-0.12
916	SLE RA 11	122	54	7584	2.04	23.72	-0.16
916	SLE RA 12	120	66	7536	1.85	23.17	-0.14
916	SLE RA 13	118	73	7463	1.69	22.58	-0.13
916	SLE RA 14	124	54	7667	2.11	24.15	-0.17
916	SLE RA 15	122	66	7619	1.92	23.6	-0.15
916	SLE RA 16	123	54	7627	2.09	23.92	-0.18
916	SLE RA 17	122	66	7579	1.89	23.38	-0.16
916	SLE RA 18	122	55	7703	1.98	23.98	-0.16
916	SLE RA 19	120	67	7655	1.78	23.43	-0.14
916	SLE RA 20	124	56	7786	2.05	24.41	-0.17
916	SLE RA 21	122	67	7738	1.85	23.86	-0.15
916	SLE FR 1	114	49	6895	1.87	20.93	-0.15
916	SLE FR 2	114	53	6879	1.81	20.75	-0.14
916	SLE FR 3	115	50	6929	1.9	21.1	-0.15
916	SLE FR 4	116	55	7121	1.84	21.66	-0.14
916	SLE FR 5	117	51	7171	1.93	22.02	-0.16
916	SLE FR 6	118	52	7299	1.93	22.46	-0.15
916	SLE QP 1	114	49	6895	1.87	20.93	-0.15
916	SLE QP 2	117	51	7138	1.91	21.85	-0.15
916	SLD 1	686	222	5529	-2.59	13.42	-3.97
916	SLD 2	593	311	5420	-3	14.95	-1.82
916	SLD 3	753	-142	7353	4.52	32.97	-4.79
916	SLD 4	660	-53	7243	4.11	34.5	-2.64
916	SLD 5	202	639	3908	-10.15	-10.6	-0.43
916	SLD 6	143	696	3837	-10.41	-9.61	0.96
916	SLD 7	424	-574	9987	13.54	54.57	-3.15
916	SLD 8	365	-517	9916	13.28	55.56	-1.77
916	SLD 9	-131	619	4359	-9.46	-11.86	1.47
916	SLD 10	-191	676	4288	-9.73	-10.88	2.85
916	SLD 11	91	-594	10438	14.23	53.31	-1.26
916	SLD 12	31	-537	10367	13.96	54.29	0.12
916	SLD 13	-427	155	7032	-0.3	9.2	2.33
916	SLD 14	-520	244	6922	-0.71	10.73	4.48
916	SLD 15	-360	-209	8855	6.81	28.75	1.52
916	SLD 16	-453	-119	8746	6.4	30.28	3.67
916	SLV 1	1004	343	4495	-5.62	7.71	-6.08
916	SLV 2	858	484	4323	-6.26	10.12	-2.7
916	SLV 3	1118	-277	7607	6.51	41.09	-7.48
916	SLV 4	972	-137	7435	5.86	43.5	-4.09
916	SLV 5	238	1054	1657	-18.62	-33.47	-0.45
916	SLV 6	139	1149	1541	-19.06	-31.85	1.83
916	SLV 7	617	-1015	12030	21.8	77.8	-5.1
916	SLV 8	518	-921	11914	21.36	79.42	-2.82
916	SLV 9	-285	1023	2361	-17.55	-35.73	2.51
916	SLV 10	-383	1117	2245	-17.99	-34.11	4.79
916	SLV 11	94	-1046	12734	22.87	75.55	-2.14
916	SLV 12	-5	-952	12618	22.43	77.17	0.14
916	SLV 13	-738	239	6841	-2.05	0.19	3.79
916	SLV 14	-885	379	6668	-2.7	2.6	7.17
916	SLV 15	-625	-382	9952	10.08	33.57	2.39
916	SLV 16	-771	-241	9780	9.43	35.99	5.78
916	SLV FO 1	1093	373	4231	-6.37	6.29	-6.68
916	SLV FO 2	932	527	4041	-7.08	8.95	-2.95
916	SLV FO 3	1218	-310	7654	6.97	43.01	-8.21
916	SLV FO 4	1057	-156	7464	6.26	45.67	-4.48
916	SLV FO 5	250	1154	1109	-20.67	-39.01	-0.48
916	SLV FO 6	142	1258	982	-21.15	-37.22	2.03
916	SLV FO 7	667	-1122	12519	23.79	83.4	-5.59
916	SLV FO 8	558	-1018	12392	23.31	85.18	-3.08
916	SLV FO 9	-325	1120	1883	-19.5	-41.49	2.78
916	SLV FO 10	-433	1224	1756	-19.97	-39.7	5.29
916	SLV FO 11	92	-1156	13293	24.96	80.92	-2.33
916	SLV FO 12	-17	-1052	13166	24.49	82.7	0.17
916	SLV FO 13	-824	258	6811	-2.45	-1.97	4.18
916	SLV FO 14	-985	412	6621	-3.16	0.68	7.91
916	SLV FO 15	-699	-425	10234	10.89	34.75	2.65
916	SLV FO 16	-860	-271	10044	10.18	37.4	6.37
916	CRTFP Ux+	0	0	0	0	0	0
916	CRTFP Ux-	0	0	0	0	0	0
916	CRTFP Uy+	0	0	0	0	0	0
916	CRTFP Uy-	0	0	0	0	0	0
919	SLU 1	-8	39	2390	0.7	284.63	-9.42
919	SLU 2	-8	54	2355	0.47	282.47	-13.29
919	SLU 3	-8	39	2454	0.77	291.16	-9.62
919	SLU 4	-8	49	2433	0.63	289.86	-11.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
919	SLU 5	-8	54	2398	0.52	286.8	-13.38
919	SLU 6	-8	40	2497	0.82	295.49	-9.71
919	SLU 7	-8	49	2476	0.68	294.19	-12.03
919	SLU 8	-8	39	2475	0.8	293.29	-9.6
919	SLU 9	-8	49	2455	0.66	292	-11.92
919	SLU 10	-9	57	2666	0.49	315.24	-14.08
919	SLU 11	-10	43	2765	0.79	323.93	-10.4
919	SLU 12	-10	52	2744	0.65	322.63	-12.73
919	SLU 13	-9	58	2709	0.54	319.57	-14.17
919	SLU 14	-10	43	2808	0.84	328.26	-10.49
919	SLU 15	-10	52	2787	0.7	326.96	-12.82
919	SLU 16	-10	43	2786	0.82	326.06	-10.39
919	SLU 17	-9	52	2766	0.68	324.77	-12.71
919	SLU 18	-10	43	2834	0.73	331.45	-10.55
919	SLU 19	-10	53	2813	0.6	330.15	-12.87
919	SLU 20	-10	44	2876	0.78	335.78	-10.63
919	SLU 21	-10	53	2856	0.64	334.48	-12.96
919	SLU 22	-10	44	2794	0.9	326.86	-10.66
919	SLU 23	-10	59	2760	0.67	324.69	-14.53
919	SLU 24	-10	45	2858	0.96	333.38	-10.86
919	SLU 25	-10	54	2838	0.83	332.08	-13.18
919	SLU 26	-10	60	2803	0.72	329.02	-14.62
919	SLU 27	-10	45	2901	1.01	337.71	-10.94
919	SLU 28	-10	54	2881	0.88	336.41	-13.27
919	SLU 29	-10	44	2880	0.99	335.51	-10.84
919	SLU 30	-10	54	2859	0.86	334.22	-13.16
919	SLU 31	-11	62	3070	0.69	357.46	-15.32
919	SLU 32	-12	48	3169	0.99	366.15	-11.64
919	SLU 33	-12	57	3149	0.85	364.85	-13.97
919	SLU 34	-11	63	3113	0.74	361.79	-15.41
919	SLU 35	-12	48	3212	1.04	370.48	-11.73
919	SLU 36	-12	57	3191	0.9	369.18	-14.05
919	SLU 37	-12	48	3191	1.02	368.28	-11.62
919	SLU 38	-11	57	3170	0.88	366.99	-13.95
919	SLU 39	-12	48	3238	0.93	373.67	-11.78
919	SLU 40	-12	58	3217	0.79	372.37	-14.11
919	SLU 41	-12	49	3281	0.98	378	-11.87
919	SLU 42	-12	58	3260	0.84	376.7	-14.2
919	SLU 43	-10	48	2968	0.84	355.55	-11.82
919	SLU 44	-9	64	2934	0.61	353.39	-15.7
919	SLU 45	-10	49	3032	0.91	362.07	-12.02
919	SLU 46	-10	59	3012	0.77	360.78	-14.34
919	SLU 47	-9	64	2977	0.66	357.72	-15.78
919	SLU 48	-10	50	3075	0.96	366.4	-12.11
919	SLU 49	-10	59	3055	0.82	365.1	-14.43
919	SLU 50	-10	49	3054	0.94	364.21	-12
919	SLU 51	-10	58	3033	0.8	362.91	-14.32
919	SLU 52	-11	67	3244	0.64	386.16	-16.48
919	SLU 53	-12	53	3343	0.93	394.84	-12.81
919	SLU 54	-11	62	3322	0.8	393.55	-15.13
919	SLU 55	-11	68	3287	0.68	390.49	-16.57
919	SLU 56	-12	53	3386	0.98	399.17	-12.89
919	SLU 57	-11	62	3365	0.84	397.87	-15.22
919	SLU 58	-11	52	3364	0.96	396.98	-12.79
919	SLU 59	-11	62	3344	0.82	395.68	-15.11
919	SLU 60	-12	53	3412	0.87	402.36	-12.95
919	SLU 61	-12	62	3391	0.74	401.07	-15.27
919	SLU 62	-12	53	3455	0.92	406.69	-13.04
919	SLU 63	-12	63	3434	0.79	405.4	-15.36
919	SLU 64	-12	54	3372	1.04	397.77	-13.06
919	SLU 65	-11	69	3338	0.81	395.61	-16.93
919	SLU 66	-12	54	3437	1.11	404.29	-13.26
919	SLU 67	-12	64	3416	0.97	403	-15.58
919	SLU 68	-11	69	3381	0.86	399.94	-17.02
919	SLU 69	-12	55	3480	1.16	408.62	-13.35
919	SLU 70	-12	64	3459	1.02	407.33	-15.67
919	SLU 71	-12	54	3458	1.14	406.43	-13.24
919	SLU 72	-12	64	3437	1	405.13	-15.56
919	SLU 73	-13	72	3649	0.83	428.38	-17.72
919	SLU 74	-14	58	3747	1.13	437.06	-14.04
919	SLU 75	-13	67	3727	0.99	435.77	-16.37
919	SLU 76	-13	73	3692	0.88	432.71	-17.81
919	SLU 77	-14	58	3790	1.18	441.39	-14.13
919	SLU 78	-13	67	3770	1.04	440.1	-16.46
919	SLU 79	-13	58	3769	1.16	439.2	-14.02
919	SLU 80	-13	67	3748	1.02	437.9	-16.35
919	SLU 81	-14	58	3816	1.07	444.58	-14.19
919	SLU 82	-14	67	3796	0.93	443.29	-16.51
919	SLU 83	-14	59	3859	1.12	448.91	-14.27
919	SLU 84	-14	68	3838	0.98	447.62	-16.6
919	SLE RA 1	-9	40	2505	0.76	296.7	-9.78
919	SLE RA 2	-8	50	2482	0.6	295.26	-12.36
919	SLE RA 3	-9	41	2548	0.8	301.05	-9.91
919	SLE RA 4	-9	47	2534	0.71	300.18	-11.45
919	SLE RA 5	-8	51	2511	0.64	298.14	-12.42
919	SLE RA 6	-9	41	2577	0.83	303.93	-9.96
919	SLE RA 7	-9	47	2563	0.74	303.07	-11.51
919	SLE RA 8	-9	41	2562	0.82	302.47	-9.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
919	SLE RA 9	-8	47	2549	0.73	301.61	-11.44
919	SLE RA 10	-9	53	2690	0.62	317.1	-12.88
919	SLE RA 11	-10	43	2755	0.82	322.89	-10.43
919	SLE RA 12	-10	49	2742	0.73	322.03	-11.98
919	SLE RA 13	-9	53	2718	0.65	319.99	-12.94
919	SLE RA 14	-10	43	2784	0.85	325.78	-10.49
919	SLE RA 15	-10	49	2770	0.76	324.91	-12.04
919	SLE RA 16	-10	43	2770	0.84	324.32	-10.42
919	SLE RA 17	-10	49	2756	0.74	323.45	-11.97
919	SLE RA 18	-10	43	2801	0.78	327.91	-10.53
919	SLE RA 19	-10	49	2787	0.69	327.04	-12.07
919	SLE RA 20	-10	43	2830	0.81	330.79	-10.58
919	SLE RA 21	-10	50	2816	0.72	329.93	-12.13
919	SLE FR 1	-9	40	2505	0.76	296.7	-9.78
919	SLE FR 2	-9	42	2501	0.73	296.41	-10.29
919	SLE FR 3	-9	40	2517	0.77	297.85	-9.8
919	SLE FR 4	-9	43	2590	0.73	305.77	-10.52
919	SLE FR 5	-9	41	2606	0.78	307.22	-10.02
919	SLE FR 6	-10	42	2653	0.77	312.3	-10.15
919	SLE QP 1	-9	40	2505	0.76	296.7	-9.78
919	SLE QP 2	-9	41	2594	0.76	306.06	-10
919	SLD 1	299	155	2445	-0.76	306.92	-38.9
919	SLD 2	258	137	2450	-0.64	306.61	-34.02
919	SLD 3	291	-35	2970	2.6	342.14	8.81
919	SLD 4	251	-54	2975	2.72	341.83	13.69
919	SLD 5	101	368	1753	-4.81	252.96	-91.87
919	SLD 6	75	356	1756	-4.73	252.76	-88.73
919	SLD 7	77	-268	3502	6.39	370.35	67.16
919	SLD 8	51	-280	3505	6.46	370.15	70.3
919	SLD 9	-69	362	1683	-4.94	241.97	-90.31
919	SLD 10	-95	350	1687	-4.87	241.77	-87.16
919	SLD 11	-93	-274	3432	6.26	359.36	68.73
919	SLD 12	-119	-286	3435	6.33	359.16	71.87
919	SLD 13	-269	136	2213	-1.19	270.29	-33.69
919	SLD 14	-310	117	2219	-1.08	269.98	-28.81
919	SLD 15	-277	-55	2738	2.17	305.51	14.02
919	SLD 16	-317	-73	2743	2.28	305.2	18.9
919	SLV 1	473	233	2323	-1.85	304.81	-58.66
919	SLV 2	410	204	2331	-1.67	304.32	-50.97
919	SLV 3	461	-92	3218	3.88	364.93	22.7
919	SLV 4	397	-121	3227	4.06	364.44	30.39
919	SLV 5	166	597	1153	-8.75	214.59	-149.43
919	SLV 6	123	578	1159	-8.63	214.26	-144.25
919	SLV 7	125	-487	4138	10.36	415	121.77
919	SLV 8	82	-506	4143	10.48	414.67	126.95
919	SLV 9	-101	588	1045	-8.95	197.45	-146.95
919	SLV 10	-144	569	1051	-8.83	197.12	-141.77
919	SLV 11	-141	-496	4029	10.15	397.86	124.25
919	SLV 12	-184	-515	4035	10.27	397.53	129.43
919	SLV 13	-416	203	1962	-2.54	247.68	-50.39
919	SLV 14	-479	174	1970	-2.36	247.19	-42.7
919	SLV 15	-428	-122	2857	3.2	307.8	30.97
919	SLV 16	-492	-151	2865	3.38	307.31	38.66
919	SLV FO 1	521	253	2296	-2.11	304.68	-63.53
919	SLV FO 2	451	220	2305	-1.92	304.15	-55.07
919	SLV FO 3	508	-105	3281	4.19	370.82	25.97
919	SLV FO 4	438	-137	3290	4.39	370.28	34.43
919	SLV FO 5	183	653	1009	-9.7	205.44	-163.37
919	SLV FO 6	136	631	1015	-9.57	205.08	-157.68
919	SLV FO 7	139	-539	4292	11.32	425.89	134.95
919	SLV FO 8	92	-561	4298	11.45	425.53	140.64
919	SLV FO 9	-110	643	890	-9.93	186.59	-160.64
919	SLV FO 10	-157	621	896	-9.79	186.23	-154.95
919	SLV FO 11	-155	-549	4173	11.09	407.04	137.68
919	SLV FO 12	-202	-571	4179	11.22	406.68	143.37
919	SLV FO 13	-456	219	1898	-2.87	241.84	-54.43
919	SLV FO 14	-526	187	1907	-2.67	241.3	-45.97
919	SLV FO 15	-470	-138	2883	3.44	307.98	35.07
919	SLV FO 16	-540	-171	2892	3.64	307.44	43.53
919	CRTFP Ux+	0	0	0	0	0	0
919	CRTFP Ux-	0	0	0	0	0	0
919	CRTFP Uy+	0	0	0	0	0	0
919	CRTFP Uy-	0	0	0	0	0	0
921	SLU 1	22	38	4591	4.79	-31.34	0.86
921	SLU 2	20	72	4517	4.33	-31.2	0.86
921	SLU 3	23	38	4711	5.03	-32.29	0.89
921	SLU 4	22	58	4666	4.76	-32.21	0.89
921	SLU 5	21	72	4596	4.5	-31.8	0.87
921	SLU 6	24	38	4789	5.2	-32.89	0.9
921	SLU 7	23	58	4745	4.92	-32.81	0.9
921	SLU 8	24	37	4749	5.12	-32.54	0.88
921	SLU 9	23	58	4704	4.85	-32.46	0.88
921	SLU 10	21	75	5122	4.82	-34.61	1.03
921	SLU 11	23	41	5316	5.51	-35.7	1.06
921	SLU 12	23	62	5271	5.24	-35.62	1.06
921	SLU 13	22	75	5201	4.99	-35.21	1.05
921	SLU 14	24	41	5394	5.68	-36.3	1.07
921	SLU 15	24	62	5350	5.41	-36.22	1.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
921	SLU 16	24	41	5354	5.6	-35.95	1.05
921	SLU 17	24	61	5309	5.33	-35.87	1.06
921	SLU 18	23	43	5456	5.48	-36.22	1.1
921	SLU 19	22	63	5411	5.21	-36.13	1.11
921	SLU 20	24	42	5534	5.65	-36.81	1.11
921	SLU 21	23	63	5490	5.38	-36.73	1.12
921	SLU 22	23	43	5373	5.75	-35.96	1.07
921	SLU 23	22	77	5299	5.3	-35.81	1.08
921	SLU 24	24	43	5492	5.99	-36.9	1.1
921	SLU 25	24	64	5448	5.72	-36.82	1.11
921	SLU 26	23	77	5377	5.46	-36.41	1.09
921	SLU 27	25	43	5571	6.16	-37.5	1.12
921	SLU 28	25	64	5526	5.89	-37.42	1.12
921	SLU 29	25	43	5530	6.08	-37.15	1.1
921	SLU 30	25	63	5486	5.81	-37.07	1.1
921	SLU 31	23	81	5904	5.78	-39.23	1.25
921	SLU 32	25	47	6097	6.48	-40.32	1.27
921	SLU 33	25	67	6053	6.21	-40.23	1.28
921	SLU 34	24	80	5982	5.95	-39.82	1.26
921	SLU 35	26	47	6176	6.64	-40.92	1.29
921	SLU 36	26	67	6131	6.37	-40.83	1.29
921	SLU 37	26	46	6135	6.57	-40.56	1.27
921	SLU 38	25	67	6091	6.3	-40.48	1.27
921	SLU 39	25	48	6237	6.44	-40.83	1.32
921	SLU 40	24	68	6193	6.17	-40.74	1.32
921	SLU 41	26	48	6316	6.61	-41.43	1.33
921	SLU 42	25	68	6271	6.34	-41.34	1.33
921	SLU 43	27	47	5701	5.89	-39.17	1.04
921	SLU 44	26	81	5627	5.44	-39.02	1.04
921	SLU 45	28	47	5820	6.13	-40.11	1.07
921	SLU 46	28	68	5775	5.86	-40.03	1.07
921	SLU 47	27	81	5705	5.61	-39.62	1.06
921	SLU 48	29	47	5899	6.3	-40.71	1.08
921	SLU 49	29	68	5854	6.03	-40.63	1.08
921	SLU 50	29	47	5858	6.22	-40.36	1.06
921	SLU 51	29	67	5814	5.95	-40.28	1.07
921	SLU 52	27	85	6232	5.93	-42.43	1.22
921	SLU 53	29	51	6425	6.62	-43.53	1.24
921	SLU 54	29	71	6381	6.35	-43.44	1.24
921	SLU 55	28	84	6310	6.09	-43.03	1.23
921	SLU 56	30	51	6504	6.79	-44.13	1.25
921	SLU 57	30	71	6459	6.52	-44.04	1.26
921	SLU 58	30	50	6463	6.71	-43.77	1.23
921	SLU 59	30	71	6419	6.44	-43.69	1.24
921	SLU 60	29	52	6565	6.59	-44.04	1.28
921	SLU 61	28	73	6521	6.31	-43.95	1.29
921	SLU 62	30	52	6644	6.75	-44.64	1.3
921	SLU 63	29	72	6599	6.48	-44.55	1.3
921	SLU 64	29	53	6482	6.85	-43.78	1.26
921	SLU 65	28	87	6408	6.4	-43.64	1.26
921	SLU 66	30	53	6602	7.1	-44.73	1.29
921	SLU 67	30	73	6557	6.83	-44.64	1.29
921	SLU 68	29	86	6487	6.57	-44.24	1.27
921	SLU 69	31	53	6680	7.26	-45.33	1.3
921	SLU 70	31	73	6636	6.99	-45.24	1.3
921	SLU 71	31	52	6640	7.19	-44.98	1.28
921	SLU 72	30	73	6595	6.92	-44.89	1.28
921	SLU 73	29	90	7013	6.89	-47.05	1.43
921	SLU 74	31	56	7207	7.58	-48.14	1.46
921	SLU 75	30	77	7162	7.31	-48.05	1.46
921	SLU 76	30	90	7092	7.06	-47.65	1.45
921	SLU 77	32	56	7285	7.75	-48.74	1.47
921	SLU 78	31	77	7241	7.48	-48.65	1.47
921	SLU 79	32	56	7245	7.67	-48.39	1.45
921	SLU 80	31	76	7200	7.4	-48.3	1.46
921	SLU 81	30	57	7347	7.55	-48.65	1.5
921	SLU 82	30	78	7302	7.28	-48.56	1.5
921	SLU 83	31	57	7425	7.72	-49.25	1.51
921	SLU 84	31	78	7381	7.44	-49.16	1.52
921	SLE RA 1	22	39	4815	5.06	-32.66	0.92
921	SLE RA 2	21	62	4765	4.76	-32.57	0.92
921	SLE RA 3	23	39	4894	5.22	-33.29	0.94
921	SLE RA 4	22	53	4864	5.04	-33.24	0.94
921	SLE RA 5	22	62	4818	4.87	-32.97	0.93
921	SLE RA 6	23	39	4947	5.33	-33.69	0.95
921	SLE RA 7	23	53	4917	5.15	-33.64	0.95
921	SLE RA 8	23	39	4920	5.28	-33.46	0.93
921	SLE RA 9	23	53	4890	5.1	-33.4	0.94
921	SLE RA 10	22	64	5169	5.08	-34.84	1.04
921	SLE RA 11	23	42	5298	5.55	-35.57	1.05
921	SLE RA 12	23	55	5268	5.37	-35.51	1.05
921	SLE RA 13	23	64	5221	5.2	-35.24	1.05
921	SLE RA 14	24	42	5350	5.66	-35.97	1.06
921	SLE RA 15	24	55	5320	5.48	-35.91	1.06
921	SLE RA 16	24	41	5323	5.61	-35.73	1.05
921	SLE RA 17	23	55	5293	5.43	-35.68	1.05
921	SLE RA 18	23	43	5391	5.52	-35.91	1.08
921	SLE RA 19	22	56	5361	5.34	-35.85	1.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
921	SLE RA 20	24	42	5443	5.63	-36.31	1.09
921	SLE RA 21	23	56	5414	5.45	-36.25	1.09
921	SLE FR 1	22	39	4815	5.06	-32.66	0.92
921	SLE FR 2	22	44	4805	5	-32.64	0.92
921	SLE FR 3	22	39	4836	5.11	-32.82	0.92
921	SLE FR 4	22	45	4978	5.14	-33.62	0.97
921	SLE FR 5	23	40	5009	5.24	-33.8	0.97
921	SLE FR 6	22	41	5103	5.29	-34.28	1
921	SLE QP 1	22	39	4815	5.06	-32.66	0.92
921	SLE QP 2	22	40	4988	5.2	-33.64	0.97
921	SLD 1	629	223	4038	1.65	-7.43	-4.1
921	SLD 2	547	258	4038	1.53	-7.34	-1.72
921	SLD 3	648	-209	5168	8.33	-9.99	-4.26
921	SLD 4	567	-174	5168	8.21	-9.9	-1.88
921	SLD 5	190	745	2989	-5.97	-21.9	-0.72
921	SLD 6	137	767	2989	-6.05	-21.85	0.81
921	SLD 7	253	-696	6755	16.28	-30.44	-1.25
921	SLD 8	200	-673	6755	16.21	-30.39	0.28
921	SLD 9	-156	754	3220	-5.81	-36.88	1.65
921	SLD 10	-209	776	3220	-5.88	-36.83	3.19
921	SLD 11	-92	-687	6986	16.45	-45.43	1.12
921	SLD 12	-145	-664	6986	16.37	-45.37	2.66
921	SLD 13	-522	254	4807	2.19	-57.37	3.81
921	SLD 14	-604	289	4807	2.07	-57.28	6.2
921	SLD 15	-503	-178	5937	8.87	-59.93	3.65
921	SLD 16	-585	-143	5937	8.75	-59.84	6.04
921	SLV 1	971	356	3424	-0.86	7.43	-6.98
921	SLV 2	842	411	3424	-1.04	7.57	-3.22
921	SLV 3	1004	-381	5352	10.53	3.06	-7.25
921	SLV 4	875	-326	5352	10.35	3.2	-3.49
921	SLV 5	282	1243	1595	-13.87	-14.71	-1.72
921	SLV 6	195	1280	1595	-13.99	-14.62	0.81
921	SLV 7	390	-1214	8021	24.12	-29.28	-2.6
921	SLV 8	303	-1177	8021	23.99	-29.19	-0.07
921	SLV 9	-259	1258	1954	-13.59	-38.09	2.01
921	SLV 10	-345	1295	1954	-13.72	-37.99	4.54
921	SLV 11	-150	-1199	8380	24.39	-52.65	1.12
921	SLV 12	-237	-1162	8380	24.27	-52.56	3.65
921	SLV 13	-830	406	4623	0.05	-70.47	5.42
921	SLV 14	-959	461	4623	-0.13	-70.33	9.18
921	SLV 15	-798	-331	6551	11.44	-74.84	5.16
921	SLV 16	-927	-276	6551	11.26	-74.7	8.92
921	SLV FO 1	1066	388	3268	-1.47	11.54	-7.78
921	SLV FO 2	924	448	3268	-1.67	11.69	-3.64
921	SLV FO 3	1102	-423	5389	11.07	6.73	-8.07
921	SLV FO 4	960	-362	5389	10.87	6.88	-3.93
921	SLV FO 5	308	1363	1255	-15.77	-12.82	-1.98
921	SLV FO 6	212	1404	1255	-15.91	-12.72	0.8
921	SLV FO 7	427	-1340	8324	26.01	-28.84	-2.96
921	SLV FO 8	331	-1299	8324	25.87	-28.74	-0.17
921	SLV FO 9	-287	1379	1651	-15.47	-38.53	2.11
921	SLV FO 10	-382	1420	1651	-15.61	-38.43	4.89
921	SLV FO 11	-168	-1323	8720	26.31	-54.55	1.14
921	SLV FO 12	-263	-1282	8720	26.17	-54.45	3.92
921	SLV FO 13	-915	443	4587	-0.47	-74.16	5.87
921	SLV FO 14	-1057	504	4587	-0.67	-74	10
921	SLV FO 15	-880	-368	6707	12.07	-78.96	5.58
921	SLV FO 16	-1022	-307	6707	11.87	-78.81	9.71
921	CRTFP Ux+	0	0	0	0	0	0
921	CRTFP Ux-	0	0	0	0	0	0
921	CRTFP Uy+	0	0	0	0	0	0
921	CRTFP Uy-	0	0	0	0	0	0
924	SLU 1	-184	45	10688	1382.15	-26.42	23.95
924	SLU 2	-176	97	10489	1354.51	-23.72	22.96
924	SLU 3	-188	46	10991	1421.67	-27.89	24.57
924	SLU 4	-184	77	10871	1405.08	-26.27	23.98
924	SLU 5	-179	97	10692	1381.08	-24.73	23.32
924	SLU 6	-191	46	11194	1448.23	-28.9	24.93
924	SLU 7	-187	77	11074	1431.65	-27.28	24.33
924	SLU 8	-189	46	11094	1435.29	-28.44	24.66
924	SLU 9	-185	77	10975	1418.7	-26.82	24.07
924	SLU 10	-191	102	11870	1532.27	-29.38	25.15
924	SLU 11	-203	51	12372	1599.43	-33.55	26.76
924	SLU 12	-199	82	12252	1582.84	-31.93	26.16
924	SLU 13	-194	102	12073	1558.84	-30.39	25.5
924	SLU 14	-206	51	12575	1625.99	-34.56	27.11
924	SLU 15	-202	82	12455	1609.41	-32.94	26.52
924	SLU 16	-204	51	12476	1613.05	-34.1	26.84
924	SLU 17	-200	82	12356	1596.46	-32.48	26.25
924	SLU 18	-205	52	12661	1636.09	-34.5	27.07
924	SLU 19	-200	83	12542	1619.51	-32.89	26.48
924	SLU 20	-208	53	12865	1662.66	-35.52	27.43
924	SLU 21	-203	83	12745	1646.08	-33.9	26.83
924	SLU 22	-209	49	12527	1620.22	-34.46	27.48
924	SLU 23	-202	100	12327	1592.58	-31.76	26.49
924	SLU 24	-214	49	12829	1659.73	-35.93	28.1
924	SLU 25	-210	80	12710	1643.15	-34.31	27.51
924	SLU 26	-205	100	12530	1619.14	-32.77	26.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
924	SLU 27	-217	49	13032	1686.3	-36.94	28.46
924	SLU 28	-213	80	12913	1669.71	-35.32	27.86
924	SLU 29	-215	49	12933	1673.35	-36.48	28.19
924	SLU 30	-211	80	12813	1656.77	-34.86	27.6
924	SLU 31	-217	105	13709	1770.34	-37.42	28.68
924	SLU 32	-229	54	14211	1837.49	-41.59	30.29
924	SLU 33	-225	85	14091	1820.91	-39.97	29.69
924	SLU 34	-220	105	13912	1796.9	-38.44	29.03
924	SLU 35	-232	54	14414	1864.06	-42.6	30.64
924	SLU 36	-227	85	14294	1847.47	-40.99	30.05
924	SLU 37	-230	54	14314	1851.11	-42.14	30.37
924	SLU 38	-225	85	14195	1834.53	-40.53	29.78
924	SLU 39	-231	56	14500	1874.16	-42.55	30.6
924	SLU 40	-226	87	14380	1857.58	-40.93	30.01
924	SLU 41	-233	56	14703	1900.73	-43.56	30.96
924	SLU 42	-229	87	14583	1884.14	-41.94	30.36
924	SLU 43	-230	57	13264	1715.18	-31.58	29.93
924	SLU 44	-222	109	13065	1687.53	-28.89	28.94
924	SLU 45	-235	58	13567	1754.69	-33.06	30.55
924	SLU 46	-230	89	13447	1738.1	-31.44	29.96
924	SLU 47	-225	109	13268	1714.1	-29.9	29.29
924	SLU 48	-237	58	13770	1781.26	-34.07	30.9
924	SLU 49	-233	89	13650	1764.67	-32.45	30.31
924	SLU 50	-235	58	13670	1768.31	-33.61	30.64
924	SLU 51	-231	89	13551	1751.72	-31.99	30.04
924	SLU 52	-237	114	14446	1865.29	-34.55	31.12
924	SLU 53	-249	63	14948	1932.45	-38.72	32.73
924	SLU 54	-245	94	14828	1915.86	-37.1	32.14
924	SLU 55	-240	114	14649	1891.86	-35.56	31.47
924	SLU 56	-252	63	15151	1959.01	-39.73	33.09
924	SLU 57	-248	94	15031	1942.43	-38.11	32.49
924	SLU 58	-250	63	15052	1946.07	-39.27	32.82
924	SLU 59	-246	94	14932	1929.48	-37.65	32.22
924	SLU 60	-251	65	15238	1969.12	-39.67	33.05
924	SLU 61	-247	95	15118	1952.53	-38.05	32.45
924	SLU 62	-254	65	15441	1995.68	-40.68	33.4
924	SLU 63	-249	96	15321	1979.1	-39.07	32.81
924	SLU 64	-256	61	15103	1953.24	-39.63	33.46
924	SLU 65	-248	112	14903	1925.6	-36.93	32.47
924	SLU 66	-260	62	15405	1992.76	-41.1	34.08
924	SLU 67	-256	92	15286	1976.17	-39.48	33.49
924	SLU 68	-251	113	15106	1952.17	-37.94	32.82
924	SLU 69	-263	62	15608	2019.32	-42.11	34.43
924	SLU 70	-259	93	15489	2002.74	-40.49	33.84
924	SLU 71	-261	62	15509	2006.37	-41.65	34.17
924	SLU 72	-257	93	15389	1989.79	-40.03	33.57
924	SLU 73	-263	117	16285	2103.36	-42.59	34.65
924	SLU 74	-275	66	16787	2170.51	-46.76	36.26
924	SLU 75	-271	97	16667	2153.93	-45.14	35.67
924	SLU 76	-266	118	16488	2129.93	-43.6	35
924	SLU 77	-278	67	16990	2197.08	-47.77	36.62
924	SLU 78	-274	98	16870	2180.5	-46.15	36.02
924	SLU 79	-276	67	16890	2184.13	-47.31	36.35
924	SLU 80	-272	97	16771	2167.55	-45.69	35.75
924	SLU 81	-277	68	17076	2207.18	-47.71	36.58
924	SLU 82	-272	99	16956	2190.6	-46.1	35.98
924	SLU 83	-280	68	17279	2233.75	-48.73	36.93
924	SLU 84	-275	99	17160	2217.17	-47.11	36.34
924	SLE RA 1	-191	46	11214	1450.17	-28.71	24.96
924	SLE RA 2	-186	80	11081	1431.74	-26.92	24.3
924	SLE RA 3	-194	46	11415	1476.51	-29.7	25.38
924	SLE RA 4	-191	67	11335	1465.46	-28.62	24.98
924	SLE RA 5	-188	81	11216	1449.46	-27.59	24.54
924	SLE RA 6	-196	47	11551	1494.22	-30.37	25.61
924	SLE RA 7	-193	67	11471	1483.17	-29.29	25.21
924	SLE RA 8	-195	47	11484	1485.59	-30.06	25.43
924	SLE RA 9	-192	67	11404	1474.54	-28.98	25.04
924	SLE RA 10	-196	84	12001	1550.25	-30.69	25.76
924	SLE RA 11	-204	50	12336	1595.02	-33.47	26.83
924	SLE RA 12	-201	70	12256	1583.96	-32.39	26.43
924	SLE RA 13	-198	84	12137	1567.96	-31.36	25.99
924	SLE RA 14	-206	50	12471	1612.73	-34.14	27.07
924	SLE RA 15	-203	71	12392	1601.67	-33.07	26.67
924	SLE RA 16	-205	50	12405	1604.1	-33.84	26.89
924	SLE RA 17	-202	70	12325	1593.04	-32.76	26.49
924	SLE RA 18	-205	51	12529	1619.47	-34.11	27.04
924	SLE RA 19	-202	71	12449	1608.41	-33.03	26.64
924	SLE RA 20	-207	51	12664	1637.18	-34.78	27.28
924	SLE RA 21	-204	72	12585	1626.12	-33.7	26.88
924	SLE FR 1	-191	46	11214	1450.17	-28.71	24.96
924	SLE FR 2	-190	53	11187	1446.49	-28.35	24.83
924	SLE FR 3	-192	46	11268	1457.26	-28.98	25.06
924	SLE FR 4	-194	54	11582	1497.27	-29.97	25.45
924	SLE FR 5	-196	48	11662	1508.04	-30.6	25.68
924	SLE FR 6	-198	48	11871	1534.82	-31.41	26
924	SLE QP 1	-191	46	11214	1450.17	-28.71	24.96
924	SLE QP 2	-195	48	11608	1500.96	-30.33	25.59
924	SLD 1	909	381	11531	1480.17	3.24	-127.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
924	SLD 2	739	222	11684	1501.1	1.62	-100.59
924	SLD 3	813	-263	14509	1893.46	-33.43	-113.99
924	SLD 4	644	-423	14662	1914.4	-35.05	-87.5
924	SLD 5	309	1152	7043	864.29	35.64	-44.61
924	SLD 6	200	1050	7141	877.77	34.6	-27.56
924	SLD 7	-8	-996	16968	2241.94	-86.6	-0.99
924	SLD 8	-117	-1098	17066	2255.43	-87.65	16.06
924	SLD 9	-274	1193	6150	746.49	26.98	35.11
924	SLD 10	-383	1091	6248	759.98	25.94	52.16
924	SLD 11	-591	-955	16075	2124.15	-95.26	78.73
924	SLD 12	-700	-1057	16173	2137.63	-96.3	95.78
924	SLD 13	-1034	518	8555	1087.52	-25.61	138.67
924	SLD 14	-1204	359	8707	1108.46	-27.23	165.16
924	SLD 15	-1129	-127	11532	1500.81	-62.29	151.76
924	SLD 16	-1299	-286	11685	1521.75	-63.91	178.25
924	SLV 1	1541	615	11270	1438.16	24.88	-214.49
924	SLV 2	1274	364	11511	1471.17	22.32	-172.74
924	SLV 3	1379	-484	16350	2143.29	-37.69	-192.23
924	SLV 4	1112	-735	16591	2176.29	-40.24	-150.48
924	SLV 5	621	1932	3757	406.52	81.6	-87.99
924	SLV 6	441	1763	3920	428.74	79.88	-59.88
924	SLV 7	81	-1732	20690	2756.94	-126.96	-13.79
924	SLV 8	-98	-1901	20852	2779.16	-128.68	14.32
924	SLV 9	-292	1996	2364	222.76	68.02	36.85
924	SLV 10	-472	1827	2526	244.98	66.3	64.96
924	SLV 11	-831	-1668	19297	2573.18	-140.55	111.05
924	SLV 12	-1011	-1837	19459	2595.4	-142.27	139.16
924	SLV 13	-1502	830	6626	825.63	-20.42	201.65
924	SLV 14	-1769	579	6867	858.63	-22.97	243.4
924	SLV 15	-1664	-269	11706	1530.75	-82.99	223.91
924	SLV 16	-1931	-520	11947	1563.76	-85.54	265.66
924	SLV FO 1	1714	672	11236	1431.88	30.4	-238.5
924	SLV FO 2	1420	396	11501	1468.19	27.59	-192.57
924	SLV FO 3	1536	-537	16824	2207.52	-38.43	-214.01
924	SLV FO 4	1242	-813	17089	2243.83	-41.24	-168.08
924	SLV FO 5	702	2120	2972	297.08	92.8	-99.34
924	SLV FO 6	505	1934	3151	321.51	90.91	-68.43
924	SLV FO 7	109	-1910	21598	2882.54	-136.62	-17.73
924	SLV FO 8	-89	-2096	21777	2906.98	-138.51	13.19
924	SLV FO 9	-302	2191	1440	94.94	77.85	37.98
924	SLV FO 10	-499	2005	1618	119.38	75.96	68.9
924	SLV FO 11	-895	-1839	20066	2680.4	-151.57	119.6
924	SLV FO 12	-1093	-2025	20244	2704.84	-153.46	150.51
924	SLV FO 13	-1633	908	6128	758.09	-19.43	219.25
924	SLV FO 14	-1927	632	6393	794.4	-22.24	265.18
924	SLV FO 15	-1811	-301	11715	1533.73	-88.25	243.74
924	SLV FO 16	-2105	-577	11980	1570.04	-91.06	289.67
924	CRTFP Ux+	0	0	0	0	0	0
924	CRTFP Ux-	0	0	0	0	0	0
924	CRTFP Uy+	0	0	0	0.01	0	0
924	CRTFP Uy-	0	0	0	-0.01	0	0
927	SLU 1	69	37	4125	7.71	908.52	-13.08
927	SLU 2	66	60	4042	7.19	890.55	-20.95
927	SLU 3	71	38	4239	8.03	932.38	-13.35
927	SLU 4	69	51	4189	7.71	921.6	-18.07
927	SLU 5	68	61	4118	7.42	906.57	-21.33
927	SLU 6	73	39	4315	8.26	948.4	-13.72
927	SLU 7	71	52	4265	7.94	937.61	-18.45
927	SLU 8	72	39	4277	8.17	940.55	-13.83
927	SLU 9	70	53	4227	7.86	929.77	-18.55
927	SLU 10	71	64	4542	8.17	996.39	-22.38
927	SLU 11	75	42	4738	9.01	1038.22	-14.78
927	SLU 12	74	55	4689	8.69	1027.44	-19.5
927	SLU 13	72	65	4618	8.4	1012.41	-22.76
927	SLU 14	77	43	4814	9.24	1054.24	-15.15
927	SLU 15	76	56	4765	8.92	1043.46	-19.88
927	SLU 16	77	43	4777	9.15	1046.4	-15.26
927	SLU 17	75	57	4727	8.84	1035.62	-19.98
927	SLU 18	75	43	4839	9.11	1059.72	-15.12
927	SLU 19	74	56	4789	8.8	1048.94	-19.85
927	SLU 20	77	44	4915	9.34	1075.74	-15.5
927	SLU 21	75	57	4865	9.03	1064.96	-20.22
927	SLU 22	77	38	4796	9.24	1050.53	-13.45
927	SLU 23	74	61	4713	8.72	1032.56	-21.32
927	SLU 24	79	39	4910	9.56	1074.39	-13.72
927	SLU 25	77	52	4860	9.24	1063.61	-18.44
927	SLU 26	76	62	4789	8.95	1048.58	-21.7
927	SLU 27	81	40	4986	9.79	1090.41	-14.1
927	SLU 28	79	53	4936	9.47	1079.62	-18.82
927	SLU 29	80	40	4948	9.7	1082.56	-14.2
927	SLU 30	79	54	4898	9.39	1071.78	-18.93
927	SLU 31	79	65	5213	9.7	1138.4	-22.75
927	SLU 32	84	43	5410	10.54	1180.23	-15.15
927	SLU 33	82	56	5360	10.23	1169.45	-19.88
927	SLU 34	80	66	5289	9.93	1154.42	-23.13
927	SLU 35	85	44	5485	10.77	1196.25	-15.53
927	SLU 36	84	57	5436	10.45	1185.47	-20.25
927	SLU 37	85	44	5448	10.68	1188.41	-15.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
927	SLU 38	83	58	5398	10.37	1177.63	-20.36
927	SLU 39	83	44	5510	10.64	1201.73	-15.5
927	SLU 40	82	57	5460	10.33	1190.95	-20.22
927	SLU 41	85	45	5586	10.87	1217.75	-15.87
927	SLU 42	83	58	5536	10.56	1206.97	-20.59
927	SLU 43	86	48	5133	9.5	1132.38	-16.87
927	SLU 44	84	70	5050	8.98	1114.41	-24.75
927	SLU 45	89	49	5246	9.82	1156.24	-17.14
927	SLU 46	87	62	5197	9.5	1145.46	-21.87
927	SLU 47	85	71	5126	9.21	1130.43	-25.12
927	SLU 48	90	50	5322	10.05	1172.26	-17.52
927	SLU 49	89	63	5273	9.73	1161.48	-22.24
927	SLU 50	90	50	5285	9.96	1164.42	-17.63
927	SLU 51	88	63	5235	9.65	1153.64	-22.35
927	SLU 52	88	74	5549	9.96	1220.26	-26.18
927	SLU 53	93	53	5746	10.8	1262.09	-18.57
927	SLU 54	92	66	5696	10.48	1251.3	-23.3
927	SLU 55	90	75	5625	10.19	1236.28	-26.55
927	SLU 56	95	54	5822	11.03	1278.1	-18.95
927	SLU 57	93	67	5772	10.71	1267.32	-23.67
927	SLU 58	94	54	5784	10.94	1270.26	-19.06
927	SLU 59	93	67	5734	10.63	1259.48	-23.78
927	SLU 60	93	54	5846	10.9	1283.59	-18.92
927	SLU 61	91	67	5797	10.59	1272.81	-23.64
927	SLU 62	95	55	5922	11.13	1299.61	-19.29
927	SLU 63	93	68	5873	10.82	1288.82	-24.02
927	SLU 64	94	49	5804	11.03	1274.39	-17.25
927	SLU 65	92	71	5721	10.51	1256.42	-25.12
927	SLU 66	97	50	5917	11.35	1298.25	-17.52
927	SLU 67	95	63	5868	11.03	1287.47	-22.24
927	SLU 68	94	72	5797	10.74	1272.44	-25.5
927	SLU 69	98	51	5993	11.58	1314.27	-17.89
927	SLU 70	97	64	5944	11.26	1303.49	-22.62
927	SLU 71	98	51	5956	11.49	1306.43	-18
927	SLU 72	96	64	5906	11.18	1295.65	-22.72
927	SLU 73	96	75	6221	11.49	1362.27	-26.55
927	SLU 74	101	54	6417	12.33	1404.1	-18.95
927	SLU 75	100	67	6367	12.01	1393.32	-23.67
927	SLU 76	98	76	6296	11.72	1378.29	-26.93
927	SLU 77	103	55	6493	12.56	1420.12	-19.32
927	SLU 78	102	68	6443	12.24	1409.33	-24.05
927	SLU 79	103	55	6455	12.47	1412.27	-19.43
927	SLU 80	101	68	6406	12.16	1401.49	-24.15
927	SLU 81	101	55	6517	12.43	1425.6	-19.29
927	SLU 82	99	68	6468	12.12	1414.82	-24.01
927	SLU 83	103	56	6593	12.66	1441.62	-19.67
927	SLU 84	101	69	6544	12.35	1430.83	-24.39
927	SLE RA 1	71	37	4317	8.15	949.09	-13.19
927	SLE RA 2	69	52	4262	7.8	937.11	-18.43
927	SLE RA 3	72	38	4393	8.36	965	-13.36
927	SLE RA 4	71	47	4360	8.15	957.81	-16.51
927	SLE RA 5	70	53	4312	7.95	947.79	-18.68
927	SLE RA 6	74	39	4443	8.51	975.68	-13.62
927	SLE RA 7	73	48	4410	8.3	968.49	-16.76
927	SLE RA 8	73	39	4418	8.46	970.45	-13.69
927	SLE RA 9	72	48	4385	8.25	963.26	-16.84
927	SLE RA 10	72	55	4595	8.45	1007.67	-19.39
927	SLE RA 11	75	41	4726	9.01	1035.56	-14.32
927	SLE RA 12	74	50	4693	8.8	1028.37	-17.47
927	SLE RA 13	73	56	4645	8.61	1018.35	-19.64
927	SLE RA 14	77	41	4776	9.17	1046.24	-14.57
927	SLE RA 15	76	50	4743	8.96	1039.05	-17.72
927	SLE RA 16	76	41	4751	9.11	1041.01	-14.64
927	SLE RA 17	75	50	4718	8.9	1033.82	-17.79
927	SLE RA 18	75	41	4793	9.08	1049.89	-14.55
927	SLE RA 19	74	50	4760	8.87	1042.71	-17.7
927	SLE RA 20	76	42	4843	9.24	1060.57	-14.8
927	SLE RA 21	75	51	4810	9.03	1053.39	-17.95
927	SLE FR 1	71	37	4317	8.15	949.09	-13.19
927	SLE FR 2	71	40	4306	8.08	946.69	-14.23
927	SLE FR 3	71	38	4337	8.21	953.36	-13.29
927	SLE FR 4	72	41	4449	8.36	976.94	-14.64
927	SLE FR 5	73	39	4480	8.49	983.6	-13.69
927	SLE FR 6	73	39	4555	8.62	999.49	-13.87
927	SLE QP 1	71	37	4317	8.15	949.09	-13.19
927	SLE QP 2	72	38	4460	8.43	979.33	-13.59
927	SLD 1	437	75	2732	2.48	621.59	-26.45
927	SLD 2	376	198	2628	1.82	599.82	-69.36
927	SLD 3	474	-206	3968	10.29	889.62	71.62
927	SLD 4	414	-83	3865	9.63	867.84	28.71
927	SLD 5	135	454	2084	-5.09	469.25	-158.8
927	SLD 6	96	534	2017	-5.51	455.23	-186.43
927	SLD 7	260	-482	6205	20.95	1362.66	168.07
927	SLD 8	222	-403	6139	20.52	1348.64	140.44
927	SLD 9	-77	480	2781	-3.66	610.02	-167.63
927	SLD 10	-116	559	2714	-4.09	596	-195.26
927	SLD 11	48	-457	6902	22.37	1503.43	159.24
927	SLD 12	10	-377	6836	21.95	1489.41	131.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
927	SLD 13	-270	160	5055	7.23	1090.82	-55.89
927	SLD 14	-330	283	4951	6.57	1069.05	-98.8
927	SLD 15	-232	-121	6291	15.04	1358.84	42.17
927	SLD 16	-292	2	6188	14.38	1337.07	-0.74
927	SLV 1	640	114	1674	-1.42	401.77	-40.3
927	SLV 2	546	309	1511	-2.46	367.45	-107.94
927	SLV 3	705	-365	3784	11.91	859.09	127.04
927	SLV 4	610	-171	3621	10.87	824.77	59.4
927	SLV 5	163	752	454	-14.54	118.86	-262.79
927	SLV 6	99	883	345	-15.25	95.76	-308.32
927	SLV 7	377	-846	7487	29.88	1643.27	295.02
927	SLV 8	313	-715	7378	29.18	1620.17	249.49
927	SLV 9	-169	792	1542	-12.32	338.5	-276.68
927	SLV 10	-233	923	1432	-13.02	315.39	-322.21
927	SLV 11	45	-806	8575	32.11	1862.9	281.13
927	SLV 12	-18	-675	8465	31.4	1839.8	235.6
927	SLV 13	-465	248	5299	5.99	1133.89	-86.59
927	SLV 14	-560	442	5136	4.95	1099.57	-154.23
927	SLV 15	-401	-232	7408	19.32	1591.21	80.75
927	SLV 16	-496	-38	7246	18.28	1556.89	13.12
927	SLV FO 1	697	122	1395	-2.4	344.02	-42.98
927	SLV FO 2	593	336	1216	-3.55	306.26	-117.37
927	SLV FO 3	768	-405	3716	12.26	847.07	141.1
927	SLV FO 4	664	-192	3537	11.11	809.32	66.7
927	SLV FO 5	172	824	54	-16.84	32.81	-287.71
927	SLV FO 6	102	968	-67	-17.61	7.4	-337.79
927	SLV FO 7	408	-935	7790	32.03	1709.66	325.88
927	SLV FO 8	337	-791	7669	31.26	1684.25	275.8
927	SLV FO 9	-193	868	1250	-14.39	274.41	-302.99
927	SLV FO 10	-263	1012	1129	-15.17	249	-353.07
927	SLV FO 11	43	-891	8986	34.47	1951.26	310.6
927	SLV FO 12	-27	-747	8866	33.7	1925.85	260.52
927	SLV FO 13	-519	268	5382	5.75	1149.35	-93.89
927	SLV FO 14	-623	482	5203	4.6	1111.59	-168.29
927	SLV FO 15	-448	-259	7703	20.41	1652.4	90.19
927	SLV FO 16	-553	-45	7524	19.26	1614.65	15.79
927	CRTFP Ux+	0	0	0	0	0	0
927	CRTFP Ux-	0	0	0	0	0	0
927	CRTFP Uy+	0	0	0	0	0	0
927	CRTFP Uy-	0	0	0	0	0	0
928	SLU 1	-9	127	9026	16.69	14.44	14.59
928	SLU 2	-7	189	8887	2.49	14.35	14.48
928	SLU 3	-8	130	9268	21	14.91	15.02
928	SLU 4	-7	167	9184	12.48	14.85	14.96
928	SLU 5	-6	190	9047	5.56	14.66	14.75
928	SLU 6	-7	131	9428	24.07	15.22	15.29
928	SLU 7	-6	168	9345	15.55	15.17	15.22
928	SLU 8	-7	129	9348	22.82	15.06	15.12
928	SLU 9	-6	167	9264	14.3	15.01	15.05
928	SLU 10	-9	199	10056	0.47	16.15	16.1
928	SLU 11	-11	140	10437	18.98	16.7	16.64
928	SLU 12	-10	177	10353	10.46	16.65	16.58
928	SLU 13	-9	200	10216	3.53	16.46	16.36
928	SLU 14	-10	141	10597	22.05	17.01	16.9
928	SLU 15	-9	178	10514	13.53	16.96	16.84
928	SLU 16	-10	140	10517	20.8	16.86	16.73
928	SLU 17	-9	177	10433	12.28	16.81	16.67
928	SLU 18	-12	142	10696	13.8	17	16.9
928	SLU 19	-11	179	10613	5.28	16.95	16.84
928	SLU 20	-12	143	10857	16.87	17.32	17.16
928	SLU 21	-11	180	10773	8.35	17.26	17.1
928	SLU 22	-12	144	10551	25.5	16.85	16.94
928	SLU 23	-10	206	10411	11.3	16.76	16.83
928	SLU 24	-11	147	10792	29.82	17.32	17.37
928	SLU 25	-10	184	10708	21.3	17.27	17.31
928	SLU 26	-9	207	10572	14.37	17.08	17.09
928	SLU 27	-10	148	10953	32.88	17.63	17.64
928	SLU 28	-9	185	10869	24.36	17.58	17.57
928	SLU 29	-10	146	10872	31.64	17.47	17.47
928	SLU 30	-9	183	10788	23.12	17.42	17.4
928	SLU 31	-12	216	11580	9.28	18.56	18.45
928	SLU 32	-14	157	11961	27.79	19.11	18.99
928	SLU 33	-13	194	11877	19.27	19.06	18.92
928	SLU 34	-12	217	11741	12.35	18.87	18.71
928	SLU 35	-13	158	12122	30.86	19.43	19.25
928	SLU 36	-12	195	12038	22.34	19.38	19.19
928	SLU 37	-13	156	12041	29.61	19.27	19.08
928	SLU 38	-12	194	11958	21.1	19.22	19.02
928	SLU 39	-15	159	12221	22.61	19.41	19.25
928	SLU 40	-14	196	12137	14.09	19.36	19.19
928	SLU 41	-15	160	12382	25.68	19.73	19.51
928	SLU 42	-13	197	12298	17.16	19.68	19.45
928	SLU 43	-10	160	11212	18.67	17.94	18.17
928	SLU 44	-8	222	11072	4.47	17.86	18.06
928	SLU 45	-10	162	11453	22.99	18.41	18.6
928	SLU 46	-9	200	11369	14.47	18.36	18.53
928	SLU 47	-8	223	11233	7.54	18.17	18.32
928	SLU 48	-9	164	11614	26.05	18.72	18.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
928	SLU 49	-8	201	11530	17.53	18.67	18.79
928	SLU 50	-9	162	11533	24.81	18.57	18.69
928	SLU 51	-8	199	11449	16.29	18.52	18.62
928	SLU 52	-11	232	12241	2.45	19.65	19.67
928	SLU 53	-12	173	12622	20.96	20.21	20.21
928	SLU 54	-11	210	12538	12.44	20.16	20.15
928	SLU 55	-10	233	12402	5.52	19.97	19.93
928	SLU 56	-12	174	12783	24.03	20.52	20.48
928	SLU 57	-11	211	12699	15.51	20.47	20.41
928	SLU 58	-11	172	12702	22.78	20.36	20.31
928	SLU 59	-10	209	12618	14.27	20.31	20.24
928	SLU 60	-14	174	12882	15.78	20.51	20.48
928	SLU 61	-13	212	12798	7.26	20.46	20.41
928	SLU 62	-13	175	13042	18.85	20.82	20.74
928	SLU 63	-12	213	12959	10.33	20.77	20.67
928	SLU 64	-13	177	12736	27.49	20.35	20.52
928	SLU 65	-11	239	12596	13.29	20.27	20.41
928	SLU 66	-13	179	12977	31.8	20.82	20.95
928	SLU 67	-12	216	12894	23.28	20.77	20.88
928	SLU 68	-10	240	12757	16.36	20.58	20.67
928	SLU 69	-12	180	13138	34.87	21.13	21.21
928	SLU 70	-11	217	13054	26.35	21.08	21.14
928	SLU 71	-12	179	13058	33.62	20.98	21.04
928	SLU 72	-11	216	12974	25.1	20.93	20.97
928	SLU 73	-14	249	13765	11.27	22.06	22.02
928	SLU 74	-15	189	14146	29.78	22.62	22.56
928	SLU 75	-14	227	14063	21.26	22.57	22.5
928	SLU 76	-13	250	13926	14.33	22.38	22.28
928	SLU 77	-15	190	14307	32.84	22.93	22.82
928	SLU 78	-13	228	14223	24.33	22.88	22.76
928	SLU 79	-14	189	14227	31.6	22.77	22.66
928	SLU 80	-13	226	14143	23.08	22.72	22.59
928	SLU 81	-17	191	14406	24.6	22.92	22.82
928	SLU 82	-16	228	14322	16.08	22.87	22.76
928	SLU 83	-16	192	14567	27.66	23.23	23.09
928	SLU 84	-15	229	14483	19.14	23.18	23.02
928	SLE RA 1	-9	132	9462	19.21	15.13	15.26
928	SLE RA 2	-8	174	9369	9.74	15.07	15.19
928	SLE RA 3	-9	134	9623	22.08	15.44	15.55
928	SLE RA 4	-8	159	9567	16.4	15.4	15.51
928	SLE RA 5	-8	174	9476	11.79	15.28	15.37
928	SLE RA 6	-9	135	9730	24.13	15.65	15.73
928	SLE RA 7	-8	159	9674	18.45	15.61	15.68
928	SLE RA 8	-8	134	9676	23.3	15.54	15.61
928	SLE RA 9	-8	158	9620	17.62	15.51	15.57
928	SLE RA 10	-10	180	10148	8.39	16.27	16.27
928	SLE RA 11	-11	141	10402	20.73	16.64	16.63
928	SLE RA 12	-10	165	10346	15.05	16.6	16.59
928	SLE RA 13	-9	181	10255	10.44	16.48	16.44
928	SLE RA 14	-10	141	10509	22.78	16.84	16.8
928	SLE RA 15	-10	166	10453	17.1	16.81	16.76
928	SLE RA 16	-10	140	10456	21.95	16.74	16.69
928	SLE RA 17	-9	165	10400	16.27	16.71	16.65
928	SLE RA 18	-12	142	10575	17.28	16.84	16.8
928	SLE RA 19	-11	167	10519	11.6	16.8	16.76
928	SLE RA 20	-11	143	10682	19.32	17.05	16.98
928	SLE RA 21	-11	167	10627	13.65	17.01	16.93
928	SLE FR 1	-9	132	9462	19.21	15.13	15.26
928	SLE FR 2	-9	141	9443	17.31	15.11	15.25
928	SLE FR 3	-9	133	9505	20.02	15.21	15.33
928	SLE FR 4	-10	143	9777	16.74	15.63	15.71
928	SLE FR 5	-10	135	9839	19.45	15.72	15.8
928	SLE FR 6	-11	137	10019	18.24	15.98	16.03
928	SLE QP 1	-9	132	9462	19.21	15.13	15.26
928	SLE QP 2	-10	135	9796	18.63	15.64	15.73
928	SLD 1	1263	577	9168	-96.73	15.58	-0.29
928	SLD 2	1092	519	9187	-89.92	15.72	11.52
928	SLD 3	1238	-187	11293	111.93	16.96	1.9
928	SLD 4	1066	-245	11312	118.74	17.11	13.71
928	SLD 5	440	1437	6382	-333.61	13.5	5.57
928	SLD 6	329	1399	6394	-329.22	13.59	13.18
928	SLD 7	355	-1110	13464	361.91	18.11	12.86
928	SLD 8	245	-1148	13477	366.29	18.2	20.47
928	SLD 9	-265	1418	6115	-329.03	13.07	10.98
928	SLD 10	-375	1381	6127	-324.65	13.17	18.59
928	SLD 11	-350	-1129	13198	366.48	17.69	18.27
928	SLD 12	-460	-1166	13210	370.86	17.78	25.88
928	SLD 13	-1087	515	8280	-81.48	14.17	17.74
928	SLD 14	-1258	457	8299	-74.67	14.32	29.56
928	SLD 15	-1112	-249	10405	127.17	15.55	19.93
928	SLD 16	-1283	-307	10424	133.98	15.7	31.74
928	SLV 1	1985	882	8660	-177.09	15.47	-9.61
928	SLV 2	1714	791	8690	-166.35	15.7	9
928	SLV 3	1942	-421	12286	178.96	17.83	-5.9
928	SLV 4	1672	-512	12316	189.69	18.06	12.72
928	SLV 5	703	2352	3950	-582.09	11.96	-0.98
928	SLV 6	521	2291	3970	-574.86	12.12	11.55
928	SLV 7	561	-1991	16037	604.72	19.84	11.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
928	SLV 8	379	-2052	16057	611.95	19.99	23.93
928	SLV 9	-400	2323	3535	-574.69	11.29	7.53
928	SLV 10	-582	2261	3555	-567.47	11.44	20.06
928	SLV 11	-542	-2021	15622	612.12	19.16	19.9
928	SLV 12	-724	-2082	15642	619.34	19.32	32.43
928	SLV 13	-1692	783	7276	-152.43	13.22	18.74
928	SLV 14	-1962	691	7306	-141.7	13.45	37.35
928	SLV 15	-1735	-520	10902	203.61	15.58	22.45
928	SLV 16	-2005	-612	10932	214.34	15.81	41.07
928	SLV FO 1	2184	957	8547	-196.66	15.45	-12.15
928	SLV FO 2	1887	856	8580	-184.85	15.71	8.33
928	SLV FO 3	2137	-477	12535	194.99	18.05	-8.06
928	SLV FO 4	1840	-577	12568	206.8	18.3	12.41
928	SLV FO 5	775	2574	3366	-642.16	11.59	-2.65
928	SLV FO 6	574	2507	3388	-634.21	11.77	11.13
928	SLV FO 7	618	-2203	16661	663.33	20.26	10.96
928	SLV FO 8	418	-2271	16683	671.28	20.43	24.75
928	SLV FO 9	-439	2541	2909	-634.02	10.85	6.71
928	SLV FO 10	-639	2474	2931	-626.07	11.02	20.49
928	SLV FO 11	-595	-2236	16204	671.47	19.51	20.32
928	SLV FO 12	-795	-2304	16226	679.42	19.68	34.1
928	SLV FO 13	-1860	847	7024	-169.54	12.97	19.04
928	SLV FO 14	-2158	747	7057	-157.73	13.23	39.52
928	SLV FO 15	-1907	-586	11012	222.11	15.57	23.12
928	SLV FO 16	-2204	-686	11045	233.92	15.83	43.6
928	CRTFP Ux+	0	0	0	0	0	0
928	CRTFP Ux-	0	0	0	0	0	0
928	CRTFP Uy+	0	0	0	0	0	0
928	CRTFP Uy-	0	0	0	0	0	0
929	SLU 1	-53	-3	3465	6.02	-527.39	-0.56
929	SLU 2	-51	16	3394	5.65	-516.06	4.13
929	SLU 3	-54	-3	3563	6.25	-541.8	-0.73
929	SLU 4	-53	8	3521	6.03	-535	2.08
929	SLU 5	-52	16	3460	5.81	-525.8	4.05
929	SLU 6	-55	-4	3629	6.41	-551.54	-0.8
929	SLU 7	-54	8	3587	6.19	-544.74	2.01
929	SLU 8	-55	-3	3597	6.35	-546.87	-0.7
929	SLU 9	-53	8	3555	6.12	-540.07	2.11
929	SLU 10	-55	17	3816	6.42	-577.99	4.33
929	SLU 11	-59	-3	3985	7.03	-603.74	-0.52
929	SLU 12	-57	9	3942	6.8	-596.94	2.29
929	SLU 13	-56	17	3882	6.58	-587.73	4.26
929	SLU 14	-59	-3	4051	7.19	-613.47	-0.6
929	SLU 15	-58	8	4008	6.96	-606.67	2.21
929	SLU 16	-59	-3	4019	7.12	-608.8	-0.5
929	SLU 17	-58	9	3976	6.89	-602	2.31
929	SLU 18	-59	-2	4067	7.13	-615.87	-0.26
929	SLU 19	-58	10	4025	6.91	-609.07	2.55
929	SLU 20	-60	-2	4133	7.29	-625.61	-0.33
929	SLU 21	-59	9	4091	7.07	-618.81	2.48
929	SLU 22	-60	-6	4040	7.22	-611.98	-1.24
929	SLU 23	-58	13	3969	6.84	-600.65	3.44
929	SLU 24	-62	-6	4138	7.45	-626.39	-1.41
929	SLU 25	-60	5	4095	7.22	-619.59	1.4
929	SLU 26	-59	13	4035	7	-610.38	3.37
929	SLU 27	-62	-7	4204	7.61	-636.13	-1.49
929	SLU 28	-61	5	4161	7.38	-629.33	1.33
929	SLU 29	-62	-6	4172	7.54	-631.46	-1.38
929	SLU 30	-61	5	4129	7.31	-624.66	1.43
929	SLU 31	-63	14	4390	7.62	-662.58	3.65
929	SLU 32	-66	-5	4559	8.23	-688.32	-1.21
929	SLU 33	-65	6	4517	8	-681.52	1.6
929	SLU 34	-63	14	4456	7.78	-672.32	3.58
929	SLU 35	-67	-6	4625	8.39	-698.06	-1.28
929	SLU 36	-65	5	4583	8.16	-691.26	1.53
929	SLU 37	-66	-5	4593	8.32	-693.39	-1.18
929	SLU 38	-65	6	4551	8.09	-686.59	1.63
929	SLU 39	-66	-4	4642	8.33	-700.46	-0.95
929	SLU 40	-65	7	4599	8.1	-693.66	1.87
929	SLU 41	-67	-5	4708	8.49	-710.2	-1.02
929	SLU 42	-66	7	4665	8.26	-703.4	1.79
929	SLU 43	-67	-3	4307	7.42	-656.61	-0.49
929	SLU 44	-65	16	4237	7.04	-645.28	4.19
929	SLU 45	-68	-3	4406	7.65	-671.02	-0.66
929	SLU 46	-67	8	4363	7.42	-664.22	2.15
929	SLU 47	-65	16	4303	7.2	-655.01	4.12
929	SLU 48	-69	-4	4472	7.81	-680.76	-0.74
929	SLU 49	-68	8	4429	7.58	-673.96	2.08
929	SLU 50	-68	-3	4440	7.74	-676.09	-0.63
929	SLU 51	-67	8	4397	7.51	-669.29	2.18
929	SLU 52	-69	17	4658	7.82	-707.21	4.4
929	SLU 53	-72	-3	4827	8.43	-732.95	-0.46
929	SLU 54	-71	9	4785	8.2	-726.15	2.35
929	SLU 55	-70	17	4724	7.98	-716.95	4.33
929	SLU 56	-73	-3	4893	8.59	-742.69	-0.53
929	SLU 57	-72	8	4851	8.36	-735.89	2.28
929	SLU 58	-72	-2	4861	8.52	-738.02	-0.43
929	SLU 59	-71	9	4819	8.29	-731.22	2.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
929	SLU 60	-73	-1	4910	8.53	-745.09	-0.2
929	SLU 61	-71	10	4867	8.3	-738.29	2.62
929	SLU 62	-73	-2	4976	8.69	-754.83	-0.27
929	SLU 63	-72	10	4933	8.46	-748.03	2.54
929	SLU 64	-74	-5	4882	8.62	-741.2	-1.17
929	SLU 65	-72	13	4811	8.24	-729.86	3.51
929	SLU 66	-75	-6	4980	8.85	-755.6	-1.35
929	SLU 67	-74	5	4938	8.62	-748.8	1.46
929	SLU 68	-73	13	4877	8.4	-739.6	3.44
929	SLU 69	-76	-6	5046	9.01	-765.34	-1.42
929	SLU 70	-75	5	5004	8.78	-758.54	1.39
929	SLU 71	-75	-6	5014	8.94	-760.67	-1.32
929	SLU 72	-74	5	4972	8.71	-753.87	1.49
929	SLU 73	-76	14	5233	9.01	-791.8	3.72
929	SLU 74	-79	-5	5402	9.62	-817.54	-1.14
929	SLU 75	-78	6	5359	9.4	-810.74	1.67
929	SLU 76	-77	14	5299	9.18	-801.54	3.65
929	SLU 77	-80	-6	5468	9.78	-827.28	-1.21
929	SLU 78	-79	6	5425	9.56	-820.48	1.6
929	SLU 79	-80	-5	5436	9.71	-822.61	-1.11
929	SLU 80	-78	6	5393	9.49	-815.81	1.7
929	SLU 81	-80	-4	5484	9.73	-829.67	-0.88
929	SLU 82	-79	7	5442	9.5	-822.87	1.93
929	SLU 83	-81	-5	5550	9.89	-839.41	-0.95
929	SLU 84	-79	7	5508	9.66	-832.61	1.86
929	SLE RA 1	-55	-4	3629	6.37	-551.56	-0.75
929	SLE RA 2	-54	9	3582	6.11	-544	2.37
929	SLE RA 3	-56	-4	3695	6.52	-561.17	-0.87
929	SLE RA 4	-55	4	3666	6.37	-556.63	1.01
929	SLE RA 5	-54	9	3626	6.22	-550.5	2.32
929	SLE RA 6	-57	-4	3739	6.63	-567.66	-0.92
929	SLE RA 7	-56	3	3710	6.47	-563.12	0.96
929	SLE RA 8	-56	-4	3717	6.58	-564.55	-0.85
929	SLE RA 9	-55	4	3689	6.43	-560.01	1.03
929	SLE RA 10	-57	10	3863	6.63	-585.29	2.51
929	SLE RA 11	-59	-3	3976	7.04	-602.46	-0.73
929	SLE RA 12	-58	4	3947	6.89	-597.92	1.14
929	SLE RA 13	-57	9	3907	6.74	-591.79	2.46
929	SLE RA 14	-59	-4	4020	7.14	-608.95	-0.78
929	SLE RA 15	-59	4	3991	6.99	-604.41	1.1
929	SLE RA 16	-59	-3	3998	7.1	-605.84	-0.71
929	SLE RA 17	-58	4	3970	6.95	-601.3	1.16
929	SLE RA 18	-59	-3	4031	7.11	-610.55	-0.56
929	SLE RA 19	-58	5	4002	6.95	-606.01	1.32
929	SLE RA 20	-60	-3	4075	7.21	-617.04	-0.6
929	SLE RA 21	-59	5	4046	7.06	-612.51	1.27
929	SLE FR 1	-55	-4	3629	6.37	-551.56	-0.75
929	SLE FR 2	-55	-1	3620	6.32	-550.05	-0.13
929	SLE FR 3	-55	-4	3647	6.41	-554.16	-0.77
929	SLE FR 4	-56	-1	3740	6.54	-567.75	-0.07
929	SLE FR 5	-57	-3	3767	6.63	-571.85	-0.71
929	SLE FR 6	-57	-3	3830	6.74	-581.05	-0.65
929	SLE QP 1	-55	-4	3629	6.37	-551.56	-0.75
929	SLE QP 2	-56	-3	3750	6.59	-569.26	-0.69
929	SLD 1	273	126	4266	5.65	-633.9	31.3
929	SLD 2	221	26	4344	6.11	-646.66	6.57
929	SLD 3	246	-107	5315	11.24	-800.79	-26.67
929	SLD 4	194	-207	5393	11.69	-813.55	-51.39
929	SLD 5	91	406	2301	-2.24	-333.34	101.07
929	SLD 6	58	342	2351	-1.95	-341.55	85.15
929	SLD 7	3	-370	5796	16.38	-889.64	-92.15
929	SLD 8	-30	-435	5846	16.67	-897.86	-108.07
929	SLD 9	-83	428	1653	-3.49	-240.65	106.68
929	SLD 10	-116	364	1703	-3.2	-248.87	90.76
929	SLD 11	-171	-348	5148	15.13	-796.96	-86.53
929	SLD 12	-204	-412	5198	15.42	-805.18	-102.45
929	SLD 13	-307	200	2107	1.48	-324.96	50.01
929	SLD 14	-359	100	2185	1.94	-337.72	25.28
929	SLD 15	-334	-33	3155	7.07	-491.85	-7.96
929	SLD 16	-386	-133	3233	7.53	-504.61	-32.68
929	SLV 1	461	216	4478	4.71	-657.81	53.58
929	SLV 2	379	59	4601	5.43	-677.92	14.61
929	SLV 3	416	-181	6267	14.24	-942.51	-45.28
929	SLV 4	334	-339	6390	14.96	-962.62	-84.25
929	SLV 5	182	694	1233	-8.56	-160.28	172.79
929	SLV 6	127	588	1316	-8.08	-173.81	146.56
929	SLV 7	32	-630	7194	23.2	-1109.27	-156.73
929	SLV 8	-23	-736	7277	23.69	-1122.81	-182.96
929	SLV 9	-90	729	222	-10.51	-15.7	181.58
929	SLV 10	-145	623	305	-10.03	-29.24	155.34
929	SLV 11	-240	-595	6183	21.25	-964.7	-147.94
929	SLV 12	-295	-701	6266	21.74	-978.24	-174.18
929	SLV 13	-447	332	1109	-1.78	-175.89	82.86
929	SLV 14	-529	175	1232	-1.07	-196.01	43.89
929	SLV 15	-492	-65	2898	7.75	-460.59	-15.99
929	SLV 16	-574	-223	3021	8.46	-480.7	-54.97
929	SLV FO 1	513	238	4551	4.53	-666.66	59.01
929	SLV FO 2	423	65	4687	5.31	-688.79	16.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
929	SLV FO 3	463	-199	6518	15.01	-979.83	-49.73
929	SLV FO 4	373	-372	6654	15.8	-1001.96	-92.6
929	SLV FO 5	206	764	981	-10.08	-119.38	190.14
929	SLV FO 6	146	647	1072	-9.54	-134.27	161.28
929	SLV FO 7	41	-692	7538	24.86	-1163.27	-172.33
929	SLV FO 8	-19	-809	7629	25.4	-1178.17	-201.19
929	SLV FO 9	-93	802	-130	-12.22	39.66	199.8
929	SLV FO 10	-154	686	-39	-11.69	24.76	170.94
929	SLV FO 11	-259	-654	6427	22.72	-1004.24	-162.67
929	SLV FO 12	-319	-771	6518	23.25	-1019.14	-191.53
929	SLV FO 13	-486	365	845	-2.62	-136.56	91.22
929	SLV FO 14	-576	192	981	-1.83	-158.68	48.35
929	SLV FO 15	-536	-71	2813	7.86	-449.72	-17.52
929	SLV FO 16	-626	-245	2948	8.65	-471.85	-60.39
929	CRTFP Ux+	0	0	0	0	0	0
929	CRTFP Ux-	0	0	0	0	0	0
929	CRTFP Uy+	0	0	0	0	0	0
929	CRTFP Uy-	0	0	0	0	0	0
932	SLU 1	94	41	5658	-156.66	21.69	2.98
932	SLU 2	90	66	5543	-153.73	20.48	2.87
932	SLU 3	97	42	5819	-161.09	22.67	3.08
932	SLU 4	95	57	5750	-159.33	21.95	3.01
932	SLU 5	92	67	5652	-156.72	21.12	2.94
932	SLU 6	100	43	5929	-164.08	23.31	3.15
932	SLU 7	97	58	5860	-162.32	22.59	3.08
932	SLU 8	99	43	5876	-162.64	22.97	3.12
932	SLU 9	97	57	5807	-160.88	22.24	3.05
932	SLU 10	96	71	6269	-173.94	23.94	3.08
932	SLU 11	104	48	6546	-181.3	26.13	3.29
932	SLU 12	101	62	6477	-179.54	25.41	3.23
932	SLU 13	99	72	6379	-176.93	24.58	3.15
932	SLU 14	106	48	6655	-184.28	26.77	3.36
932	SLU 15	104	63	6586	-182.53	26.04	3.3
932	SLU 16	105	48	6603	-182.85	26.43	3.33
932	SLU 17	103	63	6534	-181.09	25.7	3.26
932	SLU 18	103	49	6696	-185.53	26.63	3.28
932	SLU 19	101	64	6627	-183.77	25.91	3.21
932	SLU 20	106	49	6805	-188.52	27.27	3.35
932	SLU 21	103	64	6736	-186.76	26.54	3.28
932	SLU 22	106	46	6629	-183.51	26.81	3.4
932	SLU 23	102	71	6514	-180.59	25.6	3.29
932	SLU 24	109	47	6791	-187.94	27.79	3.5
932	SLU 25	107	62	6722	-186.18	27.07	3.44
932	SLU 26	104	71	6623	-183.57	26.24	3.36
932	SLU 27	112	48	6900	-190.93	28.43	3.57
932	SLU 28	109	63	6831	-189.17	27.71	3.51
932	SLU 29	111	48	6848	-189.49	28.09	3.54
932	SLU 30	108	62	6779	-187.73	27.36	3.47
932	SLU 31	108	76	7241	-200.79	29.06	3.5
932	SLU 32	116	52	7518	-208.15	31.25	3.71
932	SLU 33	113	67	7449	-206.39	30.53	3.65
932	SLU 34	111	77	7350	-203.78	29.7	3.57
932	SLU 35	118	53	7627	-211.14	31.89	3.78
932	SLU 36	116	68	7558	-209.38	31.17	3.72
932	SLU 37	117	53	7574	-209.7	31.55	3.75
932	SLU 38	115	67	7505	-207.94	30.82	3.68
932	SLU 39	115	54	7667	-212.38	31.75	3.7
932	SLU 40	113	69	7598	-210.63	31.03	3.64
932	SLU 41	118	54	7777	-215.37	32.39	3.77
932	SLU 42	115	69	7708	-213.61	31.67	3.71
932	SLU 43	118	52	7022	-194.45	26.44	3.72
932	SLU 44	114	77	6907	-191.52	25.23	3.62
932	SLU 45	121	53	7184	-198.88	27.42	3.83
932	SLU 46	119	68	7115	-197.12	26.7	3.76
932	SLU 47	117	77	7016	-194.51	25.87	3.69
932	SLU 48	124	54	7293	-201.87	28.06	3.9
932	SLU 49	121	68	7224	-200.11	27.34	3.83
932	SLU 50	123	53	7241	-200.43	27.72	3.86
932	SLU 51	121	68	7171	-198.67	26.99	3.8
932	SLU 52	121	82	7634	-211.73	28.69	3.83
932	SLU 53	128	58	7910	-219.09	30.88	4.04
932	SLU 54	125	73	7841	-217.33	30.16	3.97
932	SLU 55	123	82	7743	-214.72	29.33	3.9
932	SLU 56	130	59	8020	-222.08	31.52	4.11
932	SLU 57	128	74	7950	-220.32	30.79	4.04
932	SLU 58	130	59	7967	-220.64	31.18	4.07
932	SLU 59	127	73	7898	-218.88	30.45	4.01
932	SLU 60	127	60	8060	-223.32	31.38	4.02
932	SLU 61	125	74	7991	-221.56	30.66	3.96
932	SLU 62	130	60	8169	-226.31	32.02	4.09
932	SLU 63	127	75	8100	-224.55	31.3	4.03
932	SLU 64	130	57	7994	-221.31	31.56	4.15
932	SLU 65	126	82	7879	-218.38	30.36	4.04
932	SLU 66	133	58	8155	-225.73	32.55	4.25
932	SLU 67	131	73	8086	-223.98	31.82	4.18
932	SLU 68	128	82	7988	-221.37	30.99	4.11
932	SLU 69	136	59	8264	-228.72	33.18	4.32
932	SLU 70	133	73	8195	-226.96	32.46	4.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
932	SLU 71	135	58	8212	-227.28	32.84	4.29
932	SLU 72	133	73	8143	-225.53	32.11	4.22
932	SLU 73	132	87	8605	-238.58	33.81	4.25
932	SLU 74	140	63	8882	-245.94	36	4.46
932	SLU 75	137	78	8813	-244.18	35.28	4.4
932	SLU 76	135	87	8714	-241.57	34.45	4.32
932	SLU 77	142	64	8991	-248.93	36.64	4.53
932	SLU 78	140	78	8922	-247.17	35.92	4.47
932	SLU 79	142	63	8939	-247.49	36.3	4.5
932	SLU 80	139	78	8870	-245.73	35.57	4.43
932	SLU 81	139	65	9032	-250.17	36.5	4.45
932	SLU 82	137	79	8963	-248.42	35.78	4.38
932	SLU 83	142	65	9141	-253.16	37.14	4.52
932	SLU 84	139	80	9072	-251.41	36.42	4.45
932	SLE RA 1	97	43	5935	-164.33	23.15	3.1
932	SLE RA 2	95	59	5859	-162.38	22.35	3.02
932	SLE RA 3	100	43	6043	-167.28	23.81	3.17
932	SLE RA 4	98	53	5997	-166.11	23.33	3.12
932	SLE RA 5	96	60	5932	-164.37	22.77	3.07
932	SLE RA 6	101	44	6116	-169.28	24.23	3.21
932	SLE RA 7	100	54	6070	-168.11	23.75	3.17
932	SLE RA 8	101	44	6081	-168.32	24	3.19
932	SLE RA 9	99	53	6035	-167.15	23.52	3.15
932	SLE RA 10	99	63	6343	-175.85	24.65	3.17
932	SLE RA 11	104	47	6528	-180.76	26.11	3.31
932	SLE RA 12	102	57	6482	-179.59	25.63	3.26
932	SLE RA 13	101	63	6416	-177.85	25.08	3.21
932	SLE RA 14	106	47	6600	-182.75	26.54	3.35
932	SLE RA 15	104	57	6554	-181.58	26.06	3.31
932	SLE RA 16	105	47	6565	-181.79	26.31	3.33
932	SLE RA 17	103	57	6519	-180.62	25.83	3.29
932	SLE RA 18	104	48	6627	-183.58	26.45	3.3
932	SLE RA 19	102	58	6581	-182.41	25.96	3.25
932	SLE RA 20	105	48	6700	-185.57	26.87	3.34
932	SLE RA 21	104	58	6654	-184.4	26.39	3.3
932	SLE FR 1	97	43	5935	-164.33	23.15	3.1
932	SLE FR 2	97	46	5920	-163.94	22.99	3.08
932	SLE FR 3	98	43	5965	-165.13	23.32	3.11
932	SLE FR 4	99	48	6128	-169.72	23.98	3.14
932	SLE FR 5	100	44	6172	-170.9	24.31	3.18
932	SLE FR 6	101	45	6281	-173.96	24.8	3.2
932	SLE QP 1	97	43	5935	-164.33	23.15	3.1
932	SLE QP 2	99	44	6143	-170.11	24.14	3.16
932	SLD 1	602	133	4651	-131.56	12.83	13.63
932	SLD 2	514	209	4549	-128.88	14.26	12.82
932	SLD 3	661	-177	6383	-175.72	30.11	15.14
932	SLD 4	574	-101	6281	-173.05	31.55	14.34
932	SLD 5	176	528	3086	-92.02	-5.71	4.14
932	SLD 6	119	577	3021	-90.3	-4.79	3.62
932	SLD 7	373	-505	8859	-239.23	51.9	9.19
932	SLD 8	316	-456	8793	-237.51	52.82	8.67
932	SLD 9	-118	545	3493	-102.71	-4.54	-2.36
932	SLD 10	-174	594	3427	-100.99	-3.61	-2.88
932	SLD 11	79	-488	9266	-249.91	53.07	2.69
932	SLD 12	23	-439	9200	-248.19	53.99	2.18
932	SLD 13	-375	189	6006	-167.17	16.74	-8.02
932	SLD 14	-463	265	5903	-164.49	18.17	-8.83
932	SLD 15	-316	-121	7737	-211.33	34.02	-6.51
932	SLD 16	-404	-45	7635	-208.66	35.46	-7.31
932	SLV 1	883	205	3689	-106.74	4.84	19.45
932	SLV 2	745	324	3528	-102.53	7.1	18.18
932	SLV 3	984	-324	6644	-182.09	34.35	22.04
932	SLV 4	845	-204	6483	-177.88	36.61	20.77
932	SLV 5	207	872	955	-37.6	-26.83	4.36
932	SLV 6	114	953	847	-34.76	-25.3	3.5
932	SLV 7	543	-890	10805	-288.78	71.54	12.98
932	SLV 8	450	-810	10697	-285.94	73.06	12.13
932	SLV 9	-252	899	1589	-54.28	-24.78	-5.81
932	SLV 10	-345	979	1481	-51.44	-23.25	-6.67
932	SLV 11	84	-864	11440	-305.45	73.59	2.81
932	SLV 12	-9	-783	11331	-302.62	75.11	1.95
932	SLV 13	-647	293	5803	-162.33	11.67	-14.45
932	SLV 14	-785	413	5642	-158.12	13.94	-15.73
932	SLV 15	-546	-236	8758	-237.69	41.18	-11.87
932	SLV 16	-684	-116	8597	-233.47	43.45	-13.14
932	SLV FO 1	961	221	3443	-100.41	2.91	21.08
932	SLV FO 2	809	352	3266	-95.77	5.4	19.68
932	SLV FO 3	1072	-361	6694	-183.29	35.37	23.93
932	SLV FO 4	920	-229	6517	-178.66	37.86	22.53
932	SLV FO 5	218	955	436	-24.35	-31.92	4.48
932	SLV FO 6	116	1043	317	-21.23	-30.25	3.54
932	SLV FO 7	588	-984	11271	-300.64	76.28	13.96
932	SLV FO 8	485	-895	11152	-297.52	77.95	13.02
932	SLV FO 9	-287	984	1134	-42.69	-29.67	-6.71
932	SLV FO 10	-389	1073	1015	-39.57	-27.99	-7.65
932	SLV FO 11	83	-955	11969	-318.99	78.53	2.77
932	SLV FO 12	-19	-866	11850	-315.87	80.21	1.83
932	SLV FO 13	-722	318	5769	-161.56	10.42	-16.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
932	SLV FO 14	-874	450	5592	-156.92	12.92	-17.61
932	SLV FO 15	-611	-264	9020	-244.44	42.88	-13.37
932	SLV FO 16	-763	-132	8843	-239.81	45.38	-14.77
932	CRTFP Ux+	0	0	0	0	0	0
932	CRTFP Ux-	0	0	0	0	0	0
932	CRTFP Uy+	0	0	0	0	0	0
932	CRTFP Uy-	0	0	0	0	0	0
935	SLU 1	-15	38	2441	2.53	299.23	-9.36
935	SLU 2	-14	54	2399	2.27	295.2	-13.23
935	SLU 3	-15	39	2509	2.66	306.5	-9.55
935	SLU 4	-15	48	2483	2.5	304.08	-11.87
935	SLU 5	-14	54	2444	2.35	300.05	-13.31
935	SLU 6	-15	39	2554	2.75	311.35	-9.64
935	SLU 7	-15	49	2528	2.58	308.93	-11.96
935	SLU 8	-15	39	2531	2.71	308.94	-9.53
935	SLU 9	-15	48	2506	2.55	306.51	-11.85
935	SLU 10	-17	57	2714	2.54	329.47	-14.01
935	SLU 11	-17	42	2824	2.94	340.78	-10.34
935	SLU 12	-17	51	2799	2.78	338.36	-12.66
935	SLU 13	-17	57	2759	2.63	334.32	-14.1
935	SLU 14	-18	43	2869	3.02	345.63	-10.42
935	SLU 15	-17	52	2844	2.86	343.21	-12.74
935	SLU 16	-17	42	2847	2.99	343.21	-10.32
935	SLU 17	-17	51	2821	2.82	340.79	-12.64
935	SLU 18	-18	43	2892	2.93	348.2	-10.48
935	SLU 19	-18	52	2867	2.77	345.78	-12.8
935	SLU 20	-18	43	2937	3.02	353.05	-10.57
935	SLU 21	-18	52	2912	2.86	350.63	-12.88
935	SLU 22	-18	43	2858	3.07	344.55	-10.58
935	SLU 23	-17	59	2815	2.8	340.51	-14.45
935	SLU 24	-18	44	2925	3.19	351.82	-10.77
935	SLU 25	-18	53	2899	3.03	349.39	-13.09
935	SLU 26	-17	59	2860	2.89	345.36	-14.53
935	SLU 27	-18	44	2970	3.28	356.67	-10.86
935	SLU 28	-18	54	2945	3.12	354.25	-13.18
935	SLU 29	-18	44	2948	3.24	354.25	-10.75
935	SLU 30	-18	53	2922	3.08	351.83	-13.07
935	SLU 31	-20	62	3131	3.08	374.79	-15.23
935	SLU 32	-20	47	3240	3.47	386.09	-11.56
935	SLU 33	-20	56	3215	3.31	383.67	-13.88
935	SLU 34	-20	62	3176	3.16	379.64	-15.32
935	SLU 35	-21	47	3285	3.56	390.94	-11.64
935	SLU 36	-20	57	3260	3.4	388.52	-13.96
935	SLU 37	-20	47	3263	3.52	388.53	-11.54
935	SLU 38	-20	56	3238	3.36	386.1	-13.86
935	SLU 39	-21	48	3308	3.47	393.51	-11.7
935	SLU 40	-21	57	3283	3.3	391.09	-14.02
935	SLU 41	-21	48	3353	3.55	398.36	-11.79
935	SLU 42	-21	57	3328	3.39	395.94	-14.11
935	SLU 43	-18	48	3031	3.11	373.47	-11.75
935	SLU 44	-18	63	2989	2.84	369.43	-15.62
935	SLU 45	-19	49	3099	3.24	380.74	-11.94
935	SLU 46	-18	58	3073	3.08	378.31	-14.26
935	SLU 47	-18	64	3034	2.93	374.28	-15.7
935	SLU 48	-19	49	3144	3.32	385.59	-12.03
935	SLU 49	-18	58	3118	3.16	383.17	-14.35
935	SLU 50	-18	49	3121	3.28	383.17	-11.92
935	SLU 51	-18	58	3096	3.12	380.75	-14.24
935	SLU 52	-20	67	3304	3.12	403.71	-16.4
935	SLU 53	-21	52	3414	3.51	415.01	-12.73
935	SLU 54	-21	61	3389	3.35	412.59	-15.05
935	SLU 55	-20	67	3349	3.21	408.56	-16.49
935	SLU 56	-21	52	3459	3.6	419.86	-12.81
935	SLU 57	-21	62	3434	3.44	417.44	-15.13
935	SLU 58	-21	52	3437	3.56	417.44	-12.71
935	SLU 59	-20	61	3411	3.4	415.02	-15.03
935	SLU 60	-22	52	3482	3.51	422.43	-12.87
935	SLU 61	-21	62	3456	3.35	420.01	-15.19
935	SLU 62	-22	53	3527	3.6	427.28	-12.96
935	SLU 63	-21	62	3501	3.43	424.86	-15.27
935	SLU 64	-21	53	3447	3.65	418.78	-12.97
935	SLU 65	-21	68	3405	3.38	414.74	-16.84
935	SLU 66	-22	54	3515	3.77	426.05	-13.16
935	SLU 67	-21	63	3489	3.61	423.63	-15.48
935	SLU 68	-21	69	3450	3.46	419.6	-16.92
935	SLU 69	-22	54	3560	3.86	430.9	-13.25
935	SLU 70	-21	63	3534	3.7	428.48	-15.57
935	SLU 71	-21	54	3537	3.82	428.48	-13.14
935	SLU 72	-21	63	3512	3.66	426.06	-15.46
935	SLU 73	-23	72	3720	3.65	449.02	-17.62
935	SLU 74	-24	57	3830	4.05	460.33	-13.95
935	SLU 75	-24	66	3805	3.89	457.9	-16.27
935	SLU 76	-23	72	3765	3.74	453.87	-17.71
935	SLU 77	-24	57	3875	4.14	465.18	-14.03
935	SLU 78	-24	67	3850	3.97	462.76	-16.35
935	SLU 79	-24	57	3853	4.1	462.76	-13.93
935	SLU 80	-23	66	3827	3.94	460.34	-16.25
935	SLU 81	-25	57	3898	4.04	467.75	-14.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
935	SLU 82	-24	67	3872	3.88	465.32	-16.41
935	SLU 83	-25	58	3943	4.13	472.6	-14.18
935	SLU 84	-24	67	3918	3.97	470.18	-16.5
935	SLE RA 1	-16	40	2560	2.69	312.18	-9.71
935	SLE RA 2	-15	50	2532	2.51	309.49	-12.29
935	SLE RA 3	-16	40	2605	2.77	317.03	-9.84
935	SLE RA 4	-16	46	2588	2.66	315.41	-11.38
935	SLE RA 5	-15	50	2562	2.57	312.72	-12.34
935	SLE RA 6	-16	40	2635	2.83	320.26	-9.9
935	SLE RA 7	-16	47	2618	2.72	318.65	-11.44
935	SLE RA 8	-16	40	2620	2.8	318.65	-9.83
935	SLE RA 9	-16	46	2603	2.69	317.03	-11.37
935	SLE RA 10	-17	52	2742	2.69	332.34	-12.81
935	SLE RA 11	-17	42	2816	2.96	339.88	-10.36
935	SLE RA 12	-17	48	2799	2.85	338.26	-11.91
935	SLE RA 13	-17	52	2772	2.75	335.57	-12.87
935	SLE RA 14	-17	42	2846	3.01	343.11	-10.42
935	SLE RA 15	-17	49	2829	2.91	341.5	-11.96
935	SLE RA 16	-17	42	2831	2.99	341.5	-10.35
935	SLE RA 17	-17	48	2814	2.88	339.88	-11.89
935	SLE RA 18	-18	43	2861	2.95	344.82	-10.46
935	SLE RA 19	-18	49	2844	2.84	343.21	-12
935	SLE RA 20	-18	43	2891	3.01	348.06	-10.51
935	SLE RA 21	-18	49	2874	2.9	346.44	-12.06
935	SLE FR 1	-16	40	2560	2.69	312.18	-9.71
935	SLE FR 2	-16	42	2555	2.65	311.64	-10.23
935	SLE FR 3	-16	40	2572	2.71	313.47	-9.73
935	SLE FR 4	-16	43	2645	2.73	321.43	-10.45
935	SLE FR 5	-16	41	2662	2.79	323.27	-9.96
935	SLE FR 6	-17	41	2711	2.82	328.5	-10.08
935	SLE QP 1	-16	40	2560	2.69	312.18	-9.71
935	SLE QP 2	-16	40	2650	2.77	321.97	-9.93
935	SLD 1	309	155	2448	1	311.79	-38.84
935	SLD 2	261	136	2457	1.13	312.37	-33.96
935	SLD 3	301	-36	3091	4.96	374.44	8.79
935	SLD 4	253	-54	3100	5.09	375.02	13.67
935	SLD 5	102	367	1613	-3.79	223.8	-91.68
935	SLD 6	71	355	1619	-3.71	224.18	-88.54
935	SLD 7	74	-268	3756	9.41	432.63	67.09
935	SLD 8	44	-280	3762	9.49	433	70.23
935	SLD 9	-77	361	1539	-3.95	210.94	-90.09
935	SLD 10	-107	349	1545	-3.87	211.32	-86.95
935	SLD 11	-104	-274	3682	9.24	419.77	68.68
935	SLD 12	-134	-286	3688	9.32	420.14	71.82
935	SLD 13	-286	135	2201	0.44	268.93	-33.54
935	SLD 14	-333	117	2210	0.57	269.51	-28.66
935	SLD 15	-294	-55	2844	4.4	331.57	14.09
935	SLD 16	-342	-74	2853	4.53	332.16	18.97
935	SLV 1	493	233	2288	-0.27	301.48	-58.59
935	SLV 2	419	203	2302	-0.07	302.4	-50.91
935	SLV 3	479	-92	3385	6.48	408.4	22.63
935	SLV 4	405	-121	3399	6.68	409.32	30.32
935	SLV 5	171	596	875	-8.43	153.49	-149.16
935	SLV 6	121	576	885	-8.29	154.11	-143.98
935	SLV 7	125	-486	4532	14.09	509.89	121.59
935	SLV 8	75	-506	4541	14.22	510.51	126.77
935	SLV 9	-108	587	760	-8.69	133.43	-146.64
935	SLV 10	-158	567	769	-8.55	134.05	-141.46
935	SLV 11	-154	-495	4416	13.82	489.84	124.12
935	SLV 12	-204	-515	4425	13.96	490.46	129.29
935	SLV 13	-438	202	1902	-1.15	234.63	-50.18
935	SLV 14	-512	173	1916	-0.95	235.55	-42.5
935	SLV 15	-451	-122	2999	5.61	341.55	31.04
935	SLV 16	-526	-152	3013	5.81	342.47	38.73
935	SLV FO 1	544	252	2251	-0.58	299.43	-63.46
935	SLV FO 2	462	220	2267	-0.36	300.44	-55.01
935	SLV FO 3	529	-105	3458	6.85	417.04	25.89
935	SLV FO 4	447	-138	3474	7.07	418.05	34.34
935	SLV FO 5	190	652	698	-9.54	136.64	-163.08
935	SLV FO 6	135	630	709	-9.4	137.32	-157.39
935	SLV FO 7	140	-539	4720	15.22	528.69	134.75
935	SLV FO 8	84	-561	4730	15.37	529.37	140.44
935	SLV FO 9	-117	642	571	-9.83	114.58	-160.31
935	SLV FO 10	-172	620	581	-9.68	115.26	-154.61
935	SLV FO 11	-168	-549	4592	14.93	506.62	137.52
935	SLV FO 12	-223	-571	4603	15.08	507.31	143.21
935	SLV FO 13	-480	218	1827	-1.54	225.89	-54.21
935	SLV FO 14	-562	186	1843	-1.32	226.9	-45.76
935	SLV FO 15	-495	-139	3034	5.89	343.5	35.14
935	SLV FO 16	-577	-171	3049	6.11	344.52	43.59
935	CRTFP Ux+	0	0	0	0	0	0
935	CRTFP Ux-	0	0	0	0	0	0
935	CRTFP Uy+	0	0	0	0	0	0
935	CRTFP Uy-	0	0	0	0	0	0
937	SLU 1	17	41	4776	6.65	-28.72	0.87
937	SLU 2	16	75	4686	6.16	-28.59	0.87
937	SLU 3	18	41	4904	6.95	-29.59	0.9
937	SLU 4	17	61	4850	6.66	-29.51	0.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
937	SLU 5	17	74	4771	6.36	-29.13	0.88
937	SLU 6	19	41	4988	7.16	-30.14	0.92
937	SLU 7	18	61	4935	6.86	-30.06	0.91
937	SLU 8	19	40	4945	7.06	-29.82	0.9
937	SLU 9	18	61	4891	6.77	-29.73	0.9
937	SLU 10	16	78	5311	6.88	-31.67	1.05
937	SLU 11	18	45	5528	7.68	-32.67	1.09
937	SLU 12	17	65	5475	7.38	-32.59	1.09
937	SLU 13	17	78	5395	7.09	-32.21	1.07
937	SLU 14	19	45	5613	7.88	-33.21	1.1
937	SLU 15	18	65	5559	7.59	-33.13	1.1
937	SLU 16	19	44	5570	7.79	-32.89	1.09
937	SLU 17	18	65	5516	7.49	-32.81	1.08
937	SLU 18	17	46	5668	7.69	-33.12	1.14
937	SLU 19	16	66	5614	7.39	-33.04	1.14
937	SLU 20	18	46	5753	7.89	-33.67	1.15
937	SLU 21	17	66	5699	7.6	-33.59	1.15
937	SLU 22	18	46	5594	7.94	-32.9	1.1
937	SLU 23	16	80	5504	7.44	-32.77	1.09
937	SLU 24	18	47	5722	8.24	-33.77	1.13
937	SLU 25	18	67	5668	7.94	-33.69	1.12
937	SLU 26	17	80	5589	7.65	-33.31	1.1
937	SLU 27	19	47	5806	8.44	-34.31	1.14
937	SLU 28	19	67	5753	8.15	-34.23	1.14
937	SLU 29	19	46	5763	8.35	-33.99	1.12
937	SLU 30	19	67	5709	8.05	-33.91	1.12
937	SLU 31	16	84	6129	8.17	-35.85	1.28
937	SLU 32	18	51	6346	8.96	-36.85	1.31
937	SLU 33	18	71	6292	8.67	-36.77	1.31
937	SLU 34	17	84	6213	8.37	-36.39	1.29
937	SLU 35	19	50	6431	9.17	-37.39	1.33
937	SLU 36	19	71	6377	8.87	-37.31	1.32
937	SLU 37	19	50	6387	9.07	-37.07	1.31
937	SLU 38	19	70	6334	8.78	-36.99	1.31
937	SLU 39	18	52	6486	8.97	-37.3	1.36
937	SLU 40	17	72	6432	8.68	-37.22	1.36
937	SLU 41	18	52	6571	9.18	-37.85	1.38
937	SLU 42	18	72	6517	8.88	-37.77	1.37
937	SLU 43	22	51	5928	8.21	-35.91	1.06
937	SLU 44	21	85	5839	7.71	-35.77	1.05
937	SLU 45	23	51	6056	8.51	-36.77	1.09
937	SLU 46	22	72	6002	8.21	-36.69	1.09
937	SLU 47	22	85	5923	7.92	-36.32	1.07
937	SLU 48	24	51	6141	8.71	-37.32	1.1
937	SLU 49	23	71	6087	8.42	-37.24	1.1
937	SLU 50	24	51	6097	8.62	-37	1.09
937	SLU 51	23	71	6044	8.32	-36.92	1.08
937	SLU 52	21	89	6463	8.44	-38.85	1.24
937	SLU 53	23	55	6681	9.23	-39.85	1.28
937	SLU 54	22	75	6627	8.94	-39.77	1.27
937	SLU 55	22	88	6548	8.64	-39.4	1.25
937	SLU 56	24	55	6765	9.44	-40.4	1.29
937	SLU 57	23	75	6712	9.14	-40.32	1.29
937	SLU 58	24	54	6722	9.34	-40.08	1.27
937	SLU 59	23	75	6668	9.05	-40	1.27
937	SLU 60	22	56	6820	9.24	-40.3	1.33
937	SLU 61	21	77	6767	8.95	-40.22	1.32
937	SLU 62	23	56	6905	9.45	-40.85	1.34
937	SLU 63	22	76	6851	9.15	-40.77	1.34
937	SLU 64	22	57	6746	9.49	-40.08	1.28
937	SLU 65	21	91	6656	9	-39.95	1.28
937	SLU 66	23	57	6874	9.79	-40.95	1.31
937	SLU 67	23	77	6820	9.5	-40.87	1.31
937	SLU 68	22	91	6741	9.2	-40.5	1.29
937	SLU 69	24	57	6959	10	-41.5	1.33
937	SLU 70	24	77	6905	9.7	-41.42	1.32
937	SLU 71	24	56	6915	9.9	-41.18	1.31
937	SLU 72	24	77	6862	9.61	-41.1	1.31
937	SLU 73	21	94	7281	9.72	-43.03	1.46
937	SLU 74	23	61	7499	10.52	-44.03	1.5
937	SLU 75	23	81	7445	10.22	-43.95	1.5
937	SLU 76	22	94	7366	9.93	-43.58	1.48
937	SLU 77	24	61	7583	10.72	-44.58	1.51
937	SLU 78	24	81	7529	10.43	-44.5	1.51
937	SLU 79	24	60	7540	10.63	-44.26	1.5
937	SLU 80	24	81	7486	10.33	-44.18	1.49
937	SLU 81	22	62	7638	10.53	-44.48	1.55
937	SLU 82	22	82	7584	10.23	-44.4	1.55
937	SLU 83	23	62	7723	10.73	-45.03	1.56
937	SLU 84	23	82	7669	10.44	-44.95	1.56
937	SLE RA 1	17	42	5009	7.02	-29.92	0.94
937	SLE RA 2	16	65	4950	6.69	-29.83	0.93
937	SLE RA 3	18	43	5095	7.22	-30.49	0.96
937	SLE RA 4	17	56	5059	7.02	-30.44	0.96
937	SLE RA 5	17	65	5006	6.83	-30.19	0.94
937	SLE RA 6	18	42	5151	7.36	-30.86	0.97
937	SLE RA 7	18	56	5115	7.16	-30.8	0.96
937	SLE RA 8	18	42	5122	7.29	-30.64	0.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
937	SLE RA 9	18	56	5087	7.09	-30.59	0.95
937	SLE RA 10	16	67	5366	7.17	-31.88	1.06
937	SLE RA 11	18	45	5511	7.7	-32.55	1.08
937	SLE RA 12	17	59	5475	7.51	-32.49	1.08
937	SLE RA 13	17	67	5423	7.31	-32.24	1.07
937	SLE RA 14	18	45	5568	7.84	-32.91	1.09
937	SLE RA 15	18	59	5532	7.64	-32.86	1.09
937	SLE RA 16	18	45	5539	7.78	-32.7	1.08
937	SLE RA 17	18	58	5503	7.58	-32.64	1.08
937	SLE RA 18	17	46	5604	7.71	-32.85	1.12
937	SLE RA 19	17	59	5568	7.51	-32.79	1.11
937	SLE RA 20	18	46	5661	7.85	-33.21	1.12
937	SLE RA 21	17	59	5625	7.65	-33.16	1.12
937	SLE FR 1	17	42	5009	7.02	-29.92	0.94
937	SLE FR 2	17	47	4998	6.95	-29.9	0.94
937	SLE FR 3	17	42	5032	7.07	-30.06	0.94
937	SLE FR 4	17	48	5176	7.16	-30.78	0.99
937	SLE FR 5	17	43	5211	7.28	-30.94	1
937	SLE FR 6	17	44	5307	7.36	-31.38	1.03
937	SLE QP 1	17	42	5009	7.02	-29.92	0.94
937	SLE QP 2	17	43	5188	7.23	-30.8	0.99
937	SLD 1	652	226	4124	3.25	-5.43	-4.5
937	SLD 2	557	261	4121	3.13	-5.25	-2.1
937	SLD 3	671	-205	5480	10.56	-7.85	-4.35
937	SLD 4	576	-170	5477	10.44	-7.68	-1.96
937	SLD 5	195	745	2813	-5.03	-19.54	-1.29
937	SLD 6	134	768	2811	-5.11	-19.43	0.26
937	SLD 7	259	-690	7333	19.33	-27.62	-0.81
937	SLD 8	198	-668	7330	19.25	-27.51	0.74
937	SLD 9	-164	754	3046	-4.8	-34.09	1.24
937	SLD 10	-224	777	3043	-4.88	-33.97	2.79
937	SLD 11	-100	-681	7565	19.56	-42.16	1.73
937	SLD 12	-160	-658	7563	19.48	-42.05	3.27
937	SLD 13	-542	257	4899	4.01	-53.91	3.94
937	SLD 14	-637	292	4896	3.89	-53.74	6.34
937	SLD 15	-523	-174	6255	11.32	-56.34	4.08
937	SLD 16	-617	-139	6251	11.2	-56.16	6.48
937	SLV 1	1009	358	3430	0.44	8.95	-7.63
937	SLV 2	861	413	3424	0.26	9.22	-3.84
937	SLV 3	1042	-376	5743	12.92	4.82	-7.39
937	SLV 4	893	-321	5737	12.73	5.09	-3.61
937	SLV 5	293	1241	1153	-13.69	-12.66	-2.66
937	SLV 6	193	1278	1149	-13.82	-12.47	-0.11
937	SLV 7	402	-1207	8865	27.89	-26.43	-1.87
937	SLV 8	302	-1169	8861	27.76	-26.24	0.67
937	SLV 9	-267	1256	1515	-13.31	-35.35	1.31
937	SLV 10	-367	1293	1511	-13.44	-35.16	3.85
937	SLV 11	-159	-1191	9227	28.27	-49.12	2.09
937	SLV 12	-259	-1154	9223	28.14	-48.93	4.64
937	SLV 13	-859	408	4638	1.72	-66.68	5.59
937	SLV 14	-1008	463	4632	1.53	-66.41	9.37
937	SLV 15	-826	-326	6952	14.19	-70.82	5.83
937	SLV 16	-975	-271	6946	14.01	-70.54	9.61
937	SLV FO 1	1108	389	3254	-0.23	12.92	-8.49
937	SLV FO 2	945	450	3247	-0.44	13.23	-4.33
937	SLV FO 3	1144	-418	5799	13.49	8.38	-8.23
937	SLV FO 4	981	-358	5792	13.28	8.68	-4.07
937	SLV FO 5	321	1361	749	-15.78	-10.84	-3.02
937	SLV FO 6	211	1402	745	-15.92	-10.64	-0.22
937	SLV FO 7	440	-1332	9232	29.95	-25.99	-2.16
937	SLV FO 8	330	-1291	9228	29.81	-25.79	0.64
937	SLV FO 9	-296	1377	1148	-15.36	-35.8	1.34
937	SLV FO 10	-406	1418	1144	-15.5	-35.6	4.14
937	SLV FO 11	-176	-1315	9631	30.37	-50.95	2.2
937	SLV FO 12	-286	-1274	9627	30.24	-50.75	5
937	SLV FO 13	-947	445	4584	1.17	-70.27	6.05
937	SLV FO 14	-1110	505	4577	0.96	-69.97	10.21
937	SLV FO 15	-911	-363	7128	14.89	-74.82	6.31
937	SLV FO 16	-1074	-303	7122	14.68	-74.51	10.47
937	CRTFP Ux+	0	0	0	0	0	0
937	CRTFP Ux-	0	0	0	0	0	0
937	CRTFP Uy+	0	0	0	0	0	0
937	CRTFP Uy-	0	0	0	0	0	0
940	SLU 1	48	24	2906	-194.6	728.24	-5.28
940	SLU 2	46	39	2842	-190.39	711.89	-10.69
940	SLU 3	50	25	2988	-200.05	748.22	-5.34
940	SLU 4	48	34	2949	-197.52	738.41	-8.59
940	SLU 5	47	40	2896	-194.04	725.38	-10.85
940	SLU 6	51	25	3043	-203.71	761.71	-5.5
940	SLU 7	50	35	3004	-201.18	751.9	-8.74
940	SLU 8	51	26	3016	-201.91	755.22	-5.6
940	SLU 9	49	35	2977	-199.39	745.41	-8.84
940	SLU 10	49	42	3194	-214	798.26	-11.42
940	SLU 11	53	27	3341	-223.66	834.59	-6.06
940	SLU 12	52	37	3302	-221.13	824.78	-9.31
940	SLU 13	50	43	3249	-217.65	811.75	-11.57
940	SLU 14	54	28	3396	-227.32	848.08	-6.22
940	SLU 15	53	37	3357	-224.79	838.27	-9.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
940	SLU 16	54	28	3369	-225.53	841.59	-6.32
940	SLU 17	53	37	3330	-223	831.78	-9.57
940	SLU 18	53	28	3410	-228.33	851.63	-6.32
940	SLU 19	51	37	3372	-225.8	841.82	-9.56
940	SLU 20	54	29	3465	-231.99	865.12	-6.47
940	SLU 21	53	38	3427	-229.46	855.31	-9.72
940	SLU 22	54	25	3384	-226.5	845.22	-5.11
940	SLU 23	52	40	3319	-222.28	828.87	-10.52
940	SLU 24	56	25	3466	-231.95	865.2	-5.16
940	SLU 25	54	34	3427	-229.42	855.39	-8.41
940	SLU 26	53	41	3374	-225.94	842.36	-10.67
940	SLU 27	57	26	3521	-235.6	878.69	-5.32
940	SLU 28	56	35	3482	-233.07	868.88	-8.57
940	SLU 29	56	26	3494	-233.81	872.2	-5.42
940	SLU 30	55	35	3455	-231.28	862.39	-8.67
940	SLU 31	55	43	3672	-245.89	915.24	-11.24
940	SLU 32	59	28	3818	-255.56	951.57	-5.89
940	SLU 33	58	37	3780	-253.03	941.76	-9.13
940	SLU 34	56	43	3727	-249.55	928.73	-11.4
940	SLU 35	60	29	3873	-259.22	965.06	-6.05
940	SLU 36	59	38	3835	-256.69	955.25	-9.29
940	SLU 37	60	29	3847	-257.42	958.57	-6.15
940	SLU 38	58	38	3808	-254.89	948.76	-9.39
940	SLU 39	58	29	3888	-260.23	968.61	-6.14
940	SLU 40	57	38	3849	-257.7	958.8	-9.39
940	SLU 41	60	29	3943	-263.89	982.1	-6.3
940	SLU 42	58	38	3904	-261.36	972.29	-9.54
940	SLU 43	60	31	3614	-242.05	906.6	-6.93
940	SLU 44	58	46	3550	-237.83	890.25	-12.34
940	SLU 45	62	32	3696	-247.5	926.58	-6.99
940	SLU 46	61	41	3657	-244.97	916.77	-10.23
940	SLU 47	60	47	3605	-241.49	903.74	-12.5
940	SLU 48	63	33	3751	-251.15	940.07	-7.14
940	SLU 49	62	42	3712	-248.62	930.26	-10.39
940	SLU 50	63	33	3724	-249.36	933.58	-7.24
940	SLU 51	62	42	3685	-246.83	923.77	-10.49
940	SLU 52	62	49	3903	-261.44	976.62	-13.06
940	SLU 53	65	35	4049	-271.11	1012.96	-7.71
940	SLU 54	64	44	4010	-268.58	1003.15	-10.95
940	SLU 55	63	50	3957	-265.1	990.11	-13.22
940	SLU 56	67	35	4104	-274.77	1026.44	-7.87
940	SLU 57	65	44	4065	-272.24	1016.63	-11.11
940	SLU 58	66	35	4077	-272.97	1019.95	-7.97
940	SLU 59	65	44	4038	-270.44	1010.14	-11.21
940	SLU 60	65	35	4118	-275.78	1029.99	-7.96
940	SLU 61	64	44	4080	-273.25	1020.18	-11.21
940	SLU 62	66	36	4173	-279.43	1043.48	-8.12
940	SLU 63	65	45	4135	-276.91	1033.67	-11.36
940	SLU 64	66	32	4092	-273.94	1023.58	-6.75
940	SLU 65	64	47	4027	-269.73	1007.23	-12.16
940	SLU 66	68	32	4174	-279.39	1043.56	-6.81
940	SLU 67	67	42	4135	-276.86	1033.75	-10.06
940	SLU 68	65	48	4082	-273.38	1020.72	-12.32
940	SLU 69	69	33	4229	-283.05	1057.05	-6.97
940	SLU 70	68	42	4190	-280.52	1047.24	-10.21
940	SLU 71	69	33	4202	-281.26	1050.56	-7.07
940	SLU 72	68	42	4163	-278.73	1040.75	-10.31
940	SLU 73	67	50	4380	-293.34	1093.6	-12.89
940	SLU 74	71	35	4527	-303.01	1129.94	-7.53
940	SLU 75	70	44	4488	-300.48	1120.13	-10.78
940	SLU 76	69	50	4435	-297	1107.09	-13.04
940	SLU 77	72	36	4581	-306.66	1143.42	-7.69
940	SLU 78	71	45	4543	-304.13	1133.61	-10.94
940	SLU 79	72	36	4555	-304.87	1136.93	-7.79
940	SLU 80	71	45	4516	-302.34	1127.12	-11.04
940	SLU 81	71	36	4596	-307.67	1146.97	-7.79
940	SLU 82	70	45	4557	-305.15	1137.16	-11.03
940	SLU 83	72	37	4651	-311.33	1160.46	-7.94
940	SLU 84	71	46	4612	-308.8	1150.65	-11.19
940	SLE RA 1	50	24	3043	-203.72	761.66	-5.23
940	SLE RA 2	48	35	2999	-200.9	750.76	-8.84
940	SLE RA 3	51	25	3097	-207.35	774.98	-5.27
940	SLE RA 4	50	31	3071	-205.66	768.44	-7.44
940	SLE RA 5	49	35	3036	-203.34	759.75	-8.94
940	SLE RA 6	52	25	3134	-209.79	783.97	-5.38
940	SLE RA 7	51	31	3108	-208.1	777.43	-7.54
940	SLE RA 8	51	25	3116	-208.59	779.65	-5.44
940	SLE RA 9	51	31	3090	-206.9	773.11	-7.61
940	SLE RA 10	50	36	3235	-216.65	808.34	-9.32
940	SLE RA 11	53	27	3332	-223.09	832.56	-5.75
940	SLE RA 12	52	33	3307	-221.4	826.02	-7.92
940	SLE RA 13	51	37	3271	-219.08	817.34	-9.43
940	SLE RA 14	54	27	3369	-225.53	841.56	-5.86
940	SLE RA 15	53	33	3343	-223.84	835.02	-8.02
940	SLE RA 16	54	27	3351	-224.33	837.23	-5.93
940	SLE RA 17	53	33	3325	-222.65	830.69	-8.09
940	SLE RA 18	53	27	3379	-226.2	843.92	-5.92
940	SLE RA 19	52	33	3353	-224.52	837.38	-8.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
940	SLE RA 20	54	27	3415	-228.64	852.91	-6.03
940	SLE RA 21	53	34	3389	-226.95	846.37	-8.19
940	SLE FR 1	50	24	3043	-203.72	761.66	-5.23
940	SLE FR 2	49	26	3034	-203.15	759.48	-5.95
940	SLE FR 3	50	25	3057	-204.69	765.26	-5.28
940	SLE FR 4	50	27	3135	-209.9	784.16	-6.16
940	SLE FR 5	51	25	3158	-211.44	789.94	-5.48
940	SLE FR 6	51	26	3211	-214.96	802.79	-5.58
940	SLE QP 1	50	24	3043	-203.72	761.66	-5.23
940	SLE QP 2	51	25	3143	-210.46	786.34	-5.44
940	SLD 1	299	50	1880	-126.67	482.77	-3.18
940	SLD 2	254	132	1800	-121.41	462.81	-34.99
940	SLD 3	330	-138	2843	-189.58	726.79	64.46
940	SLD 4	285	-56	2763	-184.32	706.83	32.65
940	SLD 5	87	303	1318	-90.81	328.61	-101.88
940	SLD 6	58	356	1266	-87.42	315.75	-122.36
940	SLD 7	188	-323	4527	-300.52	1142	123.58
940	SLD 8	159	-270	4475	-297.13	1129.15	103.1
940	SLD 9	-58	320	1811	-123.79	443.53	-113.98
940	SLD 10	-87	373	1759	-120.4	430.68	-134.46
940	SLD 11	43	-306	5020	-333.5	1256.93	111.48
940	SLD 12	15	-253	4969	-330.11	1244.07	91
940	SLD 13	-184	106	3524	-236.6	865.85	-43.53
940	SLD 14	-228	189	3443	-231.34	845.89	-75.34
940	SLD 15	-153	-82	4487	-299.52	1109.87	24.11
940	SLD 16	-198	1	4406	-294.25	1089.91	-7.7
940	SLV 1	438	76	1103	-75.17	295.04	-6.47
940	SLV 2	367	206	976	-66.87	263.57	-56.6
940	SLV 3	490	-244	2746	-182.52	711.4	108.96
940	SLV 4	419	-114	2619	-174.23	679.93	58.82
940	SLV 5	101	502	63	-8.61	13.33	-171.45
940	SLV 6	54	590	-22	-3.02	-7.85	-205.2
940	SLV 7	274	-566	5539	-366.44	1401.22	213.29
940	SLV 8	227	-478	5454	-360.86	1380.04	179.54
940	SLV 9	-126	529	833	-60.06	192.64	-190.42
940	SLV 10	-173	616	747	-54.48	171.46	-224.17
940	SLV 11	48	-539	6309	-417.9	1580.53	194.32
940	SLV 12	0	-452	6223	-412.32	1559.35	160.57
940	SLV 13	-318	165	3668	-246.7	892.74	-69.7
940	SLV 14	-388	295	3541	-238.4	861.28	-119.84
940	SLV 15	-266	-155	5310	-354.05	1309.11	45.72
940	SLV 16	-337	-26	5183	-345.75	1277.64	-4.41
940	SLV FO 1	477	81	899	-61.64	245.9	-6.57
940	SLV FO 2	399	224	760	-52.52	211.29	-61.72
940	SLV FO 3	534	-271	2706	-179.73	703.91	120.4
940	SLV FO 4	456	-128	2567	-170.6	669.29	65.25
940	SLV FO 5	106	550	-245	11.58	-63.97	-188.05
940	SLV FO 6	54	646	-339	17.72	-87.27	-225.18
940	SLV FO 7	297	-625	5779	-382.04	1462.7	235.17
940	SLV FO 8	244	-529	5685	-375.9	1439.4	198.04
940	SLV FO 9	-143	579	602	-45.02	133.27	-208.92
940	SLV FO 10	-195	675	508	-38.88	109.97	-246.05
940	SLV FO 11	47	-596	6625	-438.65	1659.95	214.3
940	SLV FO 12	-5	-499	6531	-432.5	1636.65	177.17
940	SLV FO 13	-355	179	3720	-250.32	903.38	-76.13
940	SLV FO 14	-432	322	3580	-241.19	868.77	-131.28
940	SLV FO 15	-298	-174	5527	-368.41	1361.39	50.84
940	SLV FO 16	-375	-31	5387	-359.28	1326.77	-4.31
940	CRTFP Ux+	0	0	0	0	0	0
940	CRTFP Ux-	0	0	0	0	0	0
940	CRTFP Uy+	0	0	0	0	0	0
940	CRTFP Uy-	0	0	0	0	0	0
941	SLU 1	-49	-3	3140	-82.62	-579.84	-1.99
941	SLU 2	-47	13	3069	-80.91	-566.35	2.08
941	SLU 3	-50	-4	3230	-84.96	-596.26	-2.18
941	SLU 4	-49	6	3188	-83.94	-588.17	0.26
941	SLU 5	-48	13	3130	-82.49	-577.47	1.99
941	SLU 6	-51	-4	3291	-86.54	-607.38	-2.27
941	SLU 7	-50	6	3249	-85.52	-599.28	0.17
941	SLU 8	-51	-3	3262	-85.78	-602.07	-2.16
941	SLU 9	-49	6	3220	-84.75	-593.98	0.28
941	SLU 10	-51	14	3453	-90.96	-635.86	2.13
941	SLU 11	-54	-3	3614	-95.01	-665.77	-2.13
941	SLU 12	-53	7	3571	-93.98	-657.68	0.32
941	SLU 13	-51	14	3514	-92.54	-646.98	2.05
941	SLU 14	-55	-3	3675	-96.59	-676.89	-2.21
941	SLU 15	-54	6	3632	-95.56	-668.79	0.23
941	SLU 16	-54	-3	3645	-95.83	-671.58	-2.11
941	SLU 17	-53	7	3603	-94.8	-663.49	0.33
941	SLU 18	-55	-2	3688	-96.97	-679.14	-1.91
941	SLU 19	-53	8	3645	-95.95	-671.05	0.53
941	SLU 20	-55	-2	3749	-98.55	-690.25	-2
941	SLU 21	-54	7	3706	-97.53	-682.16	0.44
941	SLU 22	-56	-5	3666	-96.32	-675.37	-2.79
941	SLU 23	-54	11	3595	-94.62	-661.89	1.28
941	SLU 24	-57	-6	3756	-98.67	-691.8	-2.98
941	SLU 25	-56	4	3714	-97.64	-683.7	-0.54
941	SLU 26	-54	10	3656	-96.2	-673	1.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
941	SLU 27	-58	-6	3817	-100.25	-702.91	-3.06
941	SLU 28	-57	3	3775	-99.22	-694.82	-0.62
941	SLU 29	-57	-6	3788	-99.48	-697.61	-2.96
941	SLU 30	-56	4	3746	-98.46	-689.51	-0.52
941	SLU 31	-57	11	3979	-104.66	-731.4	1.34
941	SLU 32	-61	-5	4140	-108.71	-761.31	-2.92
941	SLU 33	-60	4	4097	-107.69	-753.21	-0.48
941	SLU 34	-58	11	4040	-106.25	-742.51	1.25
941	SLU 35	-62	-6	4201	-110.29	-772.42	-3.01
941	SLU 36	-60	4	4158	-109.27	-764.33	-0.57
941	SLU 37	-61	-5	4171	-109.53	-767.12	-2.91
941	SLU 38	-60	4	4129	-108.51	-759.02	-0.47
941	SLU 39	-61	-4	4213	-110.68	-774.67	-2.71
941	SLU 40	-60	5	4171	-109.65	-766.58	-0.27
941	SLU 41	-62	-5	4275	-112.26	-785.79	-2.8
941	SLU 42	-61	5	4232	-111.23	-777.7	-0.36
941	SLU 43	-61	-3	3901	-102.7	-721.03	-2.31
941	SLU 44	-59	13	3831	-101	-707.54	1.76
941	SLU 45	-63	-4	3992	-105.05	-737.45	-2.5
941	SLU 46	-61	6	3950	-104.02	-729.36	-0.06
941	SLU 47	-60	13	3892	-102.58	-718.66	1.67
941	SLU 48	-64	-4	4053	-106.63	-748.57	-2.59
941	SLU 49	-62	6	4011	-105.6	-740.48	-0.15
941	SLU 50	-63	-3	4024	-105.86	-743.26	-2.49
941	SLU 51	-62	6	3981	-104.84	-735.17	-0.04
941	SLU 52	-63	14	4214	-111.04	-777.06	1.81
941	SLU 53	-67	-3	4375	-115.09	-806.97	-2.45
941	SLU 54	-65	7	4333	-114.07	-798.87	-0.01
941	SLU 55	-64	14	4275	-112.63	-788.17	1.72
941	SLU 56	-67	-3	4436	-116.67	-818.08	-2.54
941	SLU 57	-66	6	4394	-115.65	-809.99	-0.09
941	SLU 58	-67	-3	4407	-115.91	-812.78	-2.43
941	SLU 59	-65	7	4365	-114.89	-804.68	0.01
941	SLU 60	-67	-2	4449	-117.06	-820.33	-2.23
941	SLU 61	-66	8	4407	-116.03	-812.24	0.21
941	SLU 62	-68	-2	4510	-118.64	-831.45	-2.32
941	SLU 63	-66	7	4468	-117.61	-823.36	0.12
941	SLU 64	-68	-5	4427	-116.41	-816.57	-3.11
941	SLU 65	-66	11	4357	-114.7	-803.08	0.96
941	SLU 66	-70	-6	4518	-118.75	-832.99	-3.3
941	SLU 67	-68	4	4475	-117.73	-824.9	-0.86
941	SLU 68	-67	10	4418	-116.28	-814.2	0.87
941	SLU 69	-70	-6	4579	-120.33	-844.11	-3.39
941	SLU 70	-69	3	4537	-119.31	-836.01	-0.95
941	SLU 71	-70	-6	4550	-119.57	-838.8	-3.28
941	SLU 72	-68	4	4507	-118.55	-830.71	-0.84
941	SLU 73	-70	11	4740	-124.75	-872.59	1.01
941	SLU 74	-73	-5	4901	-128.8	-902.5	-3.25
941	SLU 75	-72	4	4859	-127.78	-894.41	-0.8
941	SLU 76	-71	11	4801	-126.33	-883.71	0.93
941	SLU 77	-74	-6	4962	-130.38	-913.62	-3.33
941	SLU 78	-73	4	4920	-129.36	-905.53	-0.89
941	SLU 79	-74	-5	4933	-129.62	-908.31	-3.23
941	SLU 80	-72	4	4891	-128.59	-900.22	-0.79
941	SLU 81	-74	-5	4975	-130.76	-915.87	-3.03
941	SLU 82	-72	5	4933	-129.74	-907.78	-0.59
941	SLU 83	-74	-5	5036	-132.34	-926.99	-3.12
941	SLU 84	-73	5	4994	-131.32	-918.89	-0.68
941	SLE RA 1	-51	-4	3290	-86.53	-607.13	-2.22
941	SLE RA 2	-49	7	3243	-85.4	-598.14	0.5
941	SLE RA 3	-52	-4	3350	-88.1	-618.08	-2.34
941	SLE RA 4	-51	2	3322	-87.41	-612.69	-0.72
941	SLE RA 5	-50	7	3284	-86.45	-605.55	0.44
941	SLE RA 6	-52	-4	3391	-89.15	-625.49	-2.4
941	SLE RA 7	-52	2	3363	-88.47	-620.1	-0.77
941	SLE RA 8	-52	-4	3372	-88.64	-621.95	-2.33
941	SLE RA 9	-51	2	3343	-87.96	-616.56	-0.7
941	SLE RA 10	-52	8	3499	-92.09	-644.48	0.53
941	SLE RA 11	-54	-4	3606	-94.79	-664.42	-2.31
941	SLE RA 12	-54	3	3578	-94.11	-659.03	-0.68
941	SLE RA 13	-53	7	3539	-93.15	-651.89	0.47
941	SLE RA 14	-55	-4	3647	-95.85	-671.83	-2.37
941	SLE RA 15	-54	3	3618	-95.16	-666.44	-0.74
941	SLE RA 16	-55	-4	3627	-95.34	-668.29	-2.3
941	SLE RA 17	-54	3	3599	-94.66	-662.9	-0.67
941	SLE RA 18	-55	-3	3655	-96.1	-673.33	-2.16
941	SLE RA 19	-54	3	3627	-95.42	-667.94	-0.54
941	SLE RA 20	-55	-3	3696	-97.16	-680.74	-2.22
941	SLE RA 21	-54	3	3668	-96.47	-675.35	-0.6
941	SLE FR 1	-51	-4	3290	-86.53	-607.13	-2.22
941	SLE FR 2	-51	-1	3281	-86.31	-605.33	-1.67
941	SLE FR 3	-51	-4	3306	-86.95	-610.1	-2.24
941	SLE FR 4	-52	-1	3390	-89.18	-625.19	-1.66
941	SLE FR 5	-52	-3	3416	-89.83	-629.96	-2.22
941	SLE FR 6	-53	-3	3473	-91.32	-640.23	-2.19
941	SLE QP 1	-51	-4	3290	-86.53	-607.13	-2.22
941	SLE QP 2	-52	-3	3400	-89.4	-626.99	-2.2
941	SLD 1	242	107	3822	-101.59	-692.07	42.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
941	SLD 2	192	22	3900	-103.47	-707.1	19.9
941	SLD 3	213	-92	4866	-126.85	-891.39	-7.89
941	SLD 4	162	-177	4945	-128.74	-906.42	-30.48
941	SLD 5	90	346	1928	-54.42	-341.62	91.5
941	SLD 6	58	291	1979	-55.64	-351.3	76.96
941	SLD 7	-9	-317	5410	-138.63	-1006.03	-76.43
941	SLD 8	-42	-372	5461	-139.84	-1015.71	-90.98
941	SLD 9	-63	365	1338	-38.97	-238.27	86.58
941	SLD 10	-95	310	1389	-40.18	-247.95	72.03
941	SLD 11	-162	-298	4820	-123.17	-902.68	-81.36
941	SLD 12	-194	-353	4871	-124.38	-912.36	-95.9
941	SLD 13	-267	170	1854	-50.07	-347.57	26.08
941	SLD 14	-317	85	1933	-51.96	-362.6	3.49
941	SLD 15	-297	-29	2899	-75.33	-546.89	-24.3
941	SLD 16	-347	-114	2978	-77.22	-561.92	-46.89
941	SLV 1	412	184	3981	-106.56	-713.83	71.51
941	SLV 2	333	50	4105	-109.53	-737.52	35.91
941	SLV 3	361	-155	5763	-149.65	-1053.85	-14.41
941	SLV 4	282	-290	5887	-152.62	-1077.54	-50.01
941	SLV 5	179	593	848	-28.64	-132.94	156.86
941	SLV 6	126	502	932	-30.64	-148.88	132.9
941	SLV 7	9	-539	6788	-172.28	-1266.32	-129.53
941	SLV 8	-44	-629	6872	-174.27	-1282.26	-153.49
941	SLV 9	-60	623	-72	-4.53	28.28	149.09
941	SLV 10	-114	532	11	-6.53	12.33	125.13
941	SLV 11	-230	-509	5867	-148.17	-1105.1	-137.3
941	SLV 12	-283	-600	5951	-150.16	-1121.05	-161.26
941	SLV 13	-386	283	912	-26.19	-176.45	45.61
941	SLV 14	-465	148	1036	-29.16	-200.14	10.01
941	SLV 15	-437	-57	2694	-69.28	-516.46	-40.31
941	SLV 16	-516	-191	2818	-72.25	-540.15	-75.91
941	SLV FO 1	458	203	4039	-108.27	-722.52	78.88
941	SLV FO 2	371	55	4176	-111.54	-748.57	39.72
941	SLV FO 3	402	-170	5999	-155.67	-1096.53	-15.63
941	SLV FO 4	315	-318	6136	-158.94	-1122.59	-54.79
941	SLV FO 5	202	653	593	-22.57	-83.53	172.77
941	SLV FO 6	143	553	685	-24.77	-101.07	146.41
941	SLV FO 7	15	-592	7127	-180.56	-1330.25	-142.26
941	SLV FO 8	-43	-692	7219	-182.76	-1347.79	-168.62
941	SLV FO 9	-61	685	-420	3.95	93.8	164.22
941	SLV FO 10	-120	586	-328	1.76	76.26	137.86
941	SLV FO 11	-248	-560	6114	-154.04	-1152.91	-150.81
941	SLV FO 12	-306	-659	6206	-156.24	-1170.45	-177.17
941	SLV FO 13	-419	312	663	-19.87	-131.4	50.39
941	SLV FO 14	-506	164	800	-23.13	-157.45	11.23
941	SLV FO 15	-475	-62	2623	-67.27	-505.41	-44.12
941	SLV FO 16	-562	-210	2760	-70.53	-531.47	-83.28
941	CRTFP Ux+	0	0	0	0	0	0
941	CRTFP Ux-	0	0	0	0	0	0
941	CRTFP Uy+	0	0	0	0	0	0
941	CRTFP Uy-	0	0	0	0	0	0
957	SLU 1	125	58	7880	-337.55	-144.35	8.44
957	SLU 2	120	92	7706	-331.73	-142.11	8.89
957	SLU 3	130	59	8108	-347.02	-148.07	8.72
957	SLU 4	126	80	8003	-343.52	-146.72	8.99
957	SLU 5	123	93	7860	-338.12	-144.67	9.09
957	SLU 6	133	60	8262	-353.4	-150.63	8.92
957	SLU 7	130	80	8157	-349.91	-149.28	9.19
957	SLU 8	132	60	8188	-350.33	-149.47	8.84
957	SLU 9	129	80	8083	-346.84	-148.12	9.11
957	SLU 10	128	99	8712	-375.44	-159.76	9.56
957	SLU 11	138	67	9114	-390.72	-165.71	9.4
957	SLU 12	135	87	9009	-387.23	-164.37	9.66
957	SLU 13	132	100	8866	-381.83	-162.32	9.76
957	SLU 14	142	68	9268	-397.11	-168.27	9.6
957	SLU 15	138	88	9163	-393.62	-166.93	9.86
957	SLU 16	141	67	9194	-394.04	-167.11	9.51
957	SLU 17	137	87	9089	-390.54	-165.77	9.78
957	SLU 18	138	69	9318	-399.99	-169.56	9.41
957	SLU 19	134	89	9213	-396.5	-168.21	9.67
957	SLU 20	141	69	9471	-406.38	-172.12	9.6
957	SLU 21	138	90	9367	-402.89	-170.77	9.87
957	SLU 22	141	65	9235	-395.35	-167.46	9.57
957	SLU 23	135	99	9060	-389.53	-165.23	10.01
957	SLU 24	145	66	9462	-404.82	-171.18	9.85
957	SLU 25	142	87	9358	-401.32	-169.84	10.11
957	SLU 26	139	100	9214	-395.92	-167.79	10.21
957	SLU 27	149	67	9616	-411.21	-173.74	10.05
957	SLU 28	145	87	9511	-407.71	-172.4	10.31
957	SLU 29	148	67	9542	-408.13	-172.58	9.97
957	SLU 30	144	87	9438	-404.64	-171.24	10.23
957	SLU 31	144	106	10066	-433.24	-182.87	10.69
957	SLU 32	154	74	10468	-448.52	-188.83	10.52
957	SLU 33	151	94	10364	-445.03	-187.49	10.79
957	SLU 34	147	107	10220	-439.63	-185.43	10.89
957	SLU 35	157	74	10622	-454.91	-191.39	10.72
957	SLU 36	154	95	10518	-451.42	-190.05	10.99
957	SLU 37	156	74	10549	-451.84	-190.23	10.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
957	SLU 38	153	94	10444	-448.35	-188.89	10.91
957	SLU 39	153	76	10672	-457.79	-192.67	10.53
957	SLU 40	150	96	10567	-454.3	-191.33	10.8
957	SLU 41	157	76	10826	-464.18	-195.23	10.73
957	SLU 42	153	97	10721	-460.69	-193.89	11
957	SLU 43	158	73	9780	-419	-179.72	10.59
957	SLU 44	152	107	9605	-413.18	-177.49	11.03
957	SLU 45	162	74	10007	-428.46	-183.44	10.87
957	SLU 46	159	95	9903	-424.97	-182.1	11.14
957	SLU 47	155	108	9759	-419.57	-180.05	11.23
957	SLU 48	165	75	10161	-434.85	-186	11.07
957	SLU 49	162	95	10057	-431.36	-184.66	11.33
957	SLU 50	164	75	10088	-431.78	-184.84	10.99
957	SLU 51	161	95	9983	-428.29	-183.5	11.25
957	SLU 52	161	114	10612	-456.88	-195.14	11.71
957	SLU 53	171	82	11014	-472.17	-201.09	11.54
957	SLU 54	167	102	10909	-468.68	-199.75	11.81
957	SLU 55	164	115	10765	-463.27	-197.69	11.91
957	SLU 56	174	83	11167	-478.56	-203.65	11.74
957	SLU 57	171	103	11063	-475.07	-202.31	12.01
957	SLU 58	173	82	11094	-475.49	-202.49	11.66
957	SLU 59	170	102	10989	-471.99	-201.15	11.93
957	SLU 60	170	84	11217	-481.44	-204.94	11.55
957	SLU 61	167	104	11113	-477.95	-203.59	11.82
957	SLU 62	173	84	11371	-487.83	-207.49	11.75
957	SLU 63	170	105	11266	-484.34	-206.15	12.02
957	SLU 64	173	80	11134	-476.8	-202.84	11.72
957	SLU 65	168	114	10960	-470.98	-200.61	12.16
957	SLU 66	178	81	11362	-486.26	-206.56	12
957	SLU 67	174	102	11257	-482.77	-205.22	12.26
957	SLU 68	171	115	11114	-477.37	-203.16	12.36
957	SLU 69	181	82	11516	-492.65	-209.12	12.19
957	SLU 70	178	102	11411	-489.16	-207.78	12.46
957	SLU 71	180	82	11442	-489.58	-207.96	12.11
957	SLU 72	177	102	11337	-486.09	-206.62	12.38
957	SLU 73	176	121	11966	-514.69	-218.25	12.83
957	SLU 74	186	89	12368	-529.97	-224.21	12.67
957	SLU 75	183	109	12263	-526.48	-222.87	12.94
957	SLU 76	180	122	12120	-521.08	-220.81	13.03
957	SLU 77	190	90	12522	-536.36	-226.77	12.87
957	SLU 78	186	110	12417	-532.87	-225.43	13.13
957	SLU 79	189	89	12448	-533.29	-225.61	12.79
957	SLU 80	185	109	12344	-529.79	-224.27	13.05
957	SLU 81	186	91	12572	-539.24	-228.05	12.68
957	SLU 82	182	111	12467	-535.75	-226.71	12.94
957	SLU 83	189	91	12726	-545.63	-230.61	12.88
957	SLU 84	186	112	12621	-542.14	-229.27	13.14
957	SLE RA 1	130	60	8267	-354.07	-150.95	8.76
957	SLE RA 2	126	83	8151	-350.18	-149.46	9.06
957	SLE RA 3	133	61	8419	-360.38	-153.43	8.95
957	SLE RA 4	130	74	8349	-358.05	-152.54	9.13
957	SLE RA 5	128	83	8253	-354.44	-151.17	9.19
957	SLE RA 6	135	61	8521	-364.64	-155.14	9.08
957	SLE RA 7	133	75	8452	-362.31	-154.24	9.26
957	SLE RA 8	134	61	8472	-362.59	-154.36	9.03
957	SLE RA 9	132	75	8403	-360.26	-153.47	9.21
957	SLE RA 10	132	87	8822	-379.32	-161.23	9.51
957	SLE RA 11	138	66	9090	-389.51	-165.2	9.4
957	SLE RA 12	136	79	9020	-387.18	-164.3	9.58
957	SLE RA 13	134	88	8924	-383.58	-162.93	9.64
957	SLE RA 14	141	66	9192	-393.77	-166.9	9.53
957	SLE RA 15	138	80	9122	-391.44	-166.01	9.71
957	SLE RA 16	140	66	9143	-391.73	-166.13	9.48
957	SLE RA 17	138	80	9073	-389.4	-165.23	9.66
957	SLE RA 18	138	67	9225	-395.69	-167.76	9.41
957	SLE RA 19	136	81	9156	-393.36	-166.86	9.58
957	SLE RA 20	140	68	9328	-399.95	-169.46	9.54
957	SLE RA 21	138	81	9258	-397.62	-168.57	9.72
957	SLE FR 1	130	60	8267	-354.07	-150.95	8.76
957	SLE FR 2	129	65	8244	-353.29	-150.65	8.82
957	SLE FR 3	131	60	8308	-355.77	-151.63	8.82
957	SLE FR 4	132	67	8531	-365.78	-155.7	9.02
957	SLE FR 5	133	62	8596	-368.26	-156.68	9.01
957	SLE FR 6	134	64	8746	-374.88	-159.35	9.09
957	SLE QP 1	130	60	8267	-354.07	-150.95	8.76
957	SLE QP 2	132	62	8555	-366.56	-155.99	8.96
957	SLD 1	853	185	6307	-291.04	-122.08	39.37
957	SLD 2	720	290	6159	-285.3	-116.59	38.16
957	SLD 3	933	-242	8927	-378.99	-156.74	34.16
957	SLD 4	801	-137	8778	-373.25	-151.24	32.95
957	SLD 5	249	728	3934	-211.5	-94.21	26.18
957	SLD 6	164	795	3838	-207.8	-90.67	25.4
957	SLD 7	518	-694	12664	-504.67	-209.72	8.83
957	SLD 8	432	-626	12568	-500.97	-206.18	8.05
957	SLD 9	-168	751	4541	-232.15	-105.81	9.86
957	SLD 10	-253	818	4445	-228.45	-102.27	9.08
957	SLD 11	101	-671	13271	-525.31	-221.32	-7.49
957	SLD 12	16	-603	13176	-521.61	-217.78	-8.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
957	SLD 13	-536	261	8332	-359.86	-160.74	-15.04
957	SLD 14	-669	366	8183	-354.12	-155.25	-16.25
957	SLD 15	-456	-165	10951	-447.81	-195.4	-20.24
957	SLD 16	-588	-60	10802	-442.07	-189.9	-21.45
957	SLV 1	1255	283	4858	-242.32	-100.48	56.96
957	SLV 2	1047	449	4623	-233.26	-91.82	55.05
957	SLV 3	1393	-445	9327	-392.38	-159.58	48.08
957	SLV 4	1184	-279	9092	-383.33	-150.92	46.17
957	SLV 5	299	1201	711	-103.37	-51.32	37.19
957	SLV 6	159	1312	553	-97.28	-45.49	35.9
957	SLV 7	758	-1224	15608	-603.59	-248.32	7.58
957	SLV 8	618	-1113	15450	-597.5	-242.49	6.29
957	SLV 9	-353	1237	1659	-135.61	-69.5	11.62
957	SLV 10	-493	1349	1501	-129.52	-63.67	10.34
957	SLV 11	105	-1188	16556	-635.83	-266.5	-17.99
957	SLV 12	-35	-1076	16398	-629.74	-260.67	-19.27
957	SLV 13	-920	403	8017	-349.79	-161.07	-28.25
957	SLV 14	-1128	569	7783	-340.73	-152.41	-30.16
957	SLV 15	-782	-324	12486	-499.85	-220.17	-37.14
957	SLV 16	-990	-158	12252	-490.79	-211.51	-39.05
957	SLV FO 1	1367	305	4488	-229.89	-94.93	61.76
957	SLV FO 2	1138	487	4230	-219.93	-85.4	59.66
957	SLV FO 3	1519	-495	9404	-394.96	-159.94	51.99
957	SLV FO 4	1289	-313	9146	-385	-150.41	49.89
957	SLV FO 5	316	1315	-73	-77.06	-40.85	40.01
957	SLV FO 6	162	1437	-247	-70.35	-34.44	38.6
957	SLV FO 7	820	-1353	16313	-627.3	-257.55	7.44
957	SLV FO 8	666	-1230	16140	-620.59	-251.14	6.02
957	SLV FO 9	-402	1354	970	-112.52	-60.85	11.89
957	SLV FO 10	-556	1477	796	-105.81	-54.43	10.48
957	SLV FO 11	103	-1313	17356	-662.76	-277.55	-20.68
957	SLV FO 12	-52	-1190	17182	-656.06	-271.13	-22.1
957	SLV FO 13	-1025	438	7963	-348.11	-161.58	-31.97
957	SLV FO 14	-1254	620	7705	-338.15	-152.05	-34.07
957	SLV FO 15	-873	-363	12879	-513.18	-226.59	-41.75
957	SLV FO 16	-1103	-180	12621	-503.22	-217.06	-43.85
957	CRTFP Ux+	0	0	0	0	0	0
957	CRTFP Ux-	0	0	0	0	0	0
957	CRTFP Uy+	0	0	0	0	0	0
957	CRTFP Uy-	0	0	0	0	0	0
974	SLU 1	-19	37	2558	4.68	365.47	-9.24
974	SLU 2	-19	53	2506	4.36	358.49	-13.09
974	SLU 3	-20	38	2630	4.87	375.09	-9.43
974	SLU 4	-19	47	2599	4.68	370.9	-11.74
974	SLU 5	-19	53	2554	4.49	364.94	-13.18
974	SLU 6	-20	38	2679	5	381.54	-9.51
974	SLU 7	-20	48	2647	4.81	377.35	-11.82
974	SLU 8	-20	38	2655	4.94	378.36	-9.4
974	SLU 9	-19	47	2623	4.75	374.18	-11.72
974	SLU 10	-22	56	2835	4.94	401.52	-13.86
974	SLU 11	-23	41	2959	5.44	418.12	-10.2
974	SLU 12	-22	50	2928	5.26	413.93	-12.51
974	SLU 13	-22	56	2883	5.07	407.97	-13.95
974	SLU 14	-23	42	3008	5.58	424.56	-10.28
974	SLU 15	-22	51	2977	5.39	420.38	-12.59
974	SLU 16	-22	41	2984	5.52	421.39	-10.18
974	SLU 17	-22	50	2953	5.33	417.2	-12.49
974	SLU 18	-23	42	3028	5.5	426.93	-10.34
974	SLU 19	-23	51	2997	5.31	422.75	-12.65
974	SLU 20	-23	42	3076	5.63	433.38	-10.42
974	SLU 21	-23	51	3045	5.44	429.2	-12.74
974	SLU 22	-23	42	2997	5.61	423.47	-10.43
974	SLU 23	-22	58	2945	5.29	416.49	-14.29
974	SLU 24	-23	43	3070	5.8	433.09	-10.62
974	SLU 25	-23	52	3039	5.61	428.91	-12.94
974	SLU 26	-23	58	2994	5.42	422.94	-14.37
974	SLU 27	-24	43	3118	5.93	439.54	-10.71
974	SLU 28	-23	53	3087	5.74	435.35	-13.02
974	SLU 29	-23	43	3094	5.87	436.36	-10.6
974	SLU 30	-23	52	3063	5.68	432.18	-12.92
974	SLU 31	-25	61	3274	5.87	459.52	-15.06
974	SLU 32	-26	46	3399	6.37	476.12	-11.39
974	SLU 33	-26	55	3368	6.18	471.93	-13.71
974	SLU 34	-25	61	3323	6	465.97	-15.15
974	SLU 35	-26	46	3447	6.5	482.57	-11.48
974	SLU 36	-26	56	3416	6.32	478.38	-13.79
974	SLU 37	-26	46	3423	6.44	479.39	-11.37
974	SLU 38	-26	55	3392	6.26	475.2	-13.69
974	SLU 39	-27	47	3467	6.43	484.94	-11.54
974	SLU 40	-27	56	3436	6.24	480.75	-13.85
974	SLU 41	-27	47	3516	6.56	491.38	-11.62
974	SLU 42	-27	56	3485	6.37	487.2	-13.93
974	SLU 43	-24	47	3174	5.76	455.22	-11.6
974	SLU 44	-23	62	3122	5.45	448.24	-15.45
974	SLU 45	-24	48	3247	5.95	464.84	-11.79
974	SLU 46	-24	57	3215	5.76	460.66	-14.1
974	SLU 47	-23	63	3171	5.58	454.69	-15.54
974	SLU 48	-25	48	3295	6.08	471.29	-11.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
974	SLU 49	-24	57	3264	5.89	467.11	-14.18
974	SLU 50	-24	48	3271	6.02	468.12	-11.76
974	SLU 51	-24	57	3240	5.83	463.93	-14.08
974	SLU 52	-26	65	3451	6.02	491.27	-16.23
974	SLU 53	-27	51	3576	6.53	507.87	-12.56
974	SLU 54	-27	60	3545	6.34	503.69	-14.87
974	SLU 55	-26	66	3500	6.15	497.72	-16.31
974	SLU 56	-27	51	3624	6.66	514.32	-12.64
974	SLU 57	-27	60	3593	6.47	510.13	-14.95
974	SLU 58	-27	51	3600	6.6	511.14	-12.54
974	SLU 59	-27	60	3569	6.41	506.96	-14.85
974	SLU 60	-28	51	3644	6.58	516.69	-12.7
974	SLU 61	-27	61	3613	6.4	512.5	-15.01
974	SLU 62	-28	52	3693	6.72	523.14	-12.78
974	SLU 63	-28	61	3662	6.53	518.95	-15.1
974	SLU 64	-28	52	3614	6.69	513.22	-12.8
974	SLU 65	-27	67	3562	6.38	506.25	-16.65
974	SLU 66	-28	53	3686	6.88	522.85	-12.98
974	SLU 67	-28	62	3655	6.69	518.66	-15.3
974	SLU 68	-27	68	3610	6.51	512.69	-16.73
974	SLU 69	-28	53	3735	7.01	529.29	-13.07
974	SLU 70	-28	62	3704	6.82	525.11	-15.38
974	SLU 71	-28	52	3711	6.95	526.12	-12.96
974	SLU 72	-28	62	3680	6.76	521.93	-15.28
974	SLU 73	-30	70	3891	6.95	549.27	-17.42
974	SLU 74	-31	56	4015	7.46	565.87	-13.75
974	SLU 75	-30	65	3984	7.27	561.69	-16.07
974	SLU 76	-30	71	3940	7.08	555.72	-17.51
974	SLU 77	-31	56	4064	7.59	572.32	-13.84
974	SLU 78	-31	65	4033	7.4	568.13	-16.15
974	SLU 79	-31	56	4040	7.53	569.14	-13.73
974	SLU 80	-30	65	4009	7.34	564.96	-16.05
974	SLU 81	-32	56	4084	7.51	574.69	-13.9
974	SLU 82	-31	65	4053	7.32	570.5	-16.21
974	SLU 83	-32	57	4133	7.64	581.14	-13.98
974	SLU 84	-31	66	4101	7.46	576.95	-16.29
974	SLE RA 1	-20	39	2683	4.94	382.04	-9.58
974	SLE RA 2	-20	49	2649	4.73	377.39	-12.15
974	SLE RA 3	-21	39	2732	5.07	388.45	-9.7
974	SLE RA 4	-20	45	2711	4.94	385.66	-11.25
974	SLE RA 5	-20	49	2681	4.82	381.69	-12.21
974	SLE RA 6	-21	39	2764	5.16	392.75	-9.76
974	SLE RA 7	-21	46	2743	5.03	389.96	-11.3
974	SLE RA 8	-21	39	2748	5.12	390.64	-9.69
974	SLE RA 9	-20	45	2727	4.99	387.84	-11.23
974	SLE RA 10	-22	51	2868	5.12	406.07	-12.66
974	SLE RA 11	-23	41	2951	5.45	417.14	-10.22
974	SLE RA 12	-22	48	2930	5.33	414.35	-11.76
974	SLE RA 13	-22	51	2900	5.2	410.37	-12.72
974	SLE RA 14	-23	42	2983	5.54	421.44	-10.27
974	SLE RA 15	-22	48	2963	5.42	418.65	-11.82
974	SLE RA 16	-22	41	2967	5.5	419.32	-10.2
974	SLE RA 17	-22	47	2947	5.38	416.53	-11.75
974	SLE RA 18	-23	42	2997	5.49	423.02	-10.31
974	SLE RA 19	-23	48	2976	5.37	420.23	-11.86
974	SLE RA 20	-23	42	3029	5.58	427.32	-10.37
974	SLE RA 21	-23	48	3008	5.45	424.53	-11.91
974	SLE FR 1	-20	39	2683	4.94	382.04	-9.58
974	SLE FR 2	-20	41	2676	4.9	381.11	-10.09
974	SLE FR 3	-20	39	2696	4.98	383.76	-9.6
974	SLE FR 4	-21	42	2770	5.06	393.4	-10.31
974	SLE FR 5	-21	40	2790	5.14	396.05	-9.82
974	SLE FR 6	-22	40	2840	5.22	402.53	-9.95
974	SLE QP 1	-20	39	2683	4.94	382.04	-9.58
974	SLE QP 2	-21	40	2777	5.11	394.33	-9.8
974	SLD 1	322	154	2513	3.07	366.76	-38.64
974	SLD 2	268	135	2527	3.21	368.52	-33.79
974	SLD 3	313	-36	3295	7.72	472.93	8.89
974	SLD 4	259	-55	3309	7.86	474.69	13.74
974	SLD 5	104	365	1510	-2.59	224.73	-91.36
974	SLD 6	69	353	1519	-2.49	225.86	-88.24
974	SLD 7	75	-268	4116	12.92	578.63	67.05
974	SLD 8	40	-280	4125	13.02	579.77	70.17
974	SLD 9	-83	359	1430	-2.8	208.9	-89.77
974	SLD 10	-117	348	1438	-2.71	210.03	-86.65
974	SLD 11	-112	-274	4036	12.71	562.8	68.64
974	SLD 12	-147	-286	4044	12.8	563.94	71.76
974	SLD 13	-301	134	2246	2.35	313.98	-33.34
974	SLD 14	-355	116	2259	2.49	315.74	-28.49
974	SLD 15	-310	-56	3028	7	420.15	14.19
974	SLD 16	-364	-74	3041	7.14	421.91	19.04
974	SLV 1	516	232	2308	1.59	343.51	-58.35
974	SLV 2	431	202	2329	1.81	346.29	-50.7
974	SLV 3	501	-93	3642	9.53	524.7	22.7
974	SLV 4	416	-122	3663	9.75	527.48	30.34
974	SLV 5	178	594	609	-8.03	103.76	-148.71
974	SLV 6	121	575	623	-7.88	105.63	-143.56
974	SLV 7	129	-486	5056	18.43	707.73	121.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
974	SLV 8	72	-506	5070	18.58	709.6	126.58
974	SLV 9	-114	585	484	-8.37	79.06	-146.18
974	SLV 10	-171	565	498	-8.22	80.94	-141.04
974	SLV 11	-163	-495	4931	18.1	683.03	123.96
974	SLV 12	-221	-515	4945	18.24	684.9	129.11
974	SLV 13	-458	201	1891	0.46	261.19	-49.94
974	SLV 14	-544	172	1912	0.68	263.97	-42.3
974	SLV 15	-473	-123	3225	8.4	442.38	31.1
974	SLV 16	-559	-152	3246	8.62	445.16	38.75
974	SLV FO 1	570	251	2261	1.24	338.43	-63.2
974	SLV FO 2	476	219	2285	1.48	341.48	-54.79
974	SLV FO 3	554	-106	3729	9.97	537.74	25.95
974	SLV FO 4	460	-138	3752	10.22	540.79	34.35
974	SLV FO 5	198	650	392	-9.35	74.7	-162.6
974	SLV FO 6	135	628	408	-9.18	76.76	-156.94
974	SLV FO 7	144	-539	5284	19.77	739.07	134.56
974	SLV FO 8	81	-560	5300	19.93	741.13	140.22
974	SLV FO 9	-123	640	255	-9.72	47.54	-159.82
974	SLV FO 10	-186	618	270	-9.55	49.6	-154.16
974	SLV FO 11	-178	-549	5146	19.39	711.9	137.34
974	SLV FO 12	-241	-570	5162	19.56	713.96	143
974	SLV FO 13	-502	217	1802	0	247.87	-53.95
974	SLV FO 14	-596	185	1826	0.24	250.93	-45.54
974	SLV FO 15	-518	-139	3270	8.73	447.18	35.19
974	SLV FO 16	-612	-172	3293	8.97	450.24	43.6
974	CRTFP Ux+	0	0	0	0	0	0
974	CRTFP Ux-	0	0	0	0	0	0
974	CRTFP Uy+	0	0	0	0	0	0
974	CRTFP Uy-	0	0	0	0	0	0
976	SLU 1	12	43	5027	8.94	-26.14	0.8
976	SLU 2	11	77	4921	8.39	-26.01	0.79
976	SLU 3	13	43	5166	9.31	-26.93	0.83
976	SLU 4	13	64	5102	8.99	-26.85	0.82
976	SLU 5	12	77	5013	8.65	-26.51	0.8
976	SLU 6	14	43	5258	9.57	-27.42	0.84
976	SLU 7	13	64	5194	9.24	-27.34	0.84
976	SLU 8	14	43	5211	9.45	-27.13	0.83
976	SLU 9	14	63	5147	9.12	-27.05	0.82
976	SLU 10	10	81	5573	9.42	-28.77	0.98
976	SLU 11	12	48	5819	10.34	-29.68	1.02
976	SLU 12	12	68	5755	10.01	-29.6	1.01
976	SLU 13	11	81	5665	9.67	-29.26	0.99
976	SLU 14	13	47	5911	10.59	-30.17	1.03
976	SLU 15	12	68	5847	10.27	-30.1	1.02
976	SLU 16	13	47	5864	10.47	-29.88	1.02
976	SLU 17	12	67	5800	10.14	-29.81	1.01
976	SLU 18	11	49	5959	10.41	-30.07	1.07
976	SLU 19	10	69	5896	10.08	-30	1.06
976	SLU 20	12	49	6051	10.66	-30.57	1.08
976	SLU 21	11	69	5988	10.33	-30.49	1.08
976	SLU 22	12	49	5893	10.63	-29.89	1.02
976	SLU 23	11	83	5786	10.08	-29.77	1
976	SLU 24	13	50	6032	11	-30.68	1.04
976	SLU 25	12	70	5968	10.68	-30.6	1.04
976	SLU 26	12	83	5878	10.34	-30.26	1.02
976	SLU 27	14	50	6124	11.26	-31.17	1.06
976	SLU 28	13	70	6060	10.93	-31.1	1.05
976	SLU 29	14	49	6077	11.14	-30.88	1.04
976	SLU 30	13	69	6013	10.81	-30.81	1.03
976	SLU 31	10	87	6439	11.11	-32.52	1.19
976	SLU 32	12	54	6684	12.03	-33.43	1.23
976	SLU 33	11	74	6621	11.7	-33.36	1.22
976	SLU 34	11	87	6531	11.36	-33.01	1.2
976	SLU 35	13	54	6776	12.28	-33.93	1.24
976	SLU 36	12	74	6713	11.96	-33.85	1.24
976	SLU 37	13	53	6730	12.16	-33.64	1.23
976	SLU 38	12	73	6666	11.84	-33.56	1.22
976	SLU 39	11	55	6825	12.1	-33.83	1.28
976	SLU 40	10	75	6761	11.77	-33.75	1.28
976	SLU 41	11	55	6917	12.35	-34.32	1.3
976	SLU 42	11	75	6853	12.02	-34.24	1.29
976	SLU 43	16	54	6238	11.04	-32.7	0.97
976	SLU 44	15	88	6132	10.5	-32.57	0.96
976	SLU 45	17	54	6377	11.41	-33.48	1
976	SLU 46	16	75	6313	11.09	-33.41	0.99
976	SLU 47	16	88	6224	10.75	-33.06	0.97
976	SLU 48	18	54	6469	11.67	-33.98	1.01
976	SLU 49	17	75	6405	11.34	-33.9	1.01
976	SLU 50	18	54	6422	11.55	-33.69	1
976	SLU 51	17	74	6358	11.22	-33.61	0.99
976	SLU 52	14	92	6785	11.52	-35.32	1.15
976	SLU 53	16	58	7030	12.44	-36.23	1.19
976	SLU 54	15	79	6966	12.11	-36.16	1.18
976	SLU 55	15	92	6877	11.78	-35.82	1.16
976	SLU 56	17	58	7122	12.69	-36.73	1.2
976	SLU 57	16	79	7058	12.37	-36.65	1.19
976	SLU 58	17	58	7075	12.57	-36.44	1.19
976	SLU 59	16	78	7011	12.25	-36.36	1.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
976	SLU 60	15	60	7171	12.51	-36.63	1.24
976	SLU 61	14	80	7107	12.18	-36.55	1.23
976	SLU 62	16	60	7263	12.76	-37.12	1.25
976	SLU 63	15	80	7199	12.43	-37.05	1.25
976	SLU 64	16	60	7104	12.73	-36.45	1.18
976	SLU 65	15	94	6998	12.19	-36.32	1.17
976	SLU 66	17	60	7243	13.11	-37.23	1.21
976	SLU 67	16	81	7179	12.78	-37.16	1.2
976	SLU 68	16	94	7090	12.44	-36.82	1.18
976	SLU 69	17	60	7335	13.36	-37.73	1.22
976	SLU 70	17	81	7271	13.03	-37.65	1.22
976	SLU 71	18	60	7288	13.24	-37.44	1.21
976	SLU 72	17	80	7224	12.91	-37.36	1.2
976	SLU 73	14	98	7650	13.21	-39.07	1.36
976	SLU 74	16	65	7896	14.13	-39.99	1.4
976	SLU 75	15	85	7832	13.8	-39.91	1.39
976	SLU 76	15	98	7742	13.47	-39.57	1.37
976	SLU 77	16	64	7988	14.39	-40.48	1.41
976	SLU 78	16	85	7924	14.06	-40.41	1.4
976	SLU 79	17	64	7941	14.26	-40.19	1.4
976	SLU 80	16	84	7877	13.94	-40.12	1.39
976	SLU 81	14	66	8036	14.2	-40.38	1.45
976	SLU 82	14	86	7973	13.87	-40.31	1.44
976	SLU 83	15	66	8128	14.45	-40.88	1.46
976	SLU 84	15	86	8065	14.12	-40.8	1.46
976	SLE RA 1	12	45	5274	9.42	-27.21	0.86
976	SLE RA 2	12	67	5203	9.06	-27.13	0.86
976	SLE RA 3	13	45	5367	9.67	-27.74	0.88
976	SLE RA 4	12	59	5324	9.45	-27.69	0.88
976	SLE RA 5	12	67	5265	9.23	-27.46	0.86
976	SLE RA 6	13	45	5428	9.84	-28.07	0.89
976	SLE RA 7	13	59	5386	9.62	-28.02	0.89
976	SLE RA 8	13	45	5397	9.76	-27.87	0.88
976	SLE RA 9	13	58	5354	9.54	-27.82	0.88
976	SLE RA 10	11	70	5639	9.74	-28.96	0.98
976	SLE RA 11	12	48	5802	10.36	-29.57	1.01
976	SLE RA 12	12	61	5760	10.14	-29.52	1
976	SLE RA 13	11	70	5700	9.91	-29.29	0.99
976	SLE RA 14	13	48	5863	10.52	-29.9	1.02
976	SLE RA 15	12	61	5821	10.31	-29.85	1.01
976	SLE RA 16	13	47	5832	10.44	-29.71	1.01
976	SLE RA 17	12	61	5790	10.23	-29.66	1
976	SLE RA 18	11	49	5896	10.4	-29.83	1.04
976	SLE RA 19	11	62	5853	10.18	-29.78	1.04
976	SLE RA 20	12	49	5957	10.57	-30.16	1.05
976	SLE RA 21	11	62	5915	10.35	-30.11	1.05
976	SLE FR 1	12	45	5274	9.42	-27.21	0.86
976	SLE FR 2	12	49	5260	9.35	-27.2	0.86
976	SLE FR 3	13	45	5299	9.49	-27.35	0.87
976	SLE FR 4	12	51	5447	9.64	-27.98	0.92
976	SLE FR 5	12	46	5485	9.78	-28.13	0.92
976	SLE FR 6	12	47	5585	9.91	-28.52	0.95
976	SLE QP 1	12	45	5274	9.42	-27.21	0.86
976	SLE QP 2	12	46	5461	9.71	-28	0.92
976	SLD 1	675	227	4266	5.19	-3.44	-4.5
976	SLD 2	568	262	4259	5.07	-3.18	-2.18
976	SLD 3	694	-202	5871	13.27	-5.73	-4.31
976	SLD 4	587	-167	5863	13.15	-5.47	-1.99
976	SLD 5	201	745	2670	-3.89	-17.2	-1.39
976	SLD 6	132	767	2665	-3.96	-17.04	0.1
976	SLD 7	263	-685	8019	23.07	-24.84	-0.77
976	SLD 8	195	-662	8014	22.99	-24.67	0.73
976	SLD 9	-171	754	2908	-3.56	-31.33	1.11
976	SLD 10	-239	777	2903	-3.64	-31.16	2.6
976	SLD 11	-108	-675	8256	23.39	-38.96	1.73
976	SLD 12	-177	-653	8251	23.32	-38.79	3.23
976	SLD 13	-563	259	5058	6.28	-50.53	3.83
976	SLD 14	-669	293	5051	6.16	-50.27	6.15
976	SLD 15	-544	-170	6663	14.36	-52.82	4.02
976	SLD 16	-651	-135	6655	14.24	-52.56	6.34
976	SLV 1	1049	359	3480	2.02	10.47	-7.59
976	SLV 2	881	414	3468	1.83	10.89	-3.93
976	SLV 3	1080	-372	6218	15.82	6.57	-7.28
976	SLV 4	912	-317	6206	15.63	6.98	-3.62
976	SLV 5	306	1239	716	-13.49	-10.62	-2.79
976	SLV 6	193	1276	708	-13.62	-10.34	-0.32
976	SLV 7	412	-1199	9843	32.51	-23.62	-1.76
976	SLV 8	299	-1162	9835	32.38	-23.35	0.71
976	SLV 9	-275	1254	1087	-12.95	-32.65	1.13
976	SLV 10	-388	1291	1079	-13.08	-32.37	3.59
976	SLV 11	-169	-1184	10213	33.05	-45.66	2.16
976	SLV 12	-282	-1147	10205	32.92	-45.38	4.62
976	SLV 13	-888	409	4715	3.8	-62.98	5.46
976	SLV 14	-1056	464	4703	3.61	-62.57	9.12
976	SLV 15	-857	-322	7453	17.6	-66.89	5.77
976	SLV 16	-1024	-267	7441	17.41	-66.47	9.43
976	SLV FO 1	1152	391	3282	1.25	14.32	-8.44
976	SLV FO 2	967	451	3269	1.04	14.77	-4.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
976	SLV FO 3	1187	-414	6294	16.43	10.03	-8.1
976	SLV FO 4	1002	-354	6281	16.22	10.48	-4.08
976	SLV FO 5	335	1359	242	-15.81	-8.88	-3.16
976	SLV FO 6	211	1399	233	-15.95	-8.57	-0.45
976	SLV FO 7	452	-1324	10281	34.79	-23.19	-2.02
976	SLV FO 8	328	-1283	10272	34.65	-22.88	0.69
976	SLV FO 9	-304	1375	649	-15.22	-33.12	1.15
976	SLV FO 10	-428	1416	640	-15.36	-32.81	3.86
976	SLV FO 11	-187	-1307	10689	35.38	-47.43	2.28
976	SLV FO 12	-311	-1267	10680	35.24	-47.12	4.99
976	SLV FO 13	-978	446	4641	3.21	-66.48	5.92
976	SLV FO 14	-1163	506	4627	3	-66.03	9.94
976	SLV FO 15	-943	-359	7653	18.39	-70.77	6.26
976	SLV FO 16	-1128	-299	7639	18.18	-70.32	10.28
976	CRTFP Ux+	0	0	0	0	0	0
976	CRTFP Ux-	0	0	0	0	0	0
976	CRTFP Uy+	0	0	0	0	0	0
976	CRTFP Uy-	0	0	0	0	0	0
981	SLU 1	28	14	2050	57.38	488.35	-4.13
981	SLU 2	27	22	2001	55.97	477.59	-6.27
981	SLU 3	29	14	2110	59.06	502.27	-4.23
981	SLU 4	29	19	2081	58.21	495.81	-5.51
981	SLU 5	28	23	2042	57.1	486.92	-6.34
981	SLU 6	30	14	2151	60.2	511.6	-4.3
981	SLU 7	29	19	2121	59.35	505.14	-5.58
981	SLU 8	30	14	2131	59.65	507.01	-4.27
981	SLU 9	29	19	2102	58.8	500.56	-5.55
981	SLU 10	29	24	2262	63.24	538.86	-6.76
981	SLU 11	31	16	2371	66.33	563.53	-4.72
981	SLU 12	31	21	2341	65.48	557.08	-6
981	SLU 13	30	24	2302	64.37	548.19	-6.82
981	SLU 14	32	16	2411	67.46	572.86	-4.78
981	SLU 15	31	21	2382	66.62	566.41	-6.06
981	SLU 16	32	16	2392	66.92	568.27	-4.76
981	SLU 17	31	21	2362	66.07	561.82	-6.04
981	SLU 18	31	16	2423	67.76	575.87	-4.83
981	SLU 19	30	21	2393	66.92	569.41	-6.11
981	SLU 20	32	16	2463	68.9	585.2	-4.9
981	SLU 21	31	22	2434	68.05	578.75	-6.18
981	SLU 22	32	15	2404	67.26	570.95	-4.61
981	SLU 23	31	24	2355	65.85	560.2	-6.74
981	SLU 24	33	16	2464	68.94	584.87	-4.7
981	SLU 25	32	21	2434	68.1	578.42	-5.98
981	SLU 26	31	24	2395	66.99	569.53	-6.81
981	SLU 27	34	16	2504	70.08	594.2	-4.77
981	SLU 28	33	21	2475	69.23	587.75	-6.05
981	SLU 29	33	16	2485	69.53	589.62	-4.75
981	SLU 30	33	21	2455	68.69	583.16	-6.03
981	SLU 31	32	26	2615	73.12	621.46	-7.23
981	SLU 32	35	17	2724	76.21	646.13	-5.19
981	SLU 33	34	23	2695	75.37	639.68	-6.47
981	SLU 34	33	26	2656	74.26	630.79	-7.3
981	SLU 35	35	18	2765	77.35	655.47	-5.26
981	SLU 36	35	23	2735	76.5	649.01	-6.54
981	SLU 37	35	17	2745	76.8	650.88	-5.23
981	SLU 38	34	23	2716	75.95	644.43	-6.51
981	SLU 39	34	18	2776	77.65	658.47	-5.31
981	SLU 40	34	23	2747	76.8	652.02	-6.59
981	SLU 41	35	18	2816	78.78	667.81	-5.37
981	SLU 42	34	23	2787	77.93	661.35	-6.66
981	SLU 43	36	17	2544	71.2	606.53	-5.21
981	SLU 44	35	26	2495	69.79	595.77	-7.35
981	SLU 45	37	18	2604	72.88	620.45	-5.3
981	SLU 46	36	23	2575	72.04	613.99	-6.59
981	SLU 47	35	26	2536	70.93	605.11	-7.41
981	SLU 48	38	18	2645	74.02	629.78	-5.37
981	SLU 49	37	23	2615	73.17	623.33	-6.65
981	SLU 50	37	18	2625	73.47	625.19	-5.35
981	SLU 51	37	23	2596	72.63	618.74	-6.63
981	SLU 52	36	28	2756	77.06	657.04	-7.83
981	SLU 53	39	19	2865	80.15	681.71	-5.79
981	SLU 54	38	25	2835	79.31	675.26	-7.07
981	SLU 55	37	28	2796	78.2	666.37	-7.9
981	SLU 56	39	20	2905	81.29	691.04	-5.86
981	SLU 57	39	25	2876	80.44	684.59	-7.14
981	SLU 58	39	19	2886	80.74	686.46	-5.84
981	SLU 59	38	25	2856	79.9	680	-7.12
981	SLU 60	38	20	2917	81.59	694.05	-5.91
981	SLU 61	38	25	2887	80.74	687.6	-7.19
981	SLU 62	39	20	2957	82.72	703.38	-5.98
981	SLU 63	38	25	2928	81.88	696.93	-7.26
981	SLU 64	39	19	2898	81.09	689.14	-5.69
981	SLU 65	38	28	2849	79.68	678.38	-7.82
981	SLU 66	40	19	2958	82.77	703.05	-5.78
981	SLU 67	39	24	2928	81.92	696.6	-7.06
981	SLU 68	39	28	2889	80.81	687.71	-7.89
981	SLU 69	41	19	2998	83.9	712.39	-5.85
981	SLU 70	40	25	2969	83.06	705.93	-7.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
981	SLU 71	41	19	2979	83.36	707.8	-5.82
981	SLU 72	40	24	2949	82.51	701.35	-7.1
981	SLU 73	40	29	3109	86.94	739.64	-8.31
981	SLU 74	42	21	3218	90.04	764.32	-6.27
981	SLU 75	41	26	3189	89.19	757.86	-7.55
981	SLU 76	41	30	3150	88.08	748.98	-8.38
981	SLU 77	43	21	3259	91.17	773.65	-6.34
981	SLU 78	42	26	3229	90.33	767.2	-7.62
981	SLU 79	43	21	3239	90.63	769.06	-6.31
981	SLU 80	42	26	3210	89.78	762.61	-7.59
981	SLU 81	42	21	3270	91.47	776.65	-6.38
981	SLU 82	41	27	3241	90.62	770.2	-7.66
981	SLU 83	43	22	3310	92.61	785.99	-6.45
981	SLU 84	42	27	3281	91.76	779.53	-7.73
981	SLE RA 1	29	14	2151	60.2	511.95	-4.27
981	SLE RA 2	29	20	2119	59.26	504.78	-5.69
981	SLE RA 3	30	14	2191	61.32	521.23	-4.33
981	SLE RA 4	30	18	2172	60.76	516.93	-5.19
981	SLE RA 5	29	20	2146	60.02	511	-5.74
981	SLE RA 6	31	15	2218	62.08	527.45	-4.38
981	SLE RA 7	30	18	2199	61.52	523.15	-5.23
981	SLE RA 8	30	14	2205	61.72	524.39	-4.36
981	SLE RA 9	30	18	2186	61.15	520.09	-5.21
981	SLE RA 10	30	21	2292	64.11	545.62	-6.02
981	SLE RA 11	31	16	2365	66.17	562.07	-4.66
981	SLE RA 12	31	19	2345	65.6	557.77	-5.51
981	SLE RA 13	30	21	2319	64.86	551.84	-6.06
981	SLE RA 14	32	16	2392	66.93	568.29	-4.7
981	SLE RA 15	31	19	2372	66.36	563.99	-5.56
981	SLE RA 16	32	16	2379	66.56	565.23	-4.69
981	SLE RA 17	31	19	2359	66	560.93	-5.54
981	SLE RA 18	31	16	2400	67.12	570.3	-4.73
981	SLE RA 19	31	19	2380	66.56	565.99	-5.59
981	SLE RA 20	32	16	2427	67.88	576.52	-4.78
981	SLE RA 21	31	19	2407	67.32	572.21	-5.63
981	SLE FR 1	29	14	2151	60.2	511.95	-4.27
981	SLE FR 2	29	15	2145	60.01	510.52	-4.55
981	SLE FR 3	30	14	2162	60.5	514.44	-4.29
981	SLE FR 4	30	16	2219	62.09	528.02	-4.69
981	SLE FR 5	30	15	2237	62.58	531.94	-4.43
981	SLE FR 6	30	15	2275	63.66	541.12	-4.5
981	SLE QP 1	29	14	2151	60.2	511.95	-4.27
981	SLE QP 2	30	15	2226	62.28	529.45	-4.41
981	SLD 1	223	68	1591	43.86	373.97	-22.45
981	SLD 2	186	93	1553	42.82	368.26	-27.62
981	SLD 3	242	-41	2327	64.98	536.48	4.46
981	SLD 4	205	-17	2289	63.95	530.77	-0.71
981	SLD 5	65	193	926	24.89	237.32	-49.75
981	SLD 6	42	209	902	24.22	233.64	-53.08
981	SLD 7	128	-173	3378	95.31	779.02	39.96
981	SLD 8	105	-157	3354	94.64	775.34	36.63
981	SLD 9	-45	186	1098	29.92	283.56	-45.45
981	SLD 10	-69	202	1073	29.25	279.89	-48.78
981	SLD 11	18	-179	3550	100.33	825.26	44.26
981	SLD 12	-5	-163	3526	99.66	821.59	40.93
981	SLD 13	-145	46	2163	60.61	528.13	-8.11
981	SLD 14	-182	71	2125	59.57	522.43	-13.28
981	SLD 15	-126	-64	2898	81.74	690.64	18.8
981	SLD 16	-163	-39	2861	80.7	684.94	13.63
981	SLV 1	330	106	1182	32	275	-34.53
981	SLV 2	273	145	1122	30.37	266.01	-42.68
981	SLV 3	363	-81	2437	68.05	552.34	11.38
981	SLV 4	305	-42	2378	66.41	543.34	3.23
981	SLV 5	82	318	20	-1.17	34.17	-81.56
981	SLV 6	43	345	-20	-2.27	28.12	-87.05
981	SLV 7	190	-305	4204	118.99	958.62	71.48
981	SLV 8	151	-278	4164	117.89	952.56	65.99
981	SLV 9	-91	308	287	6.67	106.34	-74.81
981	SLV 10	-130	334	247	5.57	100.29	-80.3
981	SLV 11	17	-315	4472	126.83	1030.78	78.23
981	SLV 12	-22	-289	4432	125.73	1024.73	72.74
981	SLV 13	-245	71	2074	58.14	515.56	-12.05
981	SLV 14	-303	110	2014	56.51	506.57	-20.2
981	SLV 15	-213	-116	3329	94.19	792.89	33.86
981	SLV 16	-271	-76	3270	92.56	783.9	25.71
981	SLV FO 1	361	115	1077	28.97	249.56	-37.54
981	SLV FO 2	297	158	1012	27.18	239.67	-46.51
981	SLV FO 3	396	-91	2458	68.63	554.62	12.96
981	SLV FO 4	333	-47	2393	66.83	544.73	3.99
981	SLV FO 5	87	349	-201	-7.52	-15.35	-89.27
981	SLV FO 6	44	378	-245	-8.73	-22.01	-95.31
981	SLV FO 7	205	-337	4402	124.66	1001.53	79.07
981	SLV FO 8	163	-308	4358	123.45	994.87	73.03
981	SLV FO 9	-103	337	93	1.11	64.03	-81.85
981	SLV FO 10	-146	366	49	-0.1	57.37	-87.89
981	SLV FO 11	15	-348	4696	133.28	1080.92	86.49
981	SLV FO 12	-27	-319	4652	132.07	1074.26	80.45
981	SLV FO 13	-273	77	2059	57.73	514.17	-12.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
981	SLV FO 14	-336	120	1993	55.93	504.28	-21.78
981	SLV FO 15	-237	-129	3440	97.38	819.24	37.69
981	SLV FO 16	-301	-86	3374	95.58	809.35	28.72
981	CRTFP Ux+	0	0	0	0	0	0
981	CRTFP Ux-	0	0	0	0	0	0
981	CRTFP Uy+	0	0	0	0	0	0
981	CRTFP Uy-	0	0	0	0	0	0
982	SLU 1	-86	-7	5545	-1270.76	-954.41	-22.33
982	SLU 2	-82	21	5416	-1243.5	-931.95	-16.26
982	SLU 3	-89	-8	5707	-1307.03	-982.05	-23.13
982	SLU 4	-86	9	5629	-1290.67	-968.57	-19.49
982	SLU 5	-83	20	5525	-1267.99	-950.65	-16.7
982	SLU 6	-90	-8	5816	-1331.52	-1000.74	-23.57
982	SLU 7	-87	8	5738	-1315.16	-987.27	-19.93
982	SLU 8	-89	-8	5763	-1319.74	-991.81	-23.21
982	SLU 9	-86	9	5686	-1303.38	-978.33	-19.57
982	SLU 10	-88	22	6095	-1398.04	-1048.44	-17.73
982	SLU 11	-95	-7	6385	-1461.58	-1098.54	-24.61
982	SLU 12	-93	10	6308	-1445.22	-1085.06	-20.97
982	SLU 13	-90	21	6204	-1422.53	-1067.14	-18.17
982	SLU 14	-97	-7	6494	-1486.06	-1117.24	-25.04
982	SLU 15	-94	9	6416	-1469.71	-1103.76	-21.4
982	SLU 16	-96	-7	6442	-1474.28	-1108.3	-24.68
982	SLU 17	-93	10	6364	-1457.92	-1094.83	-21.04
982	SLU 18	-96	-5	6515	-1491.54	-1120.83	-24.43
982	SLU 19	-93	11	6437	-1475.18	-1107.35	-20.79
982	SLU 20	-97	-6	6624	-1516.03	-1139.53	-24.87
982	SLU 21	-94	11	6546	-1499.67	-1126.05	-21.23
982	SLU 22	-98	-11	6479	-1482.19	-1114.69	-26.11
982	SLU 23	-94	16	6350	-1454.93	-1092.23	-20.04
982	SLU 24	-101	-12	6640	-1518.46	-1142.32	-26.91
982	SLU 25	-98	4	6563	-1502.1	-1128.84	-23.27
982	SLU 26	-95	16	6459	-1479.41	-1110.93	-20.48
982	SLU 27	-102	-13	6749	-1542.95	-1161.02	-27.35
982	SLU 28	-99	4	6671	-1526.59	-1147.54	-23.71
982	SLU 29	-101	-12	6697	-1531.16	-1152.09	-26.98
982	SLU 30	-98	4	6619	-1514.81	-1138.61	-23.35
982	SLU 31	-101	17	7028	-1609.47	-1208.72	-21.51
982	SLU 32	-107	-11	7319	-1673	-1258.81	-28.38
982	SLU 33	-105	5	7241	-1656.65	-1245.34	-24.74
982	SLU 34	-102	17	7137	-1633.96	-1227.42	-21.95
982	SLU 35	-109	-12	7428	-1697.49	-1277.51	-28.82
982	SLU 36	-106	5	7350	-1681.13	-1264.03	-25.18
982	SLU 37	-108	-11	7376	-1685.71	-1268.58	-28.46
982	SLU 38	-105	5	7298	-1669.35	-1255.1	-24.82
982	SLU 39	-108	-10	7449	-1702.97	-1281.11	-28.21
982	SLU 40	-105	7	7371	-1686.61	-1267.63	-24.57
982	SLU 41	-109	-10	7558	-1727.46	-1299.8	-28.65
982	SLU 42	-107	6	7480	-1711.1	-1286.33	-25.01
982	SLU 43	-108	-7	6889	-1579.5	-1185.78	-27.73
982	SLU 44	-103	20	6759	-1552.24	-1163.32	-21.66
982	SLU 45	-110	-8	7050	-1615.77	-1213.42	-28.54
982	SLU 46	-108	8	6972	-1599.41	-1199.94	-24.9
982	SLU 47	-105	20	6868	-1576.73	-1182.02	-22.1
982	SLU 48	-112	-9	7159	-1640.26	-1232.12	-28.97
982	SLU 49	-109	8	7081	-1623.9	-1218.64	-25.33
982	SLU 50	-111	-8	7107	-1628.48	-1223.18	-28.61
982	SLU 51	-108	8	7029	-1612.12	-1209.71	-24.97
982	SLU 52	-110	21	7438	-1706.78	-1279.81	-23.14
982	SLU 53	-117	-7	7729	-1770.32	-1329.91	-30.01
982	SLU 54	-114	9	7651	-1753.96	-1316.43	-26.37
982	SLU 55	-112	21	7547	-1731.27	-1298.51	-23.58
982	SLU 56	-118	-8	7838	-1794.8	-1348.61	-30.45
982	SLU 57	-116	9	7760	-1778.45	-1335.13	-26.81
982	SLU 58	-117	-7	7786	-1783.02	-1339.67	-30.08
982	SLU 59	-115	9	7708	-1766.66	-1326.2	-26.44
982	SLU 60	-117	-6	7859	-1800.28	-1352.2	-29.83
982	SLU 61	-115	11	7781	-1783.92	-1338.72	-26.19
982	SLU 62	-119	-6	7968	-1824.77	-1370.9	-30.27
982	SLU 63	-116	10	7890	-1808.41	-1357.42	-26.63
982	SLU 64	-120	-12	7823	-1790.93	-1346.06	-31.51
982	SLU 65	-116	16	7693	-1763.67	-1323.6	-25.44
982	SLU 66	-122	-13	7984	-1827.2	-1373.69	-32.31
982	SLU 67	-120	4	7906	-1810.84	-1360.22	-28.68
982	SLU 68	-117	15	7802	-1788.15	-1342.3	-25.88
982	SLU 69	-124	-13	8093	-1851.69	-1392.39	-32.75
982	SLU 70	-121	3	8015	-1835.33	-1378.92	-29.11
982	SLU 71	-123	-13	8041	-1839.9	-1383.46	-32.39
982	SLU 72	-120	4	7963	-1823.55	-1369.98	-28.75
982	SLU 73	-122	17	8372	-1918.21	-1440.09	-26.92
982	SLU 74	-129	-12	8663	-1981.74	-1490.18	-33.79
982	SLU 75	-126	5	8585	-1965.39	-1476.71	-30.15
982	SLU 76	-124	16	8481	-1942.7	-1458.79	-27.35
982	SLU 77	-130	-12	8772	-2006.23	-1508.88	-34.23
982	SLU 78	-128	4	8694	-1989.87	-1495.41	-30.59
982	SLU 79	-129	-12	8720	-1994.45	-1499.95	-33.86
982	SLU 80	-127	5	8642	-1978.09	-1486.47	-30.22
982	SLU 81	-129	-10	8793	-2011.71	-1512.48	-33.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
982	SLU 82	-127	6	8715	-1995.35	-1499	-29.97
982	SLU 83	-131	-11	8901	-2036.19	-1531.18	-34.05
982	SLU 84	-128	6	8824	-2019.84	-1517.7	-30.41
982	SLE RA 1	-90	-8	5812	-1331.17	-1000.21	-23.41
982	SLE RA 2	-87	10	5726	-1312.99	-985.23	-19.36
982	SLE RA 3	-91	-9	5920	-1355.35	-1018.63	-23.94
982	SLE RA 4	-89	2	5868	-1344.44	-1009.64	-21.52
982	SLE RA 5	-88	10	5798	-1329.32	-997.7	-19.66
982	SLE RA 6	-92	-9	5992	-1371.67	-1031.09	-24.24
982	SLE RA 7	-90	2	5940	-1360.77	-1022.11	-21.81
982	SLE RA 8	-92	-9	5958	-1363.82	-1025.14	-23.99
982	SLE RA 9	-90	2	5906	-1352.91	-1016.15	-21.57
982	SLE RA 10	-91	11	6178	-1416.02	-1062.89	-20.35
982	SLE RA 11	-96	-8	6372	-1458.38	-1096.29	-24.93
982	SLE RA 12	-94	3	6320	-1447.47	-1087.3	-22.5
982	SLE RA 13	-92	11	6251	-1432.35	-1075.36	-20.64
982	SLE RA 14	-97	-8	6445	-1474.7	-1108.75	-25.22
982	SLE RA 15	-95	3	6393	-1463.8	-1099.77	-22.79
982	SLE RA 16	-96	-8	6410	-1466.85	-1102.8	-24.97
982	SLE RA 17	-94	3	6358	-1455.94	-1093.81	-22.55
982	SLE RA 18	-96	-7	6459	-1478.36	-1111.15	-24.81
982	SLE RA 19	-94	4	6407	-1467.45	-1102.16	-22.38
982	SLE RA 20	-97	-7	6531	-1494.68	-1123.62	-25.1
982	SLE RA 21	-95	4	6480	-1483.78	-1114.63	-22.68
982	SLE FR 1	-90	-8	5812	-1331.17	-1000.21	-23.41
982	SLE FR 2	-89	-4	5795	-1327.54	-997.21	-22.6
982	SLE FR 3	-90	-8	5841	-1337.7	-1005.19	-23.52
982	SLE FR 4	-91	-4	5989	-1371.69	-1030.49	-23.02
982	SLE FR 5	-92	-8	6035	-1381.86	-1038.48	-23.95
982	SLE FR 6	-93	-7	6136	-1404.76	-1055.68	-24.11
982	SLE QP 1	-90	-8	5812	-1331.17	-1000.21	-23.41
982	SLE QP 2	-91	-8	6006	-1375.33	-1033.49	-23.83
982	SLD 1	416	181	6727	-1559.91	-1148.1	143.33
982	SLD 2	326	36	6873	-1590.36	-1173.04	94.7
982	SLD 3	359	-158	8644	-1963.16	-1480.52	67.76
982	SLD 4	270	-304	8790	-1993.61	-1505.47	19.13
982	SLD 5	162	589	3289	-813.88	-559.41	149.3
982	SLD 6	105	495	3383	-833.49	-575.47	117.99
982	SLD 7	-27	-542	9681	-2158.03	-1667.48	-102.61
982	SLD 8	-85	-636	9775	-2177.63	-1683.54	-133.92
982	SLD 9	-98	621	2238	-573.02	-383.43	86.27
982	SLD 10	-156	527	2332	-592.63	-399.5	54.95
982	SLD 11	-288	-510	8629	-1917.16	-1491.5	-165.64
982	SLD 12	-345	-604	8723	-1936.77	-1507.57	-196.96
982	SLD 13	-453	288	3222	-757.04	-561.51	-66.79
982	SLD 14	-542	143	3368	-787.49	-586.46	-115.42
982	SLD 15	-509	-51	5140	-1160.29	-893.93	-142.36
982	SLD 16	-599	-197	5286	-1190.74	-918.88	-190.99
982	SLV 1	707	313	6989	-1633.62	-1187.81	243.62
982	SLV 2	567	83	7219	-1681.62	-1227.13	166.96
982	SLV 3	610	-266	10260	-2321.45	-1754.86	114.79
982	SLV 4	470	-496	10490	-2369.45	-1794.18	38.13
982	SLV 5	322	1009	1298	-400.64	-212.44	266.1
982	SLV 6	227	854	1452	-432.95	-238.9	214.5
982	SLV 7	-2	-920	12200	-2693.43	-2102.58	-163.33
982	SLV 8	-97	-1075	12355	-2725.74	-2129.05	-214.93
982	SLV 9	-86	1059	-342	-24.91	62.07	167.28
982	SLV 10	-181	905	-188	-57.23	35.6	115.67
982	SLV 11	-410	-869	10560	-2317.7	-1828.07	-262.15
982	SLV 12	-504	-1024	10715	-2350.01	-1854.54	-313.76
982	SLV 13	-653	480	1522	-381.2	-272.8	-85.79
982	SLV 14	-793	251	1752	-429.2	-312.12	-162.45
982	SLV 15	-750	-98	4793	-1069.04	-839.84	-214.62
982	SLV 16	-890	-328	5023	-1117.04	-879.16	-291.28
982	SLV FO 1	787	345	7088	-1659.45	-1203.25	270.36
982	SLV FO 2	632	92	7341	-1712.24	-1246.5	186.04
982	SLV FO 3	681	-292	10686	-2416.07	-1826.99	128.65
982	SLV FO 4	526	-544	10939	-2468.86	-1870.25	44.33
982	SLV FO 5	363	1111	827	-303.17	-130.33	295.09
982	SLV FO 6	259	940	997	-338.71	-159.45	238.33
982	SLV FO 7	7	-1011	12819	-2825.24	-2209.49	-177.28
982	SLV FO 8	-97	-1181	12990	-2860.78	-2238.6	-234.04
982	SLV FO 9	-86	1166	-977	110.13	171.62	186.39
982	SLV FO 10	-190	996	-807	74.58	142.51	129.62
982	SLV FO 11	-442	-956	11015	-2411.94	-1907.53	-285.99
982	SLV FO 12	-546	-1126	11186	-2447.48	-1936.65	-342.75
982	SLV FO 13	-709	529	1074	-281.79	-196.73	-91.99
982	SLV FO 14	-864	276	1327	-334.59	-239.98	-176.31
982	SLV FO 15	-815	-107	4672	-1038.41	-820.48	-233.7
982	SLV FO 16	-970	-360	4925	-1091.21	-863.73	-318.02
982	CRTFP Ux+	0	0	0	0	0	0
982	CRTFP Ux-	0	0	0	0	0	0
982	CRTFP Uy+	0	0	0	-0.01	0	0
982	CRTFP Uy-	0	0	0	0.01	0	0
984	SLU 1	-64	-1	3875	-1069.8	-99.56	-22.21
984	SLU 2	-61	19	3787	-1048.07	-97.32	-20.63
984	SLU 3	-66	-2	3987	-1099.66	-102.4	-22.83
984	SLU 4	-64	10	3934	-1086.62	-101.06	-21.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
984	SLU 5	-62	18	3863	-1068.21	-99.24	-20.99
984	SLU 6	-67	-2	4062	-1119.81	-104.33	-23.19
984	SLU 7	-65	10	4010	-1106.77	-102.99	-22.25
984	SLU 8	-66	-2	4026	-1110.09	-103.41	-22.93
984	SLU 9	-64	10	3973	-1097.05	-102.06	-21.98
984	SLU 10	-66	20	4260	-1175.61	-109.42	-22.34
984	SLU 11	-71	-1	4460	-1227.21	-114.5	-24.55
984	SLU 12	-69	11	4407	-1214.17	-113.16	-23.6
984	SLU 13	-67	19	4335	-1195.76	-111.34	-22.71
984	SLU 14	-72	-1	4535	-1247.35	-116.43	-24.91
984	SLU 15	-70	11	4482	-1234.31	-115.09	-23.96
984	SLU 16	-71	-1	4499	-1237.63	-115.51	-24.64
984	SLU 17	-69	11	4446	-1224.59	-114.16	-23.7
984	SLU 18	-71	0	4551	-1252.01	-116.84	-24.66
984	SLU 19	-69	12	4498	-1238.97	-115.5	-23.71
984	SLU 20	-72	0	4626	-1272.15	-118.77	-25.02
984	SLU 21	-70	12	4573	-1259.11	-117.42	-24.07
984	SLU 22	-73	-4	4524	-1243.98	-116.14	-25.36
984	SLU 23	-70	16	4436	-1222.24	-113.91	-23.78
984	SLU 24	-74	-5	4636	-1273.84	-118.99	-25.99
984	SLU 25	-73	7	4583	-1260.79	-117.65	-25.04
984	SLU 26	-71	16	4512	-1242.38	-115.83	-24.14
984	SLU 27	-75	-5	4711	-1293.98	-120.91	-26.35
984	SLU 28	-74	7	4658	-1280.94	-119.57	-25.4
984	SLU 29	-75	-5	4675	-1284.26	-119.99	-26.08
984	SLU 30	-73	7	4622	-1271.22	-118.65	-25.14
984	SLU 31	-75	17	4909	-1349.78	-126.01	-25.5
984	SLU 32	-79	-4	5108	-1401.38	-131.09	-27.71
984	SLU 33	-78	8	5056	-1388.34	-129.75	-26.76
984	SLU 34	-76	17	4984	-1369.93	-127.93	-25.86
984	SLU 35	-80	-4	5184	-1421.52	-133.01	-28.07
984	SLU 36	-79	8	5131	-1408.48	-131.67	-27.12
984	SLU 37	-80	-4	5148	-1411.81	-132.09	-27.8
984	SLU 38	-78	8	5095	-1398.76	-130.75	-26.85
984	SLU 39	-80	-3	5199	-1426.18	-133.43	-27.81
984	SLU 40	-78	9	5147	-1413.14	-132.09	-26.87
984	SLU 41	-81	-3	5275	-1446.32	-135.35	-28.17
984	SLU 42	-79	9	5222	-1433.28	-134.01	-27.23
984	SLU 43	-80	-1	4816	-1331.03	-123.74	-27.79
984	SLU 44	-77	19	4728	-1309.29	-121.5	-26.21
984	SLU 45	-82	-1	4927	-1360.89	-126.58	-28.41
984	SLU 46	-80	11	4874	-1347.85	-125.24	-27.47
984	SLU 47	-78	19	4803	-1329.44	-123.43	-26.57
984	SLU 48	-83	-2	5003	-1381.03	-128.51	-28.77
984	SLU 49	-81	10	4950	-1367.99	-127.17	-27.83
984	SLU 50	-82	-1	4967	-1371.32	-127.59	-28.51
984	SLU 51	-80	11	4914	-1358.27	-126.24	-27.56
984	SLU 52	-82	20	5200	-1436.84	-133.6	-27.92
984	SLU 53	-87	-1	5400	-1488.43	-138.68	-30.13
984	SLU 54	-85	11	5347	-1475.39	-137.34	-29.18
984	SLU 55	-83	20	5276	-1456.98	-135.53	-28.29
984	SLU 56	-88	-1	5475	-1508.58	-140.61	-30.49
984	SLU 57	-86	11	5422	-1495.54	-139.27	-29.54
984	SLU 58	-87	0	5439	-1498.86	-139.69	-30.22
984	SLU 59	-85	12	5386	-1485.82	-138.34	-29.28
984	SLU 60	-87	1	5491	-1513.23	-141.02	-30.24
984	SLU 61	-85	12	5438	-1500.19	-139.68	-29.29
984	SLU 62	-88	0	5566	-1533.38	-142.95	-30.6
984	SLU 63	-86	12	5513	-1520.34	-141.61	-29.65
984	SLU 64	-89	-3	5464	-1505.2	-140.32	-30.94
984	SLU 65	-86	16	5376	-1483.46	-138.09	-29.36
984	SLU 66	-91	-4	5576	-1535.06	-143.17	-31.57
984	SLU 67	-89	8	5523	-1522.02	-141.83	-30.62
984	SLU 68	-87	16	5452	-1503.61	-140.01	-29.72
984	SLU 69	-92	-4	5651	-1555.21	-145.09	-31.93
984	SLU 70	-90	8	5599	-1542.16	-143.75	-30.98
984	SLU 71	-91	-4	5615	-1545.49	-144.17	-31.66
984	SLU 72	-89	8	5562	-1532.45	-142.83	-30.72
984	SLU 73	-91	17	5849	-1611.01	-150.19	-31.08
984	SLU 74	-96	-3	6049	-1662.61	-155.27	-33.29
984	SLU 75	-94	9	5996	-1649.56	-153.93	-32.34
984	SLU 76	-92	17	5924	-1631.15	-152.11	-31.44
984	SLU 77	-97	-3	6124	-1682.75	-157.19	-33.65
984	SLU 78	-95	8	6071	-1669.71	-155.85	-32.7
984	SLU 79	-96	-3	6088	-1673.03	-156.27	-33.38
984	SLU 80	-94	9	6035	-1659.99	-154.93	-32.43
984	SLU 81	-96	-2	6140	-1687.41	-157.61	-33.39
984	SLU 82	-94	10	6087	-1674.36	-156.27	-32.45
984	SLU 83	-97	-2	6215	-1707.55	-159.53	-33.75
984	SLU 84	-95	9	6162	-1694.51	-158.19	-32.81
984	SLE RA 1	-66	-2	4061	-1119.57	-104.3	-23.11
984	SLE RA 2	-64	11	4002	-1105.08	-102.8	-22.06
984	SLE RA 3	-67	-2	4135	-1139.47	-106.19	-23.53
984	SLE RA 4	-66	5	4100	-1130.78	-105.3	-22.9
984	SLE RA 5	-65	11	4052	-1118.51	-104.09	-22.3
984	SLE RA 6	-68	-3	4185	-1152.9	-107.48	-23.77
984	SLE RA 7	-67	5	4150	-1144.21	-106.58	-23.14
984	SLE RA 8	-68	-2	4161	-1146.43	-106.86	-23.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
984	SLE RA 9	-66	6	4126	-1137.73	-105.97	-22.96
984	SLE RA 10	-68	12	4317	-1190.11	-110.87	-23.2
984	SLE RA 11	-71	-2	4450	-1224.5	-114.26	-24.67
984	SLE RA 12	-70	6	4415	-1215.81	-113.37	-24.04
984	SLE RA 13	-68	12	4367	-1203.53	-112.15	-23.44
984	SLE RA 14	-72	-2	4501	-1237.93	-115.54	-24.91
984	SLE RA 15	-70	6	4465	-1229.24	-114.65	-24.28
984	SLE RA 16	-71	-2	4477	-1231.45	-114.93	-24.73
984	SLE RA 17	-70	6	4441	-1222.76	-114.03	-24.1
984	SLE RA 18	-71	-1	4511	-1241.04	-115.82	-24.74
984	SLE RA 19	-70	7	4476	-1232.34	-114.92	-24.11
984	SLE RA 20	-72	-1	4561	-1254.47	-117.1	-24.98
984	SLE RA 21	-71	7	4526	-1245.77	-116.21	-24.35
984	SLE FR 1	-66	-2	4061	-1119.57	-104.3	-23.11
984	SLE FR 2	-66	1	4049	-1116.67	-104	-22.9
984	SLE FR 3	-67	-2	4081	-1124.94	-104.81	-23.2
984	SLE FR 4	-67	1	4184	-1153.11	-107.45	-23.39
984	SLE FR 5	-68	-2	4216	-1161.38	-108.27	-23.69
984	SLE FR 6	-69	-2	4286	-1180.3	-110.06	-23.92
984	SLE QP 1	-66	-2	4061	-1119.57	-104.3	-23.11
984	SLE QP 2	-68	-2	4196	-1156.01	-107.75	-23.6
984	SLD 1	313	213	4686	-1313.13	-119.15	113.74
984	SLD 2	247	108	4783	-1337.21	-121.56	88.13
984	SLD 3	273	-34	5990	-1635.07	-152.36	93.53
984	SLD 4	208	-139	6087	-1659.16	-154.76	67.93
984	SLD 5	117	454	2348	-710.72	-60.4	52.65
984	SLD 6	75	387	2411	-726.23	-61.95	36.16
984	SLD 7	-14	-367	6696	-1783.87	-171.08	-14.7
984	SLD 8	-56	-435	6758	-1799.37	-172.63	-31.19
984	SLD 9	-79	431	1633	-512.64	-42.88	-16.01
984	SLD 10	-121	364	1696	-528.15	-44.43	-32.5
984	SLD 11	-211	-390	5981	-1585.79	-153.56	-83.36
984	SLD 12	-253	-458	6044	-1601.29	-155.1	-99.84
984	SLD 13	-343	135	2304	-652.86	-60.75	-115.12
984	SLD 14	-409	30	2402	-676.94	-63.15	-140.73
984	SLD 15	-383	-111	3609	-974.81	-93.95	-135.33
984	SLD 16	-448	-216	3706	-998.89	-96.35	-160.93
984	SLV 1	531	352	4864	-1377.44	-123.09	193.02
984	SLV 2	428	186	5018	-1415.4	-126.88	152.66
984	SLV 3	464	-69	7089	-1926.6	-179.73	158.62
984	SLV 4	361	-234	7243	-1964.56	-183.52	118.26
984	SLV 5	233	773	993	-382.46	-25.75	101.1
984	SLV 6	164	661	1097	-408.01	-28.3	73.93
984	SLV 7	9	-629	8410	-2213	-214.54	-13.58
984	SLV 8	-60	-740	8513	-2238.55	-217.09	-40.75
984	SLV 9	-75	736	-121	-73.47	1.59	-6.45
984	SLV 10	-145	625	-18	-99.02	-0.96	-33.61
984	SLV 11	-299	-665	7295	-1904	-187.21	-121.13
984	SLV 12	-368	-776	7398	-1929.55	-189.76	-148.29
984	SLV 13	-496	231	1149	-347.46	-31.99	-165.46
984	SLV 14	-599	65	1303	-385.42	-35.77	-205.81
984	SLV 15	-563	-190	3374	-896.62	-88.62	-199.86
984	SLV 16	-666	-355	3527	-934.58	-92.41	-240.22
984	SLV FO 1	591	387	4931	-1399.58	-124.63	214.68
984	SLV FO 2	477	205	5100	-1441.34	-128.79	170.29
984	SLV FO 3	517	-76	7378	-2003.66	-186.93	176.84
984	SLV FO 4	404	-258	7547	-2045.41	-191.1	132.45
984	SLV FO 5	263	850	673	-305.11	-17.55	113.57
984	SLV FO 6	187	728	787	-333.22	-20.35	83.68
984	SLV FO 7	17	-691	8831	-2318.69	-225.22	-12.58
984	SLV FO 8	-60	-814	8945	-2346.8	-228.03	-42.47
984	SLV FO 9	-76	810	-553	34.78	12.52	-4.73
984	SLV FO 10	-152	688	-439	6.68	9.71	-34.61
984	SLV FO 11	-322	-731	7605	-1978.8	-195.16	-130.88
984	SLV FO 12	-398	-854	7719	-2006.91	-197.96	-160.76
984	SLV FO 13	-539	254	845	-266.61	-24.41	-179.64
984	SLV FO 14	-652	72	1013	-308.36	-28.58	-224.03
984	SLV FO 15	-613	-209	3292	-870.68	-86.71	-217.49
984	SLV FO 16	-726	-391	3461	-912.43	-90.88	-261.88
984	CRTFP Ux+	0	0	0	0	0	0
984	CRTFP Ux-	0	0	0	0	0	0
984	CRTFP Uy+	0	0	0	0	0	0
984	CRTFP Uy-	0	0	0	0	0	0
985	SLU 1	-74	5	4145	-993.5	11.11	-25.7
985	SLU 2	-71	27	4052	-973.95	10.82	-24.53
985	SLU 3	-76	5	4263	-1020.62	11.46	-26.4
985	SLU 4	-74	18	4208	-1008.89	11.28	-25.7
985	SLU 5	-72	27	4132	-992.25	11.05	-24.94
985	SLU 6	-77	5	4344	-1038.91	11.69	-26.81
985	SLU 7	-75	18	4288	-1027.18	11.52	-26.11
985	SLU 8	-76	5	4305	-1030.08	11.58	-26.51
985	SLU 9	-74	18	4249	-1018.36	11.41	-25.81
985	SLU 10	-76	28	4556	-1089.67	12.22	-26.56
985	SLU 11	-82	6	4767	-1136.34	12.86	-28.43
985	SLU 12	-80	19	4712	-1124.61	12.68	-27.73
985	SLU 13	-78	28	4636	-1107.96	12.45	-26.97
985	SLU 14	-83	6	4848	-1154.63	13.09	-28.84
985	SLU 15	-81	19	4792	-1142.9	12.92	-28.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	SLU 16	-82	6	4809	-1145.8	12.98	-28.54
985	SLU 17	-80	19	4753	-1134.07	12.8	-27.84
985	SLU 18	-82	7	4865	-1158.81	13.11	-28.6
985	SLU 19	-80	20	4809	-1147.08	12.93	-27.9
985	SLU 20	-84	7	4945	-1177.1	13.34	-29.01
985	SLU 21	-82	20	4889	-1165.37	13.17	-28.31
985	SLU 22	-84	3	4836	-1151.49	13.07	-29.27
985	SLU 23	-81	25	4743	-1131.95	12.77	-28.1
985	SLU 24	-86	3	4954	-1178.61	13.42	-29.97
985	SLU 25	-84	16	4898	-1166.89	13.24	-29.27
985	SLU 26	-82	25	4823	-1150.24	13.01	-28.51
985	SLU 27	-88	3	5034	-1196.91	13.65	-30.38
985	SLU 28	-86	16	4979	-1185.18	13.47	-29.68
985	SLU 29	-87	3	4996	-1188.08	13.54	-30.08
985	SLU 30	-85	16	4940	-1176.35	13.36	-29.38
985	SLU 31	-87	26	5247	-1247.67	14.17	-30.14
985	SLU 32	-92	4	5458	-1294.33	14.81	-32
985	SLU 33	-90	17	5402	-1282.6	14.64	-31.31
985	SLU 34	-88	26	5327	-1265.96	14.41	-30.54
985	SLU 35	-94	4	5538	-1312.62	15.05	-32.41
985	SLU 36	-91	17	5483	-1300.9	14.87	-31.71
985	SLU 37	-93	4	5500	-1303.79	14.94	-32.12
985	SLU 38	-91	17	5444	-1292.07	14.76	-31.42
985	SLU 39	-93	5	5556	-1316.8	15.07	-32.17
985	SLU 40	-91	18	5500	-1305.08	14.89	-31.47
985	SLU 41	-94	5	5636	-1335.09	15.3	-32.58
985	SLU 42	-92	18	5580	-1323.37	15.12	-31.88
985	SLU 43	-93	7	5152	-1237.38	13.78	-32.18
985	SLU 44	-89	29	5058	-1217.83	13.48	-31.02
985	SLU 45	-95	7	5270	-1264.5	14.12	-32.89
985	SLU 46	-93	20	5214	-1252.77	13.95	-32.19
985	SLU 47	-91	29	5139	-1236.12	13.72	-31.42
985	SLU 48	-96	7	5350	-1282.79	14.36	-33.29
985	SLU 49	-94	20	5294	-1271.06	14.18	-32.59
985	SLU 50	-95	7	5312	-1273.96	14.25	-33
985	SLU 51	-93	20	5256	-1262.23	14.07	-32.3
985	SLU 52	-95	30	5562	-1333.55	14.88	-33.05
985	SLU 53	-101	8	5774	-1380.22	15.52	-34.92
985	SLU 54	-99	21	5718	-1368.49	15.34	-34.22
985	SLU 55	-96	30	5643	-1351.84	15.11	-33.46
985	SLU 56	-102	8	5854	-1398.51	15.76	-35.33
985	SLU 57	-100	21	5798	-1386.78	15.58	-34.63
985	SLU 58	-101	8	5816	-1389.68	15.64	-35.03
985	SLU 59	-99	21	5760	-1377.95	15.47	-34.33
985	SLU 60	-101	9	5872	-1402.69	15.77	-35.09
985	SLU 61	-99	22	5816	-1390.96	15.6	-34.39
985	SLU 62	-102	9	5952	-1420.98	16.01	-35.49
985	SLU 63	-100	22	5896	-1409.25	15.83	-34.79
985	SLU 64	-103	5	5842	-1395.37	15.73	-35.75
985	SLU 65	-100	27	5749	-1375.83	15.44	-34.59
985	SLU 66	-105	5	5961	-1422.49	16.08	-36.46
985	SLU 67	-103	18	5905	-1410.77	15.9	-35.76
985	SLU 68	-101	27	5829	-1394.12	15.67	-35
985	SLU 69	-106	5	6041	-1440.79	16.31	-36.86
985	SLU 70	-104	18	5985	-1429.06	16.14	-36.17
985	SLU 71	-106	5	6003	-1431.96	16.2	-36.57
985	SLU 72	-103	18	5947	-1420.23	16.02	-35.87
985	SLU 73	-106	28	6253	-1491.54	16.83	-36.62
985	SLU 74	-111	6	6465	-1538.21	17.48	-38.49
985	SLU 75	-109	19	6409	-1526.48	17.3	-37.79
985	SLU 76	-107	28	6333	-1509.84	17.07	-37.03
985	SLU 77	-112	6	6545	-1556.5	17.71	-38.9
985	SLU 78	-110	19	6489	-1544.78	17.53	-38.2
985	SLU 79	-111	7	6507	-1547.67	17.6	-38.6
985	SLU 80	-109	20	6451	-1535.95	17.42	-37.9
985	SLU 81	-111	7	6562	-1560.68	17.73	-38.66
985	SLU 82	-109	20	6506	-1548.96	17.55	-37.96
985	SLU 83	-113	7	6642	-1578.97	17.96	-39.06
985	SLU 84	-111	20	6587	-1567.25	17.79	-38.37
985	SLE RA 1	-77	5	4342	-1038.64	11.67	-26.72
985	SLE RA 2	-75	19	4280	-1025.61	11.47	-25.94
985	SLE RA 3	-78	4	4421	-1056.72	11.9	-27.19
985	SLE RA 4	-77	13	4384	-1048.9	11.78	-26.72
985	SLE RA 5	-76	19	4334	-1037.8	11.63	-26.21
985	SLE RA 6	-79	4	4475	-1068.91	12.06	-27.46
985	SLE RA 7	-78	13	4437	-1061.1	11.94	-26.99
985	SLE RA 8	-79	4	4449	-1063.03	11.98	-27.26
985	SLE RA 9	-77	13	4412	-1055.21	11.87	-26.8
985	SLE RA 10	-79	20	4616	-1102.75	12.41	-27.3
985	SLE RA 11	-82	5	4757	-1133.86	12.83	-28.54
985	SLE RA 12	-81	14	4720	-1126.05	12.72	-28.08
985	SLE RA 13	-79	20	4670	-1114.95	12.56	-27.57
985	SLE RA 14	-83	5	4811	-1146.06	12.99	-28.81
985	SLE RA 15	-82	14	4773	-1138.24	12.87	-28.35
985	SLE RA 16	-83	5	4785	-1140.17	12.92	-28.62
985	SLE RA 17	-81	14	4748	-1132.36	12.8	-28.15
985	SLE RA 18	-83	6	4822	-1148.85	13	-28.65
985	SLE RA 19	-81	14	4785	-1141.03	12.88	-28.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	SLE RA 20	-83	6	4876	-1161.04	13.16	-28.93
985	SLE RA 21	-82	14	4838	-1153.22	13.04	-28.46
985	SLE FR 1	-77	5	4342	-1038.64	11.67	-26.72
985	SLE FR 2	-77	7	4330	-1036.03	11.63	-26.56
985	SLE FR 3	-77	5	4364	-1043.52	11.73	-26.83
985	SLE FR 4	-78	8	4474	-1069.09	12.03	-27.14
985	SLE FR 5	-79	5	4508	-1076.58	12.13	-27.41
985	SLE FR 6	-80	5	4582	-1093.74	12.34	-27.69
985	SLE QP 1	-77	5	4342	-1038.64	11.67	-26.72
985	SLE QP 2	-79	5	4486	-1071.7	12.07	-27.3
985	SLD 1	362	237	4960	-1208.45	15.27	126.6
985	SLD 2	286	124	5060	-1229.65	15.7	100.43
985	SLD 3	316	-32	6342	-1498.79	19.51	111.24
985	SLD 4	241	-145	6442	-1519.99	19.94	85.06
985	SLD 5	135	502	2516	-668.72	6.54	46.68
985	SLD 6	87	429	2580	-682.38	6.81	29.82
985	SLD 7	-16	-395	7121	-1636.54	20.65	-4.54
985	SLD 8	-65	-467	7186	-1650.19	20.93	-21.39
985	SLD 9	-92	477	1787	-493.21	3.21	-33.2
985	SLD 10	-141	405	1851	-506.86	3.49	-50.06
985	SLD 11	-244	-419	6392	-1461.03	17.33	-84.42
985	SLD 12	-293	-492	6457	-1474.68	17.61	-101.27
985	SLD 13	-398	155	2531	-623.41	4.2	-139.66
985	SLD 14	-474	42	2631	-644.61	4.63	-165.84
985	SLD 15	-444	-114	3912	-913.75	8.44	-155.03
985	SLD 16	-519	-227	4012	-934.95	8.87	-181.2
985	SLV 1	615	387	5124	-1263.67	16.76	214.92
985	SLV 2	495	209	5282	-1297.09	17.43	173.66
985	SLV 3	537	-71	7481	-1758.94	23.98	188.77
985	SLV 4	418	-249	7638	-1792.35	24.65	147.51
985	SLV 5	269	849	1074	-371.9	2.4	92.72
985	SLV 6	189	729	1180	-394.4	2.85	64.95
985	SLV 7	11	-680	8930	-2022.79	26.47	5.56
985	SLV 8	-69	-800	9036	-2045.29	26.92	-22.21
985	SLV 9	-88	810	-63	-98.11	-2.78	-32.39
985	SLV 10	-168	690	43	-120.61	-2.33	-60.16
985	SLV 11	-346	-719	7793	-1749	21.29	-119.55
985	SLV 12	-426	-839	7899	-1771.5	21.74	-147.32
985	SLV 13	-575	259	1334	-351.05	-0.51	-202.11
985	SLV 14	-695	81	1492	-384.47	0.16	-243.37
985	SLV 15	-653	-200	3691	-846.31	6.71	-228.26
985	SLV 16	-772	-378	3849	-879.73	7.39	-269.52
985	SLV FO 1	684	426	5188	-1282.87	17.22	239.14
985	SLV FO 2	553	230	5361	-1319.63	17.97	193.76
985	SLV FO 3	599	-79	7780	-1827.66	25.17	210.38
985	SLV FO 4	468	-275	7954	-1864.42	25.91	164.99
985	SLV FO 5	304	933	732	-301.92	1.43	104.72
985	SLV FO 6	215	801	849	-326.67	1.93	74.17
985	SLV FO 7	20	-749	9374	-2117.9	27.91	8.85
985	SLV FO 8	-69	-881	9491	-2142.64	28.41	-21.7
985	SLV FO 9	-89	891	-518	-0.76	-4.27	-32.9
985	SLV FO 10	-177	759	-402	-25.5	-3.77	-63.45
985	SLV FO 11	-373	-791	8124	-1816.73	22.21	-128.77
985	SLV FO 12	-461	-923	8240	-1841.48	22.71	-159.32
985	SLV FO 13	-625	284	1019	-278.98	-1.77	-219.59
985	SLV FO 14	-756	89	1192	-315.74	-1.03	-264.98
985	SLV FO 15	-710	-220	3612	-823.77	6.17	-248.35
985	SLV FO 16	-841	-416	3785	-860.54	6.92	-293.74
985	CRTFP Ux+	0	0	0	0	0	0
985	CRTFP Ux-	0	0	0	0	0	0
985	CRTFP Uy+	0	0	0	0	0	0
985	CRTFP Uy-	0	0	0	0	0	0
986	SLU 1	-74	12	3857	-797.96	8.35	-25.78
986	SLU 2	-71	33	3771	-783.03	8.12	-24.62
986	SLU 3	-76	12	3966	-819.13	8.62	-26.48
986	SLU 4	-74	24	3915	-810.17	8.48	-25.78
986	SLU 5	-72	33	3845	-797.3	8.3	-25.02
986	SLU 6	-78	12	4040	-833.39	8.79	-26.89
986	SLU 7	-75	25	3989	-824.43	8.65	-26.19
986	SLU 8	-77	12	4005	-826.5	8.71	-26.59
986	SLU 9	-75	25	3953	-817.54	8.57	-25.9
986	SLU 10	-77	34	4239	-873.35	9.15	-26.67
986	SLU 11	-82	14	4434	-909.45	9.65	-28.54
986	SLU 12	-80	26	4383	-900.49	9.51	-27.84
986	SLU 13	-78	34	4313	-887.62	9.33	-27.08
986	SLU 14	-83	14	4508	-923.72	9.83	-28.94
986	SLU 15	-81	26	4457	-914.76	9.69	-28.24
986	SLU 16	-83	14	4473	-916.82	9.74	-28.65
986	SLU 17	-81	26	4422	-907.86	9.6	-27.95
986	SLU 18	-83	14	4525	-927	9.83	-28.71
986	SLU 19	-81	27	4474	-918.04	9.69	-28.01
986	SLU 20	-84	15	4599	-941.27	10.01	-29.12
986	SLU 21	-82	27	4548	-932.31	9.87	-28.42
986	SLU 22	-85	11	4497	-921.16	9.81	-29.37
986	SLU 23	-81	32	4412	-906.23	9.58	-28.21
986	SLU 24	-87	12	4606	-942.33	10.07	-30.07
986	SLU 25	-85	24	4555	-933.37	9.93	-29.37
986	SLU 26	-82	32	4486	-920.5	9.76	-28.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
986	SLU 27	-88	12	4680	-956.6	10.25	-30.48
986	SLU 28	-86	24	4629	-947.64	10.11	-29.78
986	SLU 29	-87	12	4645	-949.7	10.17	-30.18
986	SLU 30	-85	24	4594	-940.74	10.03	-29.49
986	SLU 31	-87	34	4880	-996.56	10.61	-30.26
986	SLU 32	-93	13	5074	-1032.65	11.1	-32.13
986	SLU 33	-91	25	5023	-1023.69	10.97	-31.43
986	SLU 34	-88	34	4954	-1010.82	10.79	-30.67
986	SLU 35	-94	13	5148	-1046.92	11.28	-32.53
986	SLU 36	-92	26	5097	-1037.96	11.14	-31.83
986	SLU 37	-93	13	5113	-1040.02	11.2	-32.24
986	SLU 38	-91	26	5062	-1031.06	11.06	-31.54
986	SLU 39	-93	14	5165	-1050.2	11.29	-32.3
986	SLU 40	-91	26	5114	-1041.24	11.15	-31.61
986	SLU 41	-94	14	5239	-1064.47	11.46	-32.71
986	SLU 42	-92	26	5188	-1055.51	11.32	-32.01
986	SLU 43	-93	16	4794	-995.11	10.36	-32.28
986	SLU 44	-90	36	4709	-980.18	10.13	-31.12
986	SLU 45	-95	16	4904	-1016.27	10.62	-32.98
986	SLU 46	-93	28	4852	-1007.31	10.48	-32.29
986	SLU 47	-91	37	4783	-994.44	10.31	-31.53
986	SLU 48	-96	16	4978	-1030.54	10.8	-33.39
986	SLU 49	-94	28	4926	-1021.58	10.66	-32.69
986	SLU 50	-95	16	4942	-1023.64	10.72	-33.1
986	SLU 51	-93	29	4891	-1014.68	10.58	-32.4
986	SLU 52	-96	38	5177	-1070.5	11.16	-33.17
986	SLU 53	-101	18	5372	-1106.6	11.65	-35.04
986	SLU 54	-99	30	5320	-1097.64	11.52	-34.34
986	SLU 55	-97	38	5251	-1084.77	11.34	-33.58
986	SLU 56	-102	18	5446	-1120.87	11.83	-35.44
986	SLU 57	-100	30	5394	-1111.91	11.69	-34.75
986	SLU 58	-101	18	5410	-1113.97	11.75	-35.15
986	SLU 59	-99	30	5359	-1105.01	11.61	-34.45
986	SLU 60	-101	18	5463	-1124.15	11.83	-35.22
986	SLU 61	-99	31	5412	-1115.19	11.7	-34.52
986	SLU 62	-103	18	5537	-1138.41	12.01	-35.62
986	SLU 63	-101	31	5486	-1129.45	11.87	-34.92
986	SLU 64	-103	15	5434	-1118.31	11.82	-35.87
986	SLU 65	-100	36	5349	-1103.38	11.59	-34.71
986	SLU 66	-105	15	5544	-1139.48	12.08	-36.58
986	SLU 67	-103	28	5493	-1130.52	11.94	-35.88
986	SLU 68	-101	36	5423	-1117.65	11.76	-35.12
986	SLU 69	-107	16	5618	-1153.74	12.26	-36.98
986	SLU 70	-105	28	5567	-1144.78	12.12	-36.28
986	SLU 71	-106	16	5582	-1146.85	12.17	-36.69
986	SLU 72	-104	28	5531	-1137.89	12.03	-35.99
986	SLU 73	-106	37	5817	-1193.7	12.62	-36.76
986	SLU 74	-111	17	6012	-1229.8	13.11	-38.63
986	SLU 75	-109	29	5961	-1220.84	12.97	-37.93
986	SLU 76	-107	38	5891	-1207.97	12.8	-37.17
986	SLU 77	-113	17	6086	-1244.07	13.29	-39.04
986	SLU 78	-110	29	6035	-1235.11	13.15	-38.34
986	SLU 79	-112	17	6050	-1237.17	13.21	-38.74
986	SLU 80	-110	30	5999	-1228.21	13.07	-38.04
986	SLU 81	-112	18	6103	-1247.35	13.29	-38.81
986	SLU 82	-110	30	6052	-1238.39	13.15	-38.11
986	SLU 83	-113	18	6177	-1261.62	13.47	-39.21
986	SLU 84	-111	30	6126	-1252.66	13.33	-38.51
986	SLE RA 1	-77	12	4040	-833.16	8.77	-26.81
986	SLE RA 2	-75	26	3983	-823.21	8.62	-26.03
986	SLE RA 3	-79	12	4113	-847.27	8.95	-27.27
986	SLE RA 4	-77	20	4078	-841.3	8.85	-26.81
986	SLE RA 5	-76	26	4032	-832.72	8.73	-26.3
986	SLE RA 6	-79	12	4162	-856.78	9.06	-27.54
986	SLE RA 7	-78	20	4128	-850.81	8.97	-27.08
986	SLE RA 8	-79	12	4138	-852.19	9.01	-27.35
986	SLE RA 9	-77	20	4104	-846.21	8.91	-26.88
986	SLE RA 10	-79	27	4295	-883.42	9.3	-27.4
986	SLE RA 11	-83	13	4425	-907.49	9.63	-28.64
986	SLE RA 12	-81	21	4390	-901.52	9.54	-28.18
986	SLE RA 13	-80	27	4344	-892.94	9.42	-27.67
986	SLE RA 14	-83	13	4474	-917	9.75	-28.91
986	SLE RA 15	-82	21	4440	-911.03	9.66	-28.45
986	SLE RA 16	-83	13	4450	-912.4	9.7	-28.72
986	SLE RA 17	-81	21	4416	-906.43	9.6	-28.25
986	SLE RA 18	-83	13	4485	-919.19	9.75	-28.76
986	SLE RA 19	-82	22	4451	-913.21	9.66	-28.3
986	SLE RA 20	-84	14	4535	-928.7	9.87	-29.03
986	SLE RA 21	-82	22	4501	-922.73	9.78	-28.57
986	SLE FR 1	-77	12	4040	-833.16	8.77	-26.81
986	SLE FR 2	-77	15	4028	-831.17	8.74	-26.65
986	SLE FR 3	-78	12	4059	-836.97	8.82	-26.91
986	SLE FR 4	-79	15	4162	-856.98	9.03	-27.24
986	SLE FR 5	-79	12	4193	-862.77	9.11	-27.5
986	SLE FR 6	-80	13	4262	-876.18	9.26	-27.78
986	SLE QP 1	-77	12	4040	-833.16	8.77	-26.81
986	SLE QP 2	-79	12	4173	-858.97	9.07	-27.39
986	SLD 1	362	228	4558	-956.42	11.89	126.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
986	SLD 2	286	123	4646	-971.96	12.26	100.61
986	SLD 3	317	-25	5828	-1179.58	15.21	111.48
986	SLD 4	241	-129	5916	-1195.13	15.57	85.27
986	SLD 5	135	478	2348	-547.06	4.82	46.64
986	SLD 6	86	411	2404	-557.07	5.05	29.76
986	SLD 7	-16	-364	6580	-1290.95	15.88	-4.48
986	SLD 8	-65	-431	6637	-1300.96	16.11	-21.36
986	SLD 9	-93	456	1709	-416.98	2.02	-33.42
986	SLD 10	-142	389	1766	-426.99	2.25	-50.3
986	SLD 11	-244	-386	5942	-1160.87	13.08	-84.55
986	SLD 12	-293	-454	5999	-1170.88	13.31	-101.43
986	SLD 13	-399	154	2430	-522.81	2.56	-140.05
986	SLD 14	-475	50	2519	-538.36	2.92	-166.27
986	SLD 15	-444	-99	3700	-745.98	5.88	-155.39
986	SLD 16	-520	-203	3788	-761.52	6.24	-181.61
986	SLV 1	615	368	4680	-994.57	13.23	215.31
986	SLV 2	496	203	4819	-1019.08	13.8	173.99
986	SLV 3	538	-63	6846	-1375.27	18.89	189.21
986	SLV 4	419	-228	6985	-1399.77	19.46	147.89
986	SLV 5	268	804	1014	-317.7	1.63	92.72
986	SLV 6	188	693	1108	-334.19	2.01	64.9
986	SLV 7	12	-633	8235	-1586.67	20.49	5.71
986	SLV 8	-69	-744	8328	-1603.16	20.87	-22.11
986	SLV 9	-89	769	18	-114.78	-2.74	-32.68
986	SLV 10	-170	658	112	-131.27	-2.36	-60.49
986	SLV 11	-346	-668	7239	-1383.75	16.12	-119.69
986	SLV 12	-426	-779	7333	-1400.24	16.5	-147.5
986	SLV 13	-577	252	1361	-318.17	-1.33	-202.67
986	SLV 14	-696	88	1500	-342.67	-0.76	-243.99
986	SLV 15	-654	-179	3527	-698.86	4.33	-228.77
986	SLV 16	-773	-343	3666	-723.37	4.9	-270.09
986	SLV FO 1	685	404	4731	-1008.14	13.65	239.58
986	SLV FO 2	554	223	4884	-1035.09	14.28	194.13
986	SLV FO 3	600	-70	7114	-1426.9	19.87	210.87
986	SLV FO 4	469	-252	7267	-1453.85	20.5	165.41
986	SLV FO 5	303	883	698	-263.57	0.89	104.73
986	SLV FO 6	215	761	801	-281.72	1.31	74.13
986	SLV FO 7	21	-698	8641	-1659.44	21.63	9.02
986	SLV FO 8	-68	-820	8744	-1677.58	22.05	-21.58
986	SLV FO 9	-90	845	-397	-40.36	-3.92	-33.21
986	SLV FO 10	-179	723	-294	-58.5	-3.5	-63.8
986	SLV FO 11	-373	-736	7546	-1436.22	16.82	-128.91
986	SLV FO 12	-461	-858	7649	-1454.37	17.24	-159.51
986	SLV FO 13	-627	276	1080	-264.09	-2.37	-220.2
986	SLV FO 14	-758	95	1233	-291.05	-1.74	-265.65
986	SLV FO 15	-711	-198	3463	-682.85	3.85	-248.91
986	SLV FO 16	-843	-379	3616	-709.81	4.48	-294.36
986	CRTFP Ux+	0	0	0	0	0	0
986	CRTFP Ux-	0	0	0	0	0	0
986	CRTFP Uy+	0	0	0	0	0	0
986	CRTFP Uy-	0	0	0	0	0	0
987	SLU 1	-74	18	3652	-667.12	5.49	-25.8
987	SLU 2	-71	38	3572	-655.38	5.33	-24.64
987	SLU 3	-76	19	3755	-684.29	5.67	-26.5
987	SLU 4	-74	30	3707	-677.24	5.57	-25.8
987	SLU 5	-72	38	3642	-666.94	5.45	-25.05
987	SLU 6	-77	19	3825	-695.86	5.78	-26.9
987	SLU 7	-75	31	3777	-688.81	5.68	-26.21
987	SLU 8	-77	19	3791	-690.25	5.73	-26.61
987	SLU 9	-75	31	3744	-683.21	5.63	-25.91
987	SLU 10	-77	40	4016	-728.89	5.98	-26.71
987	SLU 11	-82	21	4198	-757.81	6.32	-28.57
987	SLU 12	-80	32	4150	-750.76	6.22	-27.88
987	SLU 13	-78	40	4085	-740.46	6.1	-27.12
987	SLU 14	-83	21	4268	-769.37	6.43	-28.98
987	SLU 15	-81	33	4220	-762.33	6.33	-28.28
987	SLU 16	-83	21	4234	-763.77	6.38	-28.68
987	SLU 17	-81	33	4187	-756.72	6.28	-27.99
987	SLU 18	-83	21	4285	-772.14	6.42	-28.76
987	SLU 19	-81	33	4237	-765.1	6.32	-28.06
987	SLU 20	-84	22	4355	-783.71	6.54	-29.16
987	SLU 21	-82	33	4307	-776.66	6.44	-28.47
987	SLU 22	-85	19	4257	-767.17	6.43	-29.4
987	SLU 23	-81	38	4177	-755.43	6.26	-28.24
987	SLU 24	-87	19	4360	-784.34	6.6	-30.1
987	SLU 25	-85	31	4312	-777.29	6.5	-29.41
987	SLU 26	-82	39	4247	-766.99	6.38	-28.65
987	SLU 27	-88	20	4429	-795.9	6.72	-30.51
987	SLU 28	-86	31	4382	-788.86	6.62	-29.81
987	SLU 29	-87	20	4396	-790.3	6.67	-30.21
987	SLU 30	-85	31	4348	-783.25	6.57	-29.52
987	SLU 31	-87	40	4620	-828.94	6.92	-30.31
987	SLU 32	-93	21	4803	-857.86	7.25	-32.17
987	SLU 33	-91	33	4755	-850.81	7.15	-31.48
987	SLU 34	-88	41	4690	-840.51	7.03	-30.72
987	SLU 35	-94	22	4873	-869.42	7.37	-32.58
987	SLU 36	-92	33	4825	-862.38	7.27	-31.88
987	SLU 37	-93	22	4839	-863.82	7.32	-32.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
987	SLU 38	-91	33	4792	-856.77	7.22	-31.59
987	SLU 39	-93	22	4890	-872.19	7.36	-32.36
987	SLU 40	-91	33	4842	-865.15	7.26	-31.66
987	SLU 41	-94	22	4959	-883.76	7.48	-32.77
987	SLU 42	-92	34	4912	-876.71	7.38	-32.07
987	SLU 43	-93	24	4540	-832.95	6.82	-32.31
987	SLU 44	-90	43	4461	-821.21	6.65	-31.15
987	SLU 45	-95	24	4643	-850.12	6.99	-33.01
987	SLU 46	-93	36	4596	-843.08	6.89	-32.31
987	SLU 47	-91	44	4530	-832.78	6.77	-31.55
987	SLU 48	-96	25	4713	-861.69	7.11	-33.41
987	SLU 49	-94	36	4665	-854.64	7.01	-32.71
987	SLU 50	-95	25	4679	-856.08	7.06	-33.12
987	SLU 51	-93	36	4632	-849.04	6.96	-32.42
987	SLU 52	-96	45	4904	-894.73	7.3	-33.22
987	SLU 53	-101	26	5086	-923.64	7.64	-35.08
987	SLU 54	-99	38	5039	-916.59	7.54	-34.38
987	SLU 55	-97	45	4973	-906.29	7.42	-33.62
987	SLU 56	-102	26	5156	-935.21	7.76	-35.48
987	SLU 57	-100	38	5108	-928.16	7.66	-34.79
987	SLU 58	-101	26	5123	-929.6	7.71	-35.19
987	SLU 59	-99	38	5075	-922.56	7.61	-34.49
987	SLU 60	-101	27	5173	-937.98	7.75	-35.26
987	SLU 61	-99	38	5125	-930.93	7.65	-34.57
987	SLU 62	-103	27	5243	-949.54	7.87	-35.67
987	SLU 63	-101	39	5195	-942.5	7.77	-34.97
987	SLU 64	-103	24	5145	-933	7.76	-35.91
987	SLU 65	-100	44	5066	-921.26	7.59	-34.75
987	SLU 66	-105	25	5248	-950.17	7.93	-36.61
987	SLU 67	-103	36	5200	-943.13	7.83	-35.91
987	SLU 68	-101	44	5135	-932.83	7.71	-35.15
987	SLU 69	-107	25	5318	-961.74	8.05	-37.01
987	SLU 70	-105	37	5270	-954.69	7.95	-36.32
987	SLU 71	-106	25	5284	-956.13	7.99	-36.72
987	SLU 72	-104	37	5237	-949.09	7.89	-36.02
987	SLU 73	-106	46	5509	-994.78	8.24	-36.82
987	SLU 74	-111	27	5691	-1023.69	8.58	-38.68
987	SLU 75	-109	38	5644	-1016.64	8.48	-37.98
987	SLU 76	-107	46	5578	-1006.34	8.36	-37.22
987	SLU 77	-113	27	5761	-1035.25	8.7	-39.08
987	SLU 78	-110	39	5713	-1028.21	8.6	-38.39
987	SLU 79	-112	27	5727	-1029.65	8.64	-38.79
987	SLU 80	-110	39	5680	-1022.6	8.54	-38.09
987	SLU 81	-112	27	5778	-1038.03	8.69	-38.87
987	SLU 82	-110	39	5730	-1030.98	8.59	-38.17
987	SLU 83	-113	28	5848	-1049.59	8.8	-39.27
987	SLU 84	-111	39	5800	-1042.55	8.7	-38.58
987	SLE RA 1	-77	19	3825	-695.71	5.76	-26.83
987	SLE RA 2	-75	32	3772	-687.88	5.65	-26.06
987	SLE RA 3	-79	19	3893	-707.15	5.88	-27.3
987	SLE RA 4	-77	27	3862	-702.46	5.81	-26.83
987	SLE RA 5	-76	32	3818	-695.59	5.73	-26.33
987	SLE RA 6	-79	19	3940	-714.86	5.95	-27.57
987	SLE RA 7	-78	27	3908	-710.17	5.89	-27.1
987	SLE RA 8	-79	19	3918	-711.13	5.92	-27.37
987	SLE RA 9	-77	27	3886	-706.43	5.85	-26.91
987	SLE RA 10	-79	33	4067	-736.89	6.08	-27.44
987	SLE RA 11	-83	20	4189	-756.16	6.31	-28.68
987	SLE RA 12	-81	28	4157	-751.47	6.24	-28.21
987	SLE RA 13	-80	33	4114	-744.6	6.16	-27.71
987	SLE RA 14	-83	20	4235	-763.87	6.39	-28.95
987	SLE RA 15	-82	28	4204	-759.18	6.32	-28.48
987	SLE RA 16	-83	20	4213	-760.14	6.35	-28.75
987	SLE RA 17	-81	28	4181	-755.44	6.29	-28.29
987	SLE RA 18	-83	20	4247	-765.72	6.38	-28.8
987	SLE RA 19	-82	28	4215	-761.03	6.31	-28.34
987	SLE RA 20	-84	21	4293	-773.43	6.46	-29.07
987	SLE RA 21	-82	28	4261	-768.74	6.39	-28.61
987	SLE FR 1	-77	19	3825	-695.71	5.76	-26.83
987	SLE FR 2	-77	21	3814	-694.14	5.74	-26.68
987	SLE FR 3	-78	19	3843	-698.79	5.79	-26.94
987	SLE FR 4	-78	22	3941	-715.15	5.93	-27.27
987	SLE FR 5	-79	19	3970	-719.8	5.98	-27.53
987	SLE FR 6	-80	20	4036	-730.71	6.07	-27.82
987	SLE QP 1	-77	19	3825	-695.71	5.76	-26.83
987	SLE QP 2	-79	19	3951	-716.71	5.95	-27.42
987	SLD 1	363	221	4258	-782.62	8.42	127.07
987	SLD 2	287	124	4336	-794.09	8.71	100.82
987	SLD 3	318	-18	5444	-959.61	10.77	111.77
987	SLD 4	242	-115	5523	-971.08	11.06	85.53
987	SLD 5	135	459	2231	-466.07	3.07	46.63
987	SLD 6	86	396	2281	-473.46	3.26	29.73
987	SLD 7	-15	-338	6184	-1056.05	10.91	-4.34
987	SLD 8	-64	-400	6235	-1063.43	11.1	-21.25
987	SLD 9	-94	439	1667	-369.99	0.8	-33.6
987	SLD 10	-143	376	1718	-377.38	0.98	-50.5
987	SLD 11	-244	-358	5621	-959.96	8.63	-84.58
987	SLD 12	-292	-421	5672	-967.35	8.82	-101.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
987	SLD 13	-400	153	2380	-462.34	0.84	-140.37
987	SLD 14	-476	56	2459	-473.81	1.12	-166.62
987	SLD 15	-445	-86	3566	-639.33	3.19	-155.66
987	SLD 16	-521	-183	3645	-650.8	3.47	-181.91
987	SLV 1	616	353	4342	-806.51	9.63	215.71
987	SLV 2	497	200	4466	-824.6	10.09	174.33
987	SLV 3	540	-55	6366	-1108.45	13.64	189.68
987	SLV 4	421	-208	6490	-1126.54	14.09	148.31
987	SLV 5	268	766	977	-282.33	0.89	92.71
987	SLV 6	187	663	1060	-294.51	1.19	64.86
987	SLV 7	13	-593	7721	-1288.8	14.25	5.95
987	SLV 8	-67	-696	7805	-1300.98	14.56	-21.9
987	SLV 9	-91	734	98	-132.45	-2.66	-32.95
987	SLV 10	-171	631	181	-144.62	-2.36	-60.8
987	SLV 11	-345	-625	6842	-1138.92	10.7	-119.7
987	SLV 12	-425	-728	6926	-1151.09	11.01	-147.55
987	SLV 13	-578	246	1413	-306.88	-2.2	-203.15
987	SLV 14	-698	93	1537	-324.97	-1.74	-244.52
987	SLV 15	-655	-161	3436	-608.82	1.81	-229.18
987	SLV 16	-774	-314	3560	-626.91	2.26	-270.55
987	SLV FO 1	686	386	4381	-815.49	10	240.02
987	SLV FO 2	554	218	4518	-835.39	10.5	194.51
987	SLV FO 3	602	-63	6607	-1147.63	14.41	211.39
987	SLV FO 4	471	-231	6743	-1167.52	14.91	165.88
987	SLV FO 5	302	841	679	-238.9	0.38	104.72
987	SLV FO 6	214	727	771	-252.29	0.72	74.09
987	SLV FO 7	22	-654	8098	-1346.01	15.08	9.29
987	SLV FO 8	-66	-767	8190	-1359.4	15.42	-21.34
987	SLV FO 9	-92	806	-287	-74.02	-3.52	-33.5
987	SLV FO 10	-180	692	-196	-87.41	-3.19	-64.14
987	SLV FO 11	-372	-689	7132	-1181.14	11.18	-128.93
987	SLV FO 12	-460	-802	7223	-1194.53	11.51	-159.57
987	SLV FO 13	-628	269	1159	-265.9	-3.01	-220.72
987	SLV FO 14	-760	101	1296	-285.79	-2.51	-266.23
987	SLV FO 15	-712	-179	3385	-598.04	1.39	-249.35
987	SLV FO 16	-844	-348	3521	-617.93	1.9	-294.86
987	CRTFP Ux+	0	0	0	0	0	0
987	CRTFP Ux-	0	0	0	0	0	0
987	CRTFP Uy+	0	0	0	0	0	0
987	CRTFP Uy-	0	0	0	0	0	0
988	SLU 1	-74	24	3531	-598.45	2.71	-25.76
988	SLU 2	-71	42	3455	-588.52	2.61	-24.61
988	SLU 3	-76	24	3630	-613.52	2.8	-26.46
988	SLU 4	-74	35	3585	-607.56	2.74	-25.76
988	SLU 5	-72	43	3522	-598.65	2.67	-25.01
988	SLU 6	-77	25	3697	-623.65	2.86	-26.86
988	SLU 7	-75	36	3652	-617.69	2.8	-26.16
988	SLU 8	-76	25	3665	-618.72	2.83	-26.56
988	SLU 9	-74	36	3620	-612.76	2.77	-25.87
988	SLU 10	-77	44	3885	-653.52	2.89	-26.69
988	SLU 11	-82	26	4060	-678.52	3.08	-28.54
988	SLU 12	-80	37	4014	-672.56	3.02	-27.85
988	SLU 13	-78	45	3952	-663.65	2.95	-27.09
988	SLU 14	-83	27	4127	-688.65	3.14	-28.94
988	SLU 15	-81	38	4081	-682.69	3.07	-28.25
988	SLU 16	-82	27	4094	-683.72	3.11	-28.65
988	SLU 17	-80	38	4049	-677.76	3.05	-27.96
988	SLU 18	-83	27	4144	-691.31	3.11	-28.74
988	SLU 19	-81	38	4099	-685.35	3.05	-28.05
988	SLU 20	-84	27	4211	-701.45	3.17	-29.14
988	SLU 21	-82	38	4166	-695.49	3.11	-28.45
988	SLU 22	-84	25	4116	-686.58	3.14	-29.37
988	SLU 23	-81	44	4040	-676.65	3.04	-28.21
988	SLU 24	-86	26	4215	-701.65	3.23	-30.06
988	SLU 25	-84	37	4170	-695.69	3.17	-29.37
988	SLU 26	-82	44	4107	-686.79	3.1	-28.61
988	SLU 27	-88	26	4282	-711.79	3.29	-30.46
988	SLU 28	-86	37	4237	-705.83	3.23	-29.77
988	SLU 29	-87	26	4250	-706.86	3.26	-30.17
988	SLU 30	-85	37	4204	-700.9	3.2	-29.48
988	SLU 31	-87	46	4470	-741.65	3.32	-30.3
988	SLU 32	-92	28	4644	-766.65	3.51	-32.15
988	SLU 33	-90	39	4599	-760.69	3.45	-31.45
988	SLU 34	-88	46	4537	-751.79	3.38	-30.7
988	SLU 35	-94	28	4711	-776.79	3.57	-32.55
988	SLU 36	-92	39	4666	-770.83	3.5	-31.85
988	SLU 37	-93	28	4679	-771.86	3.54	-32.25
988	SLU 38	-91	39	4634	-765.9	3.48	-31.56
988	SLU 39	-93	28	4729	-779.44	3.54	-32.35
988	SLU 40	-91	39	4684	-773.48	3.48	-31.65
988	SLU 41	-94	29	4796	-789.58	3.6	-32.75
988	SLU 42	-92	40	4751	-783.62	3.54	-32.05
988	SLU 43	-93	30	4390	-747.77	3.38	-32.25
988	SLU 44	-89	49	4314	-737.83	3.28	-31.1
988	SLU 45	-95	31	4489	-762.83	3.46	-32.95
988	SLU 46	-93	42	4444	-756.87	3.4	-32.26
988	SLU 47	-90	49	4381	-747.97	3.34	-31.5
988	SLU 48	-96	31	4556	-772.97	3.52	-33.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
988	SLU 49	-94	42	4511	-767.01	3.46	-32.66
988	SLU 50	-95	31	4524	-768.04	3.5	-33.06
988	SLU 51	-93	42	4478	-762.08	3.44	-32.36
988	SLU 52	-95	51	4744	-802.84	3.56	-33.18
988	SLU 53	-101	33	4918	-827.83	3.74	-35.03
988	SLU 54	-99	44	4873	-821.88	3.68	-34.34
988	SLU 55	-96	51	4811	-812.97	3.62	-33.59
988	SLU 56	-102	33	4985	-837.97	3.8	-35.43
988	SLU 57	-100	45	4940	-832.01	3.74	-34.74
988	SLU 58	-101	33	4953	-833.04	3.78	-35.14
988	SLU 59	-99	44	4908	-827.08	3.71	-34.45
988	SLU 60	-101	33	5003	-840.63	3.78	-35.23
988	SLU 61	-99	44	4958	-834.67	3.72	-34.54
988	SLU 62	-102	34	5070	-850.76	3.84	-35.63
988	SLU 63	-100	45	5025	-844.8	3.77	-34.94
988	SLU 64	-103	32	4974	-835.9	3.81	-35.86
988	SLU 65	-100	50	4899	-825.97	3.71	-34.7
988	SLU 66	-105	32	5074	-850.97	3.89	-36.55
988	SLU 67	-103	43	5028	-845.01	3.83	-35.86
988	SLU 68	-101	51	4966	-836.1	3.77	-35.11
988	SLU 69	-106	33	5141	-861.1	3.95	-36.95
988	SLU 70	-104	44	5095	-855.14	3.89	-36.26
988	SLU 71	-105	33	5108	-856.17	3.93	-36.66
988	SLU 72	-103	44	5063	-850.21	3.87	-35.97
988	SLU 73	-106	52	5328	-890.97	3.99	-36.79
988	SLU 74	-111	34	5503	-915.97	4.17	-38.64
988	SLU 75	-109	46	5458	-910.01	4.11	-37.95
988	SLU 76	-107	53	5395	-901.11	4.05	-37.19
988	SLU 77	-112	35	5570	-926.1	4.23	-39.04
988	SLU 78	-110	46	5525	-920.15	4.17	-38.35
988	SLU 79	-111	35	5538	-921.17	4.2	-38.75
988	SLU 80	-109	46	5493	-915.22	4.14	-38.05
988	SLU 81	-112	35	5588	-928.76	4.21	-38.84
988	SLU 82	-110	46	5543	-922.8	4.15	-38.15
988	SLU 83	-113	35	5655	-938.9	4.27	-39.24
988	SLU 84	-111	46	5610	-932.94	4.2	-38.55
988	SLE RA 1	-77	24	3698	-623.63	2.84	-26.79
988	SLE RA 2	-75	36	3648	-617.01	2.77	-26.02
988	SLE RA 3	-78	24	3764	-633.67	2.89	-27.25
988	SLE RA 4	-77	32	3734	-629.7	2.85	-26.79
988	SLE RA 5	-76	37	3692	-623.77	2.81	-26.29
988	SLE RA 6	-79	25	3809	-640.43	2.93	-27.52
988	SLE RA 7	-78	32	3779	-636.46	2.89	-27.06
988	SLE RA 8	-79	25	3787	-637.15	2.91	-27.33
988	SLE RA 9	-77	32	3757	-633.17	2.87	-26.86
988	SLE RA 10	-79	38	3934	-660.34	2.95	-27.41
988	SLE RA 11	-82	26	4050	-677.01	3.08	-28.64
988	SLE RA 12	-81	33	4020	-673.04	3.04	-28.18
988	SLE RA 13	-79	38	3979	-667.1	2.99	-27.68
988	SLE RA 14	-83	26	4095	-683.77	3.12	-28.91
988	SLE RA 15	-82	34	4065	-679.79	3.08	-28.45
988	SLE RA 16	-83	26	4074	-680.48	3.1	-28.72
988	SLE RA 17	-81	34	4043	-676.51	3.06	-28.25
988	SLE RA 18	-83	26	4107	-685.54	3.1	-28.78
988	SLE RA 19	-81	33	4077	-681.56	3.06	-28.32
988	SLE RA 20	-83	26	4152	-692.29	3.14	-29.04
988	SLE RA 21	-82	34	4121	-688.32	3.1	-28.58
988	SLE FR 1	-77	24	3698	-623.63	2.84	-26.79
988	SLE FR 2	-77	26	3688	-622.31	2.82	-26.64
988	SLE FR 3	-77	24	3716	-626.33	2.85	-26.9
988	SLE FR 4	-78	27	3811	-640.88	2.9	-27.23
988	SLE FR 5	-79	25	3838	-644.9	2.93	-27.49
988	SLE FR 6	-80	25	3902	-654.58	2.97	-27.78
988	SLE QP 1	-77	24	3698	-623.63	2.84	-26.79
988	SLE QP 2	-79	25	3821	-642.2	2.92	-27.39
988	SLD 1	363	217	4059	-683.35	5.08	127.33
988	SLD 2	288	126	4130	-692.28	5.29	101.05
988	SLD 3	319	-12	5190	-834.48	6.47	112.11
988	SLD 4	244	-103	5261	-843.42	6.69	85.84
988	SLD 5	134	444	2165	-423.78	1.41	46.62
988	SLD 6	85	386	2211	-429.53	1.55	29.71
988	SLD 7	-13	-318	5934	-927.58	6.06	-4.1
988	SLD 8	-62	-376	5980	-933.33	6.2	-21.02
988	SLD 9	-95	425	1661	-351.07	-0.37	-33.76
988	SLD 10	-144	367	1707	-356.82	-0.23	-50.67
988	SLD 11	-243	-337	5431	-854.87	4.28	-84.48
988	SLD 12	-291	-395	5476	-860.62	4.42	-101.4
988	SLD 13	-401	152	2380	-440.99	-0.86	-140.61
988	SLD 14	-477	61	2452	-449.92	-0.64	-166.88
988	SLD 15	-445	-77	3511	-592.12	0.54	-155.83
988	SLD 16	-521	-167	3582	-601.06	0.75	-182.1
988	SLV 1	617	342	4109	-695.28	6.18	216.08
988	SLV 2	498	199	4221	-709.36	6.53	174.67
988	SLV 3	542	-48	6038	-953.14	8.56	190.19
988	SLV 4	423	-191	6150	-967.22	8.9	148.78
988	SLV 5	267	738	960	-264.42	0.22	92.66
988	SLV 6	186	642	1036	-273.9	0.45	64.78
988	SLV 7	15	-562	7391	-1123.94	8.15	6.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
988	SLV 8	-65	-658	7466	-1133.41	8.38	-21.54
988	SLV 9	-93	707	175	-150.99	-2.55	-33.23
988	SLV 10	-173	611	250	-160.47	-2.32	-61.11
988	SLV 11	-344	-592	6605	-1010.51	5.38	-119.56
988	SLV 12	-424	-688	6681	-1019.99	5.61	-147.43
988	SLV 13	-580	240	1491	-317.18	-3.07	-203.55
988	SLV 14	-699	97	1603	-331.27	-2.73	-244.96
988	SLV 15	-655	-150	3420	-575.04	-0.7	-229.45
988	SLV 16	-775	-292	3532	-589.12	-0.35	-270.86
988	SLV FO 1	687	373	4138	-700.59	6.51	240.43
988	SLV FO 2	556	216	4261	-716.08	6.89	194.88
988	SLV FO 3	604	-56	6260	-984.23	9.13	211.94
988	SLV FO 4	473	-212	6383	-999.72	9.5	166.39
988	SLV FO 5	301	809	674	-226.64	-0.04	104.66
988	SLV FO 6	213	703	757	-237.07	0.21	74
988	SLV FO 7	25	-621	7748	-1172.11	8.68	9.71
988	SLV FO 8	-63	-726	7831	-1182.54	8.93	-20.96
988	SLV FO 9	-94	776	-190	-101.87	-3.1	-33.82
988	SLV FO 10	-182	670	-107	-112.29	-2.85	-64.48
988	SLV FO 11	-370	-654	6884	-1047.34	5.62	-128.77
988	SLV FO 12	-458	-760	6967	-1057.76	5.87	-159.44
988	SLV FO 13	-630	262	1258	-284.68	-3.67	-221.17
988	SLV FO 14	-761	105	1381	-300.17	-3.3	-266.72
988	SLV FO 15	-713	-167	3380	-568.32	-1.06	-249.65
988	SLV FO 16	-844	-324	3503	-583.81	-0.68	-295.2
988	CRTFP Ux+	0	0	0	0	0	0
988	CRTFP Ux-	0	0	0	0	0	0
988	CRTFP Uy+	0	0	0	0	0	0
988	CRTFP Uy-	0	0	0	0	0	0
989	SLU 1	-74	27	3489	-587.31	0.13	-25.67
989	SLU 2	-70	45	3416	-577.89	0.1	-24.53
989	SLU 3	-76	28	3587	-602.03	0.14	-26.36
989	SLU 4	-74	39	3543	-596.38	0.12	-25.67
989	SLU 5	-71	46	3482	-587.78	0.1	-24.92
989	SLU 6	-77	28	3653	-611.92	0.14	-26.76
989	SLU 7	-75	39	3609	-606.27	0.12	-26.07
989	SLU 8	-76	28	3622	-607.09	0.14	-26.47
989	SLU 9	-74	39	3577	-601.44	0.12	-25.78
989	SLU 10	-76	47	3842	-642.11	0.03	-26.62
989	SLU 11	-82	30	4014	-666.24	0.07	-28.46
989	SLU 12	-80	41	3970	-660.59	0.05	-27.77
989	SLU 13	-77	48	3908	-652	0.03	-27.02
989	SLU 14	-83	31	4080	-676.13	0.07	-28.85
989	SLU 15	-81	41	4036	-670.48	0.05	-28.16
989	SLU 16	-82	30	4048	-671.31	0.07	-28.56
989	SLU 17	-80	41	4004	-665.66	0.05	-27.87
989	SLU 18	-82	30	4098	-679.05	0.04	-28.67
989	SLU 19	-80	41	4054	-673.4	0.01	-27.98
989	SLU 20	-83	31	4165	-688.94	0.04	-29.06
989	SLU 21	-81	41	4121	-683.29	0.02	-28.38
989	SLU 22	-84	29	4068	-673.98	0.09	-29.28
989	SLU 23	-81	47	3995	-664.57	0.05	-28.13
989	SLU 24	-86	30	4166	-688.7	0.1	-29.96
989	SLU 25	-84	41	4122	-683.05	0.07	-29.27
989	SLU 26	-82	48	4061	-674.46	0.06	-28.53
989	SLU 27	-87	30	4232	-698.59	0.1	-30.36
989	SLU 28	-85	41	4188	-692.94	0.08	-29.67
989	SLU 29	-86	30	4201	-693.76	0.1	-30.07
989	SLU 30	-84	41	4157	-688.11	0.08	-29.38
989	SLU 31	-87	49	4421	-728.78	-0.02	-30.23
989	SLU 32	-92	32	4593	-752.92	0.03	-32.06
989	SLU 33	-90	43	4549	-747.27	0	-31.37
989	SLU 34	-88	50	4487	-738.67	-0.01	-30.62
989	SLU 35	-93	33	4659	-762.81	0.03	-32.46
989	SLU 36	-91	43	4615	-757.16	0.01	-31.77
989	SLU 37	-92	32	4627	-757.98	0.03	-32.17
989	SLU 38	-90	43	4583	-752.33	0.01	-31.48
989	SLU 39	-92	32	4677	-765.72	-0.01	-32.27
989	SLU 40	-90	43	4633	-760.07	-0.03	-31.58
989	SLU 41	-94	33	4744	-775.61	0	-32.67
989	SLU 42	-92	44	4700	-769.96	-0.03	-31.98
989	SLU 43	-92	34	4338	-733.79	0.19	-32.14
989	SLU 44	-89	52	4264	-724.37	0.15	-30.99
989	SLU 45	-94	35	4435	-748.5	0.19	-32.83
989	SLU 46	-92	46	4391	-742.85	0.17	-32.14
989	SLU 47	-90	53	4330	-734.26	0.16	-31.39
989	SLU 48	-95	36	4502	-758.39	0.2	-33.22
989	SLU 49	-93	46	4458	-752.74	0.18	-32.53
989	SLU 50	-94	36	4470	-753.57	0.2	-32.93
989	SLU 51	-92	46	4426	-747.92	0.18	-32.24
989	SLU 52	-95	55	4691	-788.59	0.08	-33.09
989	SLU 53	-100	37	4862	-812.72	0.13	-34.92
989	SLU 54	-98	48	4818	-807.07	0.1	-34.23
989	SLU 55	-96	55	4757	-798.48	0.09	-33.49
989	SLU 56	-101	38	4928	-822.61	0.13	-35.32
989	SLU 57	-99	49	4884	-816.96	0.11	-34.63
989	SLU 58	-100	38	4896	-817.78	0.13	-35.03
989	SLU 59	-98	49	4852	-812.13	0.11	-34.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
989	SLU 60	-101	37	4947	-825.52	0.09	-35.13
989	SLU 61	-99	48	4903	-819.87	0.07	-34.45
989	SLU 62	-102	38	5013	-835.41	0.1	-35.53
989	SLU 63	-100	49	4969	-829.76	0.07	-34.84
989	SLU 64	-102	36	4917	-820.46	0.15	-35.74
989	SLU 65	-99	54	4843	-811.04	0.11	-34.6
989	SLU 66	-104	37	5015	-835.18	0.15	-36.43
989	SLU 67	-102	48	4970	-829.53	0.13	-35.74
989	SLU 68	-100	55	4909	-820.93	0.11	-34.99
989	SLU 69	-106	38	5081	-845.07	0.16	-36.83
989	SLU 70	-104	49	5037	-839.42	0.13	-36.14
989	SLU 71	-105	38	5049	-840.24	0.16	-36.53
989	SLU 72	-103	48	5005	-834.59	0.13	-35.85
989	SLU 73	-105	57	5270	-875.26	0.04	-36.69
989	SLU 74	-110	39	5441	-899.39	0.08	-38.53
989	SLU 75	-108	50	5397	-893.74	0.06	-37.84
989	SLU 76	-106	57	5336	-885.15	0.04	-37.09
989	SLU 77	-112	40	5507	-909.28	0.09	-38.92
989	SLU 78	-110	51	5463	-903.63	0.06	-38.23
989	SLU 79	-111	40	5475	-904.46	0.09	-38.63
989	SLU 80	-109	51	5431	-898.81	0.06	-37.94
989	SLU 81	-111	40	5526	-912.2	0.05	-38.74
989	SLU 82	-109	50	5482	-906.55	0.03	-38.05
989	SLU 83	-112	40	5592	-922.09	0.05	-39.13
989	SLU 84	-110	51	5548	-916.44	0.03	-38.45
989	SLE RA 1	-77	28	3655	-612.07	0.12	-26.7
989	SLE RA 2	-74	40	3606	-605.8	0.1	-25.94
989	SLE RA 3	-78	28	3720	-621.89	0.13	-27.16
989	SLE RA 4	-77	35	3691	-618.12	0.11	-26.7
989	SLE RA 5	-75	40	3650	-612.39	0.1	-26.2
989	SLE RA 6	-79	28	3764	-628.48	0.13	-27.42
989	SLE RA 7	-77	36	3735	-624.71	0.11	-26.97
989	SLE RA 8	-78	28	3743	-625.26	0.13	-27.23
989	SLE RA 9	-77	36	3714	-621.49	0.11	-26.77
989	SLE RA 10	-78	41	3890	-648.61	0.05	-27.34
989	SLE RA 11	-82	30	4004	-664.7	0.08	-28.56
989	SLE RA 12	-81	37	3975	-660.93	0.06	-28.1
989	SLE RA 13	-79	41	3934	-655.2	0.05	-27.6
989	SLE RA 14	-83	30	4048	-671.29	0.08	-28.82
989	SLE RA 15	-81	37	4019	-667.52	0.07	-28.36
989	SLE RA 16	-82	30	4027	-668.07	0.08	-28.63
989	SLE RA 17	-81	37	3998	-664.3	0.07	-28.17
989	SLE RA 18	-82	30	4061	-673.23	0.06	-28.7
989	SLE RA 19	-81	37	4031	-669.47	0.04	-28.24
989	SLE RA 20	-83	30	4105	-679.83	0.06	-28.96
989	SLE RA 21	-82	37	4076	-676.06	0.04	-28.5
989	SLE FR 1	-77	28	3655	-612.07	0.12	-26.7
989	SLE FR 2	-76	30	3645	-610.82	0.12	-26.55
989	SLE FR 3	-77	28	3672	-614.71	0.12	-26.81
989	SLE FR 4	-78	31	3767	-629.17	0.1	-27.15
989	SLE FR 5	-79	28	3794	-633.06	0.1	-27.41
989	SLE FR 6	-79	29	3858	-642.65	0.09	-27.7
989	SLE QP 1	-77	28	3655	-612.07	0.12	-26.7
989	SLE QP 2	-78	28	3777	-630.42	0.1	-27.3
989	SLD 1	364	214	3955	-652.65	2.01	127.57
989	SLD 2	289	129	4021	-660.42	2.16	101.29
989	SLD 3	321	-8	5058	-796.85	2.5	112.47
989	SLD 4	245	-93	5124	-804.63	2.65	86.19
989	SLD 5	134	435	2146	-417.04	-0.09	46.58
989	SLD 6	85	381	2188	-422.05	0	29.66
989	SLD 7	-12	-305	5823	-897.72	1.54	-3.76
989	SLD 8	-60	-360	5865	-902.73	1.63	-20.68
989	SLD 9	-96	416	1688	-358.11	-1.43	-33.93
989	SLD 10	-145	361	1730	-363.12	-1.33	-50.84
989	SLD 11	-241	-324	5365	-838.79	0.2	-84.26
989	SLD 12	-290	-379	5407	-843.8	0.3	-101.18
989	SLD 13	-402	150	2429	-456.21	-2.44	-140.79
989	SLD 14	-477	65	2495	-463.99	-2.29	-167.07
989	SLD 15	-445	-73	3533	-600.42	-1.95	-155.89
989	SLD 16	-521	-158	3598	-608.2	-1.8	-182.17
989	SLV 1	618	335	3974	-654.51	3.04	216.4
989	SLV 2	499	201	4077	-666.77	3.28	174.98
989	SLV 3	544	-44	5856	-900.55	3.87	190.7
989	SLV 4	425	-178	5959	-912.81	4.11	149.28
989	SLV 5	265	720	962	-262.2	-0.32	92.51
989	SLV 6	185	630	1032	-270.45	-0.16	64.63
989	SLV 7	18	-543	7235	-1082.33	2.45	6.85
989	SLV 8	-62	-633	7305	-1090.59	2.61	-21.03
989	SLV 9	-95	689	248	-170.25	-2.4	-33.57
989	SLV 10	-175	599	318	-178.51	-2.25	-61.45
989	SLV 11	-342	-573	6521	-990.39	0.37	-119.23
989	SLV 12	-422	-663	6591	-998.65	0.53	-147.12
989	SLV 13	-581	234	1594	-348.03	-3.9	-203.89
989	SLV 14	-700	100	1698	-360.29	-3.67	-245.3
989	SLV 15	-655	-145	3476	-594.07	-3.07	-229.58
989	SLV 16	-775	-279	3580	-606.33	-2.83	-271
989	SLV FO 1	688	366	3993	-656.92	3.33	240.77
989	SLV FO 2	557	218	4107	-670.4	3.59	195.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
989	SLV FO 3	606	-51	6063	-927.56	4.25	212.5
989	SLV FO 4	475	-198	6177	-941.05	4.51	166.94
989	SLV FO 5	300	789	681	-225.37	-0.36	104.5
989	SLV FO 6	211	690	757	-234.45	-0.19	73.83
989	SLV FO 7	28	-600	7581	-1127.53	2.69	10.27
989	SLV FO 8	-60	-699	7658	-1136.6	2.86	-20.4
989	SLV FO 9	-96	756	-105	-124.24	-2.65	-34.2
989	SLV FO 10	-184	656	-28	-133.32	-2.48	-64.87
989	SLV FO 11	-368	-633	6796	-1026.39	0.4	-128.43
989	SLV FO 12	-456	-733	6873	-1035.47	0.57	-159.1
989	SLV FO 13	-632	255	1376	-319.79	-4.3	-221.54
989	SLV FO 14	-763	107	1490	-333.28	-4.04	-267.1
989	SLV FO 15	-713	-162	3446	-590.44	-3.39	-249.81
989	SLV FO 16	-844	-309	3560	-603.93	-3.13	-295.37
989	CRTFP Ux+	0	0	0	0	0	0
989	CRTFP Ux-	0	0	0	0	0	0
989	CRTFP Uy+	0	0	0	0	0	0
989	CRTFP Uy-	0	0	0	0	0	0
990	SLU 1	-73	28	3520	-627.93	-2.13	-25.55
990	SLU 2	-70	46	3446	-617.84	-2.11	-24.42
990	SLU 3	-75	29	3619	-643.89	-2.2	-26.23
990	SLU 4	-73	40	3575	-637.83	-2.19	-25.55
990	SLU 5	-71	47	3513	-628.56	-2.16	-24.81
990	SLU 6	-76	30	3685	-654.6	-2.24	-26.62
990	SLU 7	-74	41	3641	-648.55	-2.23	-25.94
990	SLU 8	-75	30	3653	-649.35	-2.22	-26.33
990	SLU 9	-73	40	3609	-643.3	-2.21	-25.65
990	SLU 10	-76	48	3880	-688.3	-2.49	-26.53
990	SLU 11	-81	31	4052	-714.34	-2.57	-28.34
990	SLU 12	-79	42	4008	-708.29	-2.56	-27.66
990	SLU 13	-77	49	3946	-699.01	-2.53	-26.92
990	SLU 14	-82	32	4118	-725.05	-2.62	-28.73
990	SLU 15	-80	43	4074	-719	-2.61	-28.05
990	SLU 16	-81	32	4086	-719.81	-2.6	-28.44
990	SLU 17	-79	42	4042	-713.76	-2.58	-27.76
990	SLU 18	-82	32	4138	-728.58	-2.67	-28.56
990	SLU 19	-80	42	4094	-722.53	-2.66	-27.88
990	SLU 20	-83	32	4205	-739.29	-2.71	-28.96
990	SLU 21	-81	43	4161	-733.24	-2.7	-28.27
990	SLU 22	-83	31	4106	-722.64	-2.59	-29.15
990	SLU 23	-80	49	4033	-712.55	-2.58	-28.02
990	SLU 24	-85	32	4205	-738.59	-2.66	-29.83
990	SLU 25	-83	42	4161	-732.54	-2.65	-29.15
990	SLU 26	-81	49	4100	-723.26	-2.62	-28.41
990	SLU 27	-86	32	4272	-749.3	-2.71	-30.22
990	SLU 28	-84	43	4228	-743.25	-2.7	-29.54
990	SLU 29	-86	32	4240	-744.06	-2.68	-29.93
990	SLU 30	-84	43	4196	-738.01	-2.67	-29.25
990	SLU 31	-86	51	4466	-783	-2.95	-30.13
990	SLU 32	-91	34	4638	-809.05	-3.04	-31.94
990	SLU 33	-89	44	4594	-802.99	-3.03	-31.26
990	SLU 34	-87	51	4533	-793.72	-2.99	-30.52
990	SLU 35	-92	34	4705	-819.76	-3.08	-32.33
990	SLU 36	-90	45	4661	-813.71	-3.07	-31.65
990	SLU 37	-92	34	4673	-814.51	-3.06	-32.04
990	SLU 38	-90	45	4629	-808.46	-3.05	-31.36
990	SLU 39	-92	34	4725	-823.29	-3.13	-32.16
990	SLU 40	-90	45	4681	-817.23	-3.12	-31.48
990	SLU 41	-93	34	4792	-834	-3.17	-32.56
990	SLU 42	-91	45	4748	-827.95	-3.16	-31.87
990	SLU 43	-91	36	4374	-783.84	-2.61	-31.98
990	SLU 44	-88	54	4301	-773.75	-2.6	-30.85
990	SLU 45	-93	37	4473	-799.8	-2.68	-32.66
990	SLU 46	-91	48	4429	-793.74	-2.67	-31.98
990	SLU 47	-89	55	4368	-784.47	-2.64	-31.24
990	SLU 48	-95	38	4540	-810.51	-2.73	-33.05
990	SLU 49	-93	48	4496	-804.46	-2.71	-32.37
990	SLU 50	-94	37	4508	-805.26	-2.7	-32.76
990	SLU 51	-92	48	4464	-799.21	-2.69	-32.08
990	SLU 52	-94	56	4734	-844.21	-2.97	-32.96
990	SLU 53	-99	39	4906	-870.25	-3.06	-34.77
990	SLU 54	-97	50	4862	-864.2	-3.04	-34.09
990	SLU 55	-95	57	4801	-854.92	-3.01	-33.35
990	SLU 56	-101	40	4973	-880.96	-3.1	-35.16
990	SLU 57	-99	50	4929	-874.91	-3.09	-34.48
990	SLU 58	-100	40	4941	-875.72	-3.08	-34.87
990	SLU 59	-98	50	4897	-869.67	-3.07	-34.19
990	SLU 60	-100	39	4993	-884.49	-3.15	-35
990	SLU 61	-98	50	4949	-878.44	-3.14	-34.31
990	SLU 62	-101	40	5060	-895.2	-3.19	-35.39
990	SLU 63	-99	50	5016	-889.15	-3.18	-34.71
990	SLU 64	-102	39	4961	-878.54	-3.08	-35.58
990	SLU 65	-98	56	4888	-868.46	-3.06	-34.45
990	SLU 66	-104	39	5060	-894.5	-3.14	-36.26
990	SLU 67	-102	50	5016	-888.45	-3.13	-35.58
990	SLU 68	-100	57	4955	-879.17	-3.1	-34.84
990	SLU 69	-105	40	5127	-905.21	-3.19	-36.65
990	SLU 70	-103	51	5083	-899.16	-3.18	-35.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
990	SLU 71	-104	40	5094	-899.97	-3.16	-36.36
990	SLU 72	-102	50	5051	-893.92	-3.15	-35.68
990	SLU 73	-105	58	5321	-938.91	-3.43	-36.56
990	SLU 74	-110	41	5493	-964.96	-3.52	-38.37
990	SLU 75	-108	52	5449	-958.9	-3.51	-37.69
990	SLU 76	-106	59	5388	-949.63	-3.48	-36.95
990	SLU 77	-111	42	5560	-975.67	-3.56	-38.76
990	SLU 78	-109	53	5516	-969.61	-3.55	-38.08
990	SLU 79	-110	42	5527	-970.42	-3.54	-38.47
990	SLU 80	-108	53	5484	-964.37	-3.53	-37.79
990	SLU 81	-110	42	5580	-979.2	-3.61	-38.6
990	SLU 82	-108	52	5536	-973.14	-3.6	-37.91
990	SLU 83	-111	42	5646	-989.91	-3.66	-38.99
990	SLU 84	-109	53	5603	-983.86	-3.64	-38.31
990	SLE RA 1	-76	29	3687	-654.99	-2.26	-26.58
990	SLE RA 2	-74	41	3638	-648.27	-2.25	-25.82
990	SLE RA 3	-77	30	3753	-665.63	-2.31	-27.03
990	SLE RA 4	-76	37	3724	-661.59	-2.3	-26.58
990	SLE RA 5	-75	41	3683	-655.41	-2.28	-26.08
990	SLE RA 6	-78	30	3798	-672.77	-2.34	-27.29
990	SLE RA 7	-77	37	3768	-668.73	-2.33	-26.84
990	SLE RA 8	-77	30	3776	-669.27	-2.32	-27.1
990	SLE RA 9	-76	37	3747	-665.24	-2.32	-26.65
990	SLE RA 10	-78	42	3927	-695.24	-2.5	-27.23
990	SLE RA 11	-81	31	4042	-712.6	-2.56	-28.44
990	SLE RA 12	-80	38	4013	-708.56	-2.55	-27.98
990	SLE RA 13	-79	43	3972	-702.38	-2.53	-27.49
990	SLE RA 14	-82	32	4086	-719.74	-2.59	-28.7
990	SLE RA 15	-81	39	4057	-715.7	-2.58	-28.25
990	SLE RA 16	-81	31	4065	-716.24	-2.57	-28.51
990	SLE RA 17	-80	38	4036	-712.21	-2.57	-28.05
990	SLE RA 18	-82	31	4100	-722.09	-2.62	-28.59
990	SLE RA 19	-80	38	4070	-718.06	-2.61	-28.13
990	SLE RA 20	-82	32	4144	-729.23	-2.65	-28.85
990	SLE RA 21	-81	39	4115	-725.2	-2.64	-28.4
990	SLE FR 1	-76	29	3687	-654.99	-2.26	-26.58
990	SLE FR 2	-76	31	3677	-653.64	-2.26	-26.43
990	SLE FR 3	-76	29	3705	-657.85	-2.28	-26.68
990	SLE FR 4	-77	32	3801	-673.77	-2.37	-27.03
990	SLE FR 5	-78	30	3829	-677.98	-2.38	-27.29
990	SLE FR 6	-79	30	3893	-688.54	-2.44	-27.58
990	SLE QP 1	-76	29	3687	-654.99	-2.26	-26.58
990	SLE QP 2	-78	30	3811	-675.12	-2.37	-27.18
990	SLD 1	365	212	3936	-683.38	-0.66	127.76
990	SLD 2	289	132	3998	-691.2	-0.57	101.5
990	SLD 3	322	-7	5037	-837.92	-1	112.82
990	SLD 4	247	-88	5099	-845.74	-0.92	86.56
990	SLD 5	133	431	2168	-441.87	-1.35	46.47
990	SLD 6	84	379	2208	-446.9	-1.3	29.57
990	SLD 7	-10	-300	5838	-957	-2.5	-3.32
990	SLD 8	-58	-352	5878	-962.03	-2.44	-20.23
990	SLD 9	-97	412	1744	-388.21	-2.3	-34.13
990	SLD 10	-146	360	1784	-393.24	-2.25	-51.04
990	SLD 11	-240	-320	5414	-903.34	-3.45	-83.93
990	SLD 12	-288	-372	5454	-908.37	-3.39	-100.84
990	SLD 13	-402	147	2522	-504.5	-3.83	-140.93
990	SLD 14	-478	67	2585	-512.32	-3.74	-167.19
990	SLD 15	-445	-72	3624	-659.04	-4.17	-155.87
990	SLD 16	-520	-153	3686	-666.86	-4.08	-182.12
990	SLV 1	619	332	3925	-676.67	0.32	216.62
990	SLV 2	500	205	4023	-689	0.46	175.23
990	SLV 3	546	-43	5804	-940.36	-0.26	191.2
990	SLV 4	427	-170	5902	-952.68	-0.13	149.81
990	SLV 5	264	712	977	-273.37	-0.7	92.24
990	SLV 6	184	626	1044	-281.67	-0.61	64.38
990	SLV 7	21	-536	7240	-1152.31	-2.65	7.5
990	SLV 8	-59	-622	7306	-1160.6	-2.56	-20.36
990	SLV 9	-97	681	316	-189.64	-2.18	-34
990	SLV 10	-177	596	382	-197.93	-2.09	-61.86
990	SLV 11	-339	-567	6578	-1068.57	-4.14	-118.74
990	SLV 12	-419	-652	6644	-1076.87	-4.04	-146.6
990	SLV 13	-583	229	1720	-397.56	-4.62	-204.17
990	SLV 14	-702	102	1818	-409.88	-4.48	-245.56
990	SLV 15	-655	-145	3599	-661.24	-5.2	-229.59
990	SLV 16	-774	-272	3697	-673.57	-5.07	-270.99
990	SLV FO 1	688	362	3936	-676.83	0.59	241
990	SLV FO 2	558	222	4044	-690.39	0.74	195.47
990	SLV FO 3	608	-50	6003	-966.88	-0.05	213.04
990	SLV FO 4	478	-190	6111	-980.43	0.1	167.51
990	SLV FO 5	298	780	694	-233.2	-0.53	104.18
990	SLV FO 6	210	686	767	-242.32	-0.43	73.53
990	SLV FO 7	31	-593	7583	-1200.03	-2.68	10.97
990	SLV FO 8	-57	-687	7655	-1209.15	-2.58	-19.68
990	SLV FO 9	-99	746	-34	-141.09	-2.16	-34.68
990	SLV FO 10	-187	652	39	-150.21	-2.06	-65.33
990	SLV FO 11	-365	-627	6855	-1107.92	-4.31	-127.9
990	SLV FO 12	-453	-721	6928	-1117.04	-4.21	-158.54
990	SLV FO 13	-633	249	1511	-369.81	-4.84	-221.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
990	SLV FO 14	-764	110	1619	-383.36	-4.69	-267.4
990	SLV FO 15	-713	-163	3577	-659.85	-5.49	-249.84
990	SLV FO 16	-844	-302	3685	-673.41	-5.34	-295.37
990	CRTFP Ux+	0	0	0	0	0	0
990	CRTFP Ux-	0	0	0	0	0	0
990	CRTFP Uy+	0	0	0	0	0	0
990	CRTFP Uy-	0	0	0	0	0	0
991	SLU 1	-73	28	3611	-712.99	-3.95	-25.42
991	SLU 2	-69	46	3536	-701.17	-3.88	-24.3
991	SLU 3	-74	29	3712	-731.55	-4.07	-26.09
991	SLU 4	-73	40	3668	-724.46	-4.03	-25.42
991	SLU 5	-70	47	3605	-713.63	-3.96	-24.68
991	SLU 6	-76	30	3781	-744.01	-4.16	-26.47
991	SLU 7	-74	40	3736	-736.92	-4.12	-25.8
991	SLU 8	-75	29	3748	-737.9	-4.12	-26.19
991	SLU 9	-73	40	3703	-730.81	-4.07	-25.52
991	SLU 10	-75	48	3984	-783.97	-4.5	-26.42
991	SLU 11	-80	31	4160	-814.35	-4.69	-28.21
991	SLU 12	-79	42	4116	-807.26	-4.65	-27.54
991	SLU 13	-76	49	4053	-796.43	-4.58	-26.81
991	SLU 14	-82	32	4229	-826.81	-4.78	-28.6
991	SLU 15	-80	42	4184	-819.72	-4.74	-27.92
991	SLU 16	-81	31	4196	-820.7	-4.74	-28.31
991	SLU 17	-79	42	4151	-813.61	-4.69	-27.64
991	SLU 18	-81	31	4250	-831.27	-4.83	-28.45
991	SLU 19	-79	42	4206	-824.19	-4.79	-27.78
991	SLU 20	-82	32	4319	-843.73	-4.92	-28.83
991	SLU 21	-80	42	4274	-836.64	-4.88	-28.16
991	SLU 22	-83	31	4216	-823.96	-4.75	-29.01
991	SLU 23	-80	48	4142	-812.14	-4.68	-27.89
991	SLU 24	-85	31	4318	-842.52	-4.87	-29.68
991	SLU 25	-83	42	4273	-835.43	-4.83	-29.01
991	SLU 26	-81	49	4210	-824.6	-4.76	-28.28
991	SLU 27	-86	32	4387	-854.98	-4.96	-30.07
991	SLU 28	-84	43	4342	-847.89	-4.92	-29.4
991	SLU 29	-85	32	4353	-848.87	-4.92	-29.79
991	SLU 30	-83	42	4309	-841.79	-4.87	-29.11
991	SLU 31	-86	50	4590	-894.95	-5.3	-30.02
991	SLU 32	-91	33	4766	-925.32	-5.49	-31.81
991	SLU 33	-89	44	4721	-918.23	-5.45	-31.14
991	SLU 34	-87	51	4658	-907.4	-5.38	-30.4
991	SLU 35	-92	34	4834	-937.78	-5.58	-32.19
991	SLU 36	-90	44	4790	-930.69	-5.54	-31.52
991	SLU 37	-91	34	4801	-931.68	-5.54	-31.91
991	SLU 38	-89	44	4757	-924.59	-5.5	-31.24
991	SLU 39	-91	33	4856	-942.25	-5.63	-32.05
991	SLU 40	-90	44	4811	-935.16	-5.59	-31.38
991	SLU 41	-93	34	4925	-954.7	-5.72	-32.43
991	SLU 42	-91	45	4880	-947.62	-5.68	-31.76
991	SLU 43	-91	36	4486	-888.84	-4.86	-31.81
991	SLU 44	-88	54	4412	-877.02	-4.79	-30.69
991	SLU 45	-93	37	4588	-907.4	-4.98	-32.48
991	SLU 46	-91	47	4543	-900.31	-4.94	-31.81
991	SLU 47	-89	54	4480	-889.48	-4.87	-31.07
991	SLU 48	-94	37	4657	-919.86	-5.07	-32.86
991	SLU 49	-92	48	4612	-912.77	-5.03	-32.19
991	SLU 50	-93	37	4623	-913.75	-5.03	-32.58
991	SLU 51	-91	48	4579	-906.66	-4.98	-31.91
991	SLU 52	-94	56	4860	-959.82	-5.41	-32.81
991	SLU 53	-99	39	5036	-990.2	-5.6	-34.6
991	SLU 54	-97	49	4991	-983.11	-5.56	-33.93
991	SLU 55	-95	56	4928	-972.28	-5.49	-33.2
991	SLU 56	-100	39	5105	-1002.66	-5.69	-34.99
991	SLU 57	-98	50	5060	-995.57	-5.65	-34.32
991	SLU 58	-99	39	5071	-996.55	-5.65	-34.7
991	SLU 59	-97	50	5027	-989.46	-5.6	-34.03
991	SLU 60	-99	39	5126	-1007.12	-5.74	-34.84
991	SLU 61	-97	49	5081	-1000.03	-5.7	-34.17
991	SLU 62	-100	39	5195	-1019.58	-5.83	-35.23
991	SLU 63	-99	50	5150	-1012.49	-5.79	-34.55
991	SLU 64	-101	38	5092	-999.81	-5.66	-35.4
991	SLU 65	-98	56	5017	-987.99	-5.59	-34.29
991	SLU 66	-103	39	5193	-1018.37	-5.78	-36.08
991	SLU 67	-101	50	5149	-1011.28	-5.74	-35.4
991	SLU 68	-99	57	5086	-1000.45	-5.67	-34.67
991	SLU 69	-104	40	5262	-1030.83	-5.87	-36.46
991	SLU 70	-102	50	5217	-1023.74	-5.83	-35.79
991	SLU 71	-103	39	5229	-1024.72	-5.83	-36.18
991	SLU 72	-101	50	5184	-1017.63	-5.78	-35.51
991	SLU 73	-104	58	5465	-1070.79	-6.21	-36.41
991	SLU 74	-109	41	5641	-1101.17	-6.4	-38.2
991	SLU 75	-107	52	5597	-1094.08	-6.36	-37.53
991	SLU 76	-105	58	5534	-1083.25	-6.29	-36.79
991	SLU 77	-110	41	5710	-1113.63	-6.49	-38.59
991	SLU 78	-108	52	5665	-1106.54	-6.45	-37.91
991	SLU 79	-109	41	5677	-1107.52	-6.45	-38.3
991	SLU 80	-107	52	5632	-1100.44	-6.41	-37.63
991	SLU 81	-110	41	5732	-1118.1	-6.54	-38.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
991	SLU 82	-108	52	5687	-1111.01	-6.5	-37.77
991	SLU 83	-111	42	5800	-1130.55	-6.63	-38.82
991	SLU 84	-109	52	5756	-1123.46	-6.59	-38.15
991	SLE RA 1	-75	29	3784	-744.69	-4.18	-26.44
991	SLE RA 2	-73	41	3734	-736.82	-4.13	-25.7
991	SLE RA 3	-77	29	3851	-757.07	-4.26	-26.89
991	SLE RA 4	-75	36	3822	-752.34	-4.23	-26.44
991	SLE RA 5	-74	41	3780	-745.12	-4.19	-25.96
991	SLE RA 6	-77	30	3897	-765.37	-4.32	-27.15
991	SLE RA 7	-76	37	3867	-760.65	-4.29	-26.7
991	SLE RA 8	-77	30	3875	-761.3	-4.29	-26.96
991	SLE RA 9	-76	37	3845	-756.58	-4.26	-26.51
991	SLE RA 10	-77	42	4033	-792.02	-4.54	-27.11
991	SLE RA 11	-81	31	4150	-812.27	-4.67	-28.31
991	SLE RA 12	-79	38	4120	-807.54	-4.65	-27.86
991	SLE RA 13	-78	42	4078	-800.32	-4.6	-27.37
991	SLE RA 14	-81	31	4196	-820.57	-4.73	-28.56
991	SLE RA 15	-80	38	4166	-815.85	-4.7	-28.12
991	SLE RA 16	-81	31	4174	-816.5	-4.7	-28.37
991	SLE RA 17	-80	38	4144	-811.78	-4.67	-27.93
991	SLE RA 18	-81	31	4210	-823.55	-4.77	-28.47
991	SLE RA 19	-80	38	4180	-818.83	-4.74	-28.02
991	SLE RA 20	-82	31	4256	-831.86	-4.82	-28.72
991	SLE RA 21	-81	38	4226	-827.13	-4.8	-28.28
991	SLE FR 1	-75	29	3784	-744.69	-4.18	-26.44
991	SLE FR 2	-75	31	3774	-743.12	-4.17	-26.29
991	SLE FR 3	-76	29	3802	-748.02	-4.2	-26.55
991	SLE FR 4	-77	32	3902	-766.78	-4.34	-26.9
991	SLE FR 5	-77	30	3930	-771.67	-4.38	-27.15
991	SLE FR 6	-78	30	3997	-784.12	-4.47	-27.45
991	SLE QP 1	-75	29	3784	-744.69	-4.18	-26.44
991	SLE QP 2	-77	29	3912	-768.35	-4.35	-27.05
991	SLD 1	365	210	3988	-766.66	-2.79	127.88
991	SLD 2	290	134	4049	-775.53	-2.76	101.66
991	SLD 3	324	-10	5110	-946.81	-3.84	113.15
991	SLD 4	248	-87	5171	-955.68	-3.81	86.94
991	SLD 5	132	432	2222	-493.09	-2.29	46.27
991	SLD 6	84	382	2261	-498.8	-2.27	29.39
991	SLD 7	-7	-304	5963	-1093.59	-5.8	-2.82
991	SLD 8	-56	-353	6002	-1099.31	-5.78	-19.7
991	SLD 9	-99	412	1821	-437.39	-2.92	-34.4
991	SLD 10	-147	363	1860	-443.11	-2.91	-51.28
991	SLD 11	-238	-323	5562	-1037.9	-6.44	-83.49
991	SLD 12	-286	-373	5601	-1043.62	-6.42	-100.37
991	SLD 13	-403	146	2652	-581.02	-4.9	-141.04
991	SLD 14	-478	69	2713	-589.89	-4.87	-167.25
991	SLD 15	-445	-75	3774	-761.17	-5.95	-155.76
991	SLD 16	-520	-152	3835	-770.04	-5.92	-181.98
991	SLV 1	619	329	3949	-752.51	-1.83	216.71
991	SLV 2	501	208	4044	-766.49	-1.78	175.39
991	SLV 3	548	-48	5863	-1059.89	-3.63	191.65
991	SLV 4	430	-168	5959	-1073.88	-3.58	150.33
991	SLV 5	262	712	1001	-294.79	-0.88	91.79
991	SLV 6	182	631	1066	-304.21	-0.85	63.98
991	SLV 7	25	-542	7383	-1319.4	-6.87	8.26
991	SLV 8	-55	-623	7447	-1328.82	-6.84	-19.55
991	SLV 9	-99	682	376	-207.89	-1.87	-34.55
991	SLV 10	-179	601	440	-217.3	-1.84	-62.36
991	SLV 11	-336	-572	6757	-1232.5	-7.86	-118.08
991	SLV 12	-416	-654	6822	-1241.91	-7.83	-145.9
991	SLV 13	-584	227	1864	-462.83	-5.13	-204.43
991	SLV 14	-703	106	1960	-476.81	-5.08	-245.75
991	SLV 15	-655	-149	3779	-770.21	-6.92	-229.49
991	SLV 16	-774	-270	3874	-784.2	-6.88	-270.81
991	SLV FO 1	689	359	3953	-750.92	-1.58	241.09
991	SLV FO 2	558	226	4058	-766.31	-1.53	195.63
991	SLV FO 3	611	-55	6058	-1089.04	-3.56	213.52
991	SLV FO 4	480	-188	6163	-1104.43	-3.5	168.07
991	SLV FO 5	296	781	710	-247.43	-0.53	103.68
991	SLV FO 6	208	691	781	-257.79	-0.5	73.08
991	SLV FO 7	35	-599	7730	-1374.51	-7.12	11.8
991	SLV FO 8	-53	-688	7801	-1384.86	-7.09	-18.8
991	SLV FO 9	-101	747	23	-151.84	-1.62	-35.3
991	SLV FO 10	-189	658	93	-162.2	-1.58	-65.9
991	SLV FO 11	-362	-632	7042	-1278.91	-8.21	-127.18
991	SLV FO 12	-450	-722	7113	-1289.27	-8.18	-157.78
991	SLV FO 13	-635	247	1660	-432.27	-5.2	-222.17
991	SLV FO 14	-765	114	1765	-447.66	-5.15	-267.62
991	SLV FO 15	-713	-167	3766	-770.4	-7.18	-249.73
991	SLV FO 16	-843	-300	3871	-785.78	-7.13	-295.19
991	CRTFP Ux+	0	0	0	0	0	0
991	CRTFP Ux-	0	0	0	0	0	0
991	CRTFP Uy+	0	0	0	0	0	0
991	CRTFP Uy-	0	0	0	0	0	0
992	SLU 1	-72	27	3746	-833.6	-5.11	-25.28
992	SLU 2	-69	45	3669	-819.14	-5	-24.18
992	SLU 3	-74	27	3852	-855.88	-5.28	-25.95
992	SLU 4	-72	38	3806	-847.21	-5.21	-25.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
992	SLU 5	-70	45	3741	-834.1	-5.11	-24.56
992	SLU 6	-75	28	3924	-870.84	-5.39	-26.33
992	SLU 7	-73	39	3878	-862.16	-5.32	-25.67
992	SLU 8	-74	28	3889	-863.51	-5.33	-26.05
992	SLU 9	-72	38	3843	-854.83	-5.27	-25.39
992	SLU 10	-75	47	4138	-919.25	-5.78	-26.32
992	SLU 11	-80	29	4321	-955.99	-6.06	-28.09
992	SLU 12	-78	40	4275	-947.32	-5.99	-27.43
992	SLU 13	-76	47	4209	-934.2	-5.89	-26.71
992	SLU 14	-81	30	4393	-970.95	-6.17	-28.47
992	SLU 15	-79	40	4346	-962.27	-6.1	-27.81
992	SLU 16	-80	29	4358	-963.62	-6.11	-28.19
992	SLU 17	-78	40	4312	-954.94	-6.05	-27.53
992	SLU 18	-81	29	4416	-976.61	-6.22	-28.34
992	SLU 19	-79	40	4370	-967.94	-6.16	-27.68
992	SLU 20	-82	30	4487	-991.57	-6.33	-28.72
992	SLU 21	-80	41	4441	-982.89	-6.27	-28.06
992	SLU 22	-82	29	4379	-967.54	-6.13	-28.88
992	SLU 23	-79	47	4302	-953.08	-6.03	-27.78
992	SLU 24	-84	29	4485	-989.82	-6.3	-29.55
992	SLU 25	-82	40	4439	-981.15	-6.23	-28.89
992	SLU 26	-80	47	4373	-968.04	-6.14	-28.16
992	SLU 27	-85	30	4557	-1004.78	-6.41	-29.93
992	SLU 28	-83	41	4510	-996.1	-6.34	-29.27
992	SLU 29	-84	30	4522	-997.45	-6.35	-29.65
992	SLU 30	-83	41	4476	-988.78	-6.29	-28.99
992	SLU 31	-85	49	4771	-1053.19	-6.81	-29.92
992	SLU 32	-90	31	4954	-1089.93	-7.08	-31.69
992	SLU 33	-88	42	4908	-1081.26	-7.01	-31.03
992	SLU 34	-86	49	4842	-1068.15	-6.92	-30.31
992	SLU 35	-91	32	5025	-1104.89	-7.19	-32.07
992	SLU 36	-90	43	4979	-1096.21	-7.12	-31.41
992	SLU 37	-91	32	4991	-1097.56	-7.13	-31.79
992	SLU 38	-89	42	4945	-1088.88	-7.07	-31.13
992	SLU 39	-91	31	5049	-1110.55	-7.25	-31.94
992	SLU 40	-89	42	5002	-1101.88	-7.18	-31.28
992	SLU 41	-92	32	5120	-1125.51	-7.36	-32.32
992	SLU 42	-90	43	5074	-1116.83	-7.29	-31.66
992	SLU 43	-90	34	4653	-1037.76	-6.29	-31.63
992	SLU 44	-87	52	4576	-1023.3	-6.19	-30.53
992	SLU 45	-92	35	4759	-1060.04	-6.46	-32.3
992	SLU 46	-90	45	4713	-1051.36	-6.4	-31.64
992	SLU 47	-88	52	4648	-1038.25	-6.3	-30.92
992	SLU 48	-93	35	4831	-1075	-6.57	-32.68
992	SLU 49	-91	46	4785	-1066.32	-6.51	-32.02
992	SLU 50	-92	35	4796	-1067.67	-6.51	-32.4
992	SLU 51	-90	46	4750	-1058.99	-6.45	-31.74
992	SLU 52	-93	54	5045	-1123.41	-6.97	-32.67
992	SLU 53	-98	36	5228	-1160.15	-7.24	-34.44
992	SLU 54	-96	47	5182	-1151.47	-7.17	-33.78
992	SLU 55	-94	54	5116	-1138.36	-7.08	-33.06
992	SLU 56	-99	37	5300	-1175.1	-7.35	-34.82
992	SLU 57	-97	48	5253	-1166.43	-7.28	-34.16
992	SLU 58	-98	37	5265	-1167.78	-7.29	-34.54
992	SLU 59	-97	48	5219	-1159.1	-7.23	-33.88
992	SLU 60	-99	37	5323	-1180.77	-7.41	-34.69
992	SLU 61	-97	47	5277	-1172.09	-7.34	-34.03
992	SLU 62	-100	37	5394	-1195.72	-7.52	-35.07
992	SLU 63	-98	48	5348	-1187.05	-7.45	-34.41
992	SLU 64	-100	36	5286	-1171.7	-7.32	-35.23
992	SLU 65	-97	54	5209	-1157.24	-7.21	-34.13
992	SLU 66	-102	37	5392	-1193.98	-7.48	-35.9
992	SLU 67	-100	48	5346	-1185.31	-7.42	-35.24
992	SLU 68	-98	55	5280	-1172.19	-7.32	-34.52
992	SLU 69	-103	37	5463	-1208.94	-7.59	-36.28
992	SLU 70	-102	48	5417	-1200.26	-7.53	-35.62
992	SLU 71	-103	37	5429	-1201.61	-7.54	-36
992	SLU 72	-101	48	5383	-1192.93	-7.47	-35.34
992	SLU 73	-103	56	5678	-1257.35	-7.99	-36.27
992	SLU 74	-108	39	5861	-1294.09	-8.26	-38.04
992	SLU 75	-107	49	5815	-1285.41	-8.2	-37.38
992	SLU 76	-104	56	5749	-1272.3	-8.1	-36.66
992	SLU 77	-109	39	5932	-1309.05	-8.37	-38.42
992	SLU 78	-108	50	5886	-1300.37	-8.31	-37.76
992	SLU 79	-109	39	5898	-1301.72	-8.32	-38.14
992	SLU 80	-107	50	5851	-1293.04	-8.25	-37.48
992	SLU 81	-109	39	5956	-1314.71	-8.43	-38.29
992	SLU 82	-107	49	5909	-1306.03	-8.37	-37.63
992	SLU 83	-110	39	6027	-1329.67	-8.54	-38.67
992	SLU 84	-108	50	5981	-1320.99	-8.48	-38.01
992	SLE RA 1	-75	27	3927	-871.87	-5.4	-26.31
992	SLE RA 2	-73	39	3876	-862.23	-5.33	-25.58
992	SLE RA 3	-76	28	3998	-886.72	-5.51	-26.75
992	SLE RA 4	-75	35	3967	-880.94	-5.47	-26.31
992	SLE RA 5	-74	40	3923	-872.2	-5.41	-25.83
992	SLE RA 6	-77	28	4045	-896.69	-5.59	-27.01
992	SLE RA 7	-76	35	4015	-890.91	-5.54	-26.57
992	SLE RA 8	-76	28	4022	-891.81	-5.55	-26.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
992	SLE RA 9	-75	35	3991	-886.03	-5.51	-26.38
992	SLE RA 10	-77	41	4188	-928.97	-5.85	-27.01
992	SLE RA 11	-80	29	4310	-953.46	-6.03	-28.18
992	SLE RA 12	-79	36	4279	-947.68	-5.99	-27.74
992	SLE RA 13	-78	41	4236	-938.94	-5.93	-27.26
992	SLE RA 14	-81	29	4358	-963.43	-6.11	-28.44
992	SLE RA 15	-80	36	4327	-957.65	-6.06	-28
992	SLE RA 16	-80	29	4335	-958.55	-6.07	-28.25
992	SLE RA 17	-79	36	4304	-952.76	-6.03	-27.81
992	SLE RA 18	-81	29	4373	-967.21	-6.15	-28.35
992	SLE RA 19	-80	36	4343	-961.43	-6.1	-27.91
992	SLE RA 20	-82	29	4421	-977.18	-6.22	-28.6
992	SLE RA 21	-80	37	4390	-971.4	-6.18	-28.16
992	SLE FR 1	-75	27	3927	-871.87	-5.4	-26.31
992	SLE FR 2	-75	30	3917	-869.94	-5.39	-26.16
992	SLE FR 3	-75	27	3946	-875.86	-5.43	-26.41
992	SLE FR 4	-76	30	4051	-898.54	-5.61	-26.78
992	SLE FR 5	-77	28	4080	-904.46	-5.66	-27.02
992	SLE FR 6	-78	28	4150	-919.54	-5.77	-27.33
992	SLE QP 1	-75	27	3927	-871.87	-5.4	-26.31
992	SLE QP 2	-77	28	4061	-900.47	-5.63	-26.92
992	SLD 1	366	207	4093	-891.85	-4.16	127.9
992	SLD 2	291	134	4153	-902.66	-4.18	101.76
992	SLD 3	325	-17	5255	-1110.7	-5.75	113.44
992	SLD 4	250	-90	5315	-1121.51	-5.77	87.3
992	SLD 5	131	435	2298	-564.1	-2.77	45.95
992	SLD 6	83	388	2337	-571.06	-2.78	29.12
992	SLD 7	-5	-314	6170	-1293.61	-8.08	-2.25
992	SLD 8	-54	-361	6209	-1300.57	-8.09	-19.08
992	SLD 9	-100	416	1912	-500.37	-3.16	-34.76
992	SLD 10	-148	369	1951	-507.33	-3.17	-51.6
992	SLD 11	-236	-332	5785	-1229.88	-8.48	-82.96
992	SLD 12	-284	-379	5824	-1236.84	-8.49	-99.79
992	SLD 13	-403	146	2807	-679.43	-5.48	-141.14
992	SLD 14	-478	73	2867	-690.24	-5.5	-167.28
992	SLD 15	-444	-79	3968	-898.29	-7.08	-155.6
992	SLD 16	-519	-152	4029	-909.09	-7.09	-181.74
992	SLV 1	619	325	4026	-870.97	-3.22	216.65
992	SLV 2	501	210	4121	-888.01	-3.25	175.44
992	SLV 3	550	-58	6008	-1244.38	-5.94	192.04
992	SLV 4	432	-173	6103	-1261.42	-5.97	150.84
992	SLV 5	260	719	1027	-322.11	-0.77	91.15
992	SLV 6	180	642	1091	-333.58	-0.79	63.41
992	SLV 7	28	-557	7633	-1566.8	-9.84	9.14
992	SLV 8	-52	-635	7697	-1578.27	-9.86	-18.6
992	SLV 9	-102	690	425	-222.67	-1.39	-35.25
992	SLV 10	-181	613	489	-234.14	-1.41	-62.99
992	SLV 11	-333	-586	7031	-1467.37	-10.46	-117.26
992	SLV 12	-413	-664	7095	-1478.83	-10.48	-145
992	SLV 13	-585	229	2019	-539.52	-5.29	-204.68
992	SLV 14	-703	113	2114	-556.56	-5.31	-245.89
992	SLV 15	-655	-154	4001	-912.93	-8.01	-229.29
992	SLV 16	-773	-270	4096	-929.97	-8.03	-270.49
992	SLV FO 1	689	355	4022	-868.02	-2.98	241.01
992	SLV FO 2	559	228	4127	-886.76	-3.01	195.68
992	SLV FO 3	613	-66	6202	-1278.77	-5.97	213.94
992	SLV FO 4	483	-193	6307	-1297.51	-6	168.61
992	SLV FO 5	293	788	723	-264.27	-0.29	102.96
992	SLV FO 6	206	703	794	-276.89	-0.31	72.45
992	SLV FO 7	38	-616	7990	-1633.43	-10.26	12.75
992	SLV FO 8	-49	-701	8061	-1646.05	-10.28	-17.77
992	SLV FO 9	-104	757	61	-154.89	-0.97	-36.08
992	SLV FO 10	-192	671	131	-167.51	-0.99	-66.59
992	SLV FO 11	-359	-648	7328	-1524.06	-10.94	-126.29
992	SLV FO 12	-447	-733	7399	-1536.67	-10.96	-156.81
992	SLV FO 13	-636	249	1815	-503.43	-5.25	-222.46
992	SLV FO 14	-766	122	1920	-522.17	-5.28	-267.79
992	SLV FO 15	-712	-173	3995	-914.18	-8.24	-249.52
992	SLV FO 16	-843	-299	4100	-932.92	-8.27	-294.85
992	CRTFP Ux+	0	0	0	0	0	0
992	CRTFP Ux-	0	0	0	0	0	0
992	CRTFP Uy+	0	0	0	0	0	0
992	CRTFP Uy-	0	0	0	0	0	0
993	SLU 1	-72	24	3903	-979.29	-5.32	-25.15
993	SLU 2	-69	43	3822	-961.44	-5.19	-24.07
993	SLU 3	-73	25	4014	-1006.1	-5.49	-25.8
993	SLU 4	-72	36	3966	-995.39	-5.42	-25.16
993	SLU 5	-70	43	3897	-979.44	-5.31	-24.45
993	SLU 6	-75	25	4089	-1024.1	-5.61	-26.18
993	SLU 7	-73	36	4041	-1013.39	-5.53	-25.54
993	SLU 8	-74	25	4053	-1015.29	-5.55	-25.9
993	SLU 9	-72	36	4004	-1004.58	-5.48	-25.26
993	SLU 10	-75	45	4315	-1082.41	-6	-26.23
993	SLU 11	-80	27	4507	-1127.07	-6.3	-27.96
993	SLU 12	-78	38	4458	-1116.36	-6.22	-27.32
993	SLU 13	-76	45	4390	-1100.41	-6.12	-26.61
993	SLU 14	-81	27	4582	-1145.07	-6.42	-28.34
993	SLU 15	-79	38	4533	-1134.36	-6.34	-27.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
993	SLU 16	-80	27	4545	-1136.26	-6.36	-28.06
993	SLU 17	-78	38	4497	-1125.55	-6.28	-27.42
993	SLU 18	-80	27	4606	-1152.1	-6.47	-28.23
993	SLU 19	-79	38	4558	-1141.4	-6.4	-27.59
993	SLU 20	-82	27	4681	-1170.1	-6.59	-28.61
993	SLU 21	-80	38	4633	-1159.4	-6.51	-27.96
993	SLU 22	-82	26	4567	-1141.02	-6.39	-28.75
993	SLU 23	-79	45	4486	-1123.17	-6.26	-27.68
993	SLU 24	-84	27	4678	-1167.83	-6.56	-29.41
993	SLU 25	-82	38	4630	-1157.12	-6.49	-28.76
993	SLU 26	-80	45	4561	-1141.17	-6.38	-28.05
993	SLU 27	-85	27	4753	-1185.83	-6.68	-29.78
993	SLU 28	-83	38	4705	-1175.12	-6.6	-29.14
993	SLU 29	-84	27	4717	-1177.02	-6.62	-29.5
993	SLU 30	-82	38	4668	-1166.31	-6.55	-28.86
993	SLU 31	-85	47	4979	-1244.15	-7.07	-29.84
993	SLU 32	-90	29	5171	-1288.8	-7.37	-31.57
993	SLU 33	-88	40	5122	-1278.1	-7.3	-30.92
993	SLU 34	-86	47	5054	-1262.15	-7.19	-30.21
993	SLU 35	-91	29	5246	-1306.8	-7.49	-31.94
993	SLU 36	-89	40	5197	-1296.1	-7.41	-31.3
993	SLU 37	-90	29	5209	-1297.99	-7.43	-31.66
993	SLU 38	-88	40	5161	-1287.29	-7.35	-31.02
993	SLU 39	-91	29	5271	-1313.84	-7.54	-31.84
993	SLU 40	-89	40	5222	-1303.13	-7.47	-31.19
993	SLU 41	-92	29	5345	-1331.84	-7.66	-32.21
993	SLU 42	-90	40	5297	-1321.13	-7.58	-31.57
993	SLU 43	-90	31	4846	-1217.62	-6.55	-31.45
993	SLU 44	-87	50	4765	-1199.77	-6.42	-30.38
993	SLU 45	-91	32	4957	-1244.43	-6.72	-32.11
993	SLU 46	-90	43	4909	-1233.72	-6.65	-31.47
993	SLU 47	-88	50	4840	-1217.77	-6.54	-30.76
993	SLU 48	-93	32	5032	-1262.43	-6.84	-32.49
993	SLU 49	-91	43	4984	-1251.72	-6.76	-31.84
993	SLU 50	-92	32	4996	-1253.62	-6.78	-32.21
993	SLU 51	-90	43	4947	-1242.91	-6.7	-31.56
993	SLU 52	-93	51	5258	-1320.75	-7.23	-32.54
993	SLU 53	-98	33	5450	-1365.4	-7.53	-34.27
993	SLU 54	-96	45	5401	-1354.69	-7.45	-33.63
993	SLU 55	-94	52	5333	-1338.75	-7.34	-32.92
993	SLU 56	-99	34	5525	-1383.4	-7.65	-34.65
993	SLU 57	-97	45	5476	-1372.69	-7.57	-34
993	SLU 58	-98	34	5488	-1374.59	-7.59	-34.37
993	SLU 59	-96	45	5440	-1363.88	-7.51	-33.72
993	SLU 60	-98	34	5550	-1390.44	-7.7	-34.54
993	SLU 61	-97	45	5501	-1379.73	-7.63	-33.9
993	SLU 62	-99	34	5624	-1408.44	-7.82	-34.92
993	SLU 63	-98	45	5576	-1397.73	-7.74	-34.27
993	SLU 64	-100	33	5510	-1379.35	-7.62	-35.06
993	SLU 65	-97	52	5429	-1361.51	-7.49	-33.98
993	SLU 66	-102	34	5621	-1406.16	-7.79	-35.72
993	SLU 67	-100	45	5573	-1395.46	-7.72	-35.07
993	SLU 68	-98	52	5504	-1379.51	-7.61	-34.36
993	SLU 69	-103	34	5696	-1424.16	-7.91	-36.09
993	SLU 70	-101	45	5648	-1413.46	-7.83	-35.45
993	SLU 71	-102	34	5660	-1415.35	-7.85	-35.81
993	SLU 72	-100	45	5611	-1404.65	-7.77	-35.17
993	SLU 73	-103	53	5922	-1482.48	-8.3	-36.15
993	SLU 74	-108	35	6114	-1527.14	-8.6	-37.88
993	SLU 75	-106	46	6065	-1516.43	-8.52	-37.23
993	SLU 76	-104	54	5997	-1500.48	-8.41	-36.52
993	SLU 77	-109	36	6189	-1545.14	-8.72	-38.25
993	SLU 78	-107	47	6140	-1534.43	-8.64	-37.61
993	SLU 79	-108	36	6152	-1536.33	-8.66	-37.97
993	SLU 80	-106	47	6104	-1525.62	-8.58	-37.33
993	SLU 81	-109	36	6214	-1552.17	-8.77	-38.14
993	SLU 82	-107	47	6165	-1541.46	-8.7	-37.5
993	SLU 83	-110	36	6289	-1570.17	-8.89	-38.52
993	SLU 84	-108	47	6240	-1559.46	-8.81	-37.88
993	SLE RA 1	-75	25	4092	-1025.5	-5.62	-26.18
993	SLE RA 2	-73	37	4039	-1013.6	-5.54	-25.46
993	SLE RA 3	-76	25	4167	-1043.37	-5.74	-26.61
993	SLE RA 4	-75	33	4134	-1036.23	-5.69	-26.18
993	SLE RA 5	-73	38	4089	-1025.6	-5.62	-25.71
993	SLE RA 6	-77	26	4217	-1055.37	-5.82	-26.87
993	SLE RA 7	-75	33	4184	-1048.23	-5.77	-26.44
993	SLE RA 8	-76	26	4192	-1049.5	-5.78	-26.68
993	SLE RA 9	-75	33	4160	-1042.36	-5.73	-26.25
993	SLE RA 10	-77	39	4367	-1094.25	-6.08	-26.9
993	SLE RA 11	-80	27	4495	-1124.02	-6.28	-28.05
993	SLE RA 12	-79	34	4463	-1116.88	-6.23	-27.62
993	SLE RA 13	-77	39	4417	-1106.25	-6.16	-27.15
993	SLE RA 14	-81	27	4545	-1136.02	-6.36	-28.31
993	SLE RA 15	-79	34	4513	-1128.88	-6.31	-27.88
993	SLE RA 16	-80	27	4521	-1130.14	-6.32	-28.12
993	SLE RA 17	-79	34	4489	-1123.01	-6.27	-27.69
993	SLE RA 18	-80	27	4562	-1140.71	-6.39	-28.23
993	SLE RA 19	-79	34	4529	-1133.57	-6.34	-27.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
993	SLE RA 20	-81	27	4612	-1152.71	-6.47	-28.48
993	SLE RA 21	-80	34	4579	-1145.57	-6.42	-28.05
993	SLE FR 1	-75	25	4092	-1025.5	-5.62	-26.18
993	SLE FR 2	-74	27	4082	-1023.12	-5.61	-26.03
993	SLE FR 3	-75	25	4112	-1030.3	-5.66	-26.28
993	SLE FR 4	-76	28	4222	-1057.68	-5.84	-26.65
993	SLE FR 5	-77	26	4253	-1064.86	-5.89	-26.89
993	SLE FR 6	-77	26	4327	-1083.1	-6.01	-27.2
993	SLE QP 1	-75	25	4092	-1025.5	-5.62	-26.18
993	SLE QP 2	-76	26	4233	-1060.06	-5.86	-26.79
993	SLD 1	366	203	4223	-1046.48	-4.46	127.82
993	SLD 2	291	133	4285	-1060	-4.51	101.79
993	SLD 3	326	-27	5437	-1314.51	-6.34	113.7
993	SLD 4	251	-97	5498	-1328.03	-6.39	87.66
993	SLD 5	130	440	2379	-647.14	-2.58	45.49
993	SLD 6	81	395	2419	-655.85	-2.61	28.73
993	SLD 7	-3	-327	6424	-1540.59	-8.84	-1.6
993	SLD 8	-51	-372	6464	-1549.29	-8.87	-18.36
993	SLD 9	-101	423	2002	-570.82	-2.84	-35.23
993	SLD 10	-150	378	2042	-579.53	-2.87	-51.99
993	SLD 11	-234	-344	6048	-1464.27	-9.1	-82.32
993	SLD 12	-282	-389	6087	-1472.98	-9.13	-99.08
993	SLD 13	-404	148	2968	-792.09	-5.32	-141.25
993	SLD 14	-479	78	3030	-805.61	-5.37	-167.28
993	SLD 15	-444	-82	4182	-1060.12	-7.2	-155.37
993	SLD 16	-519	-152	4243	-1073.64	-7.25	-181.41
993	SLV 1	619	320	4128	-1019.21	-3.54	216.43
993	SLV 2	502	210	4225	-1040.52	-3.62	175.39
993	SLV 3	552	-72	6199	-1476.51	-6.74	192.39
993	SLV 4	434	-182	6296	-1497.82	-6.82	151.36
993	SLV 5	257	729	1043	-350.25	-0.29	90.29
993	SLV 6	178	656	1109	-364.59	-0.34	62.66
993	SLV 7	31	-578	7945	-1874.6	-10.97	10.16
993	SLV 8	-48	-652	8010	-1888.94	-11.02	-17.46
993	SLV 9	-105	703	456	-231.17	-0.69	-36.13
993	SLV 10	-184	630	521	-245.52	-0.75	-63.75
993	SLV 11	-330	-605	7358	-1755.53	-11.37	-116.25
993	SLV 12	-410	-678	7423	-1769.87	-11.42	-143.87
993	SLV 13	-587	233	2170	-622.29	-4.89	-204.94
993	SLV 14	-704	124	2267	-643.6	-4.97	-245.98
993	SLV 15	-654	-159	4241	-1079.6	-8.09	-228.98
993	SLV 16	-772	-269	4338	-1100.91	-8.17	-270.02
993	SLV FO 1	689	349	4118	-1015.12	-3.31	240.75
993	SLV FO 2	559	229	4225	-1038.56	-3.4	195.61
993	SLV FO 3	615	-82	6396	-1518.16	-6.83	214.31
993	SLV FO 4	485	-203	6502	-1541.6	-6.92	169.17
993	SLV FO 5	290	800	724	-279.27	0.27	101.99
993	SLV FO 6	203	719	796	-295.05	0.21	71.61
993	SLV FO 7	42	-639	8316	-1956.05	-11.48	13.86
993	SLV FO 8	-45	-720	8388	-1971.83	-11.54	-16.53
993	SLV FO 9	-108	771	78	-148.28	-0.18	-37.06
993	SLV FO 10	-195	690	150	-164.06	-0.24	-67.45
993	SLV FO 11	-356	-668	7670	-1825.07	-11.92	-125.19
993	SLV FO 12	-443	-749	7742	-1840.85	-11.98	-155.58
993	SLV FO 13	-638	254	1964	-578.52	-4.79	-222.76
993	SLV FO 14	-767	133	2071	-601.96	-4.88	-267.9
993	SLV FO 15	-712	-178	4242	-1081.55	-8.32	-249.2
993	SLV FO 16	-842	-298	4348	-1104.99	-8.4	-294.34
993	CRTFP Ux+	0	0	0	0	0	0
993	CRTFP Ux-	0	0	0	0	0	0
993	CRTFP Uy+	0	0	0	0	0	0
993	CRTFP Uy-	0	0	0	0	0	0
994	SLU 1	-61	19	3492	-980.92	94.68	-22.11
994	SLU 2	-59	36	3419	-962.27	92.73	-21.67
994	SLU 3	-63	20	3592	-1008.29	97.38	-22.69
994	SLU 4	-62	29	3548	-997.1	96.21	-22.42
994	SLU 5	-60	36	3486	-980.66	94.55	-22
994	SLU 6	-64	20	3659	-1026.68	99.2	-23.01
994	SLU 7	-62	30	3615	-1015.49	98.03	-22.75
994	SLU 8	-63	20	3626	-1017.69	98.32	-22.77
994	SLU 9	-62	29	3583	-1006.5	97.15	-22.5
994	SLU 10	-64	37	3863	-1086.08	104.69	-23.6
994	SLU 11	-68	21	4036	-1132.1	109.34	-24.61
994	SLU 12	-67	31	3992	-1120.91	108.17	-24.35
994	SLU 13	-65	37	3930	-1104.46	106.51	-23.92
994	SLU 14	-69	21	4103	-1150.49	111.16	-24.94
994	SLU 15	-68	31	4059	-1139.3	109.99	-24.67
994	SLU 16	-69	21	4070	-1141.5	110.28	-24.7
994	SLU 17	-67	31	4027	-1130.31	109.11	-24.43
994	SLU 18	-69	22	4126	-1157.78	111.77	-24.87
994	SLU 19	-68	31	4082	-1146.59	110.6	-24.6
994	SLU 20	-70	22	4193	-1176.17	113.58	-25.2
994	SLU 21	-69	32	4149	-1164.98	112.41	-24.93
994	SLU 22	-70	21	4090	-1146.39	110.8	-25.27
994	SLU 23	-68	37	4017	-1127.74	108.85	-24.83
994	SLU 24	-72	21	4190	-1173.77	113.5	-25.84
994	SLU 25	-70	31	4146	-1162.58	112.33	-25.58
994	SLU 26	-69	37	4084	-1146.13	110.67	-25.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
994	SLU 27	-73	21	4257	-1192.15	115.32	-26.17
994	SLU 28	-71	31	4214	-1180.96	114.15	-25.9
994	SLU 29	-72	21	4224	-1183.17	114.43	-25.93
994	SLU 30	-71	31	4181	-1171.98	113.27	-25.66
994	SLU 31	-73	39	4461	-1251.55	120.81	-26.75
994	SLU 32	-77	23	4634	-1297.57	125.46	-27.77
994	SLU 33	-76	32	4590	-1286.38	124.29	-27.5
994	SLU 34	-74	39	4528	-1269.94	122.63	-27.08
994	SLU 35	-78	23	4701	-1315.96	127.27	-28.1
994	SLU 36	-77	33	4657	-1304.77	126.11	-27.83
994	SLU 37	-78	23	4668	-1306.97	126.39	-27.85
994	SLU 38	-76	33	4625	-1295.78	125.22	-27.59
994	SLU 39	-78	23	4724	-1323.26	127.88	-28.03
994	SLU 40	-77	33	4680	-1312.07	126.71	-27.76
994	SLU 41	-79	23	4791	-1341.64	129.7	-28.35
994	SLU 42	-77	33	4748	-1330.45	128.53	-28.09
994	SLU 43	-77	24	4334	-1218.46	117.56	-27.67
994	SLU 44	-74	41	4261	-1199.81	115.61	-27.22
994	SLU 45	-78	25	4434	-1245.84	120.26	-28.24
994	SLU 46	-77	35	4390	-1234.65	119.09	-27.97
994	SLU 47	-75	41	4329	-1218.2	117.43	-27.55
994	SLU 48	-79	25	4501	-1264.22	122.08	-28.57
994	SLU 49	-78	35	4458	-1253.03	120.91	-28.3
994	SLU 50	-79	25	4469	-1255.24	121.2	-28.32
994	SLU 51	-77	35	4425	-1244.05	120.03	-28.05
994	SLU 52	-80	42	4705	-1323.62	127.57	-29.15
994	SLU 53	-84	26	4878	-1369.64	132.22	-30.17
994	SLU 54	-82	36	4834	-1358.45	131.05	-29.9
994	SLU 55	-81	43	4773	-1342	129.39	-29.48
994	SLU 56	-85	27	4945	-1388.03	134.04	-30.49
994	SLU 57	-83	36	4902	-1376.84	132.87	-30.23
994	SLU 58	-84	27	4913	-1379.04	133.16	-30.25
994	SLU 59	-83	36	4869	-1367.85	131.99	-29.98
994	SLU 60	-85	27	4968	-1395.33	134.64	-30.42
994	SLU 61	-83	37	4924	-1384.14	133.48	-30.15
994	SLU 62	-85	27	5036	-1413.71	136.46	-30.75
994	SLU 63	-84	37	4992	-1402.52	135.29	-30.48
994	SLU 64	-86	26	4932	-1383.93	133.68	-30.82
994	SLU 65	-83	42	4859	-1365.29	131.73	-30.38
994	SLU 66	-87	26	5032	-1411.31	136.38	-31.4
994	SLU 67	-86	36	4988	-1400.12	135.21	-31.13
994	SLU 68	-84	42	4927	-1383.67	133.55	-30.71
994	SLU 69	-88	27	5100	-1429.7	138.2	-31.72
994	SLU 70	-87	36	5056	-1418.51	137.03	-31.46
994	SLU 71	-88	26	5067	-1420.71	137.31	-31.48
994	SLU 72	-86	36	5023	-1409.52	136.14	-31.21
994	SLU 73	-89	44	5303	-1489.09	143.69	-32.31
994	SLU 74	-93	28	5476	-1535.11	148.34	-33.32
994	SLU 75	-91	38	5432	-1523.92	147.17	-33.06
994	SLU 76	-90	44	5371	-1507.48	145.51	-32.63
994	SLU 77	-94	28	5543	-1553.5	150.15	-33.65
994	SLU 78	-92	38	5500	-1542.31	148.98	-33.38
994	SLU 79	-93	28	5511	-1544.51	149.27	-33.41
994	SLU 80	-91	38	5467	-1533.32	148.1	-33.14
994	SLU 81	-93	28	5566	-1560.8	150.76	-33.58
994	SLU 82	-92	38	5523	-1549.61	149.59	-33.31
994	SLU 83	-94	29	5634	-1579.19	152.58	-33.9
994	SLU 84	-93	38	5590	-1568	151.41	-33.64
994	SLE RA 1	-64	20	3662	-1028.2	99.29	-23.02
994	SLE RA 2	-62	31	3614	-1015.76	97.99	-22.72
994	SLE RA 3	-65	20	3729	-1046.45	101.09	-23.4
994	SLE RA 4	-64	26	3700	-1038.99	100.31	-23.22
994	SLE RA 5	-63	31	3659	-1028.02	99.2	-22.94
994	SLE RA 6	-66	20	3774	-1058.71	102.3	-23.62
994	SLE RA 7	-65	27	3745	-1051.25	101.52	-23.44
994	SLE RA 8	-65	20	3752	-1052.71	101.71	-23.45
994	SLE RA 9	-64	26	3723	-1045.25	100.93	-23.28
994	SLE RA 10	-66	32	3910	-1098.3	105.96	-24.01
994	SLE RA 11	-69	21	4025	-1128.98	109.06	-24.68
994	SLE RA 12	-68	27	3996	-1121.52	108.28	-24.5
994	SLE RA 13	-67	32	3955	-1110.56	107.17	-24.22
994	SLE RA 14	-69	21	4070	-1141.24	110.27	-24.9
994	SLE RA 15	-68	28	4041	-1133.78	109.49	-24.72
994	SLE RA 16	-69	21	4048	-1135.25	109.68	-24.74
994	SLE RA 17	-68	28	4019	-1127.79	108.9	-24.56
994	SLE RA 18	-69	21	4085	-1146.11	110.68	-24.85
994	SLE RA 19	-68	28	4056	-1138.65	109.9	-24.67
994	SLE RA 20	-70	21	4130	-1158.37	111.89	-25.07
994	SLE RA 21	-69	28	4101	-1150.91	111.11	-24.89
994	SLE FR 1	-64	20	3662	-1028.2	99.29	-23.02
994	SLE FR 2	-64	22	3653	-1025.71	99.03	-22.96
994	SLE FR 3	-64	20	3680	-1033.1	99.77	-23.1
994	SLE FR 4	-65	22	3780	-1061.08	102.44	-23.51
994	SLE FR 5	-66	20	3807	-1068.47	103.19	-23.65
994	SLE FR 6	-67	20	3874	-1087.15	104.98	-23.93
994	SLE QP 1	-64	20	3662	-1028.2	99.29	-23.02
994	SLE QP 2	-66	20	3789	-1063.57	102.7	-23.57
994	SLD 1	317	171	3748	-1049.17	102.42	106.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
994	SLD 2	252	115	3803	-1063.62	103.9	85.5
994	SLD 3	283	-32	4842	-1327.6	131.79	99.95
994	SLD 4	219	-89	4897	-1342.05	133.27	79.1
994	SLD 5	111	384	2109	-634.47	57.82	28.71
994	SLD 6	70	347	2144	-643.78	58.78	15.28
994	SLD 7	-1	-295	5755	-1562.59	155.71	7.36
994	SLD 8	-42	-331	5790	-1571.89	156.67	-6.07
994	SLD 9	-89	371	1789	-555.25	48.74	-41.07
994	SLD 10	-130	335	1824	-564.55	49.69	-54.49
994	SLD 11	-201	-307	5435	-1483.36	146.63	-62.42
994	SLD 12	-242	-344	5470	-1492.67	147.58	-75.84
994	SLD 13	-350	129	2682	-785.09	72.14	-126.23
994	SLD 14	-414	73	2736	-799.54	73.62	-147.08
994	SLD 15	-383	-74	3776	-1063.53	101.51	-132.64
994	SLD 16	-448	-131	3830	-1077.97	102.99	-153.49
994	SLV 1	535	271	3645	-1020.66	100.1	180.41
994	SLV 2	434	182	3731	-1043.43	102.44	147.54
994	SLV 3	478	-76	5511	-1495.7	150.21	169.53
994	SLV 4	377	-165	5597	-1518.47	152.54	136.67
994	SLV 5	220	638	899	-325.98	25.5	60.25
994	SLV 6	152	578	957	-341.31	27.07	38.13
994	SLV 7	30	-518	7120	-1909.43	192.51	24
994	SLV 8	-38	-578	7178	-1924.76	194.08	1.87
994	SLV 9	-93	619	400	-202.38	11.33	-49.01
994	SLV 10	-161	559	458	-217.71	12.9	-71.13
994	SLV 11	-283	-538	6621	-1785.83	178.34	-85.27
994	SLV 12	-351	-598	6679	-1801.16	179.91	-107.39
994	SLV 13	-508	205	1981	-608.67	52.86	-183.8
994	SLV 14	-610	116	2067	-631.44	55.2	-216.67
994	SLV 15	-565	-142	3848	-1083.71	102.97	-194.68
994	SLV 16	-667	-231	3934	-1106.48	105.3	-227.55
994	SLV FO 1	596	296	3630	-1016.37	99.84	200.81
994	SLV FO 2	484	198	3725	-1041.42	102.41	164.66
994	SLV FO 3	533	-85	5683	-1538.91	154.96	188.84
994	SLV FO 4	421	-184	5778	-1563.96	157.53	152.69
994	SLV FO 5	249	700	610	-252.22	17.78	68.64
994	SLV FO 6	174	634	674	-269.08	19.51	44.3
994	SLV FO 7	40	-572	7453	-1994.02	201.49	28.76
994	SLV FO 8	-35	-638	7517	-2010.88	203.22	4.42
994	SLV FO 9	-96	678	61	-116.26	2.19	-51.55
994	SLV FO 10	-171	612	125	-133.12	3.92	-75.89
994	SLV FO 11	-305	-594	6904	-1858.06	185.9	-91.44
994	SLV FO 12	-380	-660	6968	-1874.92	187.63	-115.77
994	SLV FO 13	-552	224	1801	-563.18	47.88	-199.83
994	SLV FO 14	-664	126	1895	-588.23	50.45	-235.98
994	SLV FO 15	-615	-158	3853	-1085.72	102.99	-211.79
994	SLV FO 16	-727	-256	3948	-1110.77	105.56	-247.94
994	CRTFP Ux+	0	0	0	0	0	0
994	CRTFP Ux-	0	0	0	0	0	0
994	CRTFP Uy+	0	0	0	0	0	0
994	CRTFP Uy-	0	0	0	0	0	0
997	SLU 1	-219	58	13336	-3510.93	33.61	-62.01
997	SLU 2	-211	119	13049	-3438.58	34.99	-59.95
997	SLU 3	-225	59	13723	-3611.72	33.8	-63.62
997	SLU 4	-220	96	13550	-3568.31	34.63	-62.39
997	SLU 5	-214	120	13309	-3506.4	35.11	-60.87
997	SLU 6	-228	59	13983	-3679.54	33.93	-64.55
997	SLU 7	-223	96	13810	-3636.13	34.75	-63.31
997	SLU 8	-226	59	13857	-3646.56	33.85	-63.86
997	SLU 9	-221	96	13684	-3603.16	34.68	-62.63
997	SLU 10	-230	126	14754	-3888.49	36.72	-65.24
997	SLU 11	-245	65	15428	-4061.63	35.53	-68.92
997	SLU 12	-240	102	15255	-4018.22	36.36	-67.68
997	SLU 13	-234	126	15014	-3956.3	36.84	-66.17
997	SLU 14	-248	66	15688	-4129.44	35.66	-69.85
997	SLU 15	-243	102	15515	-4086.04	36.49	-68.61
997	SLU 16	-246	65	15562	-4096.47	35.58	-69.16
997	SLU 17	-240	102	15389	-4053.06	36.41	-67.92
997	SLU 18	-248	67	15773	-4153.65	36.08	-69.57
997	SLU 19	-242	104	15600	-4110.24	36.91	-68.33
997	SLU 20	-251	68	16033	-4221.47	36.2	-70.5
997	SLU 21	-246	104	15860	-4178.06	37.03	-69.26
997	SLU 22	-252	63	15638	-4115.38	35.46	-70.86
997	SLU 23	-243	124	15350	-4043.03	36.84	-68.8
997	SLU 24	-257	64	16024	-4216.17	35.66	-72.48
997	SLU 25	-252	101	15851	-4172.77	36.49	-71.24
997	SLU 26	-246	125	15610	-4110.85	36.96	-69.73
997	SLU 27	-260	64	16284	-4283.99	35.78	-73.41
997	SLU 28	-255	101	16111	-4240.58	36.61	-72.17
997	SLU 29	-258	64	16158	-4251.01	35.71	-72.72
997	SLU 30	-253	101	15985	-4207.61	36.54	-71.48
997	SLU 31	-263	131	17055	-4492.94	38.57	-74.09
997	SLU 32	-277	70	17729	-4666.08	37.39	-77.77
997	SLU 33	-272	107	17557	-4622.67	38.22	-76.53
997	SLU 34	-266	131	17315	-4560.76	38.7	-75.02
997	SLU 35	-280	70	17989	-4733.89	37.51	-78.7
997	SLU 36	-275	107	17817	-4690.49	38.34	-77.46
997	SLU 37	-278	70	17863	-4700.92	37.44	-78.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
997	SLU 38	-272	107	17691	-4657.51	38.27	-76.78
997	SLU 39	-280	72	18074	-4758.1	37.94	-78.43
997	SLU 40	-275	109	17901	-4714.69	38.76	-77.19
997	SLU 41	-283	72	18334	-4825.92	38.06	-79.35
997	SLU 42	-278	109	18161	-4782.51	38.89	-78.12
997	SLU 43	-274	74	16548	-4356.96	43.05	-77.57
997	SLU 44	-265	135	16261	-4284.62	44.43	-75.51
997	SLU 45	-280	75	16934	-4457.76	43.25	-79.19
997	SLU 46	-275	112	16762	-4414.35	44.08	-77.95
997	SLU 47	-269	136	16521	-4352.44	44.55	-76.44
997	SLU 48	-283	75	17195	-4525.58	43.37	-80.12
997	SLU 49	-278	112	17022	-4482.17	44.2	-78.88
997	SLU 50	-281	75	17068	-4492.6	43.3	-79.43
997	SLU 51	-275	112	16896	-4449.19	44.13	-78.19
997	SLU 52	-285	142	17966	-4734.52	46.16	-80.81
997	SLU 53	-300	81	18640	-4907.66	44.98	-84.49
997	SLU 54	-294	118	18467	-4864.26	45.81	-83.25
997	SLU 55	-288	142	18226	-4802.34	46.29	-81.73
997	SLU 56	-303	82	18900	-4975.48	45.1	-85.41
997	SLU 57	-298	118	18727	-4932.07	45.93	-84.18
997	SLU 58	-300	81	18774	-4942.5	45.03	-84.73
997	SLU 59	-295	118	18601	-4899.1	45.86	-83.49
997	SLU 60	-302	83	18985	-4999.68	45.53	-85.14
997	SLU 61	-297	120	18812	-4956.28	46.35	-83.9
997	SLU 62	-306	83	19245	-5067.5	45.65	-86.07
997	SLU 63	-300	120	19072	-5024.1	46.48	-84.83
997	SLU 64	-306	79	18850	-4961.41	44.91	-86.43
997	SLU 65	-298	140	18562	-4889.07	46.29	-84.37
997	SLU 66	-312	80	19236	-5062.21	45.1	-88.04
997	SLU 67	-307	116	19063	-5018.8	45.93	-86.81
997	SLU 68	-301	141	18822	-4956.89	46.41	-85.29
997	SLU 69	-315	80	19496	-5130.03	45.23	-88.97
997	SLU 70	-310	117	19323	-5086.62	46.05	-87.74
997	SLU 71	-313	80	19370	-5097.05	45.15	-88.28
997	SLU 72	-308	116	19197	-5053.64	45.98	-87.05
997	SLU 73	-317	146	20267	-5338.98	48.02	-89.66
997	SLU 74	-332	86	20941	-5512.11	46.84	-93.34
997	SLU 75	-327	123	20768	-5468.71	47.66	-92.1
997	SLU 76	-321	147	20527	-5406.79	48.14	-90.59
997	SLU 77	-335	86	21201	-5579.93	46.96	-94.27
997	SLU 78	-330	123	21029	-5536.53	47.79	-93.03
997	SLU 79	-333	86	21075	-5546.96	46.88	-93.58
997	SLU 80	-327	123	20902	-5503.55	47.71	-92.34
997	SLU 81	-335	88	21286	-5604.14	47.38	-93.99
997	SLU 82	-329	125	21113	-5560.73	48.21	-92.75
997	SLU 83	-338	88	21546	-5671.95	47.5	-94.92
997	SLU 84	-333	125	21373	-5628.55	48.33	-93.68
997	SLE RA 1	-229	60	13994	-3683.63	34.14	-64.54
997	SLE RA 2	-223	100	13802	-3635.4	35.06	-63.16
997	SLE RA 3	-232	60	14251	-3750.82	34.27	-65.62
997	SLE RA 4	-229	85	14136	-3721.89	34.82	-64.79
997	SLE RA 5	-225	101	13975	-3680.61	35.14	-63.78
997	SLE RA 6	-235	60	14425	-3796.03	34.35	-66.23
997	SLE RA 7	-231	85	14310	-3767.1	34.9	-65.41
997	SLE RA 8	-233	60	14341	-3774.05	34.3	-65.78
997	SLE RA 9	-229	85	14226	-3745.11	34.85	-64.95
997	SLE RA 10	-236	105	14939	-3935.33	36.21	-66.69
997	SLE RA 11	-246	64	15388	-4050.76	35.42	-69.14
997	SLE RA 12	-242	89	15273	-4021.82	35.97	-68.32
997	SLE RA 13	-238	105	15112	-3980.55	36.29	-67.31
997	SLE RA 14	-248	65	15562	-4095.97	35.5	-69.76
997	SLE RA 15	-244	89	15447	-4067.03	36.06	-68.94
997	SLE RA 16	-246	64	15478	-4073.99	35.45	-69.31
997	SLE RA 17	-243	89	15362	-4045.05	36.01	-68.48
997	SLE RA 18	-247	66	15618	-4112.11	35.79	-69.58
997	SLE RA 19	-244	90	15503	-4083.17	36.34	-68.76
997	SLE RA 20	-250	66	15791	-4157.32	35.87	-70.2
997	SLE RA 21	-246	90	15676	-4128.38	36.42	-69.37
997	SLE FR 1	-229	60	13994	-3683.63	34.14	-64.54
997	SLE FR 2	-227	68	13956	-3673.98	34.32	-64.26
997	SLE FR 3	-230	60	14063	-3701.71	34.17	-64.79
997	SLE FR 4	-233	70	14443	-3802.52	34.81	-65.78
997	SLE FR 5	-235	61	14550	-3830.26	34.66	-66.3
997	SLE FR 6	-238	63	14806	-3897.87	34.96	-67.06
997	SLE QP 1	-229	60	13994	-3683.63	34.14	-64.54
997	SLE QP 2	-234	61	14481	-3812.17	34.63	-66.05
997	SLD 1	1183	620	14173	-3748.79	71.08	303.52
997	SLD 2	943	429	14385	-3802.97	70.61	244.18
997	SLD 3	1066	-147	18486	-4832.37	53.97	275.97
997	SLD 4	827	-337	18699	-4886.55	53.5	216.62
997	SLD 5	408	1424	7810	-2140.42	71.61	96.82
997	SLD 6	254	1302	7947	-2175.3	71.3	58.6
997	SLD 7	21	-1131	22188	-5752.34	14.55	4.97
997	SLD 8	-134	-1253	22325	-5787.22	14.25	-33.24
997	SLD 9	-335	1376	6637	-1837.12	55.01	-98.86
997	SLD 10	-489	1254	6774	-1872	54.71	-137.07
997	SLD 11	-723	-1179	21016	-5449.04	-2.04	-190.7
997	SLD 12	-877	-1301	21153	-5483.92	-2.34	-228.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
997	SLD 13	-1295	460	10263	-2737.79	15.77	-348.72
997	SLD 14	-1535	270	10476	-2791.97	15.3	-408.07
997	SLD 15	-1412	-307	14577	-3821.37	-1.35	-376.28
997	SLD 16	-1651	-497	14790	-3875.55	-1.82	-435.62
997	SLV 1	1994	990	13683	-3633.69	92.8	514.87
997	SLV 2	1616	690	14018	-3719.09	92.06	421.32
997	SLV 3	1796	-317	21043	-5482.41	63.58	468
997	SLV 4	1418	-617	21378	-5567.8	62.84	374.46
997	SLV 5	805	2378	3017	-938.82	96.54	196.75
997	SLV 6	550	2177	3243	-996.3	96.04	133.78
997	SLV 7	145	-1979	27549	-7101.19	-0.86	40.54
997	SLV 8	-109	-2181	27775	-7158.67	-1.36	-22.43
997	SLV 9	-359	2303	1187	-465.67	70.62	-109.67
997	SLV 10	-614	2101	1413	-523.15	70.12	-172.65
997	SLV 11	-1019	-2054	25720	-6628.04	-26.77	-265.88
997	SLV 12	-1273	-2256	25945	-6685.53	-27.27	-328.85
997	SLV 13	-1887	740	7585	-2056.54	6.42	-506.56
997	SLV 14	-2265	440	7920	-2141.93	5.68	-600.1
997	SLV 15	-2084	-567	14944	-3905.25	-22.8	-553.42
997	SLV 16	-2462	-867	15279	-3990.65	-23.54	-646.97
997	SLV FO 1	2217	1083	13603	-3615.85	98.62	572.96
997	SLV FO 2	1801	753	13972	-3709.79	97.8	470.05
997	SLV FO 3	1999	-355	21699	-5649.43	66.48	521.41
997	SLV FO 4	1583	-685	22067	-5743.37	65.66	418.51
997	SLV FO 5	909	2610	1870	-651.48	102.73	223.03
997	SLV FO 6	629	2388	2119	-714.72	102.18	153.76
997	SLV FO 7	183	-2183	28856	-7430.09	-4.41	51.2
997	SLV FO 8	-97	-2405	29104	-7493.32	-4.96	-18.06
997	SLV FO 9	-372	2528	-142	-131.02	74.22	-114.04
997	SLV FO 10	-652	2306	106	-194.25	73.67	-183.3
997	SLV FO 11	-1097	-2265	26844	-6909.63	-32.91	-285.86
997	SLV FO 12	-1377	-2487	27092	-6972.86	-33.46	-355.13
997	SLV FO 13	-2052	808	6895	-1880.97	3.6	-550.61
997	SLV FO 14	-2468	478	7264	-1974.91	2.79	-653.51
997	SLV FO 15	-2269	-630	14991	-3914.55	-28.54	-602.16
997	SLV FO 16	-2685	-960	15359	-4008.49	-29.35	-705.06
997	CRTFP Ux+	0	0	0	0	0	0
997	CRTFP Ux-	0	0	0	0	0	0
997	CRTFP Uy+	0	0	0	-0.01	0	0
997	CRTFP Uy-	0	0	0	0.01	0	0
1000	SLU 1	48	25	2919	-868.84	-125.56	17.85
1000	SLU 2	46	38	2855	-851.64	-122.81	17.65
1000	SLU 3	49	26	3002	-893.39	-129.15	18.46
1000	SLU 4	48	33	2964	-883.06	-127.5	18.34
1000	SLU 5	47	38	2911	-868.17	-125.24	18.12
1000	SLU 6	51	26	3059	-909.93	-131.58	18.93
1000	SLU 7	49	34	3021	-899.6	-129.93	18.81
1000	SLU 8	50	26	3032	-901.92	-130.42	18.79
1000	SLU 9	49	33	2994	-891.6	-128.77	18.67
1000	SLU 10	49	41	3225	-961.79	-138.74	18.94
1000	SLU 11	53	29	3373	-1003.54	-145.08	19.75
1000	SLU 12	51	36	3335	-993.22	-143.43	19.63
1000	SLU 13	50	41	3282	-978.33	-141.17	19.41
1000	SLU 14	54	29	3430	-1020.08	-147.51	20.22
1000	SLU 15	53	37	3391	-1009.76	-145.86	20.1
1000	SLU 16	54	29	3403	-1012.08	-146.35	20.07
1000	SLU 17	52	36	3364	-1001.75	-144.7	19.95
1000	SLU 18	53	29	3449	-1026.21	-148.31	19.69
1000	SLU 19	51	37	3410	-1015.88	-146.66	19.57
1000	SLU 20	54	30	3505	-1042.75	-150.74	20.16
1000	SLU 21	53	37	3467	-1032.42	-149.09	20.04
1000	SLU 22	54	28	3418	-1016.34	-146.98	20.08
1000	SLU 23	52	41	3354	-999.14	-144.23	19.88
1000	SLU 24	55	29	3501	-1040.89	-150.57	20.69
1000	SLU 25	54	36	3463	-1030.56	-148.92	20.57
1000	SLU 26	53	41	3410	-1015.68	-146.66	20.34
1000	SLU 27	57	29	3558	-1057.43	-153.01	21.15
1000	SLU 28	55	37	3520	-1047.1	-151.36	21.03
1000	SLU 29	56	29	3531	-1049.42	-151.84	21.01
1000	SLU 30	55	37	3493	-1039.1	-150.2	20.89
1000	SLU 31	55	44	3724	-1109.29	-160.16	21.16
1000	SLU 32	59	32	3872	-1151.04	-166.5	21.97
1000	SLU 33	57	39	3834	-1140.72	-164.85	21.85
1000	SLU 34	56	44	3781	-1125.83	-162.59	21.63
1000	SLU 35	60	32	3929	-1167.58	-168.93	22.44
1000	SLU 36	59	40	3890	-1157.26	-167.28	22.32
1000	SLU 37	60	32	3902	-1159.58	-167.77	22.3
1000	SLU 38	58	40	3863	-1149.25	-166.12	22.18
1000	SLU 39	58	33	3948	-1173.71	-169.73	21.92
1000	SLU 40	57	40	3909	-1163.38	-168.08	21.8
1000	SLU 41	60	33	4004	-1190.25	-172.17	22.38
1000	SLU 42	58	41	3966	-1179.92	-170.52	22.26
1000	SLU 43	60	32	3623	-1078.92	-155.88	22.45
1000	SLU 44	58	44	3559	-1061.72	-153.13	22.24
1000	SLU 45	62	32	3707	-1103.47	-159.47	23.05
1000	SLU 46	60	40	3668	-1093.14	-157.82	22.93
1000	SLU 47	59	45	3616	-1078.26	-155.56	22.71
1000	SLU 48	63	33	3764	-1120.01	-161.9	23.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1000	SLU 49	62	40	3725	-1109.68	-160.25	23.4
1000	SLU 50	63	32	3737	-1112	-160.74	23.38
1000	SLU 51	61	40	3698	-1101.68	-159.09	23.26
1000	SLU 52	61	47	3930	-1171.87	-169.06	23.53
1000	SLU 53	65	35	4078	-1213.62	-175.4	24.34
1000	SLU 54	64	43	4039	-1203.3	-173.75	24.22
1000	SLU 55	63	48	3987	-1188.41	-171.49	24
1000	SLU 56	66	36	4134	-1230.16	-177.83	24.81
1000	SLU 57	65	43	4096	-1219.84	-176.18	24.69
1000	SLU 58	66	35	4107	-1222.16	-176.67	24.67
1000	SLU 59	65	43	4069	-1211.83	-175.02	24.55
1000	SLU 60	65	36	4153	-1236.29	-178.63	24.28
1000	SLU 61	64	43	4115	-1225.97	-176.98	24.16
1000	SLU 62	66	36	4210	-1252.83	-181.06	24.75
1000	SLU 63	65	44	4171	-1242.5	-179.42	24.63
1000	SLU 64	66	35	4122	-1226.42	-177.3	24.67
1000	SLU 65	64	47	4058	-1209.22	-174.55	24.47
1000	SLU 66	68	35	4206	-1250.97	-180.89	25.28
1000	SLU 67	66	43	4167	-1240.64	-179.25	25.16
1000	SLU 68	65	48	4115	-1225.76	-176.99	24.94
1000	SLU 69	69	36	4263	-1267.51	-183.33	25.75
1000	SLU 70	68	43	4224	-1257.18	-181.68	25.63
1000	SLU 71	69	36	4236	-1259.5	-182.17	25.61
1000	SLU 72	67	43	4197	-1249.18	-180.52	25.49
1000	SLU 73	67	50	4429	-1319.37	-190.48	25.76
1000	SLU 74	71	38	4577	-1361.12	-196.82	26.57
1000	SLU 75	70	46	4538	-1350.8	-195.17	26.45
1000	SLU 76	69	51	4486	-1335.91	-192.91	26.22
1000	SLU 77	72	39	4633	-1377.66	-199.25	27.03
1000	SLU 78	71	46	4595	-1367.34	-197.61	26.91
1000	SLU 79	72	39	4606	-1369.66	-198.09	26.89
1000	SLU 80	71	46	4568	-1359.34	-196.45	26.77
1000	SLU 81	71	39	4652	-1383.79	-200.05	26.51
1000	SLU 82	69	47	4614	-1373.47	-198.41	26.39
1000	SLU 83	72	39	4709	-1400.33	-202.49	26.98
1000	SLU 84	71	47	4670	-1390.01	-200.84	26.86
1000	SLE RA 1	49	26	3061	-910.99	-131.68	18.49
1000	SLE RA 2	48	34	3019	-899.51	-129.85	18.35
1000	SLE RA 3	51	26	3117	-927.35	-134.07	18.89
1000	SLE RA 4	50	31	3091	-920.47	-132.97	18.81
1000	SLE RA 5	49	35	3056	-910.54	-131.47	18.67
1000	SLE RA 6	51	27	3155	-938.37	-135.69	19.21
1000	SLE RA 7	51	32	3129	-931.49	-134.6	19.13
1000	SLE RA 8	51	27	3137	-933.04	-134.92	19.11
1000	SLE RA 9	50	32	3111	-926.16	-133.82	19.03
1000	SLE RA 10	50	36	3266	-972.95	-140.46	19.21
1000	SLE RA 11	53	28	3364	-1000.79	-144.69	19.75
1000	SLE RA 12	52	33	3339	-993.9	-143.59	19.67
1000	SLE RA 13	51	37	3304	-983.98	-142.09	19.52
1000	SLE RA 14	54	29	3402	-1011.81	-146.31	20.06
1000	SLE RA 15	53	34	3376	-1004.93	-145.21	19.98
1000	SLE RA 16	53	29	3384	-1006.48	-145.54	19.97
1000	SLE RA 17	53	34	3358	-999.59	-144.44	19.89
1000	SLE RA 18	53	29	3414	-1015.9	-146.85	19.71
1000	SLE RA 19	52	34	3389	-1009.01	-145.75	19.63
1000	SLE RA 20	53	29	3452	-1026.92	-148.47	20.03
1000	SLE RA 21	53	34	3427	-1020.04	-147.37	19.95
1000	SLE FR 1	49	26	3061	-910.99	-131.68	18.49
1000	SLE FR 2	49	28	3053	-908.69	-131.31	18.46
1000	SLE FR 3	50	26	3076	-915.4	-132.33	18.61
1000	SLE FR 4	50	29	3159	-940.16	-135.86	18.83
1000	SLE FR 5	51	27	3182	-946.87	-136.88	18.98
1000	SLE FR 6	51	27	3238	-963.44	-139.26	19.1
1000	SLE QP 1	49	26	3061	-910.99	-131.68	18.49
1000	SLE QP 2	50	27	3167	-942.46	-136.23	18.86
1000	SLD 1	323	67	2331	-713.65	-100.21	115.97
1000	SLD 2	272	112	2272	-699.21	-97.64	100.34
1000	SLD 3	354	-92	3295	-972.8	-141.53	120.21
1000	SLD 4	303	-47	3236	-958.36	-138.97	104.59
1000	SLD 5	94	272	1464	-483.25	-63.18	44.24
1000	SLD 6	61	301	1426	-473.95	-61.53	34.18
1000	SLD 7	197	-258	4678	-1347.09	-200.94	58.38
1000	SLD 8	165	-228	4640	-1337.79	-199.29	48.32
1000	SLD 9	-64	282	1694	-547.12	-73.17	-10.61
1000	SLD 10	-96	311	1657	-537.83	-71.51	-20.67
1000	SLD 11	40	-248	4908	-1410.97	-210.93	3.53
1000	SLD 12	7	-218	4870	-1401.67	-209.27	-6.53
1000	SLD 13	-202	101	3098	-926.56	-133.49	-66.87
1000	SLD 14	-253	146	3039	-912.12	-130.92	-82.5
1000	SLD 15	-171	-58	4062	-1185.71	-174.82	-62.63
1000	SLD 16	-222	-13	4004	-1171.27	-172.25	-78.26
1000	SLV 1	475	100	1792	-566.55	-77.02	170.69
1000	SLV 2	395	172	1700	-543.79	-72.97	146.06
1000	SLV 3	527	-171	3437	-1008.76	-147.53	177.93
1000	SLV 4	448	-99	3345	-986	-143.49	153.3
1000	SLV 5	112	447	277	-163.24	-12.27	58.01
1000	SLV 6	59	495	215	-147.92	-9.54	41.43
1000	SLV 7	289	-457	5760	-1637.29	-247.33	82.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1000	SLV 8	235	-409	5698	-1621.96	-244.6	65.59
1000	SLV 9	-134	463	636	-262.95	-27.85	-27.87
1000	SLV 10	-188	511	574	-247.63	-25.13	-44.45
1000	SLV 11	42	-441	6120	-1737	-262.91	-3.72
1000	SLV 12	-12	-393	6057	-1721.67	-260.19	-20.3
1000	SLV 13	-347	153	2990	-898.92	-128.97	-115.59
1000	SLV 14	-427	225	2897	-876.15	-124.92	-140.22
1000	SLV 15	-294	-118	4635	-1341.13	-199.49	-108.35
1000	SLV 16	-374	-46	4542	-1318.37	-195.44	-132.97
1000	SLV FO 1	517	108	1655	-528.96	-71.09	185.87
1000	SLV FO 2	430	186	1553	-503.92	-66.64	158.78
1000	SLV FO 3	575	-191	3464	-1015.4	-148.66	193.84
1000	SLV FO 4	488	-112	3362	-990.35	-144.21	166.75
1000	SLV FO 5	119	489	-12	-85.32	0.13	61.93
1000	SLV FO 6	60	542	-80	-68.47	3.13	43.69
1000	SLV FO 7	312	-506	6020	-1706.77	-258.44	88.5
1000	SLV FO 8	253	-452	5951	-1689.92	-255.44	70.26
1000	SLV FO 9	-153	506	383	-195	-17.02	-32.55
1000	SLV FO 10	-211	559	315	-178.15	-14.02	-50.78
1000	SLV FO 11	41	-488	6415	-1816.45	-275.58	-5.98
1000	SLV FO 12	-18	-435	6346	-1799.6	-272.58	-24.21
1000	SLV FO 13	-387	166	2972	-894.56	-128.24	-129.04
1000	SLV FO 14	-474	245	2870	-869.52	-123.79	-156.13
1000	SLV FO 15	-329	-133	4782	-1381	-205.81	-121.07
1000	SLV FO 16	-416	-54	4680	-1355.96	-201.36	-148.16
1000	CRTFP Ux+	0	0	0	0	0	0
1000	CRTFP Ux-	0	0	0	0	0	0
1000	CRTFP Uy+	0	0	0	0	0	0
1000	CRTFP Uy-	0	0	0	0	0	0
1001	SLU 1	63	35	3709	-1012.56	3.79	22.24
1001	SLU 2	60	51	3628	-993.07	3.69	21.23
1001	SLU 3	66	36	3815	-1040.8	3.91	23.01
1001	SLU 4	64	46	3767	-1029.11	3.86	22.41
1001	SLU 5	62	52	3700	-1012.1	3.78	21.83
1001	SLU 6	67	36	3887	-1059.82	4	23.61
1001	SLU 7	66	46	3838	-1048.13	3.94	23.01
1001	SLU 8	67	36	3853	-1050.61	3.96	23.44
1001	SLU 9	65	46	3804	-1038.92	3.9	22.83
1001	SLU 10	65	55	4098	-1119.99	4.25	22.76
1001	SLU 11	70	40	4285	-1167.72	4.47	24.54
1001	SLU 12	68	50	4236	-1156.02	4.42	23.94
1001	SLU 13	67	56	4169	-1139.01	4.34	23.36
1001	SLU 14	72	40	4356	-1186.74	4.56	25.14
1001	SLU 15	70	50	4308	-1175.05	4.5	24.54
1001	SLU 16	71	40	4322	-1177.53	4.52	24.96
1001	SLU 17	69	50	4274	-1165.83	4.46	24.36
1001	SLU 18	70	41	4380	-1193.87	4.59	24.42
1001	SLU 19	68	50	4331	-1182.18	4.53	23.82
1001	SLU 20	71	41	4452	-1212.9	4.67	25.02
1001	SLU 21	70	51	4403	-1201.2	4.62	24.42
1001	SLU 22	71	39	4341	-1182.43	4.55	25
1001	SLU 23	68	56	4260	-1162.94	4.45	24
1001	SLU 24	73	40	4446	-1210.67	4.67	25.78
1001	SLU 25	72	50	4398	-1198.97	4.61	25.18
1001	SLU 26	70	56	4331	-1181.96	4.53	24.6
1001	SLU 27	75	41	4518	-1229.69	4.76	26.38
1001	SLU 28	73	51	4470	-1218	4.7	25.78
1001	SLU 29	75	40	4484	-1220.48	4.71	26.2
1001	SLU 30	73	50	4435	-1208.78	4.66	25.6
1001	SLU 31	73	60	4729	-1289.85	5.01	25.53
1001	SLU 32	78	44	4916	-1337.58	5.23	27.31
1001	SLU 33	76	54	4867	-1325.89	5.18	26.7
1001	SLU 34	74	60	4801	-1308.88	5.1	26.13
1001	SLU 35	79	45	4987	-1356.61	5.32	27.91
1001	SLU 36	78	55	4939	-1344.91	5.26	27.3
1001	SLU 37	79	45	4953	-1347.39	5.27	27.73
1001	SLU 38	77	54	4905	-1335.7	5.22	27.13
1001	SLU 39	77	45	5011	-1363.74	5.35	27.19
1001	SLU 40	76	55	4962	-1352.04	5.29	26.58
1001	SLU 41	79	46	5083	-1382.76	5.43	27.79
1001	SLU 42	77	55	5034	-1371.07	5.37	27.18
1001	SLU 43	80	44	4606	-1258.09	4.66	27.96
1001	SLU 44	77	60	4525	-1238.6	4.57	26.95
1001	SLU 45	82	45	4712	-1286.33	4.79	28.74
1001	SLU 46	80	54	4663	-1274.63	4.73	28.13
1001	SLU 47	78	61	4597	-1257.62	4.65	27.55
1001	SLU 48	84	45	4783	-1305.35	4.87	29.33
1001	SLU 49	82	55	4735	-1293.66	4.82	28.73
1001	SLU 50	83	45	4749	-1296.14	4.83	29.16
1001	SLU 51	81	55	4701	-1284.45	4.78	28.56
1001	SLU 52	81	64	4994	-1365.52	5.13	28.48
1001	SLU 53	86	49	5181	-1413.25	5.35	30.26
1001	SLU 54	84	58	5132	-1401.55	5.29	29.66
1001	SLU 55	83	65	5066	-1384.54	5.21	29.08
1001	SLU 56	88	49	5253	-1432.27	5.44	30.86
1001	SLU 57	86	59	5204	-1420.58	5.38	30.26
1001	SLU 58	87	49	5219	-1423.06	5.39	30.69
1001	SLU 59	86	59	5170	-1411.36	5.34	30.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1001	SLU 60	86	50	5276	-1439.4	5.47	30.14
1001	SLU 61	84	59	5228	-1427.71	5.41	29.54
1001	SLU 62	88	50	5348	-1458.42	5.55	30.74
1001	SLU 63	86	60	5299	-1446.73	5.49	30.14
1001	SLU 64	87	48	5237	-1427.96	5.42	30.72
1001	SLU 65	85	65	5156	-1408.46	5.33	29.72
1001	SLU 66	90	49	5343	-1456.19	5.55	31.5
1001	SLU 67	88	59	5294	-1444.5	5.49	30.9
1001	SLU 68	86	65	5228	-1427.49	5.41	30.32
1001	SLU 69	91	50	5415	-1475.22	5.63	32.1
1001	SLU 70	90	59	5366	-1463.52	5.57	31.5
1001	SLU 71	91	49	5380	-1466.01	5.59	31.92
1001	SLU 72	89	59	5332	-1454.31	5.53	31.32
1001	SLU 73	89	69	5625	-1535.38	5.89	31.25
1001	SLU 74	94	53	5812	-1583.11	6.11	33.03
1001	SLU 75	92	63	5764	-1571.42	6.05	32.43
1001	SLU 76	91	69	5697	-1554.41	5.97	31.85
1001	SLU 77	96	54	5884	-1602.14	6.19	33.63
1001	SLU 78	94	64	5835	-1590.44	6.14	33.03
1001	SLU 79	95	53	5850	-1592.92	6.15	33.45
1001	SLU 80	94	63	5801	-1581.23	6.09	32.85
1001	SLU 81	94	54	5907	-1609.26	6.22	32.91
1001	SLU 82	92	64	5859	-1597.57	6.17	32.31
1001	SLU 83	95	55	5979	-1628.29	6.31	33.51
1001	SLU 84	94	64	5931	-1616.6	6.25	32.91
1001	SLE RA 1	66	36	3890	-1061.09	4	23.03
1001	SLE RA 2	64	47	3836	-1048.1	3.94	22.36
1001	SLE RA 3	67	37	3960	-1079.92	4.09	23.54
1001	SLE RA 4	66	43	3928	-1072.12	4.05	23.14
1001	SLE RA 5	65	47	3884	-1060.78	4	22.76
1001	SLE RA 6	68	37	4008	-1092.6	4.14	23.94
1001	SLE RA 7	67	44	3976	-1084.81	4.11	23.54
1001	SLE RA 8	68	37	3985	-1086.46	4.12	23.83
1001	SLE RA 9	67	43	3953	-1078.66	4.08	23.42
1001	SLE RA 10	67	50	4149	-1132.71	4.32	23.38
1001	SLE RA 11	70	39	4273	-1164.53	4.46	24.56
1001	SLE RA 12	69	46	4241	-1156.73	4.42	24.16
1001	SLE RA 13	68	50	4196	-1145.39	4.37	23.78
1001	SLE RA 14	71	40	4321	-1177.21	4.52	24.96
1001	SLE RA 15	70	46	4289	-1169.42	4.48	24.56
1001	SLE RA 16	71	40	4298	-1171.07	4.49	24.84
1001	SLE RA 17	70	46	4266	-1163.28	4.45	24.44
1001	SLE RA 18	70	40	4337	-1181.97	4.54	24.48
1001	SLE RA 19	69	46	4304	-1174.17	4.5	24.08
1001	SLE RA 20	71	40	4385	-1194.65	4.59	24.88
1001	SLE RA 21	70	47	4352	-1186.85	4.56	24.48
1001	SLE FR 1	66	36	3890	-1061.09	4	23.03
1001	SLE FR 2	65	38	3879	-1058.5	3.99	22.89
1001	SLE FR 3	66	36	3909	-1066.17	4.03	23.19
1001	SLE FR 4	66	39	4013	-1094.76	4.15	23.33
1001	SLE FR 5	67	37	4043	-1102.43	4.19	23.62
1001	SLE FR 6	68	38	4113	-1121.53	4.27	23.75
1001	SLE QP 1	66	36	3890	-1061.09	4	23.03
1001	SLE QP 2	67	37	4024	-1097.36	4.16	23.46
1001	SLD 1	420	83	2952	-842.31	3.56	147
1001	SLD 2	355	146	2875	-825.52	3.57	124.03
1001	SLD 3	462	-122	4171	-1136.5	4.95	161.6
1001	SLD 4	396	-59	4094	-1119.71	4.96	138.63
1001	SLD 5	121	351	1867	-577.54	1.87	42.33
1001	SLD 6	79	391	1818	-566.73	1.87	27.54
1001	SLD 7	260	-332	5930	-1558.18	6.51	91
1001	SLD 8	217	-292	5880	-1547.37	6.52	76.21
1001	SLD 9	-83	366	2168	-647.35	1.81	-29.28
1001	SLD 10	-126	407	2118	-636.54	1.81	-44.07
1001	SLD 11	55	-317	6230	-1627.99	6.46	19.38
1001	SLD 12	12	-276	6180	-1617.17	6.46	4.6
1001	SLD 13	-262	134	3954	-1075	3.37	-91.71
1001	SLD 14	-328	197	3876	-1058.21	3.38	-114.67
1001	SLD 15	-221	-71	5172	-1369.19	4.76	-77.11
1001	SLD 16	-287	-8	5095	-1352.4	4.77	-100.07
1001	SLV 1	618	122	2263	-677.93	3.12	215.98
1001	SLV 2	514	221	2142	-651.46	3.13	179.78
1001	SLV 3	689	-227	4343	-1179.93	5.5	240.89
1001	SLV 4	585	-128	4221	-1153.47	5.51	204.69
1001	SLV 5	144	575	364	-215.09	0.24	50.19
1001	SLV 6	74	641	283	-197.27	0.25	25.82
1001	SLV 7	380	-591	7296	-1888.44	8.17	133.23
1001	SLV 8	310	-524	7214	-1870.63	8.18	108.86
1001	SLV 9	-176	599	833	-324.09	0.15	-61.94
1001	SLV 10	-246	665	751	-306.27	0.16	-86.3
1001	SLV 11	59	-567	7765	-1997.44	8.08	21.11
1001	SLV 12	-11	-500	7683	-1979.62	8.09	-3.26
1001	SLV 13	-451	203	3826	-1041.25	2.82	-157.77
1001	SLV 14	-555	302	3705	-1014.78	2.83	-193.97
1001	SLV 15	-380	-147	5906	-1543.25	5.2	-132.85
1001	SLV 16	-484	-48	5784	-1516.79	5.21	-169.05
1001	SLV FO 1	673	131	2087	-635.98	3.01	235.23
1001	SLV FO 2	559	240	1954	-606.87	3.03	195.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1001	SLV FO 3	751	-254	4375	-1188.19	5.63	262.63
1001	SLV FO 4	637	-145	4241	-1159.08	5.65	222.81
1001	SLV FO 5	152	628	-1	-126.86	-0.16	52.86
1001	SLV FO 6	75	702	-92	-107.27	-0.14	26.05
1001	SLV FO 7	411	-654	7623	-1967.55	8.57	144.21
1001	SLV FO 8	334	-580	7533	-1947.95	8.58	117.4
1001	SLV FO 9	-201	655	514	-246.76	-0.25	-70.48
1001	SLV FO 10	-278	728	424	-227.16	-0.24	-97.28
1001	SLV FO 11	59	-627	8139	-2087.45	8.47	20.87
1001	SLV FO 12	-18	-554	8049	-2067.85	8.48	-5.93
1001	SLV FO 13	-503	219	3807	-1035.64	2.68	-175.89
1001	SLV FO 14	-617	328	3673	-1006.52	2.7	-215.71
1001	SLV FO 15	-425	-165	6094	-1587.84	5.3	-148.48
1001	SLV FO 16	-539	-56	5960	-1558.73	5.32	-188.3
1001	CRTFP Ux+	0	0	0	0	0	0
1001	CRTFP Ux-	0	0	0	0	0	0
1001	CRTFP Uy+	0	0	0	0	0	0
1001	CRTFP Uy-	0	0	0	0	0	0
1002	SLU 1	64	37	3578	-886.24	4.11	22.58
1002	SLU 2	61	54	3500	-869.72	4.02	21.55
1002	SLU 3	67	39	3680	-910.53	4.24	23.37
1002	SLU 4	65	48	3633	-900.62	4.19	22.75
1002	SLU 5	63	54	3569	-886.09	4.11	22.16
1002	SLU 6	68	39	3749	-926.91	4.33	23.98
1002	SLU 7	66	49	3702	-916.99	4.28	23.36
1002	SLU 8	68	39	3716	-918.99	4.29	23.8
1002	SLU 9	66	49	3669	-909.08	4.23	23.18
1002	SLU 10	66	58	3950	-978.91	4.63	23.09
1002	SLU 11	71	43	4130	-1019.72	4.85	24.92
1002	SLU 12	69	52	4083	-1009.81	4.8	24.3
1002	SLU 13	67	58	4019	-995.28	4.72	23.7
1002	SLU 14	73	43	4199	-1036.1	4.94	25.53
1002	SLU 15	71	53	4152	-1026.18	4.89	24.91
1002	SLU 16	72	43	4166	-1028.18	4.9	25.35
1002	SLU 17	70	53	4119	-1018.27	4.84	24.73
1002	SLU 18	71	44	4221	-1042.23	4.98	24.79
1002	SLU 19	69	53	4174	-1032.31	4.93	24.17
1002	SLU 20	72	44	4290	-1058.6	5.07	25.4
1002	SLU 21	71	54	4243	-1048.69	5.02	24.78
1002	SLU 22	72	42	4183	-1032.32	4.93	25.38
1002	SLU 23	69	58	4105	-1015.79	4.84	24.35
1002	SLU 24	75	43	4285	-1056.61	5.06	26.18
1002	SLU 25	73	53	4238	-1046.69	5	25.56
1002	SLU 26	71	59	4174	-1032.17	4.92	24.96
1002	SLU 27	76	44	4354	-1072.98	5.15	26.79
1002	SLU 28	74	54	4307	-1063.07	5.09	26.17
1002	SLU 29	76	44	4321	-1065.07	5.1	26.61
1002	SLU 30	74	53	4274	-1055.15	5.05	25.99
1002	SLU 31	74	63	4555	-1124.98	5.45	25.9
1002	SLU 32	79	47	4735	-1165.8	5.67	27.72
1002	SLU 33	77	57	4688	-1155.88	5.62	27.1
1002	SLU 34	75	63	4624	-1141.36	5.54	26.51
1002	SLU 35	81	48	4804	-1182.17	5.76	28.33
1002	SLU 36	79	58	4757	-1172.26	5.71	27.71
1002	SLU 37	80	48	4771	-1174.26	5.72	28.15
1002	SLU 38	78	58	4724	-1164.34	5.66	27.53
1002	SLU 39	79	48	4826	-1188.3	5.8	27.59
1002	SLU 40	77	58	4779	-1178.39	5.75	26.97
1002	SLU 41	80	49	4895	-1204.68	5.89	28.2
1002	SLU 42	79	59	4848	-1194.76	5.84	27.58
1002	SLU 43	81	47	4444	-1102.03	5.06	28.39
1002	SLU 44	78	63	4366	-1085.51	4.97	27.36
1002	SLU 45	83	48	4546	-1126.32	5.19	29.18
1002	SLU 46	81	58	4499	-1116.41	5.14	28.57
1002	SLU 47	80	64	4435	-1101.88	5.06	27.97
1002	SLU 48	85	49	4615	-1142.7	5.28	29.8
1002	SLU 49	83	59	4568	-1132.78	5.23	29.18
1002	SLU 50	84	49	4582	-1134.78	5.24	29.61
1002	SLU 51	83	58	4535	-1124.87	5.18	28.99
1002	SLU 52	82	67	4816	-1194.7	5.58	28.9
1002	SLU 53	87	52	4996	-1235.51	5.81	30.73
1002	SLU 54	86	62	4949	-1225.6	5.75	30.11
1002	SLU 55	84	68	4885	-1211.07	5.67	29.52
1002	SLU 56	89	53	5065	-1251.89	5.89	31.34
1002	SLU 57	87	63	5018	-1241.97	5.84	30.72
1002	SLU 58	89	53	5032	-1243.97	5.85	31.16
1002	SLU 59	87	62	4985	-1234.06	5.8	30.54
1002	SLU 60	87	53	5087	-1258.02	5.94	30.6
1002	SLU 61	85	63	5040	-1248.1	5.88	29.98
1002	SLU 62	89	54	5156	-1274.39	6.02	31.21
1002	SLU 63	87	63	5109	-1264.48	5.97	30.59
1002	SLU 64	89	52	5049	-1248.11	5.88	31.2
1002	SLU 65	86	68	4971	-1231.58	5.79	30.17
1002	SLU 66	91	53	5151	-1272.4	6.01	31.99
1002	SLU 67	89	63	5104	-1262.48	5.96	31.37
1002	SLU 68	88	69	5040	-1247.96	5.88	30.78
1002	SLU 69	93	54	5220	-1288.77	6.1	32.6
1002	SLU 70	91	63	5173	-1278.86	6.05	31.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1002	SLU 71	92	53	5187	-1280.86	6.06	32.42
1002	SLU 72	91	63	5140	-1270.94	6	31.8
1002	SLU 73	90	72	5421	-1340.77	6.4	31.71
1002	SLU 74	95	57	5601	-1381.59	6.62	33.53
1002	SLU 75	94	67	5554	-1371.67	6.57	32.91
1002	SLU 76	92	73	5490	-1357.15	6.49	32.32
1002	SLU 77	97	58	5670	-1397.96	6.71	34.14
1002	SLU 78	95	67	5623	-1388.05	6.66	33.52
1002	SLU 79	97	57	5637	-1390.05	6.67	33.96
1002	SLU 80	95	67	5590	-1380.13	6.61	33.34
1002	SLU 81	95	58	5692	-1404.09	6.75	33.4
1002	SLU 82	93	68	5645	-1394.18	6.7	32.78
1002	SLU 83	97	59	5761	-1420.47	6.84	34.01
1002	SLU 84	95	68	5714	-1410.55	6.79	33.39
1002	SLE RA 1	67	39	3751	-927.98	4.34	23.38
1002	SLE RA 2	65	50	3699	-916.96	4.28	22.69
1002	SLE RA 3	68	40	3819	-944.17	4.43	23.91
1002	SLE RA 4	67	46	3788	-937.56	4.39	23.5
1002	SLE RA 5	66	50	3745	-927.88	4.34	23.1
1002	SLE RA 6	69	40	3865	-955.09	4.49	24.32
1002	SLE RA 7	68	46	3834	-948.48	4.45	23.9
1002	SLE RA 8	69	40	3843	-949.81	4.46	24.2
1002	SLE RA 9	68	46	3812	-943.2	4.42	23.78
1002	SLE RA 10	68	52	3999	-989.76	4.69	23.72
1002	SLE RA 11	71	42	4119	-1016.96	4.84	24.94
1002	SLE RA 12	70	49	4088	-1010.36	4.8	24.53
1002	SLE RA 13	69	53	4045	-1000.67	4.75	24.13
1002	SLE RA 14	72	43	4165	-1027.88	4.9	25.35
1002	SLE RA 15	71	49	4133	-1021.27	4.86	24.93
1002	SLE RA 16	72	43	4143	-1022.6	4.87	25.22
1002	SLE RA 17	71	49	4112	-1015.99	4.83	24.81
1002	SLE RA 18	71	43	4180	-1031.97	4.92	24.85
1002	SLE RA 19	70	49	4148	-1025.36	4.89	24.44
1002	SLE RA 20	72	43	4225	-1042.88	4.98	25.26
1002	SLE RA 21	71	50	4194	-1036.28	4.95	24.85
1002	SLE FR 1	67	39	3751	-927.98	4.34	23.38
1002	SLE FR 2	66	41	3741	-925.78	4.33	23.24
1002	SLE FR 3	67	39	3770	-932.35	4.37	23.54
1002	SLE FR 4	67	42	3869	-956.97	4.5	23.69
1002	SLE FR 5	68	40	3898	-963.54	4.54	23.99
1002	SLE FR 6	69	41	3965	-979.97	4.63	24.12
1002	SLE QP 1	67	39	3751	-927.98	4.34	23.38
1002	SLE QP 2	68	40	3880	-959.18	4.52	23.82
1002	SLD 1	420	79	2824	-746.79	4.18	147.04
1002	SLD 2	354	146	2747	-731.73	4.18	124
1002	SLD 3	463	-123	3998	-996.97	5.52	162.04
1002	SLD 4	397	-56	3921	-981.91	5.52	139
1002	SLD 5	120	347	1797	-518.6	2.38	42
1002	SLD 6	78	390	1747	-508.91	2.38	27.17
1002	SLD 7	262	-327	5708	-1352.55	6.85	92
1002	SLD 8	220	-284	5658	-1342.85	6.85	77.16
1002	SLD 9	-84	364	2101	-575.5	2.18	-29.52
1002	SLD 10	-127	407	2051	-565.8	2.18	-44.35
1002	SLD 11	58	-310	6012	-1409.45	6.65	20.48
1002	SLD 12	15	-267	5963	-1399.75	6.65	5.64
1002	SLD 13	-261	136	3839	-936.44	3.52	-91.35
1002	SLD 14	-327	203	3761	-921.38	3.51	-114.4
1002	SLD 15	-219	-66	5012	-1186.63	4.86	-76.36
1002	SLD 16	-285	1	4935	-1171.56	4.85	-99.4
1002	SLV 1	617	115	2148	-609.49	3.89	215.82
1002	SLV 2	513	220	2026	-585.75	3.89	179.5
1002	SLV 3	690	-230	4150	-1036.4	6.18	241.41
1002	SLV 4	586	-125	4028	-1012.66	6.17	205.09
1002	SLV 5	142	566	346	-211.22	0.86	49.38
1002	SLV 6	72	637	264	-195.24	0.86	24.93
1002	SLV 7	384	-584	7020	-1634.25	8.48	134.7
1002	SLV 8	314	-513	6938	-1618.27	8.48	110.24
1002	SLV 9	-178	593	821	-300.08	0.55	-62.6
1002	SLV 10	-249	664	739	-284.1	0.55	-87.05
1002	SLV 11	64	-557	7495	-1723.12	8.17	22.71
1002	SLV 12	-6	-486	7413	-1707.14	8.17	-1.74
1002	SLV 13	-450	205	3731	-905.69	2.86	-157.45
1002	SLV 14	-554	310	3609	-881.95	2.86	-193.77
1002	SLV 15	-377	-140	5733	-1332.61	5.14	-131.85
1002	SLV 16	-481	-35	5612	-1308.86	5.14	-168.18
1002	SLV FO 1	672	123	1975	-574.52	3.83	235.02
1002	SLV FO 2	557	238	1841	-548.4	3.83	195.07
1002	SLV FO 3	752	-257	4177	-1044.12	6.34	263.17
1002	SLV FO 4	637	-141	4043	-1018.01	6.34	223.22
1002	SLV FO 5	149	619	-7	-136.42	0.5	51.94
1002	SLV FO 6	72	697	-97	-118.84	0.49	25.04
1002	SLV FO 7	416	-646	7334	-1701.76	8.88	145.78
1002	SLV FO 8	339	-568	7244	-1684.18	8.88	118.89
1002	SLV FO 9	-203	648	515	-234.17	0.15	-71.24
1002	SLV FO 10	-280	726	425	-216.59	0.15	-98.14
1002	SLV FO 11	64	-616	7857	-1799.51	8.54	22.6
1002	SLV FO 12	-13	-539	7767	-1781.93	8.54	-4.29
1002	SLV FO 13	-502	221	3716	-900.35	2.69	-175.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1002	SLV FO 14	-616	337	3582	-874.23	2.69	-215.53
1002	SLV FO 15	-422	-158	5919	-1369.95	5.21	-147.42
1002	SLV FO 16	-536	-43	5785	-1343.83	5.2	-187.38
1002	CRTFP Ux+	0	0	0	0	0	0
1002	CRTFP Ux-	0	0	0	0	0	0
1002	CRTFP Uy+	0	0	0	0	0	0
1002	CRTFP Uy-	0	0	0	0	0	0
1003	SLU 1	65	40	3450	-771.73	3.63	22.9
1003	SLU 2	62	56	3375	-757.75	3.56	21.84
1003	SLU 3	67	41	3548	-792.46	3.75	23.71
1003	SLU 4	66	51	3503	-784.07	3.71	23.07
1003	SLU 5	64	57	3441	-771.73	3.64	22.47
1003	SLU 6	69	42	3614	-806.45	3.83	24.33
1003	SLU 7	67	52	3569	-798.06	3.79	23.7
1003	SLU 8	69	42	3582	-799.71	3.79	24.14
1003	SLU 9	67	51	3537	-791.32	3.75	23.51
1003	SLU 10	67	61	3806	-850.73	4.12	23.4
1003	SLU 11	72	46	3978	-885.45	4.3	25.27
1003	SLU 12	70	55	3933	-877.06	4.26	24.63
1003	SLU 13	68	61	3872	-864.72	4.19	24.02
1003	SLU 14	74	47	4044	-899.44	4.38	25.89
1003	SLU 15	72	56	3999	-891.05	4.34	25.25
1003	SLU 16	73	46	4013	-892.69	4.34	25.7
1003	SLU 17	71	56	3968	-884.3	4.3	25.07
1003	SLU 18	72	47	4065	-904.56	4.42	25.13
1003	SLU 19	70	56	4020	-896.18	4.38	24.49
1003	SLU 20	73	47	4131	-918.55	4.5	25.75
1003	SLU 21	71	57	4086	-910.16	4.46	25.11
1003	SLU 22	73	45	4030	-896.14	4.36	25.74
1003	SLU 23	70	61	3954	-882.16	4.29	24.69
1003	SLU 24	76	46	4127	-916.88	4.48	26.55
1003	SLU 25	74	56	4082	-908.49	4.44	25.92
1003	SLU 26	72	62	4021	-896.15	4.37	25.31
1003	SLU 27	77	47	4193	-930.87	4.56	27.17
1003	SLU 28	76	57	4148	-922.48	4.52	26.54
1003	SLU 29	77	47	4162	-924.12	4.52	26.98
1003	SLU 30	75	57	4117	-915.73	4.48	26.35
1003	SLU 31	75	66	4385	-975.15	4.85	26.24
1003	SLU 32	80	51	4558	-1009.86	5.03	28.11
1003	SLU 33	78	60	4513	-1001.47	4.99	27.47
1003	SLU 34	76	66	4451	-989.14	4.92	26.87
1003	SLU 35	82	52	4624	-1023.85	5.11	28.73
1003	SLU 36	80	61	4579	-1015.46	5.07	28.1
1003	SLU 37	81	51	4592	-1017.11	5.07	28.54
1003	SLU 38	79	61	4547	-1008.72	5.03	27.91
1003	SLU 39	80	52	4645	-1028.98	5.15	27.97
1003	SLU 40	78	61	4600	-1020.59	5.11	27.34
1003	SLU 41	81	52	4711	-1042.97	5.23	28.59
1003	SLU 42	80	62	4666	-1034.58	5.19	27.96
1003	SLU 43	82	51	4287	-960.59	4.47	28.8
1003	SLU 44	79	67	4211	-946.61	4.4	27.74
1003	SLU 45	84	52	4384	-981.32	4.59	29.6
1003	SLU 46	82	61	4339	-972.93	4.55	28.97
1003	SLU 47	81	67	4277	-960.6	4.48	28.36
1003	SLU 48	86	53	4450	-995.31	4.67	30.23
1003	SLU 49	84	62	4405	-986.92	4.63	29.59
1003	SLU 50	86	52	4419	-988.57	4.63	30.04
1003	SLU 51	84	62	4374	-980.18	4.59	29.41
1003	SLU 52	83	71	4642	-1039.59	4.96	29.3
1003	SLU 53	89	56	4815	-1074.31	5.14	31.16
1003	SLU 54	87	66	4769	-1065.92	5.1	30.53
1003	SLU 55	85	72	4708	-1053.58	5.03	29.92
1003	SLU 56	90	57	4881	-1088.3	5.22	31.78
1003	SLU 57	89	67	4836	-1079.91	5.18	31.15
1003	SLU 58	90	57	4849	-1081.55	5.18	31.6
1003	SLU 59	88	66	4804	-1073.16	5.14	30.96
1003	SLU 60	88	57	4902	-1093.43	5.26	31.02
1003	SLU 61	87	66	4857	-1085.04	5.22	30.39
1003	SLU 62	90	58	4968	-1107.41	5.34	31.64
1003	SLU 63	88	67	4923	-1099.03	5.3	31.01
1003	SLU 64	90	56	4866	-1085.01	5.2	31.64
1003	SLU 65	87	72	4791	-1071.02	5.13	30.58
1003	SLU 66	92	57	4964	-1105.74	5.32	32.45
1003	SLU 67	91	66	4918	-1097.35	5.28	31.81
1003	SLU 68	89	72	4857	-1085.01	5.21	31.2
1003	SLU 69	94	58	5030	-1119.73	5.4	33.07
1003	SLU 70	92	67	4985	-1111.34	5.36	32.43
1003	SLU 71	94	57	4998	-1112.98	5.36	32.88
1003	SLU 72	92	67	4953	-1104.59	5.32	32.25
1003	SLU 73	92	76	5221	-1164.01	5.69	32.14
1003	SLU 74	97	61	5394	-1198.72	5.87	34
1003	SLU 75	95	71	5349	-1190.33	5.83	33.37
1003	SLU 76	93	77	5287	-1178	5.76	32.76
1003	SLU 77	99	62	5460	-1212.71	5.95	34.63
1003	SLU 78	97	72	5415	-1204.32	5.91	33.99
1003	SLU 79	98	62	5429	-1205.97	5.91	34.44
1003	SLU 80	96	71	5384	-1197.58	5.87	33.81
1003	SLU 81	96	62	5481	-1217.84	5.99	33.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1003	SLU 82	95	71	5436	-1209.45	5.95	33.23
1003	SLU 83	98	63	5547	-1231.83	6.07	34.49
1003	SLU 84	96	72	5502	-1223.44	6.03	33.85
1003	SLE RA 1	68	42	3616	-807.28	3.84	23.71
1003	SLE RA 2	66	52	3566	-797.95	3.8	23.01
1003	SLE RA 3	69	42	3681	-821.1	3.92	24.25
1003	SLE RA 4	68	49	3651	-815.51	3.89	23.83
1003	SLE RA 5	67	53	3610	-807.28	3.85	23.42
1003	SLE RA 6	70	43	3725	-830.42	3.97	24.67
1003	SLE RA 7	69	49	3695	-824.83	3.94	24.24
1003	SLE RA 8	70	43	3704	-825.93	3.95	24.54
1003	SLE RA 9	69	49	3674	-820.33	3.92	24.12
1003	SLE RA 10	68	55	3853	-859.94	4.16	24.05
1003	SLE RA 11	72	45	3968	-883.09	4.29	25.29
1003	SLE RA 12	71	52	3938	-877.5	4.26	24.87
1003	SLE RA 13	70	56	3897	-869.27	4.22	24.46
1003	SLE RA 14	73	46	4012	-892.41	4.34	25.7
1003	SLE RA 15	72	52	3982	-886.82	4.31	25.28
1003	SLE RA 16	73	46	3991	-887.92	4.31	25.58
1003	SLE RA 17	72	52	3961	-882.32	4.29	25.16
1003	SLE RA 18	72	46	4026	-895.83	4.37	25.2
1003	SLE RA 19	71	52	3996	-890.24	4.34	24.77
1003	SLE RA 20	73	46	4070	-905.16	4.42	25.61
1003	SLE RA 21	72	53	4040	-899.57	4.39	25.19
1003	SLE FR 1	68	42	3616	-807.28	3.84	23.71
1003	SLE FR 2	67	44	3606	-805.41	3.83	23.57
1003	SLE FR 3	68	42	3633	-811.01	3.86	23.88
1003	SLE FR 4	68	45	3729	-831.98	3.99	24.02
1003	SLE FR 5	69	43	3756	-837.57	4.02	24.32
1003	SLE FR 6	70	44	3821	-851.55	4.11	24.46
1003	SLE QP 1	68	42	3616	-807.28	3.84	23.71
1003	SLE QP 2	69	43	3739	-833.84	4	24.16
1003	SLD 1	420	78	2688	-654.95	4.12	147.06
1003	SLD 2	354	148	2610	-641.37	4.13	123.96
1003	SLD 3	464	-122	3822	-867.33	5.17	162.41
1003	SLD 4	398	-52	3744	-853.75	5.18	139.31
1003	SLD 5	119	345	1717	-460.4	2.44	41.72
1003	SLD 6	77	390	1667	-451.65	2.44	26.84
1003	SLD 7	265	-322	5497	-1168.34	5.95	92.89
1003	SLD 8	222	-277	5447	-1159.59	5.95	78.01
1003	SLD 9	-85	363	2031	-508.09	2.05	-29.7
1003	SLD 10	-127	408	1981	-499.35	2.05	-44.57
1003	SLD 11	61	-304	5810	-1216.03	5.56	21.47
1003	SLD 12	18	-259	5761	-1207.29	5.56	6.6
1003	SLD 13	-260	138	3733	-813.94	2.82	-90.99
1003	SLD 14	-326	208	3656	-800.36	2.83	-114.09
1003	SLD 15	-216	-62	4867	-1026.32	3.87	-75.64
1003	SLD 16	-283	8	4790	-1012.74	3.88	-98.74
1003	SLV 1	616	111	2016	-539.15	4.11	215.64
1003	SLV 2	512	222	1894	-517.75	4.12	179.22
1003	SLV 3	691	-230	3951	-901.56	5.91	241.83
1003	SLV 4	586	-120	3829	-880.16	5.92	205.42
1003	SLV 5	139	561	311	-199.77	1.3	48.67
1003	SLV 6	69	635	228	-185.36	1.31	24.15
1003	SLV 7	388	-578	6760	-1407.81	7.3	135.99
1003	SLV 8	318	-503	6678	-1393.4	7.3	111.47
1003	SLV 9	-180	589	800	-274.29	0.7	-63.16
1003	SLV 10	-251	663	718	-259.88	0.7	-87.67
1003	SLV 11	69	-549	7249	-1482.32	6.69	24.17
1003	SLV 12	-2	-475	7167	-1467.91	6.7	-0.35
1003	SLV 13	-449	206	3649	-787.53	2.08	-157.1
1003	SLV 14	-553	316	3527	-766.12	2.09	-193.52
1003	SLV 15	-374	-136	5583	-1149.94	3.88	-130.9
1003	SLV 16	-479	-26	5461	-1128.53	3.89	-167.32
1003	SLV FO 1	671	118	1844	-509.68	4.12	234.78
1003	SLV FO 2	556	239	1710	-486.14	4.13	194.73
1003	SLV FO 3	753	-257	3972	-908.34	6.1	263.6
1003	SLV FO 4	638	-136	3838	-884.79	6.11	223.54
1003	SLV FO 5	146	613	-32	-136.37	1.03	51.12
1003	SLV FO 6	69	694	-123	-120.52	1.04	24.15
1003	SLV FO 7	420	-640	7062	-1465.21	7.63	147.17
1003	SLV FO 8	343	-558	6971	-1449.36	7.63	120.2
1003	SLV FO 9	-205	644	506	-218.33	0.37	-71.89
1003	SLV FO 10	-282	725	416	-202.48	0.37	-98.85
1003	SLV FO 11	69	-609	7600	-1547.17	6.96	24.17
1003	SLV FO 12	-9	-527	7510	-1531.32	6.97	-2.8
1003	SLV FO 13	-500	222	3639	-782.9	1.89	-175.22
1003	SLV FO 14	-615	343	3505	-759.35	1.9	-215.28
1003	SLV FO 15	-418	-154	5768	-1181.55	3.87	-146.41
1003	SLV FO 16	-533	-33	5634	-1158	3.88	-186.47
1003	CRTFP Ux+	0	0	0	0	0	0
1003	CRTFP Ux-	0	0	0	0	0	0
1003	CRTFP Uy+	0	0	0	0	0	0
1003	CRTFP Uy-	0	0	0	0	0	0
1004	SLU 1	66	43	3347	-679.04	2.59	23.21
1004	SLU 2	63	59	3274	-666.99	2.55	22.13
1004	SLU 3	68	44	3442	-696.9	2.67	24.03
1004	SLU 4	67	53	3398	-689.67	2.65	23.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1004	SLU 5	65	60	3338	-679.05	2.61	22.76
1004	SLU 6	70	45	3506	-708.97	2.73	24.66
1004	SLU 7	68	54	3461	-701.74	2.7	24.01
1004	SLU 8	70	45	3475	-703.17	2.7	24.47
1004	SLU 9	68	54	3431	-695.94	2.68	23.82
1004	SLU 10	68	63	3689	-746.7	2.97	23.7
1004	SLU 11	73	48	3856	-776.62	3.09	25.6
1004	SLU 12	71	58	3812	-769.39	3.06	24.95
1004	SLU 13	69	64	3752	-758.77	3.02	24.33
1004	SLU 14	75	49	3920	-788.68	3.14	26.23
1004	SLU 15	73	59	3876	-781.45	3.12	25.58
1004	SLU 16	74	49	3890	-782.88	3.12	26.04
1004	SLU 17	72	59	3846	-775.65	3.09	25.39
1004	SLU 18	73	49	3940	-792.92	3.18	25.45
1004	SLU 19	71	59	3896	-785.69	3.16	24.81
1004	SLU 20	74	50	4004	-804.98	3.24	26.08
1004	SLU 21	72	60	3959	-797.75	3.22	25.44
1004	SLU 22	74	48	3906	-785.8	3.13	26.08
1004	SLU 23	71	64	3833	-773.75	3.09	25.01
1004	SLU 24	77	49	4000	-803.67	3.21	26.91
1004	SLU 25	75	59	3956	-796.44	3.19	26.26
1004	SLU 26	73	65	3896	-785.82	3.15	25.64
1004	SLU 27	78	50	4064	-815.73	3.27	27.54
1004	SLU 28	77	60	4020	-808.5	3.24	26.89
1004	SLU 29	78	50	4034	-809.93	3.24	27.35
1004	SLU 30	76	59	3990	-802.7	3.22	26.7
1004	SLU 31	76	68	4247	-853.47	3.51	26.58
1004	SLU 32	81	54	4415	-883.39	3.63	28.48
1004	SLU 33	79	63	4371	-876.15	3.6	27.83
1004	SLU 34	78	69	4311	-865.53	3.56	27.21
1004	SLU 35	83	55	4479	-895.45	3.68	29.11
1004	SLU 36	81	64	4435	-888.22	3.66	28.46
1004	SLU 37	82	54	4448	-889.65	3.66	28.92
1004	SLU 38	81	64	4404	-882.42	3.63	28.27
1004	SLU 39	81	54	4498	-899.68	3.72	28.33
1004	SLU 40	79	64	4454	-892.45	3.7	27.69
1004	SLU 41	83	55	4562	-911.75	3.78	28.96
1004	SLU 42	81	65	4518	-904.52	3.76	28.32
1004	SLU 43	83	54	4160	-846.14	3.18	29.18
1004	SLU 44	80	70	4087	-834.09	3.14	28.1
1004	SLU 45	85	55	4254	-864.01	3.26	30
1004	SLU 46	84	64	4210	-856.78	3.24	29.36
1004	SLU 47	82	71	4151	-846.16	3.2	28.73
1004	SLU 48	87	56	4318	-876.08	3.32	30.63
1004	SLU 49	85	65	4274	-868.84	3.3	29.99
1004	SLU 50	87	56	4288	-870.27	3.29	30.44
1004	SLU 51	85	65	4244	-863.04	3.27	29.79
1004	SLU 52	85	74	4501	-913.81	3.56	29.68
1004	SLU 53	90	59	4669	-943.73	3.68	31.58
1004	SLU 54	88	69	4625	-936.5	3.66	30.93
1004	SLU 55	86	75	4565	-925.87	3.62	30.31
1004	SLU 56	92	60	4733	-955.79	3.74	32.21
1004	SLU 57	90	70	4689	-948.56	3.71	31.56
1004	SLU 58	91	60	4703	-949.99	3.71	32.02
1004	SLU 59	89	70	4658	-942.76	3.69	31.37
1004	SLU 60	90	60	4752	-960.02	3.78	31.43
1004	SLU 61	88	70	4708	-952.79	3.75	30.78
1004	SLU 62	91	61	4816	-972.09	3.83	32.06
1004	SLU 63	89	71	4772	-964.86	3.81	31.41
1004	SLU 64	91	59	4719	-952.91	3.72	32.06
1004	SLU 65	88	75	4645	-940.86	3.68	30.98
1004	SLU 66	94	60	4813	-970.78	3.8	32.88
1004	SLU 67	92	70	4769	-963.54	3.78	32.23
1004	SLU 68	90	76	4709	-952.92	3.74	31.61
1004	SLU 69	95	61	4877	-982.84	3.86	33.51
1004	SLU 70	94	71	4833	-975.61	3.84	32.86
1004	SLU 71	95	61	4847	-977.04	3.83	33.32
1004	SLU 72	93	70	4802	-969.81	3.81	32.67
1004	SLU 73	93	79	5060	-1020.57	4.1	32.55
1004	SLU 74	98	65	5228	-1050.49	4.22	34.45
1004	SLU 75	96	74	5183	-1043.26	4.2	33.81
1004	SLU 76	95	80	5124	-1032.64	4.15	33.19
1004	SLU 77	100	66	5291	-1062.56	4.28	35.09
1004	SLU 78	98	75	5247	-1055.32	4.25	34.44
1004	SLU 79	99	65	5261	-1056.75	4.25	34.89
1004	SLU 80	98	75	5217	-1049.52	4.23	34.25
1004	SLU 81	98	65	5311	-1066.79	4.32	34.31
1004	SLU 82	96	75	5267	-1059.56	4.29	33.66
1004	SLU 83	100	66	5375	-1078.85	4.37	34.94
1004	SLU 84	98	76	5331	-1071.62	4.35	34.29
1004	SLE RA 1	68	44	3507	-709.54	2.74	24.03
1004	SLE RA 2	66	55	3458	-701.51	2.72	23.31
1004	SLE RA 3	70	45	3570	-721.45	2.8	24.58
1004	SLE RA 4	69	51	3540	-716.63	2.78	24.14
1004	SLE RA 5	68	55	3501	-709.55	2.76	23.73
1004	SLE RA 6	71	46	3612	-729.5	2.84	25
1004	SLE RA 7	70	52	3583	-724.68	2.82	24.57
1004	SLE RA 8	71	45	3592	-725.63	2.82	24.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1004	SLE RA 9	70	52	3563	-720.81	2.8	24.44
1004	SLE RA 10	69	58	3734	-754.65	3	24.36
1004	SLE RA 11	73	48	3846	-774.6	3.08	25.63
1004	SLE RA 12	72	54	3817	-769.78	3.06	25.19
1004	SLE RA 13	71	58	3777	-762.69	3.03	24.78
1004	SLE RA 14	74	49	3889	-782.64	3.11	26.05
1004	SLE RA 15	73	55	3859	-777.82	3.1	25.61
1004	SLE RA 16	74	48	3869	-778.77	3.1	25.92
1004	SLE RA 17	73	55	3839	-773.95	3.08	25.49
1004	SLE RA 18	73	48	3902	-785.46	3.14	25.53
1004	SLE RA 19	72	55	3872	-780.64	3.12	25.1
1004	SLE RA 20	74	49	3944	-793.5	3.18	25.95
1004	SLE RA 21	73	55	3915	-788.68	3.16	25.52
1004	SLE FR 1	68	44	3507	-709.54	2.74	24.03
1004	SLE FR 2	68	46	3497	-707.93	2.74	23.88
1004	SLE FR 3	69	44	3524	-712.76	2.76	24.2
1004	SLE FR 4	69	47	3616	-730.71	2.86	24.33
1004	SLE FR 5	70	46	3643	-735.53	2.88	24.65
1004	SLE FR 6	71	46	3704	-747.5	2.94	24.78
1004	SLE QP 1	68	44	3507	-709.54	2.74	24.03
1004	SLE QP 2	70	45	3626	-732.32	2.86	24.48
1004	SLD 1	420	78	2561	-574.61	3.57	147.05
1004	SLD 2	354	151	2483	-562.14	3.6	123.9
1004	SLD 3	465	-122	3668	-758.1	4.17	162.71
1004	SLD 4	398	-48	3590	-745.63	4.21	139.57
1004	SLD 5	118	346	1641	-408.84	2.16	41.47
1004	SLD 6	76	393	1591	-400.81	2.18	26.57
1004	SLD 7	268	-320	5330	-1020.5	4.17	93.68
1004	SLD 8	225	-273	5280	-1012.47	4.19	78.78
1004	SLD 9	-85	364	1971	-452.16	1.54	-29.82
1004	SLD 10	-128	411	1921	-444.13	1.56	-44.73
1004	SLD 11	64	-302	5660	-1063.82	3.55	22.39
1004	SLD 12	21	-255	5610	-1055.79	3.57	7.48
1004	SLD 13	-259	139	3661	-719	1.52	-90.61
1004	SLD 14	-325	212	3583	-706.53	1.55	-113.76
1004	SLD 15	-214	-61	4768	-902.5	2.12	-74.95
1004	SLD 16	-280	13	4690	-890.03	2.15	-98.09
1004	SLV 1	615	110	1885	-472.79	3.92	215.42
1004	SLV 2	511	226	1762	-453.13	3.98	178.93
1004	SLV 3	692	-231	3773	-785.92	4.95	242.15
1004	SLV 4	587	-115	3650	-766.26	5.01	205.66
1004	SLV 5	137	560	263	-183.22	1.61	48.03
1004	SLV 6	67	638	180	-169.99	1.65	23.47
1004	SLV 7	392	-576	6556	-1226.97	5.04	137.13
1004	SLV 8	321	-498	6473	-1213.74	5.08	112.57
1004	SLV 9	-182	589	778	-250.9	0.65	-63.61
1004	SLV 10	-252	667	695	-237.66	0.69	-88.17
1004	SLV 11	73	-547	7071	-1294.65	4.08	25.49
1004	SLV 12	2	-470	6988	-1281.41	4.12	0.93
1004	SLV 13	-447	206	3601	-698.37	0.72	-156.71
1004	SLV 14	-552	321	3478	-678.72	0.77	-193.19
1004	SLV 15	-371	-135	5489	-1011.5	1.75	-129.98
1004	SLV 16	-476	-19	5366	-991.84	1.8	-166.46
1004	SLV FO 1	670	117	1711	-446.84	4.03	234.51
1004	SLV FO 2	555	244	1575	-425.22	4.09	194.38
1004	SLV FO 3	754	-258	3787	-791.28	5.16	263.92
1004	SLV FO 4	639	-131	3652	-769.65	5.22	223.78
1004	SLV FO 5	144	612	-74	-128.31	1.49	50.38
1004	SLV FO 6	66	697	-165	-113.76	1.52	23.37
1004	SLV FO 7	424	-638	6849	-1276.44	5.26	148.39
1004	SLV FO 8	346	-553	6758	-1261.88	5.3	121.38
1004	SLV FO 9	-207	643	493	-202.75	0.43	-72.42
1004	SLV FO 10	-285	729	402	-188.2	0.47	-99.44
1004	SLV FO 11	73	-607	7416	-1350.88	4.2	25.59
1004	SLV FO 12	-4	-521	7325	-1336.32	4.24	-1.43
1004	SLV FO 13	-499	222	3599	-694.98	0.51	-174.83
1004	SLV FO 14	-614	349	3464	-673.36	0.56	-214.96
1004	SLV FO 15	-415	-153	5676	-1039.42	1.64	-145.43
1004	SLV FO 16	-530	-26	5540	-1017.8	1.7	-185.56
1004	CRTFP Ux+	0	0	0	0	0	0
1004	CRTFP Ux-	0	0	0	0	0	0
1004	CRTFP Uy+	0	0	0	0	0	0
1004	CRTFP Uy-	0	0	0	0	0	0
1005	SLU 1	67	44	3286	-617.05	1.15	23.49
1005	SLU 2	64	60	3213	-606.16	1.15	22.39
1005	SLU 3	69	45	3378	-633	1.19	24.32
1005	SLU 4	68	55	3334	-626.47	1.18	23.66
1005	SLU 5	66	61	3275	-616.93	1.17	23.03
1005	SLU 6	71	47	3440	-643.78	1.21	24.96
1005	SLU 7	69	56	3397	-637.24	1.21	24.3
1005	SLU 8	71	46	3411	-638.6	1.2	24.76
1005	SLU 9	69	56	3367	-632.06	1.2	24.11
1005	SLU 10	68	65	3617	-676.75	1.37	23.98
1005	SLU 11	74	50	3782	-703.6	1.41	25.91
1005	SLU 12	72	60	3738	-697.06	1.41	25.25
1005	SLU 13	70	66	3679	-687.53	1.4	24.62
1005	SLU 14	76	51	3844	-714.37	1.43	26.55
1005	SLU 15	74	61	3801	-707.84	1.43	25.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1005	SLU 16	75	51	3815	-709.2	1.42	26.35
1005	SLU 17	73	61	3771	-702.66	1.42	25.69
1005	SLU 18	73	51	3863	-717.9	1.47	25.75
1005	SLU 19	72	61	3819	-711.37	1.47	25.1
1005	SLU 20	75	52	3925	-728.68	1.49	26.39
1005	SLU 21	73	62	3882	-722.14	1.49	25.74
1005	SLU 22	75	49	3831	-711.78	1.42	26.4
1005	SLU 23	72	65	3758	-700.89	1.42	25.3
1005	SLU 24	78	51	3923	-727.73	1.46	27.24
1005	SLU 25	76	60	3879	-721.2	1.46	26.58
1005	SLU 26	74	66	3820	-711.66	1.45	25.94
1005	SLU 27	80	52	3986	-738.51	1.49	27.88
1005	SLU 28	78	61	3942	-731.97	1.49	27.22
1005	SLU 29	79	51	3956	-733.33	1.47	27.68
1005	SLU 30	77	61	3912	-726.79	1.47	27.02
1005	SLU 31	77	70	4162	-771.48	1.65	26.89
1005	SLU 32	82	55	4327	-798.33	1.68	28.82
1005	SLU 33	80	65	4283	-791.79	1.68	28.17
1005	SLU 34	79	71	4224	-782.26	1.67	27.53
1005	SLU 35	84	56	4390	-809.1	1.71	29.46
1005	SLU 36	82	66	4346	-802.57	1.71	28.81
1005	SLU 37	84	56	4360	-803.93	1.7	29.27
1005	SLU 38	82	66	4316	-797.39	1.7	28.61
1005	SLU 39	82	56	4408	-812.63	1.74	28.67
1005	SLU 40	80	66	4364	-806.1	1.74	28.01
1005	SLU 41	84	57	4470	-823.41	1.77	29.31
1005	SLU 42	82	67	4427	-816.87	1.77	28.65
1005	SLU 43	84	56	4084	-769.69	1.4	29.53
1005	SLU 44	81	72	4012	-758.79	1.4	28.43
1005	SLU 45	87	57	4177	-785.64	1.44	30.37
1005	SLU 46	85	67	4133	-779.1	1.43	29.71
1005	SLU 47	83	73	4074	-769.57	1.42	29.07
1005	SLU 48	88	58	4239	-796.41	1.46	31.01
1005	SLU 49	87	68	4195	-789.88	1.46	30.35
1005	SLU 50	88	58	4209	-791.24	1.45	30.81
1005	SLU 51	86	67	4166	-784.7	1.45	30.15
1005	SLU 52	86	76	4416	-829.39	1.62	30.02
1005	SLU 53	91	62	4581	-856.23	1.66	31.96
1005	SLU 54	89	71	4537	-849.7	1.66	31.3
1005	SLU 55	87	78	4478	-840.16	1.65	30.66
1005	SLU 56	93	63	4643	-867.01	1.68	32.6
1005	SLU 57	91	72	4599	-860.47	1.68	31.94
1005	SLU 58	92	62	4613	-861.83	1.67	32.4
1005	SLU 59	91	72	4570	-855.3	1.67	31.74
1005	SLU 60	91	62	4662	-870.54	1.72	31.8
1005	SLU 61	89	72	4618	-864	1.72	31.14
1005	SLU 62	93	63	4724	-881.31	1.74	32.44
1005	SLU 63	91	73	4680	-874.78	1.74	31.78
1005	SLU 64	93	61	4629	-864.42	1.67	32.45
1005	SLU 65	89	77	4557	-853.52	1.67	31.35
1005	SLU 66	95	62	4722	-880.37	1.71	33.28
1005	SLU 67	93	72	4678	-873.83	1.71	32.62
1005	SLU 68	91	78	4619	-864.3	1.7	31.99
1005	SLU 69	97	63	4784	-891.14	1.74	33.92
1005	SLU 70	95	73	4741	-884.61	1.74	33.26
1005	SLU 71	96	63	4755	-885.97	1.72	33.73
1005	SLU 72	94	73	4711	-879.43	1.72	33.07
1005	SLU 73	94	82	4961	-924.12	1.9	32.94
1005	SLU 74	100	67	5126	-950.96	1.93	34.87
1005	SLU 75	98	76	5082	-944.43	1.93	34.21
1005	SLU 76	96	83	5023	-934.89	1.92	33.58
1005	SLU 77	101	68	5188	-961.74	1.96	35.51
1005	SLU 78	99	78	5145	-955.2	1.96	34.85
1005	SLU 79	101	68	5159	-956.56	1.95	35.31
1005	SLU 80	99	77	5115	-950.03	1.95	34.66
1005	SLU 81	99	67	5207	-965.27	1.99	34.72
1005	SLU 82	97	77	5163	-958.73	1.99	34.06
1005	SLU 83	101	68	5269	-976.04	2.02	35.36
1005	SLU 84	99	78	5226	-969.51	2.02	34.7
1005	SLE RA 1	69	46	3441	-644.12	1.23	24.32
1005	SLE RA 2	67	56	3393	-636.85	1.23	23.59
1005	SLE RA 3	71	46	3503	-654.75	1.25	24.88
1005	SLE RA 4	70	53	3474	-650.39	1.25	24.44
1005	SLE RA 5	69	57	3434	-644.04	1.24	24.01
1005	SLE RA 6	72	47	3545	-661.93	1.27	25.3
1005	SLE RA 7	71	54	3515	-657.58	1.27	24.86
1005	SLE RA 8	72	47	3525	-658.48	1.26	25.17
1005	SLE RA 9	71	53	3496	-654.13	1.26	24.73
1005	SLE RA 10	70	59	3662	-683.92	1.38	24.65
1005	SLE RA 11	74	50	3772	-701.81	1.4	25.93
1005	SLE RA 12	73	56	3743	-697.46	1.4	25.5
1005	SLE RA 13	72	60	3704	-691.1	1.39	25.07
1005	SLE RA 14	75	50	3814	-709	1.42	26.36
1005	SLE RA 15	74	57	3785	-704.64	1.42	25.92
1005	SLE RA 16	75	50	3794	-705.55	1.41	26.23
1005	SLE RA 17	74	57	3765	-701.19	1.41	25.79
1005	SLE RA 18	74	50	3826	-711.35	1.44	25.83
1005	SLE RA 19	72	56	3797	-706.99	1.44	25.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1005	SLE RA 20	75	51	3868	-718.53	1.46	26.26
1005	SLE RA 21	74	57	3839	-714.18	1.46	25.82
1005	SLE FR 1	69	46	3441	-644.12	1.23	24.32
1005	SLE FR 2	69	48	3432	-642.66	1.23	24.17
1005	SLE FR 3	70	46	3458	-646.99	1.23	24.49
1005	SLE FR 4	70	49	3547	-662.83	1.29	24.63
1005	SLE FR 5	71	47	3573	-667.16	1.3	24.94
1005	SLE FR 6	72	48	3634	-677.73	1.33	25.07
1005	SLE QP 1	69	46	3441	-644.12	1.23	24.32
1005	SLE QP 2	71	47	3557	-664.29	1.29	24.77
1005	SLD 1	420	79	2458	-513.09	2.69	147
1005	SLD 2	353	156	2379	-501.12	2.76	123.82
1005	SLD 3	466	-123	3554	-679.08	2.73	162.93
1005	SLD 4	399	-46	3475	-667.11	2.8	139.76
1005	SLD 5	117	349	1579	-369.24	1.64	41.25
1005	SLD 6	75	398	1528	-361.53	1.68	26.33
1005	SLD 7	270	-323	5232	-922.53	1.77	94.38
1005	SLD 8	227	-273	5180	-914.82	1.82	79.46
1005	SLD 9	-86	367	1933	-413.75	0.76	-29.91
1005	SLD 10	-129	417	1882	-406.04	0.81	-44.83
1005	SLD 11	67	-305	5586	-967.04	0.9	23.21
1005	SLD 12	24	-255	5535	-959.34	0.95	8.29
1005	SLD 13	-258	140	3639	-661.47	-0.22	-90.22
1005	SLD 14	-324	217	3559	-649.5	-0.15	-113.39
1005	SLD 15	-212	-62	4735	-827.45	-0.18	-74.28
1005	SLD 16	-278	15	4655	-815.49	-0.11	-97.45
1005	SLV 1	614	110	1764	-416.23	3.47	215.15
1005	SLV 2	509	232	1638	-397.36	3.58	178.63
1005	SLV 3	692	-234	3633	-699.47	3.54	242.35
1005	SLV 4	588	-112	3508	-680.61	3.65	205.83
1005	SLV 5	135	565	206	-163.8	1.82	47.45
1005	SLV 6	64	646	122	-151.1	1.89	22.86
1005	SLV 7	395	-582	6439	-1107.95	2.05	138.11
1005	SLV 8	325	-500	6354	-1095.26	2.13	113.52
1005	SLV 9	-183	594	759	-233.32	0.46	-63.98
1005	SLV 10	-254	675	675	-220.62	0.53	-88.57
1005	SLV 11	77	-553	6992	-1177.48	0.69	26.68
1005	SLV 12	7	-471	6907	-1164.78	0.77	2.09
1005	SLV 13	-446	206	3606	-647.96	-1.07	-156.28
1005	SLV 14	-551	328	3480	-629.1	-0.96	-192.81
1005	SLV 15	-368	-138	5476	-931.21	-1	-129.08
1005	SLV 16	-473	-16	5350	-912.35	-0.89	-165.61
1005	SLV FO 1	669	116	1584	-391.42	3.69	234.19
1005	SLV FO 2	553	250	1446	-370.67	3.81	194.01
1005	SLV FO 3	755	-262	3641	-702.99	3.76	264.11
1005	SLV FO 4	639	-128	3503	-682.24	3.89	223.93
1005	SLV FO 5	141	617	-129	-113.75	1.87	49.72
1005	SLV FO 6	64	706	-222	-99.78	1.95	22.67
1005	SLV FO 7	428	-644	6727	-1152.32	2.13	149.45
1005	SLV FO 8	350	-554	6634	-1138.35	2.21	122.4
1005	SLV FO 9	-209	648	479	-190.22	0.37	-72.85
1005	SLV FO 10	-286	738	386	-176.25	0.46	-99.9
1005	SLV FO 11	78	-613	7335	-1228.79	0.63	26.87
1005	SLV FO 12	0	-523	7242	-1214.83	0.71	-0.18
1005	SLV FO 13	-498	222	3611	-646.33	-1.3	-174.39
1005	SLV FO 14	-613	356	3473	-625.58	-1.18	-214.57
1005	SLV FO 15	-412	-156	5667	-957.9	-1.23	-144.47
1005	SLV FO 16	-527	-23	5529	-937.15	-1.1	-184.65
1005	CRTFP Ux+	0	0	0	0	0	0
1005	CRTFP Ux-	0	0	0	0	0	0
1005	CRTFP Uy+	0	0	0	0	0	0
1005	CRTFP Uy-	0	0	0	0	0	0
1006	SLU 1	68	45	3276	-592.66	-0.57	23.73
1006	SLU 2	65	61	3202	-582.01	-0.53	22.61
1006	SLU 3	70	46	3368	-607.85	-0.59	24.57
1006	SLU 4	68	56	3323	-601.46	-0.56	23.91
1006	SLU 5	66	62	3264	-592.27	-0.54	23.26
1006	SLU 6	72	47	3430	-618.1	-0.6	25.22
1006	SLU 7	70	57	3386	-611.71	-0.58	24.55
1006	SLU 8	71	47	3400	-613.17	-0.6	25.02
1006	SLU 9	70	57	3356	-606.78	-0.57	24.35
1006	SLU 10	69	66	3603	-648.55	-0.54	24.21
1006	SLU 11	75	51	3768	-674.38	-0.6	26.17
1006	SLU 12	73	61	3724	-668	-0.57	25.51
1006	SLU 13	71	67	3665	-658.81	-0.55	24.86
1006	SLU 14	77	52	3830	-684.64	-0.61	26.82
1006	SLU 15	75	62	3786	-678.25	-0.58	26.15
1006	SLU 16	76	52	3801	-679.71	-0.6	26.62
1006	SLU 17	74	62	3757	-673.32	-0.58	25.95
1006	SLU 18	74	51	3848	-687.71	-0.58	26.01
1006	SLU 19	72	61	3804	-681.33	-0.56	25.34
1006	SLU 20	76	52	3910	-697.97	-0.59	26.66
1006	SLU 21	74	62	3866	-691.58	-0.57	25.99
1006	SLU 22	76	49	3817	-682.19	-0.61	26.67
1006	SLU 23	73	66	3743	-671.54	-0.57	25.56
1006	SLU 24	79	51	3909	-697.38	-0.63	27.52
1006	SLU 25	77	61	3865	-690.99	-0.6	26.85
1006	SLU 26	75	67	3806	-681.8	-0.58	26.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1006	SLU 27	81	52	3971	-707.63	-0.64	28.17
1006	SLU 28	79	62	3927	-701.25	-0.61	27.5
1006	SLU 29	80	52	3941	-702.7	-0.63	27.97
1006	SLU 30	78	62	3897	-696.31	-0.61	27.3
1006	SLU 31	78	71	4144	-738.08	-0.57	27.16
1006	SLU 32	83	55	4309	-763.92	-0.64	29.12
1006	SLU 33	81	65	4265	-757.53	-0.61	28.45
1006	SLU 34	79	72	4206	-748.34	-0.59	27.81
1006	SLU 35	85	57	4371	-774.17	-0.65	29.77
1006	SLU 36	83	67	4327	-767.78	-0.62	29.1
1006	SLU 37	85	56	4342	-769.24	-0.64	29.57
1006	SLU 38	83	66	4298	-762.85	-0.61	28.9
1006	SLU 39	83	56	4389	-777.24	-0.62	28.96
1006	SLU 40	81	66	4345	-770.86	-0.59	28.29
1006	SLU 41	85	57	4451	-787.5	-0.63	29.61
1006	SLU 42	83	67	4407	-781.11	-0.61	28.94
1006	SLU 43	85	56	4073	-739.76	-0.73	29.83
1006	SLU 44	82	73	3999	-729.11	-0.69	28.72
1006	SLU 45	88	58	4165	-754.95	-0.75	30.68
1006	SLU 46	86	68	4121	-748.56	-0.72	30.01
1006	SLU 47	84	74	4062	-739.37	-0.7	29.37
1006	SLU 48	90	59	4227	-765.2	-0.76	31.33
1006	SLU 49	88	69	4183	-758.82	-0.73	30.66
1006	SLU 50	89	59	4197	-760.27	-0.75	31.13
1006	SLU 51	87	69	4153	-753.88	-0.73	30.46
1006	SLU 52	87	78	4400	-795.65	-0.7	30.32
1006	SLU 53	92	62	4565	-821.49	-0.76	32.28
1006	SLU 54	90	72	4521	-815.1	-0.73	31.61
1006	SLU 55	88	79	4462	-805.91	-0.71	30.97
1006	SLU 56	94	64	4627	-831.74	-0.77	32.93
1006	SLU 57	92	73	4583	-825.35	-0.74	32.26
1006	SLU 58	94	63	4598	-826.81	-0.76	32.73
1006	SLU 59	92	73	4554	-820.42	-0.74	32.06
1006	SLU 60	92	63	4645	-834.81	-0.74	32.12
1006	SLU 61	90	73	4601	-828.43	-0.72	31.45
1006	SLU 62	94	64	4707	-845.07	-0.75	32.77
1006	SLU 63	92	74	4663	-838.68	-0.73	32.1
1006	SLU 64	94	61	4614	-829.29	-0.77	32.78
1006	SLU 65	90	78	4540	-818.64	-0.73	31.67
1006	SLU 66	96	62	4706	-844.48	-0.79	33.63
1006	SLU 67	94	72	4662	-838.09	-0.76	32.96
1006	SLU 68	92	79	4603	-828.9	-0.74	32.31
1006	SLU 69	98	64	4768	-854.73	-0.8	34.28
1006	SLU 70	96	74	4724	-848.35	-0.77	33.61
1006	SLU 71	97	63	4739	-849.8	-0.79	34.08
1006	SLU 72	95	73	4694	-843.41	-0.77	33.41
1006	SLU 73	95	82	4941	-885.18	-0.73	33.27
1006	SLU 74	101	67	5106	-911.02	-0.79	35.23
1006	SLU 75	99	77	5062	-904.63	-0.77	34.56
1006	SLU 76	97	83	5003	-895.44	-0.74	33.92
1006	SLU 77	103	68	5169	-921.27	-0.81	35.88
1006	SLU 78	101	78	5124	-914.89	-0.78	35.21
1006	SLU 79	102	68	5139	-916.34	-0.8	35.68
1006	SLU 80	100	78	5095	-909.95	-0.77	35.01
1006	SLU 81	100	68	5186	-924.34	-0.78	35.07
1006	SLU 82	98	78	5142	-917.96	-0.75	34.4
1006	SLU 83	102	69	5248	-934.6	-0.79	35.72
1006	SLU 84	100	79	5204	-928.21	-0.76	35.05
1006	SLE RA 1	70	46	3430	-618.24	-0.58	24.57
1006	SLE RA 2	68	57	3381	-611.14	-0.56	23.83
1006	SLE RA 3	72	47	3492	-628.36	-0.6	25.13
1006	SLE RA 4	71	53	3462	-624.1	-0.58	24.69
1006	SLE RA 5	69	58	3423	-617.98	-0.56	24.26
1006	SLE RA 6	73	48	3533	-635.2	-0.6	25.57
1006	SLE RA 7	72	54	3504	-630.94	-0.59	25.12
1006	SLE RA 8	73	47	3513	-631.91	-0.6	25.43
1006	SLE RA 9	71	54	3484	-627.65	-0.58	24.99
1006	SLE RA 10	71	60	3648	-655.5	-0.56	24.89
1006	SLE RA 11	75	50	3759	-672.72	-0.6	26.2
1006	SLE RA 12	74	57	3729	-668.46	-0.58	25.76
1006	SLE RA 13	72	61	3690	-662.34	-0.57	25.32
1006	SLE RA 14	76	51	3800	-679.56	-0.61	26.63
1006	SLE RA 15	75	57	3771	-675.3	-0.59	26.19
1006	SLE RA 16	76	51	3780	-676.27	-0.6	26.5
1006	SLE RA 17	74	57	3751	-672.01	-0.59	26.05
1006	SLE RA 18	75	50	3812	-681.61	-0.59	26.09
1006	SLE RA 19	73	57	3782	-677.35	-0.57	25.65
1006	SLE RA 20	76	51	3853	-688.44	-0.6	26.52
1006	SLE RA 21	75	58	3824	-684.19	-0.58	26.08
1006	SLE FR 1	70	46	3430	-618.24	-0.58	24.57
1006	SLE FR 2	70	48	3420	-616.82	-0.58	24.42
1006	SLE FR 3	71	46	3447	-620.97	-0.59	24.74
1006	SLE FR 4	71	49	3535	-635.83	-0.58	24.88
1006	SLE FR 5	72	48	3561	-639.98	-0.59	25.2
1006	SLE FR 6	72	48	3621	-649.92	-0.59	25.33
1006	SLE QP 1	70	46	3430	-618.24	-0.58	24.57
1006	SLE QP 2	72	47	3545	-637.25	-0.59	25.03
1006	SLD 1	419	79	2388	-475.97	1.59	146.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1006	SLD 2	353	160	2306	-463.66	1.71	123.7
1006	SLD 3	466	-127	3493	-637.83	0.98	163.06
1006	SLD 4	399	-46	3411	-625.51	1.1	139.88
1006	SLD 5	117	355	1536	-345.51	0.97	41.04
1006	SLD 6	74	407	1483	-337.58	1.04	26.11
1006	SLD 7	272	-331	5219	-885.02	-1.06	94.95
1006	SLD 8	229	-279	5166	-877.08	-0.98	80.02
1006	SLD 9	-86	373	1923	-397.41	-0.19	-29.97
1006	SLD 10	-129	425	1870	-389.48	-0.11	-44.9
1006	SLD 11	69	-313	5607	-936.92	-2.21	23.94
1006	SLD 12	26	-260	5553	-928.99	-2.14	9.01
1006	SLD 13	-256	140	3679	-648.99	-2.27	-89.82
1006	SLD 14	-323	221	3596	-636.67	-2.15	-113.01
1006	SLD 15	-210	-66	4784	-810.84	-2.88	-73.65
1006	SLD 16	-276	16	4701	-798.52	-2.76	-96.84
1006	SLV 1	613	111	1660	-373.81	2.85	214.83
1006	SLV 2	508	239	1530	-354.39	3.03	178.28
1006	SLV 3	693	-240	3546	-650	1.81	242.43
1006	SLV 4	588	-112	3415	-630.58	2	205.88
1006	SLV 5	133	575	144	-142.95	1.98	46.92
1006	SLV 6	62	661	56	-129.88	2.11	22.32
1006	SLV 7	398	-595	6429	-1063.59	-1.47	138.93
1006	SLV 8	328	-509	6341	-1050.51	-1.35	114.32
1006	SLV 9	-185	604	748	-223.98	0.18	-64.27
1006	SLV 10	-255	690	661	-210.91	0.3	-88.87
1006	SLV 11	81	-567	7033	-1144.62	-3.28	27.73
1006	SLV 12	10	-480	6945	-1131.55	-3.15	3.13
1006	SLV 13	-445	207	3674	-643.92	-3.17	-155.83
1006	SLV 14	-550	335	3544	-624.5	-2.98	-192.38
1006	SLV 15	-365	-144	5559	-920.11	-4.21	-128.23
1006	SLV 16	-470	-16	5429	-900.69	-4.02	-164.78
1006	SLV FO 1	667	117	1472	-347.46	3.19	233.81
1006	SLV FO 2	552	258	1328	-326.1	3.4	193.61
1006	SLV FO 3	755	-269	3546	-651.27	2.05	264.17
1006	SLV FO 4	640	-128	3402	-629.91	2.26	223.97
1006	SLV FO 5	139	627	-196	-93.52	2.24	49.11
1006	SLV FO 6	61	722	-292	-79.14	2.38	22.05
1006	SLV FO 7	431	-660	6717	-1106.22	-1.56	150.32
1006	SLV FO 8	353	-565	6621	-1091.84	-1.42	123.25
1006	SLV FO 9	-210	659	469	-182.65	0.25	-73.2
1006	SLV FO 10	-288	754	372	-168.28	0.39	-100.26
1006	SLV FO 11	82	-628	7382	-1195.35	-3.55	28
1006	SLV FO 12	4	-533	7285	-1180.98	-3.41	0.94
1006	SLV FO 13	-496	223	3687	-644.58	-3.43	-173.92
1006	SLV FO 14	-612	364	3544	-623.22	-3.22	-214.12
1006	SLV FO 15	-409	-163	5761	-948.39	-4.57	-143.55
1006	SLV FO 16	-524	-22	5618	-927.03	-4.36	-183.76
1006	CRTFP Ux+	0	0	0	0	0	0
1006	CRTFP Ux-	0	0	0	0	0	0
1006	CRTFP Uy+	0	0	0	0	0	0
1006	CRTFP Uy-	0	0	0	0	0	0
1007	SLU 1	68	44	3325	-611.41	-2.49	23.91
1007	SLU 2	65	61	3250	-600	-2.4	22.78
1007	SLU 3	71	45	3419	-627.15	-2.56	24.77
1007	SLU 4	69	55	3373	-620.3	-2.51	24.09
1007	SLU 5	67	62	3313	-610.62	-2.45	23.44
1007	SLU 6	73	46	3482	-637.77	-2.61	25.42
1007	SLU 7	71	57	3437	-630.92	-2.56	24.75
1007	SLU 8	72	46	3452	-632.65	-2.59	25.22
1007	SLU 9	70	56	3407	-625.8	-2.53	24.54
1007	SLU 10	70	66	3654	-668.27	-2.66	24.39
1007	SLU 11	76	50	3824	-695.42	-2.83	26.38
1007	SLU 12	74	60	3778	-688.57	-2.77	25.7
1007	SLU 13	72	67	3718	-678.88	-2.71	25.05
1007	SLU 14	77	51	3887	-706.04	-2.88	27.03
1007	SLU 15	75	61	3841	-699.19	-2.82	26.36
1007	SLU 16	77	51	3857	-700.92	-2.85	26.83
1007	SLU 17	75	61	3811	-694.07	-2.8	26.15
1007	SLU 18	75	50	3904	-708.94	-2.86	26.21
1007	SLU 19	73	61	3858	-702.09	-2.81	25.53
1007	SLU 20	77	52	3967	-719.56	-2.91	26.86
1007	SLU 21	75	62	3921	-712.71	-2.86	26.19
1007	SLU 22	77	48	3873	-703.54	-2.87	26.89
1007	SLU 23	74	65	3798	-692.13	-2.78	25.76
1007	SLU 24	79	49	3967	-719.28	-2.95	27.74
1007	SLU 25	77	60	3921	-712.43	-2.89	27.07
1007	SLU 26	76	66	3861	-702.75	-2.83	26.41
1007	SLU 27	81	51	4030	-729.9	-3	28.4
1007	SLU 28	79	61	3985	-723.05	-2.95	27.72
1007	SLU 29	81	50	4000	-724.78	-2.97	28.19
1007	SLU 30	79	61	3955	-717.93	-2.92	27.52
1007	SLU 31	78	70	4202	-760.4	-3.04	27.37
1007	SLU 32	84	54	4372	-787.55	-3.21	29.35
1007	SLU 33	82	64	4326	-780.7	-3.16	28.68
1007	SLU 34	80	71	4266	-771.01	-3.1	28.02
1007	SLU 35	86	55	4435	-798.17	-3.26	30.01
1007	SLU 36	84	65	4389	-791.32	-3.21	29.33
1007	SLU 37	85	55	4405	-793.05	-3.24	29.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1007	SLU 38	83	65	4359	-786.2	-3.18	29.13
1007	SLU 39	84	55	4452	-801.07	-3.25	29.19
1007	SLU 40	82	65	4406	-794.22	-3.19	28.51
1007	SLU 41	85	56	4515	-811.69	-3.3	29.84
1007	SLU 42	83	66	4469	-804.84	-3.24	29.16
1007	SLU 43	86	55	4135	-763.25	-3.1	30.06
1007	SLU 44	83	73	4059	-751.84	-3.01	28.94
1007	SLU 45	88	57	4228	-778.99	-3.18	30.92
1007	SLU 46	87	67	4183	-772.14	-3.12	30.24
1007	SLU 47	85	74	4123	-762.45	-3.06	29.59
1007	SLU 48	90	58	4292	-789.61	-3.23	31.58
1007	SLU 49	88	68	4246	-782.76	-3.17	30.9
1007	SLU 50	90	58	4262	-784.48	-3.2	31.37
1007	SLU 51	88	68	4216	-777.64	-3.15	30.69
1007	SLU 52	87	77	4464	-820.1	-3.27	30.55
1007	SLU 53	93	61	4633	-847.26	-3.44	32.53
1007	SLU 54	91	72	4588	-840.41	-3.39	31.86
1007	SLU 55	89	78	4527	-830.72	-3.32	31.2
1007	SLU 56	95	63	4697	-857.88	-3.49	33.19
1007	SLU 57	93	73	4651	-851.03	-3.44	32.51
1007	SLU 58	94	62	4666	-852.75	-3.47	32.98
1007	SLU 59	92	73	4621	-845.9	-3.41	32.3
1007	SLU 60	93	62	4713	-860.78	-3.48	32.36
1007	SLU 61	91	72	4668	-853.93	-3.42	31.69
1007	SLU 62	94	63	4777	-871.39	-3.53	33.02
1007	SLU 63	93	74	4731	-864.54	-3.47	32.34
1007	SLU 64	95	60	4683	-855.38	-3.49	33.04
1007	SLU 65	91	77	4607	-843.97	-3.4	31.91
1007	SLU 66	97	61	4776	-871.12	-3.56	33.9
1007	SLU 67	95	71	4731	-864.27	-3.51	33.22
1007	SLU 68	93	78	4671	-854.58	-3.45	32.56
1007	SLU 69	99	62	4840	-881.74	-3.61	34.55
1007	SLU 70	97	73	4794	-874.89	-3.56	33.87
1007	SLU 71	98	62	4810	-876.61	-3.59	34.35
1007	SLU 72	96	72	4764	-869.77	-3.53	33.67
1007	SLU 73	96	81	5012	-912.23	-3.66	33.52
1007	SLU 74	102	66	5181	-939.39	-3.83	35.51
1007	SLU 75	100	76	5136	-932.54	-3.77	34.83
1007	SLU 76	98	83	5075	-922.85	-3.71	34.17
1007	SLU 77	104	67	5245	-950.01	-3.88	36.16
1007	SLU 78	102	77	5199	-943.16	-3.82	35.48
1007	SLU 79	103	67	5214	-944.88	-3.85	35.96
1007	SLU 80	101	77	5169	-938.03	-3.8	35.28
1007	SLU 81	101	66	5261	-952.91	-3.86	35.34
1007	SLU 82	99	77	5216	-946.06	-3.81	34.66
1007	SLU 83	103	67	5325	-963.52	-3.91	35.99
1007	SLU 84	101	78	5279	-956.67	-3.86	35.32
1007	SLE RA 1	71	45	3482	-637.74	-2.6	24.76
1007	SLE RA 2	69	56	3431	-630.13	-2.54	24.01
1007	SLE RA 3	73	46	3544	-648.23	-2.65	25.33
1007	SLE RA 4	71	53	3514	-643.66	-2.61	24.88
1007	SLE RA 5	70	57	3474	-637.2	-2.57	24.44
1007	SLE RA 6	74	47	3586	-655.31	-2.68	25.77
1007	SLE RA 7	72	54	3556	-650.74	-2.65	25.32
1007	SLE RA 8	73	47	3566	-651.89	-2.66	25.63
1007	SLE RA 9	72	53	3536	-647.33	-2.63	25.18
1007	SLE RA 10	72	59	3701	-675.64	-2.71	25.08
1007	SLE RA 11	76	49	3814	-693.74	-2.82	26.41
1007	SLE RA 12	74	56	3784	-689.18	-2.79	25.95
1007	SLE RA 13	73	60	3743	-682.72	-2.75	25.52
1007	SLE RA 14	77	50	3856	-700.82	-2.86	26.84
1007	SLE RA 15	76	57	3826	-696.25	-2.82	26.39
1007	SLE RA 16	76	50	3836	-697.4	-2.84	26.71
1007	SLE RA 17	75	57	3806	-692.84	-2.8	26.25
1007	SLE RA 18	75	49	3867	-702.75	-2.85	26.29
1007	SLE RA 19	74	56	3837	-698.19	-2.81	25.84
1007	SLE RA 20	77	50	3910	-709.83	-2.88	26.73
1007	SLE RA 21	75	57	3879	-705.27	-2.84	26.28
1007	SLE FR 1	71	45	3482	-637.74	-2.6	24.76
1007	SLE FR 2	70	47	3472	-636.21	-2.58	24.61
1007	SLE FR 3	71	45	3499	-640.57	-2.61	24.93
1007	SLE FR 4	72	49	3587	-655.72	-2.66	25.07
1007	SLE FR 5	73	47	3614	-660.07	-2.69	25.39
1007	SLE FR 6	73	47	3675	-670.24	-2.72	25.53
1007	SLE QP 1	71	45	3482	-637.74	-2.6	24.76
1007	SLE QP 2	72	46	3598	-657.24	-2.67	25.22
1007	SLD 1	419	78	2357	-467.6	0.34	146.71
1007	SLD 2	352	164	2269	-453.84	0.51	123.52
1007	SLD 3	466	-134	3493	-640.39	-0.96	163.08
1007	SLD 4	400	-48	3405	-626.63	-0.79	139.89
1007	SLD 5	116	363	1517	-340.66	0.18	40.83
1007	SLD 6	73	419	1461	-331.8	0.29	25.9
1007	SLD 7	274	-345	5304	-916.61	-4.17	95.39
1007	SLD 8	231	-289	5248	-907.75	-4.06	80.46
1007	SLD 9	-87	382	1947	-406.73	-1.29	-30.02
1007	SLD 10	-129	437	1891	-397.87	-1.18	-44.95
1007	SLD 11	72	-326	5734	-982.69	-5.64	24.55
1007	SLD 12	29	-270	5678	-973.83	-5.53	9.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1007	SLD 13	-255	141	3790	-687.86	-4.55	-89.45
1007	SLD 14	-322	227	3702	-674.09	-4.38	-112.64
1007	SLD 15	-208	-72	4926	-860.64	-5.86	-73.08
1007	SLD 16	-275	14	4838	-846.88	-5.69	-96.27
1007	SLV 1	612	111	1579	-348.79	2.12	214.43
1007	SLV 2	507	247	1441	-327.09	2.4	177.88
1007	SLV 3	693	-252	3518	-643.63	-0.1	242.37
1007	SLV 4	588	-116	3380	-621.94	0.17	205.82
1007	SLV 5	131	590	78	-121.56	2.09	46.43
1007	SLV 6	60	681	-15	-106.96	2.28	21.82
1007	SLV 7	401	-618	6539	-1104.39	-5.33	139.56
1007	SLV 8	330	-527	6447	-1089.79	-5.15	114.95
1007	SLV 9	-186	619	748	-224.69	-0.2	-64.51
1007	SLV 10	-256	711	656	-210.09	-0.01	-89.12
1007	SLV 11	84	-589	7210	-1207.52	-7.62	28.62
1007	SLV 12	13	-497	7117	-1192.92	-7.44	4.01
1007	SLV 13	-444	208	3815	-692.54	-5.51	-155.37
1007	SLV 14	-549	344	3678	-670.85	-5.24	-191.92
1007	SLV 15	-363	-154	5754	-987.39	-7.74	-127.44
1007	SLV 16	-468	-18	5616	-965.7	-7.47	-163.99
1007	SLV FO 1	666	117	1377	-317.94	2.6	233.35
1007	SLV FO 2	550	267	1226	-294.08	2.9	193.14
1007	SLV FO 3	755	-282	3510	-642.27	0.15	264.08
1007	SLV FO 4	640	-132	3358	-618.41	0.45	223.88
1007	SLV FO 5	137	644	-274	-68	2.57	48.55
1007	SLV FO 6	59	745	-376	-51.93	2.77	21.49
1007	SLV FO 7	434	-684	6834	-1149.11	-5.6	150.99
1007	SLV FO 8	356	-584	6732	-1133.05	-5.39	123.93
1007	SLV FO 9	-211	676	464	-181.44	0.05	-73.49
1007	SLV FO 10	-289	777	362	-165.37	0.25	-100.55
1007	SLV FO 11	85	-652	7572	-1262.55	-8.12	28.96
1007	SLV FO 12	7	-552	7469	-1246.49	-7.91	1.89
1007	SLV FO 13	-495	225	3837	-696.07	-5.8	-173.43
1007	SLV FO 14	-611	374	3686	-672.21	-5.5	-213.64
1007	SLV FO 15	-406	-174	5970	-1020.41	-8.25	-142.7
1007	SLV FO 16	-522	-24	5818	-996.54	-7.95	-182.91
1007	CRTFP Ux+	0	0	0	0	0	0
1007	CRTFP Ux-	0	0	0	0	0	0
1007	CRTFP Uy+	0	0	0	0	0	0
1007	CRTFP Uy-	0	0	0	0	0	0
1008	SLU 1	69	42	3440	-677.59	-4.52	24.03
1008	SLU 2	66	60	3360	-664.3	-4.38	22.89
1008	SLU 3	71	43	3537	-695.32	-4.66	24.89
1008	SLU 4	69	54	3489	-687.34	-4.57	24.21
1008	SLU 5	67	61	3426	-676.24	-4.47	23.55
1008	SLU 6	73	44	3602	-707.26	-4.75	25.55
1008	SLU 7	71	55	3555	-699.29	-4.67	24.87
1008	SLU 8	73	44	3571	-701.48	-4.7	25.34
1008	SLU 9	71	55	3523	-693.5	-4.62	24.66
1008	SLU 10	70	64	3778	-740.63	-4.91	24.5
1008	SLU 11	76	48	3954	-771.65	-5.19	26.51
1008	SLU 12	74	58	3907	-763.67	-5.11	25.82
1008	SLU 13	72	65	3844	-752.57	-5	25.16
1008	SLU 14	78	49	4020	-783.59	-5.28	27.17
1008	SLU 15	76	60	3972	-775.61	-5.2	26.48
1008	SLU 16	77	49	3989	-777.8	-5.24	26.96
1008	SLU 17	75	60	3941	-769.83	-5.15	26.27
1008	SLU 18	75	48	4036	-786.63	-5.28	26.33
1008	SLU 19	73	59	3989	-778.65	-5.19	25.65
1008	SLU 20	77	50	4102	-798.57	-5.37	26.99
1008	SLU 21	75	60	4054	-790.6	-5.29	26.31
1008	SLU 22	77	46	4006	-780.85	-5.27	27.02
1008	SLU 23	74	63	3927	-767.56	-5.13	25.88
1008	SLU 24	80	47	4103	-798.58	-5.41	27.89
1008	SLU 25	78	57	4055	-790.6	-5.32	27.2
1008	SLU 26	76	65	3992	-779.5	-5.22	26.54
1008	SLU 27	82	48	4169	-810.52	-5.5	28.55
1008	SLU 28	80	59	4121	-802.54	-5.42	27.86
1008	SLU 29	81	48	4137	-804.73	-5.45	28.34
1008	SLU 30	79	59	4090	-796.76	-5.37	27.65
1008	SLU 31	79	68	4344	-843.88	-5.66	27.5
1008	SLU 32	85	51	4521	-874.9	-5.94	29.5
1008	SLU 33	83	62	4473	-866.93	-5.86	28.82
1008	SLU 34	81	69	4410	-855.83	-5.75	28.15
1008	SLU 35	86	52	4587	-886.85	-6.03	30.16
1008	SLU 36	84	63	4539	-878.87	-5.95	29.47
1008	SLU 37	86	52	4555	-881.06	-5.99	29.95
1008	SLU 38	84	63	4508	-873.09	-5.9	29.27
1008	SLU 39	84	52	4603	-889.89	-6.03	29.33
1008	SLU 40	82	63	4555	-881.91	-5.95	28.64
1008	SLU 41	86	53	4669	-901.83	-6.12	29.99
1008	SLU 42	84	64	4621	-893.85	-6.04	29.3
1008	SLU 43	87	53	4277	-845.46	-5.61	30.21
1008	SLU 44	83	71	4198	-832.17	-5.47	29.07
1008	SLU 45	89	55	4374	-863.19	-5.75	31.08
1008	SLU 46	87	65	4327	-855.22	-5.67	30.39
1008	SLU 47	85	72	4263	-844.11	-5.57	29.73
1008	SLU 48	91	56	4440	-875.14	-5.85	31.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1008	SLU 49	89	67	4392	-867.16	-5.76	31.05
1008	SLU 50	90	56	4409	-869.35	-5.8	31.53
1008	SLU 51	88	67	4361	-861.37	-5.72	30.84
1008	SLU 52	88	76	4616	-908.5	-6.01	30.68
1008	SLU 53	94	59	4792	-939.52	-6.29	32.69
1008	SLU 54	92	70	4744	-931.55	-6.2	32.01
1008	SLU 55	90	77	4681	-920.44	-6.1	31.34
1008	SLU 56	96	60	4858	-951.46	-6.38	33.35
1008	SLU 57	94	71	4810	-943.49	-6.3	32.66
1008	SLU 58	95	60	4826	-945.68	-6.33	33.14
1008	SLU 59	93	71	4779	-937.7	-6.25	32.46
1008	SLU 60	93	60	4874	-954.5	-6.38	32.52
1008	SLU 61	91	70	4826	-946.53	-6.29	31.83
1008	SLU 62	95	61	4940	-966.45	-6.47	33.17
1008	SLU 63	93	72	4892	-958.47	-6.38	32.49
1008	SLU 64	95	57	4844	-948.72	-6.37	33.2
1008	SLU 65	92	75	4764	-935.43	-6.23	32.06
1008	SLU 66	98	58	4941	-966.45	-6.51	34.07
1008	SLU 67	96	69	4893	-958.48	-6.42	33.39
1008	SLU 68	94	76	4830	-947.37	-6.32	32.72
1008	SLU 69	100	59	5006	-978.39	-6.6	34.73
1008	SLU 70	98	70	4959	-970.42	-6.51	34.04
1008	SLU 71	99	59	4975	-972.61	-6.55	34.52
1008	SLU 72	97	70	4927	-964.63	-6.47	33.83
1008	SLU 73	96	79	5182	-1011.76	-6.76	33.68
1008	SLU 74	102	63	5359	-1042.78	-7.04	35.68
1008	SLU 75	100	73	5311	-1034.8	-6.95	35
1008	SLU 76	98	80	5248	-1023.7	-6.85	34.33
1008	SLU 77	104	64	5424	-1054.72	-7.13	36.34
1008	SLU 78	102	74	5377	-1046.75	-7.05	35.66
1008	SLU 79	104	64	5393	-1048.94	-7.08	36.13
1008	SLU 80	102	74	5345	-1040.96	-7	35.45
1008	SLU 81	102	63	5441	-1057.76	-7.13	35.51
1008	SLU 82	100	74	5393	-1049.79	-7.04	34.83
1008	SLU 83	104	64	5506	-1069.7	-7.22	36.17
1008	SLU 84	102	75	5459	-1061.73	-7.14	35.48
1008	SLE RA 1	71	43	3601	-707.09	-4.73	24.88
1008	SLE RA 2	69	55	3548	-698.23	-4.64	24.12
1008	SLE RA 3	73	44	3666	-718.91	-4.82	25.46
1008	SLE RA 4	72	51	3634	-713.59	-4.77	25
1008	SLE RA 5	70	56	3592	-706.19	-4.7	24.56
1008	SLE RA 6	74	45	3710	-726.87	-4.89	25.9
1008	SLE RA 7	73	52	3678	-721.56	-4.83	25.44
1008	SLE RA 8	74	45	3689	-723.02	-4.86	25.76
1008	SLE RA 9	72	52	3657	-717.7	-4.8	25.3
1008	SLE RA 10	72	58	3827	-749.12	-4.99	25.2
1008	SLE RA 11	76	47	3945	-769.8	-5.18	26.54
1008	SLE RA 12	75	54	3913	-764.48	-5.12	26.08
1008	SLE RA 13	73	59	3871	-757.08	-5.06	25.64
1008	SLE RA 14	77	48	3988	-777.76	-5.24	26.98
1008	SLE RA 15	76	55	3957	-772.44	-5.19	26.52
1008	SLE RA 16	77	48	3968	-773.9	-5.21	26.84
1008	SLE RA 17	76	55	3936	-768.58	-5.15	26.38
1008	SLE RA 18	76	47	3999	-779.79	-5.24	26.42
1008	SLE RA 19	74	54	3968	-774.47	-5.18	25.96
1008	SLE RA 20	77	48	4043	-787.75	-5.3	26.86
1008	SLE RA 21	76	55	4011	-782.43	-5.25	26.4
1008	SLE FR 1	71	43	3601	-707.09	-4.73	24.88
1008	SLE FR 2	71	45	3591	-705.32	-4.71	24.73
1008	SLE FR 3	72	43	3619	-710.28	-4.76	25.06
1008	SLE FR 4	72	47	3710	-727.13	-4.86	25.19
1008	SLE FR 5	73	45	3738	-732.08	-4.91	25.52
1008	SLE FR 6	74	45	3800	-743.44	-4.98	25.65
1008	SLE QP 1	71	43	3601	-707.09	-4.73	24.88
1008	SLE QP 2	73	44	3721	-728.9	-4.88	25.34
1008	SLD 1	418	77	2367	-491.09	-0.98	146.46
1008	SLD 2	352	168	2273	-474.59	-0.75	123.28
1008	SLD 3	466	-145	3558	-691.22	-3.01	162.99
1008	SLD 4	400	-53	3464	-674.72	-2.78	139.81
1008	SLD 5	115	374	1525	-356.86	-0.67	40.59
1008	SLD 6	72	433	1465	-346.24	-0.52	25.66
1008	SLD 7	275	-364	5494	-1023.97	-7.44	95.7
1008	SLD 8	232	-304	5433	-1013.34	-7.29	80.77
1008	SLD 9	-87	393	2008	-444.45	-2.47	-30.08
1008	SLD 10	-130	452	1948	-433.83	-2.32	-45.01
1008	SLD 11	73	-344	5977	-1111.56	-9.24	25.03
1008	SLD 12	30	-285	5917	-1100.94	-9.09	10.1
1008	SLD 13	-254	141	3978	-783.08	-6.98	-89.12
1008	SLD 14	-321	233	3884	-766.58	-6.75	-112.3
1008	SLD 15	-206	-80	5169	-983.21	-9.02	-72.59
1008	SLD 16	-273	12	5075	-966.71	-8.79	-95.77
1008	SLV 1	611	110	1522	-343.32	1.35	213.95
1008	SLV 2	506	254	1374	-317.32	1.71	177.41
1008	SLV 3	693	-268	3554	-684.84	-2.12	242.17
1008	SLV 4	588	-123	3406	-658.83	-1.75	205.63
1008	SLV 5	129	609	8	-100.12	2.18	45.95
1008	SLV 6	58	707	-92	-82.62	2.42	21.35
1008	SLV 7	403	-649	6779	-1238.49	-9.38	140

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1008	SLV 8	332	-551	6680	-1220.99	-9.13	115.41
1008	SLV 9	-187	640	762	-236.81	-0.63	-64.72
1008	SLV 10	-258	737	662	-219.31	-0.39	-89.32
1008	SLV 11	87	-618	7534	-1375.18	-12.19	29.34
1008	SLV 12	16	-521	7434	-1357.68	-11.94	4.74
1008	SLV 13	-442	211	4036	-798.97	-8.01	-154.94
1008	SLV 14	-548	356	3888	-772.96	-7.65	-191.48
1008	SLV 15	-360	-166	6068	-1140.48	-11.48	-126.72
1008	SLV 16	-466	-21	5919	-1114.47	-11.12	-163.26
1008	SLV FO 1	665	116	1303	-304.77	1.97	232.81
1008	SLV FO 2	549	276	1139	-276.16	2.37	192.62
1008	SLV FO 3	755	-299	3537	-680.43	-1.84	263.85
1008	SLV FO 4	639	-140	3374	-651.82	-1.44	223.65
1008	SLV FO 5	135	666	-363	-37.24	2.88	48.01
1008	SLV FO 6	57	773	-473	-17.99	3.15	20.95
1008	SLV FO 7	436	-718	7085	-1289.45	-9.83	151.47
1008	SLV FO 8	358	-611	6976	-1270.19	-9.56	124.41
1008	SLV FO 9	-213	699	466	-187.6	-0.21	-73.73
1008	SLV FO 10	-291	806	356	-168.35	0.06	-100.78
1008	SLV FO 11	88	-684	7915	-1439.81	-12.92	29.74
1008	SLV FO 12	10	-577	7805	-1420.56	-12.65	2.68
1008	SLV FO 13	-494	228	4068	-805.97	-8.33	-172.97
1008	SLV FO 14	-610	387	3905	-777.37	-7.93	-213.16
1008	SLV FO 15	-404	-187	6302	-1181.64	-12.14	-141.93
1008	SLV FO 16	-519	-28	6139	-1153.03	-11.74	-182.12
1008	CRTFP Ux+	0	0	0	0	0	0
1008	CRTFP Ux-	0	0	0	0	0	0
1008	CRTFP Uy+	0	0	0	0	0	0
1008	CRTFP Uy-	0	0	0	0	0	0
1009	SLU 1	69	39	3621	-794.12	-6.58	24.07
1009	SLU 2	66	58	3536	-777.79	-6.39	22.92
1009	SLU 3	72	41	3724	-815.36	-6.78	24.94
1009	SLU 4	70	52	3673	-805.56	-6.67	24.25
1009	SLU 5	68	59	3606	-792.08	-6.52	23.58
1009	SLU 6	73	42	3793	-829.65	-6.91	25.6
1009	SLU 7	71	53	3742	-819.85	-6.8	24.91
1009	SLU 8	73	42	3760	-822.7	-6.85	25.39
1009	SLU 9	71	53	3709	-812.9	-6.73	24.7
1009	SLU 10	70	62	3976	-868.88	-7.19	24.53
1009	SLU 11	76	45	4163	-906.45	-7.59	26.55
1009	SLU 12	74	56	4112	-896.65	-7.47	25.86
1009	SLU 13	72	63	4045	-883.17	-7.33	25.19
1009	SLU 14	78	46	4233	-920.74	-7.72	27.21
1009	SLU 15	76	57	4182	-910.94	-7.61	26.52
1009	SLU 16	77	46	4199	-913.79	-7.65	27
1009	SLU 17	75	57	4149	-903.99	-7.54	26.31
1009	SLU 18	76	45	4249	-924.25	-7.73	26.37
1009	SLU 19	74	57	4198	-914.45	-7.62	25.68
1009	SLU 20	78	47	4318	-938.54	-7.86	27.03
1009	SLU 21	76	58	4268	-928.74	-7.75	26.34
1009	SLU 22	78	42	4218	-917.52	-7.7	27.07
1009	SLU 23	74	61	4133	-901.19	-7.51	25.92
1009	SLU 24	80	43	4321	-938.76	-7.9	27.94
1009	SLU 25	78	54	4270	-928.97	-7.79	27.25
1009	SLU 26	76	62	4203	-915.48	-7.64	26.58
1009	SLU 27	82	44	4390	-953.05	-8.04	28.6
1009	SLU 28	80	56	4339	-943.26	-7.92	27.91
1009	SLU 29	81	44	4357	-946.1	-7.97	28.39
1009	SLU 30	79	56	4306	-936.3	-7.86	27.7
1009	SLU 31	79	65	4573	-992.28	-8.32	27.53
1009	SLU 32	85	47	4760	-1029.86	-8.71	29.56
1009	SLU 33	83	59	4710	-1020.06	-8.59	28.86
1009	SLU 34	81	66	4642	-1006.57	-8.45	28.19
1009	SLU 35	87	48	4830	-1044.15	-8.84	30.22
1009	SLU 36	85	60	4779	-1034.35	-8.73	29.52
1009	SLU 37	86	49	4797	-1037.19	-8.77	30
1009	SLU 38	84	60	4746	-1027.4	-8.66	29.31
1009	SLU 39	84	48	4846	-1047.65	-8.85	29.38
1009	SLU 40	82	59	4795	-1037.86	-8.74	28.69
1009	SLU 41	86	49	4916	-1061.94	-8.98	30.04
1009	SLU 42	84	60	4865	-1052.15	-8.87	29.34
1009	SLU 43	87	50	4502	-990.04	-8.16	30.26
1009	SLU 44	83	69	4418	-973.71	-7.98	29.11
1009	SLU 45	89	51	4605	-1011.28	-8.37	31.13
1009	SLU 46	87	63	4554	-1001.48	-8.25	30.44
1009	SLU 47	85	70	4487	-988	-8.11	29.77
1009	SLU 48	91	53	4674	-1025.57	-8.5	31.79
1009	SLU 49	89	64	4624	-1015.77	-8.39	31.1
1009	SLU 50	91	53	4641	-1018.62	-8.43	31.58
1009	SLU 51	89	64	4590	-1008.82	-8.32	30.89
1009	SLU 52	88	73	4857	-1064.8	-8.78	30.72
1009	SLU 53	94	56	5045	-1102.37	-9.17	32.75
1009	SLU 54	92	67	4994	-1092.58	-9.06	32.05
1009	SLU 55	90	74	4927	-1079.09	-8.92	31.38
1009	SLU 56	96	57	5114	-1116.66	-9.31	33.41
1009	SLU 57	94	68	5063	-1106.87	-9.2	32.71
1009	SLU 58	95	57	5081	-1109.71	-9.24	33.19
1009	SLU 59	93	68	5030	-1099.91	-9.13	32.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1009	SLU 60	93	56	5131	-1120.17	-9.32	32.57
1009	SLU 61	91	68	5080	-1110.37	-9.2	31.87
1009	SLU 62	95	57	5200	-1134.46	-9.45	33.23
1009	SLU 63	93	69	5149	-1124.66	-9.34	32.53
1009	SLU 64	95	53	5100	-1113.45	-9.28	33.27
1009	SLU 65	92	72	5015	-1097.12	-9.1	32.11
1009	SLU 66	98	54	5202	-1134.69	-9.49	34.14
1009	SLU 67	96	65	5151	-1124.89	-9.38	33.45
1009	SLU 68	94	73	5084	-1111.41	-9.23	32.77
1009	SLU 69	100	55	5272	-1148.98	-9.62	34.8
1009	SLU 70	98	66	5221	-1139.18	-9.51	34.1
1009	SLU 71	99	55	5238	-1142.03	-9.56	34.59
1009	SLU 72	97	67	5188	-1132.23	-9.44	33.89
1009	SLU 73	97	76	5455	-1188.21	-9.9	33.73
1009	SLU 74	103	58	5642	-1225.78	-10.3	35.75
1009	SLU 75	101	69	5591	-1215.98	-10.18	35.06
1009	SLU 76	99	77	5524	-1202.5	-10.04	34.39
1009	SLU 77	104	59	5711	-1240.07	-10.43	36.41
1009	SLU 78	102	71	5660	-1230.27	-10.32	35.72
1009	SLU 79	104	59	5678	-1233.12	-10.36	36.2
1009	SLU 80	102	71	5627	-1223.32	-10.25	35.51
1009	SLU 81	102	59	5728	-1243.58	-10.44	35.57
1009	SLU 82	100	70	5677	-1233.78	-10.32	34.88
1009	SLU 83	104	60	5797	-1257.87	-10.57	36.23
1009	SLU 84	102	71	5746	-1248.07	-10.46	35.54
1009	SLE RA 1	72	40	3792	-829.38	-6.9	24.93
1009	SLE RA 2	69	53	3735	-818.49	-6.77	24.16
1009	SLE RA 3	73	41	3860	-843.54	-7.03	25.51
1009	SLE RA 4	72	48	3826	-837	-6.96	25.05
1009	SLE RA 5	71	53	3781	-828.02	-6.86	24.6
1009	SLE RA 6	74	42	3906	-853.06	-7.12	25.95
1009	SLE RA 7	73	49	3872	-846.53	-7.05	25.49
1009	SLE RA 8	74	42	3884	-848.43	-7.08	25.81
1009	SLE RA 9	73	49	3850	-841.9	-7	25.35
1009	SLE RA 10	72	55	4028	-879.22	-7.31	25.24
1009	SLE RA 11	76	44	4153	-904.26	-7.57	26.58
1009	SLE RA 12	75	51	4119	-897.73	-7.49	26.12
1009	SLE RA 13	74	56	4074	-888.74	-7.4	25.68
1009	SLE RA 14	78	44	4199	-913.79	-7.66	27.02
1009	SLE RA 15	76	52	4165	-907.26	-7.58	26.56
1009	SLE RA 16	77	45	4177	-909.16	-7.61	26.88
1009	SLE RA 17	76	52	4143	-902.62	-7.54	26.42
1009	SLE RA 18	76	44	4210	-916.13	-7.66	26.46
1009	SLE RA 19	75	52	4176	-909.6	-7.59	26
1009	SLE RA 20	77	45	4257	-925.66	-7.75	26.9
1009	SLE RA 21	76	52	4223	-919.12	-7.68	26.44
1009	SLE FR 1	72	40	3792	-829.38	-6.9	24.93
1009	SLE FR 2	71	43	3780	-827.2	-6.87	24.78
1009	SLE FR 3	72	41	3810	-833.19	-6.93	25.11
1009	SLE FR 4	72	44	3906	-853.22	-7.1	25.24
1009	SLE FR 5	73	42	3936	-859.21	-7.16	25.57
1009	SLE FR 6	74	42	4001	-872.75	-7.28	25.7
1009	SLE QP 1	72	40	3792	-829.38	-6.9	24.93
1009	SLE QP 2	73	41	3917	-855.4	-7.13	25.39
1009	SLD 1	417	74	2421	-548.34	-2.32	146.12
1009	SLD 2	351	172	2319	-527.69	-2.03	122.95
1009	SLD 3	466	-157	3690	-793.1	-5.08	162.79
1009	SLD 4	399	-59	3588	-772.45	-4.79	139.62
1009	SLD 5	114	386	1562	-395.62	-1.56	40.32
1009	SLD 6	71	449	1496	-382.32	-1.37	25.4
1009	SLD 7	276	-386	5791	-1211.48	-10.74	95.87
1009	SLD 8	233	-323	5725	-1198.18	-10.55	80.95
1009	SLD 9	-87	406	2109	-512.62	-3.7	-30.17
1009	SLD 10	-130	469	2043	-499.32	-3.51	-45.09
1009	SLD 11	75	-366	6339	-1328.48	-12.88	25.38
1009	SLD 12	32	-303	6273	-1315.19	-12.7	10.46
1009	SLD 13	-254	142	4247	-938.35	-9.47	-88.84
1009	SLD 14	-320	240	4144	-917.7	-9.18	-112.01
1009	SLD 15	-205	-89	5516	-1183.11	-12.22	-72.17
1009	SLD 16	-272	9	5413	-1162.46	-11.93	-95.34
1009	SLV 1	609	108	1491	-358.57	0.57	213.39
1009	SLV 2	504	263	1330	-326.02	1.03	176.87
1009	SLV 3	692	-287	3656	-776.23	-4.13	241.84
1009	SLV 4	587	-133	3495	-743.68	-3.68	205.32
1009	SLV 5	128	632	-64	-78.98	2.23	45.46
1009	SLV 6	57	736	-173	-57.07	2.54	20.88
1009	SLV 7	404	-685	7153	-1471.17	-13.44	140.28
1009	SLV 8	333	-581	7044	-1449.26	-13.14	115.7
1009	SLV 9	-188	664	790	-261.54	-1.12	-64.92
1009	SLV 10	-258	768	682	-239.63	-0.81	-89.5
1009	SLV 11	89	-653	8007	-1653.74	-16.79	29.9
1009	SLV 12	18	-549	7898	-1631.83	-16.48	5.32
1009	SLV 13	-441	215	4340	-967.12	-10.58	-154.54
1009	SLV 14	-547	370	4178	-934.57	-10.12	-191.06
1009	SLV 15	-359	-180	6505	-1384.78	-15.28	-126.09
1009	SLV 16	-464	-25	6343	-1352.23	-14.82	-162.61
1009	SLV FO 1	663	115	1249	-308.89	1.34	232.19
1009	SLV FO 2	547	285	1071	-273.08	1.84	192.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1009	SLV FO 3	754	-320	3630	-768.31	-3.83	263.48
1009	SLV FO 4	638	-150	3452	-732.51	-3.33	223.31
1009	SLV FO 5	133	691	-462	-1.34	3.16	47.47
1009	SLV FO 6	55	805	-582	22.77	3.5	20.43
1009	SLV FO 7	437	-758	7476	-1532.75	-14.08	151.77
1009	SLV FO 8	359	-644	7357	-1508.65	-13.74	124.73
1009	SLV FO 9	-214	726	478	-202.16	-0.51	-73.95
1009	SLV FO 10	-292	841	358	-178.06	-0.18	-100.99
1009	SLV FO 11	90	-723	8416	-1733.57	-17.75	30.35
1009	SLV FO 12	12	-608	8297	-1709.47	-17.42	3.31
1009	SLV FO 13	-493	233	4382	-978.3	-10.92	-172.53
1009	SLV FO 14	-609	403	4204	-942.49	-10.42	-212.7
1009	SLV FO 15	-402	-202	6764	-1437.72	-16.09	-141.24
1009	SLV FO 16	-517	-32	6586	-1401.91	-15.59	-181.41
1009	CRTFP Ux+	0	0	0	0	0	0
1009	CRTFP Ux-	0	0	0	0	0	0
1009	CRTFP Uy+	0	0	0	0	0	0
1009	CRTFP Uy-	0	0	0	0	0	0
1010	SLU 1	69	36	3868	-962.55	-8.54	24.04
1010	SLU 2	66	56	3777	-942.01	-8.31	22.88
1010	SLU 3	71	37	3979	-988.87	-8.81	24.91
1010	SLU 4	69	49	3924	-976.54	-8.67	24.21
1010	SLU 5	67	57	3851	-959.69	-8.49	23.54
1010	SLU 6	73	38	4053	-1006.56	-8.98	25.57
1010	SLU 7	71	50	3998	-994.23	-8.84	24.87
1010	SLU 8	73	38	4017	-997.92	-8.89	25.36
1010	SLU 9	71	50	3962	-985.6	-8.75	24.66
1010	SLU 10	70	60	4247	-1054.76	-9.38	24.48
1010	SLU 11	76	41	4449	-1101.62	-9.87	26.51
1010	SLU 12	74	53	4394	-1089.3	-9.73	25.82
1010	SLU 13	72	61	4322	-1072.45	-9.55	25.14
1010	SLU 14	78	42	4524	-1119.31	-10.05	27.17
1010	SLU 15	76	54	4469	-1106.98	-9.91	26.48
1010	SLU 16	77	42	4488	-1110.68	-9.96	26.96
1010	SLU 17	75	54	4433	-1098.35	-9.82	26.26
1010	SLU 18	76	42	4540	-1123.63	-10.07	26.33
1010	SLU 19	74	54	4485	-1111.3	-9.93	25.63
1010	SLU 20	77	43	4615	-1141.31	-10.24	26.99
1010	SLU 21	75	55	4560	-1128.99	-10.1	26.29
1010	SLU 22	78	38	4508	-1115.38	-10.02	27.04
1010	SLU 23	74	58	4416	-1094.83	-9.78	25.88
1010	SLU 24	80	39	4618	-1141.7	-10.28	27.91
1010	SLU 25	78	51	4563	-1129.37	-10.14	27.22
1010	SLU 26	76	59	4491	-1112.52	-9.96	26.54
1010	SLU 27	82	40	4693	-1159.38	-10.46	28.57
1010	SLU 28	80	52	4638	-1147.06	-10.32	27.87
1010	SLU 29	81	40	4657	-1150.75	-10.37	28.36
1010	SLU 30	79	52	4602	-1138.42	-10.23	27.66
1010	SLU 31	79	62	4887	-1207.58	-10.85	27.48
1010	SLU 32	85	43	5089	-1254.45	-11.35	29.52
1010	SLU 33	83	55	5034	-1242.12	-11.21	28.82
1010	SLU 34	81	63	4961	-1225.27	-11.03	28.14
1010	SLU 35	87	44	5163	-1272.14	-11.52	30.17
1010	SLU 36	85	56	5108	-1259.81	-11.38	29.48
1010	SLU 37	86	44	5127	-1263.5	-11.44	29.96
1010	SLU 38	84	56	5072	-1251.17	-11.3	29.26
1010	SLU 39	84	44	5180	-1276.45	-11.54	29.33
1010	SLU 40	82	55	5125	-1264.13	-11.4	28.63
1010	SLU 41	86	45	5255	-1294.14	-11.72	29.99
1010	SLU 42	84	56	5200	-1281.81	-11.58	29.29
1010	SLU 43	87	47	4810	-1198.92	-10.6	30.22
1010	SLU 44	83	66	4718	-1178.37	-10.37	29.06
1010	SLU 45	89	48	4920	-1225.24	-10.86	31.09
1010	SLU 46	87	59	4865	-1212.91	-10.72	30.4
1010	SLU 47	85	67	4792	-1196.06	-10.54	29.72
1010	SLU 48	91	49	4994	-1242.93	-11.04	31.75
1010	SLU 49	89	60	4939	-1230.6	-10.9	31.06
1010	SLU 50	90	49	4959	-1234.29	-10.95	31.54
1010	SLU 51	88	61	4904	-1221.97	-10.81	30.84
1010	SLU 52	88	70	5188	-1291.13	-11.43	30.66
1010	SLU 53	94	51	5390	-1337.99	-11.93	32.7
1010	SLU 54	92	63	5335	-1325.67	-11.79	32
1010	SLU 55	90	71	5263	-1308.81	-11.61	31.32
1010	SLU 56	96	53	5465	-1355.68	-12.11	33.36
1010	SLU 57	94	64	5410	-1343.35	-11.97	32.66
1010	SLU 58	95	53	5429	-1347.05	-12.02	33.14
1010	SLU 59	93	64	5374	-1334.72	-11.88	32.45
1010	SLU 60	93	52	5482	-1360	-12.13	32.51
1010	SLU 61	91	64	5427	-1347.67	-11.99	31.82
1010	SLU 62	95	53	5556	-1377.68	-12.3	33.17
1010	SLU 63	93	65	5501	-1365.35	-12.16	32.47
1010	SLU 64	95	48	5449	-1351.75	-12.07	33.22
1010	SLU 65	92	68	5358	-1331.2	-11.84	32.06
1010	SLU 66	98	49	5560	-1378.07	-12.34	34.1
1010	SLU 67	96	61	5505	-1365.74	-12.2	33.4
1010	SLU 68	94	69	5432	-1348.89	-12.02	32.72
1010	SLU 69	100	50	5634	-1395.75	-12.51	34.76
1010	SLU 70	98	62	5579	-1383.42	-12.37	34.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1010	SLU 71	99	51	5598	-1387.12	-12.43	34.54
1010	SLU 72	97	62	5543	-1374.79	-12.29	33.85
1010	SLU 73	97	72	5828	-1443.95	-12.91	33.66
1010	SLU 74	102	53	6030	-1490.82	-13.41	35.7
1010	SLU 75	100	65	5975	-1478.49	-13.27	35
1010	SLU 76	98	73	5902	-1461.64	-13.08	34.32
1010	SLU 77	104	54	6104	-1508.5	-13.58	36.36
1010	SLU 78	102	66	6049	-1496.18	-13.44	35.66
1010	SLU 79	104	54	6069	-1499.87	-13.49	36.15
1010	SLU 80	102	66	6014	-1487.54	-13.35	35.45
1010	SLU 81	102	54	6121	-1512.82	-13.6	35.51
1010	SLU 82	100	66	6066	-1500.49	-13.46	34.82
1010	SLU 83	104	55	6196	-1530.51	-13.78	36.17
1010	SLU 84	102	67	6141	-1518.18	-13.64	35.48
1010	SLE RA 1	71	37	4051	-1006.22	-8.96	24.9
1010	SLE RA 2	69	50	3990	-992.52	-8.81	24.12
1010	SLE RA 3	73	37	4125	-1023.76	-9.14	25.48
1010	SLE RA 4	72	45	4088	-1015.54	-9.05	25.01
1010	SLE RA 5	70	51	4040	-1004.31	-8.93	24.56
1010	SLE RA 6	74	38	4174	-1035.55	-9.26	25.92
1010	SLE RA 7	73	46	4138	-1027.34	-9.16	25.45
1010	SLE RA 8	74	38	4150	-1029.8	-9.2	25.78
1010	SLE RA 9	73	46	4114	-1021.58	-9.11	25.31
1010	SLE RA 10	72	52	4304	-1067.69	-9.52	25.19
1010	SLE RA 11	76	40	4438	-1098.93	-9.85	26.55
1010	SLE RA 12	75	48	4402	-1090.71	-9.76	26.08
1010	SLE RA 13	74	53	4353	-1079.48	-9.64	25.63
1010	SLE RA 14	77	41	4488	-1110.72	-9.97	26.99
1010	SLE RA 15	76	49	4451	-1102.5	-9.88	26.52
1010	SLE RA 16	77	41	4464	-1104.97	-9.91	26.85
1010	SLE RA 17	76	49	4427	-1096.75	-9.82	26.38
1010	SLE RA 18	76	41	4499	-1113.6	-9.98	26.42
1010	SLE RA 19	74	48	4462	-1105.38	-9.89	25.96
1010	SLE RA 20	77	41	4549	-1125.39	-10.1	26.86
1010	SLE RA 21	76	49	4512	-1117.17	-10	26.4
1010	SLE FR 1	71	37	4051	-1006.22	-8.96	24.9
1010	SLE FR 2	71	39	4039	-1003.48	-8.93	24.74
1010	SLE FR 3	72	37	4071	-1010.93	-9.01	25.07
1010	SLE FR 4	72	41	4173	-1035.69	-9.24	25.2
1010	SLE FR 5	73	38	4205	-1043.15	-9.32	25.53
1010	SLE FR 6	74	39	4275	-1059.91	-9.47	25.66
1010	SLE QP 1	71	37	4051	-1006.22	-8.96	24.9
1010	SLE QP 2	73	38	4186	-1038.43	-9.27	25.36
1010	SLD 1	416	71	2518	-640.11	-3.6	145.72
1010	SLD 2	350	176	2405	-613.86	-3.25	122.56
1010	SLD 3	465	-172	3888	-947.06	-7.03	162.5
1010	SLD 4	399	-67	3775	-920.82	-6.68	139.34
1010	SLD 5	113	398	1627	-457.9	-2.42	40
1010	SLD 6	70	466	1554	-441	-2.2	25.08
1010	SLD 7	276	-411	6194	-1481.08	-13.86	95.93
1010	SLD 8	233	-344	6121	-1464.18	-13.64	81.02
1010	SLD 9	-88	420	2250	-612.68	-4.9	-30.3
1010	SLD 10	-131	487	2177	-595.78	-4.67	-45.22
1010	SLD 11	75	-390	6817	-1635.86	-16.34	25.63
1010	SLD 12	32	-322	6744	-1618.96	-16.12	10.71
1010	SLD 13	-253	143	4596	-1156.05	-11.85	-88.63
1010	SLD 14	-320	248	4483	-1129.8	-11.51	-111.79
1010	SLD 15	-204	-100	5966	-1463	-15.29	-71.85
1010	SLD 16	-271	5	5853	-1436.76	-14.94	-95.01
1010	SLV 1	608	106	1485	-394.71	-0.17	212.77
1010	SLV 2	503	271	1307	-353.35	0.37	176.26
1010	SLV 3	691	-308	3823	-918.5	-6.03	241.41
1010	SLV 4	586	-144	3645	-877.13	-5.49	204.9
1010	SLV 5	126	656	-137	-58.63	2.24	44.96
1010	SLV 6	55	767	-257	-30.78	2.61	20.38
1010	SLV 7	405	-725	7656	-1804.58	-17.29	140.42
1010	SLV 8	334	-614	7536	-1776.73	-16.92	115.84
1010	SLV 9	-188	690	835	-300.13	-1.62	-65.13
1010	SLV 10	-259	801	715	-272.28	-1.25	-89.7
1010	SLV 11	90	-691	8628	-2046.08	-21.15	30.33
1010	SLV 12	19	-580	8508	-2018.24	-20.78	5.75
1010	SLV 13	-441	220	4726	-1199.73	-13.05	-154.19
1010	SLV 14	-546	384	4548	-1158.36	-12.51	-190.7
1010	SLV 15	-357	-195	7064	-1723.52	-18.91	-125.55
1010	SLV 16	-462	-30	6886	-1682.15	-18.37	-162.06
1010	SLV FO 1	661	113	1215	-330.34	0.74	231.51
1010	SLV FO 2	546	294	1019	-284.84	1.34	191.35
1010	SLV FO 3	753	-343	3787	-906.51	-5.71	263.01
1010	SLV FO 4	638	-162	3591	-861	-5.11	222.85
1010	SLV FO 5	132	718	-570	39.36	3.4	46.92
1010	SLV FO 6	54	840	-701	69.99	3.8	19.89
1010	SLV FO 7	438	-802	8003	-1881.19	-18.09	151.92
1010	SLV FO 8	360	-680	7871	-1850.56	-17.68	124.89
1010	SLV FO 9	-214	756	500	-226.3	-0.85	-74.18
1010	SLV FO 10	-292	878	368	-195.67	-0.45	-101.21
1010	SLV FO 11	92	-764	9072	-2146.85	-22.34	30.83
1010	SLV FO 12	14	-642	8941	-2116.22	-21.93	3.79
1010	SLV FO 13	-492	238	4780	-1215.86	-13.43	-172.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1010	SLV FO 14	-608	419	4585	-1170.36	-12.83	-212.3
1010	SLV FO 15	-400	-218	7352	-1792.03	-19.88	-140.64
1010	SLV FO 16	-516	-37	7156	-1746.52	-19.28	-180.8
1010	CRTFP Ux+	0	0	0	0	0	0
1010	CRTFP Ux-	0	0	0	0	0	0
1010	CRTFP Uy+	0	0	0	0	0	0
1010	CRTFP Uy-	0	0	0	0	0	0
1011	SLU 1	58	28	3530	-993.49	92.3	19.6
1011	SLU 2	56	46	3445	-971.79	90.11	18.12
1011	SLU 3	61	29	3631	-1021.13	94.93	20.33
1011	SLU 4	59	39	3580	-1008.11	93.62	19.44
1011	SLU 5	57	46	3513	-990.35	91.88	18.66
1011	SLU 6	62	30	3699	-1039.68	96.71	20.87
1011	SLU 7	60	40	3648	-1026.67	95.39	19.98
1011	SLU 8	62	30	3666	-1030.6	95.85	20.68
1011	SLU 9	60	40	3616	-1017.58	94.54	19.79
1011	SLU 10	59	49	3875	-1090.36	101.33	19.39
1011	SLU 11	64	32	4061	-1139.7	106.15	21.6
1011	SLU 12	63	42	4010	-1126.68	104.84	20.71
1011	SLU 13	61	49	3944	-1108.91	103.11	19.92
1011	SLU 14	66	33	4129	-1158.25	107.93	22.13
1011	SLU 15	64	43	4079	-1145.23	106.61	21.24
1011	SLU 16	66	33	4096	-1149.17	107.08	21.95
1011	SLU 17	64	43	4046	-1136.15	105.76	21.05
1011	SLU 18	64	33	4144	-1162.87	108.33	21.41
1011	SLU 19	62	43	4093	-1149.85	107.01	20.52
1011	SLU 20	66	34	4212	-1181.43	110.11	21.95
1011	SLU 21	64	44	4162	-1168.41	108.79	21.06
1011	SLU 22	66	29	4115	-1154.15	107.56	22.13
1011	SLU 23	63	46	4031	-1132.45	105.37	20.65
1011	SLU 24	68	30	4216	-1181.78	110.19	22.86
1011	SLU 25	66	40	4166	-1168.77	108.88	21.97
1011	SLU 26	64	47	4099	-1151	107.15	21.18
1011	SLU 27	70	30	4285	-1200.34	111.97	23.39
1011	SLU 28	68	41	4234	-1187.32	110.66	22.5
1011	SLU 29	69	31	4252	-1191.26	111.12	23.21
1011	SLU 30	67	41	4201	-1178.24	109.8	22.32
1011	SLU 31	67	49	4461	-1251.02	116.59	21.91
1011	SLU 32	72	33	4646	-1300.35	121.42	24.12
1011	SLU 33	70	43	4596	-1287.33	120.1	23.23
1011	SLU 34	68	50	4529	-1269.57	118.37	22.45
1011	SLU 35	73	34	4715	-1318.91	123.19	24.66
1011	SLU 36	72	44	4664	-1305.89	121.88	23.77
1011	SLU 37	73	34	4682	-1309.83	122.34	24.47
1011	SLU 38	71	44	4631	-1296.81	121.02	23.58
1011	SLU 39	71	34	4730	-1323.53	123.59	23.94
1011	SLU 40	70	44	4679	-1310.51	122.28	23.05
1011	SLU 41	73	34	4798	-1342.08	125.37	24.48
1011	SLU 42	71	45	4747	-1329.07	124.05	23.59
1011	SLU 43	73	36	4388	-1236.45	114.75	24.62
1011	SLU 44	71	54	4303	-1214.75	112.56	23.13
1011	SLU 45	76	37	4489	-1264.09	117.39	25.34
1011	SLU 46	74	47	4438	-1251.07	116.07	24.45
1011	SLU 47	72	55	4372	-1233.31	114.34	23.67
1011	SLU 48	77	38	4557	-1282.65	119.16	25.88
1011	SLU 49	75	48	4507	-1269.63	117.85	24.99
1011	SLU 50	77	38	4524	-1273.57	118.31	25.69
1011	SLU 51	75	48	4474	-1260.55	116.99	24.8
1011	SLU 52	74	57	4733	-1333.32	123.78	24.4
1011	SLU 53	79	40	4919	-1382.66	128.61	26.61
1011	SLU 54	78	51	4868	-1369.64	127.29	25.72
1011	SLU 55	76	58	4802	-1351.88	125.56	24.94
1011	SLU 56	81	41	4987	-1401.22	130.39	27.15
1011	SLU 57	79	51	4937	-1388.2	129.07	26.26
1011	SLU 58	81	41	4954	-1392.13	129.53	26.96
1011	SLU 59	79	52	4904	-1379.11	128.22	26.07
1011	SLU 60	79	41	5002	-1405.84	130.78	26.43
1011	SLU 61	77	51	4952	-1392.82	129.47	25.54
1011	SLU 62	81	42	5071	-1424.39	132.56	26.97
1011	SLU 63	79	52	5020	-1411.37	131.25	26.07
1011	SLU 64	81	37	4973	-1397.11	130.02	27.15
1011	SLU 65	78	55	4889	-1375.41	127.83	25.66
1011	SLU 66	83	38	5074	-1424.75	132.65	27.87
1011	SLU 67	81	48	5024	-1411.73	131.33	26.98
1011	SLU 68	80	55	4957	-1393.97	129.6	26.2
1011	SLU 69	85	39	5143	-1443.31	134.43	28.41
1011	SLU 70	83	49	5092	-1430.29	133.11	27.52
1011	SLU 71	84	39	5110	-1434.22	133.57	28.22
1011	SLU 72	82	49	5059	-1421.2	132.26	27.33
1011	SLU 73	82	58	5319	-1493.98	139.05	26.93
1011	SLU 74	87	41	5505	-1543.32	143.87	29.14
1011	SLU 75	85	51	5454	-1530.3	142.56	28.25
1011	SLU 76	83	58	5387	-1512.54	140.82	27.47
1011	SLU 77	88	42	5573	-1561.87	145.65	29.68
1011	SLU 78	87	52	5522	-1548.85	144.33	28.79
1011	SLU 79	88	42	5540	-1552.79	144.79	29.49
1011	SLU 80	86	52	5489	-1539.77	143.48	28.6
1011	SLU 81	86	42	5588	-1566.49	146.05	28.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1011	SLU 82	85	52	5537	-1553.47	144.73	28.07
1011	SLU 83	88	43	5656	-1585.05	147.83	29.49
1011	SLU 84	86	53	5605	-1572.03	146.51	28.6
1011	SLE RA 1	61	29	3697	-1039.39	96.66	20.33
1011	SLE RA 2	59	40	3641	-1024.92	95.2	19.34
1011	SLE RA 3	62	29	3764	-1057.82	98.41	20.81
1011	SLE RA 4	61	36	3731	-1049.14	97.54	20.22
1011	SLE RA 5	60	41	3686	-1037.3	96.38	19.69
1011	SLE RA 6	63	29	3810	-1070.19	99.6	21.17
1011	SLE RA 7	62	36	3776	-1061.51	98.72	20.57
1011	SLE RA 8	63	30	3788	-1064.13	99.03	21.04
1011	SLE RA 9	62	36	3754	-1055.45	98.15	20.45
1011	SLE RA 10	61	42	3927	-1103.97	102.68	20.18
1011	SLE RA 11	65	31	4051	-1136.86	105.89	21.65
1011	SLE RA 12	63	38	4017	-1128.18	105.02	21.06
1011	SLE RA 13	62	43	3973	-1116.34	103.86	20.54
1011	SLE RA 14	66	31	4097	-1149.23	107.08	22.01
1011	SLE RA 15	64	38	4063	-1140.55	106.2	21.42
1011	SLE RA 16	65	32	4075	-1143.18	106.51	21.89
1011	SLE RA 17	64	39	4041	-1134.5	105.63	21.29
1011	SLE RA 18	64	31	4107	-1152.31	107.35	21.53
1011	SLE RA 19	63	38	4073	-1143.63	106.47	20.94
1011	SLE RA 20	65	32	4152	-1164.68	108.53	21.89
1011	SLE RA 21	64	39	4118	-1156	107.65	21.3
1011	SLE FR 1	61	29	3697	-1039.39	96.66	20.33
1011	SLE FR 2	60	31	3686	-1036.5	96.37	20.13
1011	SLE FR 3	61	29	3715	-1044.34	97.13	20.47
1011	SLE FR 4	61	32	3809	-1070.37	99.57	20.49
1011	SLE FR 5	62	30	3838	-1078.22	100.34	20.83
1011	SLE FR 6	62	30	3902	-1095.85	102	20.93
1011	SLE QP 1	61	29	3697	-1039.39	96.66	20.33
1011	SLE QP 2	62	29	3820	-1073.27	99.86	20.69
1011	SLD 1	353	57	2247	-644.55	59.88	121.24
1011	SLD 2	297	152	2142	-616.78	57.18	98.87
1011	SLD 3	395	-158	3507	-968.17	92.62	141.61
1011	SLD 4	338	-64	3402	-940.4	89.92	119.23
1011	SLD 5	96	348	1455	-458.61	38.68	23.81
1011	SLD 6	59	409	1387	-440.72	36.93	9.4
1011	SLD 7	235	-370	5656	-1537.34	147.82	91.71
1011	SLD 8	198	-309	5588	-1519.45	146.07	77.3
1011	SLD 9	-75	368	2052	-627.08	53.66	-35.92
1011	SLD 10	-112	429	1984	-609.2	51.91	-50.33
1011	SLD 11	64	-350	6253	-1705.81	162.8	31.98
1011	SLD 12	28	-289	6185	-1687.93	161.05	17.57
1011	SLD 13	-215	122	4238	-1206.14	109.81	-77.86
1011	SLD 14	-272	217	4132	-1178.36	107.11	-100.23
1011	SLD 15	-173	-93	5498	-1529.76	142.55	-57.49
1011	SLD 16	-230	1	5392	-1501.98	139.85	-79.87
1011	SLV 1	516	88	1275	-380.94	35.11	176.83
1011	SLV 2	426	237	1109	-337.16	30.85	141.56
1011	SLV 3	587	-280	3425	-933.16	90.98	211.59
1011	SLV 4	498	-131	3259	-889.38	86.71	176.32
1011	SLV 5	106	577	-174	-36.21	-3.5	21.39
1011	SLV 6	46	677	-286	-6.74	-6.37	-2.35
1011	SLV 7	344	-649	6994	-1876.93	182.73	137.26
1011	SLV 8	284	-548	6882	-1847.46	179.86	113.51
1011	SLV 9	-161	607	758	-299.07	19.87	-72.14
1011	SLV 10	-221	707	646	-269.6	17	-95.88
1011	SLV 11	77	-618	7926	-2139.8	206.1	43.72
1011	SLV 12	17	-518	7814	-2110.33	203.23	19.98
1011	SLV 13	-374	190	4381	-1257.16	113.02	-134.94
1011	SLV 14	-464	339	4214	-1213.38	108.75	-170.21
1011	SLV 15	-303	-178	6531	-1809.38	168.88	-100.18
1011	SLV 16	-392	-29	6365	-1765.6	164.62	-135.45
1011	SLV FO 1	561	94	1020	-311.71	28.63	192.44
1011	SLV FO 2	463	257	837	-263.55	23.94	153.65
1011	SLV FO 3	640	-311	3386	-919.15	90.09	230.68
1011	SLV FO 4	541	-147	3203	-870.99	85.4	191.88
1011	SLV FO 5	111	631	-573	67.5	-13.84	21.46
1011	SLV FO 6	45	742	-697	99.92	-16.99	-4.65
1011	SLV FO 7	372	-716	7311	-1957.3	191.02	148.91
1011	SLV FO 8	306	-606	7188	-1924.88	187.86	122.8
1011	SLV FO 9	-183	665	451	-221.65	11.87	-81.42
1011	SLV FO 10	-249	775	328	-189.24	8.71	-107.54
1011	SLV FO 11	79	-683	8336	-2246.45	216.72	46.03
1011	SLV FO 12	12	-573	8213	-2214.03	213.57	19.91
1011	SLV FO 13	-418	206	4437	-1275.55	114.33	-150.5
1011	SLV FO 14	-516	370	4254	-1227.39	109.64	-189.3
1011	SLV FO 15	-339	-199	6802	-1882.99	175.79	-112.27
1011	SLV FO 16	-438	-35	6619	-1834.83	171.1	-151.07
1011	CRTFP Ux+	0	0	0	0	0	0
1011	CRTFP Ux-	0	0	0	0	0	0
1011	CRTFP Uy+	0	0	0	0	0	0
1011	CRTFP Uy-	0	0	0	0	0	0
1012	SLU 1	77	36	4862	-1796.37	966	21.98
1012	SLU 2	73	59	4746	-1755.6	943.24	15.39
1012	SLU 3	80	36	5002	-1847.27	993.49	22.92
1012	SLU 4	78	51	4932	-1822.8	979.84	18.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1012	SLU 5	76	60	4840	-1789.82	961.79	15.98
1012	SLU 6	82	37	5096	-1881.49	1012.05	23.52
1012	SLU 7	80	52	5026	-1857.02	998.39	19.56
1012	SLU 8	81	38	5050	-1864.81	1003.1	23.18
1012	SLU 9	79	52	4981	-1840.35	989.45	19.22
1012	SLU 10	79	63	5339	-1973.97	1060.55	16.48
1012	SLU 11	85	40	5595	-2065.64	1110.81	24.02
1012	SLU 12	83	55	5525	-2041.18	1097.15	20.06
1012	SLU 13	81	64	5433	-2008.19	1079.1	17.08
1012	SLU 14	87	41	5689	-2099.86	1129.36	24.61
1012	SLU 15	85	56	5619	-2075.4	1115.7	20.66
1012	SLU 16	87	42	5643	-2083.18	1120.42	24.27
1012	SLU 17	84	56	5574	-2058.72	1106.76	20.31
1012	SLU 18	85	42	5709	-2108.34	1133.59	23.55
1012	SLU 19	82	56	5640	-2083.87	1119.93	19.59
1012	SLU 20	87	43	5804	-2142.55	1152.14	24.14
1012	SLU 21	84	57	5734	-2118.09	1138.49	20.18
1012	SLU 22	87	36	5669	-2092.45	1125.49	25.56
1012	SLU 23	83	60	5553	-2051.68	1102.73	18.96
1012	SLU 24	90	37	5809	-2143.35	1152.98	26.5
1012	SLU 25	87	51	5739	-2118.88	1139.33	22.54
1012	SLU 26	85	61	5647	-2085.9	1121.28	19.56
1012	SLU 27	92	38	5903	-2177.57	1171.53	27.1
1012	SLU 28	90	52	5833	-2153.1	1157.88	23.14
1012	SLU 29	91	38	5857	-2160.89	1162.59	26.75
1012	SLU 30	89	52	5788	-2136.42	1148.94	22.79
1012	SLU 31	88	64	6147	-2270.05	1220.04	20.06
1012	SLU 32	95	41	6402	-2361.72	1270.29	27.59
1012	SLU 33	93	55	6332	-2337.26	1256.64	23.64
1012	SLU 34	90	65	6241	-2304.27	1238.59	20.65
1012	SLU 35	97	42	6496	-2395.94	1288.85	28.19
1012	SLU 36	95	56	6426	-2371.48	1275.19	24.23
1012	SLU 37	96	42	6450	-2379.26	1279.91	27.85
1012	SLU 38	94	57	6381	-2354.8	1266.25	23.89
1012	SLU 39	94	42	6517	-2404.41	1293.08	27.12
1012	SLU 40	92	56	6447	-2379.95	1279.42	23.16
1012	SLU 41	96	43	6611	-2438.63	1311.63	27.72
1012	SLU 42	94	57	6541	-2414.17	1297.97	23.76
1012	SLU 43	97	46	6044	-2233.77	1201.12	27.35
1012	SLU 44	93	70	5928	-2193	1178.36	20.76
1012	SLU 45	100	47	6184	-2284.67	1228.61	28.29
1012	SLU 46	98	61	6114	-2260.2	1214.96	24.33
1012	SLU 47	95	71	6022	-2227.22	1196.91	21.35
1012	SLU 48	102	48	6278	-2318.89	1247.16	28.89
1012	SLU 49	100	62	6208	-2294.42	1233.51	24.93
1012	SLU 50	101	48	6232	-2302.21	1238.22	28.55
1012	SLU 51	99	62	6163	-2277.74	1224.57	24.59
1012	SLU 52	98	74	6521	-2411.37	1295.67	21.85
1012	SLU 53	105	51	6777	-2503.04	1345.93	29.39
1012	SLU 54	103	65	6707	-2478.58	1332.27	25.43
1012	SLU 55	101	75	6615	-2445.59	1314.22	22.45
1012	SLU 56	107	52	6871	-2537.26	1364.48	29.98
1012	SLU 57	105	66	6801	-2512.8	1350.82	26.02
1012	SLU 58	106	52	6825	-2520.58	1355.54	29.64
1012	SLU 59	104	66	6756	-2496.12	1341.88	25.68
1012	SLU 60	104	52	6891	-2545.73	1368.71	28.92
1012	SLU 61	102	66	6822	-2521.27	1355.05	24.96
1012	SLU 62	107	53	6985	-2579.95	1387.26	29.51
1012	SLU 63	104	67	6916	-2555.49	1373.6	25.55
1012	SLU 64	107	47	6851	-2529.85	1360.61	30.93
1012	SLU 65	103	70	6735	-2489.08	1337.85	24.33
1012	SLU 66	110	48	6991	-2580.75	1388.1	31.87
1012	SLU 67	107	62	6921	-2556.28	1374.44	27.91
1012	SLU 68	105	71	6829	-2523.29	1356.4	24.93
1012	SLU 69	112	49	7085	-2614.97	1406.65	32.47
1012	SLU 70	109	63	7015	-2590.5	1393	28.51
1012	SLU 71	111	49	7039	-2598.29	1397.71	32.12
1012	SLU 72	109	63	6970	-2573.82	1384.05	28.16
1012	SLU 73	108	74	7328	-2707.45	1455.16	25.43
1012	SLU 74	115	52	7584	-2799.12	1505.41	32.96
1012	SLU 75	112	66	7514	-2774.66	1491.76	29.01
1012	SLU 76	110	75	7422	-2741.67	1473.71	26.02
1012	SLU 77	117	53	7678	-2833.34	1523.97	33.56
1012	SLU 78	115	67	7608	-2808.88	1510.31	29.6
1012	SLU 79	116	53	7632	-2816.66	1515.02	33.22
1012	SLU 80	114	67	7563	-2792.2	1501.37	29.26
1012	SLU 81	114	53	7699	-2841.81	1528.2	32.49
1012	SLU 82	112	67	7629	-2817.35	1514.54	28.53
1012	SLU 83	116	54	7793	-2876.03	1546.75	33.09
1012	SLU 84	114	68	7723	-2851.57	1533.09	29.13
1012	SLE RA 1	80	36	5093	-1880.97	1011.57	23.01
1012	SLE RA 2	77	52	5016	-1853.78	996.39	18.61
1012	SLE RA 3	82	36	5186	-1914.9	1029.9	23.63
1012	SLE RA 4	80	46	5139	-1898.59	1020.79	20.99
1012	SLE RA 5	79	52	5078	-1876.6	1008.76	19
1012	SLE RA 6	83	37	5248	-1937.71	1042.27	24.03
1012	SLE RA 7	82	46	5202	-1921.4	1033.16	21.39
1012	SLE RA 8	83	37	5218	-1926.59	1036.3	23.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1012	SLE RA 9	81	47	5172	-1910.28	1027.2	21.16
1012	SLE RA 10	81	54	5411	-1999.37	1074.6	19.34
1012	SLE RA 11	85	39	5581	-2060.48	1108.11	24.36
1012	SLE RA 12	84	48	5535	-2044.17	1099	21.72
1012	SLE RA 13	82	55	5474	-2022.18	1086.97	19.73
1012	SLE RA 14	87	40	5644	-2083.29	1120.47	24.76
1012	SLE RA 15	85	49	5598	-2066.98	1111.37	22.12
1012	SLE RA 16	86	40	5614	-2072.17	1114.51	24.53
1012	SLE RA 17	85	49	5567	-2055.86	1105.41	21.89
1012	SLE RA 18	85	40	5658	-2088.94	1123.3	24.05
1012	SLE RA 19	83	49	5611	-2072.63	1114.19	21.41
1012	SLE RA 20	86	40	5720	-2111.75	1135.66	24.45
1012	SLE RA 21	85	50	5674	-2095.44	1126.56	21.81
1012	SLE FR 1	80	36	5093	-1880.97	1011.57	23.01
1012	SLE FR 2	80	39	5077	-1875.53	1008.53	22.13
1012	SLE FR 3	81	36	5118	-1890.09	1016.52	23.16
1012	SLE FR 4	81	40	5247	-1937.92	1042.05	22.44
1012	SLE FR 5	82	37	5287	-1952.48	1050.03	23.48
1012	SLE FR 6	82	38	5375	-1984.95	1067.43	23.53
1012	SLE QP 1	80	36	5093	-1880.97	1011.57	23.01
1012	SLE QP 2	81	37	5262	-1943.36	1045.09	23.32
1012	SLD 1	469	74	3069	-1148.51	623.16	158.3
1012	SLD 2	395	204	2924	-1097.23	594.92	101.08
1012	SLD 3	524	-219	4797	-1756.71	962.97	243.12
1012	SLD 4	449	-89	4652	-1705.42	934.73	185.9
1012	SLD 5	128	471	2009	-791.3	407.98	-54.99
1012	SLD 6	79	554	1915	-758.28	389.8	-91.83
1012	SLD 7	310	-507	7768	-2818.61	1540.68	227.74
1012	SLD 8	262	-423	7675	-2785.59	1522.5	190.9
1012	SLD 9	-99	498	2850	-1101.13	567.67	-144.26
1012	SLD 10	-147	581	2756	-1068.11	549.49	-181.1
1012	SLD 11	83	-480	8610	-3128.44	1700.37	138.47
1012	SLD 12	35	-397	8516	-3095.42	1682.19	101.63
1012	SLD 13	-286	164	5873	-2181.29	1155.44	-139.27
1012	SLD 14	-361	293	5727	-2130.01	1127.21	-196.48
1012	SLD 15	-232	-130	7601	-2789.49	1495.25	-54.45
1012	SLD 16	-307	0	7455	-2738.21	1467.02	-111.66
1012	SLV 1	686	115	1716	-659.18	362.17	229.02
1012	SLV 2	568	320	1486	-578.35	317.66	138.84
1012	SLV 3	779	-386	4664	-1696.97	942	373.76
1012	SLV 4	661	-181	4435	-1616.14	897.49	283.57
1012	SLV 5	143	782	-231	0.81	-30.89	-117.66
1012	SLV 6	64	919	-385	55.22	-60.85	-178.37
1012	SLV 7	454	-887	9597	-3458.52	1901.87	364.79
1012	SLV 8	375	-749	9443	-3404.11	1871.91	304.08
1012	SLV 9	-212	824	1082	-482.61	218.26	-257.44
1012	SLV 10	-292	961	927	-428.2	188.3	-318.15
1012	SLV 11	99	-845	10910	-3941.94	2151.03	225
1012	SLV 12	20	-707	10755	-3887.53	2121.07	164.29
1012	SLV 13	-498	255	6090	-2270.58	1192.68	-236.93
1012	SLV 14	-616	460	5860	-2189.74	1148.17	-327.12
1012	SLV 15	-405	-245	9038	-3308.37	1772.51	-92.2
1012	SLV 16	-523	-41	8809	-3227.54	1728	-182.39
1012	SLV FO 1	746	123	1361	-530.76	293.88	249.59
1012	SLV FO 2	616	348	1109	-441.84	244.92	150.39
1012	SLV FO 3	849	-428	4604	-1672.34	931.69	408.8
1012	SLV FO 4	719	-203	4352	-1583.42	882.74	309.59
1012	SLV FO 5	149	856	-780	195.22	-138.49	-131.75
1012	SLV FO 6	62	1008	-950	255.08	-171.45	-198.53
1012	SLV FO 7	492	-980	10031	-3610.03	1987.55	398.94
1012	SLV FO 8	404	-828	9861	-3550.18	1954.6	332.15
1012	SLV FO 9	-241	902	664	-336.54	135.58	-285.52
1012	SLV FO 10	-329	1054	494	-276.69	102.62	-352.3
1012	SLV FO 11	101	-933	11474	-4141.8	2261.62	245.17
1012	SLV FO 12	14	-782	11304	-4081.94	2228.66	178.39
1012	SLV FO 13	-556	277	6173	-2303.3	1207.44	-262.96
1012	SLV FO 14	-686	502	5920	-2214.38	1158.48	-362.16
1012	SLV FO 15	-453	-274	9416	-3444.88	1845.25	-103.75
1012	SLV FO 16	-583	-48	9163	-3355.96	1796.29	-202.96
1012	CRTFP Ux+	0	0	0	0	0	0
1012	CRTFP Ux-	0	0	0	0	0	0
1012	CRTFP Uy+	0	0	0	-0.01	0	0
1012	CRTFP Uy-	0	0	0	0.01	0	0
1014	SLU 1	-25	42	3176	99.73	585.5	-9.7
1014	SLU 2	-24	59	3103	97.12	571.98	-14.13
1014	SLU 3	-25	43	3269	102.73	602.1	-9.89
1014	SLU 4	-25	53	3225	101.17	594	-12.55
1014	SLU 5	-24	60	3165	99.14	583.13	-14.22
1014	SLU 6	-25	43	3331	104.75	613.25	-9.98
1014	SLU 7	-25	53	3287	103.18	605.14	-12.64
1014	SLU 8	-25	42	3300	103.76	607.79	-9.87
1014	SLU 9	-25	53	3257	102.19	599.68	-12.53
1014	SLU 10	-27	63	3511	109.95	644.05	-14.91
1014	SLU 11	-28	46	3677	115.56	674.17	-10.67
1014	SLU 12	-28	57	3633	114	666.06	-13.33
1014	SLU 13	-27	63	3574	111.97	655.19	-15
1014	SLU 14	-29	46	3739	117.57	685.31	-10.76
1014	SLU 15	-28	57	3695	116.01	677.2	-13.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1014	SLU 16	-28	46	3709	116.59	679.85	-10.65
1014	SLU 17	-28	56	3665	115.02	671.74	-13.31
1014	SLU 18	-29	47	3760	118.06	688.44	-10.81
1014	SLU 19	-29	57	3716	116.5	680.33	-13.47
1014	SLU 20	-29	47	3822	120.07	699.59	-10.9
1014	SLU 21	-29	58	3778	118.51	691.48	-13.56
1014	SLU 22	-29	47	3728	117.28	683.58	-10.91
1014	SLU 23	-28	65	3655	114.67	670.07	-15.35
1014	SLU 24	-30	48	3821	120.28	700.19	-11.11
1014	SLU 25	-29	58	3777	118.71	692.08	-13.77
1014	SLU 26	-29	65	3717	116.68	681.21	-15.43
1014	SLU 27	-30	48	3883	122.29	711.33	-11.19
1014	SLU 28	-29	59	3839	120.73	703.22	-13.85
1014	SLU 29	-30	48	3852	121.31	705.87	-11.09
1014	SLU 30	-29	58	3808	119.74	697.76	-13.75
1014	SLU 31	-32	68	4063	127.5	742.13	-16.13
1014	SLU 32	-33	51	4229	133.11	772.25	-11.89
1014	SLU 33	-32	62	4185	131.54	764.14	-14.55
1014	SLU 34	-32	69	4125	129.51	753.27	-16.21
1014	SLU 35	-33	52	4291	135.12	783.39	-11.97
1014	SLU 36	-33	62	4247	133.56	775.29	-14.63
1014	SLU 37	-33	51	4261	134.14	777.93	-11.87
1014	SLU 38	-32	62	4217	132.57	769.82	-14.53
1014	SLU 39	-34	52	4312	135.61	786.53	-12.03
1014	SLU 40	-33	63	4268	134.04	778.42	-14.69
1014	SLU 41	-34	52	4374	137.62	797.67	-12.11
1014	SLU 42	-33	63	4330	136.06	789.56	-14.77
1014	SLU 43	-31	52	3940	123.64	727.52	-12.19
1014	SLU 44	-30	70	3867	121.03	714	-16.62
1014	SLU 45	-31	53	4033	126.64	744.12	-12.38
1014	SLU 46	-31	64	3989	125.07	736.02	-15.04
1014	SLU 47	-30	70	3929	123.04	725.15	-16.71
1014	SLU 48	-31	54	4095	128.65	755.27	-12.47
1014	SLU 49	-31	64	4051	127.08	747.16	-15.13
1014	SLU 50	-31	53	4064	127.66	749.81	-12.36
1014	SLU 51	-31	64	4020	126.1	741.7	-15.02
1014	SLU 52	-33	73	4275	133.86	786.07	-17.4
1014	SLU 53	-34	57	4441	139.46	816.19	-13.16
1014	SLU 54	-34	67	4397	137.9	808.08	-15.82
1014	SLU 55	-33	74	4337	135.87	797.21	-17.49
1014	SLU 56	-35	57	4503	141.48	827.33	-13.25
1014	SLU 57	-34	68	4459	139.91	819.22	-15.91
1014	SLU 58	-34	57	4473	140.49	821.87	-13.14
1014	SLU 59	-34	67	4429	138.93	813.76	-15.8
1014	SLU 60	-35	57	4524	141.96	830.46	-13.3
1014	SLU 61	-35	68	4480	140.4	822.36	-15.96
1014	SLU 62	-35	58	4586	143.98	841.61	-13.39
1014	SLU 63	-35	68	4542	142.41	833.5	-16.05
1014	SLU 64	-35	58	4492	141.18	825.6	-13.4
1014	SLU 65	-34	75	4419	138.57	812.09	-17.84
1014	SLU 66	-36	59	4584	144.18	842.21	-13.6
1014	SLU 67	-35	69	4540	142.62	834.1	-16.26
1014	SLU 68	-35	76	4481	140.59	823.23	-17.92
1014	SLU 69	-36	59	4646	146.2	853.35	-13.68
1014	SLU 70	-35	70	4603	144.63	845.24	-16.34
1014	SLU 71	-35	58	4616	145.21	847.89	-13.58
1014	SLU 72	-35	69	4572	143.64	839.78	-16.24
1014	SLU 73	-38	79	4827	151.4	884.15	-18.62
1014	SLU 74	-39	62	4993	157.01	914.27	-14.38
1014	SLU 75	-38	73	4949	155.45	906.16	-17.04
1014	SLU 76	-38	79	4889	153.42	895.29	-18.7
1014	SLU 77	-39	62	5055	159.02	925.41	-14.46
1014	SLU 78	-39	73	5011	157.46	917.31	-17.12
1014	SLU 79	-39	62	5024	158.04	919.95	-14.36
1014	SLU 80	-38	72	4980	156.47	911.85	-17.02
1014	SLU 81	-40	63	5075	159.51	928.55	-14.52
1014	SLU 82	-39	73	5031	157.95	920.44	-17.18
1014	SLU 83	-40	63	5137	161.52	939.69	-14.6
1014	SLU 84	-39	74	5093	159.96	931.58	-17.27
1014	SLE RA 1	-26	43	3334	104.75	613.52	-10.04
1014	SLE RA 2	-26	55	3285	103.01	604.51	-13
1014	SLE RA 3	-26	44	3396	106.74	624.59	-10.17
1014	SLE RA 4	-26	51	3366	105.7	619.19	-11.95
1014	SLE RA 5	-26	55	3327	104.35	611.94	-13.06
1014	SLE RA 6	-26	44	3437	108.09	632.02	-10.23
1014	SLE RA 7	-26	51	3408	107.04	626.62	-12
1014	SLE RA 8	-26	44	3417	107.43	628.38	-10.16
1014	SLE RA 9	-26	51	3387	106.39	622.98	-11.93
1014	SLE RA 10	-28	57	3557	111.56	652.55	-13.52
1014	SLE RA 11	-28	46	3668	115.3	672.63	-10.69
1014	SLE RA 12	-28	53	3639	114.25	667.23	-12.47
1014	SLE RA 13	-28	58	3599	112.9	659.98	-13.58
1014	SLE RA 14	-29	46	3709	116.64	680.06	-10.75
1014	SLE RA 15	-28	53	3680	115.6	674.66	-12.52
1014	SLE RA 16	-28	46	3689	115.98	676.42	-10.68
1014	SLE RA 17	-28	53	3660	114.94	671.02	-12.45
1014	SLE RA 18	-29	47	3723	116.96	682.15	-10.79
1014	SLE RA 19	-29	54	3694	115.92	676.75	-12.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1014	SLE RA 20	-29	47	3764	118.31	689.58	-10.84
1014	SLE RA 21	-29	54	3735	117.26	684.18	-12.62
1014	SLE FR 1	-26	43	3334	104.75	613.52	-10.04
1014	SLE FR 2	-26	46	3324	104.4	611.72	-10.63
1014	SLE FR 3	-26	43	3351	105.28	616.49	-10.07
1014	SLE FR 4	-27	47	3441	108.06	632.31	-10.86
1014	SLE FR 5	-27	44	3467	108.95	637.08	-10.29
1014	SLE FR 6	-28	45	3528	110.85	647.84	-10.41
1014	SLE QP 1	-26	43	3334	104.75	613.52	-10.04
1014	SLE QP 2	-27	44	3451	108.41	634.11	-10.27
1014	SLD 1	386	175	3060	93.9	569.52	-53.81
1014	SLD 2	316	153	3081	94.72	573.57	-46.29
1014	SLD 3	375	-43	4160	132.96	773.28	0.84
1014	SLD 4	306	-64	4181	133.78	777.33	8.36
1014	SLD 5	125	417	1661	44.68	304.99	-107.51
1014	SLD 6	80	403	1674	45.21	307.6	-102.67
1014	SLD 7	90	-308	5329	174.87	984.21	74.66
1014	SLD 8	45	-322	5343	175.4	986.82	79.5
1014	SLD 9	-98	410	1559	41.42	281.4	-100.03
1014	SLD 10	-143	397	1572	41.95	284.01	-95.19
1014	SLD 11	-134	-315	5227	171.61	960.62	82.14
1014	SLD 12	-179	-328	5241	172.14	963.23	86.97
1014	SLD 13	-360	153	2720	83.04	490.89	-28.89
1014	SLD 14	-429	131	2741	83.87	494.93	-21.38
1014	SLD 15	-370	-65	3821	122.1	694.65	25.76
1014	SLD 16	-440	-86	3842	122.92	698.7	33.27
1014	SLV 1	621	264	2760	82.91	518.39	-82.32
1014	SLV 2	511	230	2793	84.21	524.77	-70.47
1014	SLV 3	603	-107	4638	149.56	866.11	10.88
1014	SLV 4	493	-141	4671	150.86	872.5	22.72
1014	SLV 5	215	679	389	-0.56	70.82	-175.43
1014	SLV 6	141	656	411	0.31	75.11	-167.46
1014	SLV 7	155	-558	6649	221.59	1229.9	135.21
1014	SLV 8	81	-580	6671	222.47	1234.2	143.18
1014	SLV 9	-135	668	230	-5.64	34.02	-163.71
1014	SLV 10	-209	646	253	-4.77	38.31	-155.74
1014	SLV 11	-195	-568	6490	216.51	1193.1	146.93
1014	SLV 12	-269	-591	6512	217.38	1197.4	154.9
1014	SLV 13	-546	229	2230	65.97	395.72	-43.25
1014	SLV 14	-656	195	2264	67.27	402.1	-31.41
1014	SLV 15	-564	-142	4108	132.61	743.45	49.94
1014	SLV 16	-674	-175	4142	133.91	749.83	61.78
1014	SLV FO 1	685	286	2691	80.36	506.82	-89.52
1014	SLV FO 2	564	249	2728	81.79	513.84	-76.49
1014	SLV FO 3	666	-122	4756	153.67	889.31	12.99
1014	SLV FO 4	545	-159	4793	155.1	896.33	26.02
1014	SLV FO 5	239	742	83	-11.46	14.49	-191.95
1014	SLV FO 6	158	718	108	-10.5	19.21	-183.18
1014	SLV FO 7	173	-618	6969	232.91	1289.48	149.76
1014	SLV FO 8	92	-642	6993	233.87	1294.21	158.53
1014	SLV FO 9	-146	731	-92	-17.05	-25.99	-179.06
1014	SLV FO 10	-227	706	-67	-16.09	-21.27	-170.29
1014	SLV FO 11	-212	-629	6794	227.32	1249	162.65
1014	SLV FO 12	-293	-654	6819	228.28	1253.73	171.42
1014	SLV FO 13	-598	247	2108	61.72	371.88	-46.55
1014	SLV FO 14	-719	211	2145	63.15	378.9	-33.52
1014	SLV FO 15	-618	-161	4174	135.03	754.38	55.96
1014	SLV FO 16	-739	-197	4211	136.46	761.4	68.99
1014	CRTFP Ux+	0	0	0	0	0	0
1014	CRTFP Ux-	0	0	0	0	0	0
1014	CRTFP Uy+	0	0	0	0	0	0
1014	CRTFP Uy-	0	0	0	0	0	0
1016	SLU 1	10	51	6191	191.09	-26.37	0.49
1016	SLU 2	8	90	6046	186.1	-26.24	0.51
1016	SLU 3	10	52	6367	196.73	-27.16	0.5
1016	SLU 4	10	75	6280	193.74	-27.08	0.51
1016	SLU 5	9	90	6163	189.85	-26.73	0.5
1016	SLU 6	11	52	6484	200.48	-27.66	0.48
1016	SLU 7	10	75	6397	197.49	-27.57	0.5
1016	SLU 8	11	51	6425	198.59	-27.36	0.47
1016	SLU 9	11	75	6338	195.6	-27.28	0.48
1016	SLU 10	6	95	6845	210.6	-28.94	0.78
1016	SLU 11	8	57	7166	221.22	-29.86	0.77
1016	SLU 12	7	80	7079	218.23	-29.78	0.78
1016	SLU 13	7	95	6962	214.35	-29.44	0.77
1016	SLU 14	9	57	7283	224.97	-30.36	0.76
1016	SLU 15	8	80	7196	221.98	-30.28	0.77
1016	SLU 16	9	56	7224	223.09	-30.07	0.74
1016	SLU 17	8	79	7137	220.09	-29.99	0.75
1016	SLU 18	6	58	7332	226.08	-30.24	0.88
1016	SLU 19	6	82	7245	223.09	-30.15	0.89
1016	SLU 20	7	58	7449	229.83	-30.73	0.87
1016	SLU 21	6	82	7362	226.84	-30.65	0.88
1016	SLU 22	8	59	7264	224.46	-30.09	0.76
1016	SLU 23	7	98	7119	219.47	-29.95	0.78
1016	SLU 24	8	59	7440	230.1	-30.87	0.77
1016	SLU 25	8	83	7353	227.1	-30.79	0.78
1016	SLU 26	7	98	7236	223.22	-30.44	0.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLU 27	9	59	7557	233.85	-31.37	0.75
1016	SLU 28	9	83	7470	230.85	-31.28	0.77
1016	SLU 29	10	59	7498	231.96	-31.07	0.73
1016	SLU 30	9	82	7411	228.96	-30.99	0.75
1016	SLU 31	4	103	7917	243.97	-32.65	1.05
1016	SLU 32	6	64	8239	254.59	-33.58	1.04
1016	SLU 33	5	88	8152	251.6	-33.49	1.05
1016	SLU 34	5	102	8034	247.72	-33.15	1.04
1016	SLU 35	7	64	8356	258.34	-34.07	1.03
1016	SLU 36	6	87	8269	255.35	-33.99	1.04
1016	SLU 37	7	64	8297	256.45	-33.78	1.01
1016	SLU 38	7	87	8210	253.46	-33.7	1.02
1016	SLU 39	4	66	8405	259.45	-33.95	1.15
1016	SLU 40	4	89	8318	256.46	-33.87	1.16
1016	SLU 41	5	66	8522	263.2	-34.44	1.14
1016	SLU 42	5	89	8435	260.21	-34.36	1.15
1016	SLU 43	13	64	7680	236.98	-33.01	0.55
1016	SLU 44	12	103	7535	231.99	-32.88	0.57
1016	SLU 45	14	65	7857	242.62	-33.8	0.55
1016	SLU 46	13	88	7770	239.62	-33.72	0.56
1016	SLU 47	13	103	7652	235.74	-33.37	0.55
1016	SLU 48	15	65	7974	246.37	-34.29	0.54
1016	SLU 49	14	88	7887	243.37	-34.21	0.55
1016	SLU 50	15	64	7915	244.48	-34	0.52
1016	SLU 51	14	87	7827	241.48	-33.92	0.53
1016	SLU 52	10	108	8334	256.49	-35.58	0.84
1016	SLU 53	11	70	8656	267.11	-36.5	0.83
1016	SLU 54	11	93	8569	264.12	-36.42	0.84
1016	SLU 55	11	108	8451	260.24	-36.07	0.83
1016	SLU 56	12	70	8773	270.86	-37	0.81
1016	SLU 57	12	93	8686	267.87	-36.92	0.82
1016	SLU 58	13	69	8713	268.97	-36.71	0.79
1016	SLU 59	12	92	8626	265.98	-36.62	0.8
1016	SLU 60	10	71	8822	271.97	-36.88	0.94
1016	SLU 61	9	95	8735	268.98	-36.79	0.95
1016	SLU 62	11	71	8939	275.72	-37.37	0.92
1016	SLU 63	10	95	8852	272.73	-37.29	0.94
1016	SLU 64	11	72	8753	270.34	-36.72	0.82
1016	SLU 65	10	111	8608	265.36	-36.59	0.83
1016	SLU 66	12	72	8930	275.98	-37.51	0.82
1016	SLU 67	11	96	8843	272.99	-37.43	0.83
1016	SLU 68	11	110	8725	269.11	-37.08	0.82
1016	SLU 69	13	72	9047	279.73	-38.01	0.81
1016	SLU 70	12	96	8960	276.74	-37.92	0.82
1016	SLU 71	13	72	8987	277.84	-37.71	0.79
1016	SLU 72	12	95	8900	274.85	-37.63	0.8
1016	SLU 73	8	115	9407	289.85	-39.29	1.11
1016	SLU 74	10	77	9729	300.48	-40.22	1.1
1016	SLU 75	9	100	9641	297.49	-40.13	1.11
1016	SLU 76	9	115	9524	293.6	-39.79	1.1
1016	SLU 77	11	77	9846	304.23	-40.71	1.08
1016	SLU 78	10	100	9758	301.24	-40.63	1.09
1016	SLU 79	11	77	9786	302.34	-40.42	1.06
1016	SLU 80	10	100	9699	299.35	-40.34	1.07
1016	SLU 81	8	79	9894	305.34	-40.59	1.21
1016	SLU 82	7	102	9807	302.35	-40.51	1.22
1016	SLU 83	9	79	10012	309.09	-41.08	1.19
1016	SLU 84	8	102	9924	306.1	-41	1.2
1016	SLE RA 1	9	54	6498	200.62	-27.43	0.57
1016	SLE RA 2	8	79	6401	197.3	-27.34	0.58
1016	SLE RA 3	10	54	6615	204.38	-27.96	0.57
1016	SLE RA 4	9	69	6557	202.39	-27.9	0.58
1016	SLE RA 5	9	79	6479	199.8	-27.67	0.57
1016	SLE RA 6	10	54	6693	206.88	-28.29	0.56
1016	SLE RA 7	10	69	6635	204.89	-28.23	0.57
1016	SLE RA 8	10	53	6654	205.62	-28.09	0.55
1016	SLE RA 9	10	69	6596	203.63	-28.04	0.56
1016	SLE RA 10	7	83	6933	213.63	-29.15	0.76
1016	SLE RA 11	8	57	7148	220.71	-29.76	0.76
1016	SLE RA 12	8	73	7090	218.72	-29.71	0.76
1016	SLE RA 13	7	83	7011	216.13	-29.48	0.75
1016	SLE RA 14	9	57	7226	223.21	-30.09	0.75
1016	SLE RA 15	8	73	7168	221.22	-30.04	0.75
1016	SLE RA 16	9	57	7186	221.95	-29.9	0.73
1016	SLE RA 17	8	72	7128	219.96	-29.84	0.74
1016	SLE RA 18	7	58	7258	223.95	-30.01	0.83
1016	SLE RA 19	6	74	7200	221.96	-29.95	0.84
1016	SLE RA 20	7	58	7336	226.45	-30.34	0.82
1016	SLE RA 21	7	74	7278	224.46	-30.28	0.83
1016	SLE FR 1	9	54	6498	200.62	-27.43	0.57
1016	SLE FR 2	9	59	6478	199.96	-27.42	0.57
1016	SLE FR 3	9	54	6529	201.62	-27.57	0.57
1016	SLE FR 4	8	60	6706	206.96	-28.19	0.65
1016	SLE FR 5	9	55	6757	208.62	-28.34	0.64
1016	SLE FR 6	8	56	6878	212.29	-28.72	0.7
1016	SLE QP 1	9	54	6498	200.62	-27.43	0.57
1016	SLE QP 2	8	55	6726	207.62	-28.21	0.65
1016	SLD 1	802	262	5165	156.22	-1.29	-27.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLD 2	666	302	5151	155.65	-0.87	-20.87
1016	SLD 3	823	-228	7351	231.12	-3.72	-27.76
1016	SLD 4	687	-188	7337	230.55	-3.31	-21.39
1016	SLD 5	239	855	2944	78.7	-16.51	-8.02
1016	SLD 6	151	880	2935	78.33	-16.24	-3.92
1016	SLD 7	308	-781	10232	328.37	-24.62	-9.76
1016	SLD 8	220	-755	10223	328	-24.36	-5.66
1016	SLD 9	-203	865	3229	87.24	-32.06	6.96
1016	SLD 10	-291	891	3220	86.88	-31.79	11.06
1016	SLD 11	-134	-770	10516	336.91	-40.17	5.21
1016	SLD 12	-222	-745	10508	336.54	-39.9	9.31
1016	SLD 13	-670	298	6114	184.69	-53.11	22.68
1016	SLD 14	-806	338	6100	184.12	-52.69	29.05
1016	SLD 15	-649	-192	8300	259.59	-55.54	22.16
1016	SLD 16	-786	-153	8287	259.02	-55.13	28.53
1016	SLV 1	1250	413	4131	121.94	13.95	-43
1016	SLV 2	1035	476	4109	121.05	14.61	-32.97
1016	SLV 3	1286	-424	7862	249.76	9.81	-43.88
1016	SLV 4	1070	-361	7840	248.87	10.46	-33.84
1016	SLV 5	368	1420	293	-11.77	-9.39	-13
1016	SLV 6	223	1462	278	-12.38	-8.95	-6.24
1016	SLV 7	485	-1370	12729	414.29	-23.21	-15.9
1016	SLV 8	340	-1327	12714	413.69	-22.77	-9.15
1016	SLV 9	-324	1437	737	1.56	-33.64	10.44
1016	SLV 10	-468	1480	722	0.95	-33.2	17.2
1016	SLV 11	-206	-1352	13173	427.62	-47.46	7.54
1016	SLV 12	-351	-1310	13159	427.02	-47.02	14.29
1016	SLV 13	-1054	471	5611	166.38	-66.88	35.13
1016	SLV 14	-1269	534	5590	165.48	-66.22	45.17
1016	SLV 15	-1018	-366	9342	294.2	-71.02	34.26
1016	SLV 16	-1234	-303	9321	293.3	-70.37	44.3
1016	SLV FO 1	1375	449	3871	113.38	18.17	-47.37
1016	SLV FO 2	1138	518	3848	112.39	18.89	-36.33
1016	SLV FO 3	1414	-472	7975	253.98	13.61	-48.33
1016	SLV FO 4	1177	-402	7952	252.99	14.33	-37.29
1016	SLV FO 5	404	1556	-350	-33.71	-7.51	-14.36
1016	SLV FO 6	244	1603	-366	-34.38	-7.02	-6.93
1016	SLV FO 7	533	-1512	13329	434.96	-22.71	-17.56
1016	SLV FO 8	374	-1465	13313	434.29	-22.23	-10.13
1016	SLV FO 9	-357	1575	138	-19.05	-34.18	11.42
1016	SLV FO 10	-516	1622	122	-19.71	-33.7	18.85
1016	SLV FO 11	-227	-1493	13818	449.62	-49.39	8.22
1016	SLV FO 12	-387	-1446	13802	448.96	-48.9	15.66
1016	SLV FO 13	-1160	512	5500	162.26	-70.74	38.58
1016	SLV FO 14	-1397	581	5476	161.27	-70.02	49.62
1016	SLV FO 15	-1121	-408	9604	302.86	-75.3	37.62
1016	SLV FO 16	-1358	-339	9580	301.87	-74.58	48.66
1016	CRTFP Ux+	0	0	0	0	0	0
1016	CRTFP Ux-	0	0	0	0	0	0
1016	CRTFP Uy+	0	0	0	0	0	0
1016	CRTFP Uy-	0	0	0	0	0	0
1020	SLU 1	29	19	2892	54.17	674.27	-5.03
1020	SLU 2	28	32	2820	52.72	659.14	-8.06
1020	SLU 3	31	20	2977	55.77	693.41	-5.14
1020	SLU 4	30	27	2934	54.9	684.33	-6.96
1020	SLU 5	29	32	2877	53.8	671.91	-8.14
1020	SLU 6	31	20	3035	56.84	706.18	-5.22
1020	SLU 7	31	27	2991	55.97	697.11	-7.03
1020	SLU 8	31	20	3007	56.31	699.81	-5.19
1020	SLU 9	30	27	2964	55.45	690.74	-7
1020	SLU 10	30	34	3186	59.49	742.78	-8.68
1020	SLU 11	32	22	3343	62.53	777.05	-5.76
1020	SLU 12	31	30	3299	61.67	767.97	-7.58
1020	SLU 13	30	34	3243	60.56	755.56	-8.76
1020	SLU 14	33	23	3400	63.61	789.82	-5.84
1020	SLU 15	32	30	3357	62.74	780.75	-7.65
1020	SLU 16	33	22	3372	63.08	783.46	-5.81
1020	SLU 17	32	30	3329	62.22	774.38	-7.63
1020	SLU 18	32	23	3414	63.83	793.75	-5.92
1020	SLU 19	31	30	3371	62.97	784.68	-7.74
1020	SLU 20	33	23	3472	64.91	806.53	-6
1020	SLU 21	32	31	3428	64.04	797.45	-7.82
1020	SLU 22	33	22	3390	63.45	787.41	-5.6
1020	SLU 23	31	34	3318	62.01	772.28	-8.62
1020	SLU 24	34	22	3475	65.05	806.55	-5.7
1020	SLU 25	33	29	3432	64.19	797.48	-7.52
1020	SLU 26	32	34	3375	63.09	785.06	-8.7
1020	SLU 27	35	22	3532	66.13	819.33	-5.78
1020	SLU 28	34	30	3489	65.26	810.25	-7.6
1020	SLU 29	34	22	3505	65.6	812.96	-5.75
1020	SLU 30	34	29	3461	64.74	803.88	-7.57
1020	SLU 31	33	36	3683	68.78	855.93	-9.25
1020	SLU 32	35	24	3840	71.82	890.19	-6.33
1020	SLU 33	34	32	3797	70.95	881.12	-8.14
1020	SLU 34	34	37	3740	69.85	868.7	-9.32
1020	SLU 35	36	25	3898	72.89	902.97	-6.4
1020	SLU 36	35	32	3854	72.03	893.89	-8.22
1020	SLU 37	36	25	3870	72.37	896.6	-6.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1020	SLU 38	35	32	3827	71.5	887.53	-8.19
1020	SLU 39	35	25	3912	73.12	906.9	-6.49
1020	SLU 40	34	32	3869	72.25	897.82	-8.3
1020	SLU 41	36	25	3969	74.19	919.67	-6.56
1020	SLU 42	35	33	3926	73.33	910.6	-8.38
1020	SLU 43	37	24	3590	67.23	837.75	-6.35
1020	SLU 44	36	37	3517	65.79	822.63	-9.38
1020	SLU 45	38	25	3674	68.83	856.89	-6.46
1020	SLU 46	37	32	3631	67.97	847.82	-8.27
1020	SLU 47	37	37	3575	66.86	835.4	-9.45
1020	SLU 48	39	25	3732	69.9	869.67	-6.53
1020	SLU 49	38	32	3688	69.04	860.59	-8.35
1020	SLU 50	39	25	3704	69.38	863.3	-6.51
1020	SLU 51	38	32	3661	68.51	854.23	-8.32
1020	SLU 52	37	39	3883	72.56	906.27	-10
1020	SLU 53	40	27	4040	75.6	940.54	-7.08
1020	SLU 54	39	35	3996	74.73	931.46	-8.9
1020	SLU 55	38	39	3940	73.63	919.04	-10.08
1020	SLU 56	41	28	4097	76.67	953.31	-7.16
1020	SLU 57	40	35	4054	75.81	944.24	-8.97
1020	SLU 58	41	27	4069	76.15	946.94	-7.13
1020	SLU 59	40	35	4026	75.28	937.87	-8.94
1020	SLU 60	39	28	4111	76.9	957.24	-7.24
1020	SLU 61	39	35	4068	76.03	948.17	-9.06
1020	SLU 62	40	28	4169	77.97	970.02	-7.32
1020	SLU 63	39	36	4125	77.11	960.94	-9.13
1020	SLU 64	40	27	4087	76.52	950.9	-6.92
1020	SLU 65	39	39	4015	75.08	935.77	-9.94
1020	SLU 66	41	27	4172	78.12	970.04	-7.02
1020	SLU 67	41	34	4129	77.25	960.96	-8.84
1020	SLU 68	40	39	4072	76.15	948.55	-10.02
1020	SLU 69	42	27	4229	79.19	982.81	-7.1
1020	SLU 70	41	35	4186	78.33	973.74	-8.91
1020	SLU 71	42	27	4202	78.67	976.45	-7.07
1020	SLU 72	41	34	4158	77.8	967.37	-8.89
1020	SLU 73	40	41	4380	81.84	1019.41	-10.56
1020	SLU 74	43	30	4537	84.88	1053.68	-7.64
1020	SLU 75	42	37	4494	84.02	1044.61	-9.46
1020	SLU 76	41	42	4438	82.92	1032.19	-10.64
1020	SLU 77	44	30	4595	85.96	1066.46	-7.72
1020	SLU 78	43	37	4551	85.09	1057.38	-9.54
1020	SLU 79	44	30	4567	85.43	1060.09	-7.69
1020	SLU 80	43	37	4524	84.57	1051.01	-9.51
1020	SLU 81	43	30	4609	86.18	1070.39	-7.8
1020	SLU 82	42	38	4566	85.32	1061.31	-9.62
1020	SLU 83	43	30	4666	87.26	1083.16	-7.88
1020	SLU 84	43	38	4623	86.39	1074.09	-9.7
1020	SLE RA 1	30	20	3035	56.82	706.59	-5.2
1020	SLE RA 2	29	28	2986	55.86	696.51	-7.21
1020	SLE RA 3	31	20	3091	57.89	719.35	-5.27
1020	SLE RA 4	30	25	3062	57.31	713.3	-6.48
1020	SLE RA 5	30	28	3025	56.57	705.02	-7.26
1020	SLE RA 6	32	20	3129	58.6	727.87	-5.32
1020	SLE RA 7	31	25	3100	58.03	721.82	-6.53
1020	SLE RA 8	32	20	3111	58.25	723.63	-5.3
1020	SLE RA 9	31	25	3082	57.67	717.57	-6.51
1020	SLE RA 10	30	30	3230	60.37	752.27	-7.63
1020	SLE RA 11	32	22	3335	62.4	775.12	-5.68
1020	SLE RA 12	32	27	3306	61.82	769.07	-6.89
1020	SLE RA 13	31	30	3268	61.09	760.79	-7.68
1020	SLE RA 14	33	22	3373	63.11	783.63	-5.73
1020	SLE RA 15	32	27	3344	62.54	777.58	-6.94
1020	SLE RA 16	33	22	3355	62.76	779.39	-5.71
1020	SLE RA 17	32	27	3326	62.19	773.34	-6.92
1020	SLE RA 18	32	22	3383	63.26	786.25	-5.79
1020	SLE RA 19	31	27	3354	62.69	780.2	-7
1020	SLE RA 20	32	23	3421	63.98	794.77	-5.84
1020	SLE RA 21	32	27	3392	63.4	788.72	-7.05
1020	SLE FR 1	30	20	3035	56.82	706.59	-5.2
1020	SLE FR 2	30	22	3025	56.63	704.58	-5.6
1020	SLE FR 3	31	20	3050	57.11	710	-5.22
1020	SLE FR 4	31	22	3129	58.56	728.47	-5.78
1020	SLE FR 5	31	21	3154	59.04	733.9	-5.39
1020	SLE FR 6	31	21	3209	60.04	746.42	-5.49
1020	SLE QP 1	30	20	3035	56.82	706.59	-5.2
1020	SLE QP 2	31	21	3139	58.75	730.49	-5.37
1020	SLD 1	314	95	2178	38.58	498	-28.66
1020	SLD 2	261	130	2128	37.78	492.3	-36.33
1020	SLD 3	336	-58	3261	60.17	727.16	9.54
1020	SLD 4	282	-23	3211	59.36	721.46	1.86
1020	SLD 5	92	270	1217	20.1	314.17	-68.97
1020	SLD 6	57	293	1185	19.58	310.49	-73.92
1020	SLD 7	165	-242	4827	92.06	1078.03	58.36
1020	SLD 8	130	-220	4794	91.54	1074.36	53.41
1020	SLD 9	-69	261	1484	25.96	386.62	-64.16
1020	SLD 10	-103	284	1451	25.45	382.95	-69.1
1020	SLD 11	4	-251	5093	97.93	1150.49	63.17
1020	SLD 12	-30	-229	5061	97.41	1146.82	58.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1020	SLD 13	-221	65	3067	58.14	739.52	-12.61
1020	SLD 14	-274	100	3017	57.34	733.82	-20.29
1020	SLD 15	-199	-89	4150	79.73	968.68	25.59
1020	SLD 16	-253	-54	4100	78.93	962.98	17.91
1020	SLV 1	473	148	1561	25.7	351.01	-44.49
1020	SLV 2	389	204	1482	24.44	342.02	-56.59
1020	SLV 3	510	-114	3409	62.55	742.1	20.68
1020	SLV 4	426	-59	3330	61.28	733.12	8.58
1020	SLV 5	123	447	-122	-6.8	25.16	-113.69
1020	SLV 6	66	484	-175	-7.66	19.11	-121.83
1020	SLV 7	247	-428	6037	116	1328.82	103.54
1020	SLV 8	190	-391	5984	115.15	1322.77	95.39
1020	SLV 9	-128	432	294	2.35	138.21	-106.14
1020	SLV 10	-185	469	241	1.5	132.17	-114.29
1020	SLV 11	-4	-442	6454	125.16	1441.87	111.09
1020	SLV 12	-61	-405	6400	124.31	1435.82	102.94
1020	SLV 13	-364	100	2948	56.23	727.86	-19.33
1020	SLV 14	-449	155	2869	54.96	718.88	-31.43
1020	SLV 15	-327	-162	4796	93.07	1118.96	45.84
1020	SLV 16	-412	-107	4717	91.8	1109.97	33.74
1020	SLV FO 1	518	161	1403	22.4	313.06	-48.4
1020	SLV FO 2	424	222	1316	21.01	303.17	-61.71
1020	SLV FO 3	558	-127	3436	62.93	743.27	23.29
1020	SLV FO 4	465	-67	3349	61.53	733.38	9.97
1020	SLV FO 5	132	489	-448	-13.36	-45.38	-124.52
1020	SLV FO 6	69	530	-507	-14.3	-52.03	-133.48
1020	SLV FO 7	269	-473	6327	121.73	1388.65	114.43
1020	SLV FO 8	206	-432	6269	120.79	1381.99	105.47
1020	SLV FO 9	-144	473	9	-3.29	78.99	-116.22
1020	SLV FO 10	-207	514	-49	-4.22	72.33	-125.18
1020	SLV FO 11	-8	-489	6785	131.8	1513.01	122.73
1020	SLV FO 12	-70	-448	6727	130.86	1506.36	113.77
1020	SLV FO 13	-404	108	2929	55.97	727.6	-20.72
1020	SLV FO 14	-497	169	2842	54.58	717.72	-34.03
1020	SLV FO 15	-363	-180	4962	96.5	1157.81	50.96
1020	SLV FO 16	-456	-120	4875	95.11	1147.92	37.65
1020	CRTFP Ux+	0	0	0	0	0	0
1020	CRTFP Ux-	0	0	0	0	0	0
1020	CRTFP Uy+	0	0	0	0	0	0
1020	CRTFP Uy-	0	0	0	0	0	0
1023	SLU 1	-29	8	2109	0.83	-658.13	2.41
1023	SLU 2	-28	17	2059	0.77	-642.17	5.41
1023	SLU 3	-30	8	2172	0.87	-677.6	2.43
1023	SLU 4	-29	13	2141	0.83	-668.02	4.23
1023	SLU 5	-28	17	2101	0.8	-655.31	5.42
1023	SLU 6	-30	8	2214	0.89	-690.74	2.45
1023	SLU 7	-30	13	2183	0.85	-681.16	4.24
1023	SLU 8	-30	8	2193	0.88	-684.41	2.44
1023	SLU 9	-29	13	2163	0.84	-674.83	4.23
1023	SLU 10	-31	18	2328	0.86	-726.03	5.72
1023	SLU 11	-33	9	2441	0.96	-761.46	2.75
1023	SLU 12	-32	14	2410	0.92	-751.89	4.55
1023	SLU 13	-31	18	2370	0.89	-739.17	5.74
1023	SLU 14	-33	9	2483	0.98	-774.6	2.76
1023	SLU 15	-32	14	2452	0.95	-765.03	4.56
1023	SLU 16	-33	9	2462	0.97	-768.28	2.75
1023	SLU 17	-32	14	2432	0.94	-758.7	4.55
1023	SLU 18	-33	9	2493	0.97	-777.94	2.86
1023	SLU 19	-33	15	2463	0.93	-768.36	4.66
1023	SLU 20	-34	9	2536	0.99	-791.08	2.88
1023	SLU 21	-33	15	2505	0.95	-781.5	4.67
1023	SLU 22	-34	8	2476	0.99	-772.49	2.62
1023	SLU 23	-32	17	2425	0.93	-756.53	5.61
1023	SLU 24	-34	8	2538	1.03	-791.96	2.64
1023	SLU 25	-34	14	2508	0.99	-782.38	4.44
1023	SLU 26	-33	18	2467	0.95	-769.67	5.63
1023	SLU 27	-35	8	2580	1.05	-805.1	2.65
1023	SLU 28	-34	14	2550	1.01	-795.52	4.45
1023	SLU 29	-34	8	2560	1.04	-798.77	2.64
1023	SLU 30	-34	14	2530	1	-789.19	4.44
1023	SLU 31	-35	18	2694	1.02	-840.39	5.93
1023	SLU 32	-37	9	2807	1.12	-875.82	2.96
1023	SLU 33	-36	15	2777	1.08	-866.25	4.76
1023	SLU 34	-36	19	2736	1.05	-853.53	5.94
1023	SLU 35	-38	9	2849	1.14	-888.96	2.97
1023	SLU 36	-37	15	2819	1.1	-879.39	4.77
1023	SLU 37	-37	9	2829	1.13	-882.63	2.96
1023	SLU 38	-37	15	2799	1.09	-873.06	4.76
1023	SLU 39	-38	10	2860	1.12	-892.3	3.07
1023	SLU 40	-37	15	2830	1.09	-882.72	4.87
1023	SLU 41	-38	10	2902	1.15	-905.44	3.08
1023	SLU 42	-37	15	2872	1.11	-895.86	4.88
1023	SLU 43	-36	10	2616	1.03	-816.36	3.06
1023	SLU 44	-35	19	2566	0.97	-800.4	6.06
1023	SLU 45	-37	10	2679	1.06	-835.83	3.09
1023	SLU 46	-36	15	2648	1.03	-826.25	4.88
1023	SLU 47	-36	19	2608	0.99	-813.54	6.07
1023	SLU 48	-37	10	2721	1.09	-848.97	3.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLU 49	-37	15	2690	1.05	-839.39	4.9
1023	SLU 50	-37	10	2701	1.08	-842.64	3.09
1023	SLU 51	-36	15	2670	1.04	-833.06	4.88
1023	SLU 52	-38	20	2835	1.06	-884.26	6.38
1023	SLU 53	-40	11	2948	1.16	-919.69	3.4
1023	SLU 54	-39	16	2917	1.12	-910.12	5.2
1023	SLU 55	-38	20	2877	1.08	-897.4	6.39
1023	SLU 56	-40	11	2990	1.18	-932.83	3.42
1023	SLU 57	-40	16	2959	1.14	-923.26	5.21
1023	SLU 58	-40	11	2969	1.17	-926.51	3.41
1023	SLU 59	-39	16	2939	1.13	-916.93	5.2
1023	SLU 60	-40	11	3001	1.16	-936.17	3.52
1023	SLU 61	-40	17	2970	1.12	-926.59	5.31
1023	SLU 62	-41	11	3043	1.18	-949.31	3.53
1023	SLU 63	-40	17	3012	1.15	-939.73	5.33
1023	SLU 64	-41	10	2983	1.19	-930.72	3.27
1023	SLU 65	-40	20	2932	1.13	-914.76	6.27
1023	SLU 66	-41	10	3045	1.22	-950.19	3.29
1023	SLU 67	-41	16	3015	1.18	-940.61	5.09
1023	SLU 68	-40	20	2974	1.15	-927.89	6.28
1023	SLU 69	-42	10	3087	1.25	-963.33	3.31
1023	SLU 70	-41	16	3057	1.21	-953.75	5.1
1023	SLU 71	-42	10	3067	1.24	-957	3.3
1023	SLU 72	-41	16	3037	1.2	-947.42	5.09
1023	SLU 73	-43	21	3201	1.22	-998.62	6.58
1023	SLU 74	-44	11	3314	1.31	-1034.05	3.61
1023	SLU 75	-44	17	3284	1.28	-1024.48	5.41
1023	SLU 76	-43	21	3243	1.24	-1011.76	6.6
1023	SLU 77	-45	11	3356	1.34	-1047.19	3.62
1023	SLU 78	-44	17	3326	1.3	-1037.62	5.42
1023	SLU 79	-44	11	3336	1.33	-1040.86	3.61
1023	SLU 80	-44	17	3306	1.29	-1031.29	5.41
1023	SLU 81	-45	12	3367	1.32	-1050.53	3.72
1023	SLU 82	-44	17	3337	1.28	-1040.95	5.52
1023	SLU 83	-45	12	3409	1.34	-1063.67	3.74
1023	SLU 84	-45	17	3379	1.31	-1054.09	5.53
1023	SLE RA 1	-30	8	2214	0.88	-690.8	2.47
1023	SLE RA 2	-30	14	2180	0.84	-680.16	4.47
1023	SLE RA 3	-31	8	2256	0.9	-703.78	2.49
1023	SLE RA 4	-30	12	2235	0.88	-697.4	3.68
1023	SLE RA 5	-30	14	2208	0.85	-688.92	4.48
1023	SLE RA 6	-31	8	2284	0.92	-712.54	2.49
1023	SLE RA 7	-31	12	2263	0.89	-706.16	3.69
1023	SLE RA 8	-31	8	2270	0.91	-708.32	2.49
1023	SLE RA 9	-30	12	2250	0.89	-701.94	3.68
1023	SLE RA 10	-32	15	2360	0.9	-736.07	4.68
1023	SLE RA 11	-33	9	2435	0.96	-759.69	2.7
1023	SLE RA 12	-32	12	2415	0.94	-753.31	3.9
1023	SLE RA 13	-32	15	2388	0.91	-744.83	4.69
1023	SLE RA 14	-33	9	2463	0.98	-768.45	2.71
1023	SLE RA 15	-33	12	2443	0.95	-762.07	3.9
1023	SLE RA 16	-33	9	2449	0.97	-764.23	2.7
1023	SLE RA 17	-32	12	2429	0.95	-757.85	3.9
1023	SLE RA 18	-33	9	2470	0.97	-770.68	2.77
1023	SLE RA 19	-33	12	2450	0.94	-764.29	3.97
1023	SLE RA 20	-33	9	2498	0.98	-779.44	2.78
1023	SLE RA 21	-33	12	2478	0.96	-773.05	3.98
1023	SLE FR 1	-30	8	2214	0.88	-690.8	2.47
1023	SLE FR 2	-30	9	2207	0.87	-688.67	2.87
1023	SLE FR 3	-30	8	2225	0.88	-694.31	2.47
1023	SLE FR 4	-31	9	2284	0.9	-712.64	2.96
1023	SLE FR 5	-31	8	2302	0.91	-718.27	2.56
1023	SLE FR 6	-32	8	2342	0.92	-730.74	2.62
1023	SLE QP 1	-30	8	2214	0.88	-690.8	2.47
1023	SLE QP 2	-31	8	2291	0.9	-714.76	2.56
1023	SLD 1	190	65	2207	0.65	-683.45	21.02
1023	SLD 2	151	39	2244	0.69	-694.92	12.43
1023	SLD 3	175	-50	2966	1.59	-922.36	-16.42
1023	SLD 4	136	-77	3003	1.63	-933.83	-25.02
1023	SLD 5	65	204	1109	-0.59	-341.05	66.37
1023	SLD 6	40	187	1132	-0.57	-348.44	60.83
1023	SLD 7	15	-179	3638	2.52	-1137.42	-58.45
1023	SLD 8	-11	-196	3662	2.54	-1144.81	-63.98
1023	SLD 9	-52	213	920	-0.74	-284.72	69.1
1023	SLD 10	-77	196	944	-0.71	-292.11	63.57
1023	SLD 11	-102	-171	3450	2.38	-1081.09	-55.71
1023	SLD 12	-127	-188	3473	2.4	-1088.48	-61.24
1023	SLD 13	-198	93	1579	0.18	-495.7	30.14
1023	SLD 14	-238	66	1616	0.22	-507.17	21.54
1023	SLD 15	-213	-22	2338	1.12	-734.61	-7.3
1023	SLD 16	-253	-49	2374	1.16	-746.08	-15.9
1023	SLV 1	317	106	2105	0.44	-648.36	34.14
1023	SLV 2	255	64	2162	0.51	-666.43	20.59
1023	SLV 3	291	-91	3399	2.03	-1055.98	-29.72
1023	SLV 4	229	-133	3457	2.1	-1074.06	-43.27
1023	SLV 5	124	343	260	-1.66	-73.24	111.41
1023	SLV 6	82	315	299	-1.62	-85.41	102.29
1023	SLV 7	38	-312	4576	3.65	-1431.99	-101.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLV 8	-3	-340	4615	3.69	-1444.16	-110.56
1023	SLV 9	-59	356	-33	-1.88	14.63	115.69
1023	SLV 10	-101	328	5	-1.84	2.46	106.57
1023	SLV 11	-144	-299	4282	3.43	-1344.12	-97.17
1023	SLV 12	-186	-327	4321	3.47	-1356.29	-106.29
1023	SLV 13	-292	149	1125	-0.29	-355.47	48.39
1023	SLV 14	-354	107	1182	-0.23	-373.55	34.84
1023	SLV 15	-317	-48	2420	1.3	-763.1	-15.47
1023	SLV 16	-379	-89	2477	1.37	-781.17	-29.02
1023	SLV FO 1	352	115	2086	0.39	-641.71	37.3
1023	SLV FO 2	283	69	2149	0.47	-661.6	22.39
1023	SLV FO 3	324	-101	3510	2.15	-1090.1	-32.95
1023	SLV FO 4	255	-147	3574	2.22	-1109.99	-47.85
1023	SLV FO 5	139	376	57	-1.92	-9.08	122.3
1023	SLV FO 6	93	345	100	-1.87	-22.47	112.26
1023	SLV FO 7	45	-344	4805	3.92	-1503.71	-111.84
1023	SLV FO 8	-1	-374	4848	3.97	-1517.1	-121.88
1023	SLV FO 9	-62	391	-266	-2.16	87.57	127
1023	SLV FO 10	-108	360	-223	-2.11	74.18	116.97
1023	SLV FO 11	-156	-329	4482	3.68	-1407.06	-107.14
1023	SLV FO 12	-202	-360	4524	3.73	-1420.45	-117.17
1023	SLV FO 13	-318	163	1008	-0.41	-319.54	52.97
1023	SLV FO 14	-386	117	1071	-0.34	-339.43	38.07
1023	SLV FO 15	-346	-53	2432	1.34	-767.93	-17.27
1023	SLV FO 16	-414	-99	2496	1.41	-787.82	-32.17
1023	CRTFP Ux+	0	0	0	0	0	0
1023	CRTFP Ux-	0	0	0	0	0	0
1023	CRTFP Uy+	0	0	0	0	0	0
1023	CRTFP Uy-	0	0	0	0	0	0
1063	SLU 1	-26	8	2154	0.88	-665.03	2.44
1063	SLU 2	-25	17	2100	0.82	-648.36	5.44
1063	SLU 3	-26	8	2218	0.92	-684.81	2.47
1063	SLU 4	-26	13	2186	0.88	-674.81	4.26
1063	SLU 5	-25	17	2143	0.84	-661.73	5.45
1063	SLU 6	-27	8	2261	0.95	-698.18	2.48
1063	SLU 7	-26	13	2229	0.91	-688.18	4.28
1063	SLU 8	-26	8	2241	0.94	-691.76	2.47
1063	SLU 9	-26	13	2208	0.9	-681.76	4.26
1063	SLU 10	-27	18	2374	0.92	-732.7	5.76
1063	SLU 11	-29	9	2492	1.02	-769.15	2.79
1063	SLU 12	-28	14	2460	0.98	-759.15	4.58
1063	SLU 13	-28	18	2417	0.94	-746.06	5.77
1063	SLU 14	-29	9	2535	1.05	-782.51	2.8
1063	SLU 15	-29	14	2503	1.01	-772.51	4.6
1063	SLU 16	-29	9	2515	1.04	-776.09	2.79
1063	SLU 17	-28	14	2482	1	-766.09	4.58
1063	SLU 18	-30	9	2545	1.03	-785.51	2.9
1063	SLU 19	-29	15	2513	0.99	-775.51	4.7
1063	SLU 20	-30	9	2589	1.05	-798.87	2.91
1063	SLU 21	-29	15	2556	1.01	-788.87	4.71
1063	SLU 22	-30	8	2529	1.06	-780.53	2.66
1063	SLU 23	-29	18	2475	0.99	-763.86	5.65
1063	SLU 24	-30	8	2593	1.09	-800.31	2.68
1063	SLU 25	-30	14	2561	1.05	-790.31	4.48
1063	SLU 26	-29	18	2518	1.01	-777.22	5.66
1063	SLU 27	-31	9	2637	1.12	-813.68	2.69
1063	SLU 28	-30	14	2604	1.08	-803.68	4.49
1063	SLU 29	-30	8	2616	1.11	-807.26	2.68
1063	SLU 30	-30	14	2583	1.07	-797.26	4.48
1063	SLU 31	-31	19	2749	1.09	-848.19	5.97
1063	SLU 32	-33	9	2867	1.19	-884.65	3
1063	SLU 33	-32	15	2835	1.15	-874.65	4.79
1063	SLU 34	-32	19	2792	1.12	-861.56	5.98
1063	SLU 35	-33	9	2910	1.22	-898.01	3.01
1063	SLU 36	-33	15	2878	1.18	-888.01	4.81
1063	SLU 37	-33	9	2890	1.21	-891.59	3
1063	SLU 38	-32	15	2857	1.17	-881.59	4.8
1063	SLU 39	-34	10	2920	1.2	-901	3.11
1063	SLU 40	-33	15	2888	1.16	-891	4.91
1063	SLU 41	-34	10	2964	1.22	-914.37	3.13
1063	SLU 42	-33	15	2931	1.19	-904.37	4.92
1063	SLU 43	-32	10	2671	1.09	-824.94	3.11
1063	SLU 44	-31	19	2617	1.03	-808.27	6.1
1063	SLU 45	-33	10	2736	1.13	-844.72	3.13
1063	SLU 46	-32	15	2703	1.09	-834.72	4.92
1063	SLU 47	-31	19	2661	1.05	-821.64	6.11
1063	SLU 48	-33	10	2779	1.15	-858.09	3.14
1063	SLU 49	-32	15	2747	1.11	-848.09	4.94
1063	SLU 50	-33	10	2758	1.14	-851.67	3.13
1063	SLU 51	-32	15	2726	1.1	-841.67	4.93
1063	SLU 52	-34	20	2891	1.13	-892.61	6.42
1063	SLU 53	-35	11	3010	1.23	-929.06	3.45
1063	SLU 54	-35	16	2977	1.19	-919.06	5.24
1063	SLU 55	-34	20	2935	1.15	-905.97	6.43
1063	SLU 56	-36	11	3053	1.25	-942.42	3.46
1063	SLU 57	-35	16	3021	1.21	-932.42	5.26
1063	SLU 58	-35	11	3032	1.24	-936	3.45
1063	SLU 59	-35	16	3000	1.2	-926	5.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1063	SLU 60	-36	11	3063	1.24	-945.42	3.56
1063	SLU 61	-35	17	3030	1.2	-935.42	5.36
1063	SLU 62	-36	11	3106	1.26	-958.78	3.57
1063	SLU 63	-36	17	3074	1.22	-948.78	5.37
1063	SLU 64	-36	10	3046	1.26	-940.44	3.32
1063	SLU 65	-35	20	2992	1.2	-923.77	6.31
1063	SLU 66	-37	11	3111	1.3	-960.22	3.34
1063	SLU 67	-36	16	3078	1.26	-950.22	5.14
1063	SLU 68	-35	20	3036	1.22	-937.13	6.32
1063	SLU 69	-37	11	3154	1.32	-973.59	3.35
1063	SLU 70	-36	16	3122	1.28	-963.59	5.15
1063	SLU 71	-37	11	3133	1.31	-967.16	3.34
1063	SLU 72	-36	16	3101	1.27	-957.17	5.14
1063	SLU 73	-38	21	3266	1.3	-1008.1	6.63
1063	SLU 74	-39	12	3385	1.4	-1044.56	3.66
1063	SLU 75	-39	17	3352	1.36	-1034.56	5.46
1063	SLU 76	-38	21	3310	1.32	-1021.47	6.64
1063	SLU 77	-40	12	3428	1.43	-1057.92	3.67
1063	SLU 78	-39	17	3396	1.39	-1047.92	5.47
1063	SLU 79	-39	12	3407	1.41	-1051.5	3.66
1063	SLU 80	-39	17	3375	1.37	-1041.5	5.46
1063	SLU 81	-40	12	3438	1.41	-1060.91	3.77
1063	SLU 82	-39	17	3405	1.37	-1050.91	5.57
1063	SLU 83	-40	12	3481	1.43	-1074.28	3.79
1063	SLU 84	-40	17	3449	1.39	-1064.28	5.58
1063	SLE RA 1	-27	8	2261	0.93	-698.03	2.51
1063	SLE RA 2	-26	14	2225	0.89	-686.92	4.5
1063	SLE RA 3	-27	8	2304	0.96	-711.22	2.52
1063	SLE RA 4	-27	12	2282	0.93	-704.55	3.72
1063	SLE RA 5	-26	14	2254	0.91	-695.83	4.51
1063	SLE RA 6	-27	8	2333	0.97	-720.13	2.53
1063	SLE RA 7	-27	12	2311	0.95	-713.46	3.73
1063	SLE RA 8	-27	8	2319	0.97	-715.85	2.52
1063	SLE RA 9	-27	12	2297	0.94	-709.18	3.72
1063	SLE RA 10	-28	15	2408	0.96	-743.14	4.71
1063	SLE RA 11	-29	9	2486	1.03	-767.44	2.73
1063	SLE RA 12	-29	12	2465	1	-760.77	3.93
1063	SLE RA 13	-28	15	2437	0.97	-752.05	4.72
1063	SLE RA 14	-29	9	2515	1.04	-776.35	2.74
1063	SLE RA 15	-29	12	2494	1.02	-769.68	3.94
1063	SLE RA 16	-29	9	2501	1.03	-772.07	2.74
1063	SLE RA 17	-29	12	2480	1.01	-765.4	3.93
1063	SLE RA 18	-29	9	2522	1.03	-778.35	2.81
1063	SLE RA 19	-29	13	2500	1	-771.68	4.01
1063	SLE RA 20	-30	9	2551	1.05	-787.26	2.82
1063	SLE RA 21	-29	13	2529	1.02	-780.59	4.01
1063	SLE FR 1	-27	8	2261	0.93	-698.03	2.51
1063	SLE FR 2	-27	9	2254	0.92	-695.81	2.9
1063	SLE FR 3	-27	8	2273	0.94	-701.59	2.51
1063	SLE FR 4	-27	9	2332	0.95	-719.9	3
1063	SLE FR 5	-28	8	2351	0.97	-725.69	2.6
1063	SLE FR 6	-28	8	2391	0.98	-738.19	2.66
1063	SLE QP 1	-27	8	2261	0.93	-698.03	2.51
1063	SLE QP 2	-28	8	2339	0.96	-722.12	2.6
1063	SLD 1	199	65	2242	0.69	-687.69	21.12
1063	SLD 2	158	39	2280	0.73	-699.41	12.51
1063	SLD 3	185	-50	3051	1.67	-937.65	-16.27
1063	SLD 4	144	-76	3090	1.72	-949.37	-24.88
1063	SLD 5	68	204	1076	-0.63	-330.68	66.35
1063	SLD 6	42	187	1101	-0.6	-338.23	60.81
1063	SLD 7	22	-179	3773	2.66	-1163.86	-58.3
1063	SLD 8	-4	-196	3798	2.69	-1171.41	-63.84
1063	SLD 9	-51	212	880	-0.77	-272.84	69.03
1063	SLD 10	-78	195	905	-0.74	-280.38	63.49
1063	SLD 11	-97	-171	3578	2.52	-1106.02	-55.61
1063	SLD 12	-124	-188	3603	2.55	-1113.57	-61.15
1063	SLD 13	-199	93	1589	0.21	-494.88	30.07
1063	SLD 14	-240	66	1628	0.25	-506.6	21.47
1063	SLD 15	-213	-22	2398	1.19	-744.83	-7.32
1063	SLD 16	-254	-49	2437	1.24	-756.56	-15.93
1063	SLV 1	328	106	2128	0.46	-650.03	34.27
1063	SLV 2	264	64	2189	0.53	-668.51	20.7
1063	SLV 3	305	-90	3508	2.14	-1076.51	-29.5
1063	SLV 4	240	-132	3569	2.21	-1094.98	-43.07
1063	SLV 5	127	343	170	-1.76	-50.23	111.35
1063	SLV 6	83	315	211	-1.71	-62.67	102.22
1063	SLV 7	49	-311	4773	3.86	-1471.81	-101.22
1063	SLV 8	5	-339	4814	3.91	-1484.25	-110.35
1063	SLV 9	-60	356	-135	-1.98	40	115.55
1063	SLV 10	-104	327	-94	-1.93	27.56	106.41
1063	SLV 11	-138	-298	4467	3.63	-1381.58	-97.02
1063	SLV 12	-182	-326	4508	3.68	-1394.02	-106.15
1063	SLV 13	-295	148	1109	-0.29	-349.26	48.26
1063	SLV 14	-360	107	1170	-0.22	-367.74	34.7
1063	SLV 15	-319	-48	2490	1.39	-775.74	-15.51
1063	SLV 16	-383	-90	2551	1.47	-794.22	-29.07
1063	SLV FO 1	364	116	2106	0.41	-642.82	37.43
1063	SLV FO 2	293	70	2174	0.49	-663.15	22.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1063	SLV FO 3	338	-100	3625	2.26	-1111.94	-32.71
1063	SLV FO 4	267	-146	3692	2.34	-1132.27	-47.64
1063	SLV FO 5	142	376	-47	-2.03	16.96	122.22
1063	SLV FO 6	94	345	-1	-1.97	3.28	112.18
1063	SLV FO 7	56	-343	5016	4.15	-1546.78	-111.6
1063	SLV FO 8	8	-374	5061	4.2	-1560.46	-121.65
1063	SLV FO 9	-64	390	-383	-2.28	116.21	126.84
1063	SLV FO 10	-111	359	-338	-2.22	102.53	116.8
1063	SLV FO 11	-150	-329	4680	3.9	-1447.52	-106.98
1063	SLV FO 12	-197	-360	4725	3.95	-1461.21	-117.03
1063	SLV FO 13	-322	163	986	-0.41	-311.98	52.83
1063	SLV FO 14	-393	116	1053	-0.33	-332.3	37.91
1063	SLV FO 15	-348	-53	2505	1.44	-781.1	-17.32
1063	SLV FO 16	-419	-99	2572	1.52	-801.42	-32.24
1063	CRTFP Ux+	0	0	0	0	0	0
1063	CRTFP Ux-	0	0	0	0	0	0
1063	CRTFP Uy+	0	0	0	0	0	0
1063	CRTFP Uy-	0	0	0	0	0	0
1067	SLU 1	-41	14	3694	-923.94	-641.36	-8.45
1067	SLU 2	-39	30	3601	-902.84	-625.19	-5.26
1067	SLU 3	-42	14	3804	-951.02	-660.49	-8.69
1067	SLU 4	-41	23	3749	-938.36	-650.79	-6.77
1067	SLU 5	-40	30	3676	-921.1	-638.12	-5.38
1067	SLU 6	-42	14	3878	-969.28	-673.42	-8.81
1067	SLU 7	-42	24	3823	-956.62	-663.72	-6.89
1067	SLU 8	-42	14	3843	-960.46	-667.22	-8.69
1067	SLU 9	-41	24	3787	-947.8	-657.52	-6.78
1067	SLU 10	-44	31	4072	-1020.91	-706.63	-6.1
1067	SLU 11	-46	16	4274	-1069.09	-741.93	-9.53
1067	SLU 12	-45	25	4219	-1056.43	-732.23	-7.61
1067	SLU 13	-44	31	4146	-1039.17	-719.56	-6.22
1067	SLU 14	-47	16	4349	-1087.35	-754.86	-9.65
1067	SLU 15	-46	25	4294	-1074.69	-745.16	-7.73
1067	SLU 16	-46	16	4313	-1078.54	-748.65	-9.53
1067	SLU 17	-45	25	4258	-1065.88	-738.95	-7.61
1067	SLU 18	-47	16	4366	-1092.62	-757.7	-9.65
1067	SLU 19	-46	26	4311	-1079.96	-748	-7.74
1067	SLU 20	-48	16	4440	-1110.88	-770.63	-9.77
1067	SLU 21	-47	26	4385	-1098.22	-760.93	-7.86
1067	SLU 22	-48	15	4338	-1084.11	-752.97	-9.98
1067	SLU 23	-46	31	4245	-1063	-736.8	-6.78
1067	SLU 24	-49	15	4448	-1111.19	-772.1	-10.21
1067	SLU 25	-48	25	4393	-1098.52	-762.4	-8.29
1067	SLU 26	-46	31	4320	-1081.27	-749.73	-6.9
1067	SLU 27	-49	15	4522	-1129.45	-785.03	-10.33
1067	SLU 28	-48	25	4467	-1116.79	-775.33	-8.41
1067	SLU 29	-49	15	4487	-1120.63	-778.82	-10.21
1067	SLU 30	-48	25	4431	-1107.97	-769.12	-8.3
1067	SLU 31	-50	32	4716	-1181.08	-818.24	-7.62
1067	SLU 32	-53	17	4918	-1229.26	-853.54	-11.05
1067	SLU 33	-52	26	4863	-1216.6	-843.84	-9.13
1067	SLU 34	-51	32	4790	-1199.34	-831.16	-7.74
1067	SLU 35	-53	17	4993	-1247.52	-866.47	-11.17
1067	SLU 36	-52	26	4937	-1234.86	-856.77	-9.25
1067	SLU 37	-53	17	4957	-1238.71	-860.26	-11.05
1067	SLU 38	-52	26	4902	-1226.04	-850.56	-9.14
1067	SLU 39	-54	18	5010	-1252.79	-869.31	-11.18
1067	SLU 40	-53	27	4955	-1240.12	-859.61	-9.26
1067	SLU 41	-54	18	5084	-1271.05	-882.24	-11.29
1067	SLU 42	-53	27	5029	-1258.39	-872.53	-9.38
1067	SLU 43	-51	18	4581	-1146.21	-795.5	-10.47
1067	SLU 44	-49	33	4489	-1125.1	-779.33	-7.27
1067	SLU 45	-52	18	4691	-1173.29	-814.64	-10.7
1067	SLU 46	-51	27	4636	-1160.62	-804.94	-8.79
1067	SLU 47	-50	33	4563	-1143.37	-792.26	-7.39
1067	SLU 48	-53	18	4766	-1191.55	-827.57	-10.82
1067	SLU 49	-52	27	4710	-1178.88	-817.86	-8.91
1067	SLU 50	-52	18	4730	-1182.73	-821.36	-10.71
1067	SLU 51	-51	27	4675	-1170.07	-811.66	-8.79
1067	SLU 52	-54	35	4959	-1243.18	-860.77	-8.11
1067	SLU 53	-56	20	5162	-1291.36	-896.07	-11.54
1067	SLU 54	-55	29	5106	-1278.7	-886.37	-9.63
1067	SLU 55	-54	35	5034	-1261.44	-873.7	-8.23
1067	SLU 56	-57	20	5236	-1309.62	-909	-11.66
1067	SLU 57	-56	29	5181	-1296.96	-899.3	-9.75
1067	SLU 58	-56	20	5201	-1300.81	-902.8	-11.55
1067	SLU 59	-55	29	5145	-1288.14	-893.1	-9.63
1067	SLU 60	-57	20	5253	-1314.89	-911.84	-11.67
1067	SLU 61	-56	30	5198	-1302.22	-902.14	-9.75
1067	SLU 62	-58	20	5328	-1333.15	-924.77	-11.79
1067	SLU 63	-57	30	5272	-1320.49	-915.07	-9.87
1067	SLU 64	-58	19	5225	-1306.38	-907.11	-11.99
1067	SLU 65	-56	35	5133	-1285.27	-890.94	-8.8
1067	SLU 66	-59	19	5335	-1333.45	-926.25	-12.23
1067	SLU 67	-58	28	5280	-1320.79	-916.54	-10.31
1067	SLU 68	-57	35	5207	-1303.53	-903.87	-8.92
1067	SLU 69	-59	19	5410	-1351.72	-939.17	-12.34
1067	SLU 70	-58	29	5354	-1339.05	-929.47	-10.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1067	SLU 71	-59	19	5374	-1342.9	-932.97	-12.23
1067	SLU 72	-58	28	5319	-1330.24	-923.27	-10.31
1067	SLU 73	-60	36	5603	-1403.35	-972.38	-9.64
1067	SLU 74	-63	21	5806	-1451.53	-1007.68	-13.07
1067	SLU 75	-62	30	5750	-1438.87	-997.98	-11.15
1067	SLU 76	-61	36	5678	-1421.61	-985.31	-9.75
1067	SLU 77	-63	21	5880	-1469.79	-1020.61	-13.18
1067	SLU 78	-62	30	5825	-1457.13	-1010.91	-11.27
1067	SLU 79	-63	21	5844	-1460.97	-1014.4	-13.07
1067	SLU 80	-62	30	5789	-1448.31	-1004.7	-11.15
1067	SLU 81	-64	21	5897	-1475.05	-1023.45	-13.19
1067	SLU 82	-63	31	5842	-1462.39	-1013.75	-11.27
1067	SLU 83	-64	21	5972	-1493.32	-1036.38	-13.31
1067	SLU 84	-63	31	5916	-1480.65	-1026.68	-11.39
1067	SLE RA 1	-43	14	3878	-969.7	-673.25	-8.89
1067	SLE RA 2	-42	25	3816	-955.63	-662.47	-6.76
1067	SLE RA 3	-44	14	3951	-987.75	-686	-9.05
1067	SLE RA 4	-43	21	3914	-979.31	-679.54	-7.77
1067	SLE RA 5	-42	25	3866	-967.81	-671.09	-6.84
1067	SLE RA 6	-44	15	4001	-999.93	-694.62	-9.13
1067	SLE RA 7	-43	21	3964	-991.49	-688.16	-7.85
1067	SLE RA 8	-44	14	3977	-994.05	-690.49	-9.05
1067	SLE RA 9	-43	21	3940	-985.61	-684.02	-7.77
1067	SLE RA 10	-45	26	4130	-1034.35	-716.76	-7.32
1067	SLE RA 11	-46	16	4265	-1066.47	-740.3	-9.61
1067	SLE RA 12	-46	22	4228	-1058.03	-733.83	-8.33
1067	SLE RA 13	-45	26	4180	-1046.52	-725.38	-7.4
1067	SLE RA 14	-47	16	4315	-1078.65	-748.91	-9.68
1067	SLE RA 15	-46	22	4278	-1070.2	-742.45	-8.41
1067	SLE RA 16	-46	16	4291	-1072.77	-744.78	-9.61
1067	SLE RA 17	-46	22	4254	-1064.33	-738.31	-8.33
1067	SLE RA 18	-47	16	4326	-1082.15	-750.81	-9.69
1067	SLE RA 19	-46	22	4289	-1073.71	-744.34	-8.41
1067	SLE RA 20	-47	16	4376	-1094.33	-759.43	-9.77
1067	SLE RA 21	-47	22	4339	-1085.89	-752.96	-8.49
1067	SLE FR 1	-43	14	3878	-969.7	-673.25	-8.89
1067	SLE FR 2	-43	16	3865	-966.89	-671.09	-8.46
1067	SLE FR 3	-43	14	3898	-974.57	-676.7	-8.92
1067	SLE FR 4	-44	17	4000	-1000.62	-694.36	-8.7
1067	SLE FR 5	-44	15	4032	-1008.31	-699.96	-9.16
1067	SLE FR 6	-45	15	4102	-1025.93	-712.03	-9.29
1067	SLE QP 1	-43	14	3878	-969.7	-673.25	-8.89
1067	SLE QP 2	-44	15	4012	-1003.44	-696.52	-9.13
1067	SLD 1	340	113	3856	-976.61	-665.88	110.66
1067	SLD 2	271	67	3924	-992.22	-677.38	84.53
1067	SLD 3	318	-81	5240	-1293.26	-908.43	70.57
1067	SLD 4	249	-128	5307	-1308.87	-919.94	44.43
1067	SLD 5	116	347	1855	-512.46	-317.47	92.12
1067	SLD 6	71	317	1898	-522.51	-324.88	75.29
1067	SLD 7	44	-301	6468	-1567.95	-1125.99	-41.54
1067	SLD 8	-1	-331	6511	-1578	-1133.4	-58.37
1067	SLD 9	-87	360	1513	-428.88	-259.63	40.11
1067	SLD 10	-132	331	1556	-438.93	-267.04	23.28
1067	SLD 11	-160	-288	6126	-1484.37	-1068.16	-93.55
1067	SLD 12	-204	-318	6170	-1494.42	-1075.56	-110.38
1067	SLD 13	-337	157	2717	-698.01	-473.09	-62.69
1067	SLD 14	-406	111	2784	-713.62	-484.6	-88.82
1067	SLD 15	-359	-37	4101	-1014.66	-715.65	-102.79
1067	SLD 16	-428	-84	4168	-1030.27	-727.16	-128.92
1067	SLV 1	558	183	3667	-938.31	-630.88	181.37
1067	SLV 2	450	110	3773	-962.92	-649.02	140.18
1067	SLV 3	522	-149	6028	-1478.56	-1044.73	113.02
1067	SLV 4	413	-222	6134	-1503.17	-1062.87	71.83
1067	SLV 5	213	582	307	-159.93	-45.77	159.36
1067	SLV 6	139	533	379	-176.5	-57.98	131.63
1067	SLV 7	90	-524	8178	-1960.76	-1425.27	-68.45
1067	SLV 8	17	-573	8250	-1977.32	-1437.48	-96.18
1067	SLV 9	-105	603	-226	-29.55	44.44	77.92
1067	SLV 10	-179	553	-154	-46.12	32.24	50.2
1067	SLV 11	-228	-503	7645	-1830.38	-1335.05	-149.89
1067	SLV 12	-301	-552	7717	-1846.94	-1347.26	-177.62
1067	SLV 13	-501	252	1890	-503.71	-330.16	-90.09
1067	SLV 14	-610	179	1996	-528.32	-348.3	-131.28
1067	SLV 15	-538	-80	4251	-1043.96	-744.01	-158.44
1067	SLV 16	-647	-153	4358	-1068.56	-762.15	-199.63
1067	SLV FO 1	619	199	3632	-931.8	-624.32	200.42
1067	SLV FO 2	499	119	3749	-958.87	-644.27	155.11
1067	SLV FO 3	578	-165	6230	-1526.07	-1079.56	125.24
1067	SLV FO 4	459	-246	6347	-1553.14	-1099.5	79.93
1067	SLV FO 5	238	638	-63	-75.58	19.3	176.21
1067	SLV FO 6	158	584	16	-93.8	5.87	145.71
1067	SLV FO 7	104	-578	8595	-2056.49	-1498.14	-74.39
1067	SLV FO 8	23	-632	8674	-2074.71	-1511.57	-104.89
1067	SLV FO 9	-112	661	-649	67.83	118.54	86.63
1067	SLV FO 10	-192	607	-571	49.62	105.11	56.13
1067	SLV FO 11	-246	-555	8009	-1913.07	-1398.91	-163.97
1067	SLV FO 12	-327	-609	8087	-1931.29	-1412.33	-194.47
1067	SLV FO 13	-547	275	1678	-453.74	-293.53	-98.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1067	SLV FO 14	-667	195	1795	-480.8	-313.48	-143.5
1067	SLV FO 15	-587	-89	4275	-1048.01	-748.76	-173.37
1067	SLV FO 16	-707	-170	4392	-1075.08	-768.71	-218.68
1067	CRTFP Ux+	0	0	0	0	0	0
1067	CRTFP Ux-	0	0	0	0	0	0
1067	CRTFP Uy+	0	0	0	0	0	0
1067	CRTFP Uy-	0	0	0	0	0	0
1069	SLU 1	-36	12	3188	-988.73	-85.13	-12.43
1069	SLU 2	-35	26	3109	-967.04	-83.05	-11.55
1069	SLU 3	-37	12	3282	-1017.32	-87.64	-12.73
1069	SLU 4	-36	20	3235	-1004.31	-86.4	-12.2
1069	SLU 5	-35	26	3173	-986.31	-84.75	-11.71
1069	SLU 6	-38	12	3346	-1036.59	-89.34	-12.88
1069	SLU 7	-37	20	3299	-1023.58	-88.1	-12.36
1069	SLU 8	-37	12	3315	-1027.27	-88.52	-12.73
1069	SLU 9	-36	20	3268	-1014.26	-87.28	-12.21
1069	SLU 10	-39	27	3515	-1092.35	-93.84	-12.84
1069	SLU 11	-41	14	3687	-1142.63	-98.43	-14.02
1069	SLU 12	-40	22	3641	-1129.62	-97.19	-13.49
1069	SLU 13	-39	27	3579	-1111.62	-95.54	-13
1069	SLU 14	-42	14	3751	-1161.9	-100.13	-14.17
1069	SLU 15	-41	22	3704	-1148.89	-98.89	-13.65
1069	SLU 16	-41	14	3720	-1152.58	-99.31	-14.02
1069	SLU 17	-40	22	3674	-1139.57	-98.07	-13.5
1069	SLU 18	-42	14	3766	-1167.74	-100.54	-14.27
1069	SLU 19	-41	22	3720	-1154.73	-99.29	-13.75
1069	SLU 20	-42	14	3830	-1187.02	-102.24	-14.42
1069	SLU 21	-41	23	3784	-1174	-100.99	-13.9
1069	SLU 22	-42	13	3741	-1158.29	-99.86	-14.42
1069	SLU 23	-41	27	3663	-1136.6	-97.79	-13.54
1069	SLU 24	-43	13	3836	-1186.88	-102.38	-14.72
1069	SLU 25	-42	21	3789	-1173.87	-101.14	-14.2
1069	SLU 26	-41	27	3727	-1155.88	-99.49	-13.7
1069	SLU 27	-43	13	3900	-1206.15	-104.08	-14.87
1069	SLU 28	-43	22	3853	-1193.14	-102.84	-14.35
1069	SLU 29	-43	13	3869	-1196.83	-103.26	-14.73
1069	SLU 30	-42	21	3822	-1183.82	-102.02	-14.2
1069	SLU 31	-45	28	4068	-1261.91	-108.58	-14.83
1069	SLU 32	-47	15	4241	-1312.19	-113.17	-16.01
1069	SLU 33	-46	23	4194	-1299.18	-111.92	-15.49
1069	SLU 34	-45	29	4132	-1281.18	-110.28	-14.99
1069	SLU 35	-47	15	4305	-1331.46	-114.87	-16.16
1069	SLU 36	-46	23	4258	-1318.45	-113.62	-15.64
1069	SLU 37	-47	15	4274	-1322.14	-114.05	-16.02
1069	SLU 38	-46	23	4227	-1309.13	-112.81	-15.49
1069	SLU 39	-48	15	4320	-1337.31	-115.27	-16.26
1069	SLU 40	-47	24	4273	-1324.29	-114.03	-15.74
1069	SLU 41	-48	15	4384	-1356.58	-116.97	-16.42
1069	SLU 42	-47	24	4337	-1343.56	-115.73	-15.89
1069	SLU 43	-45	15	3954	-1227.22	-105.61	-15.47
1069	SLU 44	-44	29	3876	-1205.53	-103.54	-14.6
1069	SLU 45	-46	15	4048	-1255.8	-108.13	-15.77
1069	SLU 46	-45	24	4002	-1242.79	-106.89	-15.25
1069	SLU 47	-44	29	3940	-1224.8	-105.24	-14.75
1069	SLU 48	-47	15	4112	-1275.07	-109.83	-15.93
1069	SLU 49	-46	24	4066	-1262.06	-108.58	-15.4
1069	SLU 50	-46	15	4082	-1265.76	-109.01	-15.78
1069	SLU 51	-45	24	4035	-1252.74	-107.77	-15.25
1069	SLU 52	-48	31	4281	-1330.84	-114.33	-15.89
1069	SLU 53	-50	17	4454	-1381.11	-118.92	-17.06
1069	SLU 54	-49	25	4407	-1368.1	-117.67	-16.54
1069	SLU 55	-48	31	4345	-1350.11	-116.03	-16.04
1069	SLU 56	-50	17	4518	-1400.38	-120.61	-17.22
1069	SLU 57	-50	25	4471	-1387.37	-119.37	-16.69
1069	SLU 58	-50	17	4487	-1391.07	-119.8	-17.07
1069	SLU 59	-49	25	4440	-1378.05	-118.55	-16.55
1069	SLU 60	-51	17	4533	-1406.23	-121.02	-17.31
1069	SLU 61	-50	26	4486	-1393.22	-119.78	-16.79
1069	SLU 62	-51	17	4597	-1425.5	-122.72	-17.47
1069	SLU 63	-50	26	4550	-1412.49	-121.48	-16.94
1069	SLU 64	-51	16	4508	-1396.78	-120.35	-17.46
1069	SLU 65	-50	30	4430	-1375.09	-118.28	-16.59
1069	SLU 66	-52	16	4602	-1425.37	-122.87	-17.76
1069	SLU 67	-51	25	4555	-1412.35	-121.62	-17.24
1069	SLU 68	-50	30	4493	-1394.36	-119.98	-16.74
1069	SLU 69	-52	16	4666	-1444.64	-124.56	-17.92
1069	SLU 70	-52	25	4619	-1431.62	-123.32	-17.39
1069	SLU 71	-52	16	4635	-1435.32	-123.75	-17.77
1069	SLU 72	-51	25	4589	-1422.31	-122.5	-17.25
1069	SLU 73	-54	32	4835	-1500.4	-129.06	-17.88
1069	SLU 74	-56	18	5007	-1550.67	-133.65	-19.06
1069	SLU 75	-55	26	4961	-1537.66	-132.41	-18.53
1069	SLU 76	-54	32	4899	-1519.67	-130.76	-18.03
1069	SLU 77	-56	18	5071	-1569.94	-135.35	-19.21
1069	SLU 78	-55	26	5025	-1556.93	-134.11	-18.69
1069	SLU 79	-56	18	5041	-1560.63	-134.53	-19.06
1069	SLU 80	-55	26	4994	-1547.61	-133.29	-18.54
1069	SLU 81	-57	18	5087	-1575.79	-135.76	-19.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1069	SLU 82	-56	27	5040	-1562.78	-134.52	-18.78
1069	SLU 83	-57	18	5150	-1595.06	-137.46	-19.46
1069	SLU 84	-56	27	5104	-1582.05	-136.21	-18.94
1069	SLE RA 1	-38	12	3346	-1037.18	-89.34	-12.99
1069	SLE RA 2	-37	21	3294	-1022.72	-87.96	-12.41
1069	SLE RA 3	-39	12	3409	-1056.24	-91.01	-13.2
1069	SLE RA 4	-38	18	3378	-1047.56	-90.19	-12.85
1069	SLE RA 5	-37	22	3336	-1035.57	-89.09	-12.51
1069	SLE RA 6	-39	12	3451	-1069.08	-92.15	-13.3
1069	SLE RA 7	-38	18	3420	-1060.41	-91.32	-12.95
1069	SLE RA 8	-39	12	3431	-1062.87	-91.6	-13.2
1069	SLE RA 9	-38	18	3400	-1054.2	-90.77	-12.85
1069	SLE RA 10	-40	23	3564	-1106.26	-95.15	-13.27
1069	SLE RA 11	-41	13	3679	-1139.78	-98.21	-14.06
1069	SLE RA 12	-41	19	3648	-1131.1	-97.38	-13.71
1069	SLE RA 13	-40	23	3606	-1119.11	-96.28	-13.38
1069	SLE RA 14	-41	13	3722	-1152.62	-99.34	-14.16
1069	SLE RA 15	-41	19	3690	-1143.95	-98.51	-13.81
1069	SLE RA 16	-41	13	3701	-1146.41	-98.79	-14.06
1069	SLE RA 17	-41	19	3670	-1137.74	-97.97	-13.71
1069	SLE RA 18	-42	14	3732	-1156.52	-99.61	-14.22
1069	SLE RA 19	-41	19	3700	-1147.84	-98.78	-13.87
1069	SLE RA 20	-42	14	3774	-1169.37	-100.74	-14.33
1069	SLE RA 21	-41	19	3743	-1160.69	-99.91	-13.98
1069	SLE FR 1	-38	12	3346	-1037.18	-89.34	-12.99
1069	SLE FR 2	-38	14	3335	-1034.29	-89.06	-12.88
1069	SLE FR 3	-38	12	3363	-1042.32	-89.79	-13.04
1069	SLE FR 4	-39	14	3451	-1070.09	-92.14	-13.25
1069	SLE FR 5	-39	13	3479	-1078.12	-92.87	-13.4
1069	SLE FR 6	-40	13	3539	-1096.85	-94.47	-13.61
1069	SLE QP 1	-38	12	3346	-1037.18	-89.34	-12.99
1069	SLE QP 2	-39	13	3462	-1072.98	-92.42	-13.36
1069	SLD 1	306	99	3324	-1046.9	-88.37	109.91
1069	SLD 2	245	60	3380	-1062.55	-89.8	87.39
1069	SLD 3	287	-75	4495	-1373.54	-119.49	98.68
1069	SLD 4	226	-115	4550	-1389.2	-120.91	76.17
1069	SLD 5	103	310	1635	-567.05	-43.77	44.51
1069	SLD 6	64	284	1671	-577.13	-44.69	30.01
1069	SLD 7	41	-271	5538	-1655.87	-147.48	7.1
1069	SLD 8	2	-297	5573	-1665.95	-148.4	-7.4
1069	SLD 9	-80	322	1350	-480.01	-36.44	-19.33
1069	SLD 10	-119	296	1385	-490.09	-37.35	-33.83
1069	SLD 11	-142	-259	5252	-1568.83	-140.15	-56.74
1069	SLD 12	-181	-284	5288	-1578.91	-141.07	-71.24
1069	SLD 13	-304	140	2373	-756.76	-63.93	-102.89
1069	SLD 14	-366	100	2428	-772.42	-65.35	-125.41
1069	SLD 15	-323	-34	3543	-1083.41	-95.04	-114.12
1069	SLD 16	-384	-74	3599	-1099.07	-96.46	-136.63
1069	SLV 1	503	161	3161	-1008.29	-83.82	180.5
1069	SLV 2	406	98	3249	-1032.97	-86.06	145
1069	SLV 3	471	-136	5158	-1565.6	-136.91	161.41
1069	SLV 4	374	-199	5246	-1590.27	-139.15	125.91
1069	SLV 5	189	519	325	-203.72	-8.9	80.37
1069	SLV 6	124	477	384	-220.34	-10.41	56.48
1069	SLV 7	84	-471	6984	-2061.41	-185.86	16.74
1069	SLV 8	19	-513	7043	-2078.02	-187.37	-7.16
1069	SLV 9	-97	538	-120	-67.94	2.54	-19.57
1069	SLV 10	-162	496	-61	-84.55	1.03	-43.46
1069	SLV 11	-203	-452	6539	-1925.63	-174.42	-83.2
1069	SLV 12	-268	-494	6598	-1942.24	-175.93	-107.1
1069	SLV 13	-453	224	1677	-555.69	-45.68	-152.64
1069	SLV 14	-549	161	1765	-580.37	-47.93	-188.13
1069	SLV 15	-484	-73	3674	-1112.99	-98.77	-171.73
1069	SLV 16	-581	-136	3762	-1137.67	-101.02	-207.22
1069	SLV FO 1	557	176	3131	-1001.82	-82.96	199.88
1069	SLV FO 2	451	107	3227	-1028.97	-85.43	160.84
1069	SLV FO 3	522	-151	5328	-1614.86	-141.36	178.88
1069	SLV FO 4	416	-220	5425	-1642	-143.83	139.84
1069	SLV FO 5	212	570	12	-116.8	-0.55	89.74
1069	SLV FO 6	141	523	77	-135.07	-2.21	63.46
1069	SLV FO 7	96	-519	7336	-2160.25	-195.21	19.75
1069	SLV FO 8	25	-566	7401	-2178.52	-196.87	-6.54
1069	SLV FO 9	-103	591	-478	32.56	12.03	-20.19
1069	SLV FO 10	-175	544	-413	14.29	10.37	-46.47
1069	SLV FO 11	-219	-498	6846	-2010.89	-182.62	-90.19
1069	SLV FO 12	-291	-545	6911	-2029.16	-184.29	-116.47
1069	SLV FO 13	-494	245	1498	-503.96	-41.01	-166.57
1069	SLV FO 14	-600	176	1595	-531.1	-43.48	-205.61
1069	SLV FO 15	-529	-81	3696	-1117	-99.41	-187.56
1069	SLV FO 16	-635	-151	3792	-1144.14	-101.88	-226.61
1069	CRTFP Ux+	0	0	0	0	0	0
1069	CRTFP Ux-	0	0	0	0	0	0
1069	CRTFP Uy+	0	0	0	0	0	0
1069	CRTFP Uy-	0	0	0	0	0	0
1070	SLU 1	-42	13	3584	-1026.93	6.11	-14.64
1070	SLU 2	-40	30	3497	-1004.94	5.95	-14.09
1070	SLU 3	-43	14	3690	-1056.23	6.3	-14.99
1070	SLU 4	-42	23	3638	-1043.04	6.21	-14.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1070	SLU 5	-41	30	3569	-1024.69	6.08	-14.27
1070	SLU 6	-43	14	3762	-1075.98	6.43	-15.17
1070	SLU 7	-42	23	3709	-1062.79	6.34	-14.84
1070	SLU 8	-43	14	3727	-1066.42	6.37	-15
1070	SLU 9	-42	23	3675	-1053.23	6.27	-14.66
1070	SLU 10	-45	32	3951	-1133.67	6.78	-15.63
1070	SLU 11	-47	16	4144	-1184.97	7.14	-16.53
1070	SLU 12	-46	25	4092	-1171.77	7.04	-16.2
1070	SLU 13	-45	32	4022	-1153.42	6.91	-15.81
1070	SLU 14	-48	16	4216	-1204.71	7.27	-16.71
1070	SLU 15	-47	25	4163	-1191.52	7.17	-16.38
1070	SLU 16	-47	16	4181	-1195.15	7.2	-16.54
1070	SLU 17	-46	25	4129	-1181.96	7.11	-16.21
1070	SLU 18	-48	16	4233	-1210.83	7.3	-16.85
1070	SLU 19	-47	26	4180	-1197.64	7.2	-16.51
1070	SLU 20	-49	16	4304	-1230.58	7.43	-17.02
1070	SLU 21	-48	26	4252	-1217.38	7.33	-16.69
1070	SLU 22	-49	15	4204	-1200.93	7.25	-16.97
1070	SLU 23	-47	31	4117	-1178.94	7.08	-16.42
1070	SLU 24	-50	15	4310	-1230.23	7.44	-17.32
1070	SLU 25	-49	25	4258	-1217.04	7.34	-16.99
1070	SLU 26	-47	31	4189	-1198.68	7.22	-16.6
1070	SLU 27	-50	15	4382	-1249.98	7.57	-17.5
1070	SLU 28	-49	25	4329	-1236.78	7.47	-17.17
1070	SLU 29	-50	15	4347	-1240.42	7.51	-17.33
1070	SLU 30	-49	25	4295	-1227.22	7.41	-16.99
1070	SLU 31	-51	33	4571	-1307.67	7.92	-17.96
1070	SLU 32	-54	17	4764	-1358.96	8.27	-18.86
1070	SLU 33	-53	27	4712	-1345.77	8.17	-18.53
1070	SLU 34	-52	33	4642	-1327.41	8.05	-18.14
1070	SLU 35	-54	17	4836	-1378.71	8.4	-19.04
1070	SLU 36	-53	27	4783	-1365.51	8.3	-18.71
1070	SLU 37	-54	17	4801	-1369.15	8.34	-18.87
1070	SLU 38	-53	27	4749	-1355.96	8.24	-18.54
1070	SLU 39	-55	18	4853	-1384.83	8.44	-19.17
1070	SLU 40	-54	28	4800	-1371.63	8.34	-18.84
1070	SLU 41	-55	18	4924	-1404.58	8.57	-19.35
1070	SLU 42	-54	28	4872	-1391.38	8.47	-19.02
1070	SLU 43	-52	17	4447	-1275.35	7.56	-18.24
1070	SLU 44	-50	33	4360	-1253.36	7.39	-17.68
1070	SLU 45	-53	17	4553	-1304.66	7.75	-18.59
1070	SLU 46	-52	27	4500	-1291.46	7.65	-18.26
1070	SLU 47	-51	33	4431	-1273.11	7.52	-17.86
1070	SLU 48	-54	17	4624	-1324.4	7.88	-18.76
1070	SLU 49	-53	27	4572	-1311.21	7.78	-18.43
1070	SLU 50	-53	17	4590	-1314.85	7.82	-18.59
1070	SLU 51	-52	27	4538	-1301.65	7.72	-18.26
1070	SLU 52	-55	35	4814	-1382.09	8.22	-19.23
1070	SLU 53	-58	19	5007	-1433.39	8.58	-20.13
1070	SLU 54	-57	29	4954	-1420.19	8.48	-19.8
1070	SLU 55	-55	35	4885	-1401.84	8.35	-19.4
1070	SLU 56	-58	19	5078	-1453.14	8.71	-20.31
1070	SLU 57	-57	29	5026	-1439.94	8.61	-19.97
1070	SLU 58	-58	19	5044	-1443.58	8.65	-20.13
1070	SLU 59	-57	29	4991	-1430.38	8.55	-19.8
1070	SLU 60	-58	20	5095	-1459.26	8.74	-20.44
1070	SLU 61	-57	30	5043	-1446.06	8.64	-20.11
1070	SLU 62	-59	20	5167	-1479	8.87	-20.62
1070	SLU 63	-58	30	5114	-1465.81	8.78	-20.28
1070	SLU 64	-59	18	5067	-1449.35	8.69	-20.57
1070	SLU 65	-57	35	4980	-1427.36	8.53	-20.01
1070	SLU 66	-60	19	5173	-1478.65	8.88	-20.92
1070	SLU 67	-59	28	5121	-1465.46	8.79	-20.59
1070	SLU 68	-58	35	5051	-1447.11	8.66	-20.19
1070	SLU 69	-60	19	5244	-1498.4	9.01	-21.09
1070	SLU 70	-59	29	5192	-1485.21	8.92	-20.76
1070	SLU 71	-60	19	5210	-1488.84	8.95	-20.92
1070	SLU 72	-59	28	5158	-1475.65	8.86	-20.59
1070	SLU 73	-62	37	5434	-1556.09	9.36	-21.56
1070	SLU 74	-64	21	5627	-1607.39	9.72	-22.46
1070	SLU 75	-63	30	5574	-1594.19	9.62	-22.13
1070	SLU 76	-62	37	5505	-1575.84	9.49	-21.73
1070	SLU 77	-65	21	5698	-1627.13	9.85	-22.63
1070	SLU 78	-64	30	5646	-1613.94	9.75	-22.3
1070	SLU 79	-64	21	5664	-1617.57	9.78	-22.46
1070	SLU 80	-63	30	5612	-1604.38	9.69	-22.13
1070	SLU 81	-65	21	5715	-1633.25	9.88	-22.77
1070	SLU 82	-64	31	5663	-1620.06	9.78	-22.44
1070	SLU 83	-66	21	5787	-1653	10.01	-22.95
1070	SLU 84	-65	31	5735	-1639.8	9.91	-22.61
1070	SLE RA 1	-44	14	3761	-1076.64	6.44	-15.31
1070	SLE RA 2	-43	25	3703	-1061.98	6.33	-14.94
1070	SLE RA 3	-44	14	3832	-1096.18	6.56	-15.54
1070	SLE RA 4	-44	21	3797	-1087.38	6.5	-15.32
1070	SLE RA 5	-43	25	3751	-1075.15	6.41	-15.06
1070	SLE RA 6	-45	14	3880	-1109.34	6.65	-15.66
1070	SLE RA 7	-44	21	3845	-1100.55	6.59	-15.44
1070	SLE RA 8	-44	14	3857	-1102.97	6.61	-15.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1070	SLE RA 9	-44	21	3822	-1094.18	6.55	-15.32
1070	SLE RA 10	-46	26	4006	-1147.8	6.88	-15.97
1070	SLE RA 11	-47	15	4135	-1182	7.12	-16.57
1070	SLE RA 12	-47	22	4100	-1173.2	7.05	-16.35
1070	SLE RA 13	-46	26	4054	-1160.97	6.97	-16.09
1070	SLE RA 14	-48	15	4182	-1195.16	7.21	-16.69
1070	SLE RA 15	-47	22	4147	-1186.37	7.14	-16.47
1070	SLE RA 16	-47	15	4159	-1188.79	7.16	-16.57
1070	SLE RA 17	-47	22	4124	-1180	7.1	-16.35
1070	SLE RA 18	-48	16	4194	-1199.24	7.23	-16.78
1070	SLE RA 19	-47	22	4159	-1190.45	7.16	-16.56
1070	SLE RA 20	-48	16	4241	-1212.41	7.31	-16.89
1070	SLE RA 21	-48	22	4206	-1203.61	7.25	-16.67
1070	SLE FR 1	-44	14	3761	-1076.64	6.44	-15.31
1070	SLE FR 2	-44	16	3750	-1073.71	6.41	-15.24
1070	SLE FR 3	-44	14	3780	-1081.91	6.47	-15.36
1070	SLE FR 4	-45	17	3879	-1110.49	6.65	-15.68
1070	SLE FR 5	-45	14	3910	-1118.69	6.71	-15.8
1070	SLE FR 6	-46	15	3978	-1137.94	6.83	-16.04
1070	SLE QP 1	-44	14	3761	-1076.64	6.44	-15.31
1070	SLE QP 2	-45	14	3891	-1113.42	6.67	-15.75
1070	SLD 1	366	115	3716	-1084.83	7.07	127.87
1070	SLD 2	293	71	3775	-1100.08	7.27	102.48
1070	SLD 3	344	-89	5026	-1416.73	9.49	120.46
1070	SLD 4	271	-134	5085	-1431.98	9.69	95.07
1070	SLD 5	123	362	1842	-598.85	3.08	42.94
1070	SLD 6	76	334	1880	-608.67	3.22	26.59
1070	SLD 7	52	-319	6208	-1705.17	11.15	18.24
1070	SLD 8	5	-348	6246	-1714.99	11.29	1.89
1070	SLD 9	-95	376	1536	-511.86	2.06	-33.39
1070	SLD 10	-142	348	1574	-521.68	2.19	-49.74
1070	SLD 11	-166	-305	5902	-1618.18	10.13	-58.09
1070	SLD 12	-213	-333	5940	-1628	10.26	-74.44
1070	SLD 13	-361	163	2697	-794.87	3.66	-126.57
1070	SLD 14	-434	118	2756	-810.12	3.86	-151.96
1070	SLD 15	-383	-42	4007	-1126.76	6.08	-133.98
1070	SLD 16	-456	-86	4066	-1142.02	6.28	-159.37
1070	SLV 1	600	186	3522	-1044.44	7.11	209.69
1070	SLV 2	485	117	3615	-1068.49	7.43	169.67
1070	SLV 3	563	-162	5756	-1610.7	11.24	197.13
1070	SLV 4	448	-232	5850	-1634.74	11.56	157.1
1070	SLV 5	225	608	374	-229.42	0.48	78.41
1070	SLV 6	148	561	437	-245.61	0.7	51.47
1070	SLV 7	104	-554	7822	-2116.94	14.25	36.52
1070	SLV 8	27	-601	7885	-2133.13	14.46	9.58
1070	SLV 9	-117	630	-103	-93.72	-1.11	-41.08
1070	SLV 10	-194	583	-40	-109.91	-0.9	-68.02
1070	SLV 11	-238	-532	7346	-1981.24	12.65	-82.97
1070	SLV 12	-315	-579	7409	-1997.43	12.87	-109.91
1070	SLV 13	-538	261	1932	-592.1	1.79	-188.6
1070	SLV 14	-653	191	2026	-616.15	2.11	-228.63
1070	SLV 15	-575	-88	4167	-1158.36	5.92	-201.17
1070	SLV 16	-690	-157	4260	-1182.4	6.24	-241.19
1070	SLV FO 1	664	204	3485	-1037.54	7.15	232.24
1070	SLV FO 2	538	127	3588	-1063.99	7.5	188.21
1070	SLV FO 3	624	-180	5943	-1660.43	11.69	218.42
1070	SLV FO 4	498	-257	6046	-1686.88	12.04	174.39
1070	SLV FO 5	252	667	22	-141.02	-0.14	87.83
1070	SLV FO 6	167	615	91	-158.83	0.1	58.19
1070	SLV FO 7	119	-611	8216	-2217.29	15	41.75
1070	SLV FO 8	34	-663	8285	-2235.1	15.24	12.11
1070	SLV FO 9	-124	691	-503	8.25	-1.89	-43.61
1070	SLV FO 10	-209	640	-433	-9.55	-1.66	-73.25
1070	SLV FO 11	-257	-586	7691	-2068.02	13.25	-89.69
1070	SLV FO 12	-342	-638	7760	-2085.83	13.49	-119.33
1070	SLV FO 13	-588	285	1736	-539.97	1.3	-205.89
1070	SLV FO 14	-714	209	1839	-566.42	1.65	-249.91
1070	SLV FO 15	-628	-98	4194	-1162.85	5.85	-219.71
1070	SLV FO 16	-754	-175	4297	-1189.3	6.2	-263.74
1070	CRTFP Ux+	0	0	0	0	0	0
1070	CRTFP Ux-	0	0	0	0	0	0
1070	CRTFP Uy+	0	0	0	0	0	0
1070	CRTFP Uy-	0	0	0	0	0	0
1071	SLU 1	-40	14	3387	-887.86	5.26	-14.11
1071	SLU 2	-39	30	3305	-869.29	5.13	-13.58
1071	SLU 3	-41	14	3487	-912.81	5.43	-14.44
1071	SLU 4	-40	24	3438	-901.68	5.35	-14.13
1071	SLU 5	-39	30	3373	-886.1	5.24	-13.75
1071	SLU 6	-42	14	3554	-929.62	5.54	-14.61
1071	SLU 7	-41	24	3505	-918.48	5.46	-14.29
1071	SLU 8	-41	14	3522	-921.47	5.49	-14.44
1071	SLU 9	-40	24	3473	-910.34	5.4	-14.12
1071	SLU 10	-43	32	3733	-979.14	5.84	-15.08
1071	SLU 11	-46	16	3914	-1022.66	6.14	-15.94
1071	SLU 12	-45	26	3865	-1011.52	6.06	-15.62
1071	SLU 13	-44	32	3800	-995.95	5.95	-15.24
1071	SLU 14	-46	16	3982	-1039.47	6.25	-16.11
1071	SLU 15	-45	26	3932	-1028.33	6.17	-15.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1071	SLU 16	-46	16	3949	-1031.32	6.2	-15.94
1071	SLU 17	-45	26	3900	-1020.18	6.12	-15.62
1071	SLU 18	-47	17	3998	-1044.78	6.28	-16.25
1071	SLU 19	-46	27	3948	-1033.64	6.2	-15.93
1071	SLU 20	-47	17	4065	-1061.59	6.39	-16.42
1071	SLU 21	-46	27	4016	-1050.45	6.31	-16.1
1071	SLU 22	-47	16	3971	-1036.16	6.23	-16.37
1071	SLU 23	-45	32	3889	-1017.6	6.1	-15.83
1071	SLU 24	-48	16	4071	-1061.12	6.4	-16.7
1071	SLU 25	-47	26	4022	-1049.98	6.32	-16.38
1071	SLU 26	-46	32	3956	-1034.41	6.21	-16
1071	SLU 27	-48	16	4138	-1077.93	6.51	-16.87
1071	SLU 28	-47	26	4089	-1066.79	6.43	-16.55
1071	SLU 29	-48	16	4106	-1069.78	6.46	-16.7
1071	SLU 30	-47	26	4056	-1058.64	6.38	-16.38
1071	SLU 31	-50	34	4316	-1127.44	6.81	-17.33
1071	SLU 32	-52	18	4498	-1170.96	7.11	-18.2
1071	SLU 33	-51	28	4449	-1159.83	7.03	-17.88
1071	SLU 34	-50	34	4383	-1144.25	6.92	-17.5
1071	SLU 35	-53	18	4565	-1187.77	7.22	-18.36
1071	SLU 36	-52	28	4516	-1176.63	7.14	-18.05
1071	SLU 37	-52	18	4533	-1179.62	7.17	-18.2
1071	SLU 38	-51	28	4484	-1168.49	7.09	-17.88
1071	SLU 39	-53	19	4581	-1193.08	7.25	-18.5
1071	SLU 40	-52	29	4532	-1181.95	7.17	-18.19
1071	SLU 41	-54	19	4649	-1209.89	7.36	-18.67
1071	SLU 42	-53	29	4599	-1198.75	7.28	-18.35
1071	SLU 43	-50	18	4203	-1103.37	6.51	-17.57
1071	SLU 44	-49	34	4121	-1084.8	6.37	-17.04
1071	SLU 45	-51	18	4303	-1128.32	6.67	-17.9
1071	SLU 46	-50	27	4254	-1117.18	6.59	-17.58
1071	SLU 47	-49	34	4189	-1101.61	6.48	-17.2
1071	SLU 48	-52	18	4371	-1145.13	6.79	-18.07
1071	SLU 49	-51	27	4321	-1133.99	6.7	-17.75
1071	SLU 50	-51	18	4338	-1136.98	6.73	-17.9
1071	SLU 51	-50	27	4289	-1125.85	6.65	-17.58
1071	SLU 52	-53	36	4549	-1194.65	7.08	-18.54
1071	SLU 53	-56	20	4730	-1238.17	7.38	-19.4
1071	SLU 54	-55	30	4681	-1227.03	7.3	-19.08
1071	SLU 55	-54	36	4616	-1211.46	7.19	-18.7
1071	SLU 56	-56	20	4798	-1254.97	7.5	-19.57
1071	SLU 57	-55	30	4749	-1243.84	7.41	-19.25
1071	SLU 58	-56	20	4765	-1246.83	7.44	-19.4
1071	SLU 59	-55	30	4716	-1235.69	7.36	-19.08
1071	SLU 60	-56	21	4814	-1260.29	7.52	-19.71
1071	SLU 61	-56	30	4765	-1249.15	7.44	-19.39
1071	SLU 62	-57	21	4881	-1277.09	7.64	-19.87
1071	SLU 63	-56	30	4832	-1265.96	7.55	-19.56
1071	SLU 64	-57	19	4787	-1251.67	7.48	-19.82
1071	SLU 65	-55	36	4705	-1233.11	7.34	-19.29
1071	SLU 66	-58	20	4887	-1276.63	7.65	-20.16
1071	SLU 67	-57	29	4838	-1265.49	7.56	-19.84
1071	SLU 68	-56	36	4772	-1249.92	7.46	-19.46
1071	SLU 69	-58	20	4954	-1293.44	7.76	-20.33
1071	SLU 70	-57	29	4905	-1282.3	7.67	-20.01
1071	SLU 71	-58	20	4922	-1285.29	7.7	-20.16
1071	SLU 72	-57	29	4872	-1274.15	7.62	-19.84
1071	SLU 73	-60	38	5132	-1342.95	8.05	-20.79
1071	SLU 74	-62	22	5314	-1386.47	8.36	-21.66
1071	SLU 75	-61	31	5265	-1375.33	8.27	-21.34
1071	SLU 76	-60	38	5200	-1359.76	8.17	-20.96
1071	SLU 77	-63	22	5381	-1403.28	8.47	-21.82
1071	SLU 78	-62	31	5332	-1392.14	8.39	-21.51
1071	SLU 79	-62	22	5349	-1395.13	8.42	-21.66
1071	SLU 80	-61	31	5300	-1383.99	8.33	-21.34
1071	SLU 81	-63	22	5397	-1408.59	8.5	-21.96
1071	SLU 82	-62	32	5348	-1397.45	8.41	-21.65
1071	SLU 83	-63	23	5465	-1425.4	8.61	-22.13
1071	SLU 84	-62	32	5415	-1414.26	8.53	-21.81
1071	SLE RA 1	-42	15	3554	-930.23	5.54	-14.75
1071	SLE RA 2	-41	25	3499	-917.85	5.45	-14.4
1071	SLE RA 3	-43	15	3621	-946.87	5.65	-14.98
1071	SLE RA 4	-42	21	3588	-939.44	5.6	-14.76
1071	SLE RA 5	-42	25	3544	-929.06	5.52	-14.51
1071	SLE RA 6	-43	15	3665	-958.07	5.73	-15.09
1071	SLE RA 7	-43	21	3633	-950.65	5.67	-14.88
1071	SLE RA 8	-43	15	3644	-952.64	5.69	-14.98
1071	SLE RA 9	-42	21	3611	-945.22	5.64	-14.76
1071	SLE RA 10	-44	27	3784	-991.08	5.92	-15.4
1071	SLE RA 11	-46	16	3905	-1020.1	6.12	-15.98
1071	SLE RA 12	-45	23	3873	-1012.67	6.07	-15.76
1071	SLE RA 13	-44	27	3829	-1002.29	6	-15.51
1071	SLE RA 14	-46	16	3950	-1031.3	6.2	-16.09
1071	SLE RA 15	-45	23	3917	-1023.88	6.14	-15.87
1071	SLE RA 16	-46	16	3929	-1025.87	6.16	-15.97
1071	SLE RA 17	-45	23	3896	-1018.45	6.11	-15.76
1071	SLE RA 18	-46	17	3961	-1034.84	6.22	-16.18
1071	SLE RA 19	-46	23	3928	-1027.42	6.16	-15.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1071	SLE RA 20	-47	17	4006	-1046.05	6.29	-16.29
1071	SLE RA 21	-46	23	3973	-1038.62	6.24	-16.08
1071	SLE FR 1	-42	15	3554	-930.23	5.54	-14.75
1071	SLE FR 2	-42	17	3543	-927.76	5.52	-14.68
1071	SLE FR 3	-42	15	3572	-934.71	5.57	-14.8
1071	SLE FR 4	-43	17	3665	-959.14	5.73	-15.11
1071	SLE FR 5	-44	15	3694	-966.1	5.77	-15.23
1071	SLE FR 6	-44	16	3758	-982.54	5.88	-15.47
1071	SLE QP 1	-42	15	3554	-930.23	5.54	-14.75
1071	SLE QP 2	-43	15	3676	-961.61	5.74	-15.18
1071	SLD 1	368	114	3487	-933.66	6.2	128.78
1071	SLD 2	295	73	3539	-945.75	6.38	103.38
1071	SLD 3	347	-88	4719	-1214.31	8.24	121.65
1071	SLD 4	275	-129	4772	-1226.4	8.43	96.25
1071	SLD 5	124	358	1741	-525.51	2.75	43.17
1071	SLD 6	77	331	1775	-533.29	2.87	26.82
1071	SLD 7	55	-314	5849	-1460.98	9.56	19.44
1071	SLD 8	8	-341	5883	-1468.77	9.68	3.08
1071	SLD 9	-95	371	1469	-454.46	1.81	-33.45
1071	SLD 10	-142	345	1503	-462.24	1.93	-49.8
1071	SLD 11	-164	-301	5577	-1389.94	8.62	-57.18
1071	SLD 12	-211	-327	5611	-1397.72	8.74	-73.54
1071	SLD 13	-362	159	2580	-696.83	3.06	-126.62
1071	SLD 14	-434	118	2633	-708.92	3.24	-152.02
1071	SLD 15	-382	-43	3813	-977.47	5.1	-133.74
1071	SLD 16	-455	-84	3866	-989.57	5.29	-159.14
1071	SLV 1	602	184	3290	-897.41	6.31	210.76
1071	SLV 2	487	119	3373	-916.47	6.6	170.73
1071	SLV 3	567	-160	5393	-1376.22	9.79	198.69
1071	SLV 4	453	-224	5476	-1395.28	10.08	158.65
1071	SLV 5	225	599	355	-212.61	0.57	78.38
1071	SLV 6	147	556	411	-225.44	0.77	51.43
1071	SLV 7	108	-547	7365	-1808.63	12.19	38.14
1071	SLV 8	31	-590	7421	-1821.46	12.38	11.19
1071	SLV 9	-118	621	-69	-101.77	-0.9	-41.55
1071	SLV 10	-195	577	-13	-114.6	-0.7	-68.5
1071	SLV 11	-234	-526	6941	-1697.79	10.72	-81.8
1071	SLV 12	-311	-569	6997	-1710.62	10.91	-108.75
1071	SLV 13	-540	255	1876	-527.95	1.41	-189.02
1071	SLV 14	-654	190	1959	-547.01	1.7	-229.05
1071	SLV 15	-574	-89	3979	-1006.76	4.89	-201.09
1071	SLV 16	-689	-154	4062	-1025.82	5.18	-241.13
1071	SLV FO 1	667	201	3251	-890.99	6.36	233.36
1071	SLV FO 2	541	130	3343	-911.95	6.68	189.32
1071	SLV FO 3	629	-177	5565	-1417.68	10.2	220.08
1071	SLV FO 4	502	-248	5656	-1438.64	10.51	176.04
1071	SLV FO 5	251	658	23	-137.71	0.06	87.74
1071	SLV FO 6	166	610	85	-151.82	0.27	58.09
1071	SLV FO 7	124	-603	7734	-1893.33	12.83	43.47
1071	SLV FO 8	39	-651	7796	-1907.44	13.05	13.82
1071	SLV FO 9	-126	681	-443	-15.78	-1.56	-44.19
1071	SLV FO 10	-211	633	-382	-29.9	-1.35	-73.83
1071	SLV FO 11	-253	-580	7268	-1771.41	11.22	-88.46
1071	SLV FO 12	-338	-627	7329	-1785.52	11.43	-118.1
1071	SLV FO 13	-589	279	1696	-484.59	0.97	-206.4
1071	SLV FO 14	-715	207	1788	-505.55	1.29	-250.44
1071	SLV FO 15	-628	-100	4010	-1011.27	4.81	-219.68
1071	SLV FO 16	-754	-171	4101	-1032.24	5.12	-263.72
1071	CRTFP Ux+	0	0	0	0	0	0
1071	CRTFP Ux-	0	0	0	0	0	0
1071	CRTFP Uy+	0	0	0	0	0	0
1071	CRTFP Uy-	0	0	0	0	0	0
1072	SLU 1	-39	16	3225	-776.63	4.12	-13.58
1072	SLU 2	-38	32	3147	-760.72	4.01	-13.07
1072	SLU 3	-40	16	3320	-798.13	4.25	-13.9
1072	SLU 4	-39	25	3273	-788.59	4.18	-13.59
1072	SLU 5	-38	32	3211	-775.2	4.1	-13.23
1072	SLU 6	-40	16	3384	-812.61	4.33	-14.05
1072	SLU 7	-39	26	3337	-803.06	4.27	-13.75
1072	SLU 8	-40	16	3353	-805.58	4.29	-13.89
1072	SLU 9	-39	25	3306	-796.03	4.23	-13.59
1072	SLU 10	-42	34	3553	-855.54	4.56	-14.52
1072	SLU 11	-44	18	3725	-892.95	4.8	-15.35
1072	SLU 12	-43	28	3679	-883.4	4.73	-15.05
1072	SLU 13	-42	34	3617	-870.01	4.65	-14.68
1072	SLU 14	-45	18	3789	-907.42	4.88	-15.51
1072	SLU 15	-44	28	3743	-897.88	4.82	-15.2
1072	SLU 16	-44	18	3758	-900.39	4.84	-15.34
1072	SLU 17	-43	28	3712	-890.85	4.78	-15.04
1072	SLU 18	-45	19	3805	-912.08	4.9	-15.65
1072	SLU 19	-44	29	3758	-902.53	4.84	-15.35
1072	SLU 20	-45	19	3868	-926.55	4.99	-15.81
1072	SLU 21	-45	29	3822	-917.01	4.93	-15.5
1072	SLU 22	-45	18	3779	-904.51	4.87	-15.76
1072	SLU 23	-44	34	3701	-888.61	4.77	-15.25
1072	SLU 24	-46	18	3874	-926.02	5	-16.08
1072	SLU 25	-45	28	3827	-916.48	4.94	-15.77
1072	SLU 26	-44	34	3765	-903.08	4.85	-15.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1072	SLU 27	-47	18	3938	-940.49	5.09	-16.24
1072	SLU 28	-46	28	3891	-930.95	5.02	-15.93
1072	SLU 29	-46	18	3907	-933.46	5.05	-16.07
1072	SLU 30	-45	28	3860	-923.92	4.98	-15.77
1072	SLU 31	-48	36	4107	-983.42	5.31	-16.7
1072	SLU 32	-50	21	4279	-1020.83	5.55	-17.53
1072	SLU 33	-49	30	4233	-1011.29	5.48	-17.23
1072	SLU 34	-48	36	4171	-997.9	5.4	-16.86
1072	SLU 35	-51	21	4343	-1035.31	5.63	-17.69
1072	SLU 36	-50	30	4296	-1025.76	5.57	-17.38
1072	SLU 37	-50	21	4312	-1028.28	5.59	-17.53
1072	SLU 38	-49	30	4266	-1018.73	5.53	-17.22
1072	SLU 39	-51	21	4358	-1039.96	5.65	-17.83
1072	SLU 40	-50	31	4312	-1030.42	5.59	-17.53
1072	SLU 41	-52	21	4422	-1054.44	5.74	-17.99
1072	SLU 42	-51	31	4376	-1044.89	5.68	-17.69
1072	SLU 43	-49	20	4003	-965.77	5.1	-16.9
1072	SLU 44	-47	36	3925	-949.86	4.99	-16.39
1072	SLU 45	-49	20	4098	-987.27	5.22	-17.22
1072	SLU 46	-49	29	4051	-977.73	5.16	-16.92
1072	SLU 47	-47	36	3989	-964.34	5.08	-16.55
1072	SLU 48	-50	20	4162	-1001.75	5.31	-17.38
1072	SLU 49	-49	29	4115	-992.2	5.25	-17.07
1072	SLU 50	-49	20	4131	-994.72	5.27	-17.22
1072	SLU 51	-49	29	4084	-985.17	5.21	-16.91
1072	SLU 52	-51	38	4331	-1044.68	5.54	-17.85
1072	SLU 53	-54	22	4503	-1082.09	5.77	-18.68
1072	SLU 54	-53	32	4456	-1072.54	5.71	-18.37
1072	SLU 55	-52	38	4394	-1059.15	5.63	-18
1072	SLU 56	-54	22	4567	-1096.56	5.86	-18.83
1072	SLU 57	-53	32	4520	-1087.02	5.8	-18.53
1072	SLU 58	-54	22	4536	-1089.53	5.82	-18.67
1072	SLU 59	-53	32	4489	-1079.99	5.76	-18.36
1072	SLU 60	-54	23	4582	-1101.22	5.88	-18.98
1072	SLU 61	-54	33	4536	-1091.67	5.82	-18.67
1072	SLU 62	-55	23	4646	-1115.69	5.97	-19.13
1072	SLU 63	-54	33	4599	-1106.15	5.9	-18.83
1072	SLU 64	-55	22	4557	-1093.65	5.85	-19.08
1072	SLU 65	-53	38	4479	-1077.75	5.74	-18.58
1072	SLU 66	-56	22	4652	-1115.16	5.98	-19.4
1072	SLU 67	-55	32	4605	-1105.62	5.91	-19.1
1072	SLU 68	-54	38	4543	-1092.22	5.83	-18.73
1072	SLU 69	-56	22	4715	-1129.63	6.06	-19.56
1072	SLU 70	-55	32	4669	-1120.09	6	-19.26
1072	SLU 71	-56	22	4685	-1122.6	6.02	-19.4
1072	SLU 72	-55	32	4638	-1113.06	5.96	-19.09
1072	SLU 73	-57	40	4884	-1172.56	6.29	-20.03
1072	SLU 74	-60	24	5057	-1209.97	6.52	-20.86
1072	SLU 75	-59	34	5010	-1200.43	6.46	-20.55
1072	SLU 76	-58	40	4948	-1187.04	6.38	-20.19
1072	SLU 77	-60	25	5121	-1224.45	6.61	-21.01
1072	SLU 78	-59	34	5074	-1214.91	6.55	-20.71
1072	SLU 79	-60	24	5090	-1217.42	6.57	-20.85
1072	SLU 80	-59	34	5043	-1207.88	6.51	-20.55
1072	SLU 81	-61	25	5136	-1229.1	6.63	-21.16
1072	SLU 82	-60	35	5089	-1219.56	6.57	-20.86
1072	SLU 83	-61	25	5200	-1243.58	6.72	-21.32
1072	SLU 84	-60	35	5153	-1234.04	6.66	-21.01
1072	SLE RA 1	-41	16	3384	-813.17	4.33	-14.2
1072	SLE RA 2	-40	27	3332	-802.56	4.26	-13.86
1072	SLE RA 3	-41	16	3447	-827.5	4.42	-14.41
1072	SLE RA 4	-41	23	3416	-821.14	4.38	-14.21
1072	SLE RA 5	-40	27	3374	-812.21	4.32	-13.97
1072	SLE RA 6	-42	16	3489	-837.15	4.48	-14.52
1072	SLE RA 7	-41	23	3458	-830.79	4.43	-14.32
1072	SLE RA 8	-41	16	3469	-832.47	4.45	-14.41
1072	SLE RA 9	-41	23	3438	-826.1	4.41	-14.21
1072	SLE RA 10	-43	29	3602	-865.77	4.63	-14.83
1072	SLE RA 11	-44	18	3717	-890.71	4.78	-15.38
1072	SLE RA 12	-44	24	3686	-884.35	4.74	-15.18
1072	SLE RA 13	-43	29	3645	-875.42	4.69	-14.94
1072	SLE RA 14	-44	18	3760	-900.36	4.84	-15.49
1072	SLE RA 15	-44	25	3728	-894	4.8	-15.28
1072	SLE RA 16	-44	18	3739	-895.67	4.82	-15.38
1072	SLE RA 17	-44	24	3708	-889.31	4.77	-15.17
1072	SLE RA 18	-45	19	3770	-903.47	4.86	-15.58
1072	SLE RA 19	-44	25	3739	-897.1	4.81	-15.38
1072	SLE RA 20	-45	19	3812	-913.11	4.91	-15.69
1072	SLE RA 21	-44	25	3781	-906.75	4.87	-15.49
1072	SLE FR 1	-41	16	3384	-813.17	4.33	-14.2
1072	SLE FR 2	-41	18	3373	-811.05	4.32	-14.13
1072	SLE FR 3	-41	16	3401	-817.03	4.36	-14.24
1072	SLE FR 4	-42	19	3489	-838.14	4.48	-14.55
1072	SLE FR 5	-42	17	3516	-844.12	4.51	-14.66
1072	SLE FR 6	-43	17	3577	-858.32	4.59	-14.89
1072	SLE QP 1	-41	16	3384	-813.17	4.33	-14.2
1072	SLE QP 2	-42	17	3499	-840.26	4.49	-14.62
1072	SLD 1	370	115	3293	-810.67	5.02	129.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1072	SLD 2	297	77	3340	-820.16	5.18	104.22
1072	SLD 3	350	-84	4463	-1051.41	6.6	122.79
1072	SLD 4	278	-122	4510	-1060.9	6.76	97.38
1072	SLD 5	124	355	1655	-464.63	2.24	43.38
1072	SLD 6	77	331	1685	-470.74	2.34	27.03
1072	SLD 7	58	-309	5555	-1267.09	7.48	20.61
1072	SLD 8	12	-333	5585	-1273.2	7.58	4.25
1072	SLD 9	-95	367	1414	-407.31	1.4	-33.49
1072	SLD 10	-142	343	1444	-413.42	1.5	-49.84
1072	SLD 11	-161	-297	5314	-1209.77	6.64	-56.26
1072	SLD 12	-208	-321	5344	-1215.88	6.74	-72.62
1072	SLD 13	-362	156	2489	-619.61	2.22	-126.62
1072	SLD 14	-434	118	2536	-629.1	2.38	-152.02
1072	SLD 15	-381	-43	3659	-860.35	3.8	-133.45
1072	SLD 16	-454	-81	3706	-869.84	3.96	-158.85
1072	SLV 1	605	185	3091	-776.44	5.21	211.74
1072	SLV 2	490	125	3165	-791.4	5.46	171.7
1072	SLV 3	571	-155	5088	-1187.16	7.89	200.16
1072	SLV 4	457	-215	5162	-1202.12	8.14	160.12
1072	SLV 5	224	594	335	-195.39	0.59	78.32
1072	SLV 6	147	553	385	-205.46	0.76	51.37
1072	SLV 7	113	-539	6990	-1564.46	9.53	39.72
1072	SLV 8	36	-579	7040	-1574.53	9.7	12.77
1072	SLV 9	-120	613	-41	-105.98	-0.72	-42
1072	SLV 10	-197	573	9	-116.05	-0.55	-68.95
1072	SLV 11	-231	-519	6614	-1475.05	8.22	-80.6
1072	SLV 12	-308	-560	6664	-1485.12	8.39	-107.56
1072	SLV 13	-541	249	1837	-478.39	0.84	-189.35
1072	SLV 14	-655	189	1911	-493.35	1.09	-229.39
1072	SLV 15	-574	-91	3834	-889.11	3.52	-200.93
1072	SLV 16	-689	-151	3908	-904.07	3.77	-240.97
1072	SLV FO 1	669	202	3050	-770.06	5.28	234.37
1072	SLV FO 2	543	136	3132	-786.52	5.56	190.33
1072	SLV FO 3	633	-172	5247	-1221.85	8.23	221.63
1072	SLV FO 4	507	-238	5328	-1238.31	8.51	177.59
1072	SLV FO 5	251	652	19	-130.91	0.2	87.62
1072	SLV FO 6	166	607	73	-141.99	0.39	57.97
1072	SLV FO 7	128	-594	7339	-1636.88	10.03	45.16
1072	SLV FO 8	43	-639	7394	-1647.96	10.22	15.51
1072	SLV FO 9	-127	673	-395	-32.55	-1.24	-44.74
1072	SLV FO 10	-212	628	-341	-43.63	-1.05	-74.39
1072	SLV FO 11	-250	-573	6926	-1538.53	8.59	-87.2
1072	SLV FO 12	-335	-618	6980	-1549.6	8.78	-116.85
1072	SLV FO 13	-590	272	1671	-442.2	0.48	-206.82
1072	SLV FO 14	-717	206	1752	-458.66	0.75	-250.87
1072	SLV FO 15	-627	-102	3867	-893.99	3.42	-219.56
1072	SLV FO 16	-753	-168	3948	-910.45	3.7	-263.6
1072	CRTFP Ux+	0	0	0	0	0	0
1072	CRTFP Ux-	0	0	0	0	0	0
1072	CRTFP Uy+	0	0	0	0	0	0
1072	CRTFP Uy-	0	0	0	0	0	0
1073	SLU 1	-37	18	3105	-697.55	2.83	-13.04
1073	SLU 2	-36	34	3031	-683.47	2.76	-12.56
1073	SLU 3	-38	18	3196	-716.62	2.92	-13.35
1073	SLU 4	-38	28	3151	-708.17	2.88	-13.05
1073	SLU 5	-37	34	3092	-696.29	2.82	-12.7
1073	SLU 6	-39	19	3258	-729.44	2.98	-13.49
1073	SLU 7	-38	28	3213	-720.99	2.94	-13.2
1073	SLU 8	-38	18	3228	-723.2	2.95	-13.33
1073	SLU 9	-38	28	3183	-714.75	2.91	-13.04
1073	SLU 10	-40	37	3420	-767.7	3.13	-13.96
1073	SLU 11	-42	21	3586	-800.85	3.29	-14.75
1073	SLU 12	-42	31	3541	-792.4	3.25	-14.46
1073	SLU 13	-41	37	3482	-780.52	3.19	-14.11
1073	SLU 14	-43	21	3647	-813.67	3.35	-14.9
1073	SLU 15	-42	31	3602	-805.22	3.31	-14.61
1073	SLU 16	-42	21	3618	-807.43	3.32	-14.74
1073	SLU 17	-42	31	3573	-798.98	3.28	-14.45
1073	SLU 18	-43	22	3662	-817.88	3.36	-15.05
1073	SLU 19	-42	32	3617	-809.43	3.32	-14.76
1073	SLU 20	-44	22	3723	-830.7	3.42	-15.2
1073	SLU 21	-43	32	3678	-822.25	3.38	-14.91
1073	SLU 22	-44	21	3638	-811.06	3.34	-15.15
1073	SLU 23	-42	37	3563	-796.97	3.27	-14.66
1073	SLU 24	-44	21	3728	-830.12	3.43	-15.45
1073	SLU 25	-44	31	3684	-821.68	3.38	-15.16
1073	SLU 26	-43	37	3624	-809.8	3.33	-14.81
1073	SLU 27	-45	21	3790	-842.95	3.49	-15.6
1073	SLU 28	-44	31	3745	-834.5	3.44	-15.31
1073	SLU 29	-44	21	3760	-836.71	3.46	-15.44
1073	SLU 30	-44	31	3715	-828.26	3.42	-15.15
1073	SLU 31	-46	40	3952	-881.2	3.64	-16.07
1073	SLU 32	-48	24	4118	-914.35	3.79	-16.86
1073	SLU 33	-48	33	4073	-905.9	3.75	-16.57
1073	SLU 34	-47	40	4014	-894.03	3.7	-16.22
1073	SLU 35	-49	24	4179	-927.18	3.85	-17.01
1073	SLU 36	-48	34	4135	-918.73	3.81	-16.71
1073	SLU 37	-48	24	4150	-920.94	3.83	-16.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1073	SLU 38	-48	33	4105	-912.49	3.78	-16.56
1073	SLU 39	-49	25	4194	-931.38	3.86	-17.16
1073	SLU 40	-48	34	4149	-922.93	3.82	-16.87
1073	SLU 41	-50	25	4256	-944.21	3.92	-17.3
1073	SLU 42	-49	34	4211	-935.76	3.88	-17.01
1073	SLU 43	-47	23	3855	-867.9	3.51	-16.23
1073	SLU 44	-45	39	3780	-853.81	3.44	-15.75
1073	SLU 45	-48	23	3945	-886.96	3.6	-16.54
1073	SLU 46	-47	32	3901	-878.52	3.56	-16.25
1073	SLU 47	-46	39	3841	-866.64	3.5	-15.89
1073	SLU 48	-48	23	4007	-899.79	3.66	-16.68
1073	SLU 49	-47	33	3962	-891.34	3.62	-16.39
1073	SLU 50	-48	23	3977	-893.55	3.63	-16.52
1073	SLU 51	-47	32	3932	-885.1	3.59	-16.23
1073	SLU 52	-49	41	4169	-938.04	3.81	-17.15
1073	SLU 53	-52	26	4335	-971.19	3.97	-17.94
1073	SLU 54	-51	35	4290	-962.74	3.92	-17.65
1073	SLU 55	-50	41	4231	-950.87	3.87	-17.3
1073	SLU 56	-52	26	4396	-984.02	4.02	-18.09
1073	SLU 57	-51	35	4352	-975.57	3.98	-17.8
1073	SLU 58	-52	26	4367	-977.78	4	-17.93
1073	SLU 59	-51	35	4322	-969.33	3.96	-17.64
1073	SLU 60	-52	26	4411	-988.22	4.04	-18.24
1073	SLU 61	-52	36	4366	-979.77	3.99	-17.95
1073	SLU 62	-53	27	4473	-1001.05	4.09	-18.39
1073	SLU 63	-52	36	4428	-992.6	4.05	-18.1
1073	SLU 64	-53	25	4387	-981.4	4.02	-18.34
1073	SLU 65	-51	41	4312	-967.32	3.95	-17.85
1073	SLU 66	-54	26	4478	-1000.47	4.1	-18.64
1073	SLU 67	-53	35	4433	-992.02	4.06	-18.35
1073	SLU 68	-52	41	4373	-980.15	4.01	-18
1073	SLU 69	-54	26	4539	-1013.3	4.16	-18.79
1073	SLU 70	-53	35	4494	-1004.85	4.12	-18.5
1073	SLU 71	-54	26	4509	-1007.06	4.14	-18.63
1073	SLU 72	-53	35	4464	-998.61	4.09	-18.34
1073	SLU 73	-55	44	4702	-1051.55	4.31	-19.26
1073	SLU 74	-58	28	4867	-1084.7	4.47	-20.05
1073	SLU 75	-57	38	4822	-1076.25	4.43	-19.76
1073	SLU 76	-56	44	4763	-1064.38	4.37	-19.41
1073	SLU 77	-58	29	4929	-1097.53	4.53	-20.2
1073	SLU 78	-57	38	4884	-1089.08	4.49	-19.9
1073	SLU 79	-58	28	4899	-1091.28	4.5	-20.04
1073	SLU 80	-57	38	4854	-1082.84	4.46	-19.75
1073	SLU 81	-58	29	4943	-1101.73	4.54	-20.35
1073	SLU 82	-58	39	4898	-1093.28	4.5	-20.06
1073	SLU 83	-59	29	5005	-1114.56	4.6	-20.49
1073	SLU 84	-58	39	4960	-1106.11	4.56	-20.2
1073	SLE RA 1	-39	19	3257	-729.98	2.98	-13.64
1073	SLE RA 2	-38	30	3208	-720.59	2.93	-13.32
1073	SLE RA 3	-40	19	3318	-742.69	3.04	-13.85
1073	SLE RA 4	-39	25	3288	-737.06	3.01	-13.65
1073	SLE RA 5	-39	30	3248	-729.14	2.97	-13.42
1073	SLE RA 6	-40	19	3359	-751.24	3.08	-13.94
1073	SLE RA 7	-40	26	3329	-745.61	3.05	-13.75
1073	SLE RA 8	-40	19	3339	-747.08	3.06	-13.84
1073	SLE RA 9	-39	25	3309	-741.45	3.03	-13.64
1073	SLE RA 10	-41	31	3467	-776.74	3.18	-14.26
1073	SLE RA 11	-43	21	3578	-798.84	3.28	-14.78
1073	SLE RA 12	-42	27	3548	-793.21	3.25	-14.59
1073	SLE RA 13	-41	31	3508	-785.29	3.22	-14.35
1073	SLE RA 14	-43	21	3619	-807.4	3.32	-14.88
1073	SLE RA 15	-42	27	3589	-801.76	3.29	-14.69
1073	SLE RA 16	-42	21	3599	-803.23	3.3	-14.78
1073	SLE RA 17	-42	27	3569	-797.6	3.27	-14.58
1073	SLE RA 18	-43	21	3629	-810.2	3.33	-14.98
1073	SLE RA 19	-43	28	3599	-804.56	3.3	-14.79
1073	SLE RA 20	-43	22	3669	-818.75	3.37	-15.08
1073	SLE RA 21	-43	28	3639	-813.12	3.34	-14.89
1073	SLE FR 1	-39	19	3257	-729.98	2.98	-13.64
1073	SLE FR 2	-39	21	3247	-728.1	2.97	-13.58
1073	SLE FR 3	-39	19	3274	-733.4	2.99	-13.68
1073	SLE FR 4	-40	22	3359	-752.17	3.07	-13.98
1073	SLE FR 5	-40	20	3385	-757.47	3.1	-14.08
1073	SLE FR 6	-41	20	3443	-770.09	3.15	-14.31
1073	SLE QP 1	-39	19	3257	-729.98	2.98	-13.64
1073	SLE QP 2	-40	20	3369	-754.04	3.08	-14.04
1073	SLD 1	372	118	3142	-720.26	3.7	130.4
1073	SLD 2	299	83	3184	-727.78	3.84	105
1073	SLD 3	353	-79	4267	-933.5	4.76	123.86
1073	SLD 4	281	-115	4309	-941.02	4.9	98.46
1073	SLD 5	124	355	1588	-419.2	1.64	43.57
1073	SLD 6	78	332	1615	-424.04	1.73	27.22
1073	SLD 7	62	-304	5337	-1130.01	5.17	21.77
1073	SLD 8	15	-327	5364	-1134.85	5.26	5.42
1073	SLD 9	-96	366	1374	-373.24	0.91	-33.51
1073	SLD 10	-143	343	1400	-378.08	1	-49.86
1073	SLD 11	-158	-293	5123	-1084.05	4.44	-55.31
1073	SLD 12	-205	-316	5150	-1088.89	4.53	-71.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1073	SLD 13	-361	154	2429	-567.07	1.27	-126.55
1073	SLD 14	-434	119	2470	-574.59	1.41	-151.95
1073	SLD 15	-380	-43	3553	-780.31	2.33	-133.09
1073	SLD 16	-453	-79	3595	-787.83	2.46	-158.49
1073	SLV 1	607	188	2933	-685.7	3.97	212.61
1073	SLV 2	492	132	2999	-697.55	4.19	172.58
1073	SLV 3	575	-149	4852	-1049.52	5.78	201.53
1073	SLV 4	461	-205	4918	-1061.37	5.99	161.5
1073	SLV 5	223	592	315	-179.55	0.57	78.22
1073	SLV 6	146	554	359	-187.52	0.72	51.28
1073	SLV 7	117	-532	6712	-1392.26	6.59	41.29
1073	SLV 8	40	-569	6757	-1400.24	6.73	14.35
1073	SLV 9	-121	609	-19	-107.85	-0.56	-42.44
1073	SLV 10	-198	571	25	-115.83	-0.42	-69.38
1073	SLV 11	-227	-515	6378	-1320.57	5.45	-79.37
1073	SLV 12	-304	-553	6423	-1328.54	5.59	-106.31
1073	SLV 13	-541	244	1819	-446.72	0.18	-189.59
1073	SLV 14	-656	188	1885	-458.57	0.39	-229.62
1073	SLV 15	-573	-93	3739	-810.54	1.98	-200.67
1073	SLV 16	-688	-149	3804	-822.39	2.2	-240.7
1073	SLV FO 1	672	205	2889	-678.87	4.06	235.28
1073	SLV FO 2	546	143	2962	-691.9	4.3	191.25
1073	SLV FO 3	637	-166	5001	-1079.07	6.04	223.09
1073	SLV FO 4	511	-227	5073	-1092.1	6.28	179.06
1073	SLV FO 5	250	649	9	-122.1	0.32	87.45
1073	SLV FO 6	165	608	58	-130.87	0.48	57.81
1073	SLV FO 7	133	-587	7047	-1456.08	6.94	46.82
1073	SLV FO 8	48	-628	7095	-1464.86	7.1	17.19
1073	SLV FO 9	-129	668	-358	-43.23	-0.93	-45.28
1073	SLV FO 10	-214	626	-309	-52.01	-0.77	-74.91
1073	SLV FO 11	-246	-568	6679	-1377.22	5.68	-85.9
1073	SLV FO 12	-331	-610	6728	-1385.99	5.84	-115.54
1073	SLV FO 13	-591	267	1665	-415.99	-0.11	-207.15
1073	SLV FO 14	-718	205	1737	-429.02	0.12	-251.18
1073	SLV FO 15	-626	-104	3776	-816.19	1.87	-219.34
1073	SLV FO 16	-753	-166	3848	-829.22	2.11	-263.36
1073	CRTFP Ux+	0	0	0	0	0	0
1073	CRTFP Ux-	0	0	0	0	0	0
1073	CRTFP Uy+	0	0	0	0	0	0
1073	CRTFP Uy-	0	0	0	0	0	0
1074	SLU 1	-36	21	3030	-651.86	1.54	-12.5
1074	SLU 2	-35	37	2957	-638.76	1.5	-12.03
1074	SLU 3	-37	21	3119	-669.54	1.58	-12.79
1074	SLU 4	-36	31	3075	-661.68	1.56	-12.51
1074	SLU 5	-35	37	3017	-650.64	1.53	-12.17
1074	SLU 6	-37	22	3179	-681.43	1.61	-12.92
1074	SLU 7	-36	31	3135	-673.56	1.59	-12.64
1074	SLU 8	-37	21	3150	-675.63	1.6	-12.77
1074	SLU 9	-36	31	3106	-667.76	1.58	-12.49
1074	SLU 10	-39	40	3337	-717.02	1.68	-13.39
1074	SLU 11	-41	24	3499	-747.8	1.76	-14.15
1074	SLU 12	-40	34	3455	-739.94	1.74	-13.87
1074	SLU 13	-39	40	3397	-728.9	1.71	-13.53
1074	SLU 14	-41	25	3559	-759.69	1.8	-14.28
1074	SLU 15	-40	34	3515	-751.82	1.77	-14
1074	SLU 16	-41	24	3530	-753.89	1.78	-14.13
1074	SLU 17	-40	34	3486	-746.02	1.76	-13.85
1074	SLU 18	-42	25	3573	-763.66	1.8	-14.44
1074	SLU 19	-41	35	3530	-755.8	1.77	-14.16
1074	SLU 20	-42	25	3633	-775.55	1.83	-14.57
1074	SLU 21	-41	35	3589	-767.68	1.81	-14.3
1074	SLU 22	-42	24	3549	-757.25	1.79	-14.52
1074	SLU 23	-40	40	3476	-744.14	1.76	-14.06
1074	SLU 24	-43	25	3638	-774.93	1.84	-14.81
1074	SLU 25	-42	34	3594	-767.07	1.82	-14.54
1074	SLU 26	-41	40	3536	-756.02	1.79	-14.2
1074	SLU 27	-43	25	3698	-786.81	1.87	-14.95
1074	SLU 28	-42	34	3654	-778.95	1.85	-14.67
1074	SLU 29	-43	25	3669	-781.01	1.86	-14.8
1074	SLU 30	-42	34	3625	-773.15	1.83	-14.52
1074	SLU 31	-44	43	3856	-822.4	1.94	-15.42
1074	SLU 32	-47	28	4018	-853.19	2.02	-16.17
1074	SLU 33	-46	37	3974	-845.33	2	-15.9
1074	SLU 34	-45	43	3916	-834.28	1.97	-15.56
1074	SLU 35	-47	28	4078	-865.07	2.05	-16.31
1074	SLU 36	-46	37	4034	-857.21	2.03	-16.03
1074	SLU 37	-46	28	4049	-859.27	2.04	-16.16
1074	SLU 38	-46	37	4005	-851.41	2.02	-15.88
1074	SLU 39	-47	29	4092	-869.05	2.05	-16.47
1074	SLU 40	-47	38	4049	-861.18	2.03	-16.19
1074	SLU 41	-48	29	4152	-880.93	2.08	-16.6
1074	SLU 42	-47	38	4108	-873.07	2.06	-16.33
1074	SLU 43	-45	26	3761	-811.29	1.91	-15.55
1074	SLU 44	-43	42	3688	-798.18	1.87	-15.09
1074	SLU 45	-46	27	3850	-828.97	1.95	-15.84
1074	SLU 46	-45	36	3806	-821.11	1.93	-15.56
1074	SLU 47	-44	42	3748	-810.07	1.9	-15.22
1074	SLU 48	-46	27	3910	-840.85	1.99	-15.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1074	SLU 49	-45	36	3866	-832.99	1.96	-15.7
1074	SLU 50	-46	27	3881	-835.06	1.97	-15.82
1074	SLU 51	-45	36	3837	-827.19	1.95	-15.54
1074	SLU 52	-47	45	4069	-876.44	2.05	-16.45
1074	SLU 53	-49	30	4230	-907.23	2.14	-17.2
1074	SLU 54	-49	39	4186	-899.37	2.11	-16.92
1074	SLU 55	-48	45	4128	-888.33	2.09	-16.58
1074	SLU 56	-50	30	4290	-919.11	2.17	-17.34
1074	SLU 57	-49	39	4246	-911.25	2.15	-17.06
1074	SLU 58	-49	30	4261	-913.32	2.15	-17.18
1074	SLU 59	-49	39	4217	-905.45	2.13	-16.9
1074	SLU 60	-50	31	4304	-923.09	2.17	-17.49
1074	SLU 61	-50	40	4261	-915.23	2.15	-17.21
1074	SLU 62	-51	31	4364	-934.97	2.2	-17.63
1074	SLU 63	-50	40	4320	-927.11	2.18	-17.35
1074	SLU 64	-51	30	4280	-916.68	2.16	-17.58
1074	SLU 65	-49	46	4207	-903.57	2.13	-17.12
1074	SLU 66	-51	30	4369	-934.36	2.21	-17.87
1074	SLU 67	-51	40	4325	-926.49	2.19	-17.59
1074	SLU 68	-50	46	4267	-915.45	2.16	-17.25
1074	SLU 69	-52	30	4429	-946.24	2.24	-18
1074	SLU 70	-51	40	4385	-938.37	2.22	-17.73
1074	SLU 71	-51	30	4400	-940.44	2.23	-17.85
1074	SLU 72	-51	39	4356	-932.58	2.21	-17.57
1074	SLU 73	-53	48	4588	-981.83	2.31	-18.48
1074	SLU 74	-55	33	4749	-1012.62	2.39	-19.23
1074	SLU 75	-55	42	4705	-1004.75	2.37	-18.95
1074	SLU 76	-54	49	4647	-993.71	2.34	-18.61
1074	SLU 77	-56	33	4809	-1024.5	2.42	-19.36
1074	SLU 78	-55	43	4765	-1016.63	2.4	-19.09
1074	SLU 79	-55	33	4780	-1018.7	2.41	-19.21
1074	SLU 80	-54	42	4736	-1010.84	2.39	-18.93
1074	SLU 81	-56	34	4823	-1028.48	2.43	-19.52
1074	SLU 82	-55	43	4780	-1020.61	2.4	-19.24
1074	SLU 83	-57	34	4883	-1040.36	2.46	-19.66
1074	SLU 84	-56	43	4839	-1032.49	2.44	-19.38
1074	SLE RA 1	-38	22	3178	-681.97	1.61	-13.08
1074	SLE RA 2	-37	33	3130	-673.24	1.58	-12.77
1074	SLE RA 3	-38	22	3238	-693.76	1.64	-13.27
1074	SLE RA 4	-38	29	3208	-688.52	1.62	-13.08
1074	SLE RA 5	-37	33	3170	-681.16	1.61	-12.86
1074	SLE RA 6	-38	22	3277	-701.68	1.66	-13.36
1074	SLE RA 7	-38	29	3248	-696.44	1.65	-13.17
1074	SLE RA 8	-38	22	3258	-697.82	1.65	-13.26
1074	SLE RA 9	-38	29	3229	-692.57	1.64	-13.07
1074	SLE RA 10	-39	35	3383	-725.41	1.71	-13.67
1074	SLE RA 11	-41	24	3491	-745.93	1.76	-14.18
1074	SLE RA 12	-40	31	3462	-740.69	1.75	-13.99
1074	SLE RA 13	-40	35	3423	-733.33	1.73	-13.76
1074	SLE RA 14	-41	24	3531	-753.86	1.78	-14.27
1074	SLE RA 15	-41	31	3502	-748.61	1.77	-14.08
1074	SLE RA 16	-41	24	3512	-749.99	1.77	-14.16
1074	SLE RA 17	-40	31	3482	-744.75	1.76	-13.98
1074	SLE RA 18	-41	25	3541	-756.51	1.78	-14.37
1074	SLE RA 19	-41	31	3511	-751.26	1.77	-14.19
1074	SLE RA 20	-42	25	3580	-764.43	1.8	-14.46
1074	SLE RA 21	-41	31	3551	-759.19	1.79	-14.28
1074	SLE FR 1	-38	22	3178	-681.97	1.61	-13.08
1074	SLE FR 2	-37	24	3169	-680.23	1.6	-13.01
1074	SLE FR 3	-38	22	3194	-685.14	1.62	-13.11
1074	SLE FR 4	-39	25	3277	-702.59	1.66	-13.4
1074	SLE FR 5	-39	23	3303	-707.5	1.67	-13.5
1074	SLE FR 6	-39	23	3360	-719.24	1.7	-13.72
1074	SLE QP 1	-38	22	3178	-681.97	1.61	-13.08
1074	SLE QP 2	-39	23	3287	-704.33	1.66	-13.46
1074	SLD 1	374	123	3038	-663.74	2.37	131.11
1074	SLD 2	301	90	3075	-669.9	2.48	105.74
1074	SLD 3	356	-74	4135	-862.08	2.91	124.87
1074	SLD 4	284	-108	4173	-868.24	3.03	99.5
1074	SLD 5	125	358	1542	-390.29	1.02	43.73
1074	SLD 6	78	336	1566	-394.25	1.1	27.39
1074	SLD 7	65	-300	5199	-1051.41	2.85	22.94
1074	SLD 8	18	-321	5223	-1055.37	2.92	6.6
1074	SLD 9	-96	367	1351	-353.29	0.4	-33.53
1074	SLD 10	-143	345	1375	-357.26	0.47	-49.87
1074	SLD 11	-155	-291	5008	-1014.41	2.22	-54.32
1074	SLD 12	-202	-312	5032	-1018.38	2.3	-70.66
1074	SLD 13	-361	153	2402	-540.43	0.29	-126.43
1074	SLD 14	-434	120	2439	-546.59	0.41	-151.8
1074	SLD 15	-379	-44	3499	-738.77	0.84	-132.66
1074	SLD 16	-452	-77	3536	-744.93	0.95	-158.04
1074	SLV 1	609	193	2818	-626.47	2.72	213.37
1074	SLV 2	495	141	2877	-636.18	2.9	173.38
1074	SLV 3	579	-143	4690	-964.86	3.66	202.81
1074	SLV 4	464	-196	4749	-974.57	3.83	162.81
1074	SLV 5	223	594	296	-165.95	0.53	78.07
1074	SLV 6	146	559	335	-172.48	0.65	51.14
1074	SLV 7	122	-527	6537	-1293.9	3.64	42.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1074	SLV 8	45	-563	6576	-1300.43	3.76	15.94
1074	SLV 9	-123	608	-2	-108.24	-0.44	-42.87
1074	SLV 10	-200	573	38	-114.77	-0.32	-69.79
1074	SLV 11	-223	-513	6239	-1236.18	2.67	-78.07
1074	SLV 12	-300	-548	6278	-1242.72	2.79	-105
1074	SLV 13	-542	241	1825	-434.1	-0.51	-189.74
1074	SLV 14	-656	189	1884	-443.81	-0.33	-229.74
1074	SLV 15	-572	-95	3697	-772.48	0.42	-200.3
1074	SLV 16	-687	-148	3756	-782.19	0.6	-240.3
1074	SLV FO 1	674	210	2771	-618.69	2.83	236.06
1074	SLV FO 2	548	153	2836	-629.37	3.03	192.06
1074	SLV FO 3	641	-160	4830	-990.91	3.86	224.44
1074	SLV FO 4	515	-217	4895	-1001.59	4.05	180.44
1074	SLV FO 5	249	651	-3	-112.11	0.42	87.22
1074	SLV FO 6	164	612	40	-119.3	0.55	57.61
1074	SLV FO 7	138	-582	6862	-1352.85	3.84	48.49
1074	SLV FO 8	53	-621	6905	-1360.04	3.97	18.88
1074	SLV FO 9	-131	667	-331	-48.63	-0.65	-45.81
1074	SLV FO 10	-216	628	-287	-55.82	-0.52	-75.42
1074	SLV FO 11	-242	-566	6534	-1289.37	2.77	-84.53
1074	SLV FO 12	-326	-605	6578	-1296.56	2.9	-114.15
1074	SLV FO 13	-592	263	1679	-407.08	-0.73	-207.37
1074	SLV FO 14	-718	205	1744	-417.76	-0.53	-251.37
1074	SLV FO 15	-625	-107	3738	-779.3	0.3	-218.99
1074	SLV FO 16	-751	-165	3803	-789.98	0.49	-262.98
1074	CRTFP Ux+	0	0	0	0	0	0
1074	CRTFP Ux-	0	0	0	0	0	0
1074	CRTFP Uy+	0	0	0	0	0	0
1074	CRTFP Uy-	0	0	0	0	0	0
1075	SLU 1	-34	24	2999	-638.21	0.32	-11.95
1075	SLU 2	-33	40	2926	-625.28	0.31	-11.51
1075	SLU 3	-35	25	3086	-655.5	0.32	-12.22
1075	SLU 4	-34	34	3043	-647.74	0.32	-11.96
1075	SLU 5	-34	41	2985	-636.89	0.32	-11.63
1075	SLU 6	-36	25	3145	-667.11	0.33	-12.35
1075	SLU 7	-35	35	3102	-659.36	0.33	-12.08
1075	SLU 8	-35	25	3117	-661.43	0.33	-12.2
1075	SLU 9	-34	34	3073	-653.68	0.33	-11.94
1075	SLU 10	-37	43	3303	-702	0.32	-12.82
1075	SLU 11	-39	28	3463	-732.22	0.33	-13.54
1075	SLU 12	-38	37	3420	-724.46	0.33	-13.27
1075	SLU 13	-37	44	3362	-713.61	0.33	-12.95
1075	SLU 14	-39	28	3522	-743.83	0.34	-13.66
1075	SLU 15	-39	38	3479	-736.08	0.34	-13.4
1075	SLU 16	-39	28	3494	-738.15	0.34	-13.51
1075	SLU 17	-38	37	3450	-730.4	0.34	-13.25
1075	SLU 18	-40	29	3537	-747.81	0.33	-13.82
1075	SLU 19	-39	38	3494	-740.05	0.33	-13.56
1075	SLU 20	-40	29	3596	-759.42	0.34	-13.95
1075	SLU 21	-39	39	3553	-751.66	0.34	-13.69
1075	SLU 22	-40	28	3513	-741.46	0.34	-13.9
1075	SLU 23	-39	44	3441	-728.54	0.34	-13.46
1075	SLU 24	-41	28	3601	-758.75	0.35	-14.17
1075	SLU 25	-40	38	3557	-751	0.35	-13.91
1075	SLU 26	-39	44	3500	-740.15	0.34	-13.59
1075	SLU 27	-41	29	3660	-770.37	0.35	-14.3
1075	SLU 28	-40	38	3616	-762.61	0.35	-14.04
1075	SLU 29	-41	28	3631	-764.69	0.35	-14.15
1075	SLU 30	-40	38	3588	-756.93	0.35	-13.89
1075	SLU 31	-43	47	3817	-805.26	0.35	-14.77
1075	SLU 32	-45	32	3978	-835.47	0.36	-15.49
1075	SLU 33	-44	41	3934	-827.72	0.36	-15.22
1075	SLU 34	-43	47	3877	-816.87	0.35	-14.9
1075	SLU 35	-45	32	4037	-847.09	0.37	-15.61
1075	SLU 36	-44	41	3993	-839.33	0.36	-15.35
1075	SLU 37	-44	31	4008	-841.41	0.36	-15.46
1075	SLU 38	-44	41	3965	-833.65	0.36	-15.2
1075	SLU 39	-45	32	4051	-851.06	0.36	-15.77
1075	SLU 40	-45	42	4008	-843.31	0.35	-15.51
1075	SLU 41	-46	33	4110	-862.67	0.36	-15.9
1075	SLU 42	-45	42	4067	-854.92	0.36	-15.64
1075	SLU 43	-43	30	3722	-794.27	0.4	-14.86
1075	SLU 44	-42	46	3650	-781.34	0.4	-14.42
1075	SLU 45	-44	31	3810	-811.56	0.41	-15.14
1075	SLU 46	-43	40	3766	-803.81	0.41	-14.87
1075	SLU 47	-42	47	3709	-792.96	0.41	-14.55
1075	SLU 48	-44	31	3869	-823.17	0.42	-15.26
1075	SLU 49	-43	41	3825	-815.42	0.42	-15
1075	SLU 50	-44	31	3840	-817.49	0.42	-15.11
1075	SLU 51	-43	40	3797	-809.74	0.41	-14.85
1075	SLU 52	-45	49	4027	-858.06	0.41	-15.74
1075	SLU 53	-47	34	4187	-888.28	0.42	-16.45
1075	SLU 54	-47	44	4143	-880.53	0.42	-16.19
1075	SLU 55	-46	50	4086	-869.68	0.42	-15.86
1075	SLU 56	-48	34	4246	-899.89	0.43	-16.58
1075	SLU 57	-47	44	4202	-892.14	0.43	-16.31
1075	SLU 58	-47	34	4217	-894.21	0.43	-16.43
1075	SLU 59	-47	43	4174	-886.46	0.42	-16.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1075	SLU 60	-48	35	4260	-903.87	0.42	-16.74
1075	SLU 61	-47	44	4217	-896.11	0.42	-16.48
1075	SLU 62	-49	35	4319	-915.48	0.42	-16.86
1075	SLU 63	-48	45	4276	-907.73	0.42	-16.6
1075	SLU 64	-48	34	4236	-897.52	0.43	-16.81
1075	SLU 65	-47	50	4164	-884.6	0.42	-16.38
1075	SLU 66	-49	34	4324	-914.82	0.44	-17.09
1075	SLU 67	-48	44	4281	-907.06	0.43	-16.83
1075	SLU 68	-48	50	4223	-896.21	0.43	-16.5
1075	SLU 69	-50	35	4383	-926.43	0.44	-17.21
1075	SLU 70	-49	44	4340	-918.67	0.44	-16.95
1075	SLU 71	-49	34	4354	-920.75	0.44	-17.06
1075	SLU 72	-48	44	4311	-912.99	0.44	-16.8
1075	SLU 73	-51	53	4541	-961.32	0.43	-17.69
1075	SLU 74	-53	38	4701	-991.54	0.45	-18.4
1075	SLU 75	-52	47	4657	-983.78	0.44	-18.14
1075	SLU 76	-51	53	4600	-972.93	0.44	-17.81
1075	SLU 77	-53	38	4760	-1003.15	0.45	-18.53
1075	SLU 78	-53	47	4717	-995.39	0.45	-18.26
1075	SLU 79	-53	38	4731	-997.47	0.45	-18.38
1075	SLU 80	-52	47	4688	-989.71	0.45	-18.12
1075	SLU 81	-54	38	4775	-1007.12	0.44	-18.69
1075	SLU 82	-53	48	4731	-999.37	0.44	-18.43
1075	SLU 83	-54	39	4834	-1018.74	0.45	-18.82
1075	SLU 84	-53	48	4790	-1010.98	0.45	-18.55
1075	SLE RA 1	-36	25	3145	-667.71	0.32	-12.5
1075	SLE RA 2	-35	36	3097	-659.09	0.32	-12.21
1075	SLE RA 3	-37	26	3204	-679.24	0.33	-12.69
1075	SLE RA 4	-36	32	3175	-674.07	0.33	-12.51
1075	SLE RA 5	-35	36	3137	-666.83	0.33	-12.3
1075	SLE RA 6	-37	26	3243	-686.98	0.33	-12.77
1075	SLE RA 7	-36	32	3215	-681.81	0.33	-12.6
1075	SLE RA 8	-36	26	3224	-683.19	0.33	-12.67
1075	SLE RA 9	-36	32	3195	-678.02	0.33	-12.5
1075	SLE RA 10	-38	38	3349	-710.24	0.33	-13.09
1075	SLE RA 11	-39	28	3455	-730.38	0.34	-13.56
1075	SLE RA 12	-39	34	3426	-725.21	0.33	-13.39
1075	SLE RA 13	-38	38	3388	-717.98	0.33	-13.17
1075	SLE RA 14	-39	28	3495	-738.13	0.34	-13.65
1075	SLE RA 15	-39	34	3466	-732.95	0.34	-13.47
1075	SLE RA 16	-39	28	3476	-734.34	0.34	-13.55
1075	SLE RA 17	-39	34	3447	-729.17	0.34	-13.37
1075	SLE RA 18	-40	28	3505	-740.78	0.33	-13.76
1075	SLE RA 19	-39	35	3476	-735.61	0.33	-13.58
1075	SLE RA 20	-40	28	3544	-748.52	0.34	-13.84
1075	SLE RA 21	-39	35	3515	-743.35	0.34	-13.66
1075	SLE FR 1	-36	25	3145	-667.71	0.32	-12.5
1075	SLE FR 2	-36	28	3136	-665.99	0.32	-12.45
1075	SLE FR 3	-36	25	3161	-670.81	0.33	-12.54
1075	SLE FR 4	-37	28	3244	-687.91	0.33	-12.82
1075	SLE FR 5	-37	26	3269	-692.73	0.33	-12.91
1075	SLE FR 6	-38	27	3325	-704.24	0.33	-13.13
1075	SLE QP 1	-36	25	3145	-667.71	0.32	-12.5
1075	SLE QP 2	-37	26	3253	-689.63	0.33	-12.88
1075	SLD 1	376	154	2978	-639.96	1.12	131.75
1075	SLD 2	303	123	3012	-645.3	1.21	106.4
1075	SLD 3	359	-44	4065	-835.25	1.19	125.82
1075	SLD 4	286	-75	4099	-840.59	1.29	100.48
1075	SLD 5	125	370	1517	-377.61	0.43	43.85
1075	SLD 6	78	350	1539	-381.06	0.49	27.53
1075	SLD 7	69	-290	5139	-1028.59	0.69	24.11
1075	SLD 8	22	-310	5161	-1032.03	0.75	7.79
1075	SLD 9	-96	362	1345	-347.23	-0.09	-33.55
1075	SLD 10	-143	342	1367	-350.67	-0.03	-49.87
1075	SLD 11	-152	-298	4968	-998.2	0.16	-53.29
1075	SLD 12	-199	-318	4990	-1001.65	0.22	-69.61
1075	SLD 13	-361	128	2407	-538.67	-0.63	-126.24
1075	SLD 14	-433	97	2441	-544.01	-0.54	-151.58
1075	SLD 15	-377	-70	3494	-733.96	-0.55	-132.16
1075	SLD 16	-450	-101	3528	-739.3	-0.46	-157.5
1075	SLV 1	611	240	2745	-597.83	1.55	214.01
1075	SLV 2	496	191	2798	-606.26	1.7	174.06
1075	SLV 3	582	-97	4599	-931.03	1.68	203.99
1075	SLV 4	468	-147	4652	-939.46	1.83	164.04
1075	SLV 5	222	612	278	-155.17	0.47	77.84
1075	SLV 6	145	578	314	-160.84	0.57	50.95
1075	SLV 7	127	-514	6459	-1265.83	0.91	44.43
1075	SLV 8	50	-547	6495	-1271.5	1	17.54
1075	SLV 9	-124	599	11	-107.76	-0.35	-43.3
1075	SLV 10	-201	566	47	-113.43	-0.25	-70.19
1075	SLV 11	-219	-526	6192	-1218.42	0.09	-76.71
1075	SLV 12	-296	-559	6228	-1224.09	0.18	-103.6
1075	SLV 13	-542	199	1854	-439.8	-1.17	-189.8
1075	SLV 14	-656	150	1907	-448.23	-1.03	-229.75
1075	SLV 15	-571	-138	3708	-773	-1.04	-199.82
1075	SLV 16	-685	-188	3762	-781.43	-0.9	-239.77
1075	SLV FO 1	676	262	2694	-588.65	1.68	236.7
1075	SLV FO 2	550	207	2753	-597.92	1.83	192.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1075	SLV FO 3	644	-110	4734	-955.17	1.82	225.67
1075	SLV FO 4	518	-164	4792	-964.44	1.98	181.73
1075	SLV FO 5	248	670	-19	-101.72	0.48	86.92
1075	SLV FO 6	163	634	20	-107.96	0.59	57.34
1075	SLV FO 7	143	-568	6780	-1323.45	0.96	50.16
1075	SLV FO 8	59	-604	6820	-1329.69	1.07	20.58
1075	SLV FO 9	-133	657	-313	-49.57	-0.42	-46.34
1075	SLV FO 10	-217	620	-274	-55.81	-0.31	-75.92
1075	SLV FO 11	-237	-581	6486	-1271.3	0.06	-83.09
1075	SLV FO 12	-322	-618	6526	-1277.54	0.17	-112.68
1075	SLV FO 13	-593	216	1714	-414.82	-1.32	-207.49
1075	SLV FO 14	-718	162	1773	-424.09	-1.17	-251.43
1075	SLV FO 15	-624	-155	3754	-781.34	-1.18	-218.51
1075	SLV FO 16	-750	-209	3813	-790.61	-1.02	-262.46
1075	CRTFP Ux+	0	0	0	0	0	0
1075	CRTFP Ux-	0	0	0	0	0	0
1075	CRTFP Uy+	0	0	0	0	0	0
1075	CRTFP Uy-	0	0	0	0	0	0
1076	SLU 1	-33	28	3006	-653.51	-0.72	-11.4
1076	SLU 2	-32	44	2933	-640.05	-0.7	-10.99
1076	SLU 3	-34	28	3094	-671.31	-0.75	-11.66
1076	SLU 4	-33	38	3051	-663.24	-0.73	-11.41
1076	SLU 5	-32	44	2993	-652	-0.72	-11.1
1076	SLU 6	-34	28	3153	-683.26	-0.76	-11.77
1076	SLU 7	-33	38	3110	-675.19	-0.75	-11.53
1076	SLU 8	-33	28	3125	-677.4	-0.75	-11.63
1076	SLU 9	-33	38	3081	-669.33	-0.74	-11.38
1076	SLU 10	-35	47	3313	-719.24	-0.84	-12.26
1076	SLU 11	-37	31	3473	-750.49	-0.88	-12.93
1076	SLU 12	-37	41	3430	-742.42	-0.87	-12.68
1076	SLU 13	-36	47	3372	-731.18	-0.85	-12.37
1076	SLU 14	-38	31	3533	-762.44	-0.9	-13.04
1076	SLU 15	-37	41	3489	-754.37	-0.89	-12.8
1076	SLU 16	-37	31	3504	-756.58	-0.89	-12.9
1076	SLU 17	-36	41	3460	-748.51	-0.88	-12.65
1076	SLU 18	-38	32	3548	-766.63	-0.92	-13.21
1076	SLU 19	-37	42	3504	-758.55	-0.9	-12.96
1076	SLU 20	-38	32	3607	-778.57	-0.93	-13.33
1076	SLU 21	-38	42	3564	-770.5	-0.92	-13.08
1076	SLU 22	-38	32	3523	-760.04	-0.9	-13.28
1076	SLU 23	-37	48	3450	-746.59	-0.87	-12.86
1076	SLU 24	-39	32	3611	-777.84	-0.92	-13.54
1076	SLU 25	-38	42	3568	-769.77	-0.91	-13.29
1076	SLU 26	-37	48	3510	-758.53	-0.89	-12.98
1076	SLU 27	-39	32	3670	-789.79	-0.94	-13.65
1076	SLU 28	-39	42	3627	-781.72	-0.92	-13.4
1076	SLU 29	-39	32	3642	-783.93	-0.93	-13.51
1076	SLU 30	-38	42	3598	-775.86	-0.91	-13.26
1076	SLU 31	-41	51	3830	-825.77	-1.01	-14.13
1076	SLU 32	-43	35	3990	-857.03	-1.06	-14.8
1076	SLU 33	-42	45	3947	-848.96	-1.04	-14.56
1076	SLU 34	-41	51	3889	-837.72	-1.03	-14.25
1076	SLU 35	-43	35	4050	-868.98	-1.07	-14.92
1076	SLU 36	-42	45	4006	-860.9	-1.06	-14.67
1076	SLU 37	-43	35	4021	-863.12	-1.07	-14.77
1076	SLU 38	-42	45	3977	-855.05	-1.05	-14.53
1076	SLU 39	-43	36	4065	-873.16	-1.09	-15.09
1076	SLU 40	-43	46	4021	-865.09	-1.08	-14.84
1076	SLU 41	-44	36	4124	-885.11	-1.11	-15.2
1076	SLU 42	-43	46	4080	-877.03	-1.09	-14.96
1076	SLU 43	-41	34	3731	-813.03	-0.88	-14.18
1076	SLU 44	-40	51	3658	-799.58	-0.86	-13.76
1076	SLU 45	-42	35	3819	-830.84	-0.91	-14.44
1076	SLU 46	-41	45	3775	-822.76	-0.89	-14.19
1076	SLU 47	-40	51	3717	-811.53	-0.87	-13.88
1076	SLU 48	-42	35	3878	-842.78	-0.92	-14.55
1076	SLU 49	-41	45	3835	-834.71	-0.91	-14.3
1076	SLU 50	-42	35	3849	-836.93	-0.91	-14.41
1076	SLU 51	-41	45	3806	-828.86	-0.9	-14.16
1076	SLU 52	-43	54	4037	-878.76	-0.99	-15.03
1076	SLU 53	-45	38	4198	-910.02	-1.04	-15.7
1076	SLU 54	-45	48	4154	-901.95	-1.03	-15.46
1076	SLU 55	-44	54	4097	-890.71	-1.01	-15.15
1076	SLU 56	-46	38	4257	-921.97	-1.06	-15.82
1076	SLU 57	-45	48	4214	-913.9	-1.04	-15.57
1076	SLU 58	-45	38	4228	-916.11	-1.05	-15.68
1076	SLU 59	-44	48	4185	-908.04	-1.03	-15.43
1076	SLU 60	-46	39	4272	-926.15	-1.08	-15.99
1076	SLU 61	-45	49	4229	-918.08	-1.06	-15.74
1076	SLU 62	-46	39	4332	-938.1	-1.09	-16.1
1076	SLU 63	-46	49	4288	-930.03	-1.08	-15.86
1076	SLU 64	-46	38	4248	-919.57	-1.05	-16.05
1076	SLU 65	-45	55	4175	-906.11	-1.03	-15.64
1076	SLU 66	-47	39	4336	-937.37	-1.08	-16.31
1076	SLU 67	-46	49	4292	-929.3	-1.07	-16.06
1076	SLU 68	-45	55	4234	-918.06	-1.05	-15.76
1076	SLU 69	-47	39	4395	-949.32	-1.1	-16.43
1076	SLU 70	-47	49	4351	-941.25	-1.08	-16.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1076	SLU 71	-47	39	4366	-943.46	-1.09	-16.28
1076	SLU 72	-46	49	4323	-935.39	-1.07	-16.04
1076	SLU 73	-49	58	4554	-985.3	-1.17	-16.91
1076	SLU 74	-51	42	4715	-1016.55	-1.22	-17.58
1076	SLU 75	-50	52	4671	-1008.48	-1.2	-17.33
1076	SLU 76	-49	58	4613	-997.24	-1.18	-17.02
1076	SLU 77	-51	42	4774	-1028.5	-1.23	-17.7
1076	SLU 78	-50	52	4731	-1020.43	-1.22	-17.45
1076	SLU 79	-51	42	4745	-1022.64	-1.22	-17.55
1076	SLU 80	-50	52	4702	-1014.57	-1.21	-17.3
1076	SLU 81	-51	43	4789	-1032.68	-1.25	-17.86
1076	SLU 82	-51	53	4746	-1024.61	-1.24	-17.62
1076	SLU 83	-52	43	4849	-1044.63	-1.26	-17.98
1076	SLU 84	-51	53	4805	-1036.56	-1.25	-17.73
1076	SLE RA 1	-34	29	3154	-683.94	-0.77	-11.94
1076	SLE RA 2	-34	39	3105	-674.98	-0.76	-11.66
1076	SLE RA 3	-35	29	3213	-695.81	-0.79	-12.11
1076	SLE RA 4	-34	36	3183	-690.43	-0.78	-11.94
1076	SLE RA 5	-34	40	3145	-682.94	-0.77	-11.74
1076	SLE RA 6	-35	29	3252	-703.78	-0.8	-12.19
1076	SLE RA 7	-35	36	3223	-698.4	-0.79	-12.02
1076	SLE RA 8	-35	29	3233	-699.87	-0.79	-12.09
1076	SLE RA 9	-34	35	3204	-694.49	-0.78	-11.92
1076	SLE RA 10	-36	42	3358	-727.76	-0.85	-12.51
1076	SLE RA 11	-37	31	3465	-748.6	-0.88	-12.95
1076	SLE RA 12	-37	38	3436	-743.22	-0.87	-12.79
1076	SLE RA 13	-36	42	3398	-735.73	-0.86	-12.58
1076	SLE RA 14	-38	31	3505	-756.57	-0.89	-13.03
1076	SLE RA 15	-37	38	3476	-751.19	-0.88	-12.87
1076	SLE RA 16	-37	31	3486	-752.66	-0.88	-12.93
1076	SLE RA 17	-37	38	3457	-747.28	-0.88	-12.77
1076	SLE RA 18	-38	32	3515	-759.36	-0.9	-13.14
1076	SLE RA 19	-37	38	3486	-753.98	-0.89	-12.98
1076	SLE RA 20	-38	32	3554	-767.32	-0.91	-13.22
1076	SLE RA 21	-38	38	3525	-761.94	-0.9	-13.06
1076	SLE FR 1	-34	29	3154	-683.94	-0.77	-11.94
1076	SLE FR 2	-34	31	3144	-682.15	-0.77	-11.88
1076	SLE FR 3	-34	29	3170	-687.13	-0.78	-11.97
1076	SLE FR 4	-35	32	3252	-704.77	-0.81	-12.24
1076	SLE FR 5	-35	30	3278	-709.75	-0.82	-12.33
1076	SLE FR 6	-36	30	3334	-721.65	-0.84	-12.54
1076	SLE QP 1	-34	29	3154	-683.94	-0.77	-11.94
1076	SLE QP 2	-35	30	3262	-706.57	-0.81	-12.3
1076	SLD 1	377	156	2959	-646.12	0.05	132.29
1076	SLD 2	305	126	2990	-651.08	0.12	106.99
1076	SLD 3	362	-44	4050	-848.92	-0.28	126.7
1076	SLD 4	289	-73	4081	-853.88	-0.21	101.4
1076	SLD 5	125	375	1511	-380	-0.06	43.91
1076	SLD 6	78	357	1531	-383.2	-0.02	27.62
1076	SLD 7	72	-290	5148	-1056	-1.16	25.27
1076	SLD 8	26	-309	5168	-1059.19	-1.12	8.98
1076	SLD 9	-96	368	1356	-353.94	-0.5	-33.57
1076	SLD 10	-143	350	1376	-357.14	-0.46	-49.86
1076	SLD 11	-149	-297	4994	-1029.94	-1.61	-52.22
1076	SLD 12	-196	-316	5014	-1033.13	-1.56	-68.51
1076	SLD 13	-360	133	2443	-559.26	-1.42	-125.99
1076	SLD 14	-432	103	2474	-564.21	-1.35	-151.29
1076	SLD 15	-376	-67	3534	-762.06	-1.75	-131.59
1076	SLD 16	-448	-97	3565	-767.01	-1.68	-156.89
1076	SLV 1	612	241	2709	-597.42	0.56	214.51
1076	SLV 2	498	195	2758	-605.23	0.67	174.63
1076	SLV 3	585	-99	4571	-943.43	0	205.05
1076	SLV 4	471	-146	4620	-951.25	0.11	165.17
1076	SLV 5	221	618	263	-147.58	0.43	77.54
1076	SLV 6	144	587	296	-152.84	0.51	50.69
1076	SLV 7	132	-517	6470	-1300.96	-1.45	45.99
1076	SLV 8	55	-548	6503	-1306.22	-1.37	19.15
1076	SLV 9	-126	607	21	-106.92	-0.25	-43.74
1076	SLV 10	-202	576	54	-112.18	-0.18	-70.59
1076	SLV 11	-215	-528	6229	-1260.3	-2.13	-75.29
1076	SLV 12	-292	-559	6262	-1265.56	-2.06	-102.13
1076	SLV 13	-542	205	1904	-461.89	-1.73	-189.76
1076	SLV 14	-656	158	1953	-469.7	-1.62	-229.64
1076	SLV 15	-569	-136	3766	-807.9	-2.3	-199.23
1076	SLV 16	-683	-182	3815	-815.71	-2.18	-239.11
1076	SLV FO 1	677	263	2654	-586.51	0.7	237.19
1076	SLV FO 2	551	212	2708	-595.1	0.82	193.32
1076	SLV FO 3	648	-112	4702	-967.12	0.08	226.78
1076	SLV FO 4	522	-163	4756	-975.72	0.2	182.92
1076	SLV FO 5	246	677	-37	-91.68	0.56	86.52
1076	SLV FO 6	162	643	-1	-97.46	0.64	56.99
1076	SLV FO 7	148	-572	6791	-1360.4	-1.51	51.82
1076	SLV FO 8	64	-606	6827	-1366.18	-1.42	22.29
1076	SLV FO 9	-135	665	-303	-46.95	-0.2	-46.89
1076	SLV FO 10	-219	631	-267	-52.74	-0.11	-76.42
1076	SLV FO 11	-233	-584	6525	-1315.67	-2.27	-81.59
1076	SLV FO 12	-317	-618	6562	-1321.46	-2.18	-111.12
1076	SLV FO 13	-593	222	1768	-437.42	-1.83	-207.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1076	SLV FO 14	-718	171	1822	-446.01	-1.7	-251.38
1076	SLV FO 15	-622	-152	3817	-818.03	-2.45	-217.92
1076	SLV FO 16	-748	-203	3871	-826.63	-2.32	-261.79
1076	CRTFP Ux+	0	0	0	0	0	0
1076	CRTFP Ux-	0	0	0	0	0	0
1076	CRTFP Uy+	0	0	0	0	0	0
1076	CRTFP Uy-	0	0	0	0	0	0
1077	SLU 1	-31	31	3045	-692.79	-1.48	-10.86
1077	SLU 2	-30	47	2971	-678.25	-1.44	-10.47
1077	SLU 3	-32	31	3134	-711.86	-1.53	-11.1
1077	SLU 4	-31	41	3090	-703.13	-1.51	-10.87
1077	SLU 5	-31	47	3031	-691.03	-1.47	-10.58
1077	SLU 6	-32	31	3194	-724.64	-1.57	-11.21
1077	SLU 7	-32	41	3150	-715.91	-1.54	-10.98
1077	SLU 8	-32	31	3165	-718.36	-1.55	-11.07
1077	SLU 9	-31	41	3121	-709.63	-1.52	-10.84
1077	SLU 10	-34	50	3357	-763.21	-1.69	-11.7
1077	SLU 11	-35	34	3520	-796.82	-1.78	-12.33
1077	SLU 12	-35	44	3476	-788.09	-1.75	-12.1
1077	SLU 13	-34	51	3417	-775.99	-1.72	-11.81
1077	SLU 14	-36	35	3580	-809.6	-1.81	-12.44
1077	SLU 15	-35	45	3536	-800.87	-1.78	-12.21
1077	SLU 16	-35	34	3551	-803.32	-1.79	-12.3
1077	SLU 17	-35	44	3507	-794.59	-1.77	-12.07
1077	SLU 18	-36	35	3596	-814.16	-1.83	-12.61
1077	SLU 19	-36	45	3552	-805.44	-1.81	-12.38
1077	SLU 20	-37	36	3656	-826.95	-1.86	-12.72
1077	SLU 21	-36	45	3612	-818.22	-1.84	-12.49
1077	SLU 22	-36	35	3570	-807.08	-1.8	-12.66
1077	SLU 23	-35	51	3497	-792.53	-1.76	-12.28
1077	SLU 24	-37	36	3660	-826.14	-1.85	-12.91
1077	SLU 25	-37	45	3616	-817.41	-1.83	-12.68
1077	SLU 26	-36	52	3557	-805.32	-1.79	-12.38
1077	SLU 27	-37	36	3720	-838.92	-1.88	-13.01
1077	SLU 28	-37	46	3676	-830.2	-1.86	-12.78
1077	SLU 29	-37	35	3691	-832.65	-1.87	-12.87
1077	SLU 30	-36	45	3646	-823.92	-1.84	-12.64
1077	SLU 31	-39	55	3883	-877.49	-2	-13.5
1077	SLU 32	-41	39	4046	-911.1	-2.1	-14.14
1077	SLU 33	-40	49	4001	-902.37	-2.07	-13.9
1077	SLU 34	-39	55	3943	-890.27	-2.04	-13.61
1077	SLU 35	-41	39	4106	-923.88	-2.13	-14.24
1077	SLU 36	-40	49	4062	-915.16	-2.1	-14.01
1077	SLU 37	-41	39	4077	-917.61	-2.11	-14.1
1077	SLU 38	-40	49	4032	-908.88	-2.08	-13.87
1077	SLU 39	-41	40	4122	-928.45	-2.15	-14.42
1077	SLU 40	-41	49	4077	-919.72	-2.12	-14.18
1077	SLU 41	-42	40	4182	-941.23	-2.18	-14.52
1077	SLU 42	-41	50	4138	-932.5	-2.16	-14.29
1077	SLU 43	-39	38	3778	-861.45	-1.82	-13.5
1077	SLU 44	-38	55	3704	-846.9	-1.78	-13.11
1077	SLU 45	-40	39	3868	-880.51	-1.87	-13.74
1077	SLU 46	-39	49	3823	-871.79	-1.84	-13.51
1077	SLU 47	-38	55	3765	-859.69	-1.81	-13.22
1077	SLU 48	-40	39	3928	-893.3	-1.9	-13.85
1077	SLU 49	-39	49	3883	-884.57	-1.88	-13.62
1077	SLU 50	-39	39	3898	-887.02	-1.88	-13.71
1077	SLU 51	-39	49	3854	-878.29	-1.86	-13.48
1077	SLU 52	-41	58	4090	-931.86	-2.02	-14.34
1077	SLU 53	-43	42	4253	-965.47	-2.11	-14.97
1077	SLU 54	-42	52	4209	-956.74	-2.09	-14.74
1077	SLU 55	-42	58	4150	-944.65	-2.05	-14.44
1077	SLU 56	-43	42	4314	-978.26	-2.15	-15.08
1077	SLU 57	-43	52	4269	-969.53	-2.12	-14.84
1077	SLU 58	-43	42	4284	-971.98	-2.13	-14.94
1077	SLU 59	-42	52	4240	-963.25	-2.1	-14.7
1077	SLU 60	-44	43	4329	-982.82	-2.17	-15.25
1077	SLU 61	-43	53	4285	-974.09	-2.14	-15.02
1077	SLU 62	-44	43	4390	-995.6	-2.2	-15.36
1077	SLU 63	-44	53	4345	-986.88	-2.18	-15.12
1077	SLU 64	-44	43	4304	-975.73	-2.14	-15.3
1077	SLU 65	-43	59	4230	-961.19	-2.1	-14.92
1077	SLU 66	-45	43	4393	-994.8	-2.19	-15.55
1077	SLU 67	-44	53	4349	-986.07	-2.16	-15.32
1077	SLU 68	-43	59	4290	-973.97	-2.13	-15.02
1077	SLU 69	-45	44	4453	-1007.58	-2.22	-15.65
1077	SLU 70	-44	53	4409	-998.85	-2.19	-15.42
1077	SLU 71	-45	43	4424	-1001.3	-2.2	-15.51
1077	SLU 72	-44	53	4380	-992.57	-2.18	-15.28
1077	SLU 73	-46	62	4616	-1046.15	-2.34	-16.14
1077	SLU 74	-48	47	4779	-1079.76	-2.43	-16.77
1077	SLU 75	-48	56	4735	-1071.03	-2.41	-16.54
1077	SLU 76	-47	63	4676	-1058.93	-2.37	-16.25
1077	SLU 77	-49	47	4839	-1092.54	-2.46	-16.88
1077	SLU 78	-48	57	4795	-1083.81	-2.44	-16.65
1077	SLU 79	-48	46	4810	-1086.26	-2.45	-16.74
1077	SLU 80	-48	56	4766	-1077.53	-2.42	-16.51
1077	SLU 81	-49	47	4855	-1097.1	-2.49	-17.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1077	SLU 82	-48	57	4811	-1088.38	-2.46	-16.82
1077	SLU 83	-49	48	4915	-1109.89	-2.52	-17.16
1077	SLU 84	-49	57	4871	-1101.16	-2.49	-16.93
1077	SLE RA 1	-33	32	3195	-725.45	-1.58	-11.37
1077	SLE RA 2	-32	43	3146	-715.75	-1.55	-11.12
1077	SLE RA 3	-33	32	3255	-738.16	-1.61	-11.54
1077	SLE RA 4	-33	39	3225	-732.34	-1.59	-11.38
1077	SLE RA 5	-32	43	3186	-724.27	-1.57	-11.19
1077	SLE RA 6	-33	32	3295	-746.68	-1.63	-11.61
1077	SLE RA 7	-33	39	3265	-740.86	-1.61	-11.45
1077	SLE RA 8	-33	32	3275	-742.49	-1.62	-11.52
1077	SLE RA 9	-33	39	3246	-736.67	-1.6	-11.36
1077	SLE RA 10	-34	45	3403	-772.39	-1.71	-11.94
1077	SLE RA 11	-36	34	3512	-794.79	-1.77	-12.36
1077	SLE RA 12	-35	41	3482	-788.98	-1.75	-12.2
1077	SLE RA 13	-35	45	3443	-780.91	-1.73	-12.01
1077	SLE RA 14	-36	35	3552	-803.32	-1.79	-12.43
1077	SLE RA 15	-35	41	3522	-797.5	-1.77	-12.27
1077	SLE RA 16	-36	34	3532	-799.13	-1.78	-12.33
1077	SLE RA 17	-35	41	3503	-793.31	-1.76	-12.18
1077	SLE RA 18	-36	35	3563	-806.36	-1.81	-12.54
1077	SLE RA 19	-36	42	3533	-800.54	-1.79	-12.39
1077	SLE RA 20	-36	35	3603	-814.88	-1.83	-12.61
1077	SLE RA 21	-36	42	3573	-809.06	-1.81	-12.46
1077	SLE FR 1	-33	32	3195	-725.45	-1.58	-11.37
1077	SLE FR 2	-33	34	3185	-723.51	-1.57	-11.32
1077	SLE FR 3	-33	32	3211	-728.86	-1.58	-11.4
1077	SLE FR 4	-34	35	3295	-747.78	-1.64	-11.67
1077	SLE FR 5	-34	33	3321	-753.13	-1.65	-11.75
1077	SLE FR 6	-34	33	3379	-765.9	-1.69	-11.96
1077	SLE QP 1	-33	32	3195	-725.45	-1.58	-11.37
1077	SLE QP 2	-34	33	3305	-749.72	-1.64	-11.72
1077	SLD 1	379	159	2972	-677.58	-0.74	132.75
1077	SLD 2	306	131	3001	-682.45	-0.68	107.51
1077	SLD 3	364	-43	4080	-896.42	-1.36	127.5
1077	SLD 4	292	-71	4109	-901.29	-1.3	102.25
1077	SLD 5	125	382	1520	-395.34	-0.44	43.92
1077	SLD 6	78	364	1538	-398.47	-0.41	27.67
1077	SLD 7	76	-292	5213	-1124.8	-2.51	26.42
1077	SLD 8	29	-310	5232	-1127.93	-2.47	10.16
1077	SLD 9	-97	376	1379	-371.51	-0.82	-33.61
1077	SLD 10	-143	358	1398	-374.64	-0.78	-49.87
1077	SLD 11	-146	-299	5072	-1100.97	-2.88	-51.12
1077	SLD 12	-192	-317	5091	-1104.11	-2.85	-67.37
1077	SLD 13	-359	137	2502	-598.15	-1.99	-125.7
1077	SLD 14	-431	109	2531	-603.02	-1.93	-150.95
1077	SLD 15	-374	-66	3610	-816.99	-2.61	-130.96
1077	SLD 16	-446	-93	3639	-821.86	-2.55	-156.2
1077	SLV 1	613	245	2703	-621.16	-0.18	214.87
1077	SLV 2	499	201	2749	-628.83	-0.09	175.08
1077	SLV 3	588	-100	4594	-994.56	-1.24	205.99
1077	SLV 4	474	-144	4640	-1002.23	-1.15	166.2
1077	SLV 5	220	628	249	-143.41	0.38	77.14
1077	SLV 6	143	598	279	-148.57	0.44	50.36
1077	SLV 7	136	-522	6551	-1388.06	-3.15	47.55
1077	SLV 8	59	-552	6582	-1393.22	-3.09	20.77
1077	SLV 9	-127	617	29	-106.22	-0.2	-44.22
1077	SLV 10	-204	588	60	-111.39	-0.14	-71
1077	SLV 11	-210	-533	6331	-1350.87	-3.73	-73.81
1077	SLV 12	-287	-562	6362	-1356.03	-3.67	-100.59
1077	SLV 13	-542	210	1971	-497.22	-2.14	-189.65
1077	SLV 14	-656	166	2016	-504.89	-2.05	-229.44
1077	SLV 15	-567	-135	3862	-870.61	-3.2	-198.53
1077	SLV 16	-681	-179	3907	-878.28	-3.11	-238.32
1077	SLV FO 1	678	266	2643	-608.31	-0.04	237.53
1077	SLV FO 2	553	218	2693	-616.74	0.06	193.76
1077	SLV FO 3	650	-114	4723	-1019.04	-1.2	227.77
1077	SLV FO 4	525	-162	4773	-1027.48	-1.1	184
1077	SLV FO 5	245	687	-57	-82.78	0.59	86.03
1077	SLV FO 6	160	655	-23	-88.46	0.65	56.57
1077	SLV FO 7	153	-578	6875	-1451.89	-3.3	53.48
1077	SLV FO 8	69	-610	6909	-1457.57	-3.23	24.01
1077	SLV FO 9	-136	676	-299	-41.87	-0.06	-47.46
1077	SLV FO 10	-221	643	-265	-47.55	0.01	-76.93
1077	SLV FO 11	-228	-589	6634	-1410.99	-3.94	-80.02
1077	SLV FO 12	-312	-622	6667	-1416.67	-3.88	-109.48
1077	SLV FO 13	-593	227	1837	-471.97	-2.19	-207.45
1077	SLV FO 14	-718	179	1888	-480.4	-2.09	-251.22
1077	SLV FO 15	-620	-152	3917	-882.7	-3.35	-217.21
1077	SLV FO 16	-745	-200	3967	-891.14	-3.25	-260.98
1077	CRTFP Ux+	0	0	0	0	0	0
1077	CRTFP Ux-	0	0	0	0	0	0
1077	CRTFP Uy+	0	0	0	0	0	0
1077	CRTFP Uy-	0	0	0	0	0	0
1078	SLU 1	-30	34	3103	-749.48	-1.84	-10.32
1078	SLU 2	-29	50	3028	-733.46	-1.79	-9.97
1078	SLU 3	-30	34	3195	-770.34	-1.9	-10.56
1078	SLU 4	-30	44	3149	-760.73	-1.87	-10.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1078	SLU 5	-29	51	3089	-747.44	-1.83	-10.06
1078	SLU 6	-31	35	3256	-784.33	-1.94	-10.65
1078	SLU 7	-30	45	3211	-774.71	-1.91	-10.44
1078	SLU 8	-30	34	3226	-777.45	-1.92	-10.52
1078	SLU 9	-30	44	3181	-767.83	-1.89	-10.3
1078	SLU 10	-32	54	3423	-826.57	-2.09	-11.15
1078	SLU 11	-34	38	3590	-863.46	-2.2	-11.74
1078	SLU 12	-33	48	3545	-853.84	-2.17	-11.53
1078	SLU 13	-32	54	3485	-840.55	-2.13	-11.25
1078	SLU 14	-34	38	3651	-877.44	-2.24	-11.84
1078	SLU 15	-33	48	3606	-867.83	-2.21	-11.62
1078	SLU 16	-34	37	3621	-870.57	-2.22	-11.7
1078	SLU 17	-33	47	3576	-860.95	-2.18	-11.49
1078	SLU 18	-35	38	3668	-882.51	-2.26	-12.02
1078	SLU 19	-34	48	3623	-872.89	-2.23	-11.81
1078	SLU 20	-35	39	3729	-896.49	-2.3	-12.12
1078	SLU 21	-34	49	3684	-886.87	-2.27	-11.9
1078	SLU 22	-35	38	3641	-874.73	-2.23	-12.06
1078	SLU 23	-34	55	3566	-858.7	-2.18	-11.7
1078	SLU 24	-35	39	3733	-895.59	-2.29	-12.29
1078	SLU 25	-35	49	3687	-885.97	-2.26	-12.08
1078	SLU 26	-34	55	3627	-872.69	-2.22	-11.8
1078	SLU 27	-36	39	3794	-909.57	-2.33	-12.39
1078	SLU 28	-35	49	3749	-899.96	-2.3	-12.17
1078	SLU 29	-35	39	3764	-902.7	-2.31	-12.25
1078	SLU 30	-35	49	3719	-893.08	-2.28	-12.04
1078	SLU 31	-37	58	3961	-951.82	-2.47	-12.89
1078	SLU 32	-39	42	4128	-988.71	-2.58	-13.48
1078	SLU 33	-38	52	4083	-979.09	-2.55	-13.27
1078	SLU 34	-37	58	4022	-965.8	-2.51	-12.99
1078	SLU 35	-39	42	4189	-1002.69	-2.62	-13.58
1078	SLU 36	-38	52	4144	-993.07	-2.59	-13.36
1078	SLU 37	-39	42	4159	-995.81	-2.6	-13.44
1078	SLU 38	-38	52	4114	-986.19	-2.57	-13.23
1078	SLU 39	-40	43	4206	-1007.75	-2.65	-13.76
1078	SLU 40	-39	53	4161	-998.14	-2.62	-13.54
1078	SLU 41	-40	43	4267	-1021.74	-2.69	-13.85
1078	SLU 42	-39	53	4222	-1012.12	-2.66	-13.64
1078	SLU 43	-37	42	3850	-931.39	-2.27	-12.83
1078	SLU 44	-36	59	3774	-915.36	-2.21	-12.47
1078	SLU 45	-38	43	3941	-952.25	-2.33	-13.06
1078	SLU 46	-37	53	3896	-942.63	-2.3	-12.84
1078	SLU 47	-36	59	3836	-929.34	-2.25	-12.56
1078	SLU 48	-38	43	4003	-966.23	-2.37	-13.15
1078	SLU 49	-37	53	3957	-956.61	-2.33	-12.94
1078	SLU 50	-38	43	3973	-959.35	-2.34	-13.02
1078	SLU 51	-37	53	3927	-949.74	-2.31	-12.8
1078	SLU 52	-39	62	4170	-1008.47	-2.51	-13.66
1078	SLU 53	-41	46	4337	-1045.36	-2.62	-14.24
1078	SLU 54	-40	56	4291	-1035.75	-2.59	-14.03
1078	SLU 55	-40	62	4231	-1022.46	-2.55	-13.75
1078	SLU 56	-41	46	4398	-1059.35	-2.66	-14.34
1078	SLU 57	-41	56	4353	-1049.73	-2.63	-14.13
1078	SLU 58	-41	46	4368	-1052.47	-2.64	-14.2
1078	SLU 59	-40	56	4323	-1042.85	-2.61	-13.99
1078	SLU 60	-42	47	4415	-1064.41	-2.68	-14.52
1078	SLU 61	-41	57	4369	-1054.79	-2.65	-14.31
1078	SLU 62	-42	47	4476	-1078.39	-2.72	-14.62
1078	SLU 63	-41	57	4431	-1068.77	-2.69	-14.4
1078	SLU 64	-42	47	4388	-1056.63	-2.65	-14.56
1078	SLU 65	-41	63	4312	-1040.61	-2.6	-14.21
1078	SLU 66	-43	47	4479	-1077.5	-2.71	-14.79
1078	SLU 67	-42	57	4434	-1067.88	-2.68	-14.58
1078	SLU 68	-41	64	4374	-1054.59	-2.64	-14.3
1078	SLU 69	-43	48	4541	-1091.48	-2.75	-14.89
1078	SLU 70	-42	58	4495	-1081.86	-2.72	-14.68
1078	SLU 71	-42	47	4511	-1084.6	-2.73	-14.75
1078	SLU 72	-42	57	4465	-1074.98	-2.7	-14.54
1078	SLU 73	-44	67	4708	-1133.72	-2.89	-15.39
1078	SLU 74	-46	51	4874	-1170.61	-3	-15.98
1078	SLU 75	-45	61	4829	-1160.99	-2.97	-15.77
1078	SLU 76	-45	67	4769	-1147.7	-2.93	-15.49
1078	SLU 77	-46	51	4936	-1184.59	-3.04	-16.08
1078	SLU 78	-46	61	4891	-1174.98	-3.01	-15.86
1078	SLU 79	-46	51	4906	-1177.72	-3.02	-15.94
1078	SLU 80	-45	60	4861	-1168.1	-2.99	-15.73
1078	SLU 81	-47	51	4952	-1189.66	-3.07	-16.26
1078	SLU 82	-46	61	4907	-1180.04	-3.04	-16.04
1078	SLU 83	-47	52	5014	-1203.64	-3.11	-16.35
1078	SLU 84	-46	62	4969	-1194.02	-3.08	-16.14
1078	SLE RA 1	-31	35	3257	-785.27	-1.95	-10.82
1078	SLE RA 2	-30	46	3207	-774.58	-1.92	-10.58
1078	SLE RA 3	-32	35	3318	-799.18	-1.99	-10.97
1078	SLE RA 4	-31	42	3288	-792.76	-1.97	-10.83
1078	SLE RA 5	-31	46	3248	-783.91	-1.95	-10.65
1078	SLE RA 6	-32	36	3359	-808.5	-2.02	-11.04
1078	SLE RA 7	-31	42	3329	-802.09	-2	-10.9
1078	SLE RA 8	-32	35	3339	-803.91	-2.01	-10.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1078	SLE RA 9	-31	42	3309	-797.5	-1.99	-10.81
1078	SLE RA 10	-33	48	3470	-836.66	-2.11	-11.37
1078	SLE RA 11	-34	38	3581	-861.25	-2.19	-11.77
1078	SLE RA 12	-33	44	3551	-854.84	-2.17	-11.62
1078	SLE RA 13	-33	48	3511	-845.98	-2.14	-11.44
1078	SLE RA 14	-34	38	3622	-870.57	-2.22	-11.83
1078	SLE RA 15	-34	44	3592	-864.16	-2.2	-11.69
1078	SLE RA 16	-34	37	3602	-865.99	-2.2	-11.74
1078	SLE RA 17	-33	44	3572	-859.58	-2.18	-11.6
1078	SLE RA 18	-34	38	3633	-873.95	-2.23	-11.95
1078	SLE RA 19	-34	45	3603	-867.54	-2.21	-11.81
1078	SLE RA 20	-35	38	3674	-883.27	-2.26	-12.01
1078	SLE RA 21	-34	45	3644	-876.86	-2.24	-11.87
1078	SLE FR 1	-31	35	3257	-785.27	-1.95	-10.82
1078	SLE FR 2	-31	37	3247	-783.13	-1.95	-10.77
1078	SLE FR 3	-31	35	3273	-789	-1.96	-10.85
1078	SLE FR 4	-32	38	3360	-809.74	-2.03	-11.11
1078	SLE FR 5	-32	36	3386	-815.6	-2.05	-11.18
1078	SLE FR 6	-33	37	3445	-829.61	-2.09	-11.39
1078	SLE QP 1	-31	35	3257	-785.27	-1.95	-10.82
1078	SLE QP 2	-32	36	3370	-811.87	-2.04	-11.16
1078	SLD 1	380	162	3005	-727.98	-1.13	133.12
1078	SLD 2	308	137	3032	-732.92	-1.09	107.94
1078	SLD 3	366	-43	4137	-968.77	-1.88	128.22
1078	SLD 4	294	-68	4164	-973.72	-1.84	103.05
1078	SLD 5	125	389	1539	-420.65	-0.63	43.87
1078	SLD 6	78	373	1556	-423.84	-0.6	27.66
1078	SLD 7	79	-294	5312	-1223.29	-3.14	27.56
1078	SLD 8	32	-311	5330	-1226.48	-3.11	11.35
1078	SLD 9	-97	383	1410	-397.27	-0.96	-33.67
1078	SLD 10	-143	366	1427	-400.45	-0.93	-49.88
1078	SLD 11	-143	-301	5184	-1199.91	-3.47	-49.98
1078	SLD 12	-189	-318	5201	-1203.09	-3.44	-66.19
1078	SLD 13	-358	140	2576	-650.03	-2.24	-125.37
1078	SLD 14	-430	115	2603	-654.98	-2.19	-150.54
1078	SLD 15	-372	-65	3708	-890.82	-2.99	-130.26
1078	SLD 16	-444	-91	3735	-895.77	-2.94	-155.43
1078	SLV 1	614	249	2718	-663.36	-0.57	215.1
1078	SLV 2	500	208	2761	-671.16	-0.5	175.42
1078	SLV 3	591	-101	4649	-1074.22	-1.85	206.84
1078	SLV 4	477	-142	4692	-1082.02	-1.78	167.16
1078	SLV 5	218	638	237	-142.72	0.34	76.65
1078	SLV 6	142	611	265	-147.97	0.39	49.94
1078	SLV 7	141	-528	6676	-1512.26	-3.94	49.11
1078	SLV 8	64	-555	6704	-1517.51	-3.9	22.4
1078	SLV 9	-128	627	35	-106.23	-0.18	-44.72
1078	SLV 10	-205	600	64	-111.48	-0.13	-71.43
1078	SLV 11	-206	-539	6475	-1475.77	-4.46	-72.26
1078	SLV 12	-282	-566	6503	-1481.02	-4.41	-98.97
1078	SLV 13	-541	213	2048	-541.73	-2.29	-189.48
1078	SLV 14	-655	173	2090	-549.53	-2.22	-229.15
1078	SLV 15	-565	-136	3979	-952.59	-3.58	-197.74
1078	SLV 16	-678	-177	4022	-960.39	-3.51	-237.42
1078	SLV FO 1	679	270	2653	-648.51	-0.42	237.72
1078	SLV FO 2	554	225	2700	-657.09	-0.34	194.08
1078	SLV FO 3	653	-115	4777	-1100.46	-1.84	228.64
1078	SLV FO 4	528	-159	4825	-1109.04	-1.76	184.99
1078	SLV FO 5	243	698	-77	-75.81	0.57	85.43
1078	SLV FO 6	159	668	-45	-81.58	0.63	56.05
1078	SLV FO 7	158	-585	7006	-1582.3	-4.14	55.14
1078	SLV FO 8	74	-615	7038	-1588.08	-4.08	25.76
1078	SLV FO 9	-138	686	-298	-35.67	0.01	-48.08
1078	SLV FO 10	-222	656	-266	-41.44	0.06	-77.46
1078	SLV FO 11	-223	-596	6785	-1542.16	-4.7	-78.37
1078	SLV FO 12	-307	-626	6817	-1547.94	-4.65	-107.75
1078	SLV FO 13	-592	231	1915	-514.71	-2.32	-207.31
1078	SLV FO 14	-717	187	1962	-523.29	-2.24	-250.95
1078	SLV FO 15	-618	-154	4040	-966.66	-3.73	-216.4
1078	SLV FO 16	-743	-198	4087	-975.24	-3.65	-260.04
1078	CRTFP Ux+	0	0	0	0	0	0
1078	CRTFP Ux-	0	0	0	0	0	0
1078	CRTFP Uy+	0	0	0	0	0	0
1078	CRTFP Uy-	0	0	0	0	0	0
1079	SLU 1	-28	36	3165	-815.53	-1.65	-9.78
1079	SLU 2	-27	53	3088	-797.85	-1.61	-9.45
1079	SLU 3	-29	37	3258	-838.47	-1.7	-10
1079	SLU 4	-28	47	3212	-827.86	-1.68	-9.8
1079	SLU 5	-27	53	3151	-813.22	-1.64	-9.54
1079	SLU 6	-29	37	3321	-853.85	-1.74	-10.08
1079	SLU 7	-28	47	3275	-843.24	-1.71	-9.89
1079	SLU 8	-29	37	3290	-846.28	-1.72	-9.95
1079	SLU 9	-28	47	3244	-835.67	-1.69	-9.76
1079	SLU 10	-31	56	3493	-900.35	-1.87	-10.6
1079	SLU 11	-32	40	3663	-940.98	-1.97	-11.14
1079	SLU 12	-32	50	3617	-930.37	-1.94	-10.95
1079	SLU 13	-31	57	3556	-915.73	-1.9	-10.69
1079	SLU 14	-32	41	3726	-956.35	-2	-11.23
1079	SLU 15	-32	51	3680	-945.74	-1.97	-11.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1079	SLU 16	-32	40	3695	-948.78	-1.98	-11.1
1079	SLU 17	-31	50	3649	-938.17	-1.96	-10.9
1079	SLU 18	-33	41	3744	-961.97	-2.03	-11.42
1079	SLU 19	-32	51	3697	-951.36	-2	-11.22
1079	SLU 20	-33	41	3806	-977.34	-2.06	-11.51
1079	SLU 21	-33	51	3760	-966.73	-2.03	-11.31
1079	SLU 22	-33	41	3716	-953.41	-1.99	-11.45
1079	SLU 23	-32	58	3639	-935.72	-1.95	-11.12
1079	SLU 24	-34	42	3809	-976.35	-2.05	-11.67
1079	SLU 25	-33	52	3763	-965.74	-2.02	-11.47
1079	SLU 26	-32	58	3701	-951.1	-1.98	-11.21
1079	SLU 27	-34	42	3872	-991.72	-2.08	-11.75
1079	SLU 28	-33	52	3825	-981.11	-2.06	-11.56
1079	SLU 29	-33	42	3841	-984.15	-2.06	-11.62
1079	SLU 30	-33	52	3795	-973.54	-2.04	-11.43
1079	SLU 31	-35	61	4044	-1038.23	-2.21	-12.27
1079	SLU 32	-37	45	4214	-1078.86	-2.31	-12.82
1079	SLU 33	-36	55	4168	-1068.25	-2.28	-12.62
1079	SLU 34	-36	61	4106	-1053.6	-2.25	-12.36
1079	SLU 35	-37	45	4277	-1094.23	-2.34	-12.9
1079	SLU 36	-37	55	4231	-1083.62	-2.32	-12.71
1079	SLU 37	-37	45	4246	-1086.66	-2.33	-12.77
1079	SLU 38	-36	55	4200	-1076.05	-2.3	-12.57
1079	SLU 39	-38	46	4294	-1099.84	-2.37	-13.09
1079	SLU 40	-37	56	4248	-1089.23	-2.34	-12.89
1079	SLU 41	-38	46	4357	-1115.22	-2.4	-13.18
1079	SLU 42	-37	56	4311	-1104.61	-2.38	-12.98
1079	SLU 43	-35	46	3926	-1012.92	-2.03	-12.14
1079	SLU 44	-34	62	3849	-995.23	-1.98	-11.81
1079	SLU 45	-36	46	4019	-1035.86	-2.08	-12.36
1079	SLU 46	-35	56	3973	-1025.25	-2.06	-12.16
1079	SLU 47	-34	63	3911	-1010.61	-2.02	-11.9
1079	SLU 48	-36	47	4082	-1051.24	-2.12	-12.44
1079	SLU 49	-35	57	4036	-1040.63	-2.09	-12.25
1079	SLU 50	-35	46	4051	-1043.67	-2.1	-12.31
1079	SLU 51	-35	56	4005	-1033.06	-2.07	-12.12
1079	SLU 52	-37	66	4254	-1097.74	-2.25	-12.96
1079	SLU 53	-39	50	4424	-1138.37	-2.34	-13.51
1079	SLU 54	-38	60	4378	-1127.76	-2.32	-13.31
1079	SLU 55	-38	66	4316	-1113.11	-2.28	-13.05
1079	SLU 56	-39	50	4487	-1153.74	-2.38	-13.59
1079	SLU 57	-39	60	4441	-1143.13	-2.35	-13.4
1079	SLU 58	-39	49	4456	-1146.17	-2.36	-13.46
1079	SLU 59	-38	60	4410	-1135.56	-2.33	-13.26
1079	SLU 60	-40	50	4504	-1159.36	-2.4	-13.78
1079	SLU 61	-39	60	4458	-1148.75	-2.38	-13.59
1079	SLU 62	-40	51	4567	-1174.73	-2.44	-13.87
1079	SLU 63	-39	61	4521	-1164.12	-2.41	-13.67
1079	SLU 64	-40	50	4476	-1150.79	-2.37	-13.81
1079	SLU 65	-39	67	4399	-1133.11	-2.33	-13.48
1079	SLU 66	-40	51	4570	-1173.74	-2.43	-14.03
1079	SLU 67	-40	61	4524	-1163.13	-2.4	-13.83
1079	SLU 68	-39	68	4462	-1148.48	-2.36	-13.57
1079	SLU 69	-41	51	4632	-1189.11	-2.46	-14.11
1079	SLU 70	-40	61	4586	-1178.5	-2.43	-13.92
1079	SLU 71	-40	51	4602	-1181.54	-2.44	-13.98
1079	SLU 72	-40	61	4556	-1170.93	-2.41	-13.79
1079	SLU 73	-42	70	4804	-1235.62	-2.59	-14.63
1079	SLU 74	-44	54	4975	-1276.24	-2.69	-15.18
1079	SLU 75	-43	64	4929	-1265.63	-2.66	-14.98
1079	SLU 76	-42	71	4867	-1250.99	-2.62	-14.72
1079	SLU 77	-44	55	5038	-1291.62	-2.72	-15.26
1079	SLU 78	-43	65	4991	-1281.01	-2.7	-15.07
1079	SLU 79	-44	54	5007	-1284.05	-2.7	-15.13
1079	SLU 80	-43	64	4961	-1273.44	-2.68	-14.93
1079	SLU 81	-44	55	5055	-1297.23	-2.75	-15.45
1079	SLU 82	-44	65	5009	-1286.62	-2.72	-15.26
1079	SLU 83	-45	55	5118	-1312.6	-2.78	-15.54
1079	SLU 84	-44	65	5071	-1301.99	-2.75	-15.34
1079	SLE RA 1	-30	38	3322	-854.92	-1.75	-10.26
1079	SLE RA 2	-29	49	3271	-843.13	-1.72	-10.04
1079	SLE RA 3	-30	38	3385	-870.22	-1.79	-10.4
1079	SLE RA 4	-30	45	3354	-863.15	-1.77	-10.27
1079	SLE RA 5	-29	49	3313	-853.38	-1.74	-10.1
1079	SLE RA 6	-30	38	3426	-880.47	-1.81	-10.46
1079	SLE RA 7	-30	45	3396	-873.4	-1.79	-10.33
1079	SLE RA 8	-30	38	3406	-875.42	-1.8	-10.37
1079	SLE RA 9	-29	45	3375	-868.35	-1.78	-10.24
1079	SLE RA 10	-31	51	3541	-911.47	-1.89	-10.8
1079	SLE RA 11	-32	40	3655	-938.56	-1.96	-11.17
1079	SLE RA 12	-32	47	3624	-931.48	-1.94	-11.04
1079	SLE RA 13	-31	51	3583	-921.72	-1.92	-10.86
1079	SLE RA 14	-32	41	3696	-948.81	-1.98	-11.22
1079	SLE RA 15	-32	47	3666	-941.73	-1.96	-11.09
1079	SLE RA 16	-32	40	3676	-943.76	-1.97	-11.14
1079	SLE RA 17	-32	47	3645	-936.69	-1.95	-11.01
1079	SLE RA 18	-33	41	3708	-952.55	-2	-11.35
1079	SLE RA 19	-32	48	3677	-945.48	-1.98	-11.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1079	SLE RA 20	-33	41	3750	-962.8	-2.02	-11.41
1079	SLE RA 21	-32	48	3719	-955.72	-2	-11.28
1079	SLE FR 1	-30	38	3322	-854.92	-1.75	-10.26
1079	SLE FR 2	-29	40	3312	-852.57	-1.74	-10.21
1079	SLE FR 3	-30	38	3339	-859.02	-1.76	-10.28
1079	SLE FR 4	-30	41	3428	-881.85	-1.82	-10.54
1079	SLE FR 5	-31	39	3455	-888.31	-1.83	-10.61
1079	SLE FR 6	-31	39	3515	-903.74	-1.87	-10.8
1079	SLE QP 1	-30	38	3322	-854.92	-1.75	-10.26
1079	SLE QP 2	-30	39	3438	-884.21	-1.82	-10.58
1079	SLD 1	381	165	3043	-789.36	-0.99	133.42
1079	SLD 2	309	142	3069	-794.47	-0.95	108.33
1079	SLD 3	368	-42	4201	-1054.84	-1.66	128.91
1079	SLD 4	296	-66	4226	-1059.95	-1.62	103.82
1079	SLD 5	125	396	1560	-452.24	-0.57	43.77
1079	SLD 6	78	380	1577	-455.53	-0.54	27.62
1079	SLD 7	82	-296	5417	-1337.16	-2.8	28.74
1079	SLD 8	36	-312	5434	-1340.45	-2.77	12.58
1079	SLD 9	-97	389	1442	-427.97	-0.88	-33.75
1079	SLD 10	-143	374	1459	-431.26	-0.85	-49.9
1079	SLD 11	-139	-303	5299	-1312.89	-3.11	-48.78
1079	SLD 12	-186	-318	5316	-1316.18	-3.08	-64.94
1079	SLD 13	-357	143	2650	-708.48	-2.03	-124.98
1079	SLD 14	-429	119	2676	-713.58	-1.99	-150.07
1079	SLD 15	-370	-65	3807	-973.95	-2.7	-129.49
1079	SLD 16	-442	-88	3833	-979.06	-2.66	-154.58
1079	SLV 1	615	252	2738	-716.81	-0.48	215.21
1079	SLV 2	501	215	2778	-724.85	-0.41	175.66
1079	SLV 3	593	-102	4712	-1169.8	-1.62	207.6
1079	SLV 4	480	-139	4752	-1177.84	-1.55	168.06
1079	SLV 5	217	646	226	-145.45	0.3	76.07
1079	SLV 6	141	621	253	-150.87	0.34	49.45
1079	SLV 7	145	-533	6807	-1655.42	-3.51	50.72
1079	SLV 8	69	-559	6835	-1660.84	-3.46	24.09
1079	SLV 9	-130	636	42	-107.58	-0.19	-45.26
1079	SLV 10	-206	611	69	-113	-0.14	-71.88
1079	SLV 11	-201	-544	6623	-1617.55	-3.99	-70.62
1079	SLV 12	-278	-569	6650	-1622.97	-3.95	-97.24
1079	SLV 13	-541	217	2124	-590.58	-2.09	-189.23
1079	SLV 14	-654	179	2164	-598.63	-2.03	-228.77
1079	SLV 15	-562	-137	4098	-1043.57	-3.24	-196.83
1079	SLV 16	-676	-175	4139	-1051.62	-3.17	-236.38
1079	SLV FO 1	679	273	2667	-700.06	-0.34	237.79
1079	SLV FO 2	555	232	2712	-708.92	-0.27	194.29
1079	SLV FO 3	655	-116	4839	-1198.35	-1.6	229.42
1079	SLV FO 4	531	-157	4884	-1207.21	-1.53	185.92
1079	SLV FO 5	242	707	-95	-71.58	0.51	84.73
1079	SLV FO 6	158	680	-65	-77.54	0.56	55.45
1079	SLV FO 7	163	-591	7144	-1732.54	-3.67	56.85
1079	SLV FO 8	79	-618	7174	-1738.5	-3.63	27.56
1079	SLV FO 9	-140	696	-298	-29.92	-0.02	-48.73
1079	SLV FO 10	-224	668	-268	-35.88	0.03	-78.01
1079	SLV FO 11	-219	-602	6942	-1690.89	-4.21	-76.62
1079	SLV FO 12	-302	-630	6972	-1696.85	-4.16	-105.9
1079	SLV FO 13	-592	234	1992	-561.22	-2.12	-207.09
1079	SLV FO 14	-716	193	2037	-570.07	-2.05	-250.59
1079	SLV FO 15	-615	-155	4164	-1059.51	-3.38	-215.46
1079	SLV FO 16	-740	-196	4209	-1068.36	-3.31	-258.96
1079	CRTFP Ux+	0	0	0	0	0	0
1079	CRTFP Ux-	0	0	0	0	0	0
1079	CRTFP Uy+	0	0	0	0	0	0
1079	CRTFP Uy-	0	0	0	0	0	0
1080	SLU 1	-24	34	2870	-789.17	52.83	-8.88
1080	SLU 2	-23	49	2800	-771.93	51.54	-8.9
1080	SLU 3	-24	35	2954	-811.56	54.39	-9.08
1080	SLU 4	-24	44	2912	-801.22	53.62	-9.09
1080	SLU 5	-23	50	2856	-786.93	52.59	-8.98
1080	SLU 6	-24	35	3011	-826.56	55.44	-9.15
1080	SLU 7	-24	44	2969	-816.22	54.66	-9.16
1080	SLU 8	-24	35	2983	-819.17	54.92	-9.03
1080	SLU 9	-24	44	2941	-808.83	54.15	-9.04
1080	SLU 10	-26	52	3168	-872.01	58.3	-9.95
1080	SLU 11	-27	38	3323	-911.64	61.15	-10.12
1080	SLU 12	-27	47	3281	-901.3	60.38	-10.13
1080	SLU 13	-26	53	3225	-887.01	59.35	-10.02
1080	SLU 14	-27	38	3380	-926.64	62.2	-10.19
1080	SLU 15	-27	47	3338	-916.3	61.42	-10.21
1080	SLU 16	-27	38	3352	-919.25	61.68	-10.07
1080	SLU 17	-26	47	3310	-908.91	60.91	-10.09
1080	SLU 18	-28	38	3396	-932.14	62.49	-10.37
1080	SLU 19	-27	47	3354	-921.8	61.72	-10.39
1080	SLU 20	-28	39	3453	-947.14	63.54	-10.45
1080	SLU 21	-27	48	3411	-936.8	62.76	-10.46
1080	SLU 22	-28	39	3370	-923.76	62.02	-10.4
1080	SLU 23	-27	54	3300	-906.53	60.74	-10.42
1080	SLU 24	-28	39	3455	-946.16	63.58	-10.59
1080	SLU 25	-28	48	3413	-935.82	62.81	-10.6
1080	SLU 26	-27	54	3357	-921.53	61.78	-10.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1080	SLU 27	-28	40	3512	-961.16	64.63	-10.66
1080	SLU 28	-28	49	3470	-950.82	63.86	-10.68
1080	SLU 29	-28	39	3484	-953.77	64.12	-10.54
1080	SLU 30	-28	48	3442	-943.43	63.34	-10.55
1080	SLU 31	-30	57	3669	-1006.61	67.5	-11.46
1080	SLU 32	-31	42	3823	-1046.24	70.34	-11.64
1080	SLU 33	-31	51	3781	-1035.9	69.57	-11.65
1080	SLU 34	-30	57	3726	-1021.61	68.54	-11.53
1080	SLU 35	-31	42	3880	-1061.24	71.39	-11.71
1080	SLU 36	-31	52	3838	-1050.9	70.62	-11.72
1080	SLU 37	-31	42	3852	-1053.85	70.88	-11.59
1080	SLU 38	-31	51	3810	-1043.51	70.1	-11.6
1080	SLU 39	-32	43	3897	-1066.73	71.68	-11.89
1080	SLU 40	-31	52	3855	-1056.39	70.91	-11.9
1080	SLU 41	-32	43	3954	-1081.74	72.73	-11.96
1080	SLU 42	-32	52	3912	-1071.4	71.95	-11.97
1080	SLU 43	-29	43	3559	-979.77	65.53	-11.03
1080	SLU 44	-29	58	3489	-962.54	64.24	-11.05
1080	SLU 45	-30	44	3644	-1002.16	67.09	-11.22
1080	SLU 46	-29	53	3602	-991.82	66.32	-11.23
1080	SLU 47	-29	58	3546	-977.54	65.29	-11.12
1080	SLU 48	-30	44	3700	-1017.17	68.14	-11.29
1080	SLU 49	-30	53	3658	-1006.83	67.36	-11.31
1080	SLU 50	-30	44	3673	-1009.77	67.62	-11.17
1080	SLU 51	-29	53	3631	-999.43	66.85	-11.19
1080	SLU 52	-31	61	3857	-1062.62	71	-12.09
1080	SLU 53	-33	46	4012	-1102.24	73.85	-12.27
1080	SLU 54	-32	56	3970	-1091.9	73.08	-12.28
1080	SLU 55	-32	61	3914	-1077.62	72.05	-12.17
1080	SLU 56	-33	47	4069	-1117.24	74.9	-12.34
1080	SLU 57	-32	56	4027	-1106.9	74.12	-12.35
1080	SLU 58	-33	46	4041	-1109.85	74.38	-12.22
1080	SLU 59	-32	55	3999	-1099.51	73.61	-12.23
1080	SLU 60	-33	47	4085	-1122.74	75.19	-12.52
1080	SLU 61	-33	56	4043	-1112.4	74.41	-12.53
1080	SLU 62	-34	47	4142	-1137.74	76.23	-12.59
1080	SLU 63	-33	56	4100	-1127.4	75.46	-12.6
1080	SLU 64	-33	47	4059	-1114.37	74.72	-12.54
1080	SLU 65	-33	63	3989	-1097.13	73.43	-12.56
1080	SLU 66	-34	48	4144	-1136.76	76.28	-12.74
1080	SLU 67	-33	57	4102	-1126.42	75.51	-12.75
1080	SLU 68	-33	63	4046	-1112.13	74.48	-12.63
1080	SLU 69	-34	48	4201	-1151.76	77.33	-12.81
1080	SLU 70	-34	57	4159	-1141.42	76.55	-12.82
1080	SLU 71	-34	48	4173	-1144.37	76.81	-12.69
1080	SLU 72	-33	57	4131	-1134.03	76.04	-12.7
1080	SLU 73	-36	65	4358	-1197.21	80.19	-13.61
1080	SLU 74	-37	51	4513	-1236.84	83.04	-13.78
1080	SLU 75	-36	60	4471	-1226.5	82.27	-13.79
1080	SLU 76	-36	66	4415	-1212.21	81.24	-13.68
1080	SLU 77	-37	51	4570	-1251.84	84.09	-13.85
1080	SLU 78	-37	60	4528	-1241.5	83.31	-13.87
1080	SLU 79	-37	51	4542	-1244.45	83.57	-13.73
1080	SLU 80	-36	60	4500	-1234.11	82.8	-13.74
1080	SLU 81	-37	51	4586	-1257.34	84.38	-14.03
1080	SLU 82	-37	61	4544	-1247	83.61	-14.05
1080	SLU 83	-38	52	4643	-1272.34	85.42	-14.11
1080	SLU 84	-37	61	4601	-1262	84.65	-14.12
1080	SLE RA 1	-25	35	3013	-827.62	55.46	-9.31
1080	SLE RA 2	-24	46	2966	-816.13	54.6	-9.33
1080	SLE RA 3	-25	36	3069	-842.55	56.5	-9.44
1080	SLE RA 4	-25	42	3041	-835.66	55.98	-9.45
1080	SLE RA 5	-24	46	3004	-826.14	55.3	-9.38
1080	SLE RA 6	-25	36	3107	-852.55	57.19	-9.49
1080	SLE RA 7	-25	42	3079	-845.66	56.68	-9.5
1080	SLE RA 8	-25	36	3088	-847.62	56.85	-9.41
1080	SLE RA 9	-25	42	3060	-840.73	56.34	-9.42
1080	SLE RA 10	-26	47	3212	-882.85	59.11	-10.02
1080	SLE RA 11	-27	38	3315	-909.27	61	-10.14
1080	SLE RA 12	-27	44	3287	-902.38	60.49	-10.15
1080	SLE RA 13	-26	48	3250	-892.85	59.8	-10.07
1080	SLE RA 14	-27	38	3353	-919.27	61.7	-10.19
1080	SLE RA 15	-27	44	3325	-912.38	61.19	-10.2
1080	SLE RA 16	-27	38	3334	-914.34	61.36	-10.11
1080	SLE RA 17	-27	44	3306	-907.45	60.84	-10.12
1080	SLE RA 18	-28	38	3364	-922.94	61.9	-10.31
1080	SLE RA 19	-27	44	3336	-916.04	61.38	-10.32
1080	SLE RA 20	-28	38	3402	-932.94	62.59	-10.36
1080	SLE RA 21	-27	44	3373	-926.04	62.08	-10.37
1080	SLE FR 1	-25	35	3013	-827.62	55.46	-9.31
1080	SLE FR 2	-25	37	3003	-825.33	55.29	-9.32
1080	SLE FR 3	-25	36	3028	-831.62	55.74	-9.33
1080	SLE FR 4	-26	38	3109	-853.92	57.22	-9.62
1080	SLE FR 5	-26	36	3133	-860.22	57.67	-9.63
1080	SLE FR 6	-26	37	3188	-875.28	58.68	-9.81
1080	SLE QP 1	-25	35	3013	-827.62	55.46	-9.31
1080	SLE QP 2	-26	36	3118	-856.22	57.39	-9.61
1080	SLD 1	342	149	2743	-763.24	50.88	117.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1080	SLD 2	278	130	2765	-767.97	51.32	95.74
1080	SLD 3	331	-38	3793	-1022.05	70.2	115.94
1080	SLD 4	267	-57	3815	-1026.78	70.64	93.91
1080	SLD 5	112	357	1408	-434.99	26.07	35.16
1080	SLD 6	70	345	1422	-438.03	26.35	20.98
1080	SLD 7	77	-266	4910	-1297.68	90.45	29.07
1080	SLD 8	35	-279	4924	-1300.72	90.74	14.88
1080	SLD 9	-87	351	1312	-411.71	24.04	-34.11
1080	SLD 10	-128	339	1326	-414.76	24.32	-48.29
1080	SLD 11	-121	-272	4814	-1274.4	88.43	-40.2
1080	SLD 12	-163	-284	4828	-1277.45	88.71	-54.39
1080	SLD 13	-318	130	2421	-685.66	44.14	-113.14
1080	SLD 14	-383	111	2442	-690.39	44.58	-135.17
1080	SLD 15	-329	-57	3471	-944.46	63.46	-114.97
1080	SLD 16	-393	-76	3493	-949.2	63.89	-137
1080	SLV 1	550	226	2456	-692.21	45.83	189.96
1080	SLV 2	449	196	2490	-699.67	46.51	155.24
1080	SLV 3	533	-93	4248	-1133.83	78.79	186.94
1080	SLV 4	432	-123	4283	-1141.29	79.47	152.21
1080	SLV 5	193	582	194	-135.83	3.8	61.32
1080	SLV 6	125	562	217	-140.85	4.26	37.95
1080	SLV 7	134	-480	6170	-1607.9	113.67	51.25
1080	SLV 8	66	-501	6193	-1612.92	114.14	27.87
1080	SLV 9	-117	573	43	-99.51	0.64	-47.1
1080	SLV 10	-185	553	66	-104.53	1.11	-70.47
1080	SLV 11	-176	-489	6019	-1571.58	110.52	-57.17
1080	SLV 12	-244	-510	6042	-1576.6	110.98	-80.55
1080	SLV 13	-483	195	1953	-571.15	35.3	-171.44
1080	SLV 14	-584	165	1987	-578.61	35.99	-206.16
1080	SLV 15	-501	-123	3746	-1012.77	68.27	-174.46
1080	SLV 16	-602	-153	3780	-1020.23	68.95	-209.19
1080	SLV FO 1	608	245	2389	-675.81	44.67	209.92
1080	SLV FO 2	497	212	2427	-684.01	45.42	171.72
1080	SLV FO 3	589	-106	4361	-1161.59	80.93	206.59
1080	SLV FO 4	478	-139	4399	-1169.8	81.68	168.4
1080	SLV FO 5	215	637	-99	-63.79	-1.56	68.42
1080	SLV FO 6	140	615	-73	-69.31	-1.05	42.7
1080	SLV FO 7	150	-532	6475	-1683.07	119.3	57.33
1080	SLV FO 8	75	-554	6500	-1688.59	119.81	31.62
1080	SLV FO 9	-126	627	-264	-23.84	-5.03	-50.85
1080	SLV FO 10	-201	605	-239	-29.36	-4.52	-76.56
1080	SLV FO 11	-191	-542	6309	-1643.12	115.83	-61.93
1080	SLV FO 12	-266	-564	6334	-1648.64	116.34	-87.64
1080	SLV FO 13	-529	211	1837	-542.64	33.09	-187.62
1080	SLV FO 14	-640	178	1874	-550.84	33.85	-225.82
1080	SLV FO 15	-548	-139	3809	-1028.42	69.35	-190.95
1080	SLV FO 16	-659	-172	3846	-1036.63	70.11	-229.14
1080	CRTFP Ux+	0	0	0	0	0	0
1080	CRTFP Ux-	0	0	0	0	0	0
1080	CRTFP Uy+	0	0	0	0	0	0
1080	CRTFP Uy-	0	0	0	0	0	0
1082	SLU 1	-97	158	13470	-4429.17	-963.21	-22.48
1082	SLU 2	-94	229	13141	-4327.08	-941.05	-16.04
1082	SLU 3	-100	161	13867	-4557.78	-991.17	-22.96
1082	SLU 4	-98	204	13670	-4496.53	-977.87	-19.1
1082	SLU 5	-95	230	13408	-4413.23	-959.74	-16.18
1082	SLU 6	-100	163	14134	-4643.94	-1009.86	-23.1
1082	SLU 7	-98	205	13937	-4582.68	-996.56	-19.24
1082	SLU 8	-99	161	14003	-4601.48	-1000.59	-22.75
1082	SLU 9	-97	203	13806	-4540.22	-987.29	-18.89
1082	SLU 10	-106	242	14875	-4895.88	-1065.67	-19.46
1082	SLU 11	-111	174	15601	-5126.58	-1115.79	-26.38
1082	SLU 12	-110	216	15404	-5065.33	-1102.49	-22.52
1082	SLU 13	-107	243	15141	-4982.03	-1084.36	-19.59
1082	SLU 14	-112	175	15868	-5212.74	-1134.48	-26.52
1082	SLU 15	-110	218	15671	-5151.49	-1121.18	-22.65
1082	SLU 16	-111	173	15737	-5170.28	-1125.22	-26.17
1082	SLU 17	-109	216	15539	-5109.03	-1111.92	-22.31
1082	SLU 18	-115	176	15947	-5241.74	-1141.25	-27.36
1082	SLU 19	-113	219	15749	-5180.49	-1127.95	-23.5
1082	SLU 20	-115	177	16213	-5327.9	-1159.94	-27.5
1082	SLU 21	-113	220	16016	-5266.64	-1146.64	-23.63
1082	SLU 22	-115	178	15823	-5197.08	-1131.02	-27.08
1082	SLU 23	-112	249	15494	-5094.99	-1108.85	-20.64
1082	SLU 24	-117	182	16221	-5325.69	-1158.97	-27.56
1082	SLU 25	-115	224	16024	-5264.44	-1145.67	-23.7
1082	SLU 26	-112	251	15761	-5181.14	-1127.54	-20.78
1082	SLU 27	-118	183	16487	-5411.85	-1177.66	-27.7
1082	SLU 28	-116	225	16290	-5350.59	-1164.36	-23.84
1082	SLU 29	-116	181	16356	-5369.39	-1168.4	-27.35
1082	SLU 30	-114	224	16159	-5308.13	-1155.1	-23.49
1082	SLU 31	-124	262	17228	-5663.79	-1233.48	-24.06
1082	SLU 32	-129	194	17955	-5894.49	-1283.6	-30.98
1082	SLU 33	-127	237	17757	-5833.24	-1270.3	-27.12
1082	SLU 34	-124	263	17495	-5749.94	-1252.17	-24.19
1082	SLU 35	-129	195	18221	-5980.65	-1302.29	-31.12
1082	SLU 36	-128	238	18024	-5919.39	-1288.99	-27.25
1082	SLU 37	-128	194	18090	-5938.19	-1293.02	-30.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1082	SLU 38	-126	236	17893	-5876.94	-1279.72	-26.9
1082	SLU 39	-132	196	18300	-6009.65	-1309.05	-31.96
1082	SLU 40	-130	239	18103	-5948.4	-1295.75	-28.1
1082	SLU 41	-133	198	18567	-6095.81	-1327.74	-32.1
1082	SLU 42	-131	240	18369	-6034.55	-1314.44	-28.23
1082	SLU 43	-121	199	16704	-5494.64	-1194.64	-27.65
1082	SLU 44	-118	270	16375	-5392.54	-1172.48	-21.21
1082	SLU 45	-123	202	17101	-5623.25	-1222.6	-28.13
1082	SLU 46	-121	244	16904	-5561.99	-1209.3	-24.27
1082	SLU 47	-118	271	16642	-5478.7	-1191.17	-21.34
1082	SLU 48	-123	203	17368	-5709.41	-1241.29	-28.27
1082	SLU 49	-122	246	17171	-5648.15	-1227.99	-24.4
1082	SLU 50	-122	201	17237	-5666.95	-1232.02	-27.92
1082	SLU 51	-120	244	17040	-5605.69	-1218.73	-24.06
1082	SLU 52	-130	282	18109	-5961.35	-1297.1	-24.62
1082	SLU 53	-135	214	18835	-6192.05	-1347.22	-31.55
1082	SLU 54	-133	257	18638	-6130.8	-1333.92	-27.68
1082	SLU 55	-130	283	18375	-6047.5	-1315.79	-24.76
1082	SLU 56	-135	216	19102	-6278.21	-1365.91	-31.68
1082	SLU 57	-134	258	18905	-6216.95	-1352.61	-27.82
1082	SLU 58	-134	214	18971	-6235.75	-1356.65	-31.34
1082	SLU 59	-132	256	18773	-6174.49	-1343.35	-27.47
1082	SLU 60	-138	217	19181	-6307.21	-1372.68	-32.53
1082	SLU 61	-136	259	18983	-6245.96	-1359.38	-28.66
1082	SLU 62	-139	218	19447	-6393.37	-1391.37	-32.66
1082	SLU 63	-137	260	19250	-6332.11	-1378.07	-28.8
1082	SLU 64	-138	219	19057	-6262.55	-1362.45	-32.24
1082	SLU 65	-135	290	18728	-6160.45	-1340.28	-25.81
1082	SLU 66	-140	222	19455	-6391.16	-1390.4	-32.73
1082	SLU 67	-138	265	19258	-6329.9	-1377.1	-28.87
1082	SLU 68	-136	291	18995	-6246.61	-1358.97	-25.94
1082	SLU 69	-141	223	19721	-6477.32	-1409.09	-32.87
1082	SLU 70	-139	266	19524	-6416.06	-1395.8	-29
1082	SLU 71	-139	222	19590	-6434.86	-1399.83	-32.52
1082	SLU 72	-137	264	19393	-6373.6	-1386.53	-28.65
1082	SLU 73	-147	302	20462	-6729.26	-1464.91	-29.22
1082	SLU 74	-152	235	21189	-6959.96	-1515.03	-36.15
1082	SLU 75	-150	277	20991	-6898.71	-1501.73	-32.28
1082	SLU 76	-148	304	20729	-6815.41	-1483.6	-29.36
1082	SLU 77	-153	236	21455	-7046.12	-1533.72	-36.28
1082	SLU 78	-151	278	21258	-6984.86	-1520.42	-32.42
1082	SLU 79	-151	234	21324	-7003.66	-1524.45	-35.93
1082	SLU 80	-149	277	21127	-6942.4	-1511.15	-32.07
1082	SLU 81	-155	237	21534	-7075.12	-1540.48	-37.13
1082	SLU 82	-153	279	21337	-7013.86	-1527.18	-33.26
1082	SLU 83	-156	238	21801	-7161.28	-1559.17	-37.26
1082	SLU 84	-154	281	21603	-7100.02	-1545.87	-33.4
1082	SLE RA 1	-102	164	14142	-4648.57	-1011.16	-23.79
1082	SLE RA 2	-100	211	13923	-4580.51	-996.38	-19.5
1082	SLE RA 3	-104	166	14407	-4734.31	-1029.79	-24.12
1082	SLE RA 4	-102	194	14276	-4693.48	-1020.93	-21.54
1082	SLE RA 5	-101	212	14101	-4637.95	-1008.84	-19.59
1082	SLE RA 6	-104	167	14585	-4791.75	-1042.25	-24.21
1082	SLE RA 7	-103	195	14453	-4750.91	-1033.39	-21.63
1082	SLE RA 8	-103	166	14498	-4763.45	-1036.08	-23.98
1082	SLE RA 9	-102	194	14366	-4722.61	-1027.21	-21.4
1082	SLE RA 10	-108	220	15079	-4959.71	-1079.46	-21.78
1082	SLE RA 11	-112	174	15563	-5113.52	-1112.88	-26.39
1082	SLE RA 12	-110	203	15432	-5072.68	-1104.01	-23.82
1082	SLE RA 13	-109	220	15257	-5017.15	-1091.92	-21.87
1082	SLE RA 14	-112	175	15741	-5170.95	-1125.34	-26.49
1082	SLE RA 15	-111	204	15609	-5130.12	-1116.47	-23.91
1082	SLE RA 16	-111	174	15653	-5142.65	-1119.16	-26.25
1082	SLE RA 17	-110	202	15522	-5101.81	-1110.29	-23.68
1082	SLE RA 18	-114	176	15793	-5190.29	-1129.85	-27.05
1082	SLE RA 19	-113	204	15662	-5149.45	-1120.98	-24.47
1082	SLE RA 20	-114	177	15971	-5247.72	-1142.31	-27.14
1082	SLE RA 21	-113	205	15840	-5206.89	-1133.44	-24.56
1082	SLE FR 1	-102	164	14142	-4648.57	-1011.16	-23.79
1082	SLE FR 2	-102	173	14098	-4634.96	-1008.2	-22.93
1082	SLE FR 3	-103	164	14213	-4671.55	-1016.14	-23.83
1082	SLE FR 4	-105	177	14594	-4797.47	-1043.81	-23.91
1082	SLE FR 5	-106	168	14709	-4834.06	-1051.75	-24.81
1082	SLE FR 6	-108	170	14968	-4919.43	-1070.5	-25.42
1082	SLE QP 1	-102	164	14142	-4648.57	-1011.16	-23.79
1082	SLE QP 2	-106	168	14637	-4811.09	-1046.76	-24.77
1082	SLD 1	1603	679	12784	-4243	-905.24	611.95
1082	SLD 2	1306	607	12877	-4270.18	-909.49	504.78
1082	SLD 3	1559	-196	17715	-5776.41	-1238.21	532.36
1082	SLD 4	1262	-268	17808	-5803.58	-1242.46	425.18
1082	SLD 5	526	1661	6587	-2310.32	-498.56	305.4
1082	SLD 6	335	1614	6647	-2327.82	-501.3	236.39
1082	SLD 7	377	-1256	23023	-7421.67	-1608.48	40.08
1082	SLD 8	186	-1303	23083	-7439.17	-1611.22	-28.93
1082	SLD 9	-397	1638	6192	-2183	-482.31	-20.6
1082	SLD 10	-588	1591	6252	-2200.5	-485.05	-89.62
1082	SLD 11	-546	-1279	22628	-7294.35	-1592.23	-285.92
1082	SLD 12	-737	-1326	22688	-7311.85	-1594.96	-354.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1082	SLD 13	-1473	603	11467	-3818.59	-851.06	-474.72
1082	SLD 14	-1770	531	11560	-3845.76	-855.31	-581.9
1082	SLD 15	-1518	-271	16398	-5351.99	-1184.04	-554.32
1082	SLD 16	-1815	-344	16491	-5379.17	-1188.29	-661.49
1082	SLV 1	2574	1032	11385	-3812.51	-801.64	977.87
1082	SLV 2	2106	917	11531	-3855.35	-808.34	808.93
1082	SLV 3	2498	-461	19799	-6429.14	-1369.85	842.33
1082	SLV 4	2030	-575	19946	-6471.98	-1376.55	673.39
1082	SLV 5	899	2711	873	-534.96	-110.19	513.11
1082	SLV 6	584	2634	971	-563.8	-114.7	399.39
1082	SLV 7	649	-2263	28920	-9257.07	-2004.23	61.31
1082	SLV 8	334	-2340	29019	-9285.91	-2008.74	-52.41
1082	SLV 9	-545	2675	256	-336.27	-84.79	2.87
1082	SLV 10	-860	2598	355	-365.1	-89.3	-110.85
1082	SLV 11	-796	-2299	28304	-9058.38	-1978.83	-448.93
1082	SLV 12	-1111	-2376	28402	-9087.21	-1983.33	-562.65
1082	SLV 13	-2242	910	9329	-3150.19	-716.97	-722.93
1082	SLV 14	-2710	796	9476	-3193.03	-723.67	-891.87
1082	SLV 15	-2317	-582	17743	-5766.83	-1285.18	-858.47
1082	SLV 16	-2785	-696	17890	-5809.66	-1291.88	-1027.41
1082	SLV FO 1	2841	1118	11059	-3712.65	-777.13	1078.13
1082	SLV FO 2	2327	992	11221	-3759.77	-784.5	892.3
1082	SLV FO 3	2759	-523	20315	-6590.95	-1402.16	929.04
1082	SLV FO 4	2244	-650	20477	-6638.07	-1409.53	743.21
1082	SLV FO 5	1000	2966	-504	-107.35	-16.54	566.9
1082	SLV FO 6	653	2881	-395	-139.07	-21.5	441.81
1082	SLV FO 7	724	-2506	30348	-9701.67	-2099.97	69.92
1082	SLV FO 8	378	-2591	30457	-9733.39	-2104.93	-55.17
1082	SLV FO 9	-589	2926	-1182	111.22	11.41	5.64
1082	SLV FO 10	-936	2841	-1073	79.5	6.45	-119.46
1082	SLV FO 11	-865	-2546	29670	-9483.11	-2072.03	-491.34
1082	SLV FO 12	-1211	-2631	29779	-9514.82	-2076.99	-616.44
1082	SLV FO 13	-2456	985	8798	-2984.1	-684	-792.74
1082	SLV FO 14	-2970	858	8960	-3031.22	-691.36	-978.58
1082	SLV FO 15	-2538	-657	18054	-5862.4	-1309.03	-941.84
1082	SLV FO 16	-3053	-783	18216	-5909.52	-1316.4	-1127.67
1082	CRTFP Ux+	0	0	0	0	0	0
1082	CRTFP Ux-	0	0	0	0	0	0
1082	CRTFP Uy+	0	0	0	-0.02	0	0
1082	CRTFP Uy-	0	0	0	0.02	0	0
1084	SLU 1	-23	37	3264	-879.33	-58.56	-7.47
1084	SLU 2	-22	54	3184	-859.99	-57.14	-6.91
1084	SLU 3	-23	38	3360	-904.23	-60.28	-7.63
1084	SLU 4	-23	48	3312	-892.62	-59.42	-7.29
1084	SLU 5	-22	54	3249	-876.66	-58.29	-6.96
1084	SLU 6	-24	38	3425	-920.9	-61.43	-7.68
1084	SLU 7	-23	48	3377	-909.29	-60.57	-7.34
1084	SLU 8	-23	37	3393	-912.67	-60.86	-7.56
1084	SLU 9	-23	48	3345	-901.06	-60.01	-7.23
1084	SLU 10	-25	57	3604	-971.11	-64.66	-7.91
1084	SLU 11	-26	40	3780	-1015.34	-67.8	-8.62
1084	SLU 12	-26	51	3732	-1003.74	-66.94	-8.29
1084	SLU 13	-25	57	3669	-987.78	-65.81	-7.95
1084	SLU 14	-27	41	3844	-1032.01	-68.95	-8.67
1084	SLU 15	-26	51	3797	-1020.41	-68.09	-8.34
1084	SLU 16	-26	40	3813	-1023.79	-68.38	-8.56
1084	SLU 17	-26	51	3765	-1012.18	-67.53	-8.22
1084	SLU 18	-27	41	3864	-1038.07	-69.3	-8.89
1084	SLU 19	-27	51	3816	-1026.47	-68.45	-8.56
1084	SLU 20	-27	41	3928	-1054.74	-70.45	-8.94
1084	SLU 21	-27	51	3880	-1043.13	-69.6	-8.6
1084	SLU 22	-27	41	3834	-1028.9	-68.75	-8.87
1084	SLU 23	-27	59	3754	-1009.55	-67.33	-8.31
1084	SLU 24	-28	42	3930	-1053.79	-70.47	-9.03
1084	SLU 25	-27	53	3882	-1042.19	-69.62	-8.69
1084	SLU 26	-27	59	3819	-1026.22	-68.48	-8.36
1084	SLU 27	-28	42	3994	-1070.46	-71.62	-9.08
1084	SLU 28	-27	53	3947	-1058.85	-70.77	-8.74
1084	SLU 29	-27	42	3963	-1062.23	-71.05	-8.96
1084	SLU 30	-27	52	3915	-1050.63	-70.2	-8.63
1084	SLU 31	-29	61	4174	-1120.67	-74.85	-9.31
1084	SLU 32	-31	45	4350	-1164.91	-77.99	-10.02
1084	SLU 33	-30	55	4302	-1153.3	-77.14	-9.69
1084	SLU 34	-30	62	4238	-1137.34	-76	-9.35
1084	SLU 35	-31	45	4414	-1181.58	-79.14	-10.07
1084	SLU 36	-30	56	4366	-1169.97	-78.29	-9.74
1084	SLU 37	-30	45	4382	-1173.35	-78.57	-9.96
1084	SLU 38	-30	55	4335	-1161.75	-77.72	-9.62
1084	SLU 39	-31	45	4434	-1187.64	-79.5	-10.29
1084	SLU 40	-31	56	4386	-1176.03	-78.64	-9.96
1084	SLU 41	-32	46	4498	-1204.3	-80.65	-10.34
1084	SLU 42	-31	56	4450	-1192.7	-79.79	-10
1084	SLU 43	-28	46	4048	-1091.85	-72.63	-9.23
1084	SLU 44	-28	64	3968	-1072.51	-71.21	-8.67
1084	SLU 45	-29	47	4144	-1116.75	-74.35	-9.39
1084	SLU 46	-29	57	4096	-1105.14	-73.5	-9.05
1084	SLU 47	-28	64	4033	-1089.18	-72.36	-8.72
1084	SLU 48	-29	47	4208	-1133.42	-75.5	-9.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1084	SLU 49	-29	58	4161	-1121.81	-74.65	-9.1
1084	SLU 50	-29	47	4177	-1125.19	-74.93	-9.32
1084	SLU 51	-28	57	4129	-1113.58	-74.08	-8.99
1084	SLU 52	-31	66	4388	-1183.63	-78.73	-9.67
1084	SLU 53	-32	50	4564	-1227.87	-81.87	-10.38
1084	SLU 54	-31	60	4516	-1216.26	-81.02	-10.05
1084	SLU 55	-31	67	4453	-1200.3	-79.88	-9.72
1084	SLU 56	-32	50	4628	-1244.53	-83.02	-10.43
1084	SLU 57	-32	60	4581	-1232.93	-82.17	-10.1
1084	SLU 58	-32	50	4597	-1236.31	-82.45	-10.32
1084	SLU 59	-31	60	4549	-1224.7	-81.6	-9.99
1084	SLU 60	-33	50	4648	-1250.59	-83.37	-10.65
1084	SLU 61	-32	61	4600	-1238.99	-82.52	-10.32
1084	SLU 62	-33	50	4712	-1267.26	-84.52	-10.7
1084	SLU 63	-32	61	4664	-1255.66	-83.67	-10.36
1084	SLU 64	-33	51	4618	-1241.42	-82.83	-10.63
1084	SLU 65	-32	68	4538	-1222.07	-81.4	-10.07
1084	SLU 66	-33	52	4714	-1266.31	-84.55	-10.79
1084	SLU 67	-33	62	4666	-1254.71	-83.69	-10.45
1084	SLU 68	-32	69	4602	-1238.74	-82.55	-10.12
1084	SLU 69	-33	52	4778	-1282.98	-85.7	-10.84
1084	SLU 70	-33	62	4730	-1271.37	-84.84	-10.5
1084	SLU 71	-33	52	4746	-1274.75	-85.13	-10.72
1084	SLU 72	-33	62	4699	-1263.15	-84.27	-10.39
1084	SLU 73	-35	71	4958	-1333.19	-88.92	-11.07
1084	SLU 74	-36	54	5134	-1377.43	-92.06	-11.78
1084	SLU 75	-36	65	5086	-1365.82	-91.21	-11.45
1084	SLU 76	-35	71	5022	-1349.86	-90.07	-11.12
1084	SLU 77	-36	55	5198	-1394.1	-93.21	-11.83
1084	SLU 78	-36	65	5150	-1382.49	-92.36	-11.5
1084	SLU 79	-36	54	5166	-1385.87	-92.65	-11.72
1084	SLU 80	-35	65	5119	-1374.27	-91.79	-11.39
1084	SLU 81	-37	55	5217	-1400.16	-93.57	-12.05
1084	SLU 82	-36	65	5170	-1388.55	-92.71	-11.72
1084	SLU 83	-37	55	5282	-1416.83	-94.72	-12.1
1084	SLU 84	-37	65	5234	-1405.22	-93.86	-11.76
1084	SLE RA 1	-24	38	3427	-922.07	-61.47	-7.87
1084	SLE RA 2	-24	50	3374	-909.17	-60.52	-7.5
1084	SLE RA 3	-25	39	3491	-938.66	-62.62	-7.97
1084	SLE RA 4	-24	46	3459	-930.92	-62.05	-7.75
1084	SLE RA 5	-24	50	3417	-920.28	-61.29	-7.53
1084	SLE RA 6	-25	39	3534	-949.77	-63.38	-8.01
1084	SLE RA 7	-24	46	3502	-942.04	-62.82	-7.78
1084	SLE RA 8	-24	39	3513	-944.29	-63.01	-7.93
1084	SLE RA 9	-24	45	3481	-936.55	-62.44	-7.71
1084	SLE RA 10	-26	51	3654	-983.25	-65.54	-8.16
1084	SLE RA 11	-26	40	3771	-1012.74	-67.63	-8.64
1084	SLE RA 12	-26	47	3739	-1005	-67.06	-8.42
1084	SLE RA 13	-26	52	3697	-994.36	-66.3	-8.19
1084	SLE RA 14	-27	41	3814	-1023.85	-68.4	-8.67
1084	SLE RA 15	-26	48	3782	-1016.12	-67.83	-8.45
1084	SLE RA 16	-26	40	3793	-1018.37	-68.02	-8.6
1084	SLE RA 17	-26	47	3761	-1010.63	-67.45	-8.37
1084	SLE RA 18	-27	41	3827	-1027.89	-68.63	-8.82
1084	SLE RA 19	-27	48	3795	-1020.15	-68.06	-8.59
1084	SLE RA 20	-27	41	3870	-1039	-69.4	-8.85
1084	SLE RA 21	-27	48	3838	-1031.27	-68.83	-8.63
1084	SLE FR 1	-24	38	3427	-922.07	-61.47	-7.87
1084	SLE FR 2	-24	40	3416	-919.49	-61.28	-7.79
1084	SLE FR 3	-24	38	3444	-926.51	-61.78	-7.88
1084	SLE FR 4	-25	41	3536	-951.23	-63.43	-8.08
1084	SLE FR 5	-25	39	3564	-958.26	-63.93	-8.17
1084	SLE FR 6	-26	39	3627	-974.98	-65.05	-8.34
1084	SLE QP 1	-24	38	3427	-922.07	-61.47	-7.87
1084	SLE QP 2	-25	39	3547	-953.81	-63.62	-8.15
1084	SLD 1	399	162	3079	-848.27	-54.65	142.11
1084	SLD 2	325	147	3099	-853.13	-54.97	116.07
1084	SLD 3	389	-52	4273	-1138.51	-76.02	135.05
1084	SLD 4	315	-67	4294	-1143.37	-76.34	109.01
1084	SLD 5	130	403	1591	-481.12	-28.47	52.11
1084	SLD 6	82	393	1605	-484.25	-28.68	35.34
1084	SLD 7	97	-311	5572	-1448.58	-99.69	28.58
1084	SLD 8	49	-320	5586	-1451.71	-99.89	11.81
1084	SLD 9	-99	398	1508	-455.92	-27.35	-28.12
1084	SLD 10	-147	388	1521	-459.05	-27.55	-44.88
1084	SLD 11	-133	-316	5489	-1423.38	-98.56	-51.65
1084	SLD 12	-180	-325	5502	-1426.51	-98.77	-68.42
1084	SLD 13	-365	145	2800	-764.26	-50.9	-125.31
1084	SLD 14	-439	130	2821	-769.12	-51.22	-151.36
1084	SLD 15	-375	-69	3994	-1054.5	-72.27	-132.37
1084	SLD 16	-449	-84	4015	-1059.36	-72.59	-158.41
1084	SLV 1	640	247	2729	-767.9	-48.07	227.63
1084	SLV 2	523	223	2762	-775.56	-48.57	186.58
1084	SLV 3	623	-119	4767	-1263.15	-84.53	215.66
1084	SLV 4	506	-142	4800	-1270.8	-85.03	174.61
1084	SLV 5	221	659	204	-145.49	-3.56	88.39
1084	SLV 6	143	644	227	-150.64	-3.9	60.76
1084	SLV 7	166	-558	6997	-1796.31	-125.1	48.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1084	SLV 8	87	-573	7020	-1801.46	-125.43	20.87
1084	SLV 9	-137	651	74	-106.16	-1.81	-37.17
1084	SLV 10	-216	635	96	-111.32	-2.15	-64.81
1084	SLV 11	-193	-566	6867	-1756.99	-123.34	-77.06
1084	SLV 12	-272	-581	6889	-1762.14	-123.68	-104.69
1084	SLV 13	-556	220	2293	-636.82	-42.21	-190.92
1084	SLV 14	-673	196	2326	-644.48	-42.71	-231.97
1084	SLV 15	-573	-145	4331	-1132.07	-78.67	-202.88
1084	SLV 16	-690	-169	4364	-1139.72	-79.17	-243.93
1084	SLV FO 1	706	267	2647	-749.31	-46.51	251.21
1084	SLV FO 2	578	242	2683	-757.73	-47.07	206.05
1084	SLV FO 3	688	-134	4889	-1294.08	-86.62	238.04
1084	SLV FO 4	560	-160	4925	-1302.5	-87.17	192.89
1084	SLV FO 5	246	721	-130	-64.66	2.44	98.04
1084	SLV FO 6	160	704	-105	-70.32	2.07	67.65
1084	SLV FO 7	185	-617	7343	-1880.56	-131.24	54.17
1084	SLV FO 8	99	-635	7367	-1886.23	-131.62	23.77
1084	SLV FO 9	-149	712	-274	-21.4	4.37	-40.08
1084	SLV FO 10	-235	695	-249	-27.07	4	-70.47
1084	SLV FO 11	-210	-626	7199	-1837.3	-129.31	-83.95
1084	SLV FO 12	-296	-643	7223	-1842.97	-129.68	-114.35
1084	SLV FO 13	-610	238	2168	-605.12	-40.07	-209.19
1084	SLV FO 14	-738	212	2204	-613.55	-40.62	-254.35
1084	SLV FO 15	-628	-164	4410	-1149.89	-80.17	-222.36
1084	SLV FO 16	-756	-189	4446	-1158.32	-80.73	-267.51
1084	CRTFP Ux+	0	0	0	0	0	0
1084	CRTFP Ux-	0	0	0	0	0	0
1084	CRTFP Uy+	0	0	0	0	0	0
1084	CRTFP Uy-	0	0	0	0	0	0
1085	SLU 1	-23	36	3494	-864.46	4.01	-8.28
1085	SLU 2	-23	55	3409	-845.47	3.9	-8.06
1085	SLU 3	-24	37	3596	-888.64	4.14	-8.45
1085	SLU 4	-23	48	3545	-877.25	4.07	-8.32
1085	SLU 5	-23	56	3477	-861.66	3.99	-8.1
1085	SLU 6	-24	37	3665	-904.83	4.23	-8.5
1085	SLU 7	-23	49	3614	-893.44	4.17	-8.37
1085	SLU 8	-23	37	3631	-896.84	4.19	-8.37
1085	SLU 9	-23	48	3580	-885.44	4.12	-8.24
1085	SLU 10	-26	58	3857	-953.27	4.46	-9.18
1085	SLU 11	-27	39	4045	-996.44	4.69	-9.57
1085	SLU 12	-26	51	3994	-985.05	4.63	-9.44
1085	SLU 13	-26	58	3926	-969.46	4.55	-9.22
1085	SLU 14	-27	40	4113	-1012.63	4.78	-9.62
1085	SLU 15	-27	51	4062	-1001.24	4.72	-9.48
1085	SLU 16	-27	39	4080	-1004.64	4.74	-9.49
1085	SLU 17	-26	51	4029	-993.24	4.68	-9.36
1085	SLU 18	-28	40	4134	-1018.46	4.8	-9.88
1085	SLU 19	-27	51	4083	-1007.06	4.74	-9.75
1085	SLU 20	-28	40	4203	-1034.65	4.89	-9.92
1085	SLU 21	-27	51	4152	-1023.25	4.83	-9.79
1085	SLU 22	-28	41	4102	-1009.68	4.77	-9.85
1085	SLU 23	-27	60	4017	-990.69	4.66	-9.63
1085	SLU 24	-28	42	4204	-1033.86	4.9	-10.02
1085	SLU 25	-28	53	4154	-1022.47	4.84	-9.89
1085	SLU 26	-27	60	4086	-1006.88	4.75	-9.67
1085	SLU 27	-28	42	4273	-1050.05	4.99	-10.06
1085	SLU 28	-28	53	4222	-1038.66	4.93	-9.93
1085	SLU 29	-28	41	4239	-1042.06	4.95	-9.94
1085	SLU 30	-27	53	4188	-1030.66	4.89	-9.8
1085	SLU 31	-30	62	4465	-1098.49	5.22	-10.74
1085	SLU 32	-31	44	4653	-1141.66	5.46	-11.14
1085	SLU 33	-31	55	4602	-1130.27	5.39	-11.01
1085	SLU 34	-30	62	4534	-1114.68	5.31	-10.79
1085	SLU 35	-31	44	4722	-1157.85	5.55	-11.18
1085	SLU 36	-31	55	4671	-1146.46	5.48	-11.05
1085	SLU 37	-31	44	4688	-1149.86	5.51	-11.05
1085	SLU 38	-31	55	4637	-1138.46	5.44	-10.92
1085	SLU 39	-32	44	4743	-1163.68	5.56	-11.44
1085	SLU 40	-32	55	4692	-1152.28	5.5	-11.31
1085	SLU 41	-32	44	4811	-1179.87	5.65	-11.49
1085	SLU 42	-32	56	4760	-1168.47	5.59	-11.36
1085	SLU 43	-29	46	4333	-1074	4.95	-10.23
1085	SLU 44	-28	65	4248	-1055.01	4.84	-10.01
1085	SLU 45	-29	47	4436	-1098.19	5.08	-10.4
1085	SLU 46	-29	58	4385	-1086.79	5.02	-10.27
1085	SLU 47	-28	65	4317	-1071.2	4.93	-10.05
1085	SLU 48	-29	47	4504	-1114.38	5.17	-10.44
1085	SLU 49	-29	58	4453	-1102.98	5.11	-10.31
1085	SLU 50	-29	46	4471	-1106.38	5.13	-10.32
1085	SLU 51	-29	58	4420	-1094.99	5.06	-10.18
1085	SLU 52	-31	67	4697	-1162.81	5.4	-11.13
1085	SLU 53	-32	49	4884	-1205.99	5.64	-11.52
1085	SLU 54	-32	60	4833	-1194.59	5.57	-11.39
1085	SLU 55	-31	67	4765	-1179	5.49	-11.17
1085	SLU 56	-32	49	4953	-1222.18	5.73	-11.56
1085	SLU 57	-32	60	4902	-1210.78	5.66	-11.43
1085	SLU 58	-32	49	4919	-1214.18	5.68	-11.43
1085	SLU 59	-32	60	4868	-1202.79	5.62	-11.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1085	SLU 60	-33	49	4974	-1228	5.74	-11.82
1085	SLU 61	-33	60	4923	-1216.61	5.68	-11.69
1085	SLU 62	-33	49	5043	-1244.19	5.83	-11.87
1085	SLU 63	-33	61	4992	-1232.8	5.77	-11.74
1085	SLU 64	-33	50	4941	-1219.22	5.71	-11.79
1085	SLU 65	-32	69	4856	-1200.23	5.6	-11.57
1085	SLU 66	-34	51	5044	-1243.41	5.84	-11.97
1085	SLU 67	-33	62	4993	-1232.01	5.78	-11.83
1085	SLU 68	-33	69	4925	-1216.42	5.69	-11.62
1085	SLU 69	-34	51	5113	-1259.6	5.93	-12.01
1085	SLU 70	-33	63	5062	-1248.2	5.87	-11.88
1085	SLU 71	-33	51	5079	-1251.6	5.89	-11.88
1085	SLU 72	-33	62	5028	-1240.21	5.83	-11.75
1085	SLU 73	-36	71	5305	-1308.03	6.16	-12.69
1085	SLU 74	-37	53	5493	-1351.21	6.4	-13.08
1085	SLU 75	-36	65	5442	-1339.81	6.33	-12.95
1085	SLU 76	-36	72	5374	-1324.22	6.25	-12.74
1085	SLU 77	-37	54	5561	-1367.4	6.49	-13.13
1085	SLU 78	-36	65	5510	-1356	6.42	-13
1085	SLU 79	-36	53	5527	-1359.4	6.45	-13
1085	SLU 80	-36	64	5476	-1348.01	6.38	-12.87
1085	SLU 81	-38	53	5582	-1373.22	6.5	-13.39
1085	SLU 82	-37	65	5531	-1361.83	6.44	-13.26
1085	SLU 83	-38	54	5651	-1389.41	6.59	-13.44
1085	SLU 84	-37	65	5600	-1378.02	6.53	-13.3
1085	SLE RA 1	-24	38	3667	-905.95	4.23	-8.73
1085	SLE RA 2	-24	50	3611	-893.29	4.15	-8.58
1085	SLE RA 3	-25	38	3736	-922.07	4.31	-8.84
1085	SLE RA 4	-25	46	3702	-914.48	4.27	-8.75
1085	SLE RA 5	-24	50	3657	-904.08	4.21	-8.61
1085	SLE RA 6	-25	38	3782	-932.86	4.37	-8.87
1085	SLE RA 7	-25	46	3748	-925.27	4.33	-8.78
1085	SLE RA 8	-25	38	3759	-927.54	4.35	-8.79
1085	SLE RA 9	-24	46	3725	-919.94	4.3	-8.7
1085	SLE RA 10	-26	52	3910	-965.15	4.52	-9.33
1085	SLE RA 11	-27	40	4035	-993.94	4.68	-9.59
1085	SLE RA 12	-27	47	4001	-986.34	4.64	-9.5
1085	SLE RA 13	-26	52	3956	-975.95	4.58	-9.36
1085	SLE RA 14	-27	40	4081	-1004.73	4.74	-9.62
1085	SLE RA 15	-27	47	4047	-997.13	4.7	-9.53
1085	SLE RA 16	-27	40	4058	-999.4	4.72	-9.53
1085	SLE RA 17	-26	47	4024	-991.81	4.67	-9.44
1085	SLE RA 18	-27	40	4095	-1008.61	4.75	-9.79
1085	SLE RA 19	-27	47	4061	-1001.02	4.71	-9.7
1085	SLE RA 20	-28	40	4140	-1019.41	4.81	-9.82
1085	SLE RA 21	-27	48	4106	-1011.81	4.77	-9.73
1085	SLE FR 1	-24	38	3667	-905.95	4.23	-8.73
1085	SLE FR 2	-24	40	3656	-903.42	4.21	-8.7
1085	SLE FR 3	-25	38	3686	-910.27	4.25	-8.74
1085	SLE FR 4	-25	41	3784	-934.22	4.37	-9.02
1085	SLE FR 5	-25	38	3814	-941.07	4.41	-9.06
1085	SLE FR 6	-26	39	3881	-957.28	4.49	-9.26
1085	SLE QP 1	-24	38	3667	-905.95	4.23	-8.73
1085	SLE QP 2	-25	38	3796	-936.75	4.38	-9.05
1085	SLD 1	442	170	3272	-832.01	4.6	154.44
1085	SLD 2	361	157	3293	-836.43	4.7	126.05
1085	SLD 3	432	-63	4548	-1116.63	6.19	151.06
1085	SLD 4	351	-76	4568	-1121.06	6.29	122.67
1085	SLD 5	144	434	1701	-472.89	2.03	50.01
1085	SLD 6	91	426	1714	-475.74	2.09	31.73
1085	SLD 7	111	-344	5952	-1421.63	7.31	38.74
1085	SLD 8	58	-352	5965	-1424.48	7.38	20.46
1085	SLD 9	-109	429	1626	-449.02	1.39	-38.56
1085	SLD 10	-162	420	1639	-451.87	1.46	-56.83
1085	SLD 11	-142	-349	5877	-1397.76	6.68	-49.82
1085	SLD 12	-195	-357	5890	-1400.61	6.74	-68.1
1085	SLD 13	-401	153	3023	-752.44	2.48	-140.77
1085	SLD 14	-483	140	3043	-756.86	2.58	-169.15
1085	SLD 15	-411	-80	4299	-1037.06	4.06	-144.15
1085	SLD 16	-493	-93	4319	-1041.48	4.17	-172.53
1085	SLV 1	707	261	2886	-752.52	4.61	247.15
1085	SLV 2	579	241	2918	-759.49	4.77	202.41
1085	SLV 3	691	-137	5062	-1238.16	7.31	241.51
1085	SLV 4	562	-157	5094	-1245.13	7.47	196.77
1085	SLV 5	243	713	216	-143.62	0.32	84.72
1085	SLV 6	157	699	238	-148.31	0.43	54.6
1085	SLV 7	188	-614	7470	-1762.43	9.34	65.91
1085	SLV 8	102	-628	7492	-1767.12	9.44	35.8
1085	SLV 9	-153	704	99	-106.37	-0.68	-53.89
1085	SLV 10	-239	691	121	-111.07	-0.57	-84.01
1085	SLV 11	-208	-622	7353	-1725.18	8.34	-72.69
1085	SLV 12	-294	-636	7375	-1729.88	8.45	-102.81
1085	SLV 13	-613	234	2497	-628.37	1.3	-214.87
1085	SLV 14	-741	213	2529	-635.34	1.46	-259.61
1085	SLV 15	-629	-164	4673	-1114.01	4	-220.51
1085	SLV 16	-758	-185	4705	-1120.98	4.16	-265.25
1085	SLV FO 1	780	284	2795	-734.09	4.63	272.77
1085	SLV FO 2	639	261	2830	-741.76	4.81	223.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1085	SLV FO 3	762	-154	5189	-1268.3	7.6	266.57
1085	SLV FO 4	621	-177	5224	-1275.97	7.78	217.36
1085	SLV FO 5	270	780	-142	-64.31	-0.09	94.09
1085	SLV FO 6	175	765	-118	-69.47	0.03	60.96
1085	SLV FO 7	210	-679	7838	-1845	9.83	73.41
1085	SLV FO 8	115	-694	7861	-1850.16	9.95	40.28
1085	SLV FO 9	-165	771	-270	-23.34	-1.18	-58.37
1085	SLV FO 10	-260	756	-247	-28.5	-1.06	-91.5
1085	SLV FO 11	-226	-688	7709	-1804.03	8.74	-79.06
1085	SLV FO 12	-321	-703	7733	-1809.19	8.86	-112.19
1085	SLV FO 13	-672	254	2367	-597.53	0.99	-235.45
1085	SLV FO 14	-813	231	2402	-605.19	1.16	-284.66
1085	SLV FO 15	-690	-184	4761	-1131.74	3.96	-241.66
1085	SLV FO 16	-831	-207	4796	-1139.4	4.14	-290.87
1085	CRTFP Ux+	0	0	0	0	0	0
1085	CRTFP Ux-	0	0	0	0	0	0
1085	CRTFP Uy+	0	0	0	0	0	0
1085	CRTFP Uy-	0	0	0	0	0	0
1086	SLU 1	-21	32	3369	-762.72	4.12	-7.57
1086	SLU 2	-21	51	3287	-746.09	4.01	-7.38
1086	SLU 3	-22	33	3467	-783.72	4.26	-7.72
1086	SLU 4	-21	44	3418	-773.74	4.19	-7.61
1086	SLU 5	-21	51	3353	-760.15	4.1	-7.41
1086	SLU 6	-22	33	3533	-797.77	4.35	-7.75
1086	SLU 7	-21	44	3484	-787.79	4.28	-7.64
1086	SLU 8	-21	33	3501	-790.82	4.31	-7.63
1086	SLU 9	-21	44	3452	-780.85	4.24	-7.52
1086	SLU 10	-24	53	3718	-839.6	4.58	-8.47
1086	SLU 11	-25	35	3899	-877.22	4.83	-8.81
1086	SLU 12	-24	46	3850	-867.24	4.76	-8.7
1086	SLU 13	-24	53	3784	-853.65	4.68	-8.5
1086	SLU 14	-25	35	3964	-891.27	4.92	-8.84
1086	SLU 15	-25	46	3915	-881.3	4.86	-8.73
1086	SLU 16	-24	34	3932	-884.32	4.88	-8.72
1086	SLU 17	-24	46	3883	-874.35	4.81	-8.61
1086	SLU 18	-26	35	3985	-896.29	4.94	-9.12
1086	SLU 19	-25	46	3936	-886.32	4.87	-9.01
1086	SLU 20	-26	35	4051	-910.34	5.03	-9.15
1086	SLU 21	-25	46	4002	-900.37	4.97	-9.04
1086	SLU 22	-25	36	3953	-888.75	4.91	-9.07
1086	SLU 23	-25	55	3872	-872.12	4.8	-8.88
1086	SLU 24	-26	37	4052	-909.74	5.04	-9.22
1086	SLU 25	-26	48	4003	-899.77	4.98	-9.11
1086	SLU 26	-25	55	3938	-886.17	4.89	-8.91
1086	SLU 27	-26	37	4118	-923.8	5.14	-9.25
1086	SLU 28	-26	48	4069	-913.82	5.07	-9.14
1086	SLU 29	-26	36	4085	-916.85	5.09	-9.13
1086	SLU 30	-25	48	4036	-906.87	5.03	-9.01
1086	SLU 31	-28	56	4303	-965.62	5.37	-9.97
1086	SLU 32	-29	38	4483	-1003.25	5.62	-10.31
1086	SLU 33	-29	49	4434	-993.27	5.55	-10.2
1086	SLU 34	-28	56	4369	-979.67	5.47	-10
1086	SLU 35	-29	39	4549	-1017.3	5.71	-10.34
1086	SLU 36	-29	50	4500	-1007.32	5.65	-10.23
1086	SLU 37	-29	38	4516	-1010.35	5.67	-10.22
1086	SLU 38	-28	49	4467	-1000.38	5.6	-10.1
1086	SLU 39	-30	38	4569	-1022.32	5.73	-10.62
1086	SLU 40	-30	50	4520	-1012.34	5.66	-10.51
1086	SLU 41	-30	39	4635	-1036.37	5.82	-10.65
1086	SLU 42	-30	50	4586	-1026.4	5.76	-10.54
1086	SLU 43	-26	41	4179	-948.32	5.08	-9.32
1086	SLU 44	-26	59	4098	-931.7	4.97	-9.14
1086	SLU 45	-27	41	4278	-969.32	5.22	-9.48
1086	SLU 46	-26	52	4229	-959.35	5.15	-9.37
1086	SLU 47	-26	59	4163	-945.75	5.07	-9.17
1086	SLU 48	-27	41	4344	-983.37	5.31	-9.51
1086	SLU 49	-26	53	4295	-973.4	5.25	-9.4
1086	SLU 50	-26	41	4311	-976.43	5.27	-9.38
1086	SLU 51	-26	52	4262	-966.45	5.2	-9.27
1086	SLU 52	-29	61	4529	-1025.2	5.55	-10.23
1086	SLU 53	-30	43	4709	-1062.82	5.8	-10.57
1086	SLU 54	-29	54	4660	-1052.85	5.73	-10.45
1086	SLU 55	-29	61	4595	-1039.25	5.64	-10.26
1086	SLU 56	-30	43	4775	-1076.87	5.89	-10.6
1086	SLU 57	-29	54	4726	-1066.9	5.82	-10.49
1086	SLU 58	-29	43	4742	-1069.93	5.85	-10.47
1086	SLU 59	-29	54	4693	-1059.95	5.78	-10.36
1086	SLU 60	-31	43	4795	-1081.9	5.91	-10.88
1086	SLU 61	-30	54	4746	-1071.92	5.84	-10.77
1086	SLU 62	-31	43	4861	-1095.95	6	-10.91
1086	SLU 63	-30	54	4812	-1085.97	5.93	-10.8
1086	SLU 64	-30	44	4764	-1074.35	5.87	-10.82
1086	SLU 65	-30	63	4682	-1057.73	5.76	-10.64
1086	SLU 66	-31	45	4862	-1095.35	6.01	-10.98
1086	SLU 67	-31	56	4813	-1085.38	5.94	-10.86
1086	SLU 68	-30	63	4748	-1071.78	5.86	-10.67
1086	SLU 69	-31	45	4928	-1109.4	6.1	-11.01
1086	SLU 70	-31	56	4879	-1099.43	6.04	-10.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1086	SLU 71	-31	45	4895	-1102.45	6.06	-10.88
1086	SLU 72	-30	56	4846	-1092.48	5.99	-10.77
1086	SLU 73	-33	65	5113	-1151.23	6.34	-11.72
1086	SLU 74	-34	47	5293	-1188.85	6.58	-12.06
1086	SLU 75	-34	58	5244	-1178.88	6.52	-11.95
1086	SLU 76	-33	65	5179	-1165.28	6.43	-11.76
1086	SLU 77	-34	47	5359	-1202.9	6.68	-12.09
1086	SLU 78	-34	58	5310	-1192.93	6.61	-11.98
1086	SLU 79	-34	46	5327	-1195.95	6.63	-11.97
1086	SLU 80	-33	58	5278	-1185.98	6.57	-11.86
1086	SLU 81	-35	47	5380	-1207.92	6.69	-12.38
1086	SLU 82	-34	58	5331	-1197.95	6.63	-12.27
1086	SLU 83	-35	47	5446	-1221.97	6.79	-12.41
1086	SLU 84	-35	58	5397	-1212	6.72	-12.3
1086	SLE RA 1	-22	33	3536	-798.73	4.34	-8
1086	SLE RA 2	-22	46	3481	-787.64	4.27	-7.87
1086	SLE RA 3	-23	34	3602	-812.72	4.44	-8.1
1086	SLE RA 4	-23	41	3569	-806.08	4.39	-8.02
1086	SLE RA 5	-22	46	3525	-797.01	4.33	-7.89
1086	SLE RA 6	-23	34	3645	-822.09	4.5	-8.12
1086	SLE RA 7	-23	41	3613	-815.44	4.45	-8.04
1086	SLE RA 8	-23	34	3624	-817.46	4.47	-8.04
1086	SLE RA 9	-22	41	3591	-810.81	4.42	-7.96
1086	SLE RA 10	-24	47	3769	-849.98	4.65	-8.6
1086	SLE RA 11	-25	35	3889	-875.06	4.82	-8.82
1086	SLE RA 12	-25	42	3856	-868.41	4.77	-8.75
1086	SLE RA 13	-24	47	3813	-859.35	4.72	-8.62
1086	SLE RA 14	-25	35	3933	-884.43	4.88	-8.84
1086	SLE RA 15	-25	42	3900	-877.78	4.84	-8.77
1086	SLE RA 16	-25	35	3911	-879.79	4.85	-8.76
1086	SLE RA 17	-24	42	3879	-873.15	4.81	-8.69
1086	SLE RA 18	-25	35	3947	-887.77	4.89	-9.03
1086	SLE RA 19	-25	42	3914	-881.12	4.85	-8.96
1086	SLE RA 20	-25	35	3990	-897.14	4.95	-9.05
1086	SLE RA 21	-25	42	3958	-890.49	4.91	-8.98
1086	SLE FR 1	-22	33	3536	-798.73	4.34	-8
1086	SLE FR 2	-22	36	3525	-796.51	4.33	-7.97
1086	SLE FR 3	-22	33	3553	-802.47	4.37	-8
1086	SLE FR 4	-23	36	3648	-823.22	4.49	-8.28
1086	SLE FR 5	-23	34	3677	-829.19	4.53	-8.31
1086	SLE FR 6	-24	34	3741	-843.25	4.62	-8.51
1086	SLE QP 1	-22	33	3536	-798.73	4.34	-8
1086	SLE QP 2	-23	34	3659	-825.44	4.51	-8.31
1086	SLD 1	444	162	3130	-731.35	4.74	155.25
1086	SLD 2	363	152	3147	-734.72	4.85	126.85
1086	SLD 3	435	-69	4356	-980.41	6.36	152.23
1086	SLD 4	354	-79	4373	-983.78	6.47	123.84
1086	SLD 5	144	424	1638	-418.9	2.1	50.22
1086	SLD 6	92	417	1649	-421.07	2.17	31.94
1086	SLD 7	115	-345	5725	-1249.09	7.5	40.16
1086	SLD 8	62	-351	5736	-1251.26	7.57	21.87
1086	SLD 9	-109	419	1582	-399.62	1.44	-38.49
1086	SLD 10	-162	412	1593	-401.79	1.51	-56.77
1086	SLD 11	-139	-350	5669	-1229.81	6.85	-48.55
1086	SLD 12	-191	-356	5680	-1231.98	6.91	-66.83
1086	SLD 13	-401	146	2945	-667.1	2.55	-140.45
1086	SLD 14	-482	136	2962	-670.47	2.66	-168.84
1086	SLD 15	-409	-84	4171	-916.16	4.17	-143.47
1086	SLD 16	-491	-94	4188	-919.53	4.28	-171.86
1086	SLV 1	709	251	2744	-660.44	4.75	247.97
1086	SLV 2	581	235	2771	-665.75	4.92	203.22
1086	SLV 3	694	-142	4837	-1085.38	7.52	242.95
1086	SLV 4	566	-158	4864	-1090.69	7.68	198.2
1086	SLV 5	243	698	206	-130.45	0.36	84.53
1086	SLV 6	156	688	224	-134.03	0.47	54.41
1086	SLV 7	194	-612	7181	-1546.92	9.57	67.81
1086	SLV 8	107	-623	7199	-1550.5	9.69	37.69
1086	SLV 9	-154	691	119	-100.38	-0.67	-54.3
1086	SLV 10	-240	680	138	-103.96	-0.55	-84.43
1086	SLV 11	-203	-620	7094	-1516.85	8.55	-71.02
1086	SLV 12	-289	-631	7112	-1520.43	8.66	-101.15
1086	SLV 13	-613	226	2455	-560.19	1.33	-214.81
1086	SLV 14	-741	210	2482	-565.5	1.5	-259.57
1086	SLV 15	-627	-168	4547	-985.13	4.1	-219.83
1086	SLV 16	-756	-184	4574	-990.44	4.26	-264.58
1086	SLV FO 1	782	273	2653	-643.94	4.78	273.6
1086	SLV FO 2	641	255	2682	-649.78	4.96	224.37
1086	SLV FO 3	766	-160	4954	-1111.37	7.82	268.08
1086	SLV FO 4	625	-177	4984	-1117.22	8	218.85
1086	SLV FO 5	269	765	-139	-60.95	-0.06	93.82
1086	SLV FO 6	174	753	-119	-64.89	0.07	60.68
1086	SLV FO 7	215	-677	7533	-1619.07	10.08	75.43
1086	SLV FO 8	120	-689	7553	-1623.01	10.2	42.29
1086	SLV FO 9	-167	756	-235	-27.87	-1.19	-58.9
1086	SLV FO 10	-262	745	-215	-31.81	-1.06	-92.04
1086	SLV FO 11	-221	-685	7437	-1585.99	8.95	-77.29
1086	SLV FO 12	-316	-697	7457	-1589.92	9.07	-110.43
1086	SLV FO 13	-672	245	2334	-533.66	1.01	-235.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1086	SLV FO 14	-813	227	2364	-539.51	1.2	-284.69
1086	SLV FO 15	-688	-188	4636	-1001.1	4.06	-240.98
1086	SLV FO 16	-829	-205	4665	-1006.94	4.24	-290.21
1086	CRTFP Ux+	0	0	0	0	0	0
1086	CRTFP Ux-	0	0	0	0	0	0
1086	CRTFP Uy+	0	0	0	0	0	0
1086	CRTFP Uy-	0	0	0	0	0	0
1087	SLU 1	-19	29	3252	-676.09	3.51	-6.85
1087	SLU 2	-19	47	3174	-661.51	3.42	-6.69
1087	SLU 3	-20	29	3347	-694.36	3.62	-6.98
1087	SLU 4	-19	40	3300	-685.61	3.57	-6.89
1087	SLU 5	-19	47	3237	-673.73	3.5	-6.71
1087	SLU 6	-20	30	3410	-706.57	3.7	-7
1087	SLU 7	-19	41	3363	-697.83	3.65	-6.9
1087	SLU 8	-19	29	3379	-700.52	3.67	-6.88
1087	SLU 9	-19	40	3332	-691.77	3.61	-6.79
1087	SLU 10	-22	48	3589	-742.85	3.91	-7.75
1087	SLU 11	-23	31	3762	-775.69	4.11	-8.04
1087	SLU 12	-22	42	3715	-766.95	4.06	-7.95
1087	SLU 13	-22	49	3652	-755.06	3.99	-7.77
1087	SLU 14	-23	31	3825	-787.91	4.19	-8.06
1087	SLU 15	-22	42	3778	-779.16	4.14	-7.96
1087	SLU 16	-22	30	3794	-781.85	4.16	-7.94
1087	SLU 17	-22	41	3747	-773.11	4.1	-7.85
1087	SLU 18	-24	31	3845	-792.28	4.21	-8.36
1087	SLU 19	-23	42	3798	-783.54	4.15	-8.27
1087	SLU 20	-24	31	3908	-804.5	4.29	-8.38
1087	SLU 21	-23	42	3861	-795.75	4.23	-8.28
1087	SLU 22	-23	32	3815	-785.74	4.18	-8.28
1087	SLU 23	-23	50	3736	-771.17	4.09	-8.12
1087	SLU 24	-24	33	3909	-804.01	4.3	-8.41
1087	SLU 25	-23	44	3862	-795.27	4.24	-8.32
1087	SLU 26	-23	51	3799	-783.38	4.17	-8.14
1087	SLU 27	-24	33	3972	-816.23	4.38	-8.42
1087	SLU 28	-23	44	3925	-807.48	4.32	-8.33
1087	SLU 29	-23	32	3941	-810.18	4.34	-8.31
1087	SLU 30	-23	43	3894	-801.43	4.29	-8.21
1087	SLU 31	-26	52	4151	-852.5	4.58	-9.18
1087	SLU 32	-27	34	4324	-885.35	4.79	-9.47
1087	SLU 33	-26	45	4277	-876.6	4.73	-9.38
1087	SLU 34	-26	52	4214	-864.72	4.66	-9.2
1087	SLU 35	-27	34	4387	-897.57	4.87	-9.48
1087	SLU 36	-26	45	4340	-888.82	4.81	-9.39
1087	SLU 37	-26	34	4356	-891.51	4.83	-9.37
1087	SLU 38	-26	45	4309	-882.77	4.78	-9.27
1087	SLU 39	-28	34	4407	-901.94	4.88	-9.79
1087	SLU 40	-27	45	4360	-893.19	4.82	-9.7
1087	SLU 41	-28	34	4471	-914.15	4.96	-9.8
1087	SLU 42	-27	45	4423	-905.41	4.9	-9.71
1087	SLU 43	-24	36	4035	-841.32	4.33	-8.41
1087	SLU 44	-23	55	3957	-826.74	4.24	-8.26
1087	SLU 45	-24	37	4130	-859.59	4.45	-8.55
1087	SLU 46	-24	48	4083	-850.84	4.39	-8.45
1087	SLU 47	-23	55	4020	-838.96	4.32	-8.27
1087	SLU 48	-24	37	4193	-871.8	4.53	-8.56
1087	SLU 49	-24	48	4146	-863.06	4.47	-8.47
1087	SLU 50	-24	37	4162	-865.75	4.49	-8.44
1087	SLU 51	-23	48	4115	-857	4.43	-8.35
1087	SLU 52	-26	56	4372	-908.08	4.73	-9.32
1087	SLU 53	-27	38	4545	-940.92	4.94	-9.6
1087	SLU 54	-27	49	4498	-932.18	4.88	-9.51
1087	SLU 55	-26	56	4435	-920.29	4.81	-9.33
1087	SLU 56	-27	38	4608	-953.14	5.02	-9.62
1087	SLU 57	-27	49	4561	-944.39	4.96	-9.53
1087	SLU 58	-27	38	4577	-947.08	4.98	-9.5
1087	SLU 59	-26	49	4530	-938.34	4.92	-9.41
1087	SLU 60	-28	38	4628	-957.51	5.03	-9.93
1087	SLU 61	-28	49	4581	-948.76	4.97	-9.83
1087	SLU 62	-28	38	4691	-969.73	5.11	-9.94
1087	SLU 63	-28	49	4644	-960.98	5.05	-9.85
1087	SLU 64	-28	40	4598	-950.97	5	-9.84
1087	SLU 65	-27	58	4519	-936.4	4.91	-9.69
1087	SLU 66	-28	40	4692	-969.24	5.12	-9.97
1087	SLU 67	-28	51	4645	-960.5	5.06	-9.88
1087	SLU 68	-27	58	4582	-948.61	4.99	-9.7
1087	SLU 69	-28	40	4755	-981.46	5.2	-9.99
1087	SLU 70	-28	51	4708	-972.71	5.14	-9.9
1087	SLU 71	-28	40	4724	-975.4	5.16	-9.87
1087	SLU 72	-28	51	4677	-966.66	5.11	-9.78
1087	SLU 73	-30	59	4934	-1017.73	5.4	-10.75
1087	SLU 74	-31	41	5107	-1050.58	5.61	-11.03
1087	SLU 75	-31	52	5060	-1041.83	5.55	-10.94
1087	SLU 76	-30	59	4997	-1029.95	5.48	-10.76
1087	SLU 77	-31	42	5170	-1062.8	5.69	-11.05
1087	SLU 78	-31	53	5123	-1054.05	5.63	-10.96
1087	SLU 79	-31	41	5139	-1056.74	5.65	-10.93
1087	SLU 80	-31	52	5092	-1047.99	5.6	-10.84
1087	SLU 81	-32	41	5190	-1067.17	5.7	-11.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1087	SLU 82	-32	52	5143	-1058.42	5.65	-11.26
1087	SLU 83	-32	42	5254	-1079.38	5.78	-11.37
1087	SLU 84	-32	53	5206	-1070.64	5.73	-11.28
1087	SLE RA 1	-20	30	3413	-707.42	3.7	-7.26
1087	SLE RA 2	-20	42	3361	-697.7	3.64	-7.15
1087	SLE RA 3	-21	30	3476	-719.6	3.78	-7.34
1087	SLE RA 4	-20	37	3445	-713.77	3.74	-7.28
1087	SLE RA 5	-20	42	3403	-705.84	3.69	-7.16
1087	SLE RA 6	-21	30	3518	-727.74	3.83	-7.35
1087	SLE RA 7	-21	38	3487	-721.91	3.79	-7.29
1087	SLE RA 8	-20	30	3497	-723.71	3.81	-7.28
1087	SLE RA 9	-20	37	3466	-717.87	3.77	-7.21
1087	SLE RA 10	-22	43	3637	-751.92	3.96	-7.86
1087	SLE RA 11	-23	31	3753	-773.82	4.1	-8.05
1087	SLE RA 12	-22	38	3721	-767.99	4.07	-7.99
1087	SLE RA 13	-22	43	3679	-760.07	4.02	-7.87
1087	SLE RA 14	-23	31	3795	-781.97	4.16	-8.06
1087	SLE RA 15	-23	38	3763	-776.14	4.12	-8
1087	SLE RA 16	-22	31	3774	-777.93	4.13	-7.98
1087	SLE RA 17	-22	38	3743	-772.1	4.1	-7.92
1087	SLE RA 18	-23	31	3808	-784.88	4.17	-8.26
1087	SLE RA 19	-23	38	3777	-779.05	4.13	-8.2
1087	SLE RA 20	-23	31	3850	-793.02	4.22	-8.27
1087	SLE RA 21	-23	38	3819	-787.19	4.18	-8.21
1087	SLE FR 1	-20	30	3413	-707.42	3.7	-7.26
1087	SLE FR 2	-20	32	3403	-705.47	3.69	-7.23
1087	SLE FR 3	-20	30	3430	-710.68	3.72	-7.26
1087	SLE FR 4	-21	33	3521	-728.71	3.83	-7.54
1087	SLE FR 5	-21	30	3548	-733.91	3.86	-7.56
1087	SLE FR 6	-22	30	3611	-746.15	3.93	-7.76
1087	SLE QP 1	-20	30	3413	-707.42	3.7	-7.26
1087	SLE QP 2	-21	30	3532	-730.66	3.84	-7.56
1087	SLD 1	446	156	2995	-643.76	4.21	155.98
1087	SLD 2	365	148	3009	-646.12	4.32	127.6
1087	SLD 3	438	-73	4176	-862.22	5.57	153.28
1087	SLD 4	357	-80	4190	-864.58	5.68	124.9
1087	SLD 5	145	416	1578	-372.85	1.88	50.48
1087	SLD 6	92	411	1587	-374.37	1.94	32.2
1087	SLD 7	119	-346	5513	-1101.05	6.4	41.48
1087	SLD 8	66	-351	5522	-1102.57	6.47	23.2
1087	SLD 9	-109	411	1541	-358.74	1.21	-38.32
1087	SLD 10	-161	406	1550	-360.26	1.28	-56.59
1087	SLD 11	-135	-351	5476	-1086.94	5.73	-47.32
1087	SLD 12	-187	-356	5485	-1088.46	5.8	-65.6
1087	SLD 13	-399	140	2873	-596.73	2	-140.01
1087	SLD 14	-481	133	2887	-599.09	2.11	-168.4
1087	SLD 15	-407	-88	4054	-815.19	3.36	-142.71
1087	SLD 16	-489	-96	4068	-817.55	3.47	-171.1
1087	SLV 1	711	244	2609	-579.13	4.32	248.67
1087	SLV 2	583	232	2631	-582.86	4.49	203.93
1087	SLV 3	698	-146	4624	-951.85	6.63	244.21
1087	SLV 4	570	-158	4645	-955.57	6.8	199.46
1087	SLV 5	242	688	195	-119.22	0.44	84.43
1087	SLV 6	156	680	210	-121.72	0.56	54.31
1087	SLV 7	199	-612	6911	-1361.61	8.16	69.55
1087	SLV 8	113	-620	6925	-1364.11	8.27	39.43
1087	SLV 9	-155	680	138	-97.2	-0.59	-54.54
1087	SLV 10	-241	672	152	-99.7	-0.48	-84.66
1087	SLV 11	-198	-619	6853	-1339.59	7.12	-69.43
1087	SLV 12	-284	-628	6868	-1342.1	7.24	-99.55
1087	SLV 13	-612	218	2418	-505.74	0.87	-214.58
1087	SLV 14	-740	206	2439	-509.46	1.04	-259.32
1087	SLV 15	-625	-172	4432	-878.46	3.19	-219.04
1087	SLV 16	-753	-183	4454	-882.18	3.36	-263.79
1087	SLV FO 1	784	265	2517	-563.98	4.37	274.3
1087	SLV FO 2	643	252	2541	-568.08	4.56	225.08
1087	SLV FO 3	770	-164	4733	-973.97	6.91	269.38
1087	SLV FO 4	629	-177	4757	-978.07	7.1	220.16
1087	SLV FO 5	268	753	-139	-58.07	0.1	93.63
1087	SLV FO 6	173	745	-122	-60.83	0.23	60.5
1087	SLV FO 7	221	-676	7249	-1424.7	8.59	77.26
1087	SLV FO 8	126	-685	7265	-1427.46	8.71	44.12
1087	SLV FO 9	-168	745	-202	-33.85	-1.03	-59.24
1087	SLV FO 10	-263	736	-186	-36.61	-0.91	-92.37
1087	SLV FO 11	-216	-684	7186	-1400.48	7.45	-75.62
1087	SLV FO 12	-311	-693	7202	-1403.24	7.58	-108.75
1087	SLV FO 13	-671	237	2306	-483.25	0.58	-235.28
1087	SLV FO 14	-812	224	2330	-487.34	0.76	-284.5
1087	SLV FO 15	-686	-192	4522	-893.24	3.12	-240.19
1087	SLV FO 16	-827	-205	4546	-897.33	3.31	-289.41
1087	CRTFP Ux+	0	0	0	0	0	0
1087	CRTFP Ux-	0	0	0	0	0	0
1087	CRTFP Uy+	0	0	0	0	0	0
1087	CRTFP Uy-	0	0	0	0	0	0
1088	SLU 1	-17	26	3162	-612.71	2.44	-6.09
1088	SLU 2	-17	44	3085	-599.62	2.38	-5.97
1088	SLU 3	-17	27	3253	-628.96	2.53	-6.21
1088	SLU 4	-17	38	3208	-621.11	2.49	-6.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1088	SLU 5	-17	45	3147	-610.47	2.44	-5.97
1088	SLU 6	-17	27	3314	-639.82	2.59	-6.21
1088	SLU 7	-17	38	3269	-631.96	2.55	-6.13
1088	SLU 8	-17	26	3284	-634.42	2.56	-6.09
1088	SLU 9	-17	37	3238	-626.56	2.52	-6.02
1088	SLU 10	-20	45	3488	-672.1	2.72	-7
1088	SLU 11	-20	28	3656	-701.45	2.87	-7.23
1088	SLU 12	-20	39	3610	-693.59	2.83	-7.16
1088	SLU 13	-20	45	3549	-682.96	2.78	-7
1088	SLU 14	-20	28	3717	-712.3	2.92	-7.23
1088	SLU 15	-20	39	3671	-704.44	2.89	-7.16
1088	SLU 16	-20	27	3686	-706.9	2.9	-7.12
1088	SLU 17	-20	38	3641	-699.05	2.86	-7.05
1088	SLU 18	-21	27	3736	-716.26	2.93	-7.56
1088	SLU 19	-21	38	3691	-708.4	2.89	-7.49
1088	SLU 20	-21	28	3798	-727.11	2.99	-7.56
1088	SLU 21	-21	39	3752	-719.26	2.95	-7.49
1088	SLU 22	-21	29	3706	-710.41	2.91	-7.45
1088	SLU 23	-21	47	3630	-697.32	2.85	-7.32
1088	SLU 24	-21	30	3798	-726.66	3	-7.56
1088	SLU 25	-21	41	3752	-718.81	2.96	-7.48
1088	SLU 26	-21	47	3691	-708.17	2.91	-7.32
1088	SLU 27	-21	30	3859	-737.52	3.05	-7.56
1088	SLU 28	-21	41	3813	-729.66	3.02	-7.48
1088	SLU 29	-21	29	3829	-732.12	3.03	-7.44
1088	SLU 30	-21	40	3783	-724.26	2.99	-7.37
1088	SLU 31	-24	48	4033	-769.8	3.19	-8.35
1088	SLU 32	-24	30	4200	-799.14	3.34	-8.58
1088	SLU 33	-24	41	4155	-791.29	3.3	-8.51
1088	SLU 34	-24	48	4094	-780.66	3.25	-8.35
1088	SLU 35	-24	31	4261	-810	3.39	-8.58
1088	SLU 36	-24	42	4216	-802.14	3.36	-8.51
1088	SLU 37	-24	30	4231	-804.6	3.37	-8.47
1088	SLU 38	-24	41	4185	-796.75	3.33	-8.4
1088	SLU 39	-25	30	4281	-813.96	3.4	-8.91
1088	SLU 40	-25	41	4235	-806.1	3.36	-8.84
1088	SLU 41	-25	30	4342	-824.81	3.46	-8.91
1088	SLU 42	-25	41	4297	-816.96	3.42	-8.84
1088	SLU 43	-21	33	3923	-763.03	3.02	-7.46
1088	SLU 44	-21	51	3847	-749.94	2.96	-7.34
1088	SLU 45	-21	33	4015	-779.28	3.1	-7.57
1088	SLU 46	-21	44	3969	-771.42	3.06	-7.5
1088	SLU 47	-21	51	3908	-760.79	3.01	-7.34
1088	SLU 48	-21	34	4076	-790.13	3.16	-7.57
1088	SLU 49	-21	45	4030	-782.28	3.12	-7.5
1088	SLU 50	-21	33	4046	-784.74	3.13	-7.46
1088	SLU 51	-21	44	4000	-776.88	3.1	-7.39
1088	SLU 52	-24	52	4249	-822.42	3.29	-8.36
1088	SLU 53	-24	34	4417	-851.76	3.44	-8.6
1088	SLU 54	-24	45	4372	-843.91	3.4	-8.52
1088	SLU 55	-24	52	4311	-833.27	3.35	-8.36
1088	SLU 56	-24	34	4478	-862.62	3.5	-8.6
1088	SLU 57	-24	45	4433	-854.76	3.46	-8.52
1088	SLU 58	-24	34	4448	-857.22	3.47	-8.48
1088	SLU 59	-24	45	4402	-849.36	3.43	-8.41
1088	SLU 60	-25	34	4498	-866.57	3.5	-8.93
1088	SLU 61	-25	45	4452	-858.72	3.46	-8.85
1088	SLU 62	-25	34	4559	-877.43	3.56	-8.92
1088	SLU 63	-25	45	4514	-869.57	3.52	-8.85
1088	SLU 64	-25	36	4468	-860.73	3.49	-8.81
1088	SLU 65	-25	54	4392	-847.64	3.42	-8.69
1088	SLU 66	-25	36	4560	-876.98	3.57	-8.92
1088	SLU 67	-25	47	4514	-869.12	3.53	-8.85
1088	SLU 68	-25	54	4453	-858.49	3.48	-8.69
1088	SLU 69	-25	36	4621	-887.83	3.63	-8.92
1088	SLU 70	-25	47	4575	-879.98	3.59	-8.85
1088	SLU 71	-25	36	4590	-882.44	3.6	-8.81
1088	SLU 72	-25	47	4545	-874.58	3.56	-8.74
1088	SLU 73	-27	55	4794	-920.12	3.76	-9.72
1088	SLU 74	-28	37	4962	-949.46	3.91	-9.95
1088	SLU 75	-28	48	4916	-941.61	3.87	-9.87
1088	SLU 76	-27	55	4855	-930.97	3.82	-9.71
1088	SLU 77	-28	37	5023	-960.31	3.97	-9.95
1088	SLU 78	-28	48	4977	-952.46	3.93	-9.87
1088	SLU 79	-28	37	4993	-954.92	3.94	-9.84
1088	SLU 80	-28	48	4947	-947.06	3.9	-9.76
1088	SLU 81	-29	37	5043	-964.27	3.97	-10.28
1088	SLU 82	-29	48	4997	-956.42	3.93	-10.2
1088	SLU 83	-29	37	5104	-975.13	4.03	-10.28
1088	SLU 84	-29	48	5058	-967.27	3.99	-10.2
1088	SLE RA 1	-18	27	3317	-640.63	2.58	-6.48
1088	SLE RA 2	-18	39	3267	-631.9	2.54	-6.4
1088	SLE RA 3	-18	27	3378	-651.46	2.63	-6.55
1088	SLE RA 4	-18	35	3348	-646.22	2.61	-6.51
1088	SLE RA 5	-18	39	3307	-639.13	2.58	-6.4
1088	SLE RA 6	-18	27	3419	-658.7	2.67	-6.55
1088	SLE RA 7	-18	35	3389	-653.46	2.65	-6.51
1088	SLE RA 8	-18	27	3399	-655.1	2.65	-6.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1088	SLE RA 9	-18	34	3368	-649.86	2.63	-6.43
1088	SLE RA 10	-20	40	3535	-680.22	2.76	-7.08
1088	SLE RA 11	-20	28	3647	-699.78	2.86	-7.24
1088	SLE RA 12	-20	35	3616	-694.54	2.84	-7.19
1088	SLE RA 13	-20	40	3575	-687.46	2.8	-7.08
1088	SLE RA 14	-20	28	3687	-707.02	2.9	-7.24
1088	SLE RA 15	-20	35	3657	-701.78	2.87	-7.19
1088	SLE RA 16	-20	28	3667	-703.42	2.88	-7.16
1088	SLE RA 17	-20	35	3637	-698.18	2.86	-7.12
1088	SLE RA 18	-21	28	3700	-709.66	2.9	-7.46
1088	SLE RA 19	-21	35	3670	-704.42	2.88	-7.41
1088	SLE RA 20	-21	28	3741	-716.89	2.94	-7.46
1088	SLE RA 21	-21	35	3711	-711.66	2.92	-7.41
1088	SLE FR 1	-18	27	3317	-640.63	2.58	-6.48
1088	SLE FR 2	-18	29	3307	-638.88	2.57	-6.46
1088	SLE FR 3	-18	27	3334	-643.52	2.59	-6.48
1088	SLE FR 4	-19	30	3422	-659.59	2.67	-6.76
1088	SLE FR 5	-19	27	3449	-664.23	2.69	-6.77
1088	SLE FR 6	-20	27	3509	-675.14	2.74	-6.97
1088	SLE QP 1	-18	27	3317	-640.63	2.58	-6.48
1088	SLE QP 2	-19	27	3432	-661.33	2.67	-6.77
1088	SLD 1	448	152	2887	-576.39	3.28	156.67
1088	SLD 2	366	147	2897	-577.86	3.38	128.3
1088	SLD 3	441	-76	4033	-772.72	4.18	154.24
1088	SLD 4	360	-81	4043	-774.19	4.29	125.88
1088	SLD 5	145	412	1528	-337.83	1.46	50.82
1088	SLD 6	93	408	1535	-338.77	1.53	32.55
1088	SLD 7	122	-349	5349	-992.27	4.48	42.73
1088	SLD 8	70	-352	5356	-993.22	4.55	24.46
1088	SLD 9	-108	407	1509	-329.45	0.8	-38.01
1088	SLD 10	-161	403	1516	-330.4	0.87	-56.28
1088	SLD 11	-131	-354	5329	-983.89	3.82	-46.1
1088	SLD 12	-184	-357	5336	-984.84	3.89	-64.36
1088	SLD 13	-398	135	2821	-548.47	1.06	-139.42
1088	SLD 14	-479	130	2832	-549.94	1.17	-167.79
1088	SLD 15	-405	-93	3967	-744.81	1.97	-141.85
1088	SLD 16	-486	-98	3978	-746.28	2.07	-170.22
1088	SLV 1	712	240	2498	-514.49	3.55	249.28
1088	SLV 2	584	231	2515	-516.81	3.71	204.56
1088	SLV 3	701	-150	4454	-849.44	5.09	245.29
1088	SLV 4	573	-158	4471	-851.76	5.26	200.58
1088	SLV 5	241	683	182	-108.84	0.56	84.43
1088	SLV 6	155	677	194	-110.4	0.68	54.33
1088	SLV 7	204	-615	6702	-1225.35	5.71	71.14
1088	SLV 8	117	-620	6713	-1226.91	5.82	41.04
1088	SLV 9	-156	674	151	-95.76	-0.47	-54.59
1088	SLV 10	-242	669	162	-97.32	-0.36	-84.69
1088	SLV 11	-193	-623	6671	-1212.27	4.67	-67.88
1088	SLV 12	-280	-628	6682	-1213.83	4.79	-97.98
1088	SLV 13	-611	212	2394	-470.91	0.09	-214.12
1088	SLV 14	-739	204	2411	-473.22	0.26	-258.84
1088	SLV 15	-622	-177	4350	-805.86	1.64	-218.11
1088	SLV 16	-751	-185	4367	-808.18	1.8	-262.83
1088	SLV FO 1	785	261	2405	-499.81	3.63	274.88
1088	SLV FO 2	645	252	2423	-502.36	3.82	225.7
1088	SLV FO 3	773	-167	4556	-868.26	5.33	270.5
1088	SLV FO 4	632	-176	4574	-870.8	5.51	221.31
1088	SLV FO 5	267	748	-143	-53.59	0.35	93.55
1088	SLV FO 6	173	742	-130	-55.3	0.48	60.44
1088	SLV FO 7	226	-679	7029	-1281.75	6.01	78.93
1088	SLV FO 8	131	-685	7041	-1283.46	6.14	45.82
1088	SLV FO 9	-169	739	-177	-39.21	-0.79	-59.37
1088	SLV FO 10	-264	733	-165	-40.92	-0.66	-92.48
1088	SLV FO 11	-211	-688	6995	-1267.36	4.87	-73.99
1088	SLV FO 12	-306	-694	7007	-1269.08	5	-107.1
1088	SLV FO 13	-670	231	2290	-451.87	-0.16	-234.86
1088	SLV FO 14	-811	222	2309	-454.41	0.02	-284.05
1088	SLV FO 15	-683	-198	4442	-820.31	1.53	-239.24
1088	SLV FO 16	-824	-207	4460	-822.86	1.72	-288.43
1088	CRTFP Ux+	0	0	0	0	0	0
1088	CRTFP Ux-	0	0	0	0	0	0
1088	CRTFP Uy+	0	0	0	0	0	0
1088	CRTFP Uy-	0	0	0	0	0	0
1089	SLU 1	-15	24	3107	-577.95	1.13	-5.3
1089	SLU 2	-15	42	3032	-565.63	1.1	-5.21
1089	SLU 3	-15	24	3197	-593.06	1.17	-5.39
1089	SLU 4	-15	35	3152	-585.67	1.16	-5.34
1089	SLU 5	-15	42	3092	-575.71	1.13	-5.2
1089	SLU 6	-15	25	3257	-603.14	1.2	-5.37
1089	SLU 7	-15	36	3212	-595.75	1.19	-5.32
1089	SLU 8	-15	24	3227	-598.11	1.19	-5.27
1089	SLU 9	-15	35	3182	-590.72	1.17	-5.22
1089	SLU 10	-18	43	3427	-633.33	1.26	-6.2
1089	SLU 11	-18	25	3592	-660.77	1.32	-6.38
1089	SLU 12	-18	36	3547	-653.37	1.31	-6.33
1089	SLU 13	-17	43	3487	-643.41	1.29	-6.19
1089	SLU 14	-18	25	3652	-670.85	1.35	-6.36
1089	SLU 15	-18	36	3607	-663.45	1.34	-6.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1089	SLU 16	-18	25	3622	-665.82	1.34	-6.26
1089	SLU 17	-18	36	3577	-658.42	1.33	-6.2
1089	SLU 18	-19	25	3671	-674.68	1.35	-6.72
1089	SLU 19	-19	36	3626	-667.28	1.33	-6.66
1089	SLU 20	-19	25	3731	-684.76	1.38	-6.7
1089	SLU 21	-19	36	3686	-677.36	1.36	-6.64
1089	SLU 22	-19	27	3642	-669.15	1.34	-6.57
1089	SLU 23	-18	45	3567	-656.82	1.32	-6.48
1089	SLU 24	-19	27	3731	-684.26	1.39	-6.66
1089	SLU 25	-19	38	3686	-676.86	1.37	-6.61
1089	SLU 26	-18	45	3627	-666.9	1.35	-6.46
1089	SLU 27	-19	27	3791	-694.34	1.42	-6.64
1089	SLU 28	-19	38	3746	-686.94	1.4	-6.59
1089	SLU 29	-18	27	3761	-689.3	1.4	-6.54
1089	SLU 30	-18	38	3716	-681.91	1.39	-6.48
1089	SLU 31	-21	46	3962	-724.53	1.47	-7.47
1089	SLU 32	-22	28	4126	-751.96	1.54	-7.65
1089	SLU 33	-21	39	4081	-744.57	1.52	-7.59
1089	SLU 34	-21	46	4021	-734.6	1.5	-7.45
1089	SLU 35	-22	28	4186	-762.04	1.57	-7.63
1089	SLU 36	-21	39	4141	-754.64	1.55	-7.58
1089	SLU 37	-21	28	4156	-757.01	1.56	-7.52
1089	SLU 38	-21	39	4111	-749.61	1.54	-7.47
1089	SLU 39	-23	28	4206	-765.87	1.56	-7.98
1089	SLU 40	-22	39	4161	-758.47	1.55	-7.93
1089	SLU 41	-23	28	4265	-775.95	1.59	-7.97
1089	SLU 42	-22	39	4221	-768.55	1.58	-7.91
1089	SLU 43	-18	30	3856	-720.07	1.39	-6.46
1089	SLU 44	-18	49	3781	-707.75	1.37	-6.37
1089	SLU 45	-18	31	3946	-735.18	1.44	-6.55
1089	SLU 46	-18	42	3901	-727.79	1.42	-6.49
1089	SLU 47	-18	49	3841	-717.83	1.4	-6.35
1089	SLU 48	-18	31	4006	-745.26	1.47	-6.53
1089	SLU 49	-18	42	3961	-737.87	1.45	-6.48
1089	SLU 50	-18	30	3976	-740.23	1.45	-6.42
1089	SLU 51	-18	41	3931	-732.84	1.44	-6.37
1089	SLU 52	-21	49	4176	-775.45	1.52	-7.36
1089	SLU 53	-21	31	4341	-802.89	1.59	-7.54
1089	SLU 54	-21	42	4296	-795.49	1.57	-7.48
1089	SLU 55	-21	49	4236	-785.53	1.55	-7.34
1089	SLU 56	-21	32	4401	-812.97	1.62	-7.52
1089	SLU 57	-21	43	4356	-805.57	1.6	-7.46
1089	SLU 58	-21	31	4371	-807.94	1.61	-7.41
1089	SLU 59	-21	42	4326	-800.54	1.59	-7.36
1089	SLU 60	-22	31	4420	-816.8	1.61	-7.87
1089	SLU 61	-22	42	4375	-809.4	1.6	-7.82
1089	SLU 62	-22	31	4480	-826.88	1.64	-7.85
1089	SLU 63	-22	42	4435	-819.48	1.63	-7.8
1089	SLU 64	-22	33	4391	-811.27	1.61	-7.73
1089	SLU 65	-22	51	4316	-798.94	1.58	-7.64
1089	SLU 66	-22	33	4480	-826.38	1.65	-7.81
1089	SLU 67	-22	44	4435	-818.98	1.64	-7.76
1089	SLU 68	-22	51	4376	-809.02	1.61	-7.62
1089	SLU 69	-22	33	4540	-836.46	1.68	-7.8
1089	SLU 70	-22	44	4495	-829.06	1.67	-7.74
1089	SLU 71	-22	33	4510	-831.42	1.67	-7.69
1089	SLU 72	-22	44	4465	-824.03	1.65	-7.64
1089	SLU 73	-24	52	4711	-866.65	1.74	-8.63
1089	SLU 74	-25	34	4875	-894.08	1.8	-8.8
1089	SLU 75	-25	45	4830	-886.69	1.79	-8.75
1089	SLU 76	-24	52	4770	-876.72	1.77	-8.61
1089	SLU 77	-25	34	4935	-904.16	1.83	-8.79
1089	SLU 78	-25	45	4890	-896.76	1.82	-8.73
1089	SLU 79	-25	34	4905	-899.13	1.82	-8.68
1089	SLU 80	-24	45	4860	-891.73	1.81	-8.63
1089	SLU 81	-26	34	4955	-907.99	1.83	-9.14
1089	SLU 82	-26	45	4910	-900.59	1.81	-9.09
1089	SLU 83	-26	34	5014	-918.07	1.86	-9.12
1089	SLU 84	-26	45	4970	-910.67	1.84	-9.07
1089	SLE RA 1	-16	25	3260	-604.01	1.19	-5.67
1089	SLE RA 2	-16	37	3210	-595.79	1.17	-5.61
1089	SLE RA 3	-16	25	3320	-614.08	1.22	-5.72
1089	SLE RA 4	-16	32	3290	-609.15	1.21	-5.69
1089	SLE RA 5	-16	37	3250	-602.51	1.19	-5.59
1089	SLE RA 6	-16	25	3360	-620.8	1.24	-5.71
1089	SLE RA 7	-16	32	3330	-615.87	1.23	-5.68
1089	SLE RA 8	-16	25	3340	-617.45	1.23	-5.64
1089	SLE RA 9	-16	32	3310	-612.52	1.22	-5.61
1089	SLE RA 10	-18	37	3473	-640.93	1.28	-6.27
1089	SLE RA 11	-18	25	3583	-659.22	1.32	-6.38
1089	SLE RA 12	-18	33	3553	-654.29	1.31	-6.35
1089	SLE RA 13	-18	38	3513	-647.65	1.3	-6.25
1089	SLE RA 14	-18	26	3623	-665.94	1.34	-6.37
1089	SLE RA 15	-18	33	3593	-661.01	1.33	-6.34
1089	SLE RA 16	-18	25	3603	-662.58	1.33	-6.3
1089	SLE RA 17	-18	33	3573	-657.65	1.32	-6.27
1089	SLE RA 18	-19	25	3636	-668.49	1.34	-6.61
1089	SLE RA 19	-19	33	3606	-663.56	1.33	-6.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1089	SLE RA 20	-19	25	3676	-675.21	1.36	-6.6
1089	SLE RA 21	-19	33	3646	-670.28	1.35	-6.56
1089	SLE FR 1	-16	25	3260	-604.01	1.19	-5.67
1089	SLE FR 2	-16	27	3250	-602.37	1.19	-5.65
1089	SLE FR 3	-16	25	3276	-606.7	1.2	-5.66
1089	SLE FR 4	-17	27	3363	-621.71	1.23	-5.94
1089	SLE FR 5	-17	25	3389	-626.04	1.24	-5.94
1089	SLE FR 6	-17	25	3448	-636.25	1.26	-6.14
1089	SLE QP 1	-16	25	3260	-604.01	1.19	-5.67
1089	SLE QP 2	-17	25	3373	-623.35	1.23	-5.95
1089	SLD 1	449	151	2780	-534.81	2.12	157.31
1089	SLD 2	368	148	2787	-535.53	2.23	128.97
1089	SLD 3	443	-79	3907	-719.79	2.47	155.1
1089	SLD 4	362	-82	3914	-720.51	2.58	126.77
1089	SLD 5	146	412	1484	-316.11	0.95	51.24
1089	SLD 6	94	410	1489	-316.57	1.02	33
1089	SLD 7	126	-354	5241	-932.72	2.12	43.9
1089	SLD 8	73	-356	5246	-933.18	2.19	25.65
1089	SLD 9	-107	406	1500	-313.53	0.28	-37.55
1089	SLD 10	-159	404	1504	-313.99	0.35	-55.79
1089	SLD 11	-128	-360	5257	-930.13	1.45	-44.89
1089	SLD 12	-180	-362	5261	-930.6	1.52	-63.14
1089	SLD 13	-396	131	2831	-526.2	-0.11	-138.66
1089	SLD 14	-477	128	2839	-526.92	0	-167
1089	SLD 15	-402	-99	3958	-711.18	0.24	-140.87
1089	SLD 16	-483	-101	3966	-711.9	0.35	-169.2
1089	SLV 1	714	239	2364	-471.76	2.59	249.79
1089	SLV 2	586	235	2376	-472.9	2.76	205.12
1089	SLV 3	704	-153	4287	-787.34	3.19	246.18
1089	SLV 4	576	-158	4299	-788.48	3.35	201.52
1089	SLV 5	242	685	151	-99.03	0.7	84.57
1089	SLV 6	155	682	159	-99.8	0.81	54.5
1089	SLV 7	208	-622	6562	-1150.97	2.7	72.56
1089	SLV 8	122	-625	6570	-1151.73	2.81	42.5
1089	SLV 9	-155	675	176	-94.97	-0.34	-54.39
1089	SLV 10	-241	672	184	-95.74	-0.23	-84.46
1089	SLV 11	-189	-632	6587	-1146.91	1.65	-66.4
1089	SLV 12	-275	-635	6595	-1147.67	1.76	-96.46
1089	SLV 13	-609	207	2447	-458.23	-0.89	-213.42
1089	SLV 14	-737	203	2458	-459.36	-0.72	-258.08
1089	SLV 15	-619	-185	4370	-773.81	-0.29	-217.02
1089	SLV 16	-747	-189	4382	-774.94	-0.13	-261.68
1089	SLV FO 1	787	261	2263	-456.6	2.73	275.36
1089	SLV FO 2	646	256	2276	-457.85	2.91	226.23
1089	SLV FO 3	776	-171	4379	-803.74	3.39	271.4
1089	SLV FO 4	635	-176	4392	-804.99	3.57	222.27
1089	SLV FO 5	267	751	-171	-46.6	0.65	93.62
1089	SLV FO 6	173	747	-163	-47.44	0.77	60.55
1089	SLV FO 7	230	-687	6881	-1203.73	2.84	80.41
1089	SLV FO 8	136	-690	6890	-1204.57	2.96	47.34
1089	SLV FO 9	-169	740	-144	-42.14	-0.5	-59.24
1089	SLV FO 10	-264	737	-135	-42.98	-0.38	-92.31
1089	SLV FO 11	-206	-698	6908	-1199.27	1.7	-72.44
1089	SLV FO 12	-301	-701	6917	-1200.11	1.82	-105.51
1089	SLV FO 13	-668	226	2354	-441.72	-1.1	-234.17
1089	SLV FO 14	-809	220	2367	-442.96	-0.92	-283.29
1089	SLV FO 15	-680	-206	4470	-788.86	-0.44	-238.13
1089	SLV FO 16	-820	-211	4483	-790.1	-0.26	-287.26
1089	CRTFP Ux+	0	0	0	0	0	0
1089	CRTFP Ux-	0	0	0	0	0	0
1089	CRTFP Uy+	0	0	0	0	0	0
1089	CRTFP Uy-	0	0	0	0	0	0
1090	SLU 1	-13	22	3094	-574.32	-0.27	-4.48
1090	SLU 2	-13	41	3020	-561.96	-0.26	-4.42
1090	SLU 3	-13	23	3183	-589.24	-0.28	-4.54
1090	SLU 4	-13	34	3139	-581.83	-0.27	-4.51
1090	SLU 5	-12	41	3079	-571.9	-0.26	-4.39
1090	SLU 6	-13	23	3243	-599.18	-0.28	-4.5
1090	SLU 7	-13	34	3198	-591.77	-0.27	-4.47
1090	SLU 8	-12	22	3213	-594.2	-0.27	-4.4
1090	SLU 9	-12	34	3168	-586.79	-0.27	-4.37
1090	SLU 10	-15	42	3413	-629.32	-0.31	-5.37
1090	SLU 11	-16	23	3577	-656.59	-0.32	-5.48
1090	SLU 12	-15	34	3532	-649.18	-0.31	-5.45
1090	SLU 13	-15	42	3472	-639.26	-0.31	-5.33
1090	SLU 14	-15	23	3636	-666.54	-0.32	-5.45
1090	SLU 15	-15	35	3591	-659.12	-0.31	-5.42
1090	SLU 16	-15	23	3606	-661.56	-0.32	-5.35
1090	SLU 17	-15	34	3561	-654.14	-0.31	-5.32
1090	SLU 18	-17	23	3656	-670.54	-0.34	-5.83
1090	SLU 19	-16	34	3611	-663.12	-0.33	-5.79
1090	SLU 20	-16	23	3715	-680.48	-0.34	-5.79
1090	SLU 21	-16	34	3671	-673.07	-0.33	-5.76
1090	SLU 22	-16	25	3626	-664.93	-0.33	-5.65
1090	SLU 23	-16	43	3552	-652.57	-0.31	-5.6
1090	SLU 24	-16	25	3715	-679.85	-0.33	-5.72
1090	SLU 25	-16	36	3671	-672.44	-0.32	-5.68
1090	SLU 26	-16	43	3611	-662.52	-0.31	-5.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1090	SLU 27	-16	25	3775	-689.79	-0.33	-5.68
1090	SLU 28	-16	36	3730	-682.38	-0.32	-5.65
1090	SLU 29	-16	25	3745	-684.81	-0.33	-5.58
1090	SLU 30	-16	36	3700	-677.4	-0.32	-5.55
1090	SLU 31	-19	44	3945	-719.93	-0.36	-6.54
1090	SLU 32	-19	26	4109	-747.21	-0.38	-6.66
1090	SLU 33	-19	37	4064	-739.79	-0.37	-6.63
1090	SLU 34	-18	44	4004	-729.87	-0.36	-6.51
1090	SLU 35	-19	26	4168	-757.15	-0.38	-6.63
1090	SLU 36	-19	37	4123	-749.73	-0.37	-6.59
1090	SLU 37	-18	25	4138	-752.17	-0.38	-6.53
1090	SLU 38	-18	37	4093	-744.75	-0.37	-6.49
1090	SLU 39	-20	26	4188	-761.15	-0.4	-7.01
1090	SLU 40	-20	37	4143	-753.74	-0.39	-6.97
1090	SLU 41	-20	26	4247	-771.09	-0.4	-6.97
1090	SLU 42	-20	37	4203	-763.68	-0.39	-6.94
1090	SLU 43	-15	28	3840	-715.55	-0.34	-5.42
1090	SLU 44	-15	47	3766	-703.19	-0.32	-5.36
1090	SLU 45	-15	29	3929	-730.47	-0.34	-5.48
1090	SLU 46	-15	40	3884	-723.05	-0.33	-5.44
1090	SLU 47	-15	47	3825	-713.13	-0.32	-5.32
1090	SLU 48	-15	29	3989	-740.41	-0.34	-5.44
1090	SLU 49	-15	40	3944	-733	-0.33	-5.41
1090	SLU 50	-15	28	3959	-735.43	-0.34	-5.34
1090	SLU 51	-15	39	3914	-728.02	-0.33	-5.31
1090	SLU 52	-18	47	4159	-770.54	-0.37	-6.31
1090	SLU 53	-18	29	4323	-797.82	-0.39	-6.42
1090	SLU 54	-18	40	4278	-790.41	-0.38	-6.39
1090	SLU 55	-18	47	4218	-780.49	-0.37	-6.27
1090	SLU 56	-18	29	4382	-807.77	-0.39	-6.39
1090	SLU 57	-18	40	4337	-800.35	-0.38	-6.35
1090	SLU 58	-18	29	4352	-802.79	-0.38	-6.29
1090	SLU 59	-18	40	4307	-795.37	-0.38	-6.26
1090	SLU 60	-19	29	4402	-811.77	-0.4	-6.77
1090	SLU 61	-19	40	4357	-804.35	-0.39	-6.73
1090	SLU 62	-19	29	4461	-821.71	-0.4	-6.73
1090	SLU 63	-19	40	4416	-814.3	-0.39	-6.7
1090	SLU 64	-19	31	4372	-806.16	-0.39	-6.59
1090	SLU 65	-19	49	4297	-793.8	-0.38	-6.54
1090	SLU 66	-19	31	4461	-821.08	-0.4	-6.66
1090	SLU 67	-19	42	4416	-813.67	-0.39	-6.62
1090	SLU 68	-18	49	4357	-803.74	-0.38	-6.5
1090	SLU 69	-19	31	4521	-831.02	-0.4	-6.62
1090	SLU 70	-19	42	4476	-823.61	-0.39	-6.59
1090	SLU 71	-18	31	4491	-826.04	-0.39	-6.52
1090	SLU 72	-18	42	4446	-818.63	-0.38	-6.49
1090	SLU 73	-21	50	4691	-861.16	-0.42	-7.48
1090	SLU 74	-22	32	4854	-888.43	-0.44	-7.6
1090	SLU 75	-21	43	4810	-881.02	-0.43	-7.57
1090	SLU 76	-21	50	4750	-871.1	-0.42	-7.45
1090	SLU 77	-21	32	4914	-898.38	-0.44	-7.57
1090	SLU 78	-21	43	4869	-890.96	-0.43	-7.53
1090	SLU 79	-21	31	4884	-893.4	-0.44	-7.47
1090	SLU 80	-21	43	4839	-885.98	-0.43	-7.43
1090	SLU 81	-23	31	4934	-902.38	-0.46	-7.94
1090	SLU 82	-22	43	4889	-894.97	-0.45	-7.91
1090	SLU 83	-22	31	4993	-912.32	-0.46	-7.91
1090	SLU 84	-22	43	4948	-904.91	-0.45	-7.88
1090	SLE RA 1	-14	23	3246	-600.21	-0.29	-4.81
1090	SLE RA 2	-14	35	3196	-591.97	-0.28	-4.78
1090	SLE RA 3	-14	23	3306	-610.16	-0.29	-4.85
1090	SLE RA 4	-14	31	3276	-605.21	-0.29	-4.83
1090	SLE RA 5	-13	35	3236	-598.6	-0.28	-4.75
1090	SLE RA 6	-14	23	3345	-616.78	-0.29	-4.83
1090	SLE RA 7	-14	31	3315	-611.84	-0.29	-4.81
1090	SLE RA 8	-13	23	3326	-613.46	-0.29	-4.77
1090	SLE RA 9	-13	31	3296	-608.52	-0.28	-4.74
1090	SLE RA 10	-15	36	3459	-636.87	-0.31	-5.41
1090	SLE RA 11	-16	24	3568	-655.06	-0.32	-5.48
1090	SLE RA 12	-15	31	3538	-650.12	-0.32	-5.46
1090	SLE RA 13	-15	36	3498	-643.5	-0.31	-5.38
1090	SLE RA 14	-15	24	3607	-661.69	-0.32	-5.46
1090	SLE RA 15	-15	31	3578	-656.74	-0.32	-5.44
1090	SLE RA 16	-15	23	3588	-658.37	-0.32	-5.4
1090	SLE RA 17	-15	31	3558	-653.42	-0.32	-5.37
1090	SLE RA 18	-16	24	3621	-664.35	-0.33	-5.71
1090	SLE RA 19	-16	31	3591	-659.41	-0.33	-5.69
1090	SLE RA 20	-16	24	3660	-670.98	-0.33	-5.69
1090	SLE RA 21	-16	31	3630	-666.04	-0.33	-5.67
1090	SLE FR 1	-14	23	3246	-600.21	-0.29	-4.81
1090	SLE FR 2	-14	25	3236	-598.56	-0.29	-4.81
1090	SLE FR 3	-14	23	3262	-602.86	-0.29	-4.8
1090	SLE FR 4	-14	26	3349	-617.8	-0.3	-5.08
1090	SLE FR 5	-14	23	3375	-622.1	-0.3	-5.07
1090	SLE FR 6	-15	23	3434	-632.28	-0.31	-5.26
1090	SLE QP 1	-14	23	3246	-600.21	-0.29	-4.81
1090	SLE QP 2	-14	23	3359	-619.45	-0.3	-5.08
1090	SLD 1	451	152	2743	-517.5	0.91	157.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1090	SLD 2	370	151	2748	-517.57	1.01	129.61
1090	SLD 3	445	-82	3869	-702.95	0.67	155.84
1090	SLD 4	364	-83	3873	-703.03	0.77	127.55
1090	SLD 5	148	417	1467	-307.58	0.4	51.79
1090	SLD 6	96	416	1469	-307.63	0.47	33.58
1090	SLD 7	129	-363	5218	-925.76	-0.39	44.94
1090	SLD 8	76	-363	5220	-925.81	-0.32	26.72
1090	SLD 9	-105	410	1497	-313.1	-0.28	-36.89
1090	SLD 10	-157	409	1500	-313.15	-0.22	-55.1
1090	SLD 11	-125	-370	5248	-931.27	-1.07	-43.75
1090	SLD 12	-177	-370	5251	-931.32	-1.01	-61.96
1090	SLD 13	-393	129	2844	-535.88	-1.37	-137.72
1090	SLD 14	-474	128	2849	-535.95	-1.27	-166
1090	SLD 15	-399	-105	3970	-721.33	-1.61	-139.78
1090	SLD 16	-480	-106	3974	-721.41	-1.51	-168.06
1090	SLV 1	715	241	2316	-446.85	1.6	250.2
1090	SLV 2	587	241	2322	-446.97	1.76	205.62
1090	SLV 3	705	-157	4236	-763.23	1.19	246.85
1090	SLV 4	578	-158	4243	-763.35	1.35	202.27
1090	SLV 5	243	694	132	-87.8	0.85	84.9
1090	SLV 6	157	693	136	-87.89	0.96	54.89
1090	SLV 7	211	-636	6533	-1142.41	-0.5	73.74
1090	SLV 8	125	-636	6538	-1142.49	-0.39	43.73
1090	SLV 9	-154	683	180	-96.41	-0.21	-53.89
1090	SLV 10	-240	682	184	-96.5	-0.11	-83.9
1090	SLV 11	-185	-647	6581	-1151.02	-1.56	-65.06
1090	SLV 12	-271	-648	6586	-1151.1	-1.46	-95.07
1090	SLV 13	-606	205	2475	-475.55	-1.96	-212.44
1090	SLV 14	-734	204	2481	-475.67	-1.8	-257.02
1090	SLV 15	-616	-194	4395	-791.93	-2.36	-215.79
1090	SLV 16	-744	-195	4402	-792.05	-2.21	-260.37
1090	SLV FO 1	788	263	2211	-429.59	1.79	275.73
1090	SLV FO 2	647	262	2219	-429.72	1.96	226.69
1090	SLV FO 3	777	-175	4324	-777.61	1.34	272.05
1090	SLV FO 4	637	-176	4331	-777.74	1.52	223.01
1090	SLV FO 5	268	761	-191	-34.64	0.97	93.9
1090	SLV FO 6	174	760	-186	-34.73	1.08	60.89
1090	SLV FO 7	234	-702	6851	-1194.7	-0.52	81.62
1090	SLV FO 8	139	-702	6856	-1194.79	-0.4	48.61
1090	SLV FO 9	-168	749	-138	-44.11	-0.21	-58.77
1090	SLV FO 10	-262	748	-133	-44.2	-0.09	-91.78
1090	SLV FO 11	-202	-714	6903	-1204.17	-1.69	-71.05
1090	SLV FO 12	-297	-715	6908	-1204.26	-1.57	-104.07
1090	SLV FO 13	-666	223	2386	-461.16	-2.12	-233.18
1090	SLV FO 14	-806	222	2394	-461.29	-1.95	-282.21
1090	SLV FO 15	-676	-216	4499	-809.18	-2.57	-236.86
1090	SLV FO 16	-817	-217	4506	-809.31	-2.4	-285.9
1090	CRTFP Ux+	0	0	0	0	0	0
1090	CRTFP Ux-	0	0	0	0	0	0
1090	CRTFP Uy+	0	0	0	0	0	0
1090	CRTFP Uy-	0	0	0	0	0	0
1091	SLU 1	-10	21	3123	-602.26	-1.63	-3.62
1091	SLU 2	-10	40	3048	-589.08	-1.57	-3.6
1091	SLU 3	-10	22	3213	-617.97	-1.67	-3.66
1091	SLU 4	-10	33	3168	-610.06	-1.64	-3.65
1091	SLU 5	-10	40	3107	-599.53	-1.6	-3.55
1091	SLU 6	-10	22	3273	-628.42	-1.7	-3.6
1091	SLU 7	-10	33	3228	-620.51	-1.67	-3.59
1091	SLU 8	-10	21	3243	-623.17	-1.68	-3.51
1091	SLU 9	-10	33	3198	-615.26	-1.65	-3.5
1091	SLU 10	-13	41	3445	-660.56	-1.81	-4.5
1091	SLU 11	-13	22	3611	-689.45	-1.91	-4.56
1091	SLU 12	-13	34	3565	-681.54	-1.88	-4.55
1091	SLU 13	-13	41	3505	-671.02	-1.84	-4.45
1091	SLU 14	-13	22	3671	-699.91	-1.94	-4.5
1091	SLU 15	-13	34	3625	-692	-1.91	-4.49
1091	SLU 16	-13	22	3641	-694.66	-1.92	-4.41
1091	SLU 17	-13	33	3595	-686.75	-1.89	-4.4
1091	SLU 18	-14	22	3691	-704.39	-1.97	-4.91
1091	SLU 19	-14	33	3646	-696.47	-1.93	-4.9
1091	SLU 20	-14	22	3751	-714.84	-1.99	-4.85
1091	SLU 21	-14	33	3706	-706.93	-1.96	-4.84
1091	SLU 22	-13	23	3661	-698.3	-1.94	-4.71
1091	SLU 23	-13	43	3585	-685.11	-1.89	-4.69
1091	SLU 24	-13	24	3751	-714	-1.99	-4.74
1091	SLU 25	-13	35	3705	-706.09	-1.95	-4.73
1091	SLU 26	-13	43	3645	-695.57	-1.92	-4.63
1091	SLU 27	-13	24	3811	-724.45	-2.02	-4.69
1091	SLU 28	-13	35	3765	-716.54	-1.98	-4.67
1091	SLU 29	-13	24	3781	-719.2	-2	-4.6
1091	SLU 30	-13	35	3735	-711.29	-1.97	-4.58
1091	SLU 31	-16	43	3983	-756.6	-2.12	-5.59
1091	SLU 32	-16	24	4148	-785.49	-2.22	-5.64
1091	SLU 33	-16	36	4103	-777.58	-2.19	-5.63
1091	SLU 34	-16	43	4042	-767.05	-2.15	-5.53
1091	SLU 35	-16	24	4208	-795.94	-2.25	-5.59
1091	SLU 36	-16	36	4163	-788.03	-2.22	-5.58
1091	SLU 37	-16	24	4178	-790.69	-2.24	-5.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1091	SLU 38	-16	36	4133	-782.78	-2.2	-5.48
1091	SLU 39	-17	24	4229	-800.42	-2.28	-5.99
1091	SLU 40	-17	36	4183	-792.51	-2.25	-5.98
1091	SLU 41	-17	24	4289	-810.87	-2.31	-5.94
1091	SLU 42	-17	36	4243	-802.96	-2.28	-5.93
1091	SLU 43	-12	27	3876	-750.01	-2.01	-4.34
1091	SLU 44	-12	46	3800	-736.83	-1.95	-4.32
1091	SLU 45	-12	27	3966	-765.72	-2.05	-4.37
1091	SLU 46	-12	39	3920	-757.81	-2.02	-4.36
1091	SLU 47	-12	46	3860	-747.28	-1.98	-4.26
1091	SLU 48	-12	27	4026	-776.17	-2.08	-4.32
1091	SLU 49	-12	39	3980	-768.26	-2.05	-4.31
1091	SLU 50	-12	27	3996	-770.92	-2.06	-4.23
1091	SLU 51	-12	38	3950	-763.01	-2.03	-4.22
1091	SLU 52	-15	46	4198	-808.32	-2.19	-5.22
1091	SLU 53	-15	28	4363	-837.2	-2.29	-5.27
1091	SLU 54	-15	39	4318	-829.29	-2.26	-5.26
1091	SLU 55	-15	46	4258	-818.77	-2.22	-5.16
1091	SLU 56	-15	28	4423	-847.66	-2.32	-5.22
1091	SLU 57	-15	39	4378	-839.75	-2.29	-5.21
1091	SLU 58	-15	27	4393	-842.41	-2.3	-5.13
1091	SLU 59	-15	39	4348	-834.5	-2.27	-5.12
1091	SLU 60	-16	28	4444	-852.14	-2.34	-5.62
1091	SLU 61	-16	39	4398	-844.23	-2.31	-5.61
1091	SLU 62	-16	28	4504	-862.59	-2.37	-5.57
1091	SLU 63	-16	39	4458	-854.68	-2.34	-5.56
1091	SLU 64	-15	29	4414	-846.05	-2.32	-5.42
1091	SLU 65	-15	48	4338	-832.86	-2.27	-5.4
1091	SLU 66	-15	29	4503	-861.75	-2.37	-5.46
1091	SLU 67	-15	41	4458	-853.84	-2.33	-5.45
1091	SLU 68	-15	48	4398	-843.32	-2.3	-5.35
1091	SLU 69	-15	29	4563	-872.21	-2.4	-5.4
1091	SLU 70	-15	41	4518	-864.3	-2.36	-5.39
1091	SLU 71	-15	29	4533	-866.96	-2.38	-5.31
1091	SLU 72	-15	41	4488	-859.05	-2.35	-5.3
1091	SLU 73	-18	49	4735	-904.35	-2.5	-6.3
1091	SLU 74	-18	30	4901	-933.24	-2.6	-6.36
1091	SLU 75	-18	41	4855	-925.33	-2.57	-6.35
1091	SLU 76	-18	49	4795	-914.81	-2.53	-6.25
1091	SLU 77	-18	30	4961	-943.69	-2.63	-6.3
1091	SLU 78	-18	41	4915	-935.78	-2.6	-6.29
1091	SLU 79	-18	30	4931	-938.44	-2.62	-6.21
1091	SLU 80	-18	41	4885	-930.53	-2.58	-6.2
1091	SLU 81	-19	30	4982	-948.17	-2.66	-6.71
1091	SLU 82	-19	41	4936	-940.26	-2.63	-6.7
1091	SLU 83	-19	30	5041	-958.63	-2.69	-6.65
1091	SLU 84	-19	41	4996	-950.72	-2.66	-6.64
1091	SLE RA 1	-11	22	3277	-629.7	-1.72	-3.93
1091	SLE RA 2	-11	35	3226	-620.91	-1.68	-3.92
1091	SLE RA 3	-11	22	3337	-640.17	-1.75	-3.96
1091	SLE RA 4	-11	30	3307	-634.9	-1.73	-3.95
1091	SLE RA 5	-11	35	3266	-627.88	-1.7	-3.88
1091	SLE RA 6	-11	22	3377	-647.14	-1.77	-3.92
1091	SLE RA 7	-11	30	3346	-641.86	-1.74	-3.91
1091	SLE RA 8	-11	22	3357	-643.64	-1.75	-3.86
1091	SLE RA 9	-11	30	3326	-638.36	-1.73	-3.85
1091	SLE RA 10	-13	35	3491	-668.57	-1.84	-4.52
1091	SLE RA 11	-13	22	3602	-687.83	-1.9	-4.56
1091	SLE RA 12	-13	30	3572	-682.55	-1.88	-4.55
1091	SLE RA 13	-13	35	3531	-675.54	-1.86	-4.48
1091	SLE RA 14	-13	22	3642	-694.8	-1.92	-4.52
1091	SLE RA 15	-13	30	3611	-689.52	-1.9	-4.51
1091	SLE RA 16	-13	22	3622	-691.3	-1.91	-4.46
1091	SLE RA 17	-13	30	3591	-686.02	-1.89	-4.45
1091	SLE RA 18	-14	22	3656	-697.78	-1.94	-4.79
1091	SLE RA 19	-14	30	3625	-692.51	-1.92	-4.78
1091	SLE RA 20	-14	22	3695	-704.75	-1.96	-4.75
1091	SLE RA 21	-14	30	3665	-699.48	-1.94	-4.75
1091	SLE FR 1	-11	22	3277	-629.7	-1.72	-3.93
1091	SLE FR 2	-11	24	3267	-627.94	-1.71	-3.93
1091	SLE FR 3	-11	22	3293	-632.49	-1.72	-3.92
1091	SLE FR 4	-12	25	3380	-648.37	-1.78	-4.19
1091	SLE FR 5	-12	22	3406	-652.91	-1.79	-4.17
1091	SLE FR 6	-12	22	3466	-663.74	-1.83	-4.36
1091	SLE QP 1	-11	22	3277	-629.7	-1.72	-3.93
1091	SLE QP 2	-12	22	3391	-650.12	-1.78	-4.19
1091	SLD 1	447	154	2736	-530.77	-0.25	156.42
1091	SLD 2	366	156	2737	-530.25	-0.16	128.2
1091	SLD 3	453	-86	3877	-728.58	-1.04	158.44
1091	SLD 4	372	-84	3878	-728.06	-0.95	130.22
1091	SLD 5	131	425	1463	-314.39	-0.14	45.79
1091	SLD 6	79	426	1464	-314.06	-0.08	27.62
1091	SLD 7	150	-375	5267	-973.77	-2.78	52.51
1091	SLD 8	98	-373	5268	-973.43	-2.72	34.34
1091	SLD 9	-122	417	1513	-326.82	-0.85	-42.72
1091	SLD 10	-174	419	1514	-326.48	-0.79	-60.89
1091	SLD 11	-103	-382	5317	-986.19	-3.48	-36
1091	SLD 12	-155	-381	5318	-985.86	-3.42	-54.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1091	SLD 13	-396	128	2903	-572.19	-2.62	-138.6
1091	SLD 14	-477	130	2904	-571.67	-2.52	-166.82
1091	SLD 15	-390	-112	4044	-770	-3.41	-136.58
1091	SLD 16	-471	-110	4045	-769.48	-3.31	-164.8
1091	SLV 1	706	246	2286	-449.49	0.66	247.26
1091	SLV 2	579	249	2288	-448.67	0.81	202.79
1091	SLV 3	716	-163	4233	-786.96	-0.69	250.55
1091	SLV 4	589	-160	4235	-786.14	-0.54	206.07
1091	SLV 5	213	709	105	-78.25	0.97	74.56
1091	SLV 6	127	711	107	-77.7	1.07	44.62
1091	SLV 7	245	-655	6596	-1203.17	-3.53	85.51
1091	SLV 8	159	-653	6597	-1202.62	-3.43	55.58
1091	SLV 9	-183	697	184	-97.63	-0.14	-63.96
1091	SLV 10	-269	699	185	-97.08	-0.04	-93.89
1091	SLV 11	-151	-667	6674	-1222.55	-4.63	-53
1091	SLV 12	-237	-665	6676	-1222	-4.53	-82.94
1091	SLV 13	-612	204	2546	-514.1	-3.03	-214.45
1091	SLV 14	-740	207	2548	-513.29	-2.88	-258.93
1091	SLV 15	-603	-205	4493	-851.58	-4.37	-211.17
1091	SLV 16	-730	-202	4496	-850.76	-4.22	-255.64
1091	SLV FO 1	778	268	2175	-429.42	0.9	272.41
1091	SLV FO 2	638	271	2178	-428.52	1.07	223.49
1091	SLV FO 3	789	-182	4317	-800.65	-0.58	276.02
1091	SLV FO 4	649	-179	4319	-799.75	-0.42	227.1
1091	SLV FO 5	235	778	-223	-21.06	1.24	82.43
1091	SLV FO 6	141	780	-221	-20.45	1.35	49.5
1091	SLV FO 7	270	-722	6916	-1258.47	-3.7	94.48
1091	SLV FO 8	176	-720	6918	-1257.87	-3.59	61.55
1091	SLV FO 9	-200	764	-137	-42.38	0.02	-69.93
1091	SLV FO 10	-294	766	-135	-41.78	0.13	-102.86
1091	SLV FO 11	-165	-736	7002	-1279.8	-4.92	-57.88
1091	SLV FO 12	-259	-734	7004	-1279.19	-4.81	-90.81
1091	SLV FO 13	-672	223	2462	-500.5	-3.15	-235.48
1091	SLV FO 14	-813	226	2464	-499.6	-2.99	-284.4
1091	SLV FO 15	-662	-227	4604	-871.73	-4.63	-231.86
1091	SLV FO 16	-802	-224	4606	-870.83	-4.47	-280.79
1091	CRTFP Ux+	0	0	0	0	0	0
1091	CRTFP Ux-	0	0	0	0	0	0
1091	CRTFP Uy+	0	0	0	0	0	0
1091	CRTFP Uy-	0	0	0	0	0	0
1092	SLU 1	-8	21	3190	-659.92	-2.77	-2.74
1092	SLU 2	-8	41	3113	-645.19	-2.68	-2.76
1092	SLU 3	-8	21	3282	-677.32	-2.85	-2.75
1092	SLU 4	-8	33	3235	-668.48	-2.8	-2.76
1092	SLU 5	-8	41	3174	-656.76	-2.74	-2.69
1092	SLU 6	-8	21	3343	-688.9	-2.9	-2.68
1092	SLU 7	-8	33	3297	-680.06	-2.85	-2.69
1092	SLU 8	-7	21	3313	-683.07	-2.87	-2.59
1092	SLU 9	-7	33	3266	-674.23	-2.82	-2.6
1092	SLU 10	-10	41	3520	-725.02	-3.08	-3.61
1092	SLU 11	-10	22	3689	-757.15	-3.25	-3.6
1092	SLU 12	-10	34	3643	-748.31	-3.2	-3.61
1092	SLU 13	-10	41	3581	-736.59	-3.13	-3.54
1092	SLU 14	-10	22	3750	-768.73	-3.3	-3.53
1092	SLU 15	-10	34	3704	-759.89	-3.25	-3.54
1092	SLU 16	-10	22	3720	-762.9	-3.27	-3.45
1092	SLU 17	-10	33	3673	-754.06	-3.22	-3.46
1092	SLU 18	-11	22	3772	-773.96	-3.33	-3.96
1092	SLU 19	-11	34	3725	-765.12	-3.28	-3.97
1092	SLU 20	-11	22	3833	-785.54	-3.39	-3.89
1092	SLU 21	-11	34	3786	-776.7	-3.34	-3.9
1092	SLU 22	-11	23	3741	-767.01	-3.3	-3.73
1092	SLU 23	-11	43	3663	-752.28	-3.21	-3.74
1092	SLU 24	-11	23	3833	-784.41	-3.38	-3.74
1092	SLU 25	-11	35	3786	-775.57	-3.33	-3.75
1092	SLU 26	-11	43	3724	-763.85	-3.27	-3.67
1092	SLU 27	-10	23	3894	-795.99	-3.43	-3.66
1092	SLU 28	-11	35	3847	-787.15	-3.38	-3.67
1092	SLU 29	-10	23	3863	-790.16	-3.41	-3.58
1092	SLU 30	-10	35	3816	-781.32	-3.36	-3.59
1092	SLU 31	-13	44	4070	-832.1	-3.61	-4.6
1092	SLU 32	-13	24	4240	-864.24	-3.78	-4.59
1092	SLU 33	-13	36	4193	-855.4	-3.73	-4.6
1092	SLU 34	-13	43	4131	-843.68	-3.67	-4.52
1092	SLU 35	-13	24	4301	-875.82	-3.83	-4.51
1092	SLU 36	-13	36	4254	-866.97	-3.78	-4.52
1092	SLU 37	-13	24	4270	-869.99	-3.8	-4.43
1092	SLU 38	-13	36	4224	-861.15	-3.75	-4.44
1092	SLU 39	-14	24	4323	-881.05	-3.87	-4.94
1092	SLU 40	-14	36	4276	-872.21	-3.82	-4.95
1092	SLU 41	-14	24	4384	-892.63	-3.92	-4.87
1092	SLU 42	-14	36	4337	-883.78	-3.87	-4.88
1092	SLU 43	-9	26	3959	-821.18	-3.41	-3.23
1092	SLU 44	-9	46	3881	-806.45	-3.33	-3.25
1092	SLU 45	-9	27	4051	-838.59	-3.5	-3.24
1092	SLU 46	-9	38	4004	-829.74	-3.45	-3.25
1092	SLU 47	-9	46	3942	-818.02	-3.39	-3.17
1092	SLU 48	-9	27	4112	-850.16	-3.55	-3.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1092	SLU 49	-9	38	4065	-841.32	-3.5	-3.17
1092	SLU 50	-9	26	4081	-844.33	-3.52	-3.08
1092	SLU 51	-9	38	4034	-835.49	-3.47	-3.09
1092	SLU 52	-12	47	4288	-886.28	-3.73	-4.1
1092	SLU 53	-12	27	4458	-918.41	-3.89	-4.09
1092	SLU 54	-12	39	4411	-909.57	-3.84	-4.1
1092	SLU 55	-12	47	4349	-897.85	-3.78	-4.02
1092	SLU 56	-12	27	4519	-929.99	-3.95	-4.01
1092	SLU 57	-12	39	4472	-921.15	-3.9	-4.03
1092	SLU 58	-11	27	4488	-924.16	-3.92	-3.93
1092	SLU 59	-11	39	4441	-915.32	-3.87	-3.94
1092	SLU 60	-13	27	4540	-935.22	-3.98	-4.45
1092	SLU 61	-13	39	4494	-926.38	-3.93	-4.46
1092	SLU 62	-13	27	4602	-946.8	-4.04	-4.37
1092	SLU 63	-13	39	4555	-937.96	-3.99	-4.38
1092	SLU 64	-12	29	4509	-928.27	-3.95	-4.21
1092	SLU 65	-12	48	4431	-913.54	-3.86	-4.23
1092	SLU 66	-12	29	4601	-945.67	-4.03	-4.22
1092	SLU 67	-12	41	4554	-936.83	-3.98	-4.23
1092	SLU 68	-12	48	4492	-925.11	-3.92	-4.16
1092	SLU 69	-12	29	4662	-957.25	-4.08	-4.15
1092	SLU 70	-12	41	4615	-948.41	-4.03	-4.16
1092	SLU 71	-12	29	4631	-951.42	-4.05	-4.06
1092	SLU 72	-12	40	4585	-942.58	-4	-4.07
1092	SLU 73	-15	49	4839	-993.36	-4.26	-5.08
1092	SLU 74	-15	30	5008	-1025.5	-4.43	-5.07
1092	SLU 75	-15	41	4962	-1016.66	-4.38	-5.08
1092	SLU 76	-14	49	4900	-1004.94	-4.31	-5.01
1092	SLU 77	-14	30	5069	-1037.08	-4.48	-5
1092	SLU 78	-14	41	5023	-1028.24	-4.43	-5.01
1092	SLU 79	-14	29	5039	-1031.25	-4.45	-4.92
1092	SLU 80	-14	41	4992	-1022.41	-4.4	-4.93
1092	SLU 81	-16	30	5091	-1042.31	-4.51	-5.43
1092	SLU 82	-16	41	5044	-1033.47	-4.46	-5.44
1092	SLU 83	-15	30	5152	-1053.89	-4.57	-5.36
1092	SLU 84	-15	41	5105	-1045.05	-4.52	-5.37
1092	SLE RA 1	-9	22	3348	-690.52	-2.92	-3.02
1092	SLE RA 2	-9	35	3296	-680.7	-2.86	-3.04
1092	SLE RA 3	-9	22	3409	-702.12	-2.97	-3.03
1092	SLE RA 4	-9	30	3378	-696.23	-2.94	-3.04
1092	SLE RA 5	-9	35	3336	-688.41	-2.9	-2.99
1092	SLE RA 6	-9	22	3450	-709.84	-3.01	-2.98
1092	SLE RA 7	-9	30	3418	-703.94	-2.98	-2.99
1092	SLE RA 8	-8	22	3429	-705.95	-2.99	-2.92
1092	SLE RA 9	-8	29	3398	-700.06	-2.96	-2.93
1092	SLE RA 10	-10	35	3567	-733.91	-3.13	-3.6
1092	SLE RA 11	-10	22	3680	-755.34	-3.24	-3.6
1092	SLE RA 12	-10	30	3649	-749.45	-3.21	-3.6
1092	SLE RA 13	-10	35	3608	-741.63	-3.16	-3.55
1092	SLE RA 14	-10	22	3721	-763.06	-3.27	-3.55
1092	SLE RA 15	-10	30	3690	-757.16	-3.24	-3.56
1092	SLE RA 16	-10	22	3701	-759.17	-3.26	-3.49
1092	SLE RA 17	-10	30	3669	-753.28	-3.22	-3.5
1092	SLE RA 18	-11	22	3735	-766.55	-3.3	-3.84
1092	SLE RA 19	-11	30	3704	-760.65	-3.26	-3.84
1092	SLE RA 20	-11	22	3776	-774.26	-3.33	-3.79
1092	SLE RA 21	-11	30	3745	-768.37	-3.3	-3.79
1092	SLE FR 1	-9	22	3348	-690.52	-2.92	-3.02
1092	SLE FR 2	-9	24	3337	-688.55	-2.91	-3.03
1092	SLE FR 3	-9	22	3364	-693.61	-2.93	-3
1092	SLE FR 4	-9	24	3454	-711.36	-3.02	-3.27
1092	SLE FR 5	-9	22	3480	-716.41	-3.05	-3.25
1092	SLE FR 6	-10	22	3542	-728.53	-3.11	-3.43
1092	SLE QP 1	-9	22	3348	-690.52	-2.92	-3.02
1092	SLE QP 2	-9	22	3464	-713.33	-3.03	-3.27
1092	SLD 1	448	157	2760	-570.8	-1.23	156.85
1092	SLD 2	367	162	2759	-569.69	-1.14	128.71
1092	SLD 3	454	-90	3932	-791.8	-2.46	158.95
1092	SLD 4	374	-86	3931	-790.7	-2.38	130.82
1092	SLD 5	132	437	1476	-335.57	-0.63	46.4
1092	SLD 6	80	440	1475	-334.85	-0.57	28.29
1092	SLD 7	153	-388	5382	-1072.25	-4.76	53.44
1092	SLD 8	101	-385	5381	-1071.54	-4.7	35.32
1092	SLD 9	-120	428	1547	-355.11	-1.37	-41.86
1092	SLD 10	-172	431	1546	-354.4	-1.31	-59.97
1092	SLD 11	-99	-396	5453	-1091.8	-5.49	-34.83
1092	SLD 12	-151	-393	5452	-1091.09	-5.44	-52.94
1092	SLD 13	-392	129	2997	-635.96	-3.69	-137.36
1092	SLD 14	-473	134	2996	-634.85	-3.6	-165.49
1092	SLD 15	-386	-118	4169	-856.96	-4.93	-135.25
1092	SLD 16	-467	-113	4168	-855.86	-4.84	-163.38
1092	SLV 1	707	251	2280	-474.86	-0.13	247.39
1092	SLV 2	580	259	2277	-473.11	0.01	203.05
1092	SLV 3	717	-171	4279	-851.92	-2.24	250.85
1092	SLV 4	590	-163	4277	-850.17	-2.1	206.51
1092	SLV 5	213	729	76	-70.23	1.02	74.96
1092	SLV 6	128	734	74	-69.06	1.11	45.11
1092	SLV 7	248	-677	6742	-1327.11	-6.02	86.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1092	SLV 8	162	-672	6741	-1325.93	-5.93	56.64
1092	SLV 9	-181	716	187	-100.72	-0.13	-63.17
1092	SLV 10	-267	721	186	-99.55	-0.04	-93.02
1092	SLV 11	-147	-691	6854	-1357.59	-7.18	-51.64
1092	SLV 12	-232	-686	6852	-1356.42	-7.08	-81.49
1092	SLV 13	-609	207	2651	-576.48	-3.96	-213.04
1092	SLV 14	-736	214	2649	-574.74	-3.83	-257.39
1092	SLV 15	-598	-215	4651	-953.54	-6.08	-209.58
1092	SLV 16	-725	-208	4648	-951.8	-5.94	-253.93
1092	SLV FO 1	778	274	2161	-451.01	0.16	272.46
1092	SLV FO 2	638	282	2159	-449.09	0.32	223.68
1092	SLV FO 3	790	-190	4361	-865.78	-2.16	276.26
1092	SLV FO 4	650	-182	4359	-863.86	-2.01	227.49
1092	SLV FO 5	236	800	-263	-5.92	1.42	82.78
1092	SLV FO 6	142	805	-264	-4.63	1.53	49.95
1092	SLV FO 7	274	-747	7070	-1388.48	-6.32	95.46
1092	SLV FO 8	180	-742	7069	-1387.19	-6.22	62.63
1092	SLV FO 9	-198	785	-141	-39.46	0.16	-69.16
1092	SLV FO 10	-293	791	-142	-38.17	0.26	-102
1092	SLV FO 11	-160	-762	7193	-1422.02	-7.59	-56.48
1092	SLV FO 12	-254	-756	7191	-1420.73	-7.49	-89.31
1092	SLV FO 13	-669	225	2569	-562.8	-4.06	-234.02
1092	SLV FO 14	-808	234	2567	-560.88	-3.9	-282.8
1092	SLV FO 15	-657	-239	4769	-977.57	-6.38	-230.22
1092	SLV FO 16	-797	-231	4767	-975.65	-6.23	-278.99
1092	CRTFP Ux+	0	0	0	0	0	0
1092	CRTFP Ux-	0	0	0	0	0	0
1092	CRTFP Uy+	0	0	0	0	0	0
1092	CRTFP Uy-	0	0	0	0	0	0
1093	SLU 1	-5	22	3286	-743.37	-3.52	-1.83
1093	SLU 2	-6	42	3206	-726.5	-3.41	-1.89
1093	SLU 3	-5	22	3381	-763.27	-3.62	-1.81
1093	SLU 4	-5	34	3333	-753.15	-3.56	-1.85
1093	SLU 5	-5	42	3269	-739.73	-3.48	-1.8
1093	SLU 6	-5	22	3444	-776.5	-3.69	-1.72
1093	SLU 7	-5	34	3396	-766.38	-3.63	-1.76
1093	SLU 8	-5	22	3412	-769.83	-3.65	-1.64
1093	SLU 9	-5	34	3364	-759.71	-3.59	-1.68
1093	SLU 10	-8	43	3627	-818.29	-3.91	-2.69
1093	SLU 11	-8	23	3802	-855.06	-4.12	-2.61
1093	SLU 12	-8	35	3754	-844.94	-4.06	-2.65
1093	SLU 13	-8	43	3690	-831.52	-3.98	-2.6
1093	SLU 14	-7	23	3865	-868.29	-4.19	-2.52
1093	SLU 15	-8	35	3817	-858.17	-4.13	-2.55
1093	SLU 16	-7	23	3833	-861.62	-4.15	-2.44
1093	SLU 17	-7	35	3785	-851.5	-4.09	-2.48
1093	SLU 18	-9	23	3888	-874.5	-4.23	-2.98
1093	SLU 19	-9	35	3839	-864.38	-4.17	-3.01
1093	SLU 20	-8	23	3951	-887.73	-4.3	-2.88
1093	SLU 21	-9	35	3902	-877.61	-4.24	-2.92
1093	SLU 22	-8	24	3855	-866.35	-4.18	-2.72
1093	SLU 23	-8	44	3775	-849.48	-4.08	-2.77
1093	SLU 24	-8	24	3950	-886.25	-4.29	-2.7
1093	SLU 25	-8	37	3902	-876.13	-4.23	-2.73
1093	SLU 26	-8	44	3838	-862.71	-4.15	-2.68
1093	SLU 27	-8	24	4013	-899.47	-4.36	-2.6
1093	SLU 28	-8	37	3965	-889.36	-4.3	-2.64
1093	SLU 29	-7	24	3981	-892.8	-4.32	-2.53
1093	SLU 30	-8	36	3933	-882.69	-4.26	-2.56
1093	SLU 31	-10	45	4196	-941.27	-4.58	-3.57
1093	SLU 32	-10	25	4371	-978.04	-4.79	-3.5
1093	SLU 33	-10	38	4322	-967.92	-4.73	-3.53
1093	SLU 34	-10	45	4259	-954.5	-4.65	-3.48
1093	SLU 35	-10	25	4434	-991.27	-4.86	-3.4
1093	SLU 36	-10	38	4385	-981.15	-4.8	-3.44
1093	SLU 37	-10	25	4402	-984.6	-4.82	-3.33
1093	SLU 38	-10	37	4354	-974.48	-4.76	-3.36
1093	SLU 39	-11	26	4457	-997.48	-4.9	-3.86
1093	SLU 40	-11	38	4408	-987.36	-4.84	-3.89
1093	SLU 41	-11	26	4520	-1010.7	-4.97	-3.76
1093	SLU 42	-11	38	4471	-1000.59	-4.91	-3.8
1093	SLU 43	-6	27	4077	-924.22	-4.34	-2.08
1093	SLU 44	-6	48	3997	-907.35	-4.24	-2.14
1093	SLU 45	-6	28	4172	-944.11	-4.45	-2.06
1093	SLU 46	-6	40	4124	-934	-4.39	-2.1
1093	SLU 47	-6	48	4060	-920.58	-4.31	-2.05
1093	SLU 48	-6	28	4235	-957.34	-4.52	-1.97
1093	SLU 49	-6	40	4187	-947.22	-4.46	-2
1093	SLU 50	-6	27	4203	-950.67	-4.48	-1.89
1093	SLU 51	-6	39	4155	-940.55	-4.42	-1.93
1093	SLU 52	-9	49	4418	-999.14	-4.74	-2.94
1093	SLU 53	-8	29	4593	-1035.9	-4.95	-2.86
1093	SLU 54	-9	41	4545	-1025.79	-4.88	-2.9
1093	SLU 55	-8	49	4481	-1012.37	-4.81	-2.84
1093	SLU 56	-8	29	4656	-1049.13	-5.02	-2.77
1093	SLU 57	-8	41	4607	-1039.02	-4.95	-2.8
1093	SLU 58	-8	28	4624	-1042.46	-4.98	-2.69
1093	SLU 59	-8	40	4576	-1032.35	-4.92	-2.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLU 60	-9	29	4679	-1055.34	-5.05	-3.22
1093	SLU 61	-10	41	4630	-1045.23	-4.99	-3.26
1093	SLU 62	-9	29	4742	-1068.57	-5.12	-3.13
1093	SLU 63	-9	41	4693	-1058.46	-5.06	-3.16
1093	SLU 64	-9	30	4646	-1047.19	-5.01	-2.96
1093	SLU 65	-9	50	4566	-1030.33	-4.91	-3.02
1093	SLU 66	-9	30	4741	-1067.09	-5.12	-2.94
1093	SLU 67	-9	42	4692	-1056.97	-5.06	-2.98
1093	SLU 68	-9	50	4628	-1043.56	-4.98	-2.93
1093	SLU 69	-8	30	4804	-1080.32	-5.19	-2.85
1093	SLU 70	-8	42	4755	-1070.2	-5.13	-2.88
1093	SLU 71	-8	30	4772	-1073.65	-5.15	-2.77
1093	SLU 72	-8	42	4724	-1063.53	-5.09	-2.81
1093	SLU 73	-11	51	4986	-1122.12	-5.41	-3.82
1093	SLU 74	-11	31	5162	-1158.88	-5.61	-3.74
1093	SLU 75	-11	43	5113	-1148.76	-5.55	-3.78
1093	SLU 76	-11	51	5049	-1135.35	-5.48	-3.73
1093	SLU 77	-11	31	5225	-1172.11	-5.68	-3.65
1093	SLU 78	-11	43	5176	-1161.99	-5.62	-3.68
1093	SLU 79	-10	31	5193	-1165.44	-5.65	-3.57
1093	SLU 80	-11	43	5145	-1155.32	-5.59	-3.61
1093	SLU 81	-12	31	5248	-1178.32	-5.72	-4.11
1093	SLU 82	-12	43	5199	-1168.2	-5.66	-4.14
1093	SLU 83	-12	31	5310	-1191.55	-5.79	-4.01
1093	SLU 84	-12	43	5262	-1181.43	-5.73	-4.05
1093	SLE RA 1	-6	22	3449	-778.5	-3.71	-2.09
1093	SLE RA 2	-6	36	3395	-767.26	-3.64	-2.12
1093	SLE RA 3	-6	23	3512	-791.77	-3.78	-2.07
1093	SLE RA 4	-6	31	3480	-785.03	-3.74	-2.1
1093	SLE RA 5	-6	36	3437	-776.08	-3.69	-2.06
1093	SLE RA 6	-6	23	3554	-800.59	-3.82	-2.01
1093	SLE RA 7	-6	31	3522	-793.84	-3.78	-2.03
1093	SLE RA 8	-6	22	3533	-796.14	-3.8	-1.96
1093	SLE RA 9	-6	30	3501	-789.4	-3.76	-1.98
1093	SLE RA 10	-8	37	3676	-828.46	-3.97	-2.66
1093	SLE RA 11	-8	23	3793	-852.96	-4.11	-2.61
1093	SLE RA 12	-8	31	3760	-846.22	-4.07	-2.63
1093	SLE RA 13	-8	37	3718	-837.28	-4.02	-2.59
1093	SLE RA 14	-7	23	3835	-861.78	-4.16	-2.54
1093	SLE RA 15	-8	31	3802	-855.04	-4.12	-2.57
1093	SLE RA 16	-7	23	3814	-857.34	-4.13	-2.49
1093	SLE RA 17	-7	31	3781	-850.59	-4.09	-2.52
1093	SLE RA 18	-8	23	3850	-865.92	-4.18	-2.85
1093	SLE RA 19	-8	31	3818	-859.18	-4.14	-2.87
1093	SLE RA 20	-8	23	3892	-874.74	-4.23	-2.78
1093	SLE RA 21	-8	31	3860	-868	-4.19	-2.81
1093	SLE FR 1	-6	22	3449	-778.5	-3.71	-2.09
1093	SLE FR 2	-6	25	3438	-776.26	-3.69	-2.09
1093	SLE FR 3	-6	22	3466	-782.03	-3.72	-2.06
1093	SLE FR 4	-7	25	3558	-802.48	-3.84	-2.32
1093	SLE FR 5	-7	23	3586	-808.26	-3.87	-2.29
1093	SLE FR 6	-7	23	3649	-822.21	-3.94	-2.47
1093	SLE QP 1	-6	22	3449	-778.5	-3.71	-2.09
1093	SLE QP 2	-7	23	3569	-804.73	-3.85	-2.31
1093	SLD 1	449	160	2808	-634.55	-1.87	157.12
1093	SLD 2	368	168	2804	-632.88	-1.79	129.09
1093	SLD 3	456	-95	4022	-887.48	-3.36	159.46
1093	SLD 4	375	-87	4018	-885.81	-3.29	131.43
1093	SLD 5	133	450	1501	-370.35	-0.99	46.78
1093	SLD 6	81	455	1498	-369.28	-0.94	28.73
1093	SLD 7	157	-401	5547	-1213.46	-5.99	54.6
1093	SLD 8	105	-396	5544	-1212.38	-5.94	36.55
1093	SLD 9	-118	442	1594	-397.08	-1.76	-41.18
1093	SLD 10	-170	447	1592	-396.01	-1.71	-59.23
1093	SLD 11	-95	-410	5640	-1240.18	-6.75	-33.35
1093	SLD 12	-146	-404	5638	-1239.11	-6.7	-51.41
1093	SLD 13	-389	132	3120	-723.65	-4.41	-136.06
1093	SLD 14	-469	140	3117	-721.98	-4.33	-164.09
1093	SLD 15	-382	-123	4334	-976.58	-5.91	-133.71
1093	SLD 16	-462	-115	4330	-974.91	-5.83	-161.75
1093	SLV 1	706	257	2293	-520.79	-0.65	247.25
1093	SLV 2	580	269	2287	-518.16	-0.52	203.06
1093	SLV 3	718	-179	4364	-952.34	-3.2	251.14
1093	SLV 4	591	-166	4358	-949.71	-3.08	206.95
1093	SLV 5	213	751	46	-65.52	0.97	74.91
1093	SLV 6	127	759	42	-63.75	1.05	45.16
1093	SLV 7	252	-701	6950	-1504.02	-7.56	87.86
1093	SLV 8	167	-692	6946	-1502.25	-7.47	58.11
1093	SLV 9	-181	738	192	-107.21	-0.22	-62.74
1093	SLV 10	-266	746	188	-105.44	-0.14	-92.49
1093	SLV 11	-141	-714	7097	-1545.71	-8.75	-49.79
1093	SLV 12	-226	-705	7093	-1543.94	-8.66	-79.53
1093	SLV 13	-605	212	2780	-659.75	-4.62	-211.58
1093	SLV 14	-732	224	2774	-657.12	-4.49	-255.76
1093	SLV 15	-593	-224	4852	-1091.3	-7.17	-207.69
1093	SLV 16	-720	-211	4846	-1088.67	-7.05	-251.88
1093	SLV FO 1	778	280	2165	-492.4	-0.33	272.21
1093	SLV FO 2	638	294	2159	-489.5	-0.19	223.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLV FO 3	791	-199	4444	-967.1	-3.14	276.48
1093	SLV FO 4	651	-185	4437	-964.21	-3	227.88
1093	SLV FO 5	235	824	-306	8.4	1.45	82.63
1093	SLV FO 6	141	833	-311	10.35	1.54	49.91
1093	SLV FO 7	278	-773	7289	-1573.95	-7.93	96.88
1093	SLV FO 8	184	-764	7284	-1572	-7.84	64.16
1093	SLV FO 9	-198	809	-146	-37.46	0.14	-68.78
1093	SLV FO 10	-292	818	-150	-35.51	0.23	-101.5
1093	SLV FO 11	-154	-788	7449	-1619.81	-9.24	-54.54
1093	SLV FO 12	-248	-778	7445	-1617.86	-9.15	-87.26
1093	SLV FO 13	-665	231	2701	-645.25	-4.69	-232.5
1093	SLV FO 14	-804	245	2695	-642.36	-4.56	-281.11
1093	SLV FO 15	-652	-248	4980	-1119.96	-7.51	-228.23
1093	SLV FO 16	-791	-234	4973	-1117.06	-7.37	-276.83
1093	CRTFP Ux+	0	0	0	0	0	0
1093	CRTFP Ux-	0	0	0	0	0	0
1093	CRTFP Uy+	0	0	0	0	0	0
1093	CRTFP Uy-	0	0	0	0	0	0
1094	SLU 1	-3	24	3396	-845.86	-3.61	-0.86
1094	SLU 2	-3	45	3312	-826.53	-3.52	-0.97
1094	SLU 3	-3	24	3494	-868.86	-3.72	-0.81
1094	SLU 4	-3	37	3444	-857.26	-3.66	-0.88
1094	SLU 5	-3	45	3377	-841.81	-3.59	-0.85
1094	SLU 6	-2	24	3559	-884.14	-3.8	-0.7
1094	SLU 7	-2	37	3509	-872.54	-3.74	-0.76
1094	SLU 8	-2	24	3526	-876.42	-3.76	-0.63
1094	SLU 9	-2	36	3476	-864.82	-3.7	-0.69
1094	SLU 10	-5	46	3748	-932.89	-4.02	-1.71
1094	SLU 11	-5	26	3930	-975.22	-4.23	-1.55
1094	SLU 12	-5	38	3880	-963.62	-4.17	-1.62
1094	SLU 13	-5	46	3814	-948.17	-4.09	-1.59
1094	SLU 14	-4	26	3995	-990.5	-4.3	-1.44
1094	SLU 15	-5	38	3945	-978.9	-4.24	-1.5
1094	SLU 16	-4	25	3963	-982.78	-4.26	-1.37
1094	SLU 17	-4	38	3912	-971.18	-4.2	-1.43
1094	SLU 18	-6	26	4019	-997.8	-4.33	-1.92
1094	SLU 19	-6	39	3969	-986.2	-4.27	-1.98
1094	SLU 20	-5	26	4084	-1013.08	-4.4	-1.8
1094	SLU 21	-6	38	4034	-1001.48	-4.35	-1.86
1094	SLU 22	-5	27	3985	-988.2	-4.29	-1.63
1094	SLU 23	-5	48	3902	-968.87	-4.19	-1.74
1094	SLU 24	-5	27	4083	-1011.2	-4.4	-1.58
1094	SLU 25	-5	40	4033	-999.6	-4.34	-1.65
1094	SLU 26	-5	48	3967	-984.15	-4.26	-1.62
1094	SLU 27	-5	27	4149	-1026.48	-4.47	-1.47
1094	SLU 28	-5	39	4098	-1014.88	-4.41	-1.53
1094	SLU 29	-4	27	4116	-1018.76	-4.44	-1.4
1094	SLU 30	-5	39	4066	-1007.16	-4.38	-1.46
1094	SLU 31	-7	49	4338	-1075.23	-4.7	-2.48
1094	SLU 32	-7	29	4520	-1117.56	-4.9	-2.32
1094	SLU 33	-7	41	4470	-1105.96	-4.85	-2.38
1094	SLU 34	-7	49	4403	-1090.51	-4.77	-2.36
1094	SLU 35	-7	29	4585	-1132.84	-4.98	-2.21
1094	SLU 36	-7	41	4535	-1121.24	-4.92	-2.27
1094	SLU 37	-6	28	4552	-1125.12	-4.94	-2.14
1094	SLU 38	-7	41	4502	-1113.52	-4.88	-2.2
1094	SLU 39	-8	29	4609	-1140.14	-5.01	-2.69
1094	SLU 40	-8	41	4558	-1128.54	-4.95	-2.75
1094	SLU 41	-8	29	4674	-1155.42	-5.08	-2.57
1094	SLU 42	-8	41	4624	-1143.82	-5.02	-2.63
1094	SLU 43	-3	30	4213	-1050.82	-4.47	-0.86
1094	SLU 44	-3	51	4129	-1031.49	-4.37	-0.96
1094	SLU 45	-3	30	4311	-1073.82	-4.58	-0.81
1094	SLU 46	-3	43	4260	-1062.22	-4.52	-0.87
1094	SLU 47	-3	51	4194	-1046.77	-4.44	-0.85
1094	SLU 48	-2	30	4376	-1089.1	-4.65	-0.69
1094	SLU 49	-3	43	4325	-1077.5	-4.59	-0.76
1094	SLU 50	-2	30	4343	-1081.38	-4.61	-0.63
1094	SLU 51	-2	42	4293	-1069.78	-4.55	-0.69
1094	SLU 52	-5	52	4565	-1137.84	-4.87	-1.7
1094	SLU 53	-5	32	4747	-1180.18	-5.08	-1.55
1094	SLU 54	-5	44	4697	-1168.58	-5.02	-1.61
1094	SLU 55	-5	52	4630	-1153.12	-4.94	-1.59
1094	SLU 56	-4	32	4812	-1195.46	-5.15	-1.43
1094	SLU 57	-5	44	4762	-1183.85	-5.09	-1.49
1094	SLU 58	-4	31	4779	-1187.74	-5.11	-1.36
1094	SLU 59	-4	44	4729	-1176.14	-5.05	-1.43
1094	SLU 60	-6	32	4836	-1202.76	-5.18	-1.91
1094	SLU 61	-6	45	4786	-1191.16	-5.13	-1.98
1094	SLU 62	-6	32	4901	-1218.04	-5.26	-1.8
1094	SLU 63	-6	45	4851	-1206.44	-5.2	-1.86
1094	SLU 64	-5	33	4802	-1193.16	-5.14	-1.63
1094	SLU 65	-5	54	4718	-1173.83	-5.04	-1.73
1094	SLU 66	-5	33	4900	-1216.16	-5.25	-1.58
1094	SLU 67	-5	46	4850	-1204.56	-5.19	-1.64
1094	SLU 68	-5	54	4783	-1189.11	-5.12	-1.62
1094	SLU 69	-5	33	4965	-1231.44	-5.32	-1.46
1094	SLU 70	-5	46	4915	-1219.84	-5.27	-1.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1094	SLU 71	-4	33	4932	-1223.72	-5.29	-1.39
1094	SLU 72	-5	45	4882	-1212.12	-5.23	-1.46
1094	SLU 73	-8	55	5155	-1280.18	-5.55	-2.47
1094	SLU 74	-7	35	5336	-1322.51	-5.76	-2.32
1094	SLU 75	-7	47	5286	-1310.91	-5.7	-2.38
1094	SLU 76	-7	55	5220	-1295.46	-5.62	-2.35
1094	SLU 77	-7	35	5402	-1337.79	-5.83	-2.2
1094	SLU 78	-7	47	5351	-1326.19	-5.77	-2.26
1094	SLU 79	-7	34	5369	-1330.08	-5.79	-2.13
1094	SLU 80	-7	47	5318	-1318.48	-5.73	-2.2
1094	SLU 81	-8	35	5425	-1345.1	-5.86	-2.68
1094	SLU 82	-8	48	5375	-1333.5	-5.8	-2.75
1094	SLU 83	-8	35	5491	-1360.38	-5.93	-2.57
1094	SLU 84	-8	48	5440	-1348.78	-5.87	-2.63
1094	SLE RA 1	-3	25	3564	-886.53	-3.81	-1.08
1094	SLE RA 2	-4	39	3508	-873.64	-3.74	-1.15
1094	SLE RA 3	-3	25	3630	-901.86	-3.88	-1.05
1094	SLE RA 4	-3	33	3596	-894.13	-3.84	-1.09
1094	SLE RA 5	-3	39	3552	-883.83	-3.79	-1.07
1094	SLE RA 6	-3	25	3673	-912.05	-3.93	-0.97
1094	SLE RA 7	-3	33	3640	-904.32	-3.89	-1.01
1094	SLE RA 8	-3	25	3651	-906.91	-3.9	-0.93
1094	SLE RA 9	-3	33	3618	-899.17	-3.86	-0.97
1094	SLE RA 10	-5	40	3799	-944.55	-4.08	-1.64
1094	SLE RA 11	-5	26	3921	-972.77	-4.22	-1.54
1094	SLE RA 12	-5	34	3887	-965.03	-4.18	-1.58
1094	SLE RA 13	-5	40	3843	-954.73	-4.13	-1.57
1094	SLE RA 14	-5	26	3964	-982.96	-4.26	-1.46
1094	SLE RA 15	-5	34	3930	-975.22	-4.22	-1.51
1094	SLE RA 16	-4	26	3942	-977.81	-4.24	-1.42
1094	SLE RA 17	-5	34	3909	-970.08	-4.2	-1.46
1094	SLE RA 18	-5	26	3980	-987.83	-4.29	-1.79
1094	SLE RA 19	-6	34	3946	-980.09	-4.25	-1.83
1094	SLE RA 20	-5	26	4023	-998.01	-4.33	-1.71
1094	SLE RA 21	-5	34	3990	-990.28	-4.3	-1.75
1094	SLE FR 1	-3	25	3564	-886.53	-3.81	-1.08
1094	SLE FR 2	-3	28	3553	-883.95	-3.79	-1.1
1094	SLE FR 3	-3	25	3582	-890.61	-3.83	-1.05
1094	SLE FR 4	-4	28	3678	-914.34	-3.94	-1.31
1094	SLE FR 5	-4	25	3706	-920.99	-3.97	-1.26
1094	SLE FR 6	-4	25	3772	-937.18	-4.05	-1.43
1094	SLE QP 1	-3	25	3564	-886.53	-3.81	-1.08
1094	SLE QP 2	-4	25	3689	-916.92	-3.95	-1.29
1094	SLD 1	449	163	2868	-716.23	-1.97	157.28
1094	SLD 2	369	175	2862	-714.1	-1.9	129.36
1094	SLD 3	458	-99	4127	-1006.36	-3.43	160.01
1094	SLD 4	377	-87	4121	-1004.23	-3.36	132.09
1094	SLD 5	133	463	1534	-417.05	-1.16	46.94
1094	SLD 6	82	470	1530	-415.68	-1.11	28.96
1094	SLD 7	161	-412	5731	-1384.15	-6.02	56.04
1094	SLD 8	109	-405	5727	-1382.78	-5.97	38.07
1094	SLD 9	-117	455	1651	-451.06	-1.93	-40.65
1094	SLD 10	-169	463	1647	-449.69	-1.89	-58.63
1094	SLD 11	-90	-420	5848	-1418.16	-6.79	-31.54
1094	SLD 12	-141	-412	5844	-1416.79	-6.74	-49.52
1094	SLD 13	-385	138	3257	-829.61	-4.54	-134.68
1094	SLD 14	-466	150	3251	-827.49	-4.47	-162.6
1094	SLD 15	-377	-125	4516	-1119.74	-6	-131.94
1094	SLD 16	-457	-113	4510	-1117.61	-5.93	-159.87
1094	SLV 1	705	260	2316	-582.66	-0.75	246.89
1094	SLV 2	579	279	2306	-579.31	-0.65	202.88
1094	SLV 3	719	-187	4465	-1077.7	-3.24	251.46
1094	SLV 4	593	-169	4455	-1074.34	-3.13	207.44
1094	SLV 5	211	771	20	-66.46	0.76	74.44
1094	SLV 6	126	784	13	-64.2	0.83	44.82
1094	SLV 7	258	-721	7183	-1716.59	-7.53	89.67
1094	SLV 8	172	-709	7176	-1714.33	-7.46	60.05
1094	SLV 9	-180	759	202	-119.51	-0.44	-62.63
1094	SLV 10	-265	772	195	-117.25	-0.37	-92.26
1094	SLV 11	-134	-733	7365	-1769.64	-8.73	-47.4
1094	SLV 12	-219	-721	7358	-1767.38	-8.66	-77.03
1094	SLV 13	-601	219	2923	-759.5	-4.77	-210.03
1094	SLV 14	-727	238	2913	-756.14	-4.66	-254.04
1094	SLV 15	-587	-228	5072	-1254.54	-7.25	-205.46
1094	SLV 16	-713	-210	5062	-1251.18	-7.15	-249.47
1094	SLV FO 1	776	284	2178	-549.23	-0.43	271.71
1094	SLV FO 2	637	304	2168	-545.54	-0.32	223.29
1094	SLV FO 3	792	-209	4542	-1093.77	-3.17	276.73
1094	SLV FO 4	653	-188	4532	-1090.09	-3.05	228.32
1094	SLV FO 5	233	846	-347	18.59	1.23	82.02
1094	SLV FO 6	139	860	-354	21.07	1.31	49.43
1094	SLV FO 7	284	-796	7532	-1796.56	-7.89	98.77
1094	SLV FO 8	190	-782	7525	-1794.07	-7.81	66.18
1094	SLV FO 9	-198	832	-147	-39.77	-0.09	-68.77
1094	SLV FO 10	-292	846	-154	-37.29	-0.01	-101.35
1094	SLV FO 11	-147	-809	7732	-1854.91	-9.21	-52.01
1094	SLV FO 12	-241	-796	7725	-1852.43	-9.13	-84.6
1094	SLV FO 13	-661	239	2846	-743.75	-4.85	-230.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1094	SLV FO 14	-800	259	2836	-740.07	-4.73	-279.32
1094	SLV FO 15	-645	-254	5210	-1288.3	-7.58	-225.88
1094	SLV FO 16	-784	-233	5200	-1284.61	-7.47	-274.29
1094	CRTFP Ux+	0	0	0	0	0	0
1094	CRTFP Ux-	0	0	0	0	0	0
1094	CRTFP Uy+	0	0	0	0	0	0
1094	CRTFP Uy-	0	0	0	0	0	0
1095	SLU 1	0	25	3277	-899.12	38.35	-0.14
1095	SLU 2	0	45	3196	-878.64	37.4	-0.54
1095	SLU 3	0	25	3372	-923.91	39.45	-0.07
1095	SLU 4	0	37	3323	-911.63	38.88	-0.31
1095	SLU 5	0	45	3259	-895.1	38.14	-0.4
1095	SLU 6	1	25	3435	-940.37	40.19	0.06
1095	SLU 7	1	37	3386	-928.09	39.62	-0.18
1095	SLU 8	1	25	3403	-932.04	39.82	0.12
1095	SLU 9	1	37	3354	-919.76	39.25	-0.12
1095	SLU 10	-2	47	3618	-993.24	42.33	-1.19
1095	SLU 11	-1	27	3794	-1038.51	44.38	-0.72
1095	SLU 12	-2	39	3745	-1026.22	43.81	-0.96
1095	SLU 13	-2	47	3681	-1009.7	43.06	-1.06
1095	SLU 14	-1	27	3857	-1054.97	45.11	-0.59
1095	SLU 15	-1	39	3808	-1042.68	44.55	-0.83
1095	SLU 16	-1	27	3825	-1046.64	44.74	-0.53
1095	SLU 17	-1	39	3776	-1034.35	44.18	-0.77
1095	SLU 18	-2	28	3880	-1062.83	45.39	-1.07
1095	SLU 19	-3	40	3831	-1050.54	44.82	-1.31
1095	SLU 20	-2	28	3943	-1079.29	46.12	-0.94
1095	SLU 21	-2	40	3894	-1067	45.55	-1.18
1095	SLU 22	-2	29	3847	-1052.35	45	-0.79
1095	SLU 23	-2	48	3766	-1031.87	44.06	-1.18
1095	SLU 24	-1	29	3942	-1077.14	46.11	-0.71
1095	SLU 25	-2	41	3893	-1064.85	45.54	-0.95
1095	SLU 26	-2	48	3829	-1048.33	44.79	-1.05
1095	SLU 27	-1	29	4005	-1093.6	46.84	-0.58
1095	SLU 28	-1	41	3956	-1081.31	46.27	-0.82
1095	SLU 29	-1	28	3973	-1085.27	46.47	-0.52
1095	SLU 30	-1	40	3924	-1072.98	45.9	-0.76
1095	SLU 31	-4	50	4188	-1146.46	48.98	-1.83
1095	SLU 32	-3	31	4364	-1191.73	51.03	-1.36
1095	SLU 33	-3	43	4315	-1179.45	50.47	-1.6
1095	SLU 34	-3	50	4251	-1162.92	49.72	-1.7
1095	SLU 35	-3	31	4427	-1208.19	51.77	-1.23
1095	SLU 36	-3	43	4378	-1195.91	51.2	-1.47
1095	SLU 37	-3	30	4395	-1199.86	51.4	-1.17
1095	SLU 38	-3	42	4346	-1187.58	50.83	-1.41
1095	SLU 39	-4	31	4450	-1216.06	52.04	-1.72
1095	SLU 40	-4	43	4401	-1203.77	51.47	-1.95
1095	SLU 41	-4	31	4513	-1232.52	52.78	-1.58
1095	SLU 42	-4	43	4464	-1220.23	52.21	-1.82
1095	SLU 43	1	32	4065	-1116.33	47.57	0.04
1095	SLU 44	0	51	3984	-1095.84	46.62	-0.36
1095	SLU 45	1	32	4160	-1141.12	48.68	0.11
1095	SLU 46	1	44	4111	-1128.83	48.11	-0.13
1095	SLU 47	1	51	4047	-1112.31	47.36	-0.23
1095	SLU 48	2	32	4223	-1157.58	49.41	0.24
1095	SLU 49	1	44	4174	-1145.29	48.84	0
1095	SLU 50	2	32	4191	-1149.25	49.04	0.3
1095	SLU 51	1	43	4142	-1136.96	48.47	0.06
1095	SLU 52	-1	53	4406	-1210.44	51.55	-1.01
1095	SLU 53	-1	34	4581	-1255.71	53.6	-0.54
1095	SLU 54	-1	46	4533	-1243.42	53.03	-0.78
1095	SLU 55	-1	53	4469	-1226.9	52.28	-0.88
1095	SLU 56	0	34	4644	-1272.17	54.34	-0.41
1095	SLU 57	-1	46	4596	-1259.89	53.77	-0.65
1095	SLU 58	0	34	4613	-1263.84	53.97	-0.35
1095	SLU 59	0	45	4564	-1251.55	53.4	-0.59
1095	SLU 60	-2	34	4667	-1280.04	54.61	-0.89
1095	SLU 61	-2	46	4619	-1267.75	54.04	-1.13
1095	SLU 62	-1	34	4730	-1296.5	55.34	-0.76
1095	SLU 63	-2	46	4682	-1284.21	54.77	-1
1095	SLU 64	-1	35	4635	-1269.55	54.23	-0.61
1095	SLU 65	-1	55	4554	-1249.07	53.28	-1
1095	SLU 66	-1	35	4730	-1294.34	55.33	-0.54
1095	SLU 67	-1	47	4681	-1282.05	54.76	-0.77
1095	SLU 68	-1	55	4617	-1265.53	54.01	-0.87
1095	SLU 69	0	35	4792	-1310.8	56.07	-0.4
1095	SLU 70	-1	47	4744	-1298.51	55.5	-0.64
1095	SLU 71	0	35	4761	-1302.47	55.7	-0.35
1095	SLU 72	0	47	4712	-1290.18	55.13	-0.58
1095	SLU 73	-3	57	4976	-1363.67	58.2	-1.65
1095	SLU 74	-2	37	5151	-1408.94	60.26	-1.19
1095	SLU 75	-3	49	5103	-1396.65	59.69	-1.42
1095	SLU 76	-3	57	5039	-1380.13	58.94	-1.52
1095	SLU 77	-2	37	5214	-1425.4	60.99	-1.06
1095	SLU 78	-2	49	5166	-1413.11	60.42	-1.29
1095	SLU 79	-2	37	5182	-1417.07	60.62	-1
1095	SLU 80	-2	49	5134	-1404.78	60.05	-1.23
1095	SLU 81	-3	38	5237	-1433.26	61.26	-1.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1095	SLU 82	-4	50	5189	-1420.97	60.69	-1.77
1095	SLU 83	-3	38	5300	-1449.72	62	-1.41
1095	SLU 84	-3	50	5252	-1437.43	61.43	-1.64
1095	SLE RA 1	0	26	3440	-942.9	40.25	-0.33
1095	SLE RA 2	-1	39	3386	-929.25	39.62	-0.59
1095	SLE RA 3	0	26	3503	-959.43	40.99	-0.28
1095	SLE RA 4	0	34	3471	-951.24	40.61	-0.44
1095	SLE RA 5	0	39	3428	-940.22	40.11	-0.5
1095	SLE RA 6	0	26	3545	-970.4	41.48	-0.19
1095	SLE RA 7	0	34	3513	-962.21	41.1	-0.35
1095	SLE RA 8	0	26	3524	-964.85	41.23	-0.15
1095	SLE RA 9	0	34	3492	-956.66	40.85	-0.31
1095	SLE RA 10	-2	41	3667	-1005.64	42.9	-1.02
1095	SLE RA 11	-1	28	3784	-1035.83	44.27	-0.71
1095	SLE RA 12	-2	36	3752	-1027.63	43.89	-0.87
1095	SLE RA 13	-2	41	3709	-1016.62	43.39	-0.93
1095	SLE RA 14	-1	28	3826	-1046.8	44.76	-0.62
1095	SLE RA 15	-1	36	3794	-1038.61	44.38	-0.78
1095	SLE RA 16	-1	27	3805	-1041.25	44.51	-0.59
1095	SLE RA 17	-1	35	3773	-1033.05	44.13	-0.74
1095	SLE RA 18	-2	28	3842	-1052.04	44.94	-0.95
1095	SLE RA 19	-2	36	3809	-1043.85	44.56	-1.1
1095	SLE RA 20	-2	28	3884	-1063.01	45.43	-0.86
1095	SLE RA 21	-2	36	3851	-1054.82	45.05	-1.02
1095	SLE FR 1	0	26	3440	-942.9	40.25	-0.33
1095	SLE FR 2	0	29	3429	-940.17	40.12	-0.38
1095	SLE FR 3	0	26	3457	-947.29	40.45	-0.29
1095	SLE FR 4	-1	29	3550	-972.91	41.53	-0.56
1095	SLE FR 5	-1	27	3577	-980.03	41.85	-0.48
1095	SLE FR 6	-1	27	3641	-997.47	42.6	-0.64
1095	SLE QP 1	0	26	3440	-942.9	40.25	-0.33
1095	SLE QP 2	-1	27	3560	-975.64	41.66	-0.51
1095	SLD 1	422	155	2739	-758.13	32.88	146.01
1095	SLD 2	347	170	2731	-755.95	32.83	119.71
1095	SLD 3	431	-96	3955	-1065.86	47.14	151.89
1095	SLD 4	356	-81	3948	-1063.69	47.09	125.59
1095	SLD 5	125	443	1470	-444.03	17.4	39.04
1095	SLD 6	77	453	1465	-442.63	17.36	22.1
1095	SLD 7	155	-393	5525	-1469.82	64.95	58.66
1095	SLD 8	107	-384	5520	-1468.41	64.91	41.72
1095	SLD 9	-109	437	1601	-482.87	18.4	-42.75
1095	SLD 10	-157	447	1596	-481.47	18.37	-59.68
1095	SLD 11	-79	-399	5656	-1508.66	65.95	-23.13
1095	SLD 12	-127	-390	5651	-1507.26	65.92	-40.06
1095	SLD 13	-358	135	3173	-887.6	36.22	-126.61
1095	SLD 14	-433	150	3166	-885.42	36.17	-152.92
1095	SLD 15	-349	-116	4390	-1195.33	50.49	-120.73
1095	SLD 16	-424	-101	4382	-1193.16	50.44	-147.03
1095	SLV 1	661	245	2189	-613.85	26.91	228.54
1095	SLV 2	543	269	2178	-610.42	26.84	187.08
1095	SLV 3	676	-183	4265	-1138.95	51.26	238.55
1095	SLV 4	558	-159	4254	-1135.52	51.18	197.1
1095	SLV 5	197	737	3	-71.34	0.33	60.75
1095	SLV 6	117	753	-5	-69.03	0.28	32.84
1095	SLV 7	247	-690	6923	-1821.68	81.47	94.13
1095	SLV 8	168	-674	6915	-1819.37	81.42	66.23
1095	SLV 9	-169	727	206	-131.91	1.89	-67.25
1095	SLV 10	-249	743	198	-129.6	1.84	-95.16
1095	SLV 11	-119	-700	7126	-1882.26	83.04	-33.86
1095	SLV 12	-198	-683	7118	-1879.95	82.99	-61.77
1095	SLV 13	-560	213	2867	-815.77	32.14	-198.12
1095	SLV 14	-678	237	2856	-812.34	32.06	-239.58
1095	SLV 15	-545	-215	4943	-1340.87	56.48	-188.1
1095	SLV 16	-663	-191	4932	-1337.44	56.4	-229.56
1095	SLV FO 1	727	267	2052	-577.67	25.44	251.44
1095	SLV FO 2	597	293	2039	-573.89	25.35	205.84
1095	SLV FO 3	744	-204	4336	-1155.28	52.22	262.46
1095	SLV FO 4	614	-178	4323	-1151.51	52.13	216.86
1095	SLV FO 5	217	808	-353	19.09	-3.81	66.87
1095	SLV FO 6	129	826	-362	21.63	-3.86	36.18
1095	SLV FO 7	272	-762	7259	-1906.28	85.45	103.6
1095	SLV FO 8	185	-744	7250	-1903.74	85.4	72.9
1095	SLV FO 9	-186	797	-129	-47.54	-2.08	-73.92
1095	SLV FO 10	-274	815	-138	-45	-2.14	-104.62
1095	SLV FO 11	-131	-772	7483	-1972.92	87.18	-37.2
1095	SLV FO 12	-218	-754	7474	-1970.38	87.12	-67.9
1095	SLV FO 13	-616	231	2798	-799.78	31.18	-217.88
1095	SLV FO 14	-746	258	2785	-796.01	31.1	-263.48
1095	SLV FO 15	-599	-240	5082	-1377.39	57.96	-206.86
1095	SLV FO 16	-729	-213	5069	-1373.62	57.88	-252.47
1095	CRTFP Ux+	0	0	0	0	0	0
1095	CRTFP Ux-	0	0	0	0	0	0
1095	CRTFP Uy+	0	0	0	0	0	0
1095	CRTFP Uy-	0	0	0	0	0	0
1097	SLU 1	9	76	9526	-2204.07	-19.34	2.81
1097	SLU 2	8	131	9287	-2151.91	-19.23	2.41
1097	SLU 3	10	77	9803	-2266.88	-19.91	3.04
1097	SLU 4	9	110	9660	-2235.58	-19.84	2.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1097	SLU 5	9	131	9471	-2193.6	-19.58	2.72
1097	SLU 6	11	77	9987	-2308.57	-20.27	3.35
1097	SLU 7	11	110	9844	-2277.28	-20.2	3.11
1097	SLU 8	12	76	9894	-2287.46	-20.06	3.44
1097	SLU 9	11	109	9751	-2256.17	-19.99	3.2
1097	SLU 10	3	139	10512	-2435.5	-21.11	1.42
1097	SLU 11	6	84	11028	-2550.47	-21.79	2.05
1097	SLU 12	5	117	10884	-2519.18	-21.72	1.8
1097	SLU 13	4	139	10696	-2477.2	-21.46	1.73
1097	SLU 14	7	84	11212	-2592.17	-22.15	2.36
1097	SLU 15	6	117	11069	-2560.87	-22.08	2.12
1097	SLU 16	7	83	11119	-2571.06	-21.94	2.45
1097	SLU 17	6	116	10976	-2539.76	-21.87	2.21
1097	SLU 18	3	86	11275	-2609.21	-22.03	1.4
1097	SLU 19	2	119	11132	-2577.91	-21.96	1.15
1097	SLU 20	4	86	11459	-2650.9	-22.39	1.71
1097	SLU 21	3	119	11316	-2619.61	-22.32	1.47
1097	SLU 22	5	87	11184	-2585.39	-21.96	1.98
1097	SLU 23	4	142	10946	-2533.23	-21.85	1.57
1097	SLU 24	6	88	11462	-2648.2	-22.53	2.2
1097	SLU 25	5	121	11319	-2616.9	-22.46	1.96
1097	SLU 26	5	142	11130	-2574.92	-22.2	1.88
1097	SLU 27	8	87	11646	-2689.89	-22.89	2.52
1097	SLU 28	7	121	11503	-2658.6	-22.82	2.27
1097	SLU 29	8	87	11553	-2668.78	-22.68	2.6
1097	SLU 30	7	120	11410	-2637.48	-22.61	2.36
1097	SLU 31	-1	150	12170	-2816.82	-23.73	0.58
1097	SLU 32	2	95	12686	-2931.79	-24.41	1.21
1097	SLU 33	1	128	12543	-2900.5	-24.34	0.97
1097	SLU 34	0	149	12355	-2858.52	-24.08	0.89
1097	SLU 35	3	95	12871	-2973.49	-24.77	1.52
1097	SLU 36	2	128	12728	-2942.19	-24.7	1.28
1097	SLU 37	3	94	12778	-2952.38	-24.56	1.61
1097	SLU 38	2	127	12635	-2921.08	-24.49	1.37
1097	SLU 39	-1	97	12934	-2990.53	-24.65	0.56
1097	SLU 40	-2	130	12791	-2959.23	-24.58	0.32
1097	SLU 41	0	97	13118	-3032.22	-25	0.87
1097	SLU 42	-1	130	12975	-3000.93	-24.93	0.63
1097	SLU 43	14	95	11815	-2734.55	-24.25	3.94
1097	SLU 44	12	150	11576	-2682.39	-24.13	3.54
1097	SLU 45	14	96	12092	-2797.36	-24.82	4.17
1097	SLU 46	13	129	11949	-2766.06	-24.75	3.93
1097	SLU 47	13	150	11760	-2724.09	-24.49	3.85
1097	SLU 48	16	96	12276	-2839.06	-25.18	4.48
1097	SLU 49	15	129	12133	-2807.76	-25.11	4.24
1097	SLU 50	16	95	12183	-2817.94	-24.96	4.57
1097	SLU 51	15	128	12040	-2786.65	-24.89	4.33
1097	SLU 52	7	158	12801	-2965.99	-26.01	2.55
1097	SLU 53	10	103	13317	-3080.96	-26.7	3.18
1097	SLU 54	9	136	13173	-3049.66	-26.63	2.94
1097	SLU 55	9	158	12985	-3007.68	-26.37	2.86
1097	SLU 56	11	103	13501	-3122.65	-27.06	3.49
1097	SLU 57	10	136	13358	-3091.36	-26.99	3.25
1097	SLU 58	11	102	13408	-3101.54	-26.84	3.58
1097	SLU 59	10	135	13265	-3070.24	-26.77	3.34
1097	SLU 60	7	105	13564	-3139.69	-26.94	2.53
1097	SLU 61	6	138	13421	-3108.39	-26.87	2.28
1097	SLU 62	8	105	13748	-3181.39	-27.29	2.84
1097	SLU 63	7	138	13605	-3150.09	-27.22	2.6
1097	SLU 64	10	106	13473	-3115.87	-26.87	3.11
1097	SLU 65	8	161	13235	-3063.71	-26.75	2.7
1097	SLU 66	10	107	13751	-3178.68	-27.44	3.33
1097	SLU 67	10	140	13608	-3147.38	-27.37	3.09
1097	SLU 68	9	161	13419	-3105.41	-27.11	3.02
1097	SLU 69	12	106	13935	-3220.37	-27.79	3.65
1097	SLU 70	11	140	13792	-3189.08	-27.72	3.4
1097	SLU 71	12	106	13842	-3199.26	-27.58	3.73
1097	SLU 72	11	139	13699	-3167.97	-27.51	3.49
1097	SLU 73	3	169	14459	-3347.31	-28.63	1.71
1097	SLU 74	6	114	14975	-3462.27	-29.32	2.34
1097	SLU 75	5	147	14832	-3430.98	-29.25	2.1
1097	SLU 76	5	168	14644	-3389	-28.99	2.02
1097	SLU 77	7	114	15160	-3503.97	-29.67	2.65
1097	SLU 78	6	147	15017	-3472.68	-29.6	2.41
1097	SLU 79	7	113	15067	-3482.86	-29.46	2.74
1097	SLU 80	6	146	14923	-3451.56	-29.39	2.5
1097	SLU 81	3	116	15223	-3521.01	-29.55	1.69
1097	SLU 82	2	149	15080	-3489.71	-29.48	1.45
1097	SLU 83	4	116	15407	-3562.7	-29.91	2
1097	SLU 84	3	149	15264	-3531.41	-29.84	1.76
1097	SLE RA 1	8	79	10000	-2313.02	-20.09	2.57
1097	SLE RA 2	7	116	9840	-2278.24	-20.01	2.3
1097	SLE RA 3	9	79	10185	-2354.89	-20.47	2.72
1097	SLE RA 4	8	102	10089	-2334.02	-20.43	2.56
1097	SLE RA 5	8	116	9963	-2306.04	-20.25	2.51
1097	SLE RA 6	10	79	10307	-2382.69	-20.71	2.93
1097	SLE RA 7	9	102	10212	-2361.82	-20.66	2.77
1097	SLE RA 8	10	79	10245	-2368.61	-20.57	2.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1097	SLE RA 9	9	101	10150	-2347.75	-20.52	2.83
1097	SLE RA 10	4	121	10657	-2467.31	-21.27	1.64
1097	SLE RA 11	6	84	11001	-2543.95	-21.73	2.06
1097	SLE RA 12	5	107	10905	-2523.09	-21.68	1.9
1097	SLE RA 13	5	121	10780	-2495.11	-21.51	1.85
1097	SLE RA 14	7	84	11124	-2571.75	-21.96	2.27
1097	SLE RA 15	6	106	11028	-2550.89	-21.92	2.11
1097	SLE RA 16	7	84	11062	-2557.68	-21.82	2.33
1097	SLE RA 17	6	106	10966	-2536.81	-21.77	2.17
1097	SLE RA 18	4	86	11166	-2583.11	-21.88	1.63
1097	SLE RA 19	3	108	11070	-2562.24	-21.84	1.47
1097	SLE RA 20	5	86	11289	-2610.91	-22.12	1.84
1097	SLE RA 21	4	108	11193	-2590.04	-22.07	1.68
1097	SLE FR 1	8	79	10000	-2313.02	-20.09	2.57
1097	SLE FR 2	8	86	9968	-2306.06	-20.08	2.52
1097	SLE FR 3	9	79	10049	-2324.13	-20.19	2.66
1097	SLE FR 4	7	88	10318	-2387.09	-20.61	2.24
1097	SLE FR 5	7	81	10399	-2405.16	-20.72	2.37
1097	SLE FR 6	6	82	10583	-2448.06	-20.99	2.1
1097	SLE QP 1	8	79	10000	-2313.02	-20.09	2.57
1097	SLE QP 2	7	81	10350	-2394.04	-20.63	2.29
1097	SLD 1	1187	379	7850	-1836.2	2.19	295.43
1097	SLD 2	975	436	7825	-1831.13	2.72	244.14
1097	SLD 3	1216	-326	11438	-2620.93	0.16	302.79
1097	SLD 4	1004	-268	11413	-2615.87	0.69	251.5
1097	SLD 5	353	1229	4162	-1037.38	-10.79	87.88
1097	SLD 6	216	1266	4146	-1034.12	-10.45	54.86
1097	SLD 7	451	-1120	16123	-3653.16	-17.57	112.43
1097	SLD 8	314	-1083	16106	-3649.9	-17.22	79.41
1097	SLD 9	-300	1245	4593	-1138.19	-24.03	-74.83
1097	SLD 10	-437	1282	4576	-1134.93	-23.69	-107.85
1097	SLD 11	-202	-1105	16553	-3753.97	-30.81	-50.27
1097	SLD 12	-339	-1068	16537	-3750.71	-30.47	-83.3
1097	SLD 13	-990	430	9286	-2172.22	-41.95	-246.92
1097	SLD 14	-1202	488	9261	-2167.16	-41.42	-298.21
1097	SLD 15	-961	-274	12874	-2956.95	-43.98	-239.56
1097	SLD 16	-1173	-217	12849	-2951.89	-43.45	-290.85
1097	SLV 1	1853	595	6188	-1466.4	15.1	460.88
1097	SLV 2	1518	686	6148	-1458.43	15.94	380.03
1097	SLV 3	1902	-607	12311	-2805.52	11.64	473.34
1097	SLV 4	1568	-516	12271	-2797.54	12.48	392.49
1097	SLV 5	548	2042	-178	-86.24	-4.82	136.05
1097	SLV 6	323	2102	-205	-80.87	-4.26	81.63
1097	SLV 7	713	-1965	20232	-4549.97	-16.35	177.59
1097	SLV 8	488	-1904	20205	-4544.6	-15.79	123.17
1097	SLV 9	-474	2066	494	-243.49	-25.47	-118.59
1097	SLV 10	-699	2127	467	-238.12	-24.91	-173.01
1097	SLV 11	-309	-1941	20904	-4707.21	-37	-77.05
1097	SLV 12	-534	-1880	20877	-4701.84	-36.44	-131.47
1097	SLV 13	-1554	678	8428	-1990.54	-53.74	-387.91
1097	SLV 14	-1888	769	8388	-1982.56	-52.9	-468.76
1097	SLV 15	-1504	-524	14551	-3329.66	-57.2	-375.45
1097	SLV 16	-1839	-434	14511	-3321.68	-56.36	-456.3
1097	SLV FO 1	2037	647	5772	-1373.64	18.68	506.74
1097	SLV FO 2	1669	746	5727	-1364.86	19.59	417.81
1097	SLV FO 3	2092	-675	12507	-2846.67	14.87	520.44
1097	SLV FO 4	1724	-576	12463	-2837.89	15.79	431.51
1097	SLV FO 5	602	2238	-1231	144.54	-3.24	149.43
1097	SLV FO 6	354	2305	-1261	150.44	-2.62	89.56
1097	SLV FO 7	784	-2170	21221	-4765.56	-15.92	195.12
1097	SLV FO 8	536	-2103	21191	-4759.66	-15.3	135.25
1097	SLV FO 9	-522	2265	-492	-28.43	-25.96	-130.67
1097	SLV FO 10	-770	2332	-522	-22.52	-25.34	-190.54
1097	SLV FO 11	-340	-2143	21960	-4938.53	-38.64	-84.98
1097	SLV FO 12	-588	-2076	21930	-4932.62	-38.02	-144.85
1097	SLV FO 13	-1710	738	8236	-1950.19	-57.05	-426.93
1097	SLV FO 14	-2078	837	8192	-1941.42	-56.13	-515.86
1097	SLV FO 15	-1655	-585	14972	-3423.22	-60.85	-413.23
1097	SLV FO 16	-2023	-485	14927	-3414.45	-59.94	-502.15
1097	CRTFP Ux+	0	0	0	0	0	0
1097	CRTFP Ux-	0	0	0	0	0	0
1097	CRTFP Uy+	0	0	0	-0.01	0	0
1097	CRTFP Uy-	0	0	0	0.01	0	0
1099	SLU 1	7	26	3325	-934.26	-39.94	2.61
1099	SLU 2	6	46	3243	-913.55	-38.98	2.61
1099	SLU 3	7	27	3421	-960.12	-41.09	2.75
1099	SLU 4	7	39	3372	-947.7	-40.51	2.75
1099	SLU 5	7	46	3307	-930.71	-39.74	2.78
1099	SLU 6	8	27	3485	-977.28	-41.85	2.92
1099	SLU 7	7	39	3436	-964.86	-41.28	2.92
1099	SLU 8	8	26	3452	-968.57	-41.47	2.96
1099	SLU 9	7	38	3404	-956.14	-40.89	2.96
1099	SLU 10	5	49	3670	-1032.71	-44.03	2.19
1099	SLU 11	6	29	3847	-1079.28	-46.15	2.33
1099	SLU 12	5	41	3798	-1066.86	-45.57	2.33
1099	SLU 13	5	49	3733	-1049.86	-44.8	2.36
1099	SLU 14	6	29	3911	-1096.44	-46.91	2.5
1099	SLU 15	6	41	3862	-1084.01	-46.33	2.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLU 16	6	29	3879	-1087.72	-46.52	2.54
1099	SLU 17	6	41	3830	-1075.3	-45.95	2.54
1099	SLU 18	5	30	3933	-1104.48	-47.16	2.01
1099	SLU 19	4	42	3885	-1092.06	-46.59	2.01
1099	SLU 20	5	30	3997	-1121.64	-47.93	2.18
1099	SLU 21	5	42	3949	-1109.21	-47.35	2.18
1099	SLU 22	6	30	3901	-1093.4	-46.79	2.33
1099	SLU 23	5	50	3820	-1072.7	-45.82	2.33
1099	SLU 24	6	31	3997	-1119.27	-47.94	2.47
1099	SLU 25	6	43	3948	-1106.85	-47.36	2.47
1099	SLU 26	6	50	3883	-1089.85	-46.59	2.5
1099	SLU 27	7	31	4061	-1136.42	-48.7	2.65
1099	SLU 28	6	43	4012	-1124	-48.12	2.65
1099	SLU 29	7	30	4028	-1127.71	-48.31	2.68
1099	SLU 30	6	42	3980	-1115.29	-47.74	2.68
1099	SLU 31	4	53	4246	-1191.85	-50.88	1.91
1099	SLU 32	5	33	4423	-1238.43	-52.99	2.05
1099	SLU 33	5	45	4374	-1226	-52.42	2.05
1099	SLU 34	4	53	4309	-1209.01	-51.64	2.09
1099	SLU 35	5	33	4487	-1255.58	-53.76	2.23
1099	SLU 36	5	45	4438	-1243.16	-53.18	2.23
1099	SLU 37	6	33	4455	-1246.87	-53.37	2.26
1099	SLU 38	5	45	4406	-1234.44	-52.79	2.26
1099	SLU 39	4	34	4510	-1263.63	-54.01	1.73
1099	SLU 40	4	46	4461	-1251.2	-53.43	1.73
1099	SLU 41	4	34	4573	-1280.78	-54.77	1.91
1099	SLU 42	4	46	4525	-1268.36	-54.2	1.91
1099	SLU 43	9	33	4125	-1159.97	-49.57	3.48
1099	SLU 44	8	53	4043	-1139.27	-48.61	3.48
1099	SLU 45	9	33	4221	-1185.84	-50.72	3.62
1099	SLU 46	9	45	4172	-1173.42	-50.15	3.62
1099	SLU 47	9	53	4107	-1156.42	-49.38	3.66
1099	SLU 48	10	33	4285	-1202.99	-51.49	3.8
1099	SLU 49	10	45	4236	-1190.57	-50.91	3.8
1099	SLU 50	10	33	4252	-1194.28	-51.1	3.83
1099	SLU 51	10	45	4204	-1181.86	-50.52	3.83
1099	SLU 52	7	56	4470	-1258.42	-53.67	3.06
1099	SLU 53	8	36	4647	-1304.99	-55.78	3.21
1099	SLU 54	8	48	4598	-1292.57	-55.2	3.21
1099	SLU 55	8	56	4533	-1275.58	-54.43	3.24
1099	SLU 56	9	36	4711	-1322.15	-56.54	3.38
1099	SLU 57	8	48	4662	-1309.73	-55.97	3.38
1099	SLU 58	9	36	4678	-1313.44	-56.16	3.42
1099	SLU 59	8	48	4630	-1301.01	-55.58	3.42
1099	SLU 60	7	37	4733	-1330.2	-56.8	2.88
1099	SLU 61	7	49	4685	-1317.77	-56.22	2.88
1099	SLU 62	8	37	4797	-1347.35	-57.56	3.06
1099	SLU 63	7	49	4748	-1334.93	-56.98	3.06
1099	SLU 64	8	37	4701	-1319.12	-56.42	3.21
1099	SLU 65	7	57	4619	-1298.41	-55.46	3.21
1099	SLU 66	9	37	4797	-1344.98	-57.57	3.35
1099	SLU 67	8	49	4748	-1332.56	-56.99	3.35
1099	SLU 68	8	57	4683	-1315.56	-56.22	3.38
1099	SLU 69	9	37	4861	-1362.14	-58.33	3.52
1099	SLU 70	9	49	4812	-1349.71	-57.76	3.52
1099	SLU 71	9	37	4828	-1353.42	-57.95	3.56
1099	SLU 72	9	49	4780	-1341	-57.37	3.56
1099	SLU 73	6	60	5046	-1417.57	-60.52	2.79
1099	SLU 74	7	40	5223	-1464.14	-62.63	2.93
1099	SLU 75	7	52	5174	-1451.72	-62.05	2.93
1099	SLU 76	7	60	5109	-1434.72	-61.28	2.96
1099	SLU 77	8	40	5287	-1481.29	-63.39	3.1
1099	SLU 78	7	52	5238	-1468.87	-62.81	3.1
1099	SLU 79	8	40	5254	-1472.58	-63	3.14
1099	SLU 80	7	52	5206	-1460.16	-62.43	3.14
1099	SLU 81	6	41	5309	-1489.34	-63.65	2.61
1099	SLU 82	6	53	5261	-1476.92	-63.07	2.61
1099	SLU 83	7	41	5373	-1506.49	-64.41	2.78
1099	SLU 84	6	53	5325	-1494.07	-63.83	2.78
1099	SLE RA 1	6	28	3489	-979.73	-41.9	2.53
1099	SLE RA 2	6	41	3435	-965.92	-41.25	2.53
1099	SLE RA 3	7	28	3553	-996.97	-42.66	2.62
1099	SLE RA 4	6	36	3521	-988.69	-42.28	2.62
1099	SLE RA 5	6	41	3478	-977.36	-41.76	2.64
1099	SLE RA 6	7	28	3596	-1008.41	-43.17	2.74
1099	SLE RA 7	7	36	3563	-1000.13	-42.79	2.74
1099	SLE RA 8	7	27	3574	-1002.6	-42.91	2.76
1099	SLE RA 9	7	35	3542	-994.32	-42.53	2.76
1099	SLE RA 10	5	43	3719	-1045.36	-44.63	2.25
1099	SLE RA 11	6	30	3838	-1076.41	-46.03	2.34
1099	SLE RA 12	6	38	3805	-1068.13	-45.65	2.34
1099	SLE RA 13	5	43	3762	-1056.8	-45.13	2.36
1099	SLE RA 14	6	30	3880	-1087.85	-46.54	2.46
1099	SLE RA 15	6	38	3848	-1079.56	-46.16	2.46
1099	SLE RA 16	6	29	3859	-1082.04	-46.28	2.48
1099	SLE RA 17	6	37	3826	-1073.76	-45.9	2.48
1099	SLE RA 18	5	30	3895	-1093.21	-46.71	2.13
1099	SLE RA 19	5	38	3863	-1084.93	-46.33	2.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLE RA 20	6	30	3938	-1104.65	-47.22	2.25
1099	SLE RA 21	5	38	3905	-1096.36	-46.84	2.25
1099	SLE FR 1	6	28	3489	-979.73	-41.9	2.53
1099	SLE FR 2	6	30	3479	-976.97	-41.77	2.53
1099	SLE FR 3	7	28	3506	-984.3	-42.1	2.57
1099	SLE FR 4	6	31	3600	-1011.01	-43.21	2.41
1099	SLE FR 5	6	28	3628	-1018.35	-43.54	2.45
1099	SLE FR 6	6	29	3692	-1036.47	-44.3	2.33
1099	SLE QP 1	6	28	3489	-979.73	-41.9	2.53
1099	SLE QP 2	6	28	3611	-1013.77	-43.34	2.41
1099	SLD 1	426	129	2723	-784.37	-31.96	150.09
1099	SLD 2	351	154	2713	-782.64	-31.81	124.28
1099	SLD 3	438	-123	3946	-1096	-46.45	152.01
1099	SLD 4	363	-97	3936	-1094.27	-46.3	126.21
1099	SLD 5	127	435	1492	-472.61	-17.97	48.23
1099	SLD 6	79	452	1486	-471.5	-17.87	31.62
1099	SLD 7	167	-403	5568	-1511.38	-66.28	54.64
1099	SLD 8	118	-386	5561	-1510.27	-66.19	38.03
1099	SLD 9	-106	443	1661	-517.28	-20.49	-33.21
1099	SLD 10	-154	459	1655	-516.17	-20.4	-49.83
1099	SLD 11	-66	-395	5736	-1556.05	-68.81	-26.8
1099	SLD 12	-115	-379	5730	-1554.94	-68.72	-43.42
1099	SLD 13	-351	154	3286	-933.27	-40.38	-121.39
1099	SLD 14	-426	179	3277	-931.55	-40.23	-147.19
1099	SLD 15	-339	-98	4509	-1244.9	-54.87	-119.47
1099	SLD 16	-414	-72	4499	-1243.18	-54.73	-145.27
1099	SLV 1	663	203	2136	-633.14	-24.52	233.6
1099	SLV 2	545	243	2121	-630.42	-24.29	192.93
1099	SLV 3	683	-226	4223	-1164.9	-49.26	236.75
1099	SLV 4	565	-186	4208	-1162.18	-49.02	196.08
1099	SLV 5	195	724	7	-93.59	-0.22	74.58
1099	SLV 6	115	751	-3	-91.76	-0.06	47.2
1099	SLV 7	262	-706	6962	-1866.12	-82.68	85.07
1099	SLV 8	182	-679	6952	-1864.29	-82.52	57.7
1099	SLV 9	-170	735	270	-163.26	-4.16	-52.88
1099	SLV 10	-250	763	260	-161.43	-4	-80.26
1099	SLV 11	-103	-694	7226	-1935.79	-86.62	-42.39
1099	SLV 12	-182	-667	7215	-1933.96	-86.46	-69.77
1099	SLV 13	-553	242	3015	-865.37	-37.66	-191.27
1099	SLV 14	-671	283	3000	-862.65	-37.42	-231.94
1099	SLV 15	-533	-187	5101	-1397.12	-62.4	-188.12
1099	SLV 16	-651	-146	5086	-1394.41	-62.16	-228.79
1099	SLV FO 1	729	220	1988	-595.07	-22.64	256.72
1099	SLV FO 2	599	265	1972	-592.08	-22.38	211.99
1099	SLV FO 3	751	-252	4284	-1180.01	-49.85	260.19
1099	SLV FO 4	621	-207	4267	-1177.02	-49.59	215.45
1099	SLV FO 5	213	793	-354	-1.57	4.09	81.8
1099	SLV FO 6	126	823	-365	0.44	4.26	51.68
1099	SLV FO 7	287	-779	7297	-1951.35	-86.61	93.34
1099	SLV FO 8	200	-749	7286	-1949.34	-86.44	63.23
1099	SLV FO 9	-188	806	-64	-78.21	-0.25	-58.41
1099	SLV FO 10	-275	836	-75	-76.19	-0.07	-88.53
1099	SLV FO 11	-114	-766	7587	-2027.99	-90.95	-46.87
1099	SLV FO 12	-201	-736	7576	-2025.97	-90.77	-76.98
1099	SLV FO 13	-609	264	2955	-850.53	-37.09	-210.64
1099	SLV FO 14	-739	308	2939	-847.54	-36.83	-255.37
1099	SLV FO 15	-586	-208	5250	-1435.46	-64.3	-207.17
1099	SLV FO 16	-716	-164	5234	-1432.47	-64.04	-251.91
1099	CRTFP Ux+	0	0	0	0	0	0
1099	CRTFP Ux-	0	0	0	0	0	0
1099	CRTFP Uy+	0	0	0	0	0	0
1099	CRTFP Uy-	0	0	0	0	0	0
1100	SLU 1	10	24	3475	-906.74	2.83	3.37
1100	SLU 2	9	45	3391	-886.92	2.75	3.06
1100	SLU 3	11	25	3575	-931.59	2.92	3.54
1100	SLU 4	10	37	3525	-919.7	2.87	3.36
1100	SLU 5	10	45	3457	-903.41	2.81	3.27
1100	SLU 6	11	25	3642	-948.07	2.98	3.75
1100	SLU 7	11	37	3591	-936.18	2.93	3.57
1100	SLU 8	11	24	3608	-939.7	2.95	3.79
1100	SLU 9	11	37	3557	-927.82	2.9	3.6
1100	SLU 10	8	48	3833	-1001.23	3.21	2.65
1100	SLU 11	9	28	4018	-1045.9	3.38	3.13
1100	SLU 12	9	40	3967	-1034.01	3.33	2.95
1100	SLU 13	9	48	3900	-1017.72	3.27	2.86
1100	SLU 14	10	28	4085	-1062.38	3.44	3.34
1100	SLU 15	9	40	4034	-1050.5	3.39	3.15
1100	SLU 16	10	27	4051	-1054.02	3.41	3.37
1100	SLU 17	10	40	4000	-1042.13	3.36	3.19
1100	SLU 18	8	29	4108	-1070.04	3.49	2.78
1100	SLU 19	8	41	4057	-1058.15	3.44	2.6
1100	SLU 20	9	29	4174	-1086.52	3.55	2.99
1100	SLU 21	8	41	4123	-1074.63	3.5	2.8
1100	SLU 22	9	28	4074	-1059.4	3.43	3.14
1100	SLU 23	9	49	3990	-1039.59	3.35	2.83
1100	SLU 24	10	29	4174	-1084.25	3.52	3.31
1100	SLU 25	9	41	4124	-1072.37	3.47	3.13
1100	SLU 26	9	49	4056	-1056.07	3.41	3.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLU 27	11	29	4241	-1100.74	3.58	3.52
1100	SLU 28	10	41	4190	-1088.85	3.53	3.34
1100	SLU 29	11	28	4207	-1092.37	3.55	3.56
1100	SLU 30	10	41	4157	-1080.48	3.5	3.37
1100	SLU 31	7	52	4432	-1153.9	3.81	2.42
1100	SLU 32	9	31	4617	-1198.57	3.98	2.9
1100	SLU 33	8	44	4566	-1186.68	3.93	2.72
1100	SLU 34	8	52	4499	-1170.38	3.87	2.63
1100	SLU 35	9	31	4684	-1215.05	4.04	3.11
1100	SLU 36	9	44	4633	-1203.16	3.99	2.92
1100	SLU 37	9	31	4650	-1206.68	4.01	3.14
1100	SLU 38	9	44	4599	-1194.79	3.96	2.96
1100	SLU 39	8	33	4707	-1222.7	4.09	2.55
1100	SLU 40	7	45	4656	-1210.82	4.04	2.37
1100	SLU 41	8	32	4773	-1239.19	4.15	2.76
1100	SLU 42	8	45	4723	-1227.3	4.1	2.57
1100	SLU 43	13	30	4312	-1126.41	3.47	4.46
1100	SLU 44	12	51	4228	-1106.6	3.39	4.15
1100	SLU 45	14	31	4412	-1151.27	3.56	4.63
1100	SLU 46	13	43	4362	-1139.38	3.51	4.45
1100	SLU 47	13	51	4294	-1123.08	3.45	4.36
1100	SLU 48	14	31	4479	-1167.75	3.62	4.84
1100	SLU 49	14	43	4428	-1155.86	3.57	4.66
1100	SLU 50	14	30	4445	-1159.38	3.59	4.87
1100	SLU 51	14	43	4395	-1147.49	3.54	4.69
1100	SLU 52	11	54	4670	-1220.91	3.85	3.74
1100	SLU 53	13	34	4855	-1265.58	4.02	4.22
1100	SLU 54	12	46	4804	-1253.69	3.97	4.04
1100	SLU 55	12	54	4737	-1237.4	3.91	3.95
1100	SLU 56	13	34	4922	-1282.06	4.08	4.43
1100	SLU 57	13	46	4871	-1270.17	4.03	4.24
1100	SLU 58	13	33	4888	-1273.69	4.05	4.46
1100	SLU 59	13	46	4837	-1261.81	4	4.28
1100	SLU 60	12	35	4945	-1289.72	4.13	3.87
1100	SLU 61	11	47	4894	-1277.83	4.08	3.69
1100	SLU 62	12	35	5011	-1306.2	4.19	4.08
1100	SLU 63	12	47	4961	-1294.31	4.14	3.89
1100	SLU 64	13	34	4911	-1279.08	4.07	4.23
1100	SLU 65	12	55	4827	-1259.27	3.99	3.92
1100	SLU 66	13	35	5012	-1303.93	4.16	4.4
1100	SLU 67	13	47	4961	-1292.04	4.11	4.22
1100	SLU 68	12	55	4893	-1275.75	4.05	4.13
1100	SLU 69	14	35	5078	-1320.42	4.22	4.61
1100	SLU 70	13	47	5027	-1308.53	4.17	4.43
1100	SLU 71	14	34	5044	-1312.05	4.19	4.64
1100	SLU 72	13	47	4994	-1300.16	4.14	4.46
1100	SLU 73	11	58	5270	-1373.58	4.45	3.51
1100	SLU 74	12	37	5454	-1418.24	4.62	3.99
1100	SLU 75	11	50	5404	-1406.35	4.58	3.81
1100	SLU 76	11	58	5336	-1390.06	4.51	3.72
1100	SLU 77	13	37	5521	-1434.73	4.68	4.2
1100	SLU 78	12	50	5470	-1422.84	4.63	4.01
1100	SLU 79	13	37	5487	-1426.36	4.65	4.23
1100	SLU 80	12	50	5436	-1414.47	4.6	4.05
1100	SLU 81	11	39	5544	-1442.38	4.73	3.64
1100	SLU 82	10	51	5493	-1430.49	4.68	3.46
1100	SLU 83	12	38	5610	-1458.87	4.79	3.85
1100	SLU 84	11	51	5560	-1446.98	4.74	3.66
1100	SLE RA 1	10	26	3646	-950.35	3	3.3
1100	SLE RA 2	9	39	3590	-937.14	2.95	3.1
1100	SLE RA 3	10	26	3713	-966.92	3.06	3.42
1100	SLE RA 4	10	34	3679	-959	3.03	3.3
1100	SLE RA 5	10	39	3634	-948.13	2.99	3.24
1100	SLE RA 6	11	26	3757	-977.91	3.1	3.56
1100	SLE RA 7	10	34	3724	-969.99	3.07	3.43
1100	SLE RA 8	11	25	3735	-972.33	3.08	3.58
1100	SLE RA 9	10	34	3701	-964.41	3.05	3.46
1100	SLE RA 10	9	41	3885	-1013.35	3.25	2.82
1100	SLE RA 11	9	28	4008	-1043.13	3.37	3.14
1100	SLE RA 12	9	36	3974	-1035.2	3.34	3.02
1100	SLE RA 13	9	41	3929	-1024.34	3.29	2.96
1100	SLE RA 14	10	28	4053	-1054.12	3.41	3.28
1100	SLE RA 15	9	36	4019	-1046.19	3.38	3.16
1100	SLE RA 16	10	27	4030	-1048.54	3.39	3.31
1100	SLE RA 17	10	36	3996	-1040.62	3.35	3.18
1100	SLE RA 18	9	28	4068	-1059.22	3.44	2.91
1100	SLE RA 19	8	37	4034	-1051.3	3.41	2.79
1100	SLE RA 20	9	28	4112	-1070.21	3.48	3.05
1100	SLE RA 21	9	37	4078	-1062.29	3.45	2.93
1100	SLE FR 1	10	26	3646	-950.35	3	3.3
1100	SLE FR 2	10	28	3635	-947.71	2.99	3.26
1100	SLE FR 3	10	26	3664	-954.75	3.02	3.36
1100	SLE FR 4	9	29	3761	-980.37	3.12	3.14
1100	SLE FR 5	10	26	3790	-987.41	3.15	3.24
1100	SLE FR 6	9	27	3857	-1004.79	3.22	3.11
1100	SLE QP 1	10	26	3646	-950.35	3	3.3
1100	SLE QP 2	10	26	3773	-983.01	3.13	3.19
1100	SLD 1	456	128	2819	-761.33	3.22	159.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLD 2	376	159	2808	-759.36	3.28	131.41
1100	SLD 3	470	-136	4091	-1059.58	4.45	164.43
1100	SLD 4	390	-105	4080	-1057.6	4.51	136.51
1100	SLD 5	136	452	1560	-464.51	1.29	47.1
1100	SLD 6	84	472	1552	-463.24	1.32	29.12
1100	SLD 7	183	-428	5799	-1458.66	5.38	64.09
1100	SLD 8	131	-408	5792	-1457.39	5.42	46.11
1100	SLD 9	-112	461	1754	-508.64	0.85	-39.74
1100	SLD 10	-164	481	1746	-507.37	0.88	-57.72
1100	SLD 11	-65	-419	5993	-1502.79	4.94	-22.75
1100	SLD 12	-117	-399	5986	-1501.51	4.98	-40.73
1100	SLD 13	-371	158	3466	-908.43	1.76	-130.14
1100	SLD 14	-451	189	3454	-906.45	1.81	-158.06
1100	SLD 15	-357	-106	4737	-1206.67	2.99	-125.04
1100	SLD 16	-437	-75	4726	-1204.7	3.04	-152.96
1100	SLV 1	708	203	2193	-615.42	3.18	247.38
1100	SLV 2	582	252	2175	-612.3	3.27	203.37
1100	SLV 3	732	-247	4363	-1124.32	5.28	256.04
1100	SLV 4	606	-198	4345	-1121.21	5.37	212.03
1100	SLV 5	206	753	10	-101.48	-0.05	71.52
1100	SLV 6	121	786	-2	-99.39	0.01	41.9
1100	SLV 7	286	-748	7245	-1797.82	6.94	100.38
1100	SLV 8	201	-715	7233	-1795.73	7	70.76
1100	SLV 9	-182	768	313	-170.3	-0.73	-64.39
1100	SLV 10	-267	801	301	-168.21	-0.67	-94.01
1100	SLV 11	-102	-733	7547	-1866.64	6.25	-35.53
1100	SLV 12	-187	-700	7535	-1864.55	6.31	-65.15
1100	SLV 13	-587	251	3201	-844.82	0.9	-205.66
1100	SLV 14	-713	300	3183	-841.71	0.99	-249.66
1100	SLV 15	-563	-199	5371	-1353.73	2.99	-197
1100	SLV 16	-689	-150	5353	-1350.61	3.08	-241.01
1100	SLV FO 1	778	221	2035	-578.66	3.19	271.8
1100	SLV FO 2	639	275	2015	-575.23	3.28	223.39
1100	SLV FO 3	804	-274	4422	-1138.45	5.49	281.32
1100	SLV FO 4	665	-221	4402	-1135.02	5.59	232.91
1100	SLV FO 5	226	826	-366	-13.33	-0.36	78.36
1100	SLV FO 6	132	862	-379	-11.02	-0.3	45.77
1100	SLV FO 7	314	-825	7592	-1879.3	7.32	110.1
1100	SLV FO 8	220	-789	7579	-1877	7.38	77.52
1100	SLV FO 9	-201	842	-33	-89.03	-1.12	-71.15
1100	SLV FO 10	-295	878	-47	-86.73	-1.05	-103.73
1100	SLV FO 11	-113	-809	7925	-1955.01	6.57	-39.4
1100	SLV FO 12	-207	-773	7911	-1952.7	6.63	-71.99
1100	SLV FO 13	-646	273	3143	-831	0.68	-226.54
1100	SLV FO 14	-785	327	3124	-827.58	0.77	-274.95
1100	SLV FO 15	-620	-222	5531	-1390.8	2.98	-217.02
1100	SLV FO 16	-759	-168	5511	-1387.37	3.08	-265.43
1100	CRTFP Ux+	0	0	0	0	0	0
1100	CRTFP Ux-	0	0	0	0	0	0
1100	CRTFP Uy+	0	0	0	0	0	0
1100	CRTFP Uy-	0	0	0	0	0	0
1101	SLU 1	13	20	3387	-822.16	2.82	4.28
1101	SLU 2	12	40	3305	-804.45	2.74	3.93
1101	SLU 3	13	20	3485	-844.45	2.91	4.48
1101	SLU 4	13	32	3436	-833.83	2.86	4.27
1101	SLU 5	12	40	3370	-819.25	2.8	4.16
1101	SLU 6	14	20	3550	-859.26	2.97	4.71
1101	SLU 7	13	32	3500	-848.63	2.92	4.5
1101	SLU 8	14	20	3517	-851.76	2.93	4.74
1101	SLU 9	13	32	3468	-841.14	2.89	4.53
1101	SLU 10	11	43	3734	-906.58	3.2	3.59
1101	SLU 11	12	23	3913	-946.58	3.37	4.14
1101	SLU 12	12	35	3864	-935.96	3.32	3.93
1101	SLU 13	11	43	3799	-921.38	3.26	3.82
1101	SLU 14	13	23	3978	-961.39	3.43	4.37
1101	SLU 15	12	35	3929	-950.76	3.38	4.16
1101	SLU 16	13	23	3945	-953.89	3.4	4.4
1101	SLU 17	12	35	3896	-943.27	3.35	4.19
1101	SLU 18	11	24	4000	-968.06	3.48	3.8
1101	SLU 19	11	36	3950	-957.44	3.43	3.59
1101	SLU 20	12	24	4064	-982.86	3.54	4.03
1101	SLU 21	11	36	4015	-972.24	3.49	3.81
1101	SLU 22	12	23	3968	-958.62	3.42	4.17
1101	SLU 23	11	44	3886	-940.91	3.34	3.82
1101	SLU 24	13	24	4065	-980.92	3.51	4.37
1101	SLU 25	12	36	4016	-970.29	3.46	4.16
1101	SLU 26	12	44	3951	-955.71	3.4	4.05
1101	SLU 27	14	24	4130	-995.72	3.57	4.6
1101	SLU 28	13	36	4081	-985.09	3.52	4.39
1101	SLU 29	14	23	4097	-988.22	3.54	4.63
1101	SLU 30	13	35	4048	-977.6	3.49	4.42
1101	SLU 31	10	47	4314	-1043.04	3.8	3.48
1101	SLU 32	12	26	4494	-1083.05	3.97	4.03
1101	SLU 33	11	39	4445	-1072.42	3.92	3.82
1101	SLU 34	11	46	4379	-1057.84	3.86	3.71
1101	SLU 35	13	26	4559	-1097.85	4.03	4.26
1101	SLU 36	12	38	4509	-1087.22	3.98	4.05
1101	SLU 37	13	26	4526	-1090.35	4	4.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1101	SLU 38	12	38	4477	-1079.73	3.95	4.08
1101	SLU 39	11	27	4580	-1104.52	4.08	3.68
1101	SLU 40	10	40	4531	-1093.9	4.03	3.47
1101	SLU 41	12	27	4645	-1119.32	4.14	3.91
1101	SLU 42	11	40	4595	-1108.7	4.09	3.7
1101	SLU 43	17	25	4205	-1022.02	3.46	5.61
1101	SLU 44	16	45	4123	-1004.31	3.38	5.26
1101	SLU 45	17	25	4302	-1044.32	3.55	5.81
1101	SLU 46	17	37	4253	-1033.69	3.5	5.6
1101	SLU 47	16	45	4187	-1019.11	3.44	5.49
1101	SLU 48	18	25	4367	-1059.12	3.6	6.04
1101	SLU 49	17	37	4318	-1048.49	3.56	5.83
1101	SLU 50	18	25	4334	-1051.62	3.57	6.07
1101	SLU 51	17	37	4285	-1041	3.53	5.85
1101	SLU 52	15	48	4551	-1106.44	3.84	4.92
1101	SLU 53	16	28	4731	-1146.45	4.01	5.47
1101	SLU 54	16	40	4681	-1135.82	3.96	5.26
1101	SLU 55	15	48	4616	-1121.24	3.9	5.14
1101	SLU 56	17	28	4795	-1161.25	4.07	5.7
1101	SLU 57	16	40	4746	-1150.62	4.02	5.49
1101	SLU 58	17	28	4763	-1153.75	4.04	5.72
1101	SLU 59	16	40	4713	-1143.13	3.99	5.51
1101	SLU 60	15	29	4817	-1167.92	4.12	5.12
1101	SLU 61	15	41	4768	-1157.3	4.07	4.91
1101	SLU 62	16	29	4882	-1182.72	4.17	5.35
1101	SLU 63	15	41	4832	-1172.1	4.13	5.14
1101	SLU 64	16	28	4785	-1158.48	4.06	5.49
1101	SLU 65	15	49	4703	-1140.77	3.98	5.14
1101	SLU 66	17	29	4883	-1180.78	4.15	5.69
1101	SLU 67	16	41	4833	-1170.15	4.1	5.48
1101	SLU 68	16	49	4768	-1155.58	4.04	5.37
1101	SLU 69	17	28	4947	-1195.58	4.21	5.92
1101	SLU 70	17	41	4898	-1184.95	4.16	5.71
1101	SLU 71	18	28	4915	-1188.08	4.18	5.95
1101	SLU 72	17	40	4865	-1177.46	4.13	5.74
1101	SLU 73	14	51	5132	-1242.91	4.44	4.8
1101	SLU 74	16	31	5311	-1282.91	4.61	5.35
1101	SLU 75	15	43	5262	-1272.28	4.56	5.14
1101	SLU 76	15	51	5196	-1257.71	4.5	5.03
1101	SLU 77	17	31	5376	-1297.71	4.67	5.58
1101	SLU 78	16	43	5327	-1287.08	4.62	5.37
1101	SLU 79	17	31	5343	-1290.21	4.64	5.61
1101	SLU 80	16	43	5294	-1279.59	4.59	5.4
1101	SLU 81	15	32	5397	-1304.38	4.72	5.01
1101	SLU 82	14	45	5348	-1293.76	4.67	4.8
1101	SLU 83	16	32	5462	-1319.18	4.78	5.24
1101	SLU 84	15	44	5413	-1308.56	4.73	5.03
1101	SLE RA 1	13	21	3553	-861.15	2.99	4.25
1101	SLE RA 2	12	35	3499	-849.34	2.94	4.02
1101	SLE RA 3	13	21	3618	-876.01	3.05	4.38
1101	SLE RA 4	13	29	3585	-868.93	3.02	4.24
1101	SLE RA 5	12	35	3542	-859.21	2.98	4.17
1101	SLE RA 6	13	21	3661	-885.88	3.09	4.54
1101	SLE RA 7	13	29	3629	-878.8	3.06	4.4
1101	SLE RA 8	13	21	3640	-880.88	3.07	4.56
1101	SLE RA 9	13	29	3607	-873.8	3.04	4.42
1101	SLE RA 10	11	36	3784	-917.43	3.25	3.79
1101	SLE RA 11	12	23	3904	-944.1	3.36	4.16
1101	SLE RA 12	12	31	3871	-937.02	3.33	4.02
1101	SLE RA 13	12	36	3827	-927.3	3.28	3.94
1101	SLE RA 14	13	23	3947	-953.97	3.4	4.31
1101	SLE RA 15	12	31	3914	-946.88	3.37	4.17
1101	SLE RA 16	13	23	3925	-948.97	3.38	4.33
1101	SLE RA 17	12	31	3892	-941.89	3.34	4.19
1101	SLE RA 18	12	24	3961	-958.42	3.43	3.93
1101	SLE RA 19	11	32	3929	-951.33	3.4	3.79
1101	SLE RA 20	12	24	4005	-968.28	3.47	4.08
1101	SLE RA 21	12	32	3972	-961.2	3.44	3.94
1101	SLE FR 1	13	21	3553	-861.15	2.99	4.25
1101	SLE FR 2	12	24	3542	-858.79	2.98	4.2
1101	SLE FR 3	13	21	3571	-865.1	3	4.31
1101	SLE FR 4	12	25	3665	-887.97	3.11	4.11
1101	SLE FR 5	12	22	3693	-894.28	3.14	4.21
1101	SLE FR 6	12	22	3757	-909.78	3.21	4.09
1101	SLE QP 1	13	21	3553	-861.15	2.99	4.25
1101	SLE QP 2	12	22	3676	-890.33	3.12	4.15
1101	SLD 1	458	119	2720	-690.44	3.23	160.01
1101	SLD 2	378	153	2707	-687.87	3.31	132.01
1101	SLD 3	473	-139	3955	-957.09	4.38	165.65
1101	SLD 4	393	-105	3942	-954.52	4.46	137.64
1101	SLD 5	136	437	1519	-426.39	1.38	47.18
1101	SLD 6	85	459	1510	-424.73	1.44	29.15
1101	SLD 7	188	-424	5635	-1315.22	5.24	65.96
1101	SLD 8	136	-402	5626	-1313.56	5.29	47.93
1101	SLD 9	-112	446	1725	-467.1	0.95	-39.62
1101	SLD 10	-163	468	1717	-465.44	1	-57.66
1101	SLD 11	-60	-415	5842	-1355.92	4.81	-20.84
1101	SLD 12	-112	-393	5833	-1354.27	4.86	-38.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1101	SLD 13	-369	149	3410	-826.14	1.78	-129.33
1101	SLD 14	-449	183	3396	-823.57	1.86	-157.34
1101	SLD 15	-353	-109	4645	-1092.79	2.94	-123.7
1101	SLD 16	-433	-75	4631	-1090.22	3.01	-151.71
1101	SLV 1	709	192	2095	-559.05	3.2	247.86
1101	SLV 2	582	245	2074	-555	3.33	203.71
1101	SLV 3	735	-249	4202	-1014.03	5.18	257.44
1101	SLV 4	609	-195	4181	-1009.98	5.3	213.29
1101	SLV 5	205	731	9	-101.65	0.13	70.98
1101	SLV 6	120	767	-5	-98.92	0.21	41.26
1101	SLV 7	293	-737	7034	-1618.24	6.71	102.9
1101	SLV 8	208	-701	7019	-1615.52	6.79	73.18
1101	SLV 9	-183	745	332	-165.14	-0.55	-64.88
1101	SLV 10	-268	781	318	-162.41	-0.47	-94.6
1101	SLV 11	-95	-723	7356	-1681.73	6.03	-32.95
1101	SLV 12	-180	-687	7342	-1679.01	6.11	-62.67
1101	SLV 13	-584	239	3170	-770.68	0.94	-204.99
1101	SLV 14	-711	292	3149	-766.63	1.07	-249.13
1101	SLV 15	-558	-201	5278	-1225.66	2.91	-195.41
1101	SLV 16	-684	-148	5257	-1221.61	3.04	-239.55
1101	SLV FO 1	779	209	1937	-525.92	3.21	272.23
1101	SLV FO 2	639	267	1913	-521.46	3.35	223.67
1101	SLV FO 3	808	-276	4255	-1026.4	5.38	282.77
1101	SLV FO 4	669	-217	4232	-1021.94	5.52	234.21
1101	SLV FO 5	224	802	-357	-22.78	-0.17	77.66
1101	SLV FO 6	130	841	-373	-19.78	-0.08	44.97
1101	SLV FO 7	321	-813	7370	-1691.04	7.07	112.78
1101	SLV FO 8	227	-774	7354	-1688.04	7.16	80.09
1101	SLV FO 9	-203	817	-2	-92.62	-0.92	-71.78
1101	SLV FO 10	-296	857	-18	-89.62	-0.82	-104.47
1101	SLV FO 11	-106	-798	7724	-1760.87	6.32	-36.66
1101	SLV FO 12	-200	-758	7709	-1757.88	6.41	-69.35
1101	SLV FO 13	-644	261	3120	-758.72	0.72	-225.9
1101	SLV FO 14	-783	319	3097	-754.26	0.86	-274.46
1101	SLV FO 15	-615	-224	5438	-1259.19	2.89	-215.36
1101	SLV FO 16	-754	-165	5415	-1254.74	3.03	-263.92
1101	CRTFP Ux+	0	0	0	0	0	0
1101	CRTFP Ux-	0	0	0	0	0	0
1101	CRTFP Uy+	0	0	0	0	0	0
1101	CRTFP Uy-	0	0	0	0	0	0
1102	SLU 1	15	16	3315	-757.09	1.86	5.2
1102	SLU 2	14	36	3235	-740.94	1.81	4.81
1102	SLU 3	16	16	3410	-777.45	1.92	5.43
1102	SLU 4	15	28	3362	-767.76	1.89	5.19
1102	SLU 5	15	36	3298	-754.49	1.85	5.06
1102	SLU 6	17	16	3474	-791	1.96	5.68
1102	SLU 7	16	28	3425	-781.31	1.93	5.44
1102	SLU 8	17	16	3442	-784.18	1.94	5.7
1102	SLU 9	16	28	3394	-774.49	1.91	5.47
1102	SLU 10	13	38	3651	-833.57	2.14	4.55
1102	SLU 11	15	19	3827	-870.08	2.25	5.16
1102	SLU 12	14	31	3779	-860.39	2.22	4.93
1102	SLU 13	14	38	3715	-847.12	2.18	4.8
1102	SLU 14	16	19	3890	-883.63	2.29	5.41
1102	SLU 15	15	31	3842	-873.94	2.26	5.18
1102	SLU 16	16	18	3858	-876.81	2.27	5.43
1102	SLU 17	15	30	3810	-867.12	2.24	5.2
1102	SLU 18	14	20	3910	-889.42	2.33	4.82
1102	SLU 19	14	32	3862	-879.73	2.3	4.59
1102	SLU 20	15	20	3973	-902.96	2.37	5.07
1102	SLU 21	14	32	3925	-893.27	2.34	4.84
1102	SLU 22	15	19	3880	-881.01	2.28	5.21
1102	SLU 23	14	39	3800	-864.86	2.23	4.82
1102	SLU 24	16	19	3975	-901.37	2.34	5.44
1102	SLU 25	15	31	3927	-891.68	2.31	5.2
1102	SLU 26	15	39	3863	-878.4	2.27	5.07
1102	SLU 27	17	19	4038	-914.91	2.38	5.69
1102	SLU 28	16	31	3990	-905.22	2.35	5.45
1102	SLU 29	17	19	4006	-908.09	2.36	5.71
1102	SLU 30	16	31	3958	-898.4	2.33	5.47
1102	SLU 31	13	41	4216	-957.49	2.56	4.56
1102	SLU 32	15	22	4391	-994	2.67	5.17
1102	SLU 33	15	34	4343	-984.31	2.64	4.94
1102	SLU 34	14	41	4279	-971.03	2.6	4.8
1102	SLU 35	16	21	4454	-1007.54	2.71	5.42
1102	SLU 36	15	33	4406	-997.85	2.68	5.19
1102	SLU 37	16	21	4423	-1000.72	2.69	5.44
1102	SLU 38	15	33	4374	-991.03	2.66	5.21
1102	SLU 39	14	23	4474	-1013.33	2.75	4.83
1102	SLU 40	14	35	4426	-1003.65	2.72	4.6
1102	SLU 41	15	23	4538	-1026.88	2.79	5.08
1102	SLU 42	14	34	4490	-1017.19	2.76	4.85
1102	SLU 43	20	20	4116	-941.73	2.28	6.76
1102	SLU 44	19	40	4036	-925.58	2.23	6.37
1102	SLU 45	20	20	4211	-962.09	2.34	6.98
1102	SLU 46	20	32	4163	-952.41	2.31	6.75
1102	SLU 47	19	40	4099	-939.13	2.27	6.62
1102	SLU 48	21	20	4274	-975.64	2.37	7.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLU 49	20	32	4226	-965.95	2.34	7
1102	SLU 50	21	20	4243	-968.82	2.35	7.25
1102	SLU 51	21	32	4194	-959.13	2.32	7.02
1102	SLU 52	18	42	4452	-1018.21	2.56	6.1
1102	SLU 53	20	23	4628	-1054.72	2.66	6.72
1102	SLU 54	19	34	4579	-1045.04	2.64	6.49
1102	SLU 55	19	42	4516	-1031.76	2.59	6.35
1102	SLU 56	20	22	4691	-1068.27	2.7	6.97
1102	SLU 57	20	34	4643	-1058.58	2.67	6.74
1102	SLU 58	20	22	4659	-1061.45	2.68	6.99
1102	SLU 59	20	34	4611	-1051.76	2.65	6.76
1102	SLU 60	19	24	4711	-1074.06	2.75	6.38
1102	SLU 61	18	36	4663	-1064.37	2.72	6.14
1102	SLU 62	19	23	4774	-1087.6	2.78	6.63
1102	SLU 63	19	35	4726	-1077.92	2.76	6.39
1102	SLU 64	20	23	4681	-1065.65	2.7	6.77
1102	SLU 65	19	43	4601	-1049.5	2.65	6.38
1102	SLU 66	20	23	4776	-1086.01	2.76	6.99
1102	SLU 67	20	35	4728	-1076.32	2.73	6.76
1102	SLU 68	19	42	4664	-1063.04	2.69	6.63
1102	SLU 69	21	23	4839	-1099.55	2.79	7.24
1102	SLU 70	21	35	4791	-1089.86	2.76	7.01
1102	SLU 71	21	23	4807	-1092.73	2.77	7.26
1102	SLU 72	21	34	4759	-1083.05	2.74	7.03
1102	SLU 73	18	45	5017	-1142.13	2.98	6.11
1102	SLU 74	20	25	5192	-1178.64	3.08	6.73
1102	SLU 75	19	37	5144	-1168.95	3.06	6.5
1102	SLU 76	19	45	5080	-1155.67	3.01	6.36
1102	SLU 77	20	25	5255	-1192.18	3.12	6.98
1102	SLU 78	20	37	5207	-1182.5	3.09	6.75
1102	SLU 79	21	25	5223	-1185.36	3.1	7
1102	SLU 80	20	37	5175	-1175.68	3.07	6.77
1102	SLU 81	19	26	5275	-1197.98	3.17	6.39
1102	SLU 82	18	38	5227	-1188.29	3.14	6.15
1102	SLU 83	19	26	5339	-1211.52	3.2	6.64
1102	SLU 84	19	38	5291	-1201.83	3.18	6.4
1102	SLE RA 1	15	17	3476	-792.49	1.98	5.2
1102	SLE RA 2	15	30	3423	-781.73	1.95	4.94
1102	SLE RA 3	16	17	3540	-806.07	2.02	5.35
1102	SLE RA 4	15	25	3508	-799.61	2	5.2
1102	SLE RA 5	15	30	3465	-790.76	1.98	5.11
1102	SLE RA 6	16	17	3582	-815.1	2.05	5.52
1102	SLE RA 7	16	25	3550	-808.64	2.03	5.37
1102	SLE RA 8	16	17	3561	-810.55	2.03	5.53
1102	SLE RA 9	16	25	3529	-804.09	2.01	5.38
1102	SLE RA 10	14	32	3701	-843.48	2.17	4.77
1102	SLE RA 11	15	19	3817	-867.82	2.24	5.18
1102	SLE RA 12	15	27	3785	-861.36	2.22	5.02
1102	SLE RA 13	15	32	3743	-852.51	2.19	4.93
1102	SLE RA 14	16	19	3860	-876.85	2.27	5.34
1102	SLE RA 15	15	27	3828	-870.39	2.25	5.19
1102	SLE RA 16	16	18	3838	-872.31	2.25	5.36
1102	SLE RA 17	15	26	3806	-865.85	2.23	5.2
1102	SLE RA 18	15	19	3873	-880.71	2.3	4.95
1102	SLE RA 19	14	27	3841	-874.25	2.28	4.79
1102	SLE RA 20	15	19	3915	-889.74	2.32	5.12
1102	SLE RA 21	15	27	3883	-883.28	2.3	4.96
1102	SLE FR 1	15	17	3476	-792.49	1.98	5.2
1102	SLE FR 2	15	20	3466	-790.34	1.98	5.15
1102	SLE FR 3	15	17	3493	-796.11	1.99	5.27
1102	SLE FR 4	15	20	3585	-816.81	2.07	5.07
1102	SLE FR 5	15	18	3612	-822.57	2.09	5.19
1102	SLE FR 6	15	18	3675	-836.6	2.14	5.08
1102	SLE QP 1	15	17	3476	-792.49	1.98	5.2
1102	SLE QP 2	15	18	3595	-818.96	2.08	5.13
1102	SLD 1	459	112	2633	-634.93	2.48	160.62
1102	SLD 2	379	148	2617	-631.25	2.59	132.54
1102	SLD 3	476	-140	3839	-878.22	3.2	166.76
1102	SLD 4	396	-104	3822	-874.54	3.31	138.68
1102	SLD 5	136	422	1481	-395.4	1.08	47.29
1102	SLD 6	85	445	1470	-393.03	1.16	29.21
1102	SLD 7	193	-418	5500	-1206.36	3.49	67.75
1102	SLD 8	141	-395	5490	-1203.98	3.56	49.68
1102	SLD 9	-111	430	1701	-433.94	0.59	-39.42
1102	SLD 10	-163	453	1691	-431.56	0.66	-57.5
1102	SLD 11	-55	-410	5721	-1244.89	3	-18.96
1102	SLD 12	-106	-386	5710	-1242.52	3.07	-37.04
1102	SLD 13	-366	139	3368	-763.38	0.84	-128.43
1102	SLD 14	-446	175	3352	-759.7	0.95	-156.5
1102	SLD 15	-349	-113	4574	-1006.67	1.56	-122.29
1102	SLD 16	-429	-76	4558	-1002.99	1.67	-150.37
1102	SLV 1	710	182	2006	-514.14	2.65	248.22
1102	SLV 2	583	239	1980	-508.34	2.83	203.97
1102	SLV 3	738	-247	4064	-929.25	3.88	258.67
1102	SLV 4	612	-190	4038	-923.44	4.06	214.41
1102	SLV 5	203	708	2	-99.02	0.35	70.47
1102	SLV 6	118	746	-15	-95.12	0.47	40.68
1102	SLV 7	299	-724	6862	-1482.7	4.45	105.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLV 8	214	-686	6844	-1478.8	4.57	75.49
1102	SLV 9	-184	721	346	-159.12	-0.42	-65.24
1102	SLV 10	-269	759	329	-155.22	-0.3	-95.03
1102	SLV 11	-88	-711	7206	-1542.8	3.68	-30.43
1102	SLV 12	-173	-673	7189	-1538.9	3.8	-60.22
1102	SLV 13	-582	226	3153	-714.48	0.09	-204.16
1102	SLV 14	-708	282	3127	-708.67	0.27	-248.41
1102	SLV 15	-553	-204	5211	-1129.58	1.32	-193.71
1102	SLV 16	-680	-147	5185	-1123.78	1.5	-237.97
1102	SLV FO 1	779	199	1847	-483.66	2.71	272.53
1102	SLV FO 2	640	261	1818	-477.28	2.9	223.85
1102	SLV FO 3	811	-274	4110	-940.28	4.06	284.02
1102	SLV FO 4	671	-211	4082	-933.89	4.26	235.34
1102	SLV FO 5	222	777	-357	-27.03	0.18	77.01
1102	SLV FO 6	128	819	-376	-22.73	0.31	44.24
1102	SLV FO 7	328	-798	7188	-1549.08	4.69	115.3
1102	SLV FO 8	234	-756	7169	-1544.78	4.82	82.53
1102	SLV FO 9	-204	791	21	-93.14	-0.67	-72.28
1102	SLV FO 10	-298	833	2	-88.84	-0.54	-105.05
1102	SLV FO 11	-98	-784	7567	-1615.19	3.85	-33.98
1102	SLV FO 12	-192	-742	7548	-1610.89	3.98	-66.76
1102	SLV FO 13	-641	246	3109	-704.03	-0.11	-225.08
1102	SLV FO 14	-781	309	3080	-697.64	0.09	-273.77
1102	SLV FO 15	-610	-226	5372	-1160.64	1.25	-213.6
1102	SLV FO 16	-749	-163	5344	-1154.26	1.44	-262.28
1102	CRTFP Ux+	0	0	0	0	0	0
1102	CRTFP Ux-	0	0	0	0	0	0
1102	CRTFP Uy+	0	0	0	0	0	0
1102	CRTFP Uy-	0	0	0	0	0	0
1103	SLU 1	18	13	3282	-724.17	0.25	6.14
1103	SLU 2	17	32	3203	-708.7	0.25	5.71
1103	SLU 3	19	13	3376	-743.61	0.26	6.39
1103	SLU 4	18	24	3329	-734.33	0.26	6.14
1103	SLU 5	17	32	3265	-721.67	0.25	5.98
1103	SLU 6	19	13	3439	-756.58	0.26	6.66
1103	SLU 7	19	24	3391	-747.3	0.26	6.41
1103	SLU 8	19	12	3407	-750.11	0.26	6.68
1103	SLU 9	19	24	3360	-740.83	0.26	6.42
1103	SLU 10	16	35	3612	-796.3	0.35	5.53
1103	SLU 11	18	15	3786	-831.21	0.36	6.21
1103	SLU 12	17	27	3738	-821.93	0.36	5.96
1103	SLU 13	17	34	3675	-809.27	0.36	5.8
1103	SLU 14	19	15	3848	-844.18	0.37	6.48
1103	SLU 15	18	27	3801	-834.9	0.36	6.23
1103	SLU 16	19	15	3817	-837.71	0.36	6.5
1103	SLU 17	18	27	3769	-828.43	0.36	6.24
1103	SLU 18	17	16	3867	-849.31	0.4	5.88
1103	SLU 19	16	28	3820	-840.03	0.4	5.62
1103	SLU 20	18	16	3930	-862.28	0.4	6.15
1103	SLU 21	17	28	3882	-853	0.4	5.89
1103	SLU 22	18	15	3838	-841.59	0.37	6.28
1103	SLU 23	17	34	3759	-826.12	0.36	5.85
1103	SLU 24	19	15	3933	-861.03	0.37	6.54
1103	SLU 25	18	27	3885	-851.75	0.37	6.28
1103	SLU 26	18	34	3822	-839.1	0.37	6.12
1103	SLU 27	20	15	3995	-874	0.38	6.81
1103	SLU 28	19	27	3948	-864.72	0.38	6.55
1103	SLU 29	20	15	3964	-867.53	0.37	6.82
1103	SLU 30	19	26	3916	-858.25	0.37	6.56
1103	SLU 31	17	37	4169	-913.72	0.47	5.67
1103	SLU 32	18	18	4342	-948.63	0.48	6.36
1103	SLU 33	18	29	4295	-939.35	0.47	6.1
1103	SLU 34	17	37	4231	-926.7	0.47	5.94
1103	SLU 35	19	17	4405	-961.6	0.48	6.63
1103	SLU 36	19	29	4357	-952.32	0.48	6.37
1103	SLU 37	19	17	4373	-955.13	0.47	6.64
1103	SLU 38	19	29	4326	-945.85	0.47	6.38
1103	SLU 39	18	19	4424	-966.73	0.51	6.02
1103	SLU 40	17	30	4376	-957.45	0.51	5.77
1103	SLU 41	18	18	4486	-979.7	0.51	6.29
1103	SLU 42	18	30	4439	-970.42	0.51	6.04
1103	SLU 43	23	16	4076	-901.16	0.29	7.93
1103	SLU 44	22	35	3997	-885.69	0.29	7.5
1103	SLU 45	24	16	4170	-920.6	0.3	8.19
1103	SLU 46	23	27	4122	-911.32	0.3	7.93
1103	SLU 47	23	35	4059	-898.67	0.29	7.77
1103	SLU 48	25	16	4233	-933.57	0.3	8.46
1103	SLU 49	24	27	4185	-924.29	0.3	8.2
1103	SLU 50	25	15	4201	-927.1	0.3	8.47
1103	SLU 51	24	27	4154	-917.82	0.3	8.21
1103	SLU 52	21	37	4406	-973.29	0.39	7.32
1103	SLU 53	23	18	4580	-1008.2	0.4	8
1103	SLU 54	23	30	4532	-998.92	0.4	7.75
1103	SLU 55	22	37	4469	-986.26	0.39	7.59
1103	SLU 56	24	18	4642	-1021.17	0.4	8.27
1103	SLU 57	23	30	4595	-1011.89	0.4	8.02
1103	SLU 58	24	18	4611	-1014.7	0.4	8.29
1103	SLU 59	23	30	4563	-1005.42	0.4	8.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1103	SLU 60	22	19	4661	-1026.3	0.44	7.67
1103	SLU 61	22	31	4614	-1017.02	0.44	7.42
1103	SLU 62	23	19	4724	-1039.27	0.44	7.94
1103	SLU 63	22	31	4676	-1029.99	0.44	7.69
1103	SLU 64	23	18	4632	-1018.58	0.4	8.07
1103	SLU 65	22	37	4553	-1003.11	0.4	7.65
1103	SLU 66	24	18	4726	-1038.02	0.41	8.33
1103	SLU 67	23	30	4679	-1028.74	0.41	8.07
1103	SLU 68	23	37	4616	-1016.09	0.4	7.92
1103	SLU 69	25	18	4789	-1050.99	0.41	8.6
1103	SLU 70	24	30	4741	-1041.71	0.41	8.34
1103	SLU 71	25	18	4758	-1044.52	0.41	8.61
1103	SLU 72	24	29	4710	-1035.25	0.41	8.36
1103	SLU 73	22	40	4963	-1090.71	0.5	7.47
1103	SLU 74	24	21	5136	-1125.62	0.51	8.15
1103	SLU 75	23	32	5088	-1116.34	0.51	7.89
1103	SLU 76	23	40	5025	-1103.69	0.51	7.74
1103	SLU 77	24	20	5199	-1138.59	0.52	8.42
1103	SLU 78	24	32	5151	-1129.31	0.51	8.16
1103	SLU 79	24	20	5167	-1132.12	0.51	8.43
1103	SLU 80	24	32	5120	-1122.84	0.51	8.18
1103	SLU 81	23	22	5218	-1143.72	0.55	7.81
1103	SLU 82	22	33	5170	-1134.44	0.55	7.56
1103	SLU 83	23	21	5280	-1156.69	0.55	8.08
1103	SLU 84	23	33	5233	-1147.41	0.55	7.83
1103	SLE RA 1	18	13	3441	-757.71	0.29	6.18
1103	SLE RA 2	17	26	3388	-747.41	0.28	5.89
1103	SLE RA 3	18	13	3504	-770.68	0.29	6.35
1103	SLE RA 4	18	21	3472	-764.49	0.29	6.18
1103	SLE RA 5	18	26	3430	-756.05	0.29	6.07
1103	SLE RA 6	19	13	3545	-779.32	0.29	6.53
1103	SLE RA 7	18	21	3514	-773.14	0.29	6.36
1103	SLE RA 8	19	13	3524	-775.01	0.29	6.54
1103	SLE RA 9	18	21	3493	-768.83	0.29	6.37
1103	SLE RA 10	17	28	3661	-805.8	0.35	5.77
1103	SLE RA 11	18	15	3777	-829.07	0.36	6.23
1103	SLE RA 12	18	23	3745	-822.89	0.36	6.06
1103	SLE RA 13	17	28	3703	-814.45	0.35	5.95
1103	SLE RA 14	19	15	3819	-837.72	0.36	6.41
1103	SLE RA 15	18	23	3787	-831.54	0.36	6.24
1103	SLE RA 16	19	15	3798	-833.41	0.36	6.42
1103	SLE RA 17	18	23	3766	-827.23	0.36	6.25
1103	SLE RA 18	17	16	3831	-841.14	0.38	6.01
1103	SLE RA 19	17	23	3799	-834.96	0.38	5.84
1103	SLE RA 20	18	16	3873	-849.79	0.38	6.19
1103	SLE RA 21	18	23	3841	-843.61	0.38	6.02
1103	SLE FR 1	18	13	3441	-757.71	0.29	6.18
1103	SLE FR 2	18	16	3430	-755.65	0.29	6.12
1103	SLE FR 3	18	13	3458	-761.17	0.29	6.25
1103	SLE FR 4	18	17	3547	-780.68	0.31	6.07
1103	SLE FR 5	18	14	3575	-786.2	0.32	6.2
1103	SLE FR 6	18	15	3636	-799.43	0.33	6.09
1103	SLE QP 1	18	13	3441	-757.71	0.29	6.18
1103	SLE QP 2	18	14	3558	-782.74	0.31	6.13
1103	SLD 1	461	105	2576	-604.8	1.2	161.15
1103	SLD 2	380	143	2556	-599.33	1.35	133.03
1103	SLD 3	479	-141	3771	-837.79	1.25	167.78
1103	SLD 4	398	-103	3750	-832.33	1.4	139.65
1103	SLD 5	137	407	1456	-376.93	0.48	47.42
1103	SLD 6	85	432	1443	-373.41	0.58	29.31
1103	SLD 7	198	-411	5436	-1153.57	0.64	69.51
1103	SLD 8	146	-387	5423	-1150.05	0.74	51.4
1103	SLD 9	-110	415	1693	-415.44	-0.11	-39.14
1103	SLD 10	-162	440	1680	-411.92	-0.01	-57.26
1103	SLD 11	-49	-404	5673	-1192.08	0.05	-17.06
1103	SLD 12	-101	-379	5660	-1188.56	0.15	-35.17
1103	SLD 13	-363	131	3366	-733.16	-0.77	-127.4
1103	SLD 14	-443	169	3346	-727.69	-0.62	-155.53
1103	SLD 15	-344	-115	4560	-966.15	-0.73	-120.77
1103	SLD 16	-425	-77	4540	-960.69	-0.57	-148.9
1103	SLV 1	710	173	1939	-488.18	1.7	248.46
1103	SLV 2	583	233	1907	-479.56	1.94	204.12
1103	SLV 3	741	-246	3977	-885.7	1.77	259.74
1103	SLV 4	614	-186	3945	-877.09	2.02	215.4
1103	SLV 5	202	686	-12	-93.06	0.57	69.99
1103	SLV 6	116	726	-34	-87.27	0.73	40.15
1103	SLV 7	306	-710	6780	-1418.15	0.83	107.59
1103	SLV 8	221	-670	6759	-1412.36	0.99	77.74
1103	SLV 9	-185	698	357	-153.13	-0.36	-65.49
1103	SLV 10	-270	739	336	-147.33	-0.2	-95.33
1103	SLV 11	-81	-698	7150	-1478.22	-0.1	-27.9
1103	SLV 12	-166	-658	7128	-1472.42	0.06	-57.74
1103	SLV 13	-579	214	3171	-688.4	-1.39	-203.15
1103	SLV 14	-706	274	3139	-679.78	-1.14	-247.49
1103	SLV 15	-547	-205	5209	-1085.92	-1.31	-191.87
1103	SLV 16	-674	-145	5177	-1077.31	-1.07	-236.21
1103	SLV FO 1	779	189	1777	-458.72	1.83	272.69
1103	SLV FO 2	640	255	1742	-449.24	2.1	223.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1103	SLV FO 3	814	-272	4019	-896	1.92	285.1
1103	SLV FO 4	674	-206	3984	-886.52	2.19	236.33
1103	SLV FO 5	220	753	-369	-24.1	0.59	76.38
1103	SLV FO 6	126	798	-393	-17.72	0.77	43.55
1103	SLV FO 7	335	-783	7103	-1481.69	0.88	117.73
1103	SLV FO 8	241	-739	7079	-1475.32	1.06	84.9
1103	SLV FO 9	-205	767	37	-90.17	-0.43	-72.65
1103	SLV FO 10	-299	811	13	-83.79	-0.25	-105.48
1103	SLV FO 11	-90	-769	7509	-1547.77	-0.14	-31.3
1103	SLV FO 12	-184	-725	7485	-1541.39	0.04	-64.13
1103	SLV FO 13	-638	234	3132	-678.96	-1.56	-224.08
1103	SLV FO 14	-778	300	3097	-669.49	-1.29	-272.85
1103	SLV FO 15	-604	-227	5374	-1116.24	-1.47	-211.67
1103	SLV FO 16	-744	-161	5339	-1106.77	-1.2	-260.44
1103	CRTFP Ux+	0	0	0	0	0	0
1103	CRTFP Ux-	0	0	0	0	0	0
1103	CRTFP Uy+	0	0	0	0	0	0
1103	CRTFP Uy-	0	0	0	0	0	0
1104	SLU 1	20	10	3304	-732.98	-1.77	7.1
1104	SLU 2	19	29	3224	-717.07	-1.72	6.64
1104	SLU 3	21	10	3399	-752.8	-1.83	7.39
1104	SLU 4	21	22	3351	-743.26	-1.79	7.11
1104	SLU 5	20	29	3287	-730.36	-1.76	6.93
1104	SLU 6	22	10	3462	-766.09	-1.87	7.68
1104	SLU 7	21	22	3414	-756.55	-1.84	7.4
1104	SLU 8	22	10	3431	-759.56	-1.86	7.68
1104	SLU 9	21	21	3383	-750.01	-1.82	7.41
1104	SLU 10	19	32	3635	-805.44	-1.9	6.55
1104	SLU 11	21	13	3810	-841.18	-2.01	7.3
1104	SLU 12	20	24	3762	-831.63	-1.98	7.02
1104	SLU 13	20	32	3698	-818.73	-1.94	6.84
1104	SLU 14	22	13	3873	-854.47	-2.06	7.59
1104	SLU 15	21	24	3825	-844.92	-2.02	7.32
1104	SLU 16	22	12	3842	-847.93	-2.04	7.6
1104	SLU 17	21	24	3793	-838.38	-2.01	7.32
1104	SLU 18	20	14	3891	-859.22	-2.04	6.98
1104	SLU 19	19	25	3843	-849.68	-2	6.7
1104	SLU 20	21	14	3954	-872.51	-2.08	7.27
1104	SLU 21	20	25	3906	-862.97	-2.05	6.99
1104	SLU 22	21	12	3863	-851.75	-2.05	7.39
1104	SLU 23	20	31	3783	-835.85	-1.99	6.93
1104	SLU 24	22	12	3958	-871.58	-2.1	7.68
1104	SLU 25	21	24	3910	-862.04	-2.07	7.4
1104	SLU 26	21	31	3846	-849.14	-2.03	7.22
1104	SLU 27	23	12	4021	-884.87	-2.15	7.97
1104	SLU 28	22	24	3973	-875.33	-2.11	7.69
1104	SLU 29	23	12	3989	-878.34	-2.13	7.97
1104	SLU 30	22	23	3941	-868.79	-2.1	7.7
1104	SLU 31	20	34	4194	-924.22	-2.18	6.84
1104	SLU 32	22	15	4369	-959.95	-2.29	7.59
1104	SLU 33	21	26	4321	-950.41	-2.26	7.31
1104	SLU 34	21	33	4257	-937.51	-2.22	7.13
1104	SLU 35	23	15	4432	-973.24	-2.33	7.88
1104	SLU 36	22	26	4384	-963.7	-2.3	7.6
1104	SLU 37	23	14	4400	-966.71	-2.32	7.88
1104	SLU 38	22	26	4352	-957.16	-2.28	7.61
1104	SLU 39	21	16	4450	-978	-2.31	7.26
1104	SLU 40	20	27	4402	-968.46	-2.28	6.99
1104	SLU 41	22	16	4513	-991.29	-2.35	7.55
1104	SLU 42	21	27	4465	-981.75	-2.32	7.28
1104	SLU 43	26	13	4104	-912.15	-2.21	9.13
1104	SLU 44	25	32	4024	-896.24	-2.15	8.67
1104	SLU 45	27	13	4199	-931.97	-2.27	9.42
1104	SLU 46	26	24	4151	-922.43	-2.23	9.14
1104	SLU 47	26	32	4087	-909.53	-2.2	8.96
1104	SLU 48	28	13	4262	-945.26	-2.31	9.71
1104	SLU 49	27	24	4214	-935.72	-2.27	9.44
1104	SLU 50	28	13	4230	-938.73	-2.29	9.72
1104	SLU 51	27	24	4182	-929.18	-2.26	9.44
1104	SLU 52	25	34	4435	-984.61	-2.34	8.58
1104	SLU 53	27	15	4610	-1020.35	-2.45	9.33
1104	SLU 54	26	26	4562	-1010.8	-2.42	9.06
1104	SLU 55	26	34	4498	-997.9	-2.38	8.88
1104	SLU 56	28	15	4673	-1033.64	-2.49	9.62
1104	SLU 57	27	26	4625	-1024.09	-2.46	9.35
1104	SLU 58	28	15	4641	-1027.1	-2.48	9.63
1104	SLU 59	27	26	4593	-1017.55	-2.44	9.35
1104	SLU 60	26	16	4691	-1038.39	-2.48	9.01
1104	SLU 61	25	27	4643	-1028.85	-2.44	8.73
1104	SLU 62	27	16	4754	-1051.68	-2.52	9.3
1104	SLU 63	26	27	4706	-1042.14	-2.48	9.02
1104	SLU 64	27	15	4663	-1030.92	-2.49	9.42
1104	SLU 65	26	34	4583	-1015.02	-2.43	8.96
1104	SLU 66	28	15	4758	-1050.75	-2.54	9.71
1104	SLU 67	27	26	4710	-1041.21	-2.51	9.43
1104	SLU 68	27	34	4646	-1028.31	-2.47	9.25
1104	SLU 69	29	15	4821	-1064.04	-2.58	10
1104	SLU 70	28	26	4773	-1054.5	-2.55	9.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1104	SLU 71	29	15	4789	-1057.51	-2.57	10
1104	SLU 72	28	26	4741	-1047.96	-2.53	9.73
1104	SLU 73	26	36	4994	-1103.39	-2.62	8.87
1104	SLU 74	28	17	5168	-1139.12	-2.73	9.62
1104	SLU 75	27	28	5120	-1129.58	-2.69	9.34
1104	SLU 76	26	36	5057	-1116.68	-2.66	9.16
1104	SLU 77	29	17	5232	-1152.41	-2.77	9.91
1104	SLU 78	28	28	5184	-1142.87	-2.73	9.63
1104	SLU 79	29	17	5200	-1145.88	-2.75	9.92
1104	SLU 80	28	28	5152	-1136.33	-2.72	9.64
1104	SLU 81	27	18	5250	-1157.17	-2.75	9.29
1104	SLU 82	26	29	5202	-1147.63	-2.72	9.02
1104	SLU 83	28	18	5313	-1170.46	-2.79	9.59
1104	SLU 84	27	29	5265	-1160.92	-2.76	9.31
1104	SLE RA 1	21	11	3464	-766.91	-1.85	7.18
1104	SLE RA 2	20	24	3411	-756.31	-1.81	6.88
1104	SLE RA 3	21	11	3527	-780.13	-1.89	7.37
1104	SLE RA 4	21	18	3495	-773.77	-1.87	7.19
1104	SLE RA 5	20	23	3453	-765.17	-1.84	7.07
1104	SLE RA 6	22	11	3569	-788.99	-1.92	7.57
1104	SLE RA 7	21	18	3537	-782.63	-1.89	7.39
1104	SLE RA 8	22	11	3548	-784.63	-1.91	7.57
1104	SLE RA 9	21	18	3516	-778.27	-1.88	7.39
1104	SLE RA 10	20	25	3684	-815.22	-1.94	6.82
1104	SLE RA 11	21	12	3801	-839.05	-2.01	7.32
1104	SLE RA 12	21	20	3769	-832.68	-1.99	7.13
1104	SLE RA 13	20	25	3727	-824.08	-1.97	7.01
1104	SLE RA 14	22	12	3843	-847.91	-2.04	7.51
1104	SLE RA 15	21	20	3811	-841.54	-2.02	7.33
1104	SLE RA 16	22	12	3822	-843.55	-2.03	7.51
1104	SLE RA 17	21	20	3790	-837.19	-2.01	7.33
1104	SLE RA 18	20	13	3855	-851.08	-2.03	7.1
1104	SLE RA 19	20	21	3823	-844.71	-2.01	6.92
1104	SLE RA 20	21	13	3897	-859.94	-2.06	7.29
1104	SLE RA 21	21	21	3865	-853.57	-2.03	7.11
1104	SLE FR 1	21	11	3464	-766.91	-1.85	7.18
1104	SLE FR 2	21	13	3453	-764.79	-1.84	7.12
1104	SLE FR 3	21	11	3481	-770.46	-1.86	7.26
1104	SLE FR 4	20	14	3571	-790.04	-1.9	7.1
1104	SLE FR 5	21	12	3598	-795.71	-1.92	7.24
1104	SLE FR 6	21	12	3660	-809	-1.94	7.14
1104	SLE QP 1	21	11	3464	-766.91	-1.85	7.18
1104	SLE QP 2	21	12	3581	-792.16	-1.9	7.16
1104	SLD 1	462	126	2564	-607.91	-0.39	161.61
1104	SLD 2	381	166	2538	-599.79	-0.18	133.45
1104	SLD 3	482	-114	3770	-847.41	-1.21	168.72
1104	SLD 4	401	-75	3744	-839.29	-1.01	140.56
1104	SLD 5	137	404	1452	-375.04	-0.23	47.56
1104	SLD 6	85	429	1435	-369.81	-0.1	29.42
1104	SLD 7	203	-398	5471	-1173.38	-2.99	71.25
1104	SLD 8	151	-372	5455	-1168.15	-2.86	53.12
1104	SLD 9	-110	395	1708	-416.17	-0.95	-38.8
1104	SLD 10	-162	421	1692	-410.95	-0.82	-56.93
1104	SLD 11	-43	-406	5728	-1214.52	-3.71	-15.11
1104	SLD 12	-95	-381	5711	-1209.29	-3.58	-33.24
1104	SLD 13	-360	98	3419	-745.03	-2.8	-126.24
1104	SLD 14	-440	137	3393	-736.92	-2.6	-154.41
1104	SLD 15	-340	-143	4625	-984.54	-3.62	-119.14
1104	SLD 16	-420	-103	4599	-976.42	-3.42	-147.3
1104	SLV 1	710	208	1905	-487.28	0.52	248.56
1104	SLV 2	583	270	1865	-474.48	0.84	204.18
1104	SLV 3	744	-202	3963	-895.9	-0.89	260.67
1104	SLV 4	617	-140	3923	-883.11	-0.57	216.28
1104	SLV 5	200	681	-35	-83.34	0.91	69.5
1104	SLV 6	114	723	-62	-74.72	1.12	39.62
1104	SLV 7	313	-686	6825	-1445.42	-3.8	109.85
1104	SLV 8	227	-644	6797	-1436.81	-3.59	79.97
1104	SLV 9	-186	667	365	-147.52	-0.22	-65.65
1104	SLV 10	-271	709	338	-138.9	-0.01	-95.54
1104	SLV 11	-73	-700	7225	-1509.6	-4.93	-25.31
1104	SLV 12	-159	-658	7198	-1500.99	-4.72	-55.19
1104	SLV 13	-576	163	3240	-701.22	-3.24	-201.96
1104	SLV 14	-703	226	3199	-688.42	-2.92	-246.35
1104	SLV 15	-542	-247	5298	-1109.84	-4.65	-189.86
1104	SLV 16	-669	-185	5257	-1097.05	-4.33	-234.25
1104	SLV FO 1	779	227	1738	-456.79	0.77	272.7
1104	SLV FO 2	639	296	1693	-442.71	1.12	223.88
1104	SLV FO 3	816	-224	4002	-906.28	-0.79	286.02
1104	SLV FO 4	676	-155	3957	-892.2	-0.44	237.19
1104	SLV FO 5	218	748	-397	-12.45	1.19	75.74
1104	SLV FO 6	124	794	-427	-2.98	1.42	42.87
1104	SLV FO 7	342	-756	7149	-1510.75	-3.99	120.12
1104	SLV FO 8	248	-710	7119	-1501.27	-3.75	87.25
1104	SLV FO 9	-207	733	44	-83.05	-0.05	-72.94
1104	SLV FO 10	-301	779	14	-73.58	0.18	-105.8
1104	SLV FO 11	-82	-771	7589	-1581.35	-5.23	-28.55
1104	SLV FO 12	-176	-724	7559	-1571.87	-5	-61.42
1104	SLV FO 13	-635	178	3206	-692.12	-3.37	-222.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1104	SLV FO 14	-775	247	3161	-678.05	-3.02	-271.7
1104	SLV FO 15	-598	-273	5470	-1141.61	-4.93	-209.56
1104	SLV FO 16	-738	-204	5425	-1127.54	-4.58	-258.39
1104	CRTFP Ux+	0	0	0	0	0	0
1104	CRTFP Ux-	0	0	0	0	0	0
1104	CRTFP Uy+	0	0	0	0	0	0
1104	CRTFP Uy-	0	0	0	0	0	0
1105	SLU 1	23	9	3392	-789.8	-4.02	8.09
1105	SLU 2	22	28	3309	-772.16	-3.9	7.59
1105	SLU 3	24	9	3489	-811.52	-4.15	8.41
1105	SLU 4	23	21	3440	-800.93	-4.08	8.11
1105	SLU 5	23	28	3374	-786.79	-3.99	7.91
1105	SLU 6	25	9	3554	-826.14	-4.24	8.72
1105	SLU 7	24	20	3505	-815.55	-4.17	8.42
1105	SLU 8	25	9	3522	-819.06	-4.2	8.72
1105	SLU 9	24	20	3472	-808.47	-4.13	8.42
1105	SLU 10	22	30	3730	-867.96	-4.4	7.6
1105	SLU 11	24	12	3910	-907.31	-4.65	8.42
1105	SLU 12	23	23	3861	-896.73	-4.58	8.12
1105	SLU 13	23	30	3795	-882.59	-4.49	7.92
1105	SLU 14	25	12	3976	-921.94	-4.74	8.73
1105	SLU 15	24	23	3926	-911.35	-4.67	8.43
1105	SLU 16	25	11	3943	-914.86	-4.71	8.73
1105	SLU 17	24	23	3894	-904.27	-4.63	8.43
1105	SLU 18	23	13	3993	-926.66	-4.74	8.1
1105	SLU 19	22	24	3944	-916.07	-4.67	7.81
1105	SLU 20	24	13	4059	-941.29	-4.83	8.42
1105	SLU 21	23	24	4009	-930.7	-4.76	8.12
1105	SLU 22	24	11	3965	-918.94	-4.73	8.53
1105	SLU 23	23	30	3882	-901.29	-4.61	8.03
1105	SLU 24	25	11	4063	-940.65	-4.85	8.85
1105	SLU 25	24	22	4013	-930.06	-4.78	8.55
1105	SLU 26	24	30	3948	-915.92	-4.7	8.35
1105	SLU 27	26	11	4128	-955.28	-4.94	9.16
1105	SLU 28	25	22	4078	-944.69	-4.87	8.86
1105	SLU 29	26	11	4096	-948.19	-4.91	9.16
1105	SLU 30	25	22	4046	-937.61	-4.83	8.86
1105	SLU 31	23	32	4304	-997.09	-5.11	8.04
1105	SLU 32	25	13	4484	-1036.45	-5.36	8.86
1105	SLU 33	25	24	4434	-1025.86	-5.29	8.56
1105	SLU 34	24	32	4369	-1011.72	-5.2	8.36
1105	SLU 35	26	13	4549	-1051.08	-5.45	9.17
1105	SLU 36	25	24	4499	-1040.49	-5.38	8.87
1105	SLU 37	26	13	4517	-1043.99	-5.41	9.17
1105	SLU 38	25	24	4467	-1033.4	-5.34	8.87
1105	SLU 39	24	14	4567	-1055.79	-5.45	8.55
1105	SLU 40	24	25	4517	-1045.21	-5.37	8.25
1105	SLU 41	25	14	4632	-1070.42	-5.54	8.86
1105	SLU 42	25	25	4582	-1059.83	-5.46	8.56
1105	SLU 43	30	12	4213	-982.47	-4.99	10.36
1105	SLU 44	28	30	4130	-964.83	-4.87	9.87
1105	SLU 45	31	12	4310	-1004.18	-5.11	10.68
1105	SLU 46	30	23	4260	-993.6	-5.04	10.38
1105	SLU 47	29	30	4195	-979.45	-4.96	10.18
1105	SLU 48	31	12	4375	-1018.81	-5.2	11
1105	SLU 49	31	23	4326	-1008.22	-5.13	10.7
1105	SLU 50	31	11	4343	-1011.72	-5.17	10.99
1105	SLU 51	31	23	4293	-1001.14	-5.09	10.69
1105	SLU 52	28	32	4551	-1060.63	-5.37	9.88
1105	SLU 53	31	14	4731	-1099.98	-5.62	10.69
1105	SLU 54	30	25	4682	-1089.39	-5.54	10.4
1105	SLU 55	29	32	4616	-1075.25	-5.46	10.19
1105	SLU 56	31	14	4797	-1114.61	-5.71	11.01
1105	SLU 57	31	25	4747	-1104.02	-5.64	10.71
1105	SLU 58	31	14	4764	-1107.52	-5.67	11
1105	SLU 59	31	25	4714	-1096.94	-5.6	10.7
1105	SLU 60	30	15	4814	-1119.33	-5.71	10.38
1105	SLU 61	29	26	4765	-1108.74	-5.63	10.08
1105	SLU 62	31	15	4879	-1133.95	-5.8	10.69
1105	SLU 63	30	26	4830	-1123.37	-5.72	10.4
1105	SLU 64	31	13	4786	-1111.61	-5.69	10.8
1105	SLU 65	30	32	4703	-1093.96	-5.57	10.31
1105	SLU 66	32	13	4884	-1133.32	-5.82	11.12
1105	SLU 67	31	24	4834	-1122.73	-5.75	10.83
1105	SLU 68	30	32	4768	-1108.59	-5.66	10.62
1105	SLU 69	33	13	4949	-1147.94	-5.91	11.44
1105	SLU 70	32	24	4899	-1137.36	-5.84	11.14
1105	SLU 71	33	13	4916	-1140.86	-5.87	11.43
1105	SLU 72	32	24	4867	-1130.27	-5.8	11.13
1105	SLU 73	30	34	5125	-1189.76	-6.07	10.32
1105	SLU 74	32	16	5305	-1229.12	-6.32	11.13
1105	SLU 75	31	27	5255	-1218.53	-6.25	10.84
1105	SLU 76	30	34	5190	-1204.39	-6.16	10.63
1105	SLU 77	33	15	5370	-1243.74	-6.41	11.45
1105	SLU 78	32	27	5320	-1233.16	-6.34	11.15
1105	SLU 79	33	15	5338	-1236.66	-6.37	11.44
1105	SLU 80	32	27	5288	-1226.07	-6.3	11.15
1105	SLU 81	31	16	5388	-1248.46	-6.41	10.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1105	SLU 82	30	28	5338	-1237.87	-6.34	10.52
1105	SLU 83	32	16	5453	-1263.09	-6.5	11.13
1105	SLU 84	31	28	5403	-1252.5	-6.43	10.84
1105	SLE RA 1	23	10	3556	-826.7	-4.22	8.21
1105	SLE RA 2	23	22	3500	-814.94	-4.14	7.88
1105	SLE RA 3	24	10	3621	-841.17	-4.31	8.43
1105	SLE RA 4	24	17	3587	-834.12	-4.26	8.23
1105	SLE RA 5	23	22	3544	-824.69	-4.2	8.09
1105	SLE RA 6	25	10	3664	-850.92	-4.37	8.64
1105	SLE RA 7	24	17	3631	-843.87	-4.32	8.44
1105	SLE RA 8	25	10	3642	-846.2	-4.34	8.63
1105	SLE RA 9	24	17	3609	-839.14	-4.29	8.43
1105	SLE RA 10	23	24	3781	-878.8	-4.48	7.89
1105	SLE RA 11	24	11	3901	-905.04	-4.64	8.43
1105	SLE RA 12	24	19	3868	-897.98	-4.6	8.24
1105	SLE RA 13	23	24	3825	-888.55	-4.54	8.1
1105	SLE RA 14	25	11	3945	-914.79	-4.7	8.64
1105	SLE RA 15	24	19	3912	-907.73	-4.66	8.44
1105	SLE RA 16	25	11	3923	-910.07	-4.68	8.64
1105	SLE RA 17	24	19	3890	-903.01	-4.63	8.44
1105	SLE RA 18	24	12	3957	-917.94	-4.7	8.23
1105	SLE RA 19	23	19	3924	-910.88	-4.65	8.03
1105	SLE RA 20	24	12	4000	-927.69	-4.76	8.43
1105	SLE RA 21	24	19	3967	-920.63	-4.71	8.24
1105	SLE FR 1	23	10	3556	-826.7	-4.22	8.21
1105	SLE FR 2	23	12	3545	-824.35	-4.21	8.15
1105	SLE FR 3	24	10	3573	-830.6	-4.25	8.3
1105	SLE FR 4	23	13	3665	-851.72	-4.35	8.15
1105	SLE FR 5	24	10	3693	-857.97	-4.39	8.3
1105	SLE FR 6	24	11	3756	-872.32	-4.46	8.22
1105	SLE QP 1	23	10	3556	-826.7	-4.22	8.21
1105	SLE QP 2	23	10	3676	-854.07	-4.37	8.22
1105	SLD 1	463	125	2602	-649.54	-2.15	162
1105	SLD 2	382	166	2569	-637.72	-1.9	133.82
1105	SLD 3	484	-111	3847	-914.74	-3.93	169.59
1105	SLD 4	403	-70	3814	-902.93	-3.67	141.41
1105	SLD 5	137	396	1471	-392.52	-1.06	47.68
1105	SLD 6	85	423	1450	-384.91	-0.9	29.53
1105	SLD 7	208	-392	5621	-1276.53	-6.97	72.99
1105	SLD 8	156	-365	5600	-1268.92	-6.8	54.85
1105	SLD 9	-109	386	1752	-439.22	-1.93	-38.42
1105	SLD 10	-161	413	1731	-431.61	-1.77	-56.56
1105	SLD 11	-38	-402	5902	-1323.23	-7.84	-13.1
1105	SLD 12	-90	-375	5881	-1315.62	-7.67	-31.24
1105	SLD 13	-356	91	3537	-805.21	-5.06	-124.98
1105	SLD 14	-437	132	3505	-793.4	-4.81	-153.16
1105	SLD 15	-335	-145	4782	-1070.42	-6.83	-117.38
1105	SLD 16	-416	-104	4750	-1058.6	-6.58	-145.56
1105	SLV 1	710	206	1909	-515.68	-0.79	248.53
1105	SLV 2	583	271	1858	-497.06	-0.39	204.11
1105	SLV 3	746	-197	4034	-968.15	-3.81	261.47
1105	SLV 4	619	-132	3983	-949.52	-3.41	217.05
1105	SLV 5	198	669	-67	-69.79	1.22	68.98
1105	SLV 6	112	712	-102	-57.25	1.49	39.08
1105	SLV 7	319	-675	7016	-1578.01	-8.86	112.1
1105	SLV 8	234	-632	6981	-1565.47	-8.59	82.2
1105	SLV 9	-187	652	371	-142.67	-0.14	-65.77
1105	SLV 10	-272	696	336	-130.13	0.13	-95.67
1105	SLV 11	-65	-692	7453	-1650.89	-10.22	-22.64
1105	SLV 12	-151	-648	7419	-1638.36	-9.95	-52.54
1105	SLV 13	-572	153	3369	-758.62	-5.32	-200.62
1105	SLV 14	-699	218	3318	-739.99	-4.92	-245.03
1105	SLV 15	-536	-250	5494	-1211.09	-8.35	-187.68
1105	SLV 16	-663	-185	5442	-1192.46	-7.95	-232.1
1105	SLV FO 1	778	226	1733	-481.84	-0.43	272.56
1105	SLV FO 2	638	298	1676	-461.35	0.01	223.7
1105	SLV FO 3	818	-218	4070	-979.56	-3.76	286.79
1105	SLV FO 4	679	-146	4014	-959.07	-3.31	237.93
1105	SLV FO 5	215	734	-441	8.64	1.78	75.05
1105	SLV FO 6	121	783	-479	22.43	2.07	42.16
1105	SLV FO 7	349	-744	7350	-1650.41	-9.31	122.49
1105	SLV FO 8	255	-696	7311	-1636.62	-9.01	89.6
1105	SLV FO 9	-208	717	40	-71.53	0.28	-73.17
1105	SLV FO 10	-302	765	2	-57.73	0.58	-106.06
1105	SLV FO 11	-74	-762	7831	-1730.58	-10.81	-25.73
1105	SLV FO 12	-168	-713	7793	-1716.78	-10.51	-58.62
1105	SLV FO 13	-632	167	3338	-749.07	-5.42	-221.5
1105	SLV FO 14	-771	239	3282	-728.58	-4.98	-270.36
1105	SLV FO 15	-592	-277	5676	-1246.79	-8.75	-207.27
1105	SLV FO 16	-731	-205	5619	-1226.3	-8.3	-256.13
1105	CRTFP Ux+	0	0	0	0	0	0
1105	CRTFP Ux-	0	0	0	0	0	0
1105	CRTFP Uy+	0	0	0	0	0	0
1105	CRTFP Uy-	0	0	0	0	0	0
1106	SLU 1	26	10	3548	-897.58	-6.28	9.1
1106	SLU 2	24	29	3460	-876.84	-6.1	8.56
1106	SLU 3	27	10	3650	-922.77	-6.48	9.45
1106	SLU 4	26	21	3598	-910.32	-6.37	9.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLU 5	25	29	3529	-893.89	-6.24	8.9
1106	SLU 6	28	10	3719	-939.81	-6.62	9.78
1106	SLU 7	27	21	3666	-927.37	-6.51	9.46
1106	SLU 8	28	10	3685	-931.67	-6.56	9.77
1106	SLU 9	27	21	3632	-919.23	-6.45	9.45
1106	SLU 10	25	31	3902	-987.1	-6.92	8.68
1106	SLU 11	27	13	4091	-1033.03	-7.3	9.56
1106	SLU 12	26	24	4039	-1020.58	-7.19	9.24
1106	SLU 13	26	31	3970	-1004.14	-7.06	9.02
1106	SLU 14	28	13	4160	-1050.07	-7.44	9.9
1106	SLU 15	27	24	4108	-1037.62	-7.33	9.58
1106	SLU 16	28	13	4126	-1041.93	-7.38	9.88
1106	SLU 17	27	24	4074	-1029.48	-7.27	9.57
1106	SLU 18	26	14	4178	-1055.09	-7.46	9.26
1106	SLU 19	25	25	4126	-1042.65	-7.35	8.94
1106	SLU 20	27	14	4247	-1072.14	-7.6	9.6
1106	SLU 21	26	25	4194	-1059.69	-7.49	9.28
1106	SLU 22	28	12	4149	-1046.59	-7.42	9.7
1106	SLU 23	26	30	4062	-1025.85	-7.23	9.17
1106	SLU 24	28	12	4252	-1071.78	-7.62	10.05
1106	SLU 25	28	23	4199	-1059.34	-7.51	9.73
1106	SLU 26	27	30	4130	-1042.9	-7.37	9.5
1106	SLU 27	29	12	4320	-1088.82	-7.76	10.38
1106	SLU 28	29	23	4268	-1076.38	-7.65	10.07
1106	SLU 29	29	12	4286	-1080.68	-7.7	10.37
1106	SLU 30	29	23	4234	-1068.24	-7.59	10.05
1106	SLU 31	26	33	4503	-1136.11	-8.06	9.28
1106	SLU 32	29	14	4693	-1182.04	-8.44	10.17
1106	SLU 33	28	25	4640	-1169.59	-8.33	9.85
1106	SLU 34	27	33	4572	-1153.15	-8.2	9.62
1106	SLU 35	30	14	4761	-1199.08	-8.58	10.5
1106	SLU 36	29	25	4709	-1186.64	-8.47	10.18
1106	SLU 37	30	14	4728	-1190.94	-8.52	10.49
1106	SLU 38	29	25	4675	-1178.49	-8.41	10.17
1106	SLU 39	28	15	4779	-1204.1	-8.59	9.87
1106	SLU 40	27	26	4727	-1191.66	-8.48	9.55
1106	SLU 41	29	15	4848	-1221.15	-8.73	10.2
1106	SLU 42	28	26	4796	-1208.7	-8.62	9.88
1106	SLU 43	33	13	4406	-1115.77	-7.78	11.62
1106	SLU 44	31	31	4318	-1095.03	-7.59	11.09
1106	SLU 45	34	13	4508	-1140.95	-7.98	11.97
1106	SLU 46	33	24	4456	-1128.51	-7.86	11.65
1106	SLU 47	32	31	4387	-1112.07	-7.73	11.42
1106	SLU 48	35	13	4577	-1158	-8.11	12.3
1106	SLU 49	34	24	4524	-1145.55	-8	11.99
1106	SLU 50	35	13	4543	-1149.85	-8.05	12.29
1106	SLU 51	34	24	4491	-1137.41	-7.94	11.97
1106	SLU 52	32	34	4760	-1205.29	-8.41	11.2
1106	SLU 53	34	15	4950	-1251.21	-8.8	12.09
1106	SLU 54	33	26	4897	-1238.77	-8.69	11.77
1106	SLU 55	33	34	4828	-1222.33	-8.55	11.54
1106	SLU 56	35	15	5018	-1268.25	-8.94	12.42
1106	SLU 57	34	26	4966	-1255.81	-8.83	12.1
1106	SLU 58	35	15	4984	-1260.11	-8.88	12.41
1106	SLU 59	34	26	4932	-1247.67	-8.77	12.09
1106	SLU 60	33	16	5036	-1273.28	-8.95	11.79
1106	SLU 61	32	27	4984	-1260.83	-8.84	11.47
1106	SLU 62	34	16	5105	-1290.32	-9.09	12.12
1106	SLU 63	33	27	5052	-1277.88	-8.98	11.8
1106	SLU 64	35	14	5007	-1264.78	-8.91	12.22
1106	SLU 65	33	33	4920	-1244.04	-8.73	11.69
1106	SLU 66	36	14	5110	-1289.96	-9.11	12.57
1106	SLU 67	35	26	5057	-1277.52	-9	12.25
1106	SLU 68	34	33	4988	-1261.08	-8.87	12.02
1106	SLU 69	37	14	5178	-1307.01	-9.25	12.91
1106	SLU 70	36	26	5126	-1294.56	-9.14	12.59
1106	SLU 71	37	14	5144	-1298.86	-9.19	12.89
1106	SLU 72	36	25	5092	-1286.42	-9.08	12.57
1106	SLU 73	33	35	5361	-1354.3	-9.55	11.81
1106	SLU 74	36	17	5551	-1400.22	-9.93	12.69
1106	SLU 75	35	28	5498	-1387.78	-9.82	12.37
1106	SLU 76	34	35	5430	-1371.34	-9.69	12.14
1106	SLU 77	37	17	5620	-1417.26	-10.07	13.02
1106	SLU 78	36	28	5567	-1404.82	-9.96	12.71
1106	SLU 79	37	17	5586	-1409.12	-10.01	13.01
1106	SLU 80	36	28	5533	-1396.68	-9.9	12.69
1106	SLU 81	35	18	5638	-1422.29	-10.09	12.39
1106	SLU 82	34	29	5585	-1409.84	-9.98	12.07
1106	SLU 83	36	18	5706	-1439.33	-10.23	12.72
1106	SLU 84	35	29	5654	-1426.89	-10.12	12.4
1106	SLE RA 1	26	11	3719	-940.16	-6.61	9.27
1106	SLE RA 2	25	23	3661	-926.33	-6.48	8.91
1106	SLE RA 3	27	11	3788	-956.95	-6.74	9.5
1106	SLE RA 4	26	18	3753	-948.65	-6.67	9.29
1106	SLE RA 5	26	23	3707	-937.69	-6.58	9.14
1106	SLE RA 6	28	11	3834	-968.31	-6.83	9.73
1106	SLE RA 7	27	18	3799	-960.01	-6.76	9.51
1106	SLE RA 8	28	11	3811	-962.88	-6.79	9.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLE RA 9	27	18	3776	-954.59	-6.72	9.5
1106	SLE RA 10	25	25	3955	-999.83	-7.03	8.99
1106	SLE RA 11	27	12	4082	-1030.45	-7.29	9.58
1106	SLE RA 12	27	20	4047	-1022.16	-7.21	9.37
1106	SLE RA 13	26	25	4001	-1011.2	-7.12	9.22
1106	SLE RA 14	28	12	4128	-1041.81	-7.38	9.8
1106	SLE RA 15	27	20	4093	-1033.52	-7.31	9.59
1106	SLE RA 16	28	12	4105	-1036.39	-7.34	9.79
1106	SLE RA 17	27	20	4070	-1028.09	-7.27	9.58
1106	SLE RA 18	27	13	4140	-1045.16	-7.39	9.38
1106	SLE RA 19	26	20	4105	-1036.87	-7.32	9.17
1106	SLE RA 20	27	13	4186	-1056.53	-7.48	9.6
1106	SLE RA 21	27	20	4151	-1048.23	-7.41	9.39
1106	SLE FR 1	26	11	3719	-940.16	-6.61	9.27
1106	SLE FR 2	26	13	3708	-937.39	-6.58	9.2
1106	SLE FR 3	27	11	3738	-944.7	-6.64	9.36
1106	SLE FR 4	26	14	3834	-968.89	-6.82	9.23
1106	SLE FR 5	27	11	3864	-976.2	-6.88	9.39
1106	SLE FR 6	26	12	3930	-992.66	-7	9.32
1106	SLE QP 1	26	11	3719	-940.16	-6.61	9.27
1106	SLE QP 2	26	11	3846	-971.66	-6.84	9.3
1106	SLD 1	463	127	2694	-732.11	-3.93	162.3
1106	SLD 2	383	170	2653	-715.46	-3.62	134.12
1106	SLD 3	486	-107	4007	-1043.23	-6.65	170.4
1106	SLD 4	406	-63	3966	-1026.58	-6.34	142.21
1106	SLD 5	137	393	1516	-430.78	-1.89	47.77
1106	SLD 6	85	421	1489	-420.06	-1.69	29.62
1106	SLD 7	213	-386	5893	-1467.87	-10.96	74.76
1106	SLD 8	161	-358	5866	-1457.15	-10.76	56.61
1106	SLD 9	-108	380	1825	-486.17	-2.92	-38.01
1106	SLD 10	-160	408	1798	-475.45	-2.72	-56.15
1106	SLD 11	-32	-398	6202	-1523.26	-11.99	-11.02
1106	SLD 12	-84	-370	6175	-1512.54	-11.79	-29.16
1106	SLD 13	-353	86	3725	-916.73	-7.34	-123.61
1106	SLD 14	-434	129	3684	-900.08	-7.03	-151.79
1106	SLD 15	-330	-147	5038	-1227.86	-10.06	-115.51
1106	SLD 16	-411	-104	4997	-1211.21	-9.75	-143.7
1106	SLV 1	709	208	1953	-575.28	-2.1	248.36
1106	SLV 2	582	277	1889	-549.03	-1.61	203.94
1106	SLV 3	748	-190	4194	-1106.1	-6.74	262.16
1106	SLV 4	621	-121	4129	-1079.85	-6.25	217.73
1106	SLV 5	196	662	-109	-52.56	1.53	68.38
1106	SLV 6	110	708	-152	-34.9	1.86	38.48
1106	SLV 7	326	-666	7361	-1821.96	-13.94	114.37
1106	SLV 8	240	-620	7317	-1804.3	-13.61	84.47
1106	SLV 9	-187	642	374	-139.02	-0.07	-65.86
1106	SLV 10	-273	689	330	-121.35	0.26	-95.77
1106	SLV 11	-57	-685	7843	-1908.42	-15.54	-19.88
1106	SLV 12	-143	-639	7800	-1890.75	-15.21	-49.78
1106	SLV 13	-568	144	3562	-863.46	-7.43	-199.13
1106	SLV 14	-696	213	3497	-837.22	-6.94	-243.55
1106	SLV 15	-529	-254	5803	-1394.28	-12.07	-185.33
1106	SLV 16	-656	-185	5738	-1368.04	-11.58	-229.76
1106	SLV FO 1	778	228	1764	-535.64	-1.63	272.27
1106	SLV FO 2	638	303	1693	-506.77	-1.09	223.4
1106	SLV FO 3	820	-210	4229	-1119.54	-6.73	287.44
1106	SLV FO 4	680	-135	4158	-1090.67	-6.2	238.57
1106	SLV FO 5	213	727	-504	39.35	2.37	74.29
1106	SLV FO 6	118	777	-552	58.78	2.73	41.4
1106	SLV FO 7	356	-733	7712	-1906.99	-14.65	124.88
1106	SLV FO 8	262	-683	7664	-1887.56	-14.29	91.98
1106	SLV FO 9	-209	706	27	-55.76	0.61	-73.38
1106	SLV FO 10	-303	756	-21	-36.32	0.97	-106.28
1106	SLV FO 11	-66	-755	8243	-2002.1	-16.41	-22.79
1106	SLV FO 12	-160	-704	8195	-1982.66	-16.05	-55.69
1106	SLV FO 13	-628	158	3533	-852.65	-7.49	-219.97
1106	SLV FO 14	-768	233	3462	-823.78	-6.95	-268.84
1106	SLV FO 15	-585	-281	5998	-1436.55	-12.59	-204.8
1106	SLV FO 16	-725	-205	5927	-1407.68	-12.06	-253.66
1106	CRTFP Ux+	0	0	0	0	0	0
1106	CRTFP Ux-	0	0	0	0	0	0
1106	CRTFP Uy+	0	0	0	0	0	0
1106	CRTFP Uy-	0	0	0	0	0	0
1107	SLU 1	28	14	3769	-1055.16	-8.3	10.12
1107	SLU 2	27	32	3675	-1030.03	-8.06	9.55
1107	SLU 3	30	14	3878	-1085.37	-8.56	10.51
1107	SLU 4	29	25	3822	-1070.29	-8.42	10.17
1107	SLU 5	28	32	3748	-1050.54	-8.24	9.91
1107	SLU 6	31	14	3952	-1105.87	-8.75	10.87
1107	SLU 7	30	25	3896	-1090.79	-8.6	10.52
1107	SLU 8	30	14	3916	-1096.17	-8.67	10.84
1107	SLU 9	29	25	3860	-1081.09	-8.52	10.5
1107	SLU 10	27	35	4146	-1161.57	-9.17	9.78
1107	SLU 11	30	17	4349	-1216.9	-9.67	10.74
1107	SLU 12	29	28	4293	-1201.82	-9.53	10.39
1107	SLU 13	28	35	4219	-1182.07	-9.35	10.14
1107	SLU 14	31	17	4423	-1237.4	-9.86	11.09
1107	SLU 15	30	28	4366	-1222.33	-9.71	10.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1107	SLU 16	31	17	4386	-1227.7	-9.77	11.07
1107	SLU 17	30	28	4330	-1212.62	-9.63	10.73
1107	SLU 18	29	18	4441	-1243.06	-9.88	10.45
1107	SLU 19	28	29	4385	-1227.99	-9.74	10.11
1107	SLU 20	30	18	4515	-1263.57	-10.07	10.81
1107	SLU 21	29	29	4458	-1248.49	-9.92	10.47
1107	SLU 22	31	16	4411	-1233.28	-9.82	10.89
1107	SLU 23	29	34	4317	-1208.15	-9.58	10.32
1107	SLU 24	32	16	4520	-1263.48	-10.09	11.28
1107	SLU 25	31	27	4464	-1248.41	-9.94	10.94
1107	SLU 26	30	34	4390	-1228.66	-9.76	10.68
1107	SLU 27	33	16	4594	-1283.99	-10.27	11.64
1107	SLU 28	32	27	4537	-1268.91	-10.12	11.29
1107	SLU 29	33	16	4558	-1274.28	-10.19	11.61
1107	SLU 30	32	27	4501	-1259.21	-10.04	11.27
1107	SLU 31	30	37	4787	-1339.68	-10.69	10.55
1107	SLU 32	32	18	4991	-1395.01	-11.19	11.51
1107	SLU 33	31	29	4934	-1379.94	-11.05	11.16
1107	SLU 34	31	37	4861	-1360.19	-10.87	10.91
1107	SLU 35	33	19	5064	-1415.52	-11.38	11.87
1107	SLU 36	32	29	5008	-1400.44	-11.23	11.52
1107	SLU 37	33	18	5028	-1405.82	-11.3	11.84
1107	SLU 38	32	29	4972	-1390.74	-11.15	11.5
1107	SLU 39	31	19	5083	-1421.18	-11.4	11.22
1107	SLU 40	31	30	5027	-1406.1	-11.26	10.88
1107	SLU 41	32	19	5156	-1441.68	-11.59	11.58
1107	SLU 42	32	30	5100	-1426.61	-11.44	11.24
1107	SLU 43	36	18	4679	-1310.64	-10.27	12.9
1107	SLU 44	35	36	4586	-1285.51	-10.03	12.33
1107	SLU 45	37	18	4789	-1340.84	-10.53	13.28
1107	SLU 46	36	29	4733	-1325.77	-10.39	12.94
1107	SLU 47	36	36	4659	-1306.02	-10.21	12.68
1107	SLU 48	38	18	4863	-1361.35	-10.72	13.64
1107	SLU 49	37	29	4806	-1346.27	-10.57	13.3
1107	SLU 50	38	18	4826	-1351.65	-10.64	13.61
1107	SLU 51	37	29	4770	-1336.57	-10.49	13.27
1107	SLU 52	35	38	5056	-1417.05	-11.13	12.55
1107	SLU 53	38	20	5260	-1472.38	-11.64	13.51
1107	SLU 54	37	31	5203	-1457.3	-11.5	13.17
1107	SLU 55	36	38	5130	-1437.55	-11.32	12.91
1107	SLU 56	39	20	5333	-1492.88	-11.82	13.87
1107	SLU 57	38	31	5277	-1477.8	-11.68	13.53
1107	SLU 58	39	20	5297	-1483.18	-11.74	13.84
1107	SLU 59	38	31	5241	-1468.1	-11.6	13.5
1107	SLU 60	37	21	5352	-1498.54	-11.85	13.22
1107	SLU 61	36	32	5295	-1483.47	-11.71	12.88
1107	SLU 62	38	21	5425	-1519.04	-12.03	13.58
1107	SLU 63	37	32	5369	-1503.97	-11.89	13.24
1107	SLU 64	38	19	5321	-1488.76	-11.79	13.67
1107	SLU 65	37	38	5227	-1463.63	-11.55	13.1
1107	SLU 66	39	19	5431	-1518.96	-12.05	14.05
1107	SLU 67	38	30	5374	-1503.89	-11.91	13.71
1107	SLU 68	38	38	5301	-1484.13	-11.73	13.46
1107	SLU 69	40	20	5504	-1539.46	-12.24	14.41
1107	SLU 70	40	31	5448	-1524.39	-12.09	14.07
1107	SLU 71	40	20	5468	-1529.76	-12.16	14.38
1107	SLU 72	39	30	5412	-1514.69	-12.01	14.04
1107	SLU 73	37	40	5698	-1595.16	-12.66	13.33
1107	SLU 74	40	22	5901	-1650.49	-13.16	14.28
1107	SLU 75	39	33	5845	-1635.42	-13.02	13.94
1107	SLU 76	38	40	5771	-1615.67	-12.84	13.68
1107	SLU 77	41	22	5975	-1671	-13.35	14.64
1107	SLU 78	40	33	5919	-1655.92	-13.2	14.3
1107	SLU 79	41	22	5939	-1661.29	-13.26	14.61
1107	SLU 80	40	33	5883	-1646.22	-13.12	14.27
1107	SLU 81	39	23	5993	-1676.66	-13.37	13.99
1107	SLU 82	38	34	5937	-1661.58	-13.23	13.65
1107	SLU 83	40	23	6067	-1697.16	-13.56	14.35
1107	SLU 84	39	34	6011	-1682.09	-13.41	14.01
1107	SLE RA 1	29	14	3952	-1106.05	-8.74	10.34
1107	SLE RA 2	28	27	3890	-1089.3	-8.57	9.96
1107	SLE RA 3	30	15	4025	-1126.19	-8.91	10.6
1107	SLE RA 4	29	22	3988	-1116.14	-8.81	10.37
1107	SLE RA 5	29	27	3939	-1102.97	-8.7	10.2
1107	SLE RA 6	30	15	4074	-1139.86	-9.03	10.84
1107	SLE RA 7	30	22	4037	-1129.81	-8.94	10.61
1107	SLE RA 8	30	15	4050	-1133.39	-8.98	10.82
1107	SLE RA 9	30	22	4013	-1123.34	-8.88	10.59
1107	SLE RA 10	28	28	4203	-1176.99	-9.31	10.12
1107	SLE RA 11	30	16	4339	-1213.88	-9.65	10.75
1107	SLE RA 12	30	24	4301	-1203.83	-9.55	10.52
1107	SLE RA 13	29	28	4252	-1190.66	-9.43	10.35
1107	SLE RA 14	31	16	4388	-1227.54	-9.77	10.99
1107	SLE RA 15	30	24	4350	-1217.49	-9.68	10.76
1107	SLE RA 16	31	16	4364	-1221.08	-9.72	10.97
1107	SLE RA 17	30	24	4326	-1211.03	-9.62	10.75
1107	SLE RA 18	30	17	4400	-1231.32	-9.79	10.56
1107	SLE RA 19	29	24	4363	-1221.27	-9.69	10.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1107	SLE RA 20	30	17	4449	-1244.99	-9.91	10.8
1107	SLE RA 21	30	24	4412	-1234.94	-9.82	10.57
1107	SLE FR 1	29	14	3952	-1106.05	-8.74	10.34
1107	SLE FR 2	29	17	3940	-1102.7	-8.7	10.27
1107	SLE FR 3	29	15	3972	-1111.52	-8.78	10.44
1107	SLE FR 4	29	18	4074	-1140.28	-9.02	10.33
1107	SLE FR 5	29	15	4106	-1149.1	-9.1	10.5
1107	SLE FR 6	29	16	4176	-1168.68	-9.26	10.45
1107	SLE QP 1	29	14	3952	-1106.05	-8.74	10.34
1107	SLE QP 2	29	15	4087	-1143.63	-9.05	10.41
1107	SLD 1	464	131	2838	-853.74	-5.51	162.54
1107	SLD 2	383	177	2786	-831.33	-5.15	134.35
1107	SLD 3	488	-101	4246	-1230.02	-9.08	171.16
1107	SLD 4	408	-55	4195	-1207.62	-8.72	142.98
1107	SLD 5	136	393	1585	-489.81	-2.64	47.81
1107	SLD 6	84	422	1551	-475.38	-2.4	29.66
1107	SLD 7	218	-378	6280	-1744.11	-14.54	76.56
1107	SLD 8	166	-348	6246	-1729.68	-14.3	58.42
1107	SLD 9	-107	379	1927	-557.58	-3.8	-37.6
1107	SLD 10	-160	409	1894	-543.16	-3.57	-55.74
1107	SLD 11	-26	-392	6622	-1811.88	-15.7	-8.85
1107	SLD 12	-78	-362	6589	-1797.45	-15.47	-26.99
1107	SLD 13	-349	85	3979	-1079.64	-9.39	-122.16
1107	SLD 14	-430	131	3927	-1057.24	-9.03	-150.34
1107	SLD 15	-325	-146	5387	-1455.93	-12.96	-113.53
1107	SLD 16	-406	-100	5336	-1433.53	-12.6	-141.72
1107	SLV 1	708	212	2035	-663.95	-3.26	248.07
1107	SLV 2	581	285	1954	-628.63	-2.7	203.65
1107	SLV 3	750	-182	4439	-1305.95	-9.35	262.77
1107	SLV 4	623	-110	4358	-1270.63	-8.79	218.35
1107	SLV 5	194	659	-159	-32.61	1.82	67.7
1107	SLV 6	108	708	-214	-8.83	2.2	37.8
1107	SLV 7	332	-656	7853	-2172.62	-18.49	116.7
1107	SLV 8	247	-607	7798	-2148.85	-18.1	86.8
1107	SLV 9	-188	637	375	-138.42	0	-65.98
1107	SLV 10	-274	686	320	-114.64	0.38	-95.88
1107	SLV 11	-49	-677	8387	-2278.43	-20.3	-16.98
1107	SLV 12	-135	-629	8332	-2254.65	-19.92	-46.88
1107	SLV 13	-564	140	3815	-1016.63	-9.32	-197.53
1107	SLV 14	-692	213	3735	-981.31	-8.75	-241.95
1107	SLV 15	-523	-254	6219	-1658.63	-15.41	-182.83
1107	SLV 16	-650	-182	6138	-1623.31	-14.84	-227.25
1107	SLV FO 1	776	232	1830	-615.98	-2.69	271.83
1107	SLV FO 2	636	312	1741	-577.13	-2.06	222.97
1107	SLV FO 3	822	-202	4474	-1322.19	-9.38	288
1107	SLV FO 4	682	-122	4385	-1283.33	-8.76	239.14
1107	SLV FO 5	210	723	-584	78.49	2.9	73.43
1107	SLV FO 6	116	777	-644	104.65	3.32	40.54
1107	SLV FO 7	363	-723	8229	-2275.52	-19.43	127.33
1107	SLV FO 8	268	-669	8170	-2249.37	-19.01	94.43
1107	SLV FO 9	-210	700	4	-37.89	0.9	-73.62
1107	SLV FO 10	-304	753	-56	-11.74	1.33	-106.51
1107	SLV FO 11	-57	-747	8817	-2391.91	-21.43	-19.72
1107	SLV FO 12	-152	-693	8757	-2365.75	-21.01	-52.61
1107	SLV FO 13	-624	153	3788	-1003.93	-9.34	-218.32
1107	SLV FO 14	-764	233	3699	-965.08	-8.72	-267.19
1107	SLV FO 15	-578	-281	6432	-1710.13	-16.04	-202.15
1107	SLV FO 16	-718	-201	6343	-1671.28	-15.42	-251.02
1107	CRTFP Ux+	0	0	0	0	0	0
1107	CRTFP Ux-	0	0	0	0	0	0
1107	CRTFP Uy+	0	0	0	0	0	0
1107	CRTFP Uy-	0	0	0	0	0	0
1108	SLU 1	27	18	3530	-1092.61	81.06	9.25
1108	SLU 2	26	34	3441	-1066.11	79.04	8.32
1108	SLU 3	28	18	3633	-1124.37	83.41	9.6
1108	SLU 4	27	28	3580	-1108.47	82.2	9.05
1108	SLU 5	27	34	3510	-1087.69	80.62	8.65
1108	SLU 6	29	18	3702	-1145.95	84.99	9.93
1108	SLU 7	28	28	3649	-1130.05	83.78	9.37
1108	SLU 8	29	18	3668	-1135.78	84.21	9.9
1108	SLU 9	28	28	3615	-1119.87	83	9.34
1108	SLU 10	26	37	3884	-1204.03	89.15	8.54
1108	SLU 11	29	21	4076	-1262.29	93.52	9.83
1108	SLU 12	28	30	4022	-1246.38	92.31	9.27
1108	SLU 13	27	37	3953	-1225.61	90.73	8.87
1108	SLU 14	30	21	4145	-1283.87	95.1	10.15
1108	SLU 15	29	31	4092	-1267.96	93.89	9.6
1108	SLU 16	30	21	4111	-1273.69	94.32	10.12
1108	SLU 17	29	31	4058	-1257.79	93.11	9.57
1108	SLU 18	28	22	4162	-1289.64	95.5	9.57
1108	SLU 19	27	31	4109	-1273.74	94.29	9.01
1108	SLU 20	29	22	4232	-1311.22	97.08	9.89
1108	SLU 21	28	32	4178	-1295.32	95.87	9.34
1108	SLU 22	29	20	4134	-1279.6	94.84	10.01
1108	SLU 23	28	36	4045	-1253.1	92.83	9.08
1108	SLU 24	30	20	4237	-1311.36	97.19	10.36
1108	SLU 25	30	30	4184	-1295.46	95.99	9.81
1108	SLU 26	29	36	4114	-1274.68	94.41	9.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1108	SLU 27	31	21	4306	-1332.94	98.77	10.69
1108	SLU 28	30	30	4253	-1317.04	97.56	10.14
1108	SLU 29	31	20	4272	-1322.76	98	10.66
1108	SLU 30	30	30	4219	-1306.86	96.79	10.11
1108	SLU 31	29	39	4488	-1391.02	102.94	9.31
1108	SLU 32	31	23	4680	-1449.28	107.3	10.59
1108	SLU 33	30	33	4626	-1433.37	106.1	10.03
1108	SLU 34	30	39	4557	-1412.6	104.52	9.63
1108	SLU 35	32	23	4749	-1470.86	108.88	10.92
1108	SLU 36	31	33	4696	-1454.95	107.67	10.36
1108	SLU 37	32	23	4715	-1460.68	108.11	10.89
1108	SLU 38	31	33	4662	-1444.78	106.9	10.33
1108	SLU 39	31	24	4766	-1476.63	109.28	10.33
1108	SLU 40	30	33	4713	-1460.73	108.08	9.77
1108	SLU 41	31	24	4836	-1498.21	110.86	10.66
1108	SLU 42	31	34	4782	-1482.31	109.65	10.1
1108	SLU 43	34	23	4381	-1356.29	100.65	11.76
1108	SLU 44	33	39	4293	-1329.78	98.63	10.83
1108	SLU 45	36	23	4485	-1388.04	103	12.11
1108	SLU 46	35	32	4431	-1372.14	101.79	11.56
1108	SLU 47	34	39	4362	-1351.36	100.21	11.16
1108	SLU 48	36	23	4554	-1409.62	104.58	12.44
1108	SLU 49	36	33	4501	-1393.72	103.37	11.88
1108	SLU 50	36	23	4520	-1399.45	103.8	12.41
1108	SLU 51	35	33	4467	-1383.55	102.59	11.86
1108	SLU 52	34	41	4735	-1467.7	108.74	11.06
1108	SLU 53	36	26	4927	-1525.96	113.11	12.34
1108	SLU 54	35	35	4874	-1510.06	111.9	11.78
1108	SLU 55	35	41	4805	-1489.28	110.32	11.38
1108	SLU 56	37	26	4997	-1547.54	114.69	12.67
1108	SLU 57	36	35	4943	-1531.64	113.48	12.11
1108	SLU 58	37	26	4963	-1537.37	113.91	12.64
1108	SLU 59	36	35	4910	-1521.46	112.7	12.08
1108	SLU 60	36	26	5014	-1553.31	115.09	12.08
1108	SLU 61	35	36	4961	-1537.41	113.88	11.52
1108	SLU 62	37	27	5083	-1574.89	116.67	12.41
1108	SLU 63	36	36	5030	-1558.99	115.46	11.85
1108	SLU 64	37	25	4985	-1543.28	114.43	12.52
1108	SLU 65	35	41	4897	-1516.77	112.42	11.59
1108	SLU 66	38	25	5089	-1575.03	116.78	12.88
1108	SLU 67	37	35	5035	-1559.13	115.58	12.32
1108	SLU 68	36	41	4966	-1538.35	114	11.92
1108	SLU 69	39	25	5158	-1596.61	118.36	13.2
1108	SLU 70	38	35	5105	-1580.71	117.15	12.65
1108	SLU 71	39	25	5124	-1586.44	117.59	13.17
1108	SLU 72	38	35	5071	-1570.53	116.38	12.62
1108	SLU 73	36	43	5339	-1654.69	122.53	11.82
1108	SLU 74	39	28	5531	-1712.95	126.89	13.1
1108	SLU 75	38	37	5478	-1697.05	125.69	12.55
1108	SLU 76	37	43	5409	-1676.27	124.11	12.15
1108	SLU 77	40	28	5601	-1734.53	128.47	13.43
1108	SLU 78	39	37	5548	-1718.63	127.26	12.87
1108	SLU 79	39	28	5567	-1724.36	127.7	13.4
1108	SLU 80	39	37	5514	-1708.45	126.49	12.84
1108	SLU 81	38	29	5618	-1740.3	128.87	12.84
1108	SLU 82	37	38	5565	-1724.4	127.67	12.29
1108	SLU 83	39	29	5687	-1761.88	130.45	13.17
1108	SLU 84	38	38	5634	-1745.98	129.24	12.61
1108	SLE RA 1	28	19	3702	-1146.04	84.99	9.46
1108	SLE RA 2	27	29	3643	-1128.37	83.65	8.85
1108	SLE RA 3	28	19	3771	-1167.21	86.56	9.7
1108	SLE RA 4	28	25	3735	-1156.61	85.76	9.33
1108	SLE RA 5	27	29	3689	-1142.76	84.7	9.06
1108	SLE RA 6	29	19	3817	-1181.6	87.62	9.92
1108	SLE RA 7	28	25	3782	-1170.99	86.81	9.55
1108	SLE RA 8	29	19	3795	-1174.81	87.1	9.9
1108	SLE RA 9	28	25	3759	-1164.21	86.29	9.53
1108	SLE RA 10	27	31	3938	-1220.31	90.39	9
1108	SLE RA 11	29	21	4066	-1259.16	93.3	9.85
1108	SLE RA 12	28	27	4031	-1248.55	92.5	9.48
1108	SLE RA 13	28	31	3984	-1234.7	91.44	9.21
1108	SLE RA 14	30	21	4112	-1273.54	94.36	10.07
1108	SLE RA 15	29	27	4077	-1262.94	93.55	9.7
1108	SLE RA 16	30	21	4090	-1266.76	93.84	10.05
1108	SLE RA 17	29	27	4054	-1256.16	93.03	9.68
1108	SLE RA 18	29	21	4124	-1277.39	94.62	9.68
1108	SLE RA 19	28	27	4088	-1266.79	93.82	9.31
1108	SLE RA 20	29	21	4170	-1291.78	95.68	9.9
1108	SLE RA 21	29	28	4135	-1281.18	94.87	9.53
1108	SLE FR 1	28	19	3702	-1146.04	84.99	9.46
1108	SLE FR 2	28	21	3690	-1142.51	84.73	9.34
1108	SLE FR 3	28	19	3721	-1151.79	85.42	9.55
1108	SLE FR 4	28	21	3817	-1181.91	87.61	9.4
1108	SLE FR 5	28	19	3847	-1191.2	88.3	9.61
1108	SLE FR 6	28	20	3913	-1211.72	89.81	9.57
1108	SLE QP 1	28	19	3702	-1146.04	84.99	9.46
1108	SLE QP 2	28	19	3829	-1185.45	87.88	9.53
1108	SLD 1	407	119	2639	-876.03	61.06	139.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1108	SLD 2	336	162	2585	-851.51	59.98	114.13
1108	SLD 3	430	-82	3971	-1272.65	91.31	152.85
1108	SLD 4	359	-39	3917	-1248.13	90.22	127.05
1108	SLD 5	120	347	1462	-495.31	34.15	33.49
1108	SLD 6	74	374	1427	-479.52	33.46	16.88
1108	SLD 7	195	-323	5900	-1817.35	134.97	76.55
1108	SLD 8	150	-296	5865	-1801.56	134.27	59.94
1108	SLD 9	-94	334	1792	-569.33	41.5	-40.89
1108	SLD 10	-139	362	1757	-553.54	40.8	-57.5
1108	SLD 11	-18	-336	6231	-1891.37	142.31	2.17
1108	SLD 12	-64	-308	6196	-1875.58	141.61	-14.44
1108	SLD 13	-303	78	3741	-1122.76	85.54	-108
1108	SLD 14	-374	121	3686	-1098.24	84.46	-133.79
1108	SLD 15	-280	-123	5072	-1519.38	115.79	-95.08
1108	SLD 16	-351	-80	5018	-1494.86	114.7	-120.87
1108	SLV 1	621	189	1876	-673.82	43.83	212.87
1108	SLV 2	509	257	1790	-635.17	42.12	172.21
1108	SLV 3	659	-154	4148	-1350.52	95.44	234.9
1108	SLV 4	548	-86	4063	-1311.87	93.73	194.24
1108	SLV 5	168	578	-187	-12.84	-3.29	44.69
1108	SLV 6	93	623	-245	13.18	-4.44	17.33
1108	SLV 7	297	-565	7387	-2268.51	168.74	118.15
1108	SLV 8	222	-520	7329	-2242.49	167.59	90.78
1108	SLV 9	-166	558	328	-128.4	8.17	-71.72
1108	SLV 10	-241	604	271	-102.38	7.02	-99.09
1108	SLV 11	-37	-584	7902	-2384.07	180.21	1.73
1108	SLV 12	-112	-539	7845	-2358.05	179.05	-25.64
1108	SLV 13	-492	125	3595	-1059.02	82.03	-175.19
1108	SLV 14	-603	192	3509	-1020.37	80.32	-215.85
1108	SLV 15	-453	-218	5867	-1735.72	133.64	-153.15
1108	SLV 16	-565	-151	5781	-1697.07	131.93	-193.81
1108	SLV FO 1	680	206	1681	-622.66	39.43	233.2
1108	SLV FO 2	557	280	1587	-580.15	37.55	188.47
1108	SLV FO 3	722	-171	4180	-1367.03	96.2	257.44
1108	SLV FO 4	600	-97	4086	-1324.52	94.32	212.71
1108	SLV FO 5	182	633	-589	104.42	-12.41	48.21
1108	SLV FO 6	99	683	-652	133.04	-13.67	18.1
1108	SLV FO 7	324	-624	7743	-2376.82	176.83	129.01
1108	SLV FO 8	241	-574	7679	-2348.2	175.57	98.9
1108	SLV FO 9	-185	612	-22	-22.69	0.2	-79.85
1108	SLV FO 10	-268	662	-85	5.92	-1.07	-109.95
1108	SLV FO 11	-43	-645	8310	-2503.93	189.44	0.95
1108	SLV FO 12	-126	-595	8246	-2475.31	188.17	-29.16
1108	SLV FO 13	-544	135	3571	-1046.37	81.45	-193.66
1108	SLV FO 14	-666	210	3477	-1003.86	79.57	-238.38
1108	SLV FO 15	-501	-242	6071	-1790.74	138.22	-169.42
1108	SLV FO 16	-624	-168	5976	-1748.23	136.34	-214.14
1108	CRTFP Ux+	0	0	0	0	0	0
1108	CRTFP Ux-	0	0	0	0	0	0
1108	CRTFP Uy+	0	0	0	-0.01	0	0
1108	CRTFP Uy-	0	0	0	0.01	0	0
1110	SLU 1	29	28	4220	-919.64	496.34	3.43
1110	SLU 2	27	45	4111	-896.77	484	0.75
1110	SLU 3	30	28	4344	-946.6	510.74	3.63
1110	SLU 4	29	39	4278	-932.88	503.34	2.01
1110	SLU 5	29	46	4194	-914.98	493.64	0.94
1110	SLU 6	31	29	4427	-964.81	520.39	3.82
1110	SLU 7	30	39	4362	-951.09	512.98	2.21
1110	SLU 8	31	28	4387	-956.06	515.63	3.82
1110	SLU 9	30	39	4321	-942.34	508.23	2.2
1110	SLU 10	28	49	4641	-1012.99	545.75	0.5
1110	SLU 11	31	32	4873	-1062.82	572.49	3.38
1110	SLU 12	30	43	4808	-1049.1	565.09	1.77
1110	SLU 13	29	49	4724	-1031.2	555.39	0.69
1110	SLU 14	32	32	4957	-1081.03	582.14	3.57
1110	SLU 15	31	43	4892	-1067.31	574.73	1.96
1110	SLU 16	32	32	4916	-1072.28	577.39	3.57
1110	SLU 17	31	43	4851	-1058.56	569.98	1.96
1110	SLU 18	30	33	4976	-1085.67	584.56	3.08
1110	SLU 19	29	44	4911	-1071.94	577.15	1.47
1110	SLU 20	31	33	5060	-1103.88	594.2	3.27
1110	SLU 21	30	44	4995	-1090.15	586.8	1.66
1110	SLU 22	32	31	4944	-1077.81	580.6	3.63
1110	SLU 23	30	49	4835	-1054.94	568.25	0.94
1110	SLU 24	33	31	5068	-1104.77	595	3.82
1110	SLU 25	32	42	5003	-1091.05	587.59	2.21
1110	SLU 26	31	49	4919	-1073.15	577.9	1.13
1110	SLU 27	34	32	5152	-1122.98	604.64	4.01
1110	SLU 28	33	42	5086	-1109.26	597.24	2.4
1110	SLU 29	34	32	5111	-1114.23	599.89	4.01
1110	SLU 30	33	42	5046	-1100.51	592.48	2.4
1110	SLU 31	31	52	5365	-1171.16	630	0.7
1110	SLU 32	34	35	5598	-1220.99	656.75	3.58
1110	SLU 33	33	46	5533	-1207.27	649.34	1.96
1110	SLU 34	32	53	5448	-1189.37	639.65	0.89
1110	SLU 35	35	35	5681	-1239.2	666.39	3.77
1110	SLU 36	34	46	5616	-1225.48	658.99	2.16
1110	SLU 37	35	35	5641	-1230.45	661.64	3.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1110	SLU 38	34	46	5575	-1216.73	654.23	2.15
1110	SLU 39	33	36	5701	-1243.84	668.81	3.28
1110	SLU 40	32	47	5635	-1230.12	661.41	1.66
1110	SLU 41	34	36	5784	-1262.05	678.46	3.47
1110	SLU 42	33	47	5719	-1248.33	671.05	1.86
1110	SLU 43	37	35	5237	-1141.3	616.36	4.39
1110	SLU 44	35	53	5128	-1118.43	604.01	1.71
1110	SLU 45	38	35	5361	-1168.26	630.76	4.59
1110	SLU 46	37	46	5296	-1154.54	623.35	2.98
1110	SLU 47	36	53	5212	-1136.64	613.66	1.9
1110	SLU 48	39	36	5445	-1186.47	640.4	4.78
1110	SLU 49	38	46	5380	-1172.75	633	3.17
1110	SLU 50	39	36	5404	-1177.72	635.65	4.78
1110	SLU 51	38	46	5339	-1164	628.24	3.17
1110	SLU 52	36	56	5658	-1234.65	665.76	1.46
1110	SLU 53	39	39	5891	-1284.48	692.51	4.34
1110	SLU 54	38	50	5826	-1270.76	685.1	2.73
1110	SLU 55	37	57	5742	-1252.86	675.41	1.65
1110	SLU 56	40	39	5974	-1302.69	702.15	4.53
1110	SLU 57	39	50	5909	-1288.97	694.75	2.92
1110	SLU 58	40	39	5934	-1293.94	697.4	4.53
1110	SLU 59	39	50	5869	-1280.22	689.99	2.92
1110	SLU 60	38	40	5994	-1307.33	704.57	4.04
1110	SLU 61	37	51	5929	-1293.6	697.17	2.43
1110	SLU 62	39	40	6077	-1325.54	714.22	4.23
1110	SLU 63	38	51	6012	-1311.82	706.81	2.62
1110	SLU 64	40	38	5961	-1299.47	700.61	4.59
1110	SLU 65	38	56	5853	-1276.6	688.27	1.91
1110	SLU 66	41	39	6086	-1326.43	715.01	4.78
1110	SLU 67	40	49	6020	-1312.71	707.61	3.17
1110	SLU 68	39	56	5936	-1294.81	697.91	2.1
1110	SLU 69	42	39	6169	-1344.65	724.66	4.98
1110	SLU 70	41	50	6104	-1330.92	717.25	3.37
1110	SLU 71	42	39	6128	-1335.9	719.9	4.98
1110	SLU 72	41	49	6063	-1322.17	712.5	3.36
1110	SLU 73	39	59	6382	-1392.82	750.02	1.66
1110	SLU 74	42	42	6615	-1442.65	776.76	4.54
1110	SLU 75	40	53	6550	-1428.93	769.36	2.93
1110	SLU 76	40	60	6466	-1411.03	759.66	1.85
1110	SLU 77	43	43	6699	-1460.87	786.41	4.73
1110	SLU 78	42	53	6634	-1447.14	779	3.12
1110	SLU 79	42	42	6658	-1452.12	781.66	4.73
1110	SLU 80	41	53	6593	-1438.39	774.25	3.12
1110	SLU 81	41	43	6718	-1465.5	788.83	4.24
1110	SLU 82	40	54	6653	-1451.78	781.42	2.63
1110	SLU 83	42	44	6802	-1483.71	798.47	4.43
1110	SLU 84	41	54	6736	-1469.99	791.07	2.82
1110	SLE RA 1	30	29	4427	-964.83	520.42	3.49
1110	SLE RA 2	29	40	4354	-949.58	512.19	1.7
1110	SLE RA 3	31	29	4509	-982.81	530.02	3.62
1110	SLE RA 4	30	36	4466	-973.66	525.08	2.54
1110	SLE RA 5	29	41	4410	-961.72	518.62	1.83
1110	SLE RA 6	31	29	4565	-994.95	536.45	3.75
1110	SLE RA 7	31	36	4521	-985.8	531.51	2.67
1110	SLE RA 8	31	29	4538	-989.11	533.28	3.74
1110	SLE RA 9	31	36	4494	-979.96	528.34	2.67
1110	SLE RA 10	29	43	4707	-1027.06	553.35	1.53
1110	SLE RA 11	31	31	4862	-1060.29	571.18	3.45
1110	SLE RA 12	31	38	4819	-1051.14	566.24	2.38
1110	SLE RA 13	30	43	4763	-1039.2	559.78	1.66
1110	SLE RA 14	32	32	4918	-1072.43	577.61	3.58
1110	SLE RA 15	31	39	4875	-1063.28	572.68	2.51
1110	SLE RA 16	32	32	4891	-1066.59	574.44	3.58
1110	SLE RA 17	31	39	4848	-1057.44	569.51	2.51
1110	SLE RA 18	31	32	4931	-1075.52	579.23	3.25
1110	SLE RA 19	30	39	4888	-1066.37	574.29	2.18
1110	SLE RA 20	31	32	4987	-1087.66	585.66	3.38
1110	SLE RA 21	31	39	4943	-1078.51	580.72	2.31
1110	SLE FR 1	30	29	4427	-964.83	520.42	3.49
1110	SLE FR 2	30	31	4412	-961.78	518.77	3.13
1110	SLE FR 3	30	29	4449	-969.69	522.99	3.54
1110	SLE FR 4	30	32	4563	-994.99	536.41	3.06
1110	SLE FR 5	30	30	4600	-1002.89	540.63	3.47
1110	SLE FR 6	30	30	4679	-1020.17	549.82	3.37
1110	SLE QP 1	30	29	4427	-964.83	520.42	3.49
1110	SLE QP 2	30	30	4578	-998.04	538.06	3.42
1110	SLD 1	459	139	3089	-701.53	365.19	86.39
1110	SLD 2	378	189	3022	-684.54	359.13	61.81
1110	SLD 3	484	-86	4717	-1044.08	550.75	121.13
1110	SLD 4	403	-35	4651	-1027.08	544.69	96.56
1110	SLD 5	133	394	1672	-392.48	205.81	-20.16
1110	SLD 6	81	427	1630	-381.54	201.91	-35.99
1110	SLD 7	220	-354	7101	-1534.3	824.34	95.66
1110	SLD 8	167	-321	7058	-1523.35	820.44	79.83
1110	SLD 9	-107	381	2097	-472.72	255.68	-72.99
1110	SLD 10	-159	413	2054	-461.78	251.78	-88.82
1110	SLD 11	-21	-367	7526	-1614.53	874.21	42.82
1110	SLD 12	-73	-335	7483	-1603.59	870.31	27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1110	SLD 13	-343	94	4505	-968.99	531.42	-89.72
1110	SLD 14	-424	145	4438	-952	525.37	-114.3
1110	SLD 15	-317	-130	6133	-1311.54	716.98	-54.98
1110	SLD 16	-398	-79	6067	-1294.54	710.93	-79.55
1110	SLV 1	699	216	2136	-510.47	254.8	130.96
1110	SLV 2	572	296	2031	-483.69	245.26	92.22
1110	SLV 3	744	-167	4915	-1094.99	571.47	190.24
1110	SLV 4	616	-87	4810	-1068.2	561.92	151.5
1110	SLV 5	188	651	-351	29.75	-25.42	-41
1110	SLV 6	102	705	-421	47.78	-31.84	-67.08
1110	SLV 7	335	-625	8914	-1918.63	1030.14	156.6
1110	SLV 8	249	-571	8843	-1900.6	1023.72	130.52
1110	SLV 9	-188	630	312	-95.47	52.4	-123.69
1110	SLV 10	-274	684	242	-77.44	45.97	-149.77
1110	SLV 11	-42	-646	9577	-2043.85	1107.96	73.91
1110	SLV 12	-128	-592	9506	-2025.82	1101.54	47.84
1110	SLV 13	-555	146	4345	-927.87	514.19	-144.67
1110	SLV 14	-683	226	4241	-901.09	504.65	-183.4
1110	SLV 15	-511	-237	7125	-1512.38	830.86	-85.38
1110	SLV 16	-639	-157	7020	-1485.6	821.31	-124.12
1110	SLV FO 1	766	234	1892	-461.72	226.48	143.71
1110	SLV FO 2	626	323	1776	-432.26	215.98	101.1
1110	SLV FO 3	815	-187	4949	-1104.68	574.81	208.92
1110	SLV FO 4	674	-99	4834	-1075.22	564.31	166.31
1110	SLV FO 5	204	713	-843	132.53	-81.77	-45.44
1110	SLV FO 6	109	773	-921	152.36	-88.83	-74.13
1110	SLV FO 7	365	-691	9348	-2010.69	1079.35	171.92
1110	SLV FO 8	271	-631	9270	-1990.86	1072.28	143.24
1110	SLV FO 9	-210	690	-114	-5.21	3.83	-136.4
1110	SLV FO 10	-305	750	-192	14.62	-3.24	-165.08
1110	SLV FO 11	-49	-714	10077	-2148.43	1164.95	80.96
1110	SLV FO 12	-144	-654	9999	-2128.6	1157.88	52.28
1110	SLV FO 13	-614	158	4322	-920.85	511.81	-159.47
1110	SLV FO 14	-755	246	4207	-891.39	501.3	-202.09
1110	SLV FO 15	-566	-263	7379	-1563.82	860.14	-94.26
1110	SLV FO 16	-706	-175	7264	-1534.36	849.64	-136.88
1110	CRTFP Ux+	0	0	0	0	0	0
1110	CRTFP Ux-	0	0	0	0	0	0
1110	CRTFP Uy+	0	0	0	0	0	0
1110	CRTFP Uy-	0	0	0	0	0	0

1.3 Pressioni massime sul terreno

***Nodo**: Nodo che interagisce col terreno.*
Ind.: indice del nodo.
***Pressione minima**: situazione in cui si verifica la pressione minima nel nodo.*
Cont.: nome breve della condizione o combinazione di carico a cui si riferisce la pressione minima.
uz: spostamento massimo verticale del nodo. [m]
Valore: pressione minima sul terreno del nodo. [daN/m²]
***Pressione massima**: situazione in cui si verifica la pressione massima nel nodo.*
Cont.: nome breve della condizione o combinazione di carico a cui si riferisce la pressione massima.
uz: spostamento minimo verticale del nodo. [m]
Valore: pressione massima sul terreno del nodo. [daN/m²]

Compressione estrema massima -23116.2 al nodo di indice 140, di coordinate x = -17.05, y = -4.78, z = -1.95, nel contesto SLV fondazioni 5.
Spostamento estremo minimo -0.0077054 al nodo di indice 140, di coordinate x = -17.05, y = -4.78, z = -1.95, nel contesto SLV fondazioni 5.
Spostamento estremo massimo 0.0010481 al nodo di indice 140, di coordinate x = -17.05, y = -4.78, z = -1.95, nel contesto SLV fondazioni 12.

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
11	SLU 84	-0.004073	-12218.9	SLV FO 11	-0.0016086	-4825.7
12	SLU 84	-0.0041581	-12474.3	SLV FO 11	-0.0016399	-4919.8
13	SLU 84	-0.0042067	-12620	SLV FO 7	-0.0016438	-4931.4
14	SLU 84	-0.0042517	-12755	SLV FO 7	-0.0016299	-4889.6
15	SLU 84	-0.0042941	-12882.2	SLV FO 7	-0.0016134	-4840.2
16	SLU 84	-0.0043328	-12998.5	SLV FO 7	-0.0015957	-4787.1
17	SLU 84	-0.0043652	-13095.6	SLV FO 7	-0.0015756	-4726.7
18	SLU 84	-0.004404	-13212	SLV FO 7	-0.0015373	-4612
19	SLU 84	-0.0040438	-12131.4	SLV FO 11	-0.0018238	-5471.3
20	SLU 84	-0.004128	-12384	SLV FO 11	-0.0018544	-5563.2
21	SLU 84	-0.0041721	-12516.4	SLV FO 7	-0.0018555	-5566.6
22	SLU 84	-0.0042133	-12639.8	SLV FO 7	-0.0018387	-5516.2
23	SLU 84	-0.0042539	-12761.7	SLV FO 7	-0.0018204	-5461.3
24	SLU 84	-0.0042935	-12880.6	SLV FO 7	-0.0018023	-5406.8
25	SLU 84	-0.0043282	-12984.5	SLV FO 7	-0.0017826	-5347.7
26	SLU 84	-0.0043644	-13093.2	SLV FO 7	-0.0017425	-5227.4
27	SLU 84	-0.0040868	-12260.4	SLV FO 11	-0.0020791	-6237.2
28	SLU 84	-0.0042761	-12828.4	SLV FO 7	-0.001997	-5991.1
29	SLU 84	-0.0040097	-12029.2	SLV FO 11	-0.0020533	-6160
30	SLU 84	-0.0041233	-12369.8	SLV FO 7	-0.0020775	-6232.5
31	SLU 84	-0.0041586	-12475.8	SLV FO 7	-0.0020568	-6170.4
32	SLU 84	-0.0041969	-12590.6	SLV FO 7	-0.0020367	-6110
33	SLU 84	-0.0042377	-12713.1	SLV FO 7	-0.0020183	-6055

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
34	SLU 84	-0.0043148	-12944.3	SLV FO 7	-0.0019583	-5874.9
35	SLU 84	-0.0040435	-12130.6	SLV FO 11	-0.0023018	-6905.5
36	SLU 84	-0.0042194	-12658.1	SLV FO 7	-0.0022099	-6629.6
37	SLU 84	-0.003973	-11919	SLV FO 11	-0.0022812	-6843.7
38	SLU 84	-0.0040739	-12221.7	SLV FO 7	-0.0022985	-6895.6
39	SLU 84	-0.0041042	-12312.7	SLV FO 7	-0.0022749	-6824.8
40	SLU 84	-0.0041397	-12419	SLV FO 7	-0.0022531	-6759.3
41	SLU 84	-0.0041799	-12539.7	SLV FO 7	-0.002234	-6702
42	SLU 84	-0.004258	-12774	SLV FO 7	-0.0021708	-6512.3
44	SLU 84	-0.0040039	-12011.8	SLU 1	-0.0024951	-7485.2
45	SLU 84	-0.0041652	-12495.5	SLV FO 7	-0.0024237	-7271.1
46	SLU 84	-0.0039369	-11810.8	SLU 1	-0.0024539	-7361.6
47	SLU 84	-0.0040318	-12095.5	SLU 1	-0.0025121	-7536.4
48	SLU 84	-0.0040597	-12179	SLV FO 7	-0.0024975	-7492.6
49	SLU 84	-0.0040919	-12275.8	SLV FO 7	-0.0024742	-7422.7
50	SLU 84	-0.0041286	-12385.7	SLV FO 7	-0.0024528	-7358.4
51	SLU 84	-0.0042005	-12601.4	SLV FO 7	-0.002383	-7148.9
52	SLU 83	-0.0039718	-11915.4	SLU 2	-0.0024681	-7404.4
53	SLU 83	-0.0041167	-12350.2	SLV FO 3	-0.002511	-7533
54	SLU 83	-0.0039058	-11717.3	SLU 2	-0.0024257	-7277
55	SLU 83	-0.0040003	-12000.9	SLU 2	-0.0024862	-7458.7
56	SLU 83	-0.0040276	-12082.7	SLU 2	-0.002504	-7512
57	SLU 83	-0.0040563	-12169	SLU 2	-0.0025227	-7568.1
58	SLU 83	-0.0040867	-12260	SLU 2	-0.0025424	-7627.2
59	SLU 84	-0.0041467	-12440.1	SLV FO 3	-0.0024348	-7304.5
66	SLU 83	-0.0039419	-11825.8	SLV FO 10	-0.0023003	-6900.9
67	SLU 83	-0.0040745	-12223.4	SLV FO 1	-0.0024461	-7338.3
68	SLU 83	-0.0038755	-11626.6	SLV FO 10	-0.0021734	-6520.3
69	SLU 83	-0.0039704	-11911.1	SLV FO 6	-0.0023355	-7006.4
70	SLU 83	-0.0039972	-11991.7	SLV FO 6	-0.0023681	-7104.3
71	SLU 83	-0.0040232	-12069.6	SLV FO 5	-0.0023997	-7199.2
72	SLU 83	-0.0040486	-12145.9	SLV FO 5	-0.0024322	-7296.6
73	SLU 83	-0.0040999	-12299.6	SLV FO 1	-0.0023894	-7168.1
140	SLV FO 5	-0.0077054	-23116.2	SLV FO 12	0.0010481	3144.3
141	SLV FO 5	-0.0076171	-22851.3	SLV FO 12	0.0010159	3047.8
142	SLV FO 5	-0.0075521	-22656.2	SLV FO 12	0.0009826	2947.9
143	SLV FO 5	-0.0075132	-22539.5	SLV FO 12	0.0009515	2854.4
144	SLV FO 5	-0.0075001	-22500.4	SLV FO 12	0.0009235	2770.5
145	SLV FO 5	-0.0075113	-22534	SLV FO 12	0.0008987	2696
146	SLV FO 5	-0.0075427	-22628.1	SLV FO 12	0.0008766	2629.9
147	SLV FO 5	-0.0075873	-22761.8	SLV FO 12	0.0008573	2572
148	SLV FO 5	-0.0076356	-22906.9	SLV FO 12	0.0008409	2522.7
149	SLV FO 5	-0.0076366	-22909.8	SLV FO 12	0.0008271	2481.3
150	SLV FO 10	-0.0072246	-21673.8	SLV FO 7	0.000822	2466.1
151	SLV FO 10	-0.0072827	-21848.1	SLV FO 7	0.0008401	2520.3
152	SLV FO 10	-0.007306	-21918	SLV FO 7	0.0008572	2571.6
153	SLV FO 10	-0.0073122	-21936.7	SLV FO 7	0.0008753	2625.9
154	SLV FO 10	-0.007316	-21947.9	SLV FO 7	0.0008957	2687
155	SLV FO 10	-0.0073281	-21984.3	SLV FO 7	0.0009191	2757.2
156	SLV FO 10	-0.0073559	-22067.6	SLV FO 7	0.0009462	2838.6
157	SLV FO 10	-0.0074032	-22209.7	SLV FO 7	0.0009772	2931.7
158	SLV FO 10	-0.0074715	-22414.6	SLV FO 7	0.0010111	3033.4
159	SLV FO 10	-0.0075579	-22673.6	SLV FO 7	0.0010448	3134.4
176	SLV FO 10	-0.0070393	-21117.9	SLV FO 7	0.0007447	2234.1
187	SLV FO 5	-0.0072486	-21745.8	SLV FO 12	0.0007905	2371.4
188	SLV FO 5	-0.007151	-21453	SLV FO 12	0.0007605	2281.6
189	SLV FO 5	-0.0070674	-21202.1	SLV FO 12	0.0007309	2192.6
190	SLV FO 5	-0.0070084	-21025.2	SLV FO 12	0.0007032	2109.5
191	SLV FO 5	-0.0069809	-20942.8	SLV FO 12	0.0006777	2033.2
192	SLV FO 5	-0.0069878	-20963.5	SLV FO 12	0.0006541	1962.3
193	SLV FO 5	-0.0070267	-21080.2	SLV FO 12	0.0006317	1895.1
194	SLV FO 5	-0.007089	-21267.1	SLV FO 12	0.0006105	1831.4
195	SLV FO 5	-0.0071534	-21460.1	SLV FO 12	0.0005909	1772.7
196	SLV FO 5	-0.0071844	-21553.3	SLV FO 12	0.0005738	1721.5
199	SLV FO 10	-0.0066706	-20011.9	SLV FO 7	0.0005235	1570.5
200	SLV FO 10	-0.0067152	-20145.7	SLV FO 7	0.00054	1620.1
201	SLV FO 10	-0.0067246	-20173.9	SLV FO 7	0.0005563	1668.9
202	SLV FO 10	-0.0067208	-20162.4	SLV FO 7	0.0005734	1720.1
203	SLV FO 10	-0.0067218	-20165.4	SLV FO 7	0.000592	1776.1
204	SLV FO 10	-0.0067405	-20221.4	SLV FO 7	0.0006131	1839.2
205	SLV FO 10	-0.0067832	-20349.7	SLV FO 7	0.0006372	1911.6
206	SLV FO 10	-0.0068503	-20551	SLV FO 7	0.0006647	1994.1
207	SLV FO 10	-0.0069362	-20808.6	SLV FO 7	0.0006948	2084.5
208	SLV FO 10	-0.0070315	-21094.5	SLV FO 7	0.0007259	2177.8
209	SLV FO 5	-0.0068089	-20426.7	SLV FO 12	0.0004608	1382.4
210	SLV FO 5	-0.0066455	-19936.6	SLV FO 12	0.0004471	1341.2
211	SLV FO 5	-0.0064883	-19464.8	SLV FO 12	0.0004367	1310.2
212	SLV FO 9	-0.0063833	-19149.9	SLV FO 8	0.0004313	1293.8
213	SLV FO 10	-0.0063585	-19075.4	SLV FO 7	0.0004371	1311.2
214	SLV FO 10	-0.0064071	-19221.4	SLV FO 7	0.0004489	1346.7
215	SLV FO 10	-0.0065043	-19513	SLV FO 7	0.0004657	1397.1
216	SLV FO 10	-0.0066015	-19804.4	SLV FO 7	0.0004854	1456.3
217	SLV FO 10	-0.006529	-19587	SLV FO 7	0.0004638	1391.4
220	SLV FO 5	-0.0068007	-20402.2	SLV FO 12	0.0005339	1601.6
221	SLV FO 5	-0.0066889	-20066.7	SLV FO 12	0.000507	1520.9
222	SLV FO 5	-0.0065858	-19757.3	SLV FO 12	0.000481	1442.9
223	SLV FO 5	-0.0065055	-19516.5	SLV FO 12	0.0004569	1370.7
224	SLV FO 5	-0.0064616	-19384.8	SLV FO 12	0.0004345	1303.4

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
225	SLV FO 5	-0.0064624	-19387.3	SLV FO 12	0.0004127	1238.2
226	SLV FO 5	-0.0065087	-19526.2	SLV FO 12	0.0003905	1171.5
227	SLV FO 5	-0.0065926	-19777.7	SLV FO 12	0.0003675	1102.5
228	SLV FO 5	-0.0066964	-20089.2	SLV FO 12	0.0003451	1035.3
229	SLV FO 5	-0.0068084	-20425.1	SLV FO 12	0.0003272	981.6
233	SLV FO 10	-0.0061645	-18493.4	SLV FO 7	0.0002443	732.8
234	SLV FO 10	-0.0061541	-18462.3	SLV FO 7	0.0002596	778.7
235	SLV FO 10	-0.0061364	-18409.3	SLV FO 7	0.0002753	825.8
236	SLV FO 10	-0.0061329	-18398.7	SLV FO 7	0.0002919	875.7
237	SLV FO 10	-0.0061579	-18473.8	SLV FO 7	0.0003103	931
238	SLV FO 10	-0.0062166	-18649.9	SLV FO 7	0.0003314	994.3
239	SLV FO 10	-0.0063041	-18912.4	SLV FO 7	0.0003556	1066.9
240	SLV FO 10	-0.0064074	-19222.1	SLV FO 7	0.0003823	1147
241	SLV FO 10	-0.0065149	-19544.8	SLV FO 7	0.0004105	1231.4
242	SLV FO 10	-0.0060559	-18167.7	SLV FO 7	0.0001898	569.3
243	SLV FO 10	-0.0060928	-18278.4	SLV FO 7	0.0002011	603.3
245	SLV FO 5	-0.0063556	-19066.9	SLV FO 12	0.0002829	848.6
246	SLV FO 5	-0.00623	-18689.9	SLV FO 12	0.0002585	775.5
247	SLV FO 5	-0.0061082	-18324.5	SLV FO 12	0.0002358	707.5
248	SLV FO 5	-0.0060056	-18016.9	SLV FO 12	0.0002153	646
249	SLV FO 5	-0.0059437	-17831.1	SLV FO 12	0.0001964	589.2
250	SLV FO 5	-0.0059365	-17809.5	SLV FO 12	0.0001774	532.3
251	SLV FO 5	-0.0059886	-17965.7	SLV FO 12	0.0001566	469.7
252	SLV FO 5	-0.0060962	-18288.5	SLV FO 12	0.0001326	397.8
253	SLV FO 5	-0.0062487	-18746.1	SLV FO 12	0.0001077	323.1
255	SLV FO 9	-0.0063971	-19191.2	SLV FO 8	0.0000663	199
256	SLV FO 10	-0.0056352	-16905.5	SLV FO 7	-0.0000426	-127.8
257	SLV FO 10	-0.0056	-16800	SLV FO 7	-0.0000292	-87.6
258	SLV FO 10	-0.0055641	-16692.3	SLV FO 7	-0.0000158	-47.3
259	SLV FO 10	-0.0055536	-16660.8	SLV FO 7	-0.0000016	-4.8
260	SLV FO 10	-0.0055833	-16750	SLV FO 7	0.0000144	43.1
261	SLV FO 10	-0.0056574	-16972.3	SLV FO 7	0.0000329	98.8
262	SLV FO 10	-0.005766	-17298.1	SLV FO 7	0.000055	164.9
263	SLV FO 10	-0.0058809	-17642.6	SLV FO 7	0.0000795	238.6
264	SLV FO 10	-0.0059952	-17985.6	SLV FO 7	0.0001067	320.1
265	SLV FO 10	-0.005601	-16803.1	SLV FO 7	-0.0000733	-220
266	SLV FO 10	-0.0056158	-16847.3	SLV FO 7	-0.0000678	-203.3
269	SLV FO 5	-0.0058986	-17695.8	SLV FO 12	0.0000428	128.3
270	SLV FO 5	-0.0057666	-17299.7	SLV FO 12	0.0000189	56.6
271	SLV FO 5	-0.0056329	-16898.7	SLV FO 12	-0.0000017	-5.1
272	SLV FO 5	-0.0055068	-16520.5	SLV FO 12	-0.0000195	-58.4
273	SLV FO 5	-0.0054259	-16277.8	SLV FO 12	-0.000035	-105.1
274	SLV FO 5	-0.0054089	-16226.8	SLV FO 12	-0.0000504	-151.1
275	SLV FO 5	-0.0054627	-16388.1	SLV FO 12	-0.0000678	-203.5
276	SLV FO 5	-0.0055875	-16762.6	SLV FO 12	-0.0000902	-270.7
277	SLV FO 5	-0.0057798	-17339.5	SLV FO 12	-0.0001164	-349.2
279	SLV FO 9	-0.0060159	-18047.6	SLV FO 8	-0.0001446	-433.9
281	SLV FO 5	-0.0071968	-21590.3	SLV FO 12	0.0007178	2153.5
297	SLV FO 5	-0.0055424	-16627.2	SLV FO 12	0.0000732	219.5
299	SLV FO 5	-0.0055885	-16765.4	SLV FO 12	-0.000007	-20.9
303	SLV FO 5	-0.0054054	-16216.3	SLV FO 12	-0.000181	-542.9
305	SLV FO 5	-0.0052834	-15850.2	SLV FO 12	-0.0002074	-622.2
306	SLV FO 5	-0.0051616	-15484.8	SLV FO 12	-0.0002274	-682.2
307	SLV FO 5	-0.0050069	-15020.7	SLV FO 12	-0.0002466	-739.8
308	SLV FO 5	-0.0049072	-14721.6	SLV FO 12	-0.0002603	-780.8
309	SLV FO 5	-0.004879	-14636.9	SLV FO 12	-0.0002715	-814.6
310	SLV FO 5	-0.004929	-14787.1	SLV FO 12	-0.0002835	-850.5
311	SLV FO 5	-0.0050562	-15168.7	SLV FO 12	-0.000299	-897.1
312	SLV FO 5	-0.0052566	-15769.7	SLV FO 12	-0.0003198	-959.4
313	SLV FO 5	-0.0053229	-15968.6	SLV FO 12	-0.0003225	-967.4
314	SLV FO 9	-0.0055726	-16717.7	SLV FO 8	-0.0003346	-1003.9
315	SLV FO 6	-0.0051474	-15442.1	SLV FO 11	-0.0003217	-965.2
316	SLV FO 10	-0.005138	-15413.9	SLV FO 7	-0.0003265	-979.5
318	SLV FO 10	-0.0051182	-15354.6	SLV FO 7	-0.0003179	-953.7
319	SLV FO 10	-0.0052322	-15696.7	SLV FO 7	-0.0002304	-691.2
320	SLV FO 10	-0.0053363	-16009	SLV FO 7	-0.0002067	-620
322	SLV FO 10	-0.0054414	-16324.1	SLV FO 7	-0.0001767	-530.1
326	SLV FO 10	-0.0056196	-16858.7	SLV FO 7	0.0000263	78.8
328	SLV FO 10	-0.0055891	-16767.2	SLV FO 7	0.0001183	354.9
343	SLV FO 10	-0.0066969	-20090.8	SLV FO 7	0.000725	2175
347	SLV FO 10	-0.0050547	-15164.1	SLV FO 7	-0.0003095	-928.6
348	SLV FO 10	-0.0050004	-15001.1	SLV FO 7	-0.0002996	-898.8
349	SLV FO 10	-0.0049815	-14944.4	SLV FO 7	-0.000288	-864
350	SLV FO 10	-0.0050134	-15040.2	SLV FO 7	-0.0002738	-821.3
351	SLV FO 10	-0.0050996	-15298.9	SLV FO 7	-0.0002553	-765.9
354	SLV FO 5	-0.0069369	-20810.7	SLV FO 12	0.0004832	1449.6
355	SLV FO 5	-0.0062646	-18793.9	SLV FO 12	0.0004102	1230.5
356	SLV FO 5	-0.0056564	-16969.1	SLV FO 12	0.0003407	1022
357	SLV FO 5	-0.0051345	-15403.6	SLV FO 12	0.0002769	830.6
358	SLV FO 5	-0.0047088	-14126.3	SLV FO 12	0.00022	659.9
359	SLV FO 5	-0.0043809	-13142.7	SLV FO 12	0.0001704	511.1
360	SLV FO 5	-0.0041482	-12444.6	SLV FO 12	0.000128	383.9
361	SLV FO 5	-0.0040058	-12017.3	SLV FO 12	0.0000922	276.6
362	SLV FO 5	-0.0039478	-11843.3	SLV FO 12	0.0000622	186.6
363	SLV FO 5	-0.0039678	-11903.3	SLV FO 12	0.0000367	110.2
364	SLV FO 5	-0.0040585	-12175.5	SLV FO 12	0.0000142	42.5
365	SLV FO 5	-0.0042105	-12631.5	SLV FO 12	-0.0000074	-22.1
366	SLV FO 5	-0.0044103	-13231	SLV FO 12	-0.0000302	-90.5

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
367	SLV FO 5	-0.0046381	-13914.3	SLV FO 12	-0.0000569	-170.8
368	SLV FO 5	-0.0048642	-14592.5	SLV FO 12	-0.0000907	-272
369	SLV FO 5	-0.0050457	-15137.1	SLV FO 12	-0.0001346	-403.7
370	SLV FO 5	-0.0051269	-15380.7	SLV FO 12	-0.0001914	-574.3
371	SLV FO 5	-0.0051294	-15388.1	SLV FO 12	-0.0002511	-753.2
372	SLV FO 5	-0.0050581	-15174.3	SLV FO 12	-0.0003178	-953.3
373	SLV FO 5	-0.0049409	-14822.6	SLV FO 12	-0.0003816	-1144.8
374	SLV FO 5	-0.0047958	-14387.5	SLV FO 12	-0.0004327	-1298
375	SLV FO 5	-0.0046789	-14036.8	SLV FO 12	-0.0004662	-1398.5
376	SLV FO 5	-0.0045579	-13673.8	SLV FO 12	-0.0004895	-1468.5
377	SLV FO 5	-0.0044001	-13200.3	SLV FO 12	-0.0005101	-1530.4
378	SLV FO 5	-0.0042932	-12879.7	SLV FO 12	-0.0005211	-1563.3
379	SLV FO 5	-0.0042605	-12781.4	SLV FO 12	-0.0005272	-1581.6
380	SLV FO 5	-0.0043108	-12932.5	SLV FO 12	-0.0005318	-1595.4
381	SLV FO 5	-0.0044422	-13326.5	SLV FO 12	-0.0005369	-1610.8
382	SLV FO 9	-0.0046466	-13939.9	SLV FO 8	-0.0005398	-1619.4
383	SLV FO 9	-0.004967	-14900.9	SLV FO 8	-0.0005522	-1656.5
384	SLV FO 6	-0.0046894	-14068.2	SLV FO 11	-0.0005679	-1703.8
385	SLV FO 10	-0.0046378	-13913.5	SLV FO 7	-0.0005716	-1714.8
386	SLV FO 10	-0.0045544	-13663.2	SLV FO 7	-0.0005683	-1705
387	SLV FO 10	-0.0044814	-13444.2	SLV FO 7	-0.0005622	-1686.5
388	SLV FO 10	-0.0044502	-13350.5	SLV FO 7	-0.0005534	-1660.1
389	SLV FO 10	-0.0044764	-13429.1	SLV FO 7	-0.0005409	-1622.8
390	SLV FO 10	-0.0045614	-13684.1	SLV FO 7	-0.0005227	-1568.2
391	SLV FO 10	-0.0046913	-14073.9	SLV FO 7	-0.0004953	-1485.8
392	SLV FO 10	-0.0047936	-14380.7	SLV FO 7	-0.0004684	-1405.1
393	SLV FO 10	-0.0048949	-14684.7	SLV FO 7	-0.0004325	-1297.5
394	SLV FO 10	-0.0049767	-14930.1	SLV FO 7	-0.0003959	-1187.8
395	SLV FO 10	-0.0051018	-15305.5	SLV FO 7	-0.0003143	-942.9
396	SLV FO 10	-0.0051696	-15508.7	SLV FO 7	-0.0002288	-686.4
397	SLV FO 10	-0.0051695	-15508.5	SLV FO 7	-0.0001981	-594.2
398	SLV FO 10	-0.005139	-15416.9	SLV FO 7	-0.0001061	-318.2
399	SLV FO 10	-0.0051183	-15354.8	SLV FO 7	-0.0000806	-241.8
400	SLV FO 10	-0.0049716	-14914.8	SLV FO 7	-0.0000275	-82.6
401	SLV FO 10	-0.004751	-14252.9	SLV FO 7	0.0000082	24.6
402	SLV FO 10	-0.0045127	-13538.1	SLV FO 7	0.0000326	97.9
403	SLV FO 10	-0.0042954	-12886.3	SLV FO 7	0.0000509	152.6
404	SLV FO 10	-0.0041246	-12373.7	SLV FO 7	0.0000672	201.5
405	SLV FO 10	-0.0040168	-12050.3	SLV FO 7	0.0000849	254.6
406	SLV FO 10	-0.0039832	-11949.5	SLV FO 7	0.0001066	319.8
407	SLV FO 10	-0.0040322	-12096.5	SLV FO 7	0.0001343	402.9
408	SLV FO 10	-0.0041713	-12513.8	SLV FO 7	0.0001694	508.3
409	SLV FO 10	-0.0044077	-13223	SLV FO 7	0.0002129	638.7
410	SLV FO 10	-0.0047481	-14244.2	SLV FO 7	0.0002652	795.5
411	SLV FO 10	-0.005197	-15590.9	SLV FO 7	0.000326	977.9
412	SLV FO 10	-0.0057539	-17261.8	SLV FO 7	0.0003943	1183
413	SLV FO 10	-0.0064093	-19227.8	SLV FO 7	0.0004682	1404.5
414	SLV FO 10	-0.0067192	-20157.7	SLV FO 7	0.0005011	1503.4
416	SLV FO 5	-0.006418	-19254.1	SLV FO 12	0.0003948	1184.3
417	SLV FO 5	-0.0050671	-15201.3	SLV FO 12	-0.0001833	-549.8
419	SLV FO 5	-0.0051105	-15331.6	SLV FO 12	-0.0002631	-789.2
420	SLV FO 10	-0.0051264	-15379.3	SLV FO 7	-0.0002294	-688.1
422	SLV FO 10	-0.0051007	-15302	SLV FO 7	-0.0001371	-411.2
423	SLV FO 10	-0.0060092	-18027.7	SLV FO 7	0.0003922	1176.7
425	SLV FO 6	-0.0046549	-13964.8	SLV FO 11	-0.0005916	-1774.9
430	SLV FO 5	-0.0057617	-17285.2	SLV FO 12	0.0000764	229.3
431	SLV FO 5	-0.0046768	-14030.3	SLV FO 12	-0.0004358	-1307.3
433	SLV FO 5	-0.0047133	-14140	SLV FO 12	-0.0005147	-1544.1
434	SLV FO 10	-0.0047102	-14130.6	SLV FO 7	-0.0004795	-1438.4
436	SLV FO 10	-0.0046971	-14091.3	SLV FO 7	-0.0003862	-1158.7
437	SLV FO 10	-0.0054116	-16234.7	SLV FO 7	0.0000633	189.9
439	SLV FO 6	-0.0042548	-12764.3	SLV FO 11	-0.000844	-2532.1
444	SLV FO 5	-0.0052348	-15704.3	SLV FO 12	-0.0002404	-721.3
445	SLV FO 5	-0.0043463	-13038.9	SLV FO 12	-0.0006876	-2062.8
447	SLV FO 5	-0.004376	-13128	SLV FO 12	-0.0007659	-2297.6
448	SLV FO 10	-0.0043519	-13055.7	SLV FO 7	-0.000728	-2184.1
450	SLV FO 10	-0.0043514	-13054.2	SLV FO 7	-0.0006337	-1901.2
451	SLV FO 10	-0.0049179	-14753.8	SLV FO 7	-0.0002643	-792.9
453	SLV FO 6	-0.0039478	-11843.3	SLV FO 11	-0.0010892	-3267.7
457	SLU 84	-0.002947	-8840.9	SLV FO 8	-0.0010298	-3089.3
459	SLV FO 5	-0.0048299	-14489.8	SLV FO 12	-0.0005602	-1680.7
460	SLV FO 5	-0.0040575	-12172.4	SLV FO 12	-0.0009418	-2825.3
462	SLV FO 5	-0.0040803	-12241	SLV FO 12	-0.0010194	-3058.2
463	SLV FO 10	-0.0040324	-12097.1	SLV FO 7	-0.0009783	-2935
465	SLV FO 10	-0.0040445	-12133.5	SLV FO 7	-0.0008828	-2648.5
466	SLV FO 10	-0.0045309	-13592.8	SLV FO 7	-0.0005943	-1782.9
468	SLU 84	-0.0037527	-11258.1	SLV FO 11	-0.0013349	-4004.6
473	SLV FO 5	-0.004534	-13602	SLV FO 12	-0.0008868	-2660.5
474	SLV FO 5	-0.0037991	-11397.3	SLV FO 12	-0.0012002	-3600.6
476	SLV FO 5	-0.0038151	-11445.2	SLV FO 12	-0.0012773	-3831.9
477	SLV FO 10	-0.0037393	-11218	SLV FO 7	-0.0012328	-3698.4
479	SLV FO 10	-0.0037641	-11292.3	SLV FO 7	-0.001136	-3408
480	SLV FO 10	-0.0042455	-12736.4	SLV FO 7	-0.0009298	-2789.5
483	SLU 84	-0.0038113	-11433.9	SLV FO 11	-0.0015849	-4754.7
488	SLV FO 1	-0.004494	-13482	SLV FO 16	-0.0010579	-3173.8
489	SLU 84	-0.0037374	-11212.2	SLV FO 12	-0.0014635	-4390.6
491	SLU 84	-0.0038024	-11407.1	SLV FO 12	-0.0015402	-4620.5
492	SLU 84	-0.0036728	-11018.4	SLV FO 7	-0.0014931	-4479.4

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
494	SLU 84	-0.0036293	-10887.8	SLV FO 7	-0.0013949	-4184.8
495	SLV FO 14	-0.0041606	-12481.7	SLV FO 3	-0.0011623	-3486.9
497	SLU 84	-0.0038871	-11661.3	SLV FO 11	-0.0018391	-5517.3
514	SLV FO 1	-0.0045755	-13726.6	SLV FO 16	-0.0011853	-3555.8
515	SLU 84	-0.0037782	-11334.5	SLV FO 12	-0.0017302	-5190.6
517	SLU 84	-0.0038377	-11513.2	SLV FO 12	-0.0018064	-5419.3
518	SLU 84	-0.0036789	-11036.7	SLV FO 7	-0.0017606	-5281.9
520	SLU 84	-0.003644	-10931.9	SLV FO 7	-0.001661	-4982.9
521	SLV FO 14	-0.0042426	-12727.9	SLV FO 3	-0.001307	-3921
524	SLU 83	-0.0028124	-8437.2	SLV FO 4	-0.0017477	-5243.1
525	SLU 84	-0.0039728	-11918.3	SLV FO 11	-0.0022018	-6605.5
527	SLU 84	-0.0047024	-14107.3	SLV FO 8	-0.0026034	-7810.2
528	SLU 84	-0.004424	-13272.1	SLV FO 8	-0.0024605	-7381.4
529	SLU 84	-0.0041873	-12561.8	SLV FO 8	-0.0023369	-7010.6
530	SLU 84	-0.0040488	-12146.4	SLV FO 11	-0.0021928	-6578.3
532	SLV FO 1	-0.0046976	-14092.8	SLV FO 16	-0.001316	-3948
533	SLU 84	-0.0038334	-11500.3	SLV FO 12	-0.0019951	-5985.2
535	SLU 84	-0.0038876	-11662.8	SLV FO 12	-0.0020709	-6212.8
536	SLU 84	-0.0037016	-11104.7	SLV FO 7	-0.0020361	-6108.2
538	SLU 84	-0.0036752	-11025.5	SLV FO 7	-0.0019351	-5805.3
539	SLV FO 14	-0.0043695	-13108.6	SLV FO 3	-0.0014558	-4367.5
542	SLU 84	-0.0039842	-11952.5	SLV FO 11	-0.0024128	-7238.4
548	SLV FO 1	-0.00482	-14460.1	SLV FO 16	-0.0014389	-4316.6
549	SLU 84	-0.0038958	-11687.3	SLV FO 16	-0.0021064	-6319.3
551	SLU 84	-0.0039445	-11833.6	SLV FO 16	-0.0022006	-6601.9
552	SLU 84	-0.0037408	-11222.4	SLV FO 4	-0.0021801	-6540.2
554	SLU 84	-0.003723	-11169	SLV FO 3	-0.0021218	-6365.3
555	SLU 84	-0.0045092	-13527.6	SLV FO 3	-0.0015971	-4791.3
558	SLU 83	-0.0039721	-11916.2	SLU 2	-0.0024722	-7416.7
564	SLV FO 1	-0.0048839	-14651.8	SLV FO 16	-0.0015358	-4607.4
565	SLU 83	-0.0039527	-11858.1	SLV FO 16	-0.0021882	-6564.6
567	SLU 83	-0.0039967	-11990	SLV FO 16	-0.0022794	-6838.3
568	SLU 83	-0.0038	-11399.9	SLV FO 2	-0.0021927	-6578
570	SLU 83	-0.0037892	-11367.5	SLV FO 2	-0.0021952	-6585.7
571	SLU 84	-0.0046658	-13997.5	SLV FO 3	-0.0017124	-5137.2
574	SLU 83	-0.003939	-11817.1	SLU 2	-0.0024441	-7332.3
579	SLV FO 2	-0.0049987	-14996.1	SLV FO 15	-0.0015268	-4580.3
580	SLV FO 2	-0.0048771	-14631.2	SLV FO 15	-0.00156	-4679.9
581	SLV FO 1	-0.0048226	-14467.7	SLV FO 16	-0.0015839	-4751.7
582	SLU 84	-0.004699	-14097	SLV FO 16	-0.0016513	-4953.9
583	SLU 84	-0.0046714	-14014.1	SLV FO 16	-0.0017229	-5168.8
584	SLU 84	-0.0046487	-13946.2	SLV FO 16	-0.0017944	-5383.3
585	SLU 84	-0.0046244	-13873.1	SLV FO 16	-0.0018636	-5590.7
586	SLU 84	-0.0045945	-13783.6	SLV FO 16	-0.001929	-5787.1
587	SLU 84	-0.0045564	-13669.3	SLV FO 16	-0.0019897	-5969.2
588	SLU 84	-0.0045071	-13521.2	SLV FO 16	-0.002044	-6132.1
589	SLU 84	-0.0044428	-13328.4	SLV FO 16	-0.0020895	-6268.4
590	SLU 84	-0.0043601	-13080.2	SLV FO 16	-0.0021229	-6368.7
591	SLU 84	-0.0042578	-12773.5	SLV FO 16	-0.0021418	-6425.3
592	SLU 84	-0.0041433	-12429.8	SLV FO 16	-0.0021478	-6443.5
593	SLU 84	-0.0040794	-12238.1	SLV FO 16	-0.0021486	-6445.8
594	SLU 84	-0.0040231	-12069.3	SLV FO 16	-0.0021551	-6465.2
595	SLU 83	-0.0039752	-11925.5	SLV FO 16	-0.002195	-6584.9
596	SLU 83	-0.003993	-11979.1	SLV FO 14	-0.0022417	-6725.1
597	SLU 83	-0.0040315	-12094.4	SLV FO 14	-0.0023096	-6928.9
598	SLU 83	-0.0040738	-12221.4	SLV FO 14	-0.0023965	-7189.6
599	SLU 83	-0.0041056	-12316.9	SLV FO 14	-0.0024874	-7462.3
600	SLU 83	-0.0041182	-12354.5	SLU 2	-0.0025391	-7617.2
601	SLU 83	-0.0041051	-12315.2	SLU 2	-0.0025303	-7590.9
602	SLU 83	-0.0040623	-12187	SLU 2	-0.0025037	-7511
603	SLU 83	-0.0039909	-11972.8	SLU 2	-0.0024596	-7378.9
604	SLU 83	-0.0039077	-11723	SLU 2	-0.0024077	-7223.2
605	SLU 83	-0.0038259	-11477.8	SLU 2	-0.0023566	-7069.7
606	SLU 83	-0.0035565	-10669.6	SLV FO 6	-0.0020547	-6164
607	SLU 83	-0.0041701	-12510.4	SLV FO 1	-0.0025368	-7610.3
608	SLU 83	-0.0041717	-12515.1	SLV FO 1	-0.0024785	-7435.5
609	SLU 83	-0.0041682	-12504.5	SLV FO 1	-0.0024193	-7258
610	SLU 83	-0.0041552	-12465.5	SLV FO 1	-0.0023598	-7079.4
611	SLU 83	-0.00413	-12389.9	SLV FO 2	-0.0023025	-6907.6
612	SLU 83	-0.0040923	-12276.8	SLV FO 2	-0.0022527	-6758.2
613	SLU 83	-0.0040468	-12140.3	SLV FO 2	-0.0022188	-6656.5
614	SLU 83	-0.0039888	-11966.4	SLV FO 2	-0.0022331	-6699.2
615	SLU 83	-0.0038181	-11454.3	SLV FO 2	-0.0021806	-6541.8
616	SLU 83	-0.0039306	-11791.8	SLV FO 3	-0.002253	-6759.1
617	SLU 84	-0.0040399	-12119.8	SLV FO 3	-0.0022759	-6827.7
618	SLU 84	-0.0041515	-12454.4	SLV FO 3	-0.0022831	-6849.3
619	SLU 84	-0.0042523	-12757	SLV FO 3	-0.0022709	-6812.7
620	SLU 84	-0.0043371	-13011.4	SLV FO 3	-0.0022416	-6724.9
621	SLU 84	-0.0044058	-13217.5	SLV FO 3	-0.0021992	-6597.6
622	SLU 84	-0.0044604	-13381.2	SLV FO 3	-0.0021469	-6440.8
623	SLU 84	-0.0045032	-13509.6	SLV FO 3	-0.0020872	-6261.6
624	SLU 84	-0.0045368	-13610.5	SLV FO 3	-0.0020217	-6065.2
625	SLU 84	-0.0045649	-13694.8	SLV FO 3	-0.0019523	-5856.8
626	SLU 84	-0.0045943	-13782.8	SLV FO 3	-0.0018814	-5644.3
627	SLU 84	-0.0046377	-13913.2	SLV FO 3	-0.0018142	-5442.5
628	SLU 84	-0.004719	-14156.9	SLV FO 3	-0.0017595	-5278.5
629	SLU 84	-0.0048725	-14617.4	SLV FO 3	-0.0017316	-5194.9
636	SLV FO 2	-0.00485	-14550.1	SLV FO 15	-0.0015895	-4768.6

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
648	SLU 84	-0.0041254	-12376.3	SLV FO 16	-0.0021681	-6504.3
651	SLU 83	-0.0039868	-11960.3	SLV FO 14	-0.0021801	-6540.3
653	SLU 83	-0.0040287	-12086.2	SLV FO 13	-0.0022533	-6760
662	SLU 83	-0.0038848	-11654.5	SLU 2	-0.0023923	-7176.8
664	SLU 83	-0.0037748	-11324.3	SLU 2	-0.0023241	-6972.4
666	SLU 83	-0.0036459	-10937.7	SLV FO 6	-0.0021661	-6498.3
673	SLU 83	-0.0038747	-11624.2	SLV FO 10	-0.0022406	-6721.9
679	SLU 83	-0.0039427	-11828	SLU 2	-0.0024459	-7337.7
682	SLU 83	-0.0040102	-12030.6	SLV FO 1	-0.002417	-7251
690	SLU 83	-0.0038761	-11628.3	SLV FO 6	-0.0020932	-6279.7
693	SLU 83	-0.0038685	-11605.4	SLV FO 2	-0.0021525	-6457.5
695	SLU 83	-0.0039829	-11948.7	SLV FO 1	-0.0022607	-6782
708	SLU 83	-0.0047087	-14126	SLV FO 4	-0.0017737	-5321.2
710	SLV FO 4	-0.0049587	-14876	SLV FO 13	-0.0015719	-4715.6
711	SLV FO 4	-0.0047785	-14335.6	SLV FO 13	-0.0016314	-4894.3
712	SLU 83	-0.0046977	-14093.1	SLV FO 13	-0.0017018	-5105.3
713	SLU 83	-0.0046666	-13999.9	SLV FO 13	-0.0017756	-5326.8
714	SLU 83	-0.0046406	-13921.9	SLV FO 15	-0.0018484	-5545.2
715	SLU 83	-0.0046129	-13838.6	SLV FO 16	-0.0019171	-5751.3
716	SLU 83	-0.0045796	-13738.8	SLV FO 16	-0.001981	-5943.1
717	SLU 83	-0.0045381	-13614.2	SLV FO 16	-0.0020399	-6119.7
718	SLU 83	-0.0044853	-13455.8	SLV FO 16	-0.0020922	-6276.7
719	SLU 83	-0.0044175	-13252.6	SLV FO 16	-0.0021356	-6406.8
720	SLU 83	-0.0043314	-12994.1	SLV FO 16	-0.0021669	-6500.6
721	SLU 83	-0.0042258	-12677.4	SLV FO 16	-0.0021832	-6549.5
722	SLU 83	-0.004108	-12324.1	SLV FO 14	-0.0021808	-6542.3
723	SLU 83	-0.0040354	-12106.2	SLV FO 14	-0.0021472	-6441.5
724	SLU 83	-0.0040017	-12005.2	SLV FO 14	-0.0021477	-6443.1
725	SLU 83	-0.0040225	-12067.5	SLV FO 13	-0.0021898	-6569.3
726	SLU 83	-0.0040571	-12171.2	SLV FO 13	-0.0022548	-6764.4
727	SLU 83	-0.0040921	-12276.4	SLV FO 13	-0.0023393	-7017.8
728	SLU 83	-0.0041167	-12350.1	SLV FO 13	-0.0024287	-7286.1
729	SLU 83	-0.004122	-12365.9	SLV FO 14	-0.0025103	-7531
730	SLU 83	-0.0041016	-12304.9	SLU 2	-0.002524	-7572.1
731	SLU 83	-0.0040516	-12154.8	SLU 2	-0.0024934	-7480.3
732	SLU 83	-0.0039729	-11918.7	SLU 2	-0.0024454	-7336.1
733	SLU 83	-0.0038678	-11603.3	SLU 2	-0.002381	-7143
734	SLU 83	-0.0037577	-11273.1	SLU 2	-0.0023129	-6938.6
735	SLU 83	-0.0037581	-11274.2	SLV FO 6	-0.0022119	-6635.7
736	SLU 83	-0.0037696	-11308.8	SLV FO 6	-0.0021672	-6501.7
737	SLU 83	-0.0037635	-11290.5	SLV FO 6	-0.0021145	-6343.4
738	SLU 83	-0.0037197	-11159.1	SLV FO 6	-0.0020097	-6029.2
739	SLU 83	-0.003726	-11177.9	SLV FO 6	-0.0020045	-6013.5
740	SLU 83	-0.0038492	-11547.7	SLV FO 10	-0.0021526	-6457.7
741	SLU 83	-0.003859	-11577	SLV FO 5	-0.0022245	-6673.5
742	SLU 83	-0.0038298	-11489.4	SLV FO 5	-0.0022737	-6821.1
743	SLU 83	-0.003782	-11346	SLV FO 5	-0.0023193	-6957.9
744	SLU 83	-0.00385	-11550.1	SLV FO 1	-0.0023025	-6907.6
745	SLU 83	-0.0038523	-11556.8	SLV FO 1	-0.0022508	-6752.3
746	SLU 83	-0.0038501	-11550.4	SLV FO 1	-0.002193	-6579
747	SLU 83	-0.0038382	-11514.7	SLV FO 1	-0.0021346	-6403.9
748	SLU 83	-0.0038138	-11441.4	SLV FO 1	-0.0020785	-6235.6
749	SLU 83	-0.0037766	-11329.7	SLV FO 1	-0.0020303	-6090.9
750	SLU 83	-0.0037313	-11193.8	SLV FO 2	-0.0019977	-5993.1
751	SLU 83	-0.0036685	-11005.6	SLV FO 2	-0.002015	-6044.9
752	SLU 83	-0.0038579	-11573.6	SLV FO 2	-0.0021652	-6495.5
753	SLU 83	-0.0039883	-11964.8	SLV FO 2	-0.0022314	-6694.3
754	SLU 83	-0.0040447	-12134.2	SLV FO 1	-0.0022542	-6762.7
755	SLU 83	-0.0041558	-12467.3	SLV FO 1	-0.002276	-6828.1
756	SLU 83	-0.0042563	-12768.8	SLV FO 1	-0.0022717	-6815.1
757	SLU 83	-0.0043408	-13022.4	SLV FO 2	-0.0022461	-6738.4
758	SLU 83	-0.0044093	-13227.9	SLV FO 2	-0.0022047	-6614
759	SLU 83	-0.0044637	-13391	SLV FO 2	-0.0021522	-6456.6
760	SLU 83	-0.0045063	-13518.9	SLV FO 2	-0.0020919	-6275.6
761	SLU 83	-0.0045397	-13619.2	SLV FO 2	-0.0020257	-6077.1
762	SLU 83	-0.0045677	-13703	SLV FO 2	-0.0019556	-5866.8
763	SLU 83	-0.0045968	-13790.3	SLV FO 2	-0.0018842	-5652.7
764	SLU 83	-0.0046401	-13920.2	SLV FO 2	-0.0018166	-5449.8
765	SLU 83	-0.0047211	-14163.2	SLV FO 2	-0.0017617	-5285
766	SLU 83	-0.0048745	-14623.6	SLV FO 2	-0.0017331	-5199.2
767	SLU 83	-0.0046657	-13997	SLV FO 2	-0.001711	-5133.1
770	SLV FO 4	-0.0048069	-14420.6	SLV FO 13	-0.0015717	-4715.1
771	SLV FO 15	-0.0045053	-13516	SLV FO 2	-0.00159	-4770.1
773	SLU 83	-0.0040368	-12110.5	SLV FO 14	-0.0020697	-6209.2
775	SLU 83	-0.004034	-12102	SLV FO 13	-0.0020598	-6179.4
776	SLU 83	-0.003709	-11127.1	SLU 2	-0.0022841	-6852.3
778	SLU 83	-0.0035625	-10687.4	SLV FO 10	-0.0021766	-6529.7
779	SLU 83	-0.0033165	-9949.5	SLV FO 5	-0.0019613	-5884
781	SLU 83	-0.0033942	-10182.5	SLV FO 1	-0.0019648	-5894.4
782	SLU 83	-0.0039068	-11720.3	SLV FO 6	-0.0020719	-6215.8
784	SLU 83	-0.003955	-11865	SLV FO 2	-0.0021165	-6349.4
786	SLV FO 4	-0.0045787	-13736	SLV FO 13	-0.0013554	-4066.1
787	SLV FO 15	-0.0043648	-13094.3	SLV FO 2	-0.0014457	-4337.1
789	SLU 83	-0.0039457	-11837.1	SLV FO 6	-0.0018954	-5686.1
791	SLU 83	-0.003981	-11943	SLV FO 6	-0.0019758	-5927.5
792	SLU 83	-0.0040177	-12053.1	SLV FO 13	-0.001998	-5994
794	SLU 83	-0.0040196	-12058.7	SLV FO 9	-0.00198	-5939.9
795	SLU 83	-0.0035898	-10769.5	SLV FO 10	-0.0021262	-6378.6

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
797	SLU 83	-0.0030897	-9269.2	SLV FO 5	-0.0017432	-5229.6
799	SLU 83	-0.0031688	-9506.5	SLV FO 5	-0.0017705	-5311.6
801	SLV FO 4	-0.0044683	-13404.9	SLV FO 13	-0.0012363	-3709
802	SLV FO 15	-0.0042364	-12709.3	SLV FO 2	-0.0012969	-3890.8
804	SLU 83	-0.0039922	-11976.7	SLV FO 6	-0.0016832	-5049.7
806	SLU 83	-0.0040146	-12043.9	SLV FO 6	-0.001758	-5273.9
807	SLU 83	-0.0039998	-11999.4	SLV FO 9	-0.0018133	-5439.9
809	SLU 83	-0.0040064	-12019.1	SLV FO 9	-0.0017357	-5207.1
810	SLU 83	-0.0034854	-10456.1	SLV FO 10	-0.0019245	-5773.4
812	SLU 83	-0.002927	-8781.1	SLV FO 5	-0.0015204	-4561.2
814	SLU 83	-0.0030077	-9023.2	SLV FO 5	-0.0015466	-4639.9
815	SLU 83	-0.0033101	-9930.4	SLV FO 10	-0.0017602	-5280.5
816	SLU 83	-0.0030901	-9270.3	SLV FO 10	-0.0016312	-4893.7
817	SLU 83	-0.0026824	-8047.1	SLV FO 10	-0.0013968	-4190.4
818	SLU 83	-0.002555	-7665.1	SLV FO 10	-0.0013268	-3980.5
819	SLU 83	-0.0024829	-7448.8	SLV FO 10	-0.0012918	-3875.5
820	SLU 83	-0.002458	-7374	SLV FO 10	-0.0012857	-3857.2
821	SLU 83	-0.0024709	-7412.6	SLV FO 10	-0.0013015	-3904.4
822	SLU 83	-0.0025134	-7540.3	SLV FO 9	-0.0013311	-3993.3
823	SLU 83	-0.0025788	-7736.4	SLV FO 5	-0.0013528	-4058.3
824	SLU 83	-0.0026603	-7980.9	SLV FO 5	-0.0013713	-4113.9
825	SLU 83	-0.0027503	-8250.8	SLV FO 5	-0.0013945	-4183.4
826	SLU 83	-0.0028389	-8516.6	SLV FO 5	-0.00142	-4260
827	SLU 83	-0.0029137	-8741.2	SLV FO 5	-0.0014435	-4330.6
829	SLV FO 4	-0.0044009	-13202.8	SLV FO 13	-0.0011184	-3355.1
830	SLV FO 15	-0.0041587	-12476.1	SLV FO 2	-0.0011556	-3466.7
832	SLU 83	-0.0040401	-12120.2	SLV FO 6	-0.0014415	-4324.6
834	SLU 83	-0.0040496	-12148.9	SLV FO 6	-0.0015106	-4531.9
835	SLU 83	-0.0039807	-11942	SLV FO 9	-0.0015398	-4619.3
837	SLU 83	-0.003992	-11975.9	SLV FO 9	-0.001465	-4395.1
838	SLU 83	-0.0033657	-10097	SLV FO 10	-0.0016956	-5086.9
840	SLU 83	-0.0030897	-9269.1	SLV FO 10	-0.0015352	-4605.6
852	SLU 83	-0.00283	-8490	SLV FO 5	-0.0012975	-3892.5
854	SLU 83	-0.0029119	-8735.6	SLV FO 5	-0.001323	-3969.1
856	SLV FO 4	-0.004393	-13179	SLV FO 13	-0.0010062	-3018.7
857	SLU 83	-0.003148	-9444	SLV FO 10	-0.0014716	-4414.8
858	SLU 83	-0.0029242	-8772.6	SLV FO 10	-0.0013431	-4029.2
859	SLU 83	-0.0025561	-7668.3	SLV FO 10	-0.0011296	-3388.8
860	SLU 83	-0.0024337	-7301.2	SLV FO 10	-0.0010618	-3185.3
861	SLU 83	-0.0023664	-7099.3	SLV FO 10	-0.0010285	-3085.5
862	SLU 83	-0.0023461	-7038.2	SLV FO 10	-0.0010237	-3071.2
863	SLU 83	-0.0023633	-7090	SLV FO 10	-0.0010403	-3121
864	SLU 83	-0.0024101	-7230.4	SLV FO 9	-0.0010705	-3211.5
865	SLU 83	-0.0024796	-7438.7	SLV FO 5	-0.001092	-3275.9
866	SLU 83	-0.002565	-7695	SLV FO 5	-0.0011096	-3328.7
867	SLU 83	-0.0026587	-7976.2	SLV FO 5	-0.0011313	-3393.9
868	SLU 83	-0.0027509	-8252.8	SLV FO 5	-0.001155	-3464.9
869	SLU 83	-0.0028281	-8484.4	SLV FO 5	-0.001177	-3531
870	SLV FO 11	-0.0043133	-12939.9	SLV FO 6	-0.0011799	-3539.8
872	SLV FO 11	-0.004247	-12740.9	SLV FO 6	-0.0012434	-3730.3
873	SLV FO 11	-0.00425	-12750	SLV FO 6	-0.0009365	-2809.4
875	SLV FO 8	-0.0040667	-12200	SLV FO 9	-0.0012531	-3759.2
877	SLV FO 8	-0.0041567	-12470	SLV FO 9	-0.0011811	-3543.4
878	SLU 83	-0.0032453	-9736	SLV FO 10	-0.0014673	-4402
880	SLU 83	-0.002789	-8367.1	SLV FO 5	-0.001096	-3288.1
882	SLU 83	-0.0028672	-8601.6	SLV FO 5	-0.0011199	-3359.6
884	SLV FO 8	-0.0045627	-13688	SLV FO 9	-0.0007969	-2390.7
885	SLV FO 11	-0.0046431	-13929.2	SLV FO 6	-0.0009076	-2722.9
887	SLV FO 11	-0.0045652	-13695.5	SLV FO 6	-0.0009657	-2897
888	SLV FO 11	-0.0045655	-13696.6	SLV FO 6	-0.0006062	-1818.5
890	SLV FO 8	-0.0043295	-12988.5	SLV FO 9	-0.0009666	-2899.9
892	SLV FO 8	-0.0044231	-13269.3	SLV FO 9	-0.0008974	-2692.1
893	SLU 83	-0.003145	-9435.1	SLV FO 10	-0.0012219	-3665.7
895	SLV FO 12	-0.0028635	-8590.4	SLV FO 5	-0.000895	-2684.9
897	SLV FO 12	-0.0029411	-8823.4	SLV FO 5	-0.0009163	-2748.8
899	SLV FO 8	-0.0049167	-14750.2	SLV FO 9	-0.0004955	-1486.6
900	SLV FO 11	-0.004973	-14919	SLV FO 6	-0.0006329	-1898.7
902	SLV FO 11	-0.0048834	-14650.2	SLV FO 6	-0.0006855	-2056.4
903	SLV FO 11	-0.0050015	-15004.5	SLV FO 6	-0.0002819	-845.6
905	SLV FO 8	-0.0045965	-13789.5	SLV FO 9	-0.0006927	-2078
907	SLV FO 8	-0.0046939	-14081.7	SLV FO 9	-0.000626	-1878
908	SLV FO 8	-0.0031778	-9533.3	SLV FO 9	-0.0009677	-2903.1
910	SLV FO 12	-0.0031314	-9394.1	SLV FO 5	-0.0006941	-2082.3
912	SLV FO 12	-0.0032042	-9612.5	SLV FO 5	-0.0007129	-2138.6
914	SLV FO 8	-0.0053704	-16111.2	SLV FO 9	-0.0001973	-591.8
915	SLV FO 11	-0.0052977	-15893.2	SLV FO 6	-0.0003634	-1090.1
917	SLV FO 11	-0.0051964	-15589.1	SLV FO 6	-0.0004106	-1231.7
918	SLV FO 8	-0.0034293	-10288	SLV FO 9	-0.0007109	-2132.8
920	SLV FO 12	-0.0034465	-10339.6	SLV FO 5	-0.0004933	-1479.8
922	SLV FO 11	-0.0035147	-10544	SLV FO 6	-0.0005095	-1528.4
923	SLV FO 8	-0.0048811	-14643.3	SLV FO 9	-0.0004398	-1319.3
925	SLV FO 8	-0.0049824	-14947.2	SLV FO 9	-0.0003756	-1126.9
926	SLV FO 11	-0.005569	-16707	SLV FO 6	0.0000412	123.7
928	SLV FO 8	-0.0031819	-9545.6	SLV FO 9	-0.0005582	-1674.7
930	SLV FO 8	-0.0059355	-17806.5	SLV FO 9	0.0001013	304
931	SLV FO 11	-0.0056144	-16843.1	SLV FO 6	-0.0001067	-320.2
933	SLV FO 11	-0.0055011	-16503.2	SLV FO 6	-0.0001486	-445.9
934	SLV FO 8	-0.0037738	-11321.5	SLV FO 9	-0.0004558	-1367.3

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
936	SLV FO 11	-0.0038123	-11437	SLV FO 6	-0.0002907	-872.1
938	SLV FO 11	-0.003876	-11628.1	SLV FO 6	-0.0003042	-912.6
939	SLV FO 11	-0.0062719	-18815.8	SLV FO 6	0.0003685	1105.6
942	SLV FO 8	-0.0066199	-19859.6	SLV FO 9	0.0004036	1210.8
943	SLV FO 8	-0.0070776	-21232.8	SLV FO 9	0.0004839	1451.8
944	SLV FO 8	-0.0064243	-19272.8	SLV FO 9	0.0004001	1200.4
945	SLV FO 8	-0.0058537	-17561	SLV FO 9	0.0003197	959.2
946	SLV FO 8	-0.0053922	-16176.5	SLV FO 9	0.000245	734.9
947	SLV FO 8	-0.0050503	-15150.8	SLV FO 9	0.0001771	531.3
948	SLV FO 8	-0.0048288	-14486.3	SLV FO 9	0.0001167	350.2
949	SLV FO 8	-0.0047224	-14167.1	SLV FO 9	0.0000643	192.9
950	SLV FO 8	-0.0047214	-14164.3	SLV FO 9	0.0000203	60.9
951	SLV FO 8	-0.0048119	-14435.7	SLV FO 9	-0.0000143	-43
952	SLV FO 8	-0.0049737	-14921.1	SLV FO 9	-0.0000381	-114.4
953	SLV FO 8	-0.0051775	-15532.4	SLV FO 9	-0.0000489	-146.7
954	SLV FO 8	-0.0053806	-16141.8	SLV FO 9	-0.0000435	-130.4
955	SLV FO 8	-0.00553	-16590	SLV FO 9	-0.0000196	-58.8
956	SLV FO 11	-0.0059207	-17762.1	SLV FO 6	0.0001327	398.2
958	SLV FO 11	-0.0058031	-17409.4	SLV FO 6	0.0000927	278
959	SLV FO 11	-0.0057242	-17172.7	SLV FO 6	0.0000733	219.9
960	SLV FO 11	-0.0055549	-16664.6	SLV FO 6	0.0000618	185.5
961	SLV FO 11	-0.0053604	-16081.1	SLV FO 6	0.0000659	197.8
962	SLV FO 11	-0.0051841	-15552.3	SLV FO 6	0.0000832	249.6
963	SLV FO 11	-0.0050572	-15171.6	SLV FO 6	0.0001119	335.7
964	SLV FO 11	-0.0050017	-15005	SLV FO 6	0.0001508	452.4
965	SLV FO 11	-0.0050331	-15099.2	SLV FO 6	0.0001992	597.5
966	SLV FO 11	-0.0051623	-15486.8	SLV FO 6	0.0002565	769.6
967	SLV FO 11	-0.0053964	-16189.2	SLV FO 6	0.0003226	967.7
968	SLV FO 11	-0.0057386	-17215.8	SLV FO 6	0.0003968	1190.3
969	SLV FO 11	-0.0061867	-18560.2	SLV FO 6	0.0004783	1435
970	SLV FO 11	-0.0067307	-20192.2	SLV FO 6	0.0005655	1696.6
971	SLV FO 11	-0.0067584	-20275.2	SLV FO 6	0.0005715	1714.6
972	SLV FO 11	-0.0073484	-22045.1	SLV FO 6	0.0006555	1966.6
973	SLV FO 8	-0.0042281	-12684.3	SLV FO 9	-0.0002033	-609.8
975	SLV FO 11	-0.0042363	-12708.8	SLV FO 6	-0.0000876	-262.8
977	SLV FO 11	-0.0042956	-12886.7	SLV FO 6	-0.0000985	-295.5
980	SLV FO 11	-0.0061368	-18410.3	SLV FO 6	0.0003053	915.9
983	SLV FO 8	-0.0074197	-22259.2	SLV FO 9	0.0007115	2134.5
995	SLV FO 8	-0.0058719	-17615.6	SLV FO 9	0.0001674	502.2
998	SLV FO 8	-0.006023	-18069.1	SLV FO 9	0.0002026	607.9
1013	SLV FO 8	-0.0048088	-14426.4	SLV FO 9	0.000046	138.1
1015	SLV FO 11	-0.0047336	-14200.9	SLV FO 6	0.0001163	349
1017	SLV FO 11	-0.0047886	-14365.8	SLV FO 6	0.000108	324
1019	SLV FO 11	-0.0063151	-18945.2	SLV FO 6	0.0004633	1389.9
1024	SLV FO 8	-0.0062953	-18886	SLV FO 9	0.0003449	1034.8
1025	SLV FO 8	-0.0067538	-20261.4	SLV FO 9	0.0004708	1412.4
1026	SLV FO 8	-0.0063509	-19052.8	SLV FO 9	0.0004122	1236.5
1027	SLV FO 8	-0.0059565	-17869.5	SLV FO 9	0.0003612	1083.7
1028	SLV FO 8	-0.0056038	-16811.3	SLV FO 9	0.0003185	955.5
1029	SLV FO 8	-0.0053144	-15943.3	SLV FO 9	0.0002839	851.7
1030	SLV FO 8	-0.0050996	-15298.9	SLV FO 9	0.0002572	771.5
1031	SLV FO 8	-0.0049629	-14888.7	SLV FO 9	0.0002378	713.3
1032	SLV FO 8	-0.0049016	-14704.8	SLV FO 9	0.0002249	674.8
1033	SLV FO 8	-0.0049077	-14723	SLV FO 9	0.0002177	653
1034	SLV FO 8	-0.0049675	-14902.5	SLV FO 9	0.0002147	644
1035	SLV FO 8	-0.0050611	-15183.4	SLV FO 9	0.0002143	642.8
1036	SLV FO 8	-0.0051607	-15482.1	SLV FO 9	0.0002144	643.2
1037	SLV FO 8	-0.0052287	-15686.2	SLV FO 9	0.0002124	637.3
1038	SLV FO 8	-0.0052205	-15661.5	SLV FO 9	0.0002053	616
1039	SLV FO 8	-0.0051331	-15399.2	SLV FO 9	0.0001914	574.1
1040	SLV FO 8	-0.004964	-14892	SLV FO 9	0.0001707	512
1041	SLV FO 8	-0.0047675	-14302.6	SLV FO 9	0.000148	444
1042	SLV FO 8	-0.0045847	-13754.1	SLV FO 9	0.0001272	381.5
1043	SLV FO 8	-0.0044431	-13329.2	SLV FO 9	0.0001115	334.4
1044	SLV FO 12	-0.0043641	-13092.4	SLV FO 5	0.0001079	323.7
1045	SLV FO 12	-0.0043586	-13075.9	SLV FO 5	0.0001203	360.8
1046	SLV FO 12	-0.0044194	-13258.2	SLV FO 5	0.0001406	421.8
1047	SLV FO 11	-0.004539	-13617	SLV FO 6	0.0001669	500.7
1048	SLV FO 11	-0.0047022	-14106.5	SLV FO 6	0.0001964	589.1
1049	SLV FO 11	-0.0048824	-14647.2	SLV FO 6	0.000224	672.1
1050	SLV FO 11	-0.0050404	-15121.2	SLV FO 6	0.0002443	732.8
1051	SLV FO 11	-0.0051223	-15366.9	SLV FO 6	0.0002497	749.2
1052	SLV FO 11	-0.0051065	-15319.5	SLV FO 6	0.0002455	736.5
1053	SLV FO 11	-0.0050013	-15003.8	SLV FO 6	0.0002392	717.5
1054	SLV FO 11	-0.0048729	-14618.7	SLV FO 6	0.0002352	705.5
1055	SLV FO 11	-0.0047721	-14316.3	SLV FO 6	0.0002371	711.2
1056	SLV FO 11	-0.0047346	-14203.8	SLV FO 6	0.0002476	742.7
1057	SLV FO 11	-0.0047847	-14354.1	SLV FO 6	0.0002688	806.3
1058	SLV FO 11	-0.004937	-14810.9	SLV FO 6	0.000302	905.9
1059	SLV FO 11	-0.005197	-15591.1	SLV FO 6	0.0003478	1043.4
1060	SLV FO 11	-0.0055599	-16679.7	SLV FO 6	0.0004057	1217.1
1061	SLV FO 11	-0.0060065	-18019.6	SLV FO 6	0.0004736	1420.8
1062	SLV FO 11	-0.0063767	-19130.1	SLV FO 6	0.0005287	1586
1064	SLV FO 8	-0.006572	-19716	SLV FO 9	0.0004969	1490.7
1068	SLV FO 8	-0.0068756	-20626.9	SLV FO 9	0.0006546	1963.9
1081	SLV FO 8	-0.0060261	-18078.4	SLV FO 9	0.0004358	1307.3
1083	SLV FO 8	-0.0059678	-17903.5	SLV FO 9	0.0004227	1268.1
1096	SLV FO 11	-0.0057222	-17166.5	SLV FO 6	0.000446	1337.9

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
1098	SLV FO 11	-0.0057678	-17303.4	SLV FO 6	0.0004432	1329.6
1109	SLV FO 11	-0.0066246	-19873.9	SLV FO 6	0.0007077	2123.1

1.4 Cedimenti fondazioni superficiali

Nodo: *nodo che interagisce col terreno.*
Ind.: *indice del nodo.*
spostamento nodale massimo: *situazione in cui si verifica lo spostamento massimo verticale nel nodo calcolato dal solutore ad elementi finiti. Lo spostamento massimo con segno è quello con valore massimo lungo l'asse Z, dove valori positivi rappresentano spostamenti verso l'alto.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.*
uz: *spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]*
Press.: *pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]*
spostamento nodale minimo: *situazione in cui si verifica lo spostamento minimo verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento minimo con segno è quello con valore minimo lungo l'asse Z, dove valori negativi rappresentano spostamenti verso il basso.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.*
uz: *spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]*
Press.: *pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]*
Cedimento elastico: *cedimento teorico elastico massimo.*
Cont.: *nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico elastico massimo.*
v.: *valore del cedimento teorico elastico massimo. [m]*
Cedimento edometrico: *cedimento teorico edometrico massimo.*
Cont.: *nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico edometrico massimo.*
v.: *valore del cedimento teorico edometrico massimo. [m]*
Cedimento di consolidazione: *cedimento teorico di consolidazione massimo.*
Cont.: *nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico di consolidazione massimo.*
v.: *valore del cedimento teorico di consolidazione massimo. [m]*

Spostamento estremo minimo -0.005668 al nodo di indice 140, di coordinate x = -17.05, y = -4.78, z = -1.95, nel contesto SLD 5.
Spostamento estremo massimo -0.0008289 al nodo di indice 407, di coordinate x = -2.68, y = -2.93, z = -1.95, nel contesto SLD 7.
Cedimento elastico estremo massimo 0.0018028 al nodo di indice 607, di coordinate x = -9.56, y = 0.89, z = -1.95, nel contesto SLE rara 21.

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
11	SLD 11	-2.1E-03	-6411.9	SLD 6	-3.4E-03	-10054.9	SLE RA 21	1.06E-03				
12	SLD 11	-2.2E-03	-6545.6	SLD 6	-3.4E-03	-10262.1	SLE RA 21	0.00109				
13	SLD 7	-2.2E-03	-6597.3	SLD 10	-3.5E-03	-10404.8	SLE RA 21	1.10E-03				
14	SLD 7	-2.2E-03	-6614.8	SLD 10	-3.5E-03	-10567.7	SLE RA 21	1.09E-03				
15	SLD 7	-2.2E-03	-6625.6	SLD 10	-3.6E-03	-10726.9	SLE RA 21	1.07E-03				
16	SLD 7	-2.2E-03	-6631	SLD 10	-3.6E-03	-10877	SLE RA 21	1.02E-03				
17	SLD 7	-2.2E-03	-6626.7	SLD 10	-3.7E-03	-11011.4	SLE RA 21	9.52E-04				
18	SLD 7	-2.2E-03	-6598	SLD 10	-3.7E-03	-11196	SLE RA 21	8.17E-04				
19	SLD 11	-2.2E-03	-6728.8	SLD 6	-3.2E-03	-9621.1	SLE RA 21	1.17E-03				
20	SLD 11	-2.3E-03	-6860.5	SLD 6	-3.3E-03	-9826.6	SLE RA 21	0.001223				
21	SLD 7	-2.3E-03	-6903.7	SLD 10	-3.3E-03	-9960.2	SLE RA 21	1.24E-03				
22	SLD 7	-2.3E-03	-6912.9	SLD 10	-3.4E-03	-10115.8	SLE RA 21	1.23E-03				
23	SLD 7	-2.3E-03	-6919.1	SLD 10	-3.4E-03	-10272.5	SLE RA 21	1.20E-03				
24	SLD 7	-2.3E-03	-6924.6	SLD 10	-3.5E-03	-10426	SLE RA 21	1.16E-03				
25	SLD 7	-2.3E-03	-6923.1	SLD 10	-3.5E-03	-10566.6	SLE RA 21	1.10E-03				
26	SLD 7	-2.3E-03	-6889	SLD 10	-3.6E-03	-10746.3	SLE RA 21	9.59E-04				
27	SLD 11	-2.4E-03	-7181.3	SLD 6	-3.1E-03	-9340.6	SLE RA 21	0.001335				
28	SLD 7	-2.4E-03	-7217.4	SLD 10	-3.4E-03	-10063.8	SLE RA 21	1.21E-03				
29	SLD 11	-2.4E-03	-7064.1	SLD 6	-3.0E-03	-9149.2	SLE RA 21	1.27E-03				
30	SLD 7	-2.4E-03	-7212.9	SLD 10	-3.2E-03	-9455.1	SLE RA 21	1.35E-03				
31	SLD 7	-2.4E-03	-7210.4	SLD 10	-3.2E-03	-9599.3	SLE RA 21	1.35E-03				
32	SLD 7	-2.4E-03	-7211.6	SLD 10	-3.3E-03	-9751.6	SLE RA 21	1.32E-03				
33	SLD 7	-2.4E-03	-7218	SLD 10	-3.3E-03	-9908.9	SLE RA 21	0.001277				
34	SLD 7	-2.4E-03	-7187.8	SLD 10	-3.4E-03	-10248.6	SLE RA 21	1.09E-03				
35	SLD 11	-2.5E-03	-7497.1	SLE RA 21	-3.0E-03	-8923.9	SLE RA 21	1.41E-03				
36	SLD 7	-2.5E-03	-7504.8	SLD 10	-3.2E-03	-9548.8	SLE RA 21	1.29E-03				
37	SLD 11	-2.5E-03	-7394.3	SLE RA 21	-2.9E-03	-8769	SLE RA 21	1.34E-03				
38	SLD 7	-2.5E-03	-7520.1	SLE RA 21	-3.0E-03	-8990.5	SLE RA 21	1.29E-03				
39	SLD 7	-2.5E-03	-7508.3	SLD 10	-3.0E-03	-9083.4	SLE RA 21	1.29E-03				
40	SLD 7	-2.5E-03	-7504.1	SLD 10	-3.1E-03	-9229.7	SLE RA 21	1.40E-03				
41	SLD 7	-2.5E-03	-7508.9	SLD 10	-3.1E-03	-9386.4	SLE RA 21	1.36E-03				
42	SLD 7	-2.5E-03	-7474.5	SLD 10	-3.2E-03	-9734.1	SLE RA 21	1.17E-03				
44	SLE RA 1	-2.6E-03	-7808.2	SLE RA 21	-2.9E-03	-8833.6	SLE RA 21	1.29E-03				
45	SLD 7	-2.6E-03	-7796	SLE RA 21	-3.1E-03	-9187.6	SLE RA 21	1.32E-03				
46	SLE RA 1	-2.6E-03	-7678.6	SLE RA 21	-2.9E-03	-8686.4	SLE RA 21	1.36E-03				
47	SLD 7	-2.6E-03	-7837.7	SLE RA 21	-3.0E-03	-8894.7	SLE RA 21	1.30E-03				
48	SLD 7	-2.6E-03	-7822.6	SLE RA 21	-3.0E-03	-8955.8	SLE RA 21	1.30E-03				
49	SLD 7	-2.6E-03	-7813.1	SLE RA 21	-3.0E-03	-9026.7	SLE RA 21	1.29E-03				
50	SLD 7	-2.6E-03	-7810.7	SLE RA 21	-3.0E-03	-9107.1	SLE RA 21	1.38E-03				
51	SLD 3	-2.6E-03	-7736.5	SLE RA 21	-3.1E-03	-9265.1	SLE RA 21	1.20E-03				
52	SLE RA 2	-2.6E-03	-7733.1	SLE RA 20	-2.9E-03	-8759.2	SLE RA 21	1.28E-03				
53	SLD 3	-2.6E-03	-7864.6	SLE RA 20	-3.0E-03	-9077.8	SLE RA 21	1.31E-03				
54	SLD 9	-2.5E-03	-7589.4	SLE RA 20	-2.9E-03	-8613.9	SLE RA 21	1.34E-03				
55	SLE RA 2	-2.6E-03	-7789.9	SLE RA 20	-2.9E-03	-8821.6	SLE RA 21	1.29E-03				
56	SLE RA 2	-2.6E-03	-7845.2	SLE RA 20	-3.0E-03	-8881.6	SLE RA 21	1.29E-03				
57	SLE RA 2	-2.6E-03	-7903.4	SLE RA 20	-3.0E-03	-8944.8	SLE RA 21	0.001401				
58	SLD 3	-2.6E-03	-7912.8	SLE RA 20	-3.0E-03	-9011.5	SLE RA 21	1.36E-03				
59	SLD 3	-2.6E-03	-7758.4	SLE RA 21	-3.0E-03	-9143.5	SLE RA 21	1.19E-03				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
66	SLD 10	-2.5E-03	-7393.6	SLE RA 20	-2.9E-03	-8689.6	SLE RA 20	1.33E-03				
67	SLD 1	-2.6E-03	-7718.7	SLE RA 20	-3.0E-03	-8980.9	SLE RA 20	1.25E-03				
68	SLD 10	-2.4E-03	-7123.8	SLE RA 20	-2.8E-03	-8543.5	SLE RA 20	1.28E-03				
69	SLD 6	-2.5E-03	-7476.6	SLE RA 20	-2.9E-03	-8751.8	SLE RA 20	1.35E-03				
70	SLD 6	-2.5E-03	-7551.9	SLE RA 20	-2.9E-03	-8810.9	SLE RA 20	1.35E-03				
71	SLD 5	-2.5E-03	-7624.8	SLE RA 20	-3.0E-03	-8867.9	SLE RA 20	1.33E-03				
72	SLD 5	-2.6E-03	-7698.6	SLE RA 20	-3.0E-03	-8923.8	SLE RA 20	1.30E-03				
73	SLD 1	-2.5E-03	-7639.7	SLE RA 20	-3.0E-03	-9036.6	SLE RA 20	1.15E-03				
140	SLD 12	-9.9E-04	-2967.8	SLD 5	-5.7E-03	-17004.1						
141	SLD 12	-9.9E-04	-2982.2	SLD 5	-5.6E-03	-16821.3						
142	SLD 12	-1.0E-03	-3015.6	SLD 5	-5.6E-03	-16692.7						
143	SLD 12	-1.0E-03	-3062.4	SLD 5	-5.5E-03	-16622.8						
144	SLD 12	-0.00104	-3119.9	SLD 5	-5.5E-03	-16610.1	SLE RA 21	2.30E-06				
145	SLD 12	-1.1E-03	-3187.1	SLD 5	-5.6E-03	-16650.9	SLE RA 21	4.44E-06				
146	SLD 12	-1.1E-03	-3262	SLD 5	-5.6E-03	-16736.2	SLE RA 21	6.87E-06				
147	SLD 12	-1.1E-03	-3339.7	SLD 5	-5.6E-03	-16850.1	SLE RA 21	1.03E-05				
148	SLD 12	-1.1E-03	-3413.4	SLD 5	-5.7E-03	-16970.8	SLE RA 21	1.56E-05				
149	SLD 12	-1.1E-03	-3447.3	SLD 5	-5.7E-03	-16981.3	SLE RA 21	2.21E-05				
150	SLD 7	-1.1E-03	-3167	SLD 10	-5.3E-03	-16040.6	SLE RA 21	1.72E-04				
151	SLD 7	-1.1E-03	-3164.7	SLD 10	-5.4E-03	-16163.1	SLE RA 21	1.08E-04				
152	SLD 7	-1.0E-03	-3139.9	SLD 10	-5.4E-03	-16206.5	SLE RA 21	5.33E-05				
153	SLD 7	-1.0E-03	-3100.6	SLD 10	-5.4E-03	-16210.2	SLE RA 21	8.94E-06				
154	SLD 7	-1.0E-03	-3054.3	SLD 10	-5.4E-03	-16206.6	SLE RA 21	3.35E-06				
155	SLD 7	-1.0E-03	-3006.9	SLD 10	-5.4E-03	-16220.3	SLE RA 21	9.12E-07				
156	SLD 7	-9.9E-04	-2961.7	SLD 10	-5.4E-03	-16267.3						
157	SLD 7	-9.7E-04	-2921.3	SLD 10	-5.5E-03	-16356.7						
158	SLD 7	-9.6E-04	-2888.9	SLD 10	-5.5E-03	-16492.2						
159	SLD 7	-9.6E-04	-2869.8	SLD 10	-5.6E-03	-16669.3						
176	SLD 7	-1.1E-03	-3216.4	SLD 10	-5.2E-03	-15667.4	SLE RA 21	1.96E-04				
187	SLD 12	-1.1E-03	-3241.6	SLD 5	-5.4E-03	-16132.8						
188	SLD 12	-1.1E-03	-3244.3	SLD 5	-5.3E-03	-15927.1	SLE RA 21	1.11E-05				
189	SLD 12	-1.1E-03	-3256.1	SLD 5	-5.3E-03	-15753.3	SLE RA 21	2.92E-05				
190	SLD 12	-1.1E-03	-3280.8	SLD 5	-5.2E-03	-15635	SLE RA 21	3.69E-05				
191	SLD 12	-1.1E-03	-3322.2	SLD 5	-5.2E-03	-15587.4	SLE RA 21	0.000062				
192	SLD 12	-1.1E-03	-3383.6	SLD 5	-5.2E-03	-15617.6	SLE RA 21	8.86E-05				
193	SLD 12	-1.2E-03	-3464.5	SLD 5	-5.2E-03	-15720.6	SLE RA 21	1.11E-04				
194	SLD 12	-1.2E-03	-3559	SLD 5	-5.3E-03	-15876.7	SLE RA 21	1.29E-04				
195	SLD 12	-1.2E-03	-3650.9	SLD 5	-5.3E-03	-16036.4	SLE RA 21	1.45E-04				
196	SLD 12	-1.2E-03	-3713.4	SLD 5	-5.4E-03	-16118.4	SLE RA 21	1.61E-04				
199	SLD 7	-1.2E-03	-3466.5	SLD 10	-5.0E-03	-14975	SLE RA 21	3.16E-04				
200	SLD 7	-1.2E-03	-3458.2	SLD 10	-5.0E-03	-15067.4	SLE RA 21	3.12E-04				
201	SLD 7	-1.1E-03	-3425.7	SLD 10	-5.0E-03	-15079.4	SLE RA 21	2.28E-04				
202	SLD 7	-1.1E-03	-3381.9	SLD 10	-5.0E-03	-15060.4	SLE RA 21	0.000174				
203	SLD 7	-1.1E-03	-3337.7	SLD 10	-5.0E-03	-15051.6	SLE RA 21	1.32E-04				
204	SLD 7	-1.1E-03	-3300.4	SLD 10	-5.0E-03	-15081.8	SLE RA 21	9.29E-05				
205	SLD 7	-1.1E-03	-3272.8	SLD 10	-5.1E-03	-15165.3	SLE RA 21	5.23E-05				
206	SLD 7	-1.1E-03	-3254.5	SLD 10	-5.1E-03	-15302.4	SLE RA 21	3.36E-05				
207	SLD 7	-1.1E-03	-3243.3	SLD 10	-5.2E-03	-15480.8	SLE RA 21	1.45E-05				
208	SLD 7	-1.1E-03	-3236.4	SLD 10	-5.2E-03	-15680.2						
209	SLD 12	-1.2E-03	-3710.2	SLD 5	-5.1E-03	-15334.1	SLE RA 21	2.07E-04				
210	SLD 12	-1.2E-03	-3627.8	SLD 5	-5.0E-03	-14967.6	SLE RA 21	2.16E-04				
211	SLD 12	-1.2E-03	-3541.4	SLD 5	-4.9E-03	-14613.2	SLE RA 21	1.81E-04				
212	SLD 8	-1.2E-03	-3480.4	SLD 9	-4.8E-03	-14375.7	SLE RA 21	2.12E-04				
213	SLD 7	-1.1E-03	-3449.2	SLD 10	-4.8E-03	-14314.9	SLE RA 21	2.60E-04				
214	SLD 7	-1.2E-03	-3455.5	SLD 10	-4.8E-03	-14419.2	SLE RA 21	3.11E-04				
215	SLD 7	-1.2E-03	-3484.2	SLD 10	-4.9E-03	-14631.7	SLE RA 21	3.43E-04				
216	SLD 7	-1.2E-03	-3505.7	SLD 10	-4.9E-03	-14842.4	SLE RA 21	3.40E-04				
217	SLD 7	-1.2E-03	-3505.8	SLD 10	-4.9E-03	-14689.8	SLE RA 21	3.48E-04				
220	SLD 12	-1.2E-03	-3519.3	SLD 5	-5.1E-03	-15281.2						
221	SLD 12	-1.2E-03	-3505	SLD 5	-5.0E-03	-15040.9	SLE RA 21	3.85E-05				
222	SLD 12	-1.2E-03	-3494.6	SLD 5	-4.9E-03	-14819.8	SLE RA 21	0.000095				
223	SLD 12	-1.2E-03	-3495.8	SLD 5	-4.9E-03	-14650	SLE RA 21	1.37E-04				
224	SLD 12	-1.2E-03	-3518.7	SLD 5	-4.9E-03	-14562.7	SLE RA 21	1.71E-04				
225	SLD 12	-1.2E-03	-3571.4	SLD 5	-4.9E-03	-14577.7	SLE RA 21	2.00E-04				
226	SLD 12	-1.2E-03	-3657	SLD 5	-4.9E-03	-14697.7	SLE RA 21	2.24E-04				
227	SLD 12	-1.3E-03	-3770.6	SLD 5	-5.0E-03	-14904.6	SLE RA 21	2.46E-04				
228	SLD 12	-1.3E-03	-3896.6	SLD 5	-5.1E-03	-15157.2	SLE RA 21	2.62E-04				
229	SLD 12	-1.3E-03	-4017.3	SLD 5	-5.1E-03	-15426.1	SLE RA 21	2.66E-04				
233	SLD 7	-1.3E-03	-3753.5	SLD 10	-4.7E-03	-14007.1	SLE RA 21	0.000437				
234	SLD 7	-1.2E-03	-3709.5	SLD 10	-4.7E-03	-13974.1	SLE RA 21	4.05E-04				
235	SLD 7	-1.2E-03	-3659.3	SLD 10	-4.6E-03	-13924.2	SLE RA 21	3.37E-04				
236	SLD 7	-1.2E-03	-3616.7	SLD 10	-4.6E-03	-13906.3	SLE RA 21	2.75E-04				
237	SLD 7	-1.2E-03	-3590	SLD 10	-4.7E-03	-13952.8	SLE RA 21	2.14E-04				
238	SLD 7	-1.2E-03	-3580.7	SLD 10	-4.7E-03	-14074.9	SLE RA 21	1.70E-04				
239	SLD 7	-1.2E-03	-3584.3	SLD 10	-4.8E-03	-14261.2	SLE RA 21	1.23E-04				
240	SLD 7	-1.2E-03	-3593.4	SLD 10	-4.8E-03	-14481.8	SLE RA 21	6.32E-05				
241	SLD 7	-1.2E-03	-3602.1	SLD 10	-4.9E-03	-14711.3	SLE RA 21	3.66E-06				
242	SLD 7	-1.3E-03	-3805.4	SLD 10	-4.6E-03	-13792.9	SLE RA 21	4.75E-04				
243	SLD 7	-1.3E-03	-3804.1	SLD 10	-4.6E-03	-13870.9	SLE RA 21	4.80E-04				
245	SLD 12	-1.3E-03	-3786.1	SLD 5	-4.8E-03	-14432.2	SLE RA 21	0.000072				
246	SLD 12	-1.3E-03	-3756.1	SLD 5	-4.7E-03	-14158.3	SLE RA 21	1.30E-04				
247	SLD 12	-1.2E-03	-3724.8	SLD 5	-4.6E-03	-13892.2	SLE RA 21	1.79E-04				
248	SLD 12	-1.2E-03	-3702.2	SLD 5	-4.6E-03	-13668.7	SLE RA 21	2.18E-04				
249	SLD 12	-1.2E-03	-3704.3	SLD 5	-4.5E-03	-13537.6	SLE RA 21	2.62E-04				
250	SLD 12	-1.2E-03	-3744.9	SLD 5	-4.5E-03	-13532.3	SLE RA 21	3.04E-04				
251	SLD 12	-1.3E-03	-3831.3	SLD 5	-4.6E-03	-13664.7	SLE RA 21	3.43E-04				
252	SLD 12	-1.3E-03	-3963.6	SLD 5	-4.6E-03	-13927.1	SLE RA 21	3.37E-04				
253	SLD 12	-1.4E-03	-4129.5	SLD 5	-4.8E-03	-14293.6	SLE RA 21	3.41E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
255	SLD 8	-1.4E-03	-4328.9	SLD 9	-4.9E-03	-14663.3	SLE RA 21	0.000352				
256	SLD 7	-1.3E-03	-4043.3	SLD 10	-0.00433	-12989.9	SLE RA 21	5.61E-04				
257	SLD 7	-1.3E-03	-3986.4	SLD 10	-4.3E-03	-12901.2	SLE RA 21	5.04E-04				
258	SLD 7	-1.3E-03	-3928.9	SLD 10	-4.3E-03	-12810.8	SLE RA 21	4.35E-04				
259	SLD 7	-1.3E-03	-3887.2	SLD 10	-4.3E-03	-12778.3	SLE RA 21	3.70E-04				
260	SLD 7	-1.3E-03	-3869.6	SLD 10	-4.3E-03	-12837.3	SLE RA 21	3.38E-04				
261	SLD 7	-1.3E-03	-3876.9	SLD 10	-4.3E-03	-12996.5	SLE RA 21	2.80E-04				
262	SLD 7	-1.3E-03	-3900.5	SLD 10	-4.4E-03	-13232.7	SLE RA 21	2.19E-04				
263	SLD 7	-1.3E-03	-3922.7	SLD 10	-4.5E-03	-13481.3	SLE RA 21	1.63E-04				
264	SLD 7	-1.3E-03	-3938.6	SLD 10	-4.6E-03	-13726.9	SLE RA 21	1.11E-04				
265	SLD 7	-1.4E-03	-4092.5	SLD 10	-4.3E-03	-12930.6	SLE RA 21	5.78E-04				
266	SLD 7	-1.4E-03	-4089.1	SLD 10	-4.3E-03	-12961.5	SLE RA 21	5.93E-04				
269	SLD 12	-1.3E-03	-4019.4	SLD 5	-4.5E-03	-13548	SLE RA 21	1.74E-04				
270	SLD 12	-1.3E-03	-3983.7	SLD 5	-4.4E-03	-13259.4	SLE RA 21	0.000222				
271	SLD 12	-1.3E-03	-3939.2	SLD 5	-4.3E-03	-12964.7	SLE RA 21	2.67E-04				
272	SLD 12	-1.3E-03	-3893.7	SLD 5	-4.2E-03	-12685.3	SLE RA 21	2.82E-04				
273	SLD 12	-1.3E-03	-3874.8	SLD 5	-4.2E-03	-12508.1	SLE RA 21	3.21E-04				
274	SLD 12	-0.0013	-3900	SLD 5	-4.2E-03	-12477.9	SLE RA 21	0.000359				
275	SLD 12	-1.3E-03	-3979.6	SLD 5	-4.2E-03	-12612	SLE RA 21	0.000392				
276	SLD 12	-1.4E-03	-4120.3	SLD 5	-4.3E-03	-12913	SLE RA 21	0.000412				
277	SLD 12	-1.4E-03	-4316.7	SLD 5	-4.5E-03	-13372	SLE RA 21	4.11E-04				
279	SLD 8	-1.5E-03	-4546.5	SLD 9	-4.6E-03	-13935	SLE RA 21	4.17E-04				
281	SLD 12	-1.1E-03	-3319.3	SLD 5	-5.4E-03	-16117.5	SLE RA 21	0.000072				
297	SLD 12	-1.2E-03	-3693.3	SLD 5	-4.2E-03	-12714.4	SLE RA 21	1.96E-04				
299	SLD 12	-1.3E-03	-3911.9	SLD 5	-4.3E-03	-12874.4	SLE RA 21	2.46E-04				
303	SLD 12	-1.4E-03	-4189.8	SLD 5	-4.2E-03	-12569.4	SLE RA 21	3.10E-04				
305	SLD 12	-1.4E-03	-4166.7	SLD 5	-4.1E-03	-12305.8	SLE RA 21	2.93E-04				
306	SLD 12	-1.4E-03	-4128.9	SLD 5	-4.0E-03	-12038.1	SLE RA 21	3.05E-04				
307	SLD 12	-1.4E-03	-4066.7	SLD 5	-3.9E-03	-11693.8	SLE RA 21	3.30E-04				
308	SLD 12	-1.3E-03	-4030.2	SLD 5	-3.8E-03	-11472.2	SLE RA 21	3.62E-04				
309	SLD 12	-1.3E-03	-4038.1	SLD 5	-3.8E-03	-11413.4	SLE RA 21	3.97E-04				
310	SLD 12	-1.4E-03	-4102.5	SLD 5	-3.8E-03	-11535.2	SLE RA 21	4.37E-04				
311	SLD 12	-1.4E-03	-4228.9	SLD 5	-3.9E-03	-11837	SLE RA 21	4.65E-04				
312	SLD 12	-1.5E-03	-4418	SLD 5	-4.1E-03	-12311.1	SLE RA 21	4.70E-04				
313	SLD 12	-1.5E-03	-4470.5	SLD 5	-4.2E-03	-12465.5	SLE RA 21	4.67E-04				
314	SLD 8	-1.6E-03	-4672.3	SLD 9	-4.3E-03	-13049.3	SLE RA 21	4.45E-04				
315	SLD 11	-1.4E-03	-4346	SLD 6	-4.0E-03	-12061.3	SLE RA 21	6.43E-04				
316	SLD 7	-0.00145	-4350.1	SLD 10	-4.0E-03	-12043.3	SLE RA 21	0.000668				
318	SLD 7	-1.4E-03	-4315.1	SLD 10	-4.0E-03	-11993.2	SLE RA 21	6.46E-04				
319	SLD 7	-1.4E-03	-4184.2	SLD 10	-4.1E-03	-12203.7	SLE RA 21	2.77E-04				
320	SLD 7	-1.4E-03	-4201.1	SLD 10	-4.1E-03	-12427.9	SLE RA 21	2.51E-04				
322	SLD 7	-1.4E-03	-4204.3	SLD 10	-4.2E-03	-12649.9	SLE RA 21	2.54E-04				
326	SLD 7	-1.3E-03	-3857	SLD 10	-4.3E-03	-12922.9	SLE RA 21	1.67E-04				
328	SLD 7	-1.2E-03	-3622.6	SLD 10	-4.3E-03	-12789.7	SLE RA 21	1.21E-04				
343	SLD 7	-9.9E-04	-2961.2	SLD 10	-5.0E-03	-14954.6	SLE RA 21	8.35E-05				
347	SLD 7	-1.4E-03	-4250.2	SLD 10	-3.9E-03	-11842.6	SLE RA 21	5.95E-04				
348	SLD 7	-1.4E-03	-4187.8	SLD 10	-3.9E-03	-11712.1	SLE RA 21	0.000529				
349	SLD 7	-1.4E-03	-4146.4	SLD 10	-3.9E-03	-11662	SLE RA 21	4.59E-04				
350	SLD 7	-1.4E-03	-4134.4	SLD 10	-3.9E-03	-11727.1	SLE RA 21	3.90E-04				
351	SLD 7	-1.4E-03	-4150.5	SLD 10	-4.0E-03	-11914.3	SLE RA 21	3.24E-04				
354	SLD 12	-1.2E-03	-3676	SLD 5	-5.2E-03	-15685.2	SLE RA 21	9.44E-05				
355	SLD 12	-1.1E-03	-3381.7	SLD 5	-4.7E-03	-14181.8	SLE RA 21	3.52E-05				
356	SLD 12	-1.0E-03	-3123.3	SLD 5	-4.3E-03	-12823.8	SLE RA 21	2.78E-05				
357	SLD 12	-9.7E-04	-2911.5	SLD 5	-3.9E-03	-11661.4	SLE RA 21	1.97E-05				
358	SLD 12	-9.2E-04	-2750.2	SLD 5	-3.6E-03	-10716.2	SLE RA 21	1.22E-05				
359	SLD 12	-8.8E-04	-2639.6	SLD 5	-3.3E-03	-9992	SLE RA 21	0.000006				
360	SLD 12	-8.6E-04	-2578.3	SLD 5	-3.2E-03	-9482.5	SLE RA 21	1.73E-06				
361	SLD 12	-8.5E-04	-2564	SLD 5	-3.1E-03	-9176.7						
362	SLD 12	-8.6E-04	-2594.9	SLD 5	-3.0E-03	-9061.7						
363	SLD 12	-8.9E-04	-2669.5	SLD 5	-3.0E-03	-9123.6	SLE RA 21	1.55E-06				
364	SLD 12	-9.3E-04	-2786.4	SLD 5	-3.1E-03	-9346.6	SLE RA 21	5.78E-06				
365	SLD 12	-9.8E-04	-2943.5	SLD 5	-3.2E-03	-9710.1	SLE RA 21	1.22E-05				
366	SLD 12	-1.0E-03	-3136.7	SLD 5	-3.4E-03	-10184.8	SLE RA 21	2.07E-05				
367	SLD 12	-1.1E-03	-3358.5	SLD 5	-3.6E-03	-10726.7	SLE RA 21	8.14E-05				
368	SLD 12	-1.2E-03	-3595	SLD 5	-3.8E-03	-11269.5	SLE RA 21	1.82E-04				
369	SLD 12	-1.3E-03	-3823.9	SLD 5	-3.9E-03	-11716.8	SLE RA 21	0.000281				
370	SLD 12	-1.3E-03	-4012.9	SLD 5	-4.0E-03	-11942.1	SLE RA 21	3.63E-04				
371	SLD 12	-1.4E-03	-4153.3	SLD 5	-4.0E-03	-11988	SLE RA 21	3.94E-04				
372	SLD 12	-1.4E-03	-4258.6	SLD 5	-4.0E-03	-11869	SLE RA 21	3.91E-04				
373	SLD 12	-1.4E-03	-4325.2	SLD 5	-3.9E-03	-11642.2	SLE RA 21	3.71E-04				
374	SLD 12	-1.4E-03	-4343.1	SLD 5	-3.8E-03	-11342.4	SLE RA 21	3.50E-04				
375	SLD 12	-1.4E-03	-4339.7	SLD 5	-3.7E-03	-11095.5	SLE RA 21	3.40E-04				
376	SLD 12	-1.4E-03	-4310.2	SLD 5	-3.6E-03	-10832.1	SLE RA 21	3.39E-04				
377	SLD 12	-1.4E-03	-4249	SLD 5	-3.5E-03	-10481.7	SLE RA 21	3.55E-04				
378	SLD 12	-1.4E-03	-4201.2	SLD 5	-3.4E-03	-10241.8	SLE RA 21	3.85E-04				
379	SLD 12	-1.4E-03	-4193.9	SLD 5	-3.4E-03	-10169.1	SLE RA 21	4.25E-04				
380	SLD 12	-1.4E-03	-4241.3	SLD 5	-3.4E-03	-10286.5	SLE RA 21	4.65E-04				
381	SLD 12	-1.4E-03	-4346.5	SLD 5	-3.5E-03	-10590.8	SLE RA 21	4.95E-04				
382	SLD 8	-1.5E-03	-4496.2	SLD 9	-3.7E-03	-11063.1	SLE RA 21	5.00E-04				
383	SLD 8	-1.6E-03	-4747.4	SLD 9	-3.9E-03	-11810	SLE RA 21	4.73E-04				
384	SLD 11	-1.5E-03	-4591.3	SLD 6	-3.7E-03	-11180.7	SLE RA 21	7.13E-04				
385	SLD 7	-1.5E-03	-4562.9	SLD 10	-3.7E-03	-11065.4	SLE RA 21	6.92E-04				
386	SLD 7	-1.5E-03	-4495.8	SLD 10	-3.6E-03	-10872.3	SLE RA 21	6.42E-04				
387	SLD 7	-1.5E-03	-4429.3	SLD 10	-3.6E-03	-10701.3	SLE RA 21	5.75E-04				
388	SLD 7	-1.5E-03	-4385.9	SLD 10	-3.5E-03	-10624.7	SLE RA 21	5.05E-04				
389	SLD 7	-1.5E-03	-4374.1	SLD 10	-3.6E-03	-10677.8	SLE RA 21	4.38E-04				
390	SLD 7	-1.5E-03	-4390.1	SLD 10	-3.6E-03	-10862.1	SLE RA 21	3.80E-04				
391	SLD 7	-1.5E-03	-4416.1	SLD 10	-3.7E-03	-11143.6	SLE RA 21	3.32E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
392	SLD 7	-1.5E-03	-4424.5	SLD 10	-3.8E-03	-11361.3	SLE RA 21	3.06E-04				
393	SLD 7	-1.5E-03	-4411.5	SLD 10	-3.9E-03	-11570.7	SLE RA 21	2.90E-04				
394	SLD 7	-1.5E-03	-4383.5	SLD 10	-3.9E-03	-11734.4	SLE RA 21	2.88E-04				
395	SLD 7	-1.4E-03	-4281.3	SLD 10	-4.0E-03	-11967.1	SLE RA 21	2.90E-04				
396	SLD 7	-1.4E-03	-4130.4	SLD 10	-4.0E-03	-12064.7	SLE RA 21	2.82E-04				
397	SLD 7	-1.4E-03	-4059.2	SLD 10	-4.0E-03	-12043.5	SLE RA 21	2.72E-04				
398	SLD 7	-1.3E-03	-3824.8	SLD 10	-4.0E-03	-11910.3	SLE RA 21	2.14E-04				
399	SLD 7	-1.3E-03	-3751.3	SLD 10	-3.9E-03	-11845.3	SLE RA 21	1.91E-04				
400	SLD 7	-1.2E-03	-3525.8	SLD 10	-3.8E-03	-11471.5	SLE RA 21	1.13E-04				
401	SLD 7	-1.1E-03	-3288.6	SLD 10	-3.6E-03	-10939.7	SLE RA 21	2.78E-05				
402	SLD 7	-1.0E-03	-3065	SLD 10	-3.5E-03	-10375.3	SLE RA 21	1.84E-05				
403	SLD 7	-9.6E-04	-2870.1	SLD 10	-3.3E-03	-9863.6	SLE RA 21	1.05E-05				
404	SLD 7	-9.0E-04	-2711.9	SLD 10	-3.2E-03	-9460.4	SLE RA 21	4.53E-06				
405	SLD 7	-8.6E-04	-2594.2	SLD 10	-3.1E-03	-9201.5	SLE RA 21	6.81E-07				
406	SLD 7	-8.4E-04	-2518.8	SLD 10	-3.0E-03	-9110.9						
407	SLD 7	-8.3E-04	-2486.8	SLD 10	-3.1E-03	-9206.8						
408	SLD 7	-8.3E-04	-2500.2	SLD 10	-3.2E-03	-9505.3	SLE RA 21	2.32E-06				
409	SLD 7	-8.5E-04	-2561.7	SLD 10	-3.3E-03	-10022.5	SLE RA 21	7.30E-06				
410	SLD 7	-8.9E-04	-2674.9	SLD 10	-3.6E-03	-10773.7	SLE RA 21	1.41E-05				
411	SLD 7	-9.5E-04	-2843.4	SLD 10	-3.9E-03	-11769.6	SLE RA 21	0.000022				
412	SLD 7	-1.0E-03	-3069.1	SLD 10	-4.3E-03	-13009.7	SLE RA 21	2.96E-05				
413	SLD 7	-1.1E-03	-3350	SLD 10	-4.8E-03	-14473.3	SLE RA 21	3.59E-05				
414	SLD 7	-1.2E-03	-3487.5	SLD 10	-5.1E-03	-15166.9	SLE RA 21	8.71E-05				
416	SLD 12	-1.2E-03	-3522	SLD 5	-4.8E-03	-14547.8	SLE RA 21	3.73E-05				
417	SLD 12	-1.3E-03	-3951.3	SLD 5	-3.9E-03	-11799.8	SLE RA 21	0.000334				
419	SLD 12	-1.4E-03	-4167.2	SLD 5	-4.0E-03	-11953.6	SLE RA 21	4.07E-04				
420	SLD 7	-1.4E-03	-4101.1	SLD 10	-4.0E-03	-11966.4	SLE RA 21	2.89E-04				
422	SLD 7	-1.3E-03	-3869.3	SLD 10	-3.9E-03	-11843.8	SLE RA 21	2.25E-04				
423	SLD 7	-1.1E-03	-3249	SLD 10	-4.5E-03	-13602	SLE RA 21	3.29E-05				
425	SLD 11	-1.5E-03	-4621.1	SLD 6	-3.7E-03	-11118.6	SLE RA 21	6.98E-04				
430	SLD 12	-1.3E-03	-3798.2	SLD 5	-4.4E-03	-13257.6	SLE RA 21	3.42E-05				
431	SLD 12	-1.4E-03	-4259.2	SLD 5	-3.7E-03	-11078.3	SLE RA 21	4.35E-04				
433	SLD 12	-1.5E-03	-4468.5	SLD 5	-3.7E-03	-11215.7	SLE RA 21	4.98E-04				
434	SLD 7	-1.5E-03	-4385.9	SLD 10	-3.7E-03	-11183.2	SLE RA 21	3.81E-04				
436	SLD 7	-1.4E-03	-4160.9	SLD 10	-3.7E-03	-11089	SLE RA 21	3.19E-04				
437	SLD 7	-1.2E-03	-3590	SLD 10	-4.2E-03	-12454.7	SLE RA 21	3.13E-05				
439	SLD 11	-1.6E-03	-4920.6	SLD 6	-3.5E-03	-10375.7	SLE RA 21	7.96E-04				
444	SLD 12	-1.4E-03	-4160.2	SLD 5	-4.1E-03	-12265.3	SLE RA 21	7.51E-05				
445	SLD 12	-1.5E-03	-4607.4	SLD 5	-3.5E-03	-10494.3	SLE RA 21	4.93E-04				
447	SLD 12	-1.6E-03	-4810.2	SLD 5	-3.5E-03	-10615.4	SLE RA 21	5.66E-04				
448	SLD 7	-1.6E-03	-4707.4	SLD 10	-3.5E-03	-10532.4	SLE RA 21	4.46E-04				
450	SLD 7	-1.5E-03	-4488.9	SLD 10	-3.5E-03	-10466.4	SLE RA 21	3.73E-04				
451	SLD 7	-1.3E-03	-4000	SLD 10	-3.8E-03	-11546.8	SLE RA 21	2.96E-05				
453	SLD 11	-1.8E-03	-5269.2	SLD 6	-3.3E-03	-9841.8	SLE RA 21	9.33E-04				
457	SLD 8	-1.5E-03	-4422.3	SLD 9	-2.5E-03	-7477.1	SLE RA 21	0.000562				
459	SLD 12	-1.5E-03	-4613.2	SLD 5	-3.9E-03	-11557.4	SLE RA 21	5.86E-05				
460	SLD 12	-1.7E-03	-4989.7	SLD 5	-3.3E-03	-10008	SLE RA 21	5.53E-04				
462	SLD 12	-1.7E-03	-5186.4	SLD 5	-3.4E-03	-10112.8	SLE RA 21	6.14E-04				
463	SLD 7	-1.7E-03	-5059.9	SLD 10	-3.3E-03	-9972.2	SLE RA 21	5.02E-04				
465	SLD 7	-1.6E-03	-4847.5	SLD 10	-3.3E-03	-9934.5	SLE RA 21	4.34E-04				
466	SLD 7	-1.5E-03	-4488.8	SLD 10	-3.6E-03	-10886.9	SLE RA 21	2.91E-05				
468	SLD 11	-1.9E-03	-5675.4	SLD 6	-3.2E-03	-9493.1	SLE RA 21	1.15E-03				
473	SLD 16	-1.7E-03	-5101.3	SLD 1	-3.7E-03	-11161.2	SLE RA 21	0.000055				
474	SLD 12	-1.8E-03	-5403.1	SLD 5	-3.2E-03	-9594.8	SLE RA 21	6.23E-04				
476	SLD 12	-1.9E-03	-5593.7	SLD 5	-3.2E-03	-9683.3	SLE RA 21	6.73E-04				
477	SLD 7	-1.8E-03	-5440.3	SLD 10	-3.2E-03	-9476	SLE RA 21	5.63E-04				
479	SLD 7	-1.7E-03	-5233.8	SLD 10	-3.2E-03	-9466.5	SLE RA 21	5.03E-04				
480	SLD 7	-1.7E-03	-5060.3	SLD 10	-3.5E-03	-10465.5	SLE RA 21	3.11E-05				
483	SLD 11	-2.0E-03	-6130.8	SLD 6	-3.1E-03	-9275.3	SLE RA 21	1.39E-03				
488	SLD 16	-1.8E-03	-5376.2	SLD 1	-3.8E-03	-11279.6	SLE RA 21	5.81E-05				
489	SLD 12	-1.9E-03	-5844.5	SLD 5	-3.1E-03	-9241	SLE RA 21	7.21E-04				
491	SLD 12	-2.0E-03	-6029.3	SLD 5	-3.1E-03	-9313.2	SLE RA 21	7.66E-04				
492	SLD 7	-1.9E-03	-5847.5	SLD 10	-3.0E-03	-9028.1	SLE RA 21	6.55E-04				
494	SLD 7	-1.9E-03	-5646.7	SLD 10	-3.0E-03	-9046.8	SLE RA 21	5.93E-04				
495	SLD 3	-1.8E-03	-5410	SLD 14	-3.5E-03	-10558.6	SLE RA 21	3.61E-05				
497	SLD 11	-2.2E-03	-6608.8	SLD 6	-3.0E-03	-9102.8	SLE RA 21	1.59E-03				
514	SLD 16	-1.9E-03	-5718.2	SLD 1	-3.9E-03	-11564.2	SLE RA 21	6.71E-05				
515	SLD 12	-2.1E-03	-6308.4	SLD 5	-3.0E-03	-8938.8	SLE RA 21	8.60E-04				
517	SLD 12	-2.2E-03	-6487.5	SLD 5	-3.0E-03	-8994.7	SLE RA 21	9.15E-04				
518	SLD 7	-2.1E-03	-6281.8	SLD 10	-2.9E-03	-8620.7	SLE RA 21	7.87E-04				
520	SLD 7	-2.0E-03	-6086.6	SLD 10	-2.9E-03	-8667.6	SLE RA 21	7.13E-04				
521	SLD 3	-1.9E-03	-5793.9	SLD 14	-3.6E-03	-10855.1	SLE RA 21	9.55E-05				
524	SLD 4	-1.8E-03	-5429.3	SLE RA 20	-2.1E-03	-6203.3	SLE RA 21	6.29E-04				
525	SLD 11	-2.4E-03	-7269.5	SLD 6	-2.9E-03	-8787	SLE RA 21	1.57E-03				
527	SLD 8	-2.9E-03	-8567.8	SLE RA 21	-3.5E-03	-10363.2	SLE RA 21	1.12E-03				
528	SLD 8	-2.7E-03	-8083.1	SLE RA 21	-3.3E-03	-9753.8	SLE RA 21	1.22E-03				
529	SLD 8	-2.6E-03	-7671.7	SLE RA 21	-3.1E-03	-9236.2	SLE RA 21	1.39E-03				
530	SLD 11	-2.4E-03	-7327.5	SLD 6	-3.0E-03	-9041.9	SLE RA 21	1.62E-03				
532	SLD 16	-2.0E-03	-6094.6	SLD 1	-4.0E-03	-11946.2	SLE RA 21	1.34E-04				
533	SLD 16	-2.3E-03	-6761.3	SLD 1	-2.9E-03	-8704.7	SLE RA 21	9.10E-04				
535	SLD 12	-2.3E-03	-6956.1	SLD 5	-2.9E-03	-8722.8	SLE RA 21	1.08E-03				
536	SLD 7	-2.2E-03	-6743.8	SLD 10	-2.8E-03	-8250.8	SLE RA 21	9.30E-04				
538	SLD 7	-2.2E-03	-6554.4	SLD 10	-2.8E-03	-8325.7	SLE RA 21	8.69E-04				
539	SLD 3	-2.1E-03	-6216.6	SLD 14	-3.8E-03	-11259.4	SLE RA 21	1.89E-04				
542	SLD 11	-2.5E-03	-7617.5	SLE RA 21	-2.9E-03	-8791.5	SLE RA 21	1.61E-03				
548	SLD 16	-2.2E-03	-6453.5	SLD 1	-4.1E-03	-12323.2	SLE RA 21	0.000188				
549	SLD 16	-2.3E-03	-6971.3	SLD 1	-2.9E-03	-8741.1	SLE RA 21	1.01E-03				
551	SLD 16	-2.4E-03	-7174.6	SLD 1	-2.9E-03	-8728.7	SLE RA 21	1.06E-03				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
552	SLD 4	-2.3E-03	-6978.1	SLE RA 21	-2.7E-03	-8248.3	SLE RA 21	9.37E-04				
554	SLD 3	-2.3E-03	-6862.7	SLD 14	-2.7E-03	-8209.2	SLE RA 21	8.70E-04				
555	SLD 3	-2.2E-03	-6628.5	SLD 14	-3.9E-03	-11681.6	SLE RA 21	2.92E-04				
558	SLE RA 2	-2.6E-03	-7739.1	SLE RA 20	-2.9E-03	-8762	SLE RA 21	1.62E-03				
564	SLD 16	-2.2E-03	-6715.1	SLD 1	-4.2E-03	-12544.1	SLE RA 21	0.000259				
565	SLD 16	-2.4E-03	-7152.8	SLD 1	-2.9E-03	-8784.3	SLE RA 21	1.08E-03				
567	SLD 16	-2.4E-03	-7346.4	SLE RA 20	-2.9E-03	-8798.9	SLE RA 21	1.12E-03				
568	SLD 2	-2.3E-03	-7048.5	SLE RA 20	-2.8E-03	-8374.9	SLE RA 21	9.84E-04				
570	SLD 2	-2.3E-03	-7039.2	SLE RA 20	-2.8E-03	-8350.2	SLE RA 21	9.30E-04				
571	SLD 3	-2.3E-03	-6954.1	SLD 14	-4.0E-03	-11990	SLE RA 21	3.76E-04				
574	SLE RA 2	-2.6E-03	-7660.4	SLE RA 20	-2.9E-03	-8685.9	SLE RA 21	1.59E-03				
579	SLD 15	-2.3E-03	-6762.4	SLD 2	-4.3E-03	-12814	SLE RA 21	1.95E-04				
580	SLD 15	-2.3E-03	-6765.1	SLD 2	-4.2E-03	-12545.9	SLE RA 21	2.75E-04				
581	SLD 16	-2.3E-03	-6787.9	SLD 1	-4.1E-03	-12431.5	SLE RA 21	3.12E-04				
582	SLD 16	-2.3E-03	-6864.5	SLD 1	-4.1E-03	-12156.8	SLE RA 21	3.78E-04				
583	SLD 16	-2.3E-03	-6963.7	SLD 1	-4.0E-03	-11932	SLE RA 21	4.27E-04				
584	SLD 16	-2.4E-03	-7067	SLD 1	-3.9E-03	-11723.9	SLE RA 21	0.000443				
585	SLD 16	-2.4E-03	-7164.8	SLD 1	-3.8E-03	-11515.1	SLE RA 21	4.50E-04				
586	SLD 16	-2.4E-03	-7251.9	SLD 1	-3.8E-03	-11296.1	SLE RA 21	0.000463				
587	SLD 16	-2.4E-03	-7324	SLD 1	-3.7E-03	-11060.3	SLE RA 21	0.000502				
588	SLD 16	-2.5E-03	-7375.8	SLD 1	-3.6E-03	-10801.1	SLE RA 21	0.000576				
589	SLD 16	-2.5E-03	-7399.7	SLD 1	-3.5E-03	-10511.6	SLE RA 21	6.72E-04				
590	SLD 16	-2.5E-03	-7387.5	SLD 1	-3.4E-03	-10186.3	SLE RA 21	0.000789				
591	SLD 16	-2.4E-03	-7333.4	SLD 1	-3.3E-03	-9826.7	SLE RA 21	9.18E-04				
592	SLD 16	-2.4E-03	-7246.5	SLD 1	-3.2E-03	-9452.9	SLE RA 21	1.05E-03				
593	SLD 16	-2.4E-03	-7193	SLD 1	-3.1E-03	-9250.2	SLE RA 21	9.53E-04				
594	SLD 16	-2.4E-03	-7155.4	SLD 1	-3.0E-03	-9062.8	SLE RA 21	1.00E-03				
595	SLD 16	-2.4E-03	-7181	SLD 1	-2.9E-03	-8843.2	SLE RA 21	1.08E-03				
596	SLD 14	-2.4E-03	-7277.5	SLD 3	-2.9E-03	-8813.3	SLE RA 21	1.11E-03				
597	SLD 14	-2.5E-03	-7427.8	SLE RA 20	-3.0E-03	-8873.8	SLE RA 21	0.001133				
598	SLD 14	-2.5E-03	-7613.6	SLE RA 20	-3.0E-03	-8965.9	SLE RA 21	1.14E-03				
599	SLD 14	-2.6E-03	-7797	SLE RA 20	-3.0E-03	-9034.8	SLE RA 21	1.21E-03				
600	SLD 14	-2.7E-03	-7950.8	SLE RA 20	-3.0E-03	-9061.5	SLE RA 21	0.001171				
601	SLE RA 2	-2.6E-03	-7949.6	SLE RA 20	-3.0E-03	-9032.2	SLE RA 21	1.16E-03				
602	SLE RA 2	-2.6E-03	-7865.4	SLE RA 20	-3.0E-03	-8938.1	SLE RA 21	1.19E-03				
603	SLE RA 2	-2.6E-03	-7726.2	SLE RA 20	-2.9E-03	-8781.3	SLE RA 20	1.24E-03				
604	SLE RA 2	-2.5E-03	-7562.9	SLE RA 20	-2.9E-03	-8598.7	SLE RA 21	1.20E-03				
605	SLE RA 2	-2.5E-03	-7402	SLE RA 20	-2.8E-03	-8419.6	SLE RA 21	1.22E-03				
606	SLD 6	-2.2E-03	-6619.6	SLE RA 20	-2.6E-03	-7831.5	SLE RA 20	1.27E-03				
607	SLD 1	-2.7E-03	-7954.5	SLE RA 20	-3.1E-03	-9192.9	SLE RA 21	1.80E-03				
608	SLD 1	-2.6E-03	-7853.6	SLE RA 20	-3.1E-03	-9195.1	SLE RA 21	1.68E-03				
609	SLD 1	-2.6E-03	-7746.8	SLE RA 20	-3.1E-03	-9186.3	SLE RA 21	1.62E-03				
610	SLD 1	-2.5E-03	-7631.7	SLE RA 20	-3.1E-03	-9156.8	SLE RA 21	1.38E-03				
611	SLD 2	-2.5E-03	-7510.4	SLD 15	-3.1E-03	-9167.1	SLE RA 21	1.22E-03				
612	SLD 2	-2.5E-03	-7392.3	SLD 15	-3.0E-03	-9134.7	SLE RA 21	1.14E-03				
613	SLD 2	-2.4E-03	-7295.8	SLD 15	-3.0E-03	-9050.4	SLE RA 21	1.12E-03				
614	SLD 2	-2.4E-03	-7275.1	SLD 15	-2.9E-03	-8845.3	SLE RA 20	1.15E-03				
615	SLD 2	-2.3E-03	-7040.7	SLE RA 20	-2.8E-03	-8412.4	SLE RA 20	9.44E-04				
616	SLD 3	-2.4E-03	-7255.1	SLE RA 20	-2.9E-03	-8658.7	SLE RA 20	9.67E-04				
617	SLD 3	-2.5E-03	-7388.6	SLD 14	-3.0E-03	-8938.7	SLE RA 20	8.78E-04				
618	SLD 3	-2.5E-03	-7496	SLD 14	-3.1E-03	-9280.5	SLE RA 20	7.78E-04				
619	SLD 3	-2.5E-03	-7560.4	SLD 14	-3.2E-03	-9624.8	SLE RA 20	6.80E-04				
620	SLD 3	-2.5E-03	-7581.7	SLD 14	-3.3E-03	-9949.7	SLE RA 20	5.97E-04				
621	SLD 3	-2.5E-03	-7566.7	SLD 14	-3.4E-03	-10248.1	SLE RA 20	5.35E-04				
622	SLD 3	-2.5E-03	-7522.8	SLD 14	-3.5E-03	-10520	SLE RA 20	4.97E-04				
623	SLD 3	-2.5E-03	-7456.4	SLD 14	-3.6E-03	-10768.6	SLE RA 21	4.92E-04				
624	SLD 3	-2.5E-03	-7372.4	SLD 14	-3.7E-03	-10999	SLE RA 21	5.10E-04				
625	SLD 3	-2.4E-03	-7277.1	SLD 14	-3.7E-03	-11219.7	SLE RA 21	5.34E-04				
626	SLD 3	-2.4E-03	-7180.6	SLD 14	-3.8E-03	-11447.3	SLE RA 21	5.43E-04				
627	SLD 3	-2.4E-03	-7102.4	SLD 14	-3.9E-03	-11714.4	SLE RA 21	5.09E-04				
628	SLD 3	-2.4E-03	-7078.1	SLD 14	-4.0E-03	-12080.1	SLE RA 21	0.000404				
629	SLD 3	-2.4E-03	-7161.3	SLD 14	-4.2E-03	-12629.4	SLE RA 21	2.78E-04				
636	SLD 15	-2.3E-03	-6813.6	SLD 2	-4.2E-03	-12505	SLE RA 21	2.86E-04				
648	SLD 16	-2.4E-03	-7263.6	SLD 1	-3.1E-03	-9366.6	SLE RA 20	9.33E-04				
651	SLD 14	-2.4E-03	-7167.4	SLD 3	-3.0E-03	-8897.1	SLE RA 20	0.001098				
653	SLD 13	-2.4E-03	-7330.4	SLD 4	-3.0E-03	-8895.1	SLE RA 20	0.001129				
662	SLE RA 2	-2.5E-03	-7516.4	SLE RA 20	-2.8E-03	-8547.6	SLE RA 20	1.22E-03				
664	SLE RA 2	-2.4E-03	-7301.5	SLE RA 20	-2.8E-03	-8306.9	SLE RA 20	1.25E-03				
666	SLD 6	-2.3E-03	-6881.2	SLE RA 20	-2.7E-03	-8025.8	SLE RA 20	1.27E-03				
673	SLD 10	-2.4E-03	-7231.9	SLE RA 20	-2.8E-03	-8540.7	SLE RA 20	0.001531				
679	SLD 1	-2.5E-03	-7626.1	SLE RA 20	-2.9E-03	-8690.7	SLE RA 20	1.55E-03				
682	SLD 1	-2.5E-03	-7610.6	SLE RA 20	-2.9E-03	-8838.9	SLE RA 20	1.70E-03				
690	SLD 6	-2.3E-03	-6990.4	SLD 11	-2.9E-03	-8678.5	SLE RA 20	9.96E-04				
693	SLD 2	-2.3E-03	-7039.3	SLD 15	-2.9E-03	-8594.9	SLE RA 20	9.55E-04				
695	SLD 1	-2.4E-03	-7312.5	SLD 16	-2.9E-03	-8782.6	SLE RA 20	9.78E-04				
708	SLD 4	-2.4E-03	-7090.4	SLD 13	-4.0E-03	-12028.8	SLE RA 20	4.08E-04				
710	SLD 13	-2.3E-03	-6836.2	SLD 4	-4.3E-03	-12755.5	SLE RA 20	1.94E-04				
711	SLD 13	-2.3E-03	-6864.5	SLD 4	-4.1E-03	-12365.3	SLE RA 20	3.11E-04				
712	SLD 13	-2.3E-03	-6943.3	SLD 4	-4.0E-03	-12075.2	SLE RA 20	3.80E-04				
713	SLD 13	-2.3E-03	-7043.4	SLD 4	-3.9E-03	-11836.3	SLE RA 20	4.31E-04				
714	SLD 15	-2.4E-03	-7146.2	SLD 2	-3.9E-03	-11615.4	SLE RA 20	4.50E-04				
715	SLD 16	-2.4E-03	-7240.7	SLD 1	-3.8E-03	-11396.7	SLE RA 20	4.61E-04				
716	SLD 16	-2.4E-03	-7322.5	SLD 1	-3.7E-03	-11169.6	SLE RA 20	4.81E-04				
717	SLD 16	-2.5E-03	-7388.9	SLD 1	-3.6E-03	-10926.1	SLE RA 20	5.34E-04				
718	SLD 16	-2.5E-03	-7434.5	SLD 1	-3.6E-03	-10659.5	SLE RA 20	6.20E-04				
719	SLD 16	-2.5E-03	-7452.3	SLD 1	-3.5E-03	-10362.6	SLE RA 20	7.29E-04				
720	SLD 16	-2.5E-03	-7433.5	SLD 1	-3.3E-03	-10030	SLE RA 20	8.58E-04				
721	SLD 16	-2.5E-03	-7372.2	SLD 1	-3.2E-03	-9663.7	SLE RA 20	0.000993				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
722	SLD 14	-2.4E-03	-7268.5	SLD 3	-3.1E-03	-9292.6	SLE RA 20	9.36E-04				
723	SLD 14	-2.4E-03	-7150.8	SLD 3	-3.0E-03	-9111.8	SLE RA 20	1.02E-03				
724	SLD 14	-2.4E-03	-7125.7	SLD 3	-3.0E-03	-8995.6	SLE RA 20	1.08E-03				
725	SLD 13	-2.4E-03	-7217	SLD 4	-3.0E-03	-8982.1	SLE RA 20	1.10E-03				
726	SLD 13	-2.5E-03	-7359	SLD 4	-3.0E-03	-8972.7	SLE RA 20	1.12E-03				
727	SLD 13	-2.5E-03	-7534	SLE RA 20	-3.0E-03	-9003.6	SLE RA 20	1.21E-03				
728	SLD 13	-2.6E-03	-7708.5	SLE RA 20	-3.0E-03	-9056.7	SLE RA 20	0.001168				
729	SLD 14	-2.6E-03	-7853	SLE RA 20	-3.0E-03	-9067.6	SLE RA 20	1.15E-03				
730	SLE RA 2	-2.6E-03	-7935.7	SLE RA 20	-3.0E-03	-9022.4	SLE RA 20	1.18E-03				
731	SLE RA 2	-2.6E-03	-7838.4	SLE RA 20	-3.0E-03	-8912.4	SLE RA 20	1.23E-03				
732	SLE RA 2	-2.6E-03	-7686.1	SLE RA 20	-2.9E-03	-8739.7	SLE RA 20	1.20E-03				
733	SLE RA 2	-2.5E-03	-7482.5	SLE RA 20	-2.8E-03	-8509.5	SLE RA 20	1.22E-03				
734	SLE RA 2	-2.4E-03	-7267.6	SLE RA 20	-2.8E-03	-8268.7	SLE RA 20	1.25E-03				
735	SLD 6	-2.4E-03	-7058.8	SLE RA 20	-2.8E-03	-8271.1	SLE RA 20	1.28E-03				
736	SLD 6	-2.3E-03	-6997.9	SLE RA 20	-2.8E-03	-8297.1	SLE RA 20	1.29E-03				
737	SLD 6	-2.3E-03	-6908.5	SLE RA 20	-2.8E-03	-8284.6	SLE RA 20	1.30E-03				
738	SLD 6	-2.2E-03	-6707.4	SLD 11	-2.8E-03	-8263.3	SLE RA 20	1.33E-03				
739	SLD 6	-2.2E-03	-6708.8	SLD 11	-2.8E-03	-8297.3	SLE RA 20	1.39E-03				
740	SLD 10	-2.4E-03	-7067.7	SLE RA 20	-2.8E-03	-8482.4	SLE RA 20	1.50E-03				
741	SLD 5	-2.4E-03	-7192.3	SLE RA 20	-2.8E-03	-8504.2	SLE RA 20	1.51E-03				
742	SLD 5	-2.4E-03	-7241.3	SLE RA 20	-2.8E-03	-8440	SLE RA 20	1.49E-03				
743	SLD 5	-2.4E-03	-7266.7	SLE RA 20	-2.8E-03	-8334.8	SLE RA 20	0.001457				
744	SLD 1	-2.4E-03	-7275.9	SLE RA 20	-2.8E-03	-8484.6	SLE RA 20	1.59E-03				
745	SLD 1	-2.4E-03	-7187	SLE RA 20	-2.8E-03	-8488.5	SLE RA 20	1.50E-03				
746	SLD 1	-2.4E-03	-7083.8	SLE RA 20	-2.8E-03	-8482.8	SLE RA 20	1.38E-03				
747	SLD 1	-2.3E-03	-6971.7	SLD 16	-0.00284	-8520	SLE RA 20	1.28E-03				
748	SLD 1	-2.3E-03	-6853.1	SLD 16	-2.8E-03	-8540.1	SLE RA 20	1.15E-03				
749	SLD 1	-2.2E-03	-6738.1	SLD 16	-2.8E-03	-8506.6	SLE RA 20	1.07E-03				
750	SLD 2	-2.2E-03	-6644	SLD 15	-2.8E-03	-8420.7	SLE RA 20	1.04E-03				
751	SLD 2	-2.2E-03	-6624.8	SLD 15	-2.7E-03	-8196.1	SLE RA 20	9.38E-04				
752	SLD 2	-2.3E-03	-7045.8	SLD 15	-2.8E-03	-8542.8	SLE RA 20	8.77E-04				
753	SLD 2	-2.4E-03	-7268.9	SLD 15	-2.9E-03	-8844.8	SLE RA 20	8.35E-04				
754	SLD 1	-2.5E-03	-7355.5	SLD 16	-3.0E-03	-8985.8	SLE RA 20	9.51E-04				
755	SLD 1	-2.5E-03	-7486.2	SLD 16	-3.1E-03	-9303.5	SLE RA 20	8.50E-04				
756	SLD 1	-2.5E-03	-7563.3	SLD 16	-3.2E-03	-9634.5	SLE RA 20	7.44E-04				
757	SLD 2	-2.5E-03	-7590.5	SLD 15	-3.3E-03	-9952.9	SLE RA 20	6.48E-04				
758	SLD 2	-2.5E-03	-7576.9	SLD 15	-3.4E-03	-10249.2	SLE RA 20	5.74E-04				
759	SLD 2	-2.5E-03	-7532.7	SLD 15	-3.5E-03	-10520.9	SLE RA 20	5.25E-04				
760	SLD 2	-2.5E-03	-7465.2	SLD 15	-0.00359	-10770	SLE RA 20	5.07E-04				
761	SLD 2	-0.00246	-7380	SLD 15	-3.7E-03	-11000.9	SLE RA 20	5.20E-04				
762	SLD 2	-2.4E-03	-7283.6	SLD 15	-3.7E-03	-11222	SLE RA 20	5.41E-04				
763	SLD 2	-2.4E-03	-7186.3	SLD 15	-3.8E-03	-11450	SLE RA 20	5.48E-04				
764	SLD 2	-2.4E-03	-7107.4	SLD 15	-3.9E-03	-11717.2	SLE RA 20	5.12E-04				
765	SLD 2	-2.4E-03	-7082.6	SLD 15	-4.0E-03	-12082.8	SLE RA 20	4.05E-04				
766	SLD 2	-2.4E-03	-7164.6	SLD 15	-4.2E-03	-12633.1	SLE RA 20	2.78E-04				
767	SLD 2	-2.3E-03	-6950.9	SLD 15	-4.0E-03	-11991.6	SLE RA 20	3.75E-04				
770	SLD 13	-2.2E-03	-6744.1	SLD 4	-4.1E-03	-12391.6	SLE RA 20	2.53E-04				
771	SLD 2	-2.2E-03	-6610.8	SLD 15	-3.9E-03	-11675.3	SLE RA 20	2.88E-04				
773	SLD 14	-2.3E-03	-7025.8	SLD 3	-3.1E-03	-9247	SLE RA 20	9.91E-04				
775	SLD 13	-2.3E-03	-7007.6	SLD 4	-3.1E-03	-9243.6	SLE RA 20	1.07E-03				
776	SLD 10	-2.4E-03	-7156.2	SLE RA 20	-2.7E-03	-8160.2	SLE RA 20	1.13E-03				
778	SLD 10	-2.3E-03	-6824.8	SLE RA 20	-2.6E-03	-7838.8	SLE RA 20	1.15E-03				
779	SLD 5	-2.1E-03	-6251.2	SLE RA 20	-2.4E-03	-7305	SLE RA 20	1.14E-03				
781	SLD 1	-2.1E-03	-6301.7	SLE RA 20	-2.5E-03	-7476.6	SLE RA 20	1.11E-03				
782	SLD 2	-0.00232	-6960.1	SLD 15	-2.9E-03	-8816.9	SLE RA 20	9.21E-04				
784	SLD 2	-2.4E-03	-7050.2	SLD 15	-3.0E-03	-8924	SLE RA 20	8.85E-04				
786	SLD 13	-2.0E-03	-6105	SLD 4	-3.9E-03	-11697.1	SLE RA 20	1.27E-04				
787	SLD 2	-2.1E-03	-6189.2	SLD 15	-3.7E-03	-11242.1	SLE RA 20	1.82E-04				
789	SLD 6	-2.2E-03	-6731.6	SLD 11	-3.1E-03	-9197.1	SLE RA 20	0.0008				
791	SLD 6	-2.3E-03	-6893.4	SLD 11	-3.1E-03	-9180.9	SLE RA 20	7.73E-04				
792	SLD 13	-2.3E-03	-6892.8	SLD 4	-3.1E-03	-9301.4	SLE RA 20	8.62E-04				
794	SLD 13	-2.3E-03	-6881.2	SLD 4	-3.1E-03	-9310.4	SLE RA 20	9.15E-04				
795	SLD 10	-2.3E-03	-6768.9	SLE RA 20	-2.6E-03	-7898	SLE RA 20	1.03E-03				
797	SLD 5	-1.9E-03	-5686.6	SLE RA 20	-2.3E-03	-6803.2	SLE RA 20	9.39E-04				
799	SLD 1	-1.9E-03	-5783.4	SLD 16	-2.3E-03	-6996	SLE RA 20	9.17E-04				
801	SLD 13	-1.9E-03	-5763	SLD 4	-3.8E-03	-11350.9	SLE RA 20	7.32E-05				
802	SLD 2	-1.9E-03	-5765.8	SLD 15	-3.6E-03	-10834.2	SLE RA 20	8.63E-05				
804	SLD 6	-2.1E-03	-6434.3	SLD 11	-3.2E-03	-9676.4	SLE RA 20	6.77E-04				
806	SLD 6	-2.2E-03	-6575	SLD 11	-0.00321	-9629.9	SLE RA 20	6.56E-04				
807	SLD 9	-2.2E-03	-6638.8	SLD 8	-3.2E-03	-9481.8	SLE RA 20	7.32E-04				
809	SLD 9	-2.2E-03	-6519.3	SLD 8	-3.2E-03	-9617.5	SLE RA 20	7.73E-04				
810	SLD 10	-2.1E-03	-6348.9	SLD 7	-2.6E-03	-7680.8	SLE RA 20	9.07E-04				
812	SLD 5	-1.7E-03	-5175.5	SLD 12	-2.2E-03	-6619.9	SLE RA 20	7.62E-04				
814	SLD 5	-1.8E-03	-5291.7	SLD 12	-2.3E-03	-6833.3	SLE RA 20	0.000747				
815	SLD 10	-2.0E-03	-5921.2	SLD 7	-2.5E-03	-7405.2	SLE RA 20	8.58E-04				
816	SLD 10	-1.8E-03	-5507.1	SLD 7	-2.3E-03	-6932.1	SLE RA 20	7.27E-04				
817	SLD 10	-1.6E-03	-4746.3	SLD 7	-2.0E-03	-6047.2	SLE RA 20	4.33E-04				
818	SLD 10	-1.5E-03	-4513.9	SLD 7	-1.9E-03	-5763.6	SLE RA 20	3.82E-04				
819	SLD 10	-1.5E-03	-4390.6	SLD 7	-1.9E-03	-5594.6	SLE RA 20	1.40E-04				
820	SLD 10	-1.5E-03	-4358.9	SLD 7	-1.8E-03	-5525.2	SLE RA 20	1.27E-04				
821	SLD 10	-1.5E-03	-4398.5	SLD 7	-1.8E-03	-5538.1	SLE RA 20	1.39E-04				
822	SLD 9	-1.5E-03	-4488.8	SLD 8	-1.9E-03	-5621.3	SLE RA 18	3.59E-04				
823	SLD 5	-1.5E-03	-4584.5	SLD 12	-1.9E-03	-5791.8	SLE RA 20	0.000422				
824	SLD 5	-1.6E-03	-4689	SLD 12	-2.0E-03	-6019.5	SLE RA 20	4.58E-04				
825	SLD 5	-1.6E-03	-4809.1	SLD 12	-2.1E-03	-6266.1	SLE RA 20	4.94E-04				
826	SLD 5	-1.6E-03	-4931.8	SLD 12	-2.2E-03	-6504.6	SLE RA 20	5.24E-04				
827	SLD 5	-1.7E-03	-5038.6	SLD 12	-2.2E-03	-6703.5	SLE RA 20	6.91E-04				
829	SLD 13	-1.8E-03	-5451.5	SLD 4	-3.7E-03	-11106.4	SLE RA 20	5.94E-05				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
830	SLD 2	-1.8E-03	-5392.8	SLD 15	-3.5E-03	-10550	SLE RA 20	3.51E-05				
832	SLD 6	-2.0E-03	-6091	SLD 11	-3.4E-03	-10207.1	SLE RA 20	5.68E-04				
834	SLD 6	-2.1E-03	-6210.9	SLD 11	-3.4E-03	-10130.1	SLE RA 20	5.51E-04				
835	SLD 9	-2.1E-03	-6182.9	SLD 8	-3.3E-03	-9859.1	SLE RA 20	6.19E-04				
837	SLD 9	-2.0E-03	-6072.4	SLD 8	-3.3E-03	-10004.7	SLE RA 20	0.000651				
838	SLD 10	-2.0E-03	-5871.4	SLD 7	-2.6E-03	-7683.2	SLE RA 20	7.65E-04				
840	SLD 10	-1.8E-03	-5354.2	SLD 7	-2.4E-03	-7087.9	SLE RA 20	0.000765				
852	SLD 5	-1.6E-03	-4726.9	SLD 12	-2.2E-03	-6674.8	SLE RA 20	6.06E-04				
854	SLD 5	-1.6E-03	-4843.1	SLD 12	-2.3E-03	-6892.9	SLE RA 20	5.94E-04				
856	SLD 13	-1.7E-03	-5192	SLD 4	-3.7E-03	-11005.7	SLE RA 20	5.33E-05				
857	SLD 10	-1.8E-03	-5308.4	SLD 7	-2.5E-03	-7372.8	SLE RA 20	6.77E-04				
858	SLD 10	-1.6E-03	-4891.5	SLD 7	-2.3E-03	-6887.4	SLE RA 20	5.55E-04				
859	SLD 10	-1.4E-03	-4200.8	SLD 7	-2.0E-03	-6087.5	SLE RA 20	2.82E-04				
860	SLD 10	-1.3E-03	-3976.6	SLD 7	-1.9E-03	-5815.3	SLE RA 20	2.31E-04				
861	SLD 10	-1.3E-03	-3860.4	SLD 7	-1.9E-03	-5657.8	SLE RA 20	2.28E-06				
862	SLD 10	-1.3E-03	-3835.1	SLD 7	-1.9E-03	-5600						
863	SLD 10	-1.3E-03	-3880.1	SLD 7	-1.9E-03	-5624.7	SLE RA 20	0.000005				
864	SLD 9	-1.3E-03	-3975.2	SLD 8	-1.9E-03	-5719.6	SLE RA 20	2.36E-04				
865	SLD 5	-1.4E-03	-4074.3	SLD 12	-2.0E-03	-5902.6	SLE RA 20	0.000269				
866	SLD 5	-1.4E-03	-4180.9	SLD 12	-2.0E-03	-6143.5	SLE RA 20	3.06E-04				
867	SLD 5	-1.4E-03	-4302	SLD 12	-2.1E-03	-6403.6	SLE RA 20	3.43E-04				
868	SLD 5	-1.5E-03	-4425	SLD 12	-2.2E-03	-6655.9	SLE RA 20	5.13E-04				
869	SLD 5	-1.5E-03	-4531.4	SLD 12	-2.3E-03	-6864.2	SLE RA 20	5.13E-04				
870	SLD 6	-1.9E-03	-5714.5	SLD 11	-3.6E-03	-10765.1	SLE RA 20	4.76E-04				
872	SLD 6	-1.9E-03	-5813.6	SLD 11	-3.6E-03	-10657.6	SLE RA 20	0.000464				
873	SLD 6	-1.7E-03	-5079.3	SLD 11	-3.5E-03	-10480.2	SLE RA 20	3.03E-05				
875	SLD 9	-1.9E-03	-5705	SLD 8	-3.4E-03	-10254.2	SLE RA 20	5.32E-04				
877	SLD 9	-1.9E-03	-5603.4	SLD 8	-0.00347	-10409.9	SLE RA 20	5.56E-04				
878	SLD 10	-1.8E-03	-5394.1	SLD 7	-2.6E-03	-7681.7	SLE RA 20	6.25E-04				
880	SLD 5	-1.5E-03	-4366	SLD 12	-2.3E-03	-6869.8	SLE RA 20	4.77E-04				
882	SLD 5	-1.5E-03	-4476	SLD 12	-2.4E-03	-7079.1	SLE RA 20	0.00052				
884	SLD 9	-1.7E-03	-4969.1	SLD 8	-3.7E-03	-11109.6	SLE RA 20	5.31E-05				
885	SLD 6	-1.8E-03	-5318.8	SLD 11	-3.8E-03	-11333.3	SLE RA 20	4.02E-04				
887	SLD 6	-1.8E-03	-5397.3	SLD 11	-3.7E-03	-11195.2	SLE RA 20	3.97E-04				
888	SLD 6	-1.5E-03	-4540.7	SLD 11	-3.7E-03	-10974.4	SLE RA 20	2.89E-05				
890	SLD 9	-1.7E-03	-5230.2	SLD 8	-3.6E-03	-10658.2	SLE RA 20	4.70E-04				
892	SLD 9	-1.7E-03	-5137.3	SLD 8	-3.6E-03	-10824.2	SLE RA 20	4.87E-04				
893	SLD 10	-1.6E-03	-4908.3	SLD 7	-2.6E-03	-7769	SLE RA 20	5.46E-04				
895	SLD 5	-1.4E-03	-4053.8	SLD 12	-2.4E-03	-7221.5	SLE RA 20	4.29E-04				
897	SLD 5	-1.4E-03	-4154.6	SLD 12	-2.5E-03	-7417.6	SLE RA 20	0.000393				
899	SLD 9	-1.5E-03	-4523.2	SLD 8	-3.9E-03	-11713.6	SLE RA 20	5.99E-05				
900	SLD 6	-1.6E-03	-4917.5	SLD 11	-4.0E-03	-11900.2	SLE RA 20	3.59E-04				
902	SLD 6	-1.7E-03	-4975.3	SLD 11	-3.9E-03	-11731.3	SLE RA 20	3.66E-04				
903	SLD 6	-1.4E-03	-4098.9	SLD 11	-3.9E-03	-11751.1	SLE RA 20	3.04E-05				
905	SLD 9	-1.6E-03	-4786.7	SLD 8	-3.7E-03	-11080.7	SLE RA 20	4.34E-04				
907	SLD 9	-1.6E-03	-4702.5	SLD 8	-3.8E-03	-11257.2	SLE RA 20	4.34E-04				
908	SLD 9	-1.5E-03	-4445.4	SLD 8	-2.7E-03	-7991.1	SLE RA 20	4.44E-04				
910	SLD 5	-1.3E-03	-3779.7	SLD 12	-2.6E-03	-7696.6	SLE RA 20	3.42E-04				
912	SLD 5	-1.3E-03	-3871.4	SLD 12	-2.6E-03	-7879.7	SLE RA 20	3.73E-04				
914	SLD 9	-1.4E-03	-4153	SLD 8	-4.2E-03	-12550.1	SLE RA 20	0.00008				
915	SLD 6	-1.5E-03	-4524.2	SLD 11	-4.2E-03	-12459.1	SLE RA 20	3.25E-04				
917	SLD 6	-1.5E-03	-4561.5	SLD 11	-4.1E-03	-12259.2	SLE RA 20	3.34E-04				
918	SLD 9	-1.3E-03	-4030.9	SLD 8	-2.8E-03	-8390	SLE RA 20	3.61E-04				
920	SLD 5	-1.2E-03	-3538.9	SLD 12	-2.8E-03	-8280.5	SLE RA 20	2.68E-04				
922	SLD 6	-1.2E-03	-3621.5	SLD 11	-2.8E-03	-8451	SLE RA 20	3.00E-04				
923	SLD 9	-1.5E-03	-4403.8	SLD 8	-3.9E-03	-11558.8	SLE RA 20	4.16E-04				
925	SLD 9	-1.4E-03	-4328.1	SLD 8	-3.9E-03	-11746	SLE RA 20	4.12E-04				
926	SLD 6	-1.3E-03	-3750.7	SLD 11	-4.3E-03	-12832.6	SLE RA 20	3.39E-05				
928	SLD 9	-1.2E-03	-3506.9	SLD 8	-2.6E-03	-7713.4	SLE RA 20	2.54E-04				
930	SLD 9	-1.3E-03	-3858.6	SLD 8	-4.5E-03	-13643.9	SLE RA 20	3.72E-05				
931	SLD 6	-1.4E-03	-4154.5	SLD 11	-4.3E-03	-13008.9	SLE RA 20	2.80E-04				
933	SLD 6	-1.4E-03	-4171.3	SLD 11	-4.3E-03	-12777.8	SLE RA 20	2.84E-04				
934	SLD 9	-1.2E-03	-3685	SLD 8	-3.0E-03	-9003.8	SLE RA 20	3.04E-04				
936	SLD 6	-1.1E-03	-3329.4	SLD 11	-3.0E-03	-8979.7	SLE RA 20	2.93E-04				
938	SLD 6	-1.1E-03	-3402.7	SLD 11	-3.0E-03	-9138	SLE RA 20	2.67E-04				
939	SLD 6	-1.2E-03	-3486.3	SLD 11	-4.7E-03	-14223.9	SLE RA 20	0.000038				
942	SLD 9	-1.2E-03	-3638	SLD 8	-5.0E-03	-15010.7	SLE RA 20	4.12E-05				
943	SLD 9	-1.3E-03	-3767.7	SLD 8	-5.3E-03	-16013.2	SLE RA 20	9.94E-05				
944	SLD 9	-1.2E-03	-3512.3	SLD 8	-4.9E-03	-14560	SLE RA 20	3.92E-05				
945	SLD 9	-1.1E-03	-3306.2	SLD 8	-4.4E-03	-13295.6	SLE RA 20	3.31E-05				
946	SLD 9	-1.1E-03	-3162.2	SLD 8	-4.1E-03	-12279.3	SLE RA 20	2.67E-05				
947	SLD 9	-1.0E-03	-3085	SLD 8	-3.8E-03	-11534.5	SLE RA 20	2.15E-05				
948	SLD 9	-1.0E-03	-3073.6	SLD 8	-3.7E-03	-11062.5	SLE RA 20	1.87E-05				
949	SLD 9	-1.0E-03	-3123.5	SLD 8	-3.6E-03	-10850.8	SLE RA 20	1.88E-05				
950	SLD 9	-1.1E-03	-3226.8	SLD 8	-3.6E-03	-10876.6	SLE RA 20	2.21E-05				
951	SLD 9	-1.1E-03	-3371.8	SLD 8	-3.7E-03	-11107	SLE RA 20	2.84E-05				
952	SLD 9	-1.2E-03	-3541.1	SLD 8	-3.8E-03	-11494.4	SLE RA 20	1.11E-04				
953	SLD 9	-1.2E-03	-3709.4	SLD 8	-4.0E-03	-11969.7	SLE RA 20	2.13E-04				
954	SLD 9	-1.3E-03	-3839.8	SLD 8	-4.1E-03	-12432.5	SLE RA 20	2.99E-04				
955	SLD 9	-1.3E-03	-3890.2	SLD 8	-4.3E-03	-12758.5	SLE RA 20	3.50E-04				
956	SLD 6	-1.3E-03	-3816.3	SLD 11	-4.5E-03	-13547.6	SLE RA 20	2.35E-04				
958	SLD 6	-1.3E-03	-3826	SLD 11	-4.4E-03	-13305.3	SLE RA 20	2.33E-04				
959	SLD 6	-1.3E-03	-3815.2	SLD 11	-4.4E-03	-13137.5	SLE RA 20	2.02E-04				
960	SLD 6	-1.2E-03	-3722.8	SLD 11	-4.3E-03	-12756.2	SLE RA 20	1.37E-04				
961	SLD 6	-1.2E-03	-3576.8	SLD 11	-4.1E-03	-12306.6	SLE RA 20	6.41E-05				
962	SLD 6	-1.1E-03	-3412.7	SLD 11	-4.0E-03	-11890.1	SLE RA 20	3.11E-05				
963	SLD 6	-1.1E-03	-3256.3	SLD 11	-3.9E-03	-11579.6	SLE RA 20	2.55E-05				
964	SLD 6	-1.0E-03	-3125.8	SLD 11	-3.8E-03	-11426.8	SLE RA 20	0.000022				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
965	SLD 6	-1.0E-03	-3033.6	SLD 11	-3.8E-03	-11468	SLE RA 20	2.08E-05				
966	SLD 6	-1.0E-03	-2988.4	SLD 11	-3.9E-03	-11728.7	SLE RA 20	0.000022				
967	SLD 6	-1.0E-03	-2995.9	SLD 11	-4.1E-03	-12225.6	SLE RA 20	2.52E-05				
968	SLD 6	-1.0E-03	-3059.3	SLD 11	-4.3E-03	-12966.2	SLE RA 20	0.00003				
969	SLD 6	-1.1E-03	-3179.1	SLD 11	-4.6E-03	-13946.2	SLE RA 20	3.53E-05				
970	SLD 6	-1.1E-03	-3352	SLD 11	-5.0E-03	-15143.6	SLE RA 20	4.01E-05				
971	SLD 6	-1.1E-03	-3357.2	SLD 11	-5.1E-03	-15203.4	SLE RA 20	4.02E-05				
972	SLD 6	-1.2E-03	-3569.4	SLD 11	-5.5E-03	-16509.1	SLE RA 20	6.61E-05				
973	SLD 9	-1.1E-03	-3422.1	SLD 8	-3.3E-03	-9872	SLE RA 20	2.64E-04				
975	SLD 6	-1.1E-03	-3159.3	SLD 11	-3.3E-03	-9812.3	SLE RA 20	2.49E-04				
977	SLD 6	-1.1E-03	-3223.6	SLD 11	-3.3E-03	-9958.6	SLE RA 20	2.33E-04				
980	SLD 6	-1.2E-03	-3568.9	SLD 11	-4.6E-03	-13925.5	SLE RA 20	1.87E-04				
983	SLD 9	-1.2E-03	-3484.2	SLD 8	-5.5E-03	-16640.5	SLE RA 20	7.68E-05				
995	SLD 9	-1.2E-03	-3697.3	SLD 8	-4.5E-03	-13416.1	SLE RA 20	2.62E-04				
998	SLD 9	-1.2E-03	-3723.1	SLD 8	-4.6E-03	-13738.1	SLE RA 20	2.81E-04				
1013	SLD 9	-1.1E-03	-3255	SLD 8	-3.7E-03	-11033.3	SLE RA 20	2.16E-04				
1015	SLD 6	-1.0E-03	-3038.6	SLD 11	-3.6E-03	-10813.3	SLE RA 20	0.000205				
1017	SLD 6	-1.0E-03	-3094	SLD 11	-3.6E-03	-10947.8	SLE RA 20	2.02E-04				
1019	SLD 6	-1.1E-03	-3327.8	SLD 11	-4.7E-03	-14227.5	SLE RA 20	1.18E-04				
1024	SLD 9	-1.2E-03	-3585.4	SLD 8	-4.8E-03	-14265.7	SLE RA 20	2.30E-04				
1025	SLD 9	-1.2E-03	-3613.6	SLD 8	-5.1E-03	-15235.4	SLE RA 20	1.91E-04				
1026	SLD 9	-1.2E-03	-3469.7	SLD 8	-4.8E-03	-14346.6	SLE RA 20	1.97E-04				
1027	SLD 9	-1.1E-03	-3313.9	SLD 8	-4.5E-03	-13471.8	SLE RA 20	1.67E-04				
1028	SLD 9	-1.1E-03	-3168.4	SLD 8	-4.2E-03	-12687.5	SLE RA 20	1.14E-04				
1029	SLD 9	-1.0E-03	-3048.2	SLD 8	-4.0E-03	-12043.3	SLE RA 20	5.55E-05				
1030	SLD 9	-9.9E-04	-2961.8	SLD 8	-3.9E-03	-11565.6	SLE RA 20	2.78E-05				
1031	SLD 9	-9.7E-04	-2912.9	SLD 8	-3.8E-03	-11262.5	SLE RA 20	2.41E-05				
1032	SLD 9	-9.7E-04	-2901.4	SLD 8	-3.7E-03	-11128.6	SLE RA 20	2.29E-05				
1033	SLD 9	-9.7E-04	-2924	SLD 8	-3.7E-03	-11146	SLE RA 20	2.41E-05				
1034	SLD 9	-9.9E-04	-2974.2	SLD 8	-3.8E-03	-11284.2	SLE RA 20	2.75E-05				
1035	SLD 9	-1.0E-03	-3041.9	SLD 8	-3.8E-03	-11498.6	SLE RA 20	7.37E-05				
1036	SLD 9	-1.0E-03	-3112.5	SLD 8	-3.9E-03	-11726.4	SLE RA 20	1.29E-04				
1037	SLD 9	-1.1E-03	-3165.8	SLD 8	-4.0E-03	-11883.1	SLE RA 20	1.71E-04				
1038	SLD 9	-1.1E-03	-3177.5	SLD 8	-4.0E-03	-11868	SLE RA 20	1.86E-04				
1039	SLD 9	-1.0E-03	-3149.7	SLD 8	-3.9E-03	-11675.3	SLE RA 20	1.62E-04				
1040	SLD 9	-1.0E-03	-3080.4	SLD 8	-3.8E-03	-11299.6	SLE RA 20	1.05E-04				
1041	SLD 9	-1.0E-03	-2996.6	SLD 8	-3.6E-03	-10862	SLE RA 20	0.000036				
1042	SLD 9	-9.7E-04	-2918	SLD 8	-3.5E-03	-10454.6	SLE RA 20	1.99E-05				
1043	SLD 9	-9.5E-04	-2856.5	SLD 8	-3.4E-03	-10138.3	SLE RA 20	1.51E-05				
1044	SLD 5	-9.4E-04	-2809.9	SLD 12	-3.3E-03	-9958.8	SLE RA 20	1.24E-05				
1045	SLD 5	-9.3E-04	-2776.3	SLD 12	-3.3E-03	-9938.8	SLE RA 20	0.000012				
1046	SLD 5	-9.2E-04	-2770.5	SLD 12	-3.4E-03	-10065.9	SLE RA 20	0.000014				
1047	SLD 6	-9.3E-04	-2792.1	SLD 11	-3.4E-03	-10324.2	SLE RA 20	1.81E-05				
1048	SLD 6	-9.5E-04	-2836.8	SLD 11	-3.6E-03	-10680.7	SLE RA 20	2.67E-05				
1049	SLD 6	-9.7E-04	-2897.5	SLD 11	-3.7E-03	-11077.6	SLE RA 20	9.39E-05				
1050	SLD 6	-9.9E-04	-2959.8	SLD 11	-3.8E-03	-11428.6	SLE RA 20	1.49E-04				
1051	SLD 6	-1.0E-03	-3002.9	SLD 11	-3.9E-03	-11614.8	SLE RA 20	1.70E-04				
1052	SLD 6	-0.001	-3000	SLD 11	-3.9E-03	-11583	SLE RA 20	0.000146				
1053	SLD 6	-9.8E-04	-2939.7	SLD 11	-3.8E-03	-11346.6	SLE RA 20	8.87E-05				
1054	SLD 6	-9.5E-04	-2857.8	SLD 11	-3.7E-03	-11055.4	SLE RA 20	2.57E-05				
1055	SLD 6	-9.3E-04	-2781.7	SLD 11	-3.6E-03	-10823.4	SLE RA 20	2.04E-05				
1056	SLD 6	-9.1E-04	-2729.8	SLD 11	-3.6E-03	-10731.3	SLE RA 20	1.74E-05				
1057	SLD 6	-9.0E-04	-2714.5	SLD 11	-3.6E-03	-10833.3	SLE RA 20	1.74E-05				
1058	SLD 6	-9.1E-04	-2742.8	SLD 11	-3.7E-03	-11162.2	SLE RA 20	2.04E-05				
1059	SLD 6	-9.4E-04	-2817.2	SLD 11	-3.9E-03	-11730.5	SLE RA 20	2.62E-05				
1060	SLD 6	-9.8E-04	-2935.5	SLD 11	-4.2E-03	-12527.1	SLE RA 20	0.000034				
1061	SLD 6	-1.0E-03	-3089.2	SLD 11	-4.5E-03	-13509.7	SLE RA 20	6.95E-05				
1062	SLD 6	-1.1E-03	-3219.3	SLD 11	-4.8E-03	-14324.7	SLE RA 20	8.23E-05				
1064	SLD 9	-1.1E-03	-3428.6	SLD 8	-4.9E-03	-14796.7	SLE RA 20	1.62E-04				
1068	SLD 9	-1.1E-03	-3277.3	SLD 8	-5.1E-03	-15385.7	SLE RA 20	8.04E-05				
1081	SLD 9	-1.1E-03	-3210.4	SLD 8	-4.5E-03	-13560.8	SLE RA 20	0.000099				
1083	SLD 9	-1.1E-03	-3201.2	SLD 8	-4.5E-03	-13434.2	SLE RA 20	9.63E-05				
1096	SLD 6	-9.9E-04	-2972.3	SLD 11	-4.3E-03	-12856.2	SLE RA 20	7.18E-05				
1098	SLD 6	-1.0E-03	-3008.6	SLD 11	-4.3E-03	-12965.2	SLE RA 20	7.17E-05				
1109	SLD 6	-9.9E-04	-2976.7	SLD 11	-4.9E-03	-14774.2	SLE RA 20	5.31E-05				

1.5 Baricentri delle rigidezze

Quota: *quota alla quale è stato valutato il baricentro delle rigidezze. esprimibile come livello, falda, piano orizzontale alla Z specificata. [m]*
Posizione: *posizione in pianta del baricentro delle rigidezze.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*
Baricentro masse: *posizione in pianta del baricentro delle masse.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*
Distanza: *distanza in pianta tra il baricentro delle rigidezze e il baricentro delle masse.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*

Quota	Posizione		Baricentro masse		Distanza	
	X	Y	X	Y	X	Y
Terra	-12.521	-4.118	-13.05	-3.333	0.529	-0.784
Rialzato	-12.21	1.147	-12.257	1.313	0.047	-0.166

Quota	Posizione		Baricentro masse		Distanza	
	X	Y	X	Y	X	Y
Primo	-12.297	1.402	-12.362	1.406	0.065	-0.004
Secondo	-12.368	1.462	-12.367	1.407	-0.001	0.054
Terzo	-12.444	1.334	-12.385	1.429	-0.059	-0.095
Sottotetto	-12.521	1.24	-12.166	2.137	-0.355	-0.897

1.6 Risposta modale

Modo: *identificativo del modo di vibrare.*
Periodo: *periodo. [s]*
Massa X: *massa partecipante in direzione globale X. Il valore è adimensionale.*
Massa Y: *massa partecipante in direzione globale Y. Il valore è adimensionale.*
Massa Z: *massa partecipante in direzione globale Z. Il valore è adimensionale.*
Massa rot. X: *massa rotazionale partecipante attorno la direzione globale X. Il valore è adimensionale.*
Massa rot. Y: *massa rotazionale partecipante attorno la direzione globale Y. Il valore è adimensionale.*
Massa rot. Z: *massa rotazionale partecipante attorno la direzione globale Z. Il valore è adimensionale.*
Massa sX: *massa partecipante in direzione Sisma X. Il valore è adimensionale.*
Massa sY: *massa partecipante in direzione Sisma Y. Il valore è adimensionale.*

Totale masse partecipanti:

Traslazione X: 0.996984
Traslazione Y: 0.997613
Traslazione Z: 0
Rotazione X: 0.966474
Rotazione Y: 0.972932
Rotazione Z: 0.713848

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	1.362155007	0.000052298	0.000000001	0	0	0.000141379	0.000005947	0.000052298	0.000000001
2	1.053965164	0.000040827	0.000000002	0	0	0.000341796	0.000002254	0.000040827	0.000000002
3	0.935026818	0.00008897	0.000000905	0	0.000001277	0.000233756	0.000005169	0.00008897	0.000000905
4	0.925074481	0.000003948	0.000000033	0	0.000000013	0.000028044	0.000000803	0.000003948	0.000000033
5	0.902617988	0.000013683	0.000000009	0	0.000000011	0.000007221	0.000002872	0.000013683	0.000000009
6	0.874342288	0.000170699	0.000000003	0	0.000000002	0.001184909	0.000014805	0.000170699	0.000000003
7	0.861313952	0.000001429	0.000000089	0	0.000000002	0.000025156	0.000000152	0.000001429	0.000000089
8	0.841247013	0.000996788	0.000000012	0	0.000000067	0.002586898	0.000115131	0.000996788	0.000000012
9	0.791498292	0.000151692	0.000000005	0	0.000000056	0.000173126	0.000009403	0.000151692	0.000000005
10	0.783413737	0.000136953	0.000000211	0	0.000000302	0.000145996	0.000010241	0.000136953	0.000000211
11	0.773305392	0.006102333	0.00000013	0	0.000000066	0.004851279	0.000559322	0.006102333	0.00000013
12	0.772277668	0.000000929	0.000002966	0	0.000003696	0.000009119	0.00000097	0.000000929	0.000002966
13	0.768109098	0.000006539	0.000004735	0	0.000004059	0.000037373	0.000002469	0.000006539	0.000004735
14	0.724765991	0.000108245	0.000022105	0	0.000029927	0.000623155	0.000038517	0.000108245	0.000022105
15	0.720622519	0.001631909	0.000000019	0	0.000000013	0.000344482	0.000137962	0.001631909	0.000000019
16	0.695660114	0.000008784	0.000051878	0	0.000065318	0.000010812	0.000046813	0.000008784	0.000051878
17	0.693728818	0.001265759	0.00000304	0	0.000002853	0.006970671	0.000070759	0.001265759	0.00000304
18	0.682573541	0.000012355	0.000976934	0	0.001758687	0.000120036	0.000629394	0.000012355	0.000976934
19	0.677101059	0.00014953	0.000051638	0	0.000095558	0.001768225	0.000038605	0.00014953	0.000051638
20	0.642584577	0.00142693	0.000158625	0	0.000287111	0.001351373	0.000402147	0.00142693	0.000158625
21	0.638090943	0.017654018	0.0000125	0	0.000025403	0.012177499	0.000625736	0.017654018	0.0000125
22	0.626984715	0.009505127	0.000101389	0	0.000109897	0.010615154	0.000122104	0.009505127	0.000101389
23	0.597874002	0.000249353	0.000411935	0	0.000583978	0.000355247	0.000097829	0.000249353	0.000411935
24	0.580179466	0.008484556	0.000143471	0	0.000097254	0.008674352	0.000039597	0.008484556	0.000143471
25	0.5744959	0.002470929	0.00122499	0	0.001939321	0.002493073	0.000863304	0.002470929	0.00122499
26	0.536183845	0.007899874	0.001994109	0	0.003193991	0.006758733	0.003730156	0.007899874	0.001994109
27	0.530120647	0.00358755	0.001454801	0	0.002848237	0.002418748	0.000183369	0.00358755	0.001454801
28	0.503561321	0.001653207	0.05215959	0	0.079660821	0.000634909	0.041063195	0.001653207	0.05215959
29	0.499460635	0.00172715	0.023062868	0	0.037367443	0.000695057	0.012471778	0.00172715	0.023062868
30	0.479237899	0.000005266	0.614786912	0	0.739731262	0.000023829	0.423007191	0.000005266	0.614786912
31	0.451711504	0.005230364	0.001814981	0	0.002097921	0.003904433	0.001041314	0.005230364	0.001814981
32	0.430996833	0.002215343	0.003130669	0	0.004597326	0.002738815	0.00353206	0.002215343	0.003130669
33	0.414340361	0.000855594	0.005688731	0	0.008837274	0.00123474	0.002049369	0.000855594	0.005688731
34	0.375177515	0.003612455	0.031699285	0	0.018355078	0.002585624	0.018895823	0.003612455	0.031699285
35	0.365662117	0.010319839	0.020290881	0	0.010051155	0.006904236	0.023226502	0.010319839	0.020290881
36	0.341656188	0.013009708	0.020592292	0	0.00745896	0.011688433	0.015463189	0.013009708	0.020592292
37	0.332712672	0.286564505	0.000917565	0	0.000423532	0.303715471	0.000118673	0.286564505	0.000917565
38	0.305113337	0.092626128	0.000244322	0	0.000173919	0.105009882	0.002869713	0.092626128	0.000244322
39	0.285589651	0.001447169	0.023964471	0	0.017800895	0.001434488	0.018355814	0.001447169	0.023964471
40	0.249174422	0.112416353	0.01265832	0	0.008904527	0.125855671	0.00923923	0.112416353	0.01265832
41	0.245795635	0.211737944	0.007522932	0	0.005063388	0.237806034	0.000992392	0.211737944	0.007522932
42	0.227693707	0.063088547	0.000414684	0	0.000176618	0.071316954	0.008247488	0.063088547	0.000414684
43	0.201555819	0.000256758	0.010744817	0	0.001698075	0.000177751	0.007329585	0.000256758	0.010744817
44	0.154135703	0.004986621	0.000488461	0	0.000015508	0.000423158	0.002358928	0.004986621	0.000488461
45	0.142402942	0.000219791	0.01034194	0	0.000406539	0.000013386	0.007781306	0.000219791	0.01034194
46	0.091204731	0.000005006	0.122213336	0	0.009146017	0.000002908	0.082960873	0.000005006	0.122213336
47	0.083779271	0.070473224	0.000063189	0	0.000042808	0.02139064	0.000178784	0.070473224	0.000063189
48	0.061115391	0.051796151	0.000868184	0	0.000072953	0.010817792	0.001881788	0.051796151	0.000868184
49	0.05655864	0.000513495	0.027328489	0	0.002782327	0.000063446	0.017588489	0.000513495	0.027328489
50	0.004355835	0.000001177	0.000000016	0	0.000562344	0.000047223	0.005438437	0.000001177	0.000000016

1.7 Equilibrio globale forze

Contributo: Nome attribuito al sistema risultante.
Fx: Componente X di forza del sistema risultante. [daN]
Fy: Componente Y di forza del sistema risultante. [daN]
Fz: Componente Z di forza del sistema risultante. [daN]
*Mx: Componente di momento attorno l'asse X del sistema risultante. [daN*m]*
*My: Componente di momento attorno l'asse Y del sistema risultante. [daN*m]*
*Mz: Componente di momento attorno l'asse Z del sistema risultante. [daN*m]*

Bilancio in condizione di carico: Pesi strutturali

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	-27.811	-42.901	-1402699.374	-1520262.71	-17312356.23	369.04
Reazioni	27.811	42.901	1402699.374	1520373.38	17312266.44	-369.04
P-Delta	0	0	0	0	0	0
Totale	0	0	0	110.67	-89.79	0

Bilancio in condizione di carico: Permanenti portati

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-382193.961	-529341.29	-4741678.24	0
Reazioni	0	0	382193.961	529346.68	4741649.32	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	5.39	-28.92	0

Bilancio in condizione di carico: Variabile A

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-213055.284	-233819.34	-2638681.55	0
Reazioni	0	0	213055.284	233801.13	2638678.07	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-18.21	-3.48	0

Bilancio in condizione di carico: Neve

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-33098.585	-62383.17	-417604.51	0
Reazioni	0	0	33098.585	62487.47	417536.79	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	104.29	-67.72	0

Bilancio in condizione di carico: Variabile H

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-25707.301	-45321.33	-321731.11	0
Reazioni	0	0	25707.301	45362.22	321702.02	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	40.89	-29.09	0

Bilancio in condizione di carico: Vento

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	-5912.985	0	45274.41	0	73454.98
Reazioni	0	5912.985	0	-45274.9	-0.43	-73454.98
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-0.5	-0.43	0

Bilancio in condizione di carico: Sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	379875.469	0	0	0	3940653.1	-464596.32
Reazioni	-379875.469	0	0	-289.62	-3940654.35	464596.32
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-289.62	-1.25	0

Bilancio in condizione di carico: Sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	379744.706	0	-3939296.62	0	-4706847.38
Reazioni	0	-379744.706	0	3939359.68	105.07	4706847.38
P-Delta	0	0	0	0	0	0
Totale	0	0	0	63.06	105.07	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-179853.27
Reazioni	0	0	0	-20.87	-3.31	179853.27
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-20.87	-3.31	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	84095.96
Reazioni	0	0	0	9.76	1.55	-84095.96
P-Delta	0	0	0	0	0	0
Totale	0	0	0	9.76	1.55	0

Bilancio in condizione di carico: Sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	243647.751	0	0	0	2527489.52	-297986.73
Reazioni	-243647.751	0	0	-185.76	-2527490.31	297986.73
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-185.76	-0.8	0

Bilancio in condizione di carico: Sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	222031.336	0	-2303250.79	0	-2752026.81
Reazioni	0	-222031.336	0	2303287.65	61.43	2752026.81
P-Delta	0	0	0	0	0	0
Totale	0	0	0	36.87	61.43	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-115355.81
Reazioni	0	0	0	-13.38	-2.12	115355.81
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-13.38	-2.12	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	49169.71
Reazioni	0	0	0	5.7	0.9	-49169.71
P-Delta	0	0	0	0	0	0
Totale	0	0	0	5.7	0.9	0

Bilancio in condizione di carico: Rig Ux

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	1	0	0	0	14.6	-2.14
Reazioni	-1	0	0	0	-14.6	2.14
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Uy

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	1	0	-14.6	0	-12.17
Reazioni	0	-1	0	14.6	0	12.17
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Rz

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0.01
Reazioni	0	0	0	0	0	-0.01
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

1.8 Risposta di spettro

Spettro: condizione elementare corrispondente allo spettro.
N.b.: nome breve della condizione elementare.
Fx: componente della forza lungo l'asse X. [daN]
Fy: componente della forza lungo l'asse Y. [daN]
Fz: componente della forza lungo l'asse Z. [daN]
*Mx: componente della coppia attorno all'asse X. [daN*m]*
*My: componente della coppia attorno all'asse Y. [daN*m]*
*Mz: componente della coppia attorno all'asse Z. [daN*m]*
Max X: massima reazione lungo l'asse X.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]
Max Y: massima reazione lungo l'asse Y.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]
Max Z: massima reazione lungo l'asse Z.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Spettro	Fx	Fy	Fz	Mx	My	Mz	Max X		Max Y		Max Z	
N.b.							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	250857.27	4669.88	0	3.224E04	2.253E06	2.772E05	250857.27	0	316308.02	90	0	0
SLV Y	4669.88	316308.02	0	2.988E06	3.867E04	3.910E06	250857.27	0	316308.02	90	0	0
X SLD	160294.48	2850.22	0	1.999E04	1.443E06	1.758E05	160294.48	179	185437.27	90	0	0
Y SLD	2850.22	185437.27	0	1.751E06	2.408E04	2.293E06	160294.48	179	185437.27	90	0	0

1.9 Annotazioni solutore

***Informazioni**: informazioni fornite dal solutore al termine del calcolo del modello.*

Informazioni

1.10 Statistiche soluzione

Tipo di equazioni	Lineari
Tecnica di soluzione	Intel MKL PARDISO
Numero equazioni	108498
Elemento min. diagonale	666.2908339
Elemento max diagonale	171355619933018
Rapporto max/min	257178414011.824
Elementi non nulli	4861331

SIDEL
INGEGNERIA

TABULATI DI CALCOLO – VERIFICHE
CIVICO 55
STATO DI PROGETTO

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1 Verifiche

1.1 Verifica regolarità strutturale

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

Livello:
Descr: *descrizione livello.*
Quota: *quota livello. [m]*
Q: *quota livello. [m]*
Qinf: *quota livello precedente. [m]*
Comb: *combinazione.*
A1: *a1 (Distribuzione masse).*
A1n: *a1 numeratore (distanza tra centro massa vs. centro rigidezza [se presente] o centro dell'ingombro del piano). [m]*
A1d: *a1 denominatore (ingombro del piano nella medesima direzione [x o y globale]). [m]*
A1r: *a1 rapporto (distanza centro massa/rigidezza su ingombro del piano).*
A2: *a2 (Distribuzione rigidezze).*
A2n: *a2 numeratore (rigidezza max [x o y globale]).*
A2d: *a2 denominatore (rigidezza min [x o y globale]).*
A2r: *a2 rapporto (rigidezza max/min).*
A3: *a3 (Forma compatta).*
A3n: *a3 numeratore (area convessa). [m²]*
A3d: *a3 denominatore (area piano). [m²]*
A3r: *a3 rapporto (area convessa/area piano).*
B: *b (Rapporto lati).*
Bn: *b numeratore (lato max [x o y globale]). [m]*
Bd: *b denominatore (lato min [x o y globale]). [m]*
Br: *b rapporto (lato max/min).*
C: *c (Rapporto rigidezze piano).*
Cn: *c numeratore (rigidezza elementi verticali).*
Cd: *c denominatore (rigidezza piano).*
Cr: *c rapporto (rigidezza elementi verticali/rigidezza piano).*
E1: *e1 (Variazione masse).*
E1n: *e1 numeratore (massa max). [daN]*
E1d: *e1 denominatore (massa min). [daN]*
E1r: *e1 rapporto (massa max/min).*
E2: *e2 (Riduzione rigidezze).*
E2n: *e2 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E2d: *e2 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]*
E2r: *e2 rapporto (variazione massima in decremento Kmax/Kmin).*
E3: *e3 (Incremento rigidezze).*
E3n: *e3 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E3d: *e3 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]*
E3r: *e3 rapporto (variazione massima in incremento Kmax/Kmin).*
F: *f (Rapporto Capacità/Domanda).*
Fn: *f numeratore (rapporto capacità/domanda massimo [c/d max]). [daN]*
Fd: *f denominatore (rapporto capacità/domanda minimo [c/d min]). [daN]*
Fr: *f rapporto (variazione massima [rapporto (c/d max)/(c/d min)]).*
G1: *g1 (Rastremazione di piano).*
G1n: *g1 numeratore (L1). [m]*
G1d: *g1 denominatore (L2). [m]*
G1r: *g1 rapporto (L1/L2).*
G2: *g2 (Rastremazione totale).*
G2n: *g2 numeratore (L0). [m]*
G2d: *g2 denominatore (Li). [m]*
G2r: *g2 rapporto (L0/Li).*
Capacità/Domanda in X:
VrdX: *taglio resistente complessivo in direzione X. [daN]*
VedX: *taglio agente complessivo in direzione X). [daN]*
|Rd/Ed|: *|Rd/Ed| (rapporto capacità/domanda in termini di resistenza a taglio).*
Capacità/Domanda in Y:
VrdY: *taglio resistente complessivo in direzione Y. [daN]*
VedY: *taglio agente complessivo in direzione Y). [daN]*

Verifica regolarità strutturale

Controllo regolarità edificio secondo D.M. 17-01-18 (N.T.C.) §7.2.1 - §C7.2.1

Avvertenze

La seguente procedura valuta la regolarità della costruzione secondo quanto indicato nelle NTC 2018 §7.2.1.
Tali valutazioni sono a carattere puramente informativo e vengono condotte sulla base del modello e delle verifiche presenti alla sua generazione, con le limitazioni indicate nella manualistica.
In ogni caso l'impostazione di regolarità della costruzione, in pianta ed elevazione, va indicata nelle preferenze di analisi dall'utente utilizzatore del software.

Sintesi dei risultati

Orizzontamenti considerati nella valutazione
Livelli di fondazione o di struttura scatolare non dissipativa: Fondazione ascensore(L1), Fondazione(L2),
Livelli di elevazione considerati: Rialzato(L4), Primo(L5), Secondo(L6), Terzo(L7), Sottotetto(L8), Colmo maggiore(L10),

Regolarità in pianta - NO
L'edificio risulta NON regolare in pianta, in base alle condizioni indicate in NTC 2018 §7.2.1
N.V. - Criterio A1 (Distribuzione masse) non valutabile al livello Colmo maggiore
N.V. - Criterio A2 (Distribuzione rigidezze) non valutabile al livello Rialzato
No - Criterio A3 (Forma compatta) NON rispettato, con rapporto massimo 2730667.4/2505985.8=1.1 (limite=1,05) al livello Terzo
Ok - Criterio B (Rapporto lati) rispettato, con rapporto massimo 2,13 (limite=4) al livello Secondo
No - Criterio C (Rapporto rigidezze piano) NON rispettato, con rapporto massimo > 999 (limite=0) al livello Colmo maggiore

Regolarità in altezza - NO
L'edificio risulta NON regolare in altezza, in base alle condizioni indicate in NTC 2018 §7.2.1
Ok - Criterio D (Altezza elementi sismoresistenti) rispettato, con rapporto massimo 1 (limite=1,01)
No - Criterio E1 (Variazione masse) NON rispettato, con rapporto massimo 159225/71222.5=2.2 (limite=1,25) tra il livello Colmo maggiore ed il precedente
N.V. - Criterio E2 (Riduzione rigidezze) non valutabile tra il livello Primo ed il precedente
N.V. - Criterio E3 (Incremento rigidezze) non valutabile tra il livello Primo ed il precedente
N.V. - Criterio F (Rapporto Capacità/Domanda) non valutabile tra il livello Colmo maggiore ed il precedente
Ok - Criterio G1 (Rastremazione di piano) rispettato, con rapporto massimo 0 (limite=0,1) tra il livello Primo ed il precedente
Ok - Criterio G2 (Rastremazione totale) rispettato, con rapporto massimo 0 (limite=0,3) tra il livello Primo ed il precedente

Valori per piano

Verifiche di regolarità in pianta

Livello		A1			A2			A3			B			C		
Descr	Quota	A1n	A1d	A1r	A2n	A2d	A2r	A3n	A3d	A3r	Bn	Bd	Br	Cn	Cd	Cr
Rialzato	0.67	0.17	11.81	0.01				279.6098	259.945	1.08	24.93	11.81	2.11	0	+∞	0
Primo	4.35	0.06	24.77	0				273.0667	253.6345	1.08	24.77	11.64	2.13	0	+∞	0
Secondo	7.9	0.05	11.64	0				273.0667	259.6608	1.05	24.77	11.64	2.13	0	+∞	0
Terzo	11.45	0.1	11.64	0.01				273.0667	250.5986	1.09	24.77	11.64	2.13	0	+∞	0
Sottotetto	14.6	0.9	11.66	0.08				274.4393	257.8928	1.06	24.82	11.66	2.13	0	+∞	0
Colmo maggiore	17.11							274.435	257.6304	1.07	24.82	11.66	2.13	9999	1	9999

Verifiche di regolarità in elevazione

Rapporto di regolarità per la condizione D (Altezza elementi sismoresistenti): 19.06/19.02=0.01.

Livello			E1			E2			E3			F			G1			G2		
Descr	Q	Qinf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	4.35	0.67	185995	142542	1.3							16.3	13.4	1.22	0.09	24.93	0	0.09	24.93	0
Secondo	7.9	4.35	142599	142542	1							18.9	14.1	1.34	0	11.64	0	0.09	24.93	0
Terzo	11.45	7.9	142599	140170	1.02							28.3	17	1.66	0	11.64	0	0.09	24.93	0
Sottotetto	14.6	11.45	159225	140170	1.14							115.7	43.1	2.69	0	24.77	0	0.04	24.93	0
Colmo maggiore	17.11	14.6	159225	71223	2.24										0	11.66	0	0	0.01	0

Dettaglio delle resistenze di piano a taglio (per valutazione punto F)

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Rialzato	0.67	SLD 1	1213747	-155564	7.8	867927	-54731	15.9
Rialzato	0.67	SLD 2	1213875	-155564	7.8	867910	-54731	15.9
Rialzato	0.67	SLD 3	1220415	-155322	7.9	862436	55483	15.5
Rialzato	0.67	SLD 4	1220466	-155322	7.9	862419	55483	15.5
Rialzato	0.67	SLD 5	1211349	-47053	25.7	870966	-183588	4.7
Rialzato	0.67	SLD 6	1211329	-47053	25.7	872017	-183588	4.7
Rialzato	0.67	SLD 7	1229959	-46246	26.6	852787	183793	4.6
Rialzato	0.67	SLD 8	1229885	-46246	26.6	852776	183793	4.6
Rialzato	0.67	SLD 9	1210641	46198	26.2	855420	-183823	4.7
Rialzato	0.67	SLD 10	1210622	46198	26.2	868955	-183823	4.7
Rialzato	0.67	SLD 11	1229338	47005	26.2	850919	183558	4.6
Rialzato	0.67	SLD 12	1229309	47005	26.2	851078	183558	4.6
Rialzato	0.67	SLD 13	1211276	155274	7.8	862209	-55513	15.5
Rialzato	0.67	SLD 14	1211249	155274	7.8	864065	-55513	15.6
Rialzato	0.67	SLD 15	1218961	155516	7.8	858029	54701	15.7
Rialzato	0.67	SLD 16	1218820	155516	7.8	857925	54701	15.7
Rialzato	0.67	SLV 1	1212557	-243008	5	872215	-93355	9.3
Rialzato	0.67	SLV 2	1213078	-243008	5	871295	-93355	9.3
Rialzato	0.67	SLV 3	1223230	-242564	5	863098	94638	9.1
Rialzato	0.67	SLV 4	1223310	-242564	5	863071	94638	9.1
Rialzato	0.67	SLV 5	1147892	-73592	15.6	864296	-313140	2.8
Rialzato	0.67	SLV 6	1161236	-73592	15.8	863760	-313140	2.8
Rialzato	0.67	SLV 7	1196172	-72112	16.6	835500	313504	2.7
Rialzato	0.67	SLV 8	1205527	-72112	16.7	835528	313504	2.7
Rialzato	0.67	SLV 9	1164692	72065	16.2	867018	-313534	2.8
Rialzato	0.67	SLV 10	1164626	72065	16.2	866482	-313534	2.8
Rialzato	0.67	SLV 11	1197295	73545	16.3	814108	313110	2.6
Rialzato	0.67	SLV 12	1197536	73545	16.3	814473	313110	2.6

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Rialzato	0.67	SLV 13	1209842	242516	5	851730	-94668	9
Rialzato	0.67	SLV 14	1209794	242516	5	850933	-94668	9
Rialzato	0.67	SLV 15	1221016	242960	5	857965	93325	9.2
Rialzato	0.67	SLV 16	1220906	242960	5	858350	93325	9.2
Primo	4.35	SLD 1	881711	-130423	6.8	722162	-47811	15.1
Primo	4.35	SLD 2	881575	-130423	6.8	724343	-47811	15.2
Primo	4.35	SLD 3	882301	-129939	6.8	724239	47368	15.3
Primo	4.35	SLD 4	875798	-129939	6.7	724271	47368	15.3
Primo	4.35	SLD 5	876476	-39860	22	720249	-158694	4.5
Primo	4.35	SLD 6	876416	-39860	22	720270	-158694	4.5
Primo	4.35	SLD 7	876977	-38247	22.9	713962	158571	4.5
Primo	4.35	SLD 8	876889	-38247	22.9	713972	158571	4.5
Primo	4.35	SLD 9	873000	38249	22.8	719266	-158557	4.5
Primo	4.35	SLD 10	872940	38249	22.8	719276	-158557	4.5
Primo	4.35	SLD 11	873403	39862	21.9	713519	158707	4.5
Primo	4.35	SLD 12	873315	39862	21.9	713529	158707	4.5
Primo	4.35	SLD 13	871356	129940	6.7	720973	-47355	15.2
Primo	4.35	SLD 14	871220	129940	6.7	720989	-47355	15.2
Primo	4.35	SLD 15	870387	130424	6.7	721041	47824	15.1
Primo	4.35	SLD 16	870251	130424	6.7	721056	47824	15.1
Primo	4.35	SLV 1	872525	-203832	4.3	723832	-81721	8.9
Primo	4.35	SLV 2	878019	-203832	4.3	723883	-81721	8.9
Primo	4.35	SLV 3	867472	-202874	4.3	725859	81010	9
Primo	4.35	SLV 4	860209	-202874	4.2	725910	81010	9
Primo	4.35	SLV 5	855875	-62601	13.7	703289	-271321	2.6
Primo	4.35	SLV 6	847374	-62601	13.5	703323	-271321	2.6
Primo	4.35	SLV 7	838394	-59410	14.1	714445	271117	2.6
Primo	4.35	SLV 8	845133	-59410	14.2	714479	271117	2.6
Primo	4.35	SLV 9	843556	59411	14.2	701522	-271104	2.6
Primo	4.35	SLV 10	837974	59411	14.1	701539	-271104	2.6
Primo	4.35	SLV 11	854684	62603	13.7	713463	271334	2.6
Primo	4.35	SLV 12	837809	62603	13.4	713480	271334	2.6
Primo	4.35	SLV 13	866049	202876	4.3	721199	-80997	8.9
Primo	4.35	SLV 14	859906	202876	4.2	721231	-80997	8.9
Primo	4.35	SLV 15	860851	203833	4.2	721312	81734	8.8
Primo	4.35	SLV 16	854888	203833	4.2	721344	81734	8.8
Secondo	7.9	SLD 1	880715	-102140	8.6	644981	-37719	17.1
Secondo	7.9	SLD 2	880800	-102140	8.6	644919	-37719	17.1
Secondo	7.9	SLD 3	882796	-101683	8.7	642817	38870	16.5
Secondo	7.9	SLD 4	883009	-101683	8.7	642767	38870	16.5
Secondo	7.9	SLD 5	875046	-31335	27.9	645369	-127472	5.1
Secondo	7.9	SLD 6	875101	-31335	27.9	645345	-127472	5.1
Secondo	7.9	SLD 7	883492	-29812	29.6	641571	127827	5
Secondo	7.9	SLD 8	883629	-29812	29.6	641539	127827	5
Secondo	7.9	SLD 9	874425	29812	29.3	645272	-127813	5
Secondo	7.9	SLD 10	874479	29812	29.3	645248	-127813	5
Secondo	7.9	SLD 11	881320	31335	28.1	641938	127485	5
Secondo	7.9	SLD 12	881314	31335	28.1	641929	127485	5
Secondo	7.9	SLD 13	874655	101683	8.6	644800	-38857	16.6
Secondo	7.9	SLD 14	874740	101683	8.6	644773	-38857	16.6
Secondo	7.9	SLD 15	877197	102140	8.6	644098	37732	17.1
Secondo	7.9	SLD 16	877281	102140	8.6	641935	37732	17
Secondo	7.9	SLV 1	869748	-159539	5.5	646071	-64600	10
Secondo	7.9	SLV 2	875917	-159539	5.5	645974	-64600	10
Secondo	7.9	SLV 3	878734	-158751	5.5	643386	66374	9.7
Secondo	7.9	SLV 4	881654	-158751	5.6	643309	66374	9.7
Secondo	7.9	SLV 5	866446	-49056	17.7	633274	-218019	2.9
Secondo	7.9	SLV 6	866486	-49056	17.7	633208	-218019	2.9
Secondo	7.9	SLV 7	877562	-46431	18.9	633222	218561	2.9
Secondo	7.9	SLV 8	872680	-46431	18.8	633169	218561	2.9
Secondo	7.9	SLV 9	864444	46431	18.6	633050	-218547	2.9
Secondo	7.9	SLV 10	871439	46431	18.8	633011	-218547	2.9
Secondo	7.9	SLV 11	872176	49056	17.8	631515	218032	2.9
Secondo	7.9	SLV 12	873707	49056	17.8	631499	218032	2.9
Secondo	7.9	SLV 13	869801	158751	5.5	645605	-66361	9.7
Secondo	7.9	SLV 14	865593	158751	5.5	643415	-66361	9.7
Secondo	7.9	SLV 15	875280	159539	5.5	642379	64613	9.9
Secondo	7.9	SLV 16	868966	159539	5.4	642356	64613	9.9
Terzo	11.45	SLD 1	858311	-66073	13	652044	-23015	28.3
Terzo	11.45	SLD 2	858339	-66073	13	652041	-23015	28.3
Terzo	11.45	SLD 3	862372	-65988	13.1	650542	24874	26.2
Terzo	11.45	SLD 4	862400	-65988	13.1	650538	24874	26.2
Terzo	11.45	SLD 5	860429	-19951	43.1	652244	-79532	8.2
Terzo	11.45	SLD 6	860471	-19951	43.1	652241	-79532	8.2
Terzo	11.45	SLD 7	863713	-19667	43.9	641972	80099	8
Terzo	11.45	SLD 8	860555	-19667	43.8	641970	80099	8
Terzo	11.45	SLD 9	861365	19667	43.8	652137	-80085	8.1
Terzo	11.45	SLD 10	861408	19667	43.8	652135	-80085	8.1
Terzo	11.45	SLD 11	859334	19951	43.1	641866	79545	8.1
Terzo	11.45	SLD 12	862841	19951	43.2	641863	79545	8.1
Terzo	11.45	SLD 13	860840	65988	13	651690	-24861	26.2
Terzo	11.45	SLD 14	860995	65988	13	651686	-24861	26.2
Terzo	11.45	SLD 15	861228	66073	13	651413	23028	28.3
Terzo	11.45	SLD 16	861383	66073	13	651409	23028	28.3
Terzo	11.45	SLV 1	841464	-103904	8.1	652253	-39578	16.5
Terzo	11.45	SLV 2	842154	-103904	8.1	652246	-39578	16.5
Terzo	11.45	SLV 3	839528	-103796	8.1	650553	42489	15.3
Terzo	11.45	SLV 4	835148	-103796	8	650547	42489	15.3

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Terzo	11.45	SLV 5	849991	-31335	27.1	652605	-136337	4.8
Terzo	11.45	SLV 6	847329	-31335	27	652601	-136337	4.8
Terzo	11.45	SLV 7	858059	-30975	27.7	629527	137220	4.6
Terzo	11.45	SLV 8	851176	-30975	27.5	629464	137220	4.6
Terzo	11.45	SLV 9	857321	30976	27.7	652433	-137206	4.8
Terzo	11.45	SLV 10	859146	30976	27.7	652429	-137206	4.8
Terzo	11.45	SLV 11	852467	31335	27.2	631765	136350	4.6
Terzo	11.45	SLV 12	849414	31335	27.1	631669	136350	4.6
Terzo	11.45	SLV 13	855225	103797	8.2	651681	-42476	15.3
Terzo	11.45	SLV 14	858645	103797	8.3	651675	-42476	15.3
Terzo	11.45	SLV 15	844985	103904	8.1	651207	39592	16.4
Terzo	11.45	SLV 16	854879	103904	8.2	651201	39592	16.4
Sottotetto	14.6	SLD 1	750736	-22279	33.7	525521	-7060	74.4
Sottotetto	14.6	SLD 2	754779	-22279	33.9	525535	-7060	74.4
Sottotetto	14.6	SLD 3	754113	-22300	33.8	525177	7910	66.4
Sottotetto	14.6	SLD 4	757342	-22300	34	525191	7910	66.4
Sottotetto	14.6	SLD 5	753031	-6652	113.2	520340	-24821	21
Sottotetto	14.6	SLD 6	750115	-6652	112.8	520360	-24821	21
Sottotetto	14.6	SLD 7	771940	-6722	114.8	483747	25077	19.3
Sottotetto	14.6	SLD 8	771982	-6722	114.9	483746	25077	19.3
Sottotetto	14.6	SLD 9	757253	6722	112.7	528309	-25076	21.1
Sottotetto	14.6	SLD 10	752552	6722	112	528329	-25076	21.1
Sottotetto	14.6	SLD 11	769520	6652	115.7	483737	24822	19.5
Sottotetto	14.6	SLD 12	764050	6652	114.9	483737	24822	19.5
Sottotetto	14.6	SLD 13	758360	22300	34	527350	-7910	66.7
Sottotetto	14.6	SLD 14	767976	22300	34.4	527381	-7910	66.7
Sottotetto	14.6	SLD 15	755563	22279	33.9	521191	7060	73.8
Sottotetto	14.6	SLD 16	769213	22279	34.5	521205	7060	73.8
Sottotetto	14.6	SLV 1	741096	-35129	21.1	525686	-12231	43
Sottotetto	14.6	SLV 2	734710	-35129	20.9	525709	-12231	43
Sottotetto	14.6	SLV 3	733786	-35169	20.9	499084	13544	36.8
Sottotetto	14.6	SLV 4	733022	-35169	20.8	499549	13544	36.9
Sottotetto	14.6	SLV 5	717978	-10478	68.5	518637	-42762	12.1
Sottotetto	14.6	SLV 6	730910	-10478	69.8	518669	-42762	12.1
Sottotetto	14.6	SLV 7	754560	-10612	71.1	483001	43156	11.2
Sottotetto	14.6	SLV 8	755048	-10612	71.2	483574	43156	11.2
Sottotetto	14.6	SLV 9	734214	10612	69.2	518489	-43155	12
Sottotetto	14.6	SLV 10	734244	10612	69.2	507885	-43155	11.8
Sottotetto	14.6	SLV 11	755555	10478	72.1	481022	42762	11.2
Sottotetto	14.6	SLV 12	761336	10478	72.7	481630	42762	11.3
Sottotetto	14.6	SLV 13	763571	35169	21.7	527509	-13544	38.9
Sottotetto	14.6	SLV 14	758617	35169	21.6	516921	-13544	38.2
Sottotetto	14.6	SLV 15	751175	35129	21.4	503875	12232	41.2
Sottotetto	14.6	SLV 16	755148	35129	21.5	503898	12232	41.2

1.2 Verifiche travate C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

N°: *indice progressivo della sezione.*
Descrizione: *descrizione della sezione.*
Tipo: *tipo di sezione.*
Base: *base della sezione. [m]*
Altezza: *altezza della sezione. [m]*
Copriferro sup.: *distanza del bordo della staffa dalla superficie superiore del getto. [m]*
Copriferro inf.: *distanza del bordo della staffa dalla superficie inferiore del getto. [m]*
Copriferro lat.: *distanza del bordo della staffa dalle superfici laterali del getto. [m]*
x: *distanza da asse appoggio sinistro. [m]*
d: *altezza utile. [m]*
Af: *area di armatura inferiore per unità di lunghezza. [m]*
M: *momento flettente. [daN*m/m]*
Comb: *combinazione.*
x/d: *rapporto tra posizione asse neutro e altezza utile.*
Mult: *momento ultimo. [daN*m/m]*
V: *sforzo di taglio. [daN/m]*
Vult: *sforzo di taglio ultimo. [daN/m]*
Verifica: *stato di verifica.*
Af: *area di armatura. [m²]*
Rara: *famiglia di combinazione di verifica.*
σ c: *tensione di compressione nel calcestruzzo. [daN/m²]*
σ c limite: *tensione di compressione limite nel calcestruzzo. [daN/m²]*
σ f: *tensione di trazione nell'acciaio. [daN/m²]*
σ f limite: *tensione di trazione limite nell'acciaio. [daN/m²]*
Quasi permanente: *famiglia di combinazione di verifica.*
Size X: *misura dell'impronta al suolo lungo X. [m]*
Size Y: *misura dell'impronta al suolo lungo Y. [m]*
Comb.: *combinazione.*

Sis.: indicazione combinazione sismica.
Cnd: indicazione condizione di carico (BT breve termine o LT lungo termine).
Fx: componente orizzontale del carico lungo x. [daN]
Fy: componente orizzontale del carico lungo y. [daN]
Fz: componente verticale del carico. [daN]
IncX: inclinazione del carico lungo x. [deg]
IncY: inclinazione del carico lungo y. [deg]
Phi: angolo di attrito di progetto. [deg]
Ad: adesione di progetto. [daN/m²]
RPl: resistenza passiva laterale unitaria di progetto. [daN/m]
γR: coefficiente parziale sulla resistenza di progetto.
Rd: resistenza di progetto. [daN]
Ed: azione di progetto. [daN]
Rd/Ed: coefficiente di sicurezza allo scorrimento.
Aste: numero delle aste del tratto in verifica.
Size X: misura dell'impronta al suolo lungo la direzione X locale. [m]
Size Y: misura dell'impronta al suolo lungo la direzione Y locale. [m]
Type: indicazione del tipo di combinazione statica o sismica.
Cond: indicazione della condizione di carico (BT breve termine o LT lungo termine).
Rd/Ed: coefficiente di sicurezza alla capacità portante.
*Mx: momento risultante agente attorno x. [daN*m]*
*My: momento risultante agente attorno y. [daN*m]*
Inc.x: inclinazione del carico lungo x. [deg]
Inc.y: inclinazione del carico lungo y. [deg]
Ecc.x: eccentricità del carico lungo x. [m]
Ecc.y: eccentricità del carico lungo y. [m]
B': larghezza efficace. [m]
L': lunghezza efficace. [m]
qd: sovraccarico di progetto. [daN/m²]
γs: peso specifico di progetto del suolo. [daN/m³]
Fi: angolo di attrito di progetto. [deg]
Coes: coesione di progetto. [daN/m²]
Amax: accelerazione normalizzata max al suolo.
N:
Nq: fattore di capacità portante per il termine di sovraccarico.
Nc: fattore di capacità portante per il termine coesivo.
Ng: fattore di capacità portante per il termine attritivo.
S:
Sq: fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.
Sc: fattore correttivo di capacità portante per forma (shape), per il termine coesivo.
Sg: fattore correttivo di capacità portante per forma (shape), per il termine attritivo.
D:
Dq: fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.
Dc: fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.
Dg: fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.
I:
Iq: fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.
Ic: fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.
Ig: fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.
B:
Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.
Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.
Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.
G:
Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.
Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.
Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.
P:
Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.
Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.
Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.
E:
Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.
Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.
Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.
Tipo: tipologia di cedimento considerato (E = elastico, D = edometrico, Z = consolidazione primaria).
Assoluto: cedimento assoluto massimo.
Sa adm: cedimento assoluto ammissibile. [m]
Sa: cedimento assoluto massimo. [m]
Nodo: nodo dove avviene il cedimento assoluto massimo.
Differenziale: cedimento differenziale massimo.
Sd adm: cedimento differenziale ammissibile. [m]

***Sd**: cedimento differenziale massimo. [m]*
***Nodo I**: nodo dove avviene il cedimento differenziale massimo.*
***Nodo j**: nodo dove avviene il cedimento differenziale massimo.*
***Relativo**: cedimento relativo massimo.*
***Sr adm**: cedimento relativo ammissibile. [m]*
***Sr**: cedimento relativo massimo. [m]*
***Nodo**: nodo dove avviene il cedimento relativo massimo.*
***Rapp. inflessione**: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).*
***RI adm**: rapporto di inflessione ammissibile.*
***RI**: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).*
***Rotazione rigida**: rotazione rigida valutata tra primo ed ultimo punto.*
***RR adm**: rotazione rigida ammissibile. [deg]*
***RR**: rotazione rigida massima (tra primo ed ultimo punto). [deg]*
***Rotazione assoluta**: rotazione assoluta dei singoli tratti.*
***R Adm**: rotazione assoluta ammissibile. [deg]*
***R Max**: rotazione assoluta massima. [deg]*
***Nodo I**: dal nodo.*
***Nodo J**: al nodo.*
***Distorsione angolare positiva**: distorsione angolare positiva (concavità verso l'alto).*
***D+ adm**: distorsione angolare ammissibile. [deg]*
***D+**: distorsione angolare massima positiva (concavità verso l'alto). [deg]*
***Nodo**: nodo dove avviene la distorsione angolare massima positiva (concavità verso l'alto).*
***Distorsione angolare negativa**: distorsione angolare negativa (concavità verso il basso).*
***D- adm**: distorsione angolare ammissibile. [deg]*
***D-**: distorsione angolare massima negativa (concavità verso il basso). [deg]*
***Nodo**: nodo dove avviene la distorsione angolare massima negativa (concavità verso il basso).*
***A sup.**: area efficace di armatura longitudinale superiore. [m²]*
***C.b. sup.**: distanza dal bordo del baricentro dell'armatura longitudinale superiore. [m]*
***A inf.**: area efficace di armatura longitudinale inferiore. [m²]*
***C.b. inf.**: distanza dal bordo del baricentro dell'armatura longitudinale inferiore. [m]*
***M+ela**: momento flettente desunto dal solutore che tende le fibre inferiori. [daN*m]*
***M+des**: momento flettente di progetto che tende le fibre inferiori. [daN*m]*
***M+ult**: momento ultimo per trazione delle fibre inferiori. [daN*m]*
***coeff**: coefficiente di sicurezza.*
***M-ela**: momento flettente desunto dal solutore che tende le fibre superiori. [daN*m]*
***M-des**: momento flettente di progetto che tende le fibre superiori. [daN*m]*
***M-ult**: momento ultimo per trazione delle fibre superiori. [daN*m]*
***A st**: area di staffe per unità di lunghezza. [m²]*
***A sl**: area di armatura longitudinale tesa per valutazione resistenza taglio in assenza di armature a taglio. [m²]*
***A sag**: area equivalente di barre piegate per unità di lunghezza. [m²]*
***Vela**: taglio elastico. [daN]*
***Vdes**: taglio di progetto. [daN]*
***Vrd**: resistenza a taglio della sezione senza armature. [daN]*
***Vrcd**: sforzo di taglio che produce il cedimento delle bielle. [daN]*
***Vrsd**: resistenza a taglio per la presenza delle armature. [daN]*
***Vult**: taglio ultimo. [daN]*
***cotgϑ**: cotg dell'angolo di inclinazione dei puntoni in calcestruzzo.*
***Frequente**: famiglia di combinazione di verifica.*
***Ascissa**: ascissa sezione di verifica. [m]*
***Lv**: luce di taglio considerata. [m]*
***x**: altezza della zona compressa della sezione. [m]*
***h**: altezza totale della sezione. [m]*
***ρ,tot**: percentuale geometrica totale di armatura longitudinale.*
***ϑ,m**: rotazione massima per la combinazione considerata.*
***ϑ,y**: rotazione di prima plasticizzazione.*
***μΔ,pl**: parte plastica della domanda di duttilità.*
***Vrd**: resistenza a taglio del calcestruzzo non staffato per la verifica nella direzione considerata. [daN]*
***VRcd(cotϑ=1)**: resistenza a taglio delle bielle compresse per la verifica nella direzione considerata consideranto il valore di cotϑ unitario. [daN]*
***VRsd**: resistenza a taglio delle staffe per la verifica nella direzione considerata. [daN]*
***Vw**: contributo dell'armatura trasversale per la resistenza a taglio. [daN]*
***Vr**: resistenza a taglio in condizioni cicliche (formula [C8.7.2.8]). [daN]*
***Vu**: resistenza a taglio in condizioni sismiche. [daN]*
***Ved**: sollecitazione tagliante. [daN]*
***Ned**: sollecitazione di sforzo normale. [daN]*
***Comb.**: combinazione di verifica.*
***x**: ascissa relativa. [m]*
***taglio negativo**: valori per taglio negativo.*
***contr. grav.**: contributo azioni gravitazionali. [daN]*
***contr. mom. res.**: contributo dei momenti resistenti. [daN]*
***taglio positivo**: valori per taglio positivo.*
***campata**: campata.*
***appoggio**: appoggio.*

***momento positivo**: momento resistente positivo. [daN*m]*
***momento negativo**: momento resistente negativo. [daN*m]*
***Bordo**: bordo interessato dalla fessura.*
***Rara**: famiglia di combinazione per verifica inferiore.*
***Dmax**: distanza massima tra le fessure. [m]*
***Esm**: dilatazione media delle barre di armatura.*
***Wd**: valore di calcolo di apertura delle fessure. [m]*
***Frequente**: famiglia di combinazione per verifica inferiore.*
***Quasi permanente**: famiglia di combinazione per verifica inferiore.*

CORDOLO 1

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

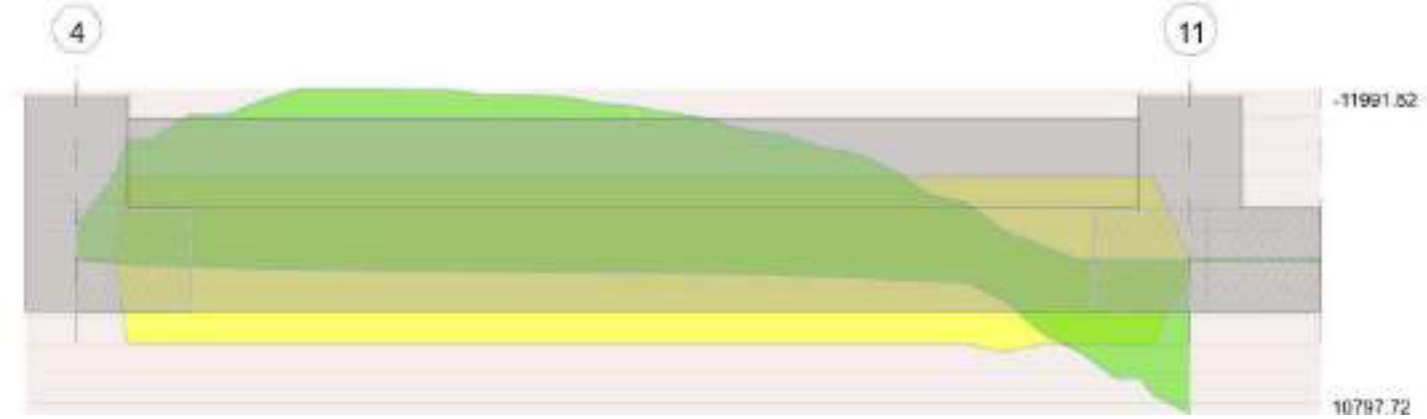


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 4 - 11, sezione R 70x45, aste 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.46	0.41	0.0003	3917	SLV FO 8	0.119	5173	10108	SLV FO 8	15877	Si
4.69	0.41	0.0003	4578	SLV FO 8	0.119	5173	11815	SLV FO 8	15877	Si
4.91	0.41	0.0003	4644	SLV FO 8	0.119	5173	11985	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4471	SLD 8	0.098	6001	11538	SLD 8	15877	Si
0.23	0.41	0.0003	4226	SLD 8	0.098	6001	10905	SLD 8	15877	Si
2.46	0.41	0.0003	2921	SLD 8	0.098	6001	7537	SLD 8	15877	Si
4.69	0.41	0.0003	3447	SLD 8	0.098	6001	8894	SLD 8	15877	Si
4.91	0.41	0.0003	3494	SLD 8	0.098	6001	9016	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000338	2892	SLE RA 20	81911	1494000	1015698	36000000	2632	SLE QP 2	74556	1120500	Si
0.23	0.41	0.00000338	2735	SLE RA 20	77448	1494000	960353	36000000	2488	SLE QP 2	70465	1120500	Si
2.46	0.41	0.00000338	1943	SLE RA 20	55028	1494000	682346	36000000	1760	SLE QP 2	49861	1120500	Si
4.69	0.41	0.00000338	2359	SLE RA 20	66821	1494000	828575	36000000	2136	SLE QP 2	60497	1120500	Si
4.91	0.41	0.00000338	2388	SLE RA 20	67644	1494000	838786	36000000	2162	SLE QP 2	61235	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
5.14	1.3	SLU 2	ST	LT	837	-454	-50490	1	-1	19	0	0	1.1	15358	952	16.13	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
157,158,159,160,161,162,163,164,165,166,167,168	5.14	1.3	SLU 83	ST	BT	2.3	227428	81146	2.8	Si
157,158,159,160,161,162,163,164,165,166,167,168	5.14	1.3	SLD 8	SIS	BT	2.3	203843	83692	2.44	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-325	-81146	-9000.03	-3004.01	0	0	-0.04	-0.11	1.08	5.06	1496	2060	0	14430	
0	-9746	-2704	6252.79	4877.45	0	-74	1.8	2.31	-3.32	1.53	1496	2060	0	14430	0.07
0	4849	-83692	-12584.54	-6009.73	0	3	-0.07	-0.15	1	4.99	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

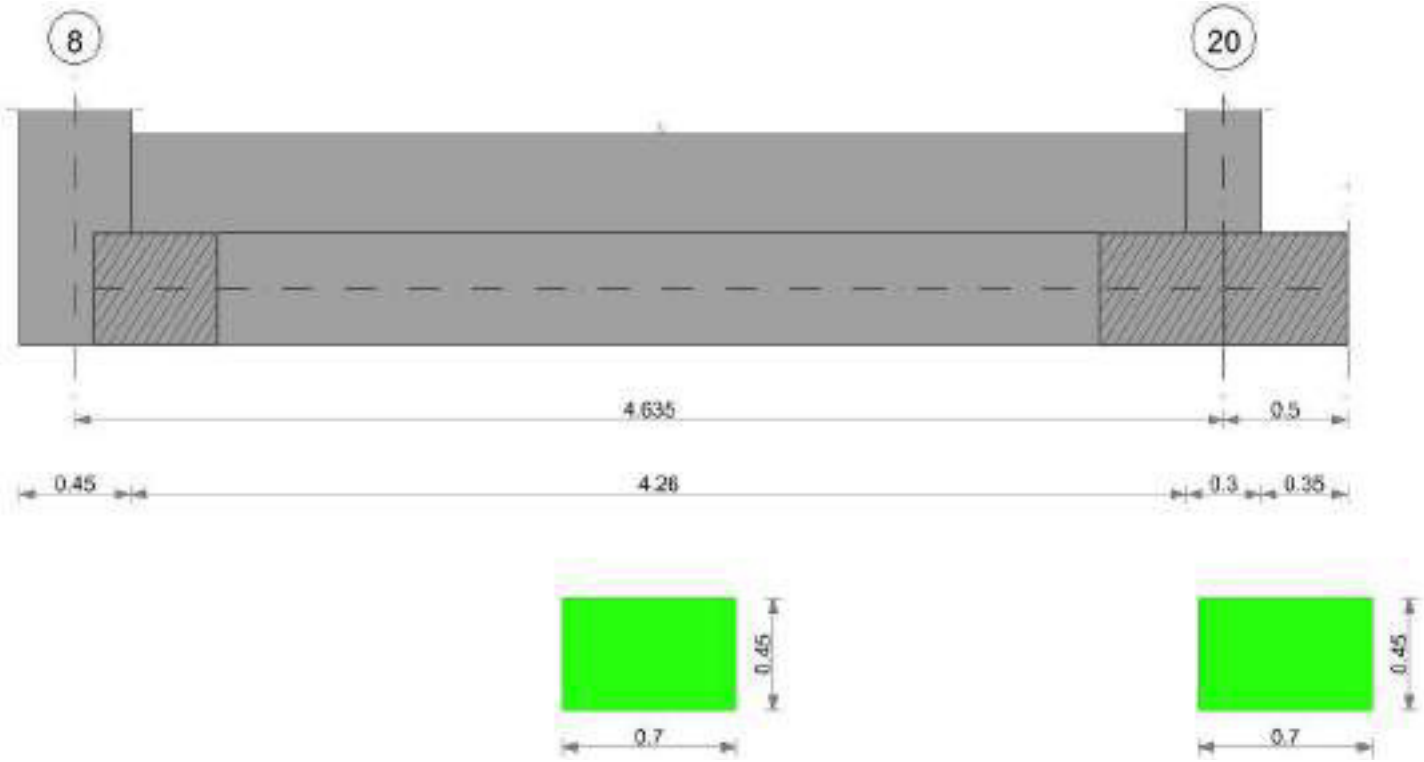
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	955	SLE RA 20	0.05	0	955	943	SLE RA 20	0.05	0	955	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	955	SLE RA 1	0.05	0	955	955	SLE RA 1	0.05	0	955	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	955	SLE RA 1	0.05	0	955	955	SLE RA 1	0.05	0	955	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	955	943	SLE RA 20	0.19	0	955	SLE RA 1	0.1	0	955	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	955	943	SLE RA 1	0.19	0	955	SLE RA 1	0.1	0	955	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	955	943	SLE RA 1	0.19	0	955	SLE RA 1	0.1	0	955	SLE RA 1	Si

CORDOLO 2

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

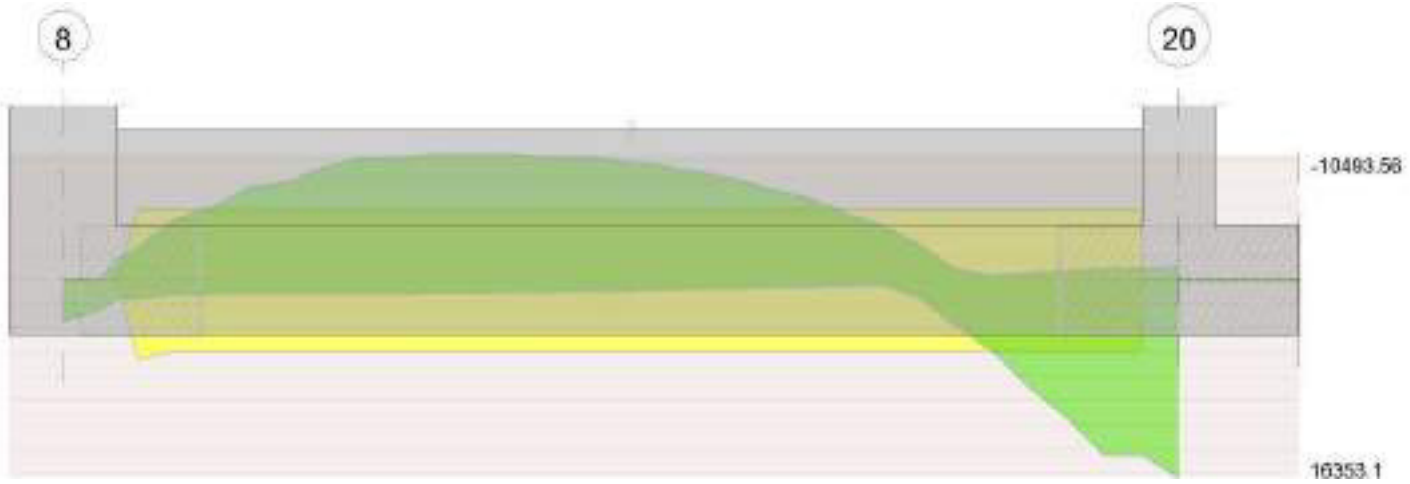


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 8 - 20, sezione R 70x45, aste 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	5747	SLV FO 8	0.145	7759	14831	SLV FO 8	15877	Si
0.23	0.41	0.0005	5519	SLV FO 8	0.145	7759	14242	SLV FO 8	15877	Si
2.32	0.41	0.0005	4098	SLV FO 8	0.145	7759	10575	SLV FO 8	15877	Si
4.48	0.41	0.0005	4379	SLV FO 8	0.145	7759	11300	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	4238	SLD 8	0.12	9019	10936	SLD 8	15877	Si
0.23	0.41	0.0005	4070	SLD 8	0.12	9019	10503	SLD 8	15877	Si
2.32	0.41	0.0005	3018	SLD 8	0.12	9019	7789	SLD 8	15877	Si
4.48	0.41	0.0005	3236	SLD 8	0.12	9019	8351	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000512	2749	SLE RA 20	76128	1494000	943986	36000000	2492	SLE QP 2	69018	1120500	Si
0.23	0.41	0.00000512	2643	SLE RA 20	73179	1494000	907415	36000000	2395	SLE QP 2	66329	1120500	Si
2.32	0.41	0.00000512	1965	SLE RA 20	54405	1494000	674622	36000000	1776	SLE QP 2	49180	1120500	Si
4.48	0.41	0.00000512	2132	SLE RA 20	59050	1494000	732223	36000000	1926	SLE QP 2	53341	1120500	Si
4.63	0.42	0	2127	SLE RA 20	63025	1494000	0	36000000	1921	SLE QP 2	56928	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.86	1.3	SLU 2	ST	LT	439	-527	-45963	1	-1	19	0	0	1.1	13981	686	20.39	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
415,416,417,418,419,420,421,422,423,424,425,426,427	4.86	1.3	SLU 83	ST	BT	2.3	223644	74370	3.01	Si
415,416,417,418,419,420,421,422,423,424,425,426,427	4.86	1.3	SLD 8	SIS	BT	2.3	203188	77755	2.61	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-490	-74370	-6282.62	-4917.53	0	0	-0.07	-0.08	1.13	4.73	1496	2060	0	14430	
0	-8804	-4365	5464.64	-2231.81	0	-64	-0.51	1.25	-1.2	3.84	1496	2060	0	14430	0.07
0	4217	-77755	-9620.93	-6446.43	0	3	-0.08	-0.12	1.05	4.69	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

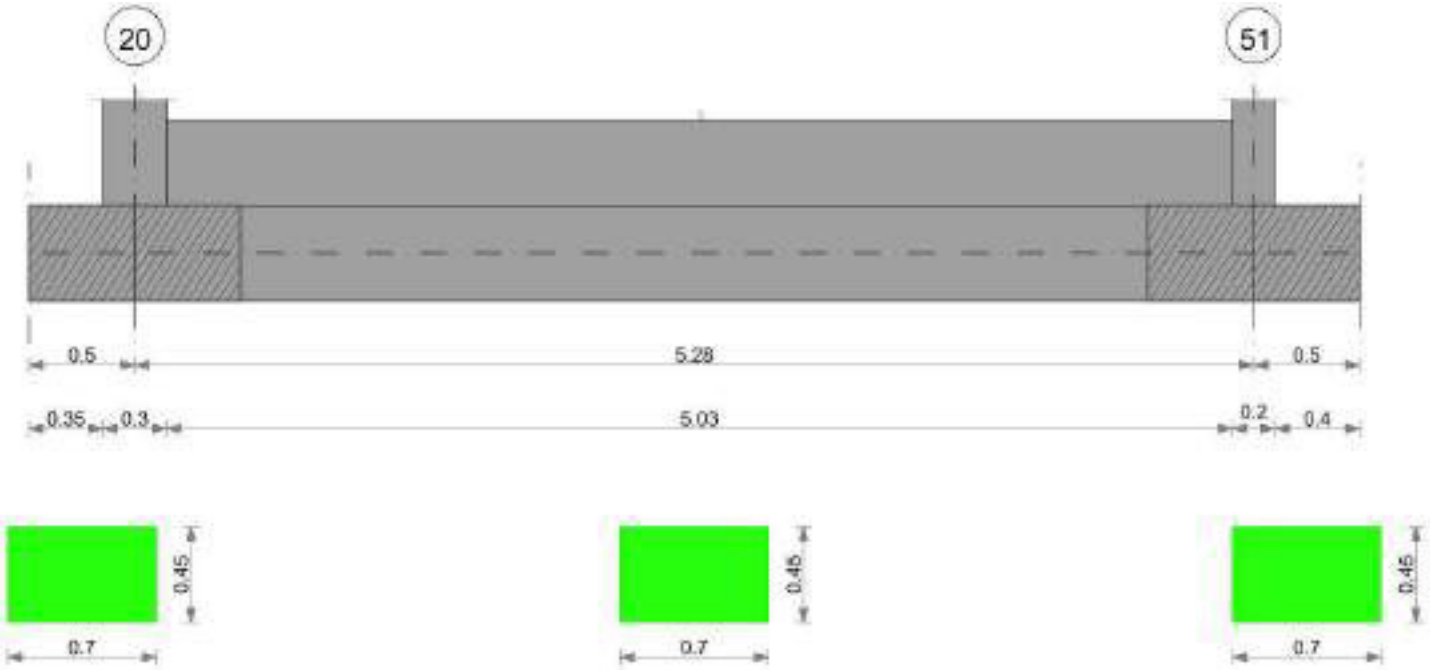
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1025	SLE RA 20	0.05	0	1025	1038	SLE RA 6	0.05	0	1038	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1038	SLE RA 1	0.05	0	1038	1038	SLE RA 1	0.05	0	1038	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1038	SLE RA 1	0.05	0	1038	1038	SLE RA 1	0.05	0	1038	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 6	0.19	0	1038	1025	SLE RA 6	0.19	0	1038	SLE RA 1	0.1	0	1038	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1038	1025	SLE RA 1	0.19	0	1038	SLE RA 1	0.1	0	1038	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1038	1025	SLE RA 1	0.19	0	1038	SLE RA 1	0.1	0	1038	SLE RA 1	Si

CORDOLO 3

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

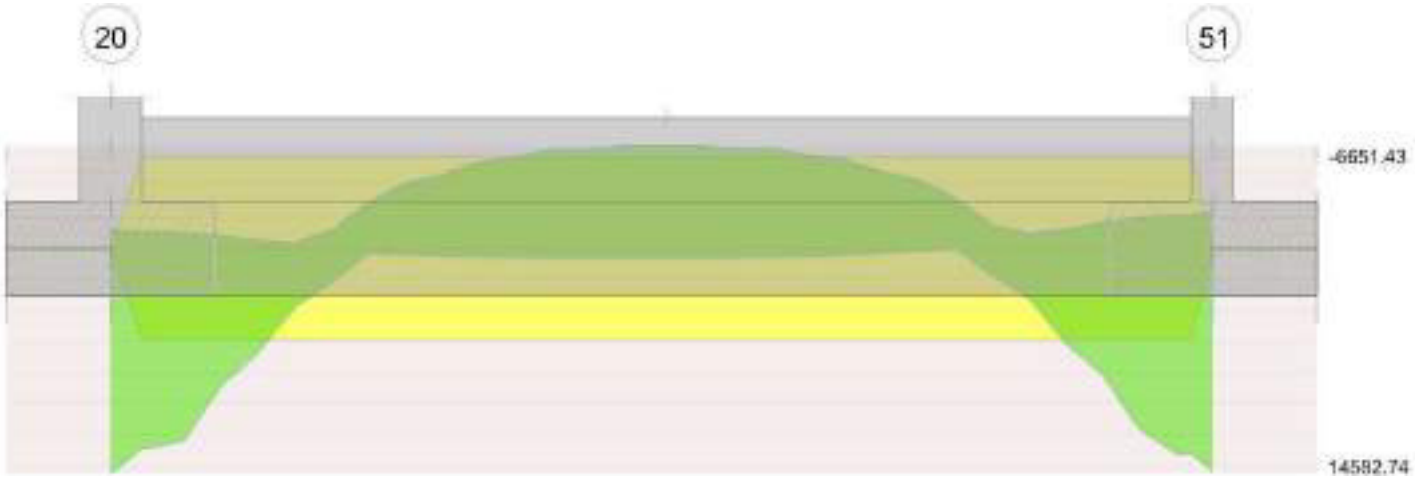
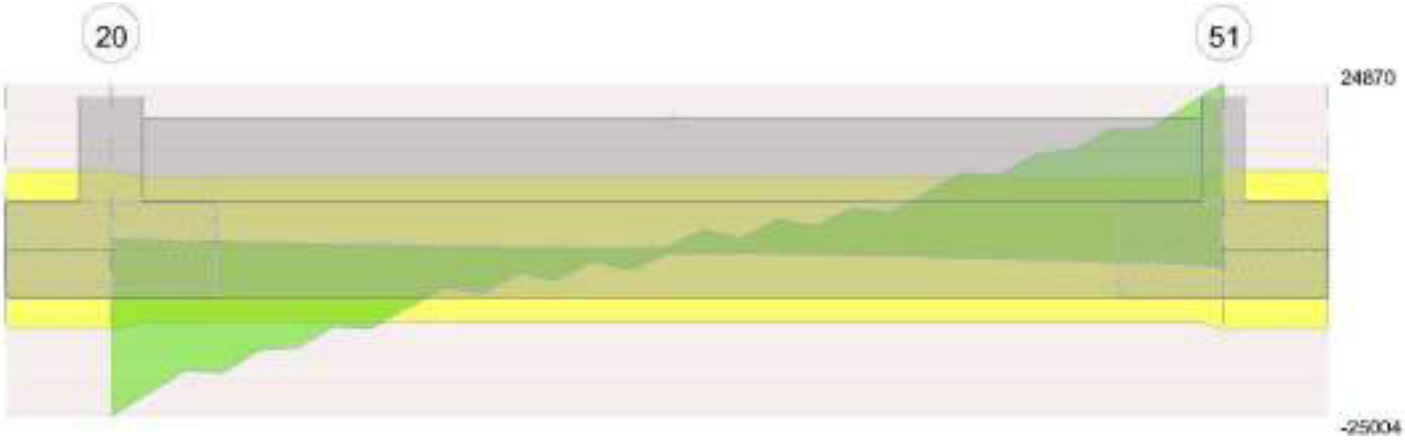


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 20 - 51, sezione R 70x45, aste 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.64	0.41	0.0003	3584	SLV FO 12	0.104	3925	9248	SLV FO 12	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3226	SLD 8	0.085	4549	8326	SLD 8	15877	Si
0.15	0.41	0.0003	3213	SLD 8	0.085	4549	8292	SLD 8	15877	Si
2.64	0.41	0.0003	2644	SLD 12	0.085	4549	6824	SLD 12	15877	Si
5.18	0.41	0.0003	3143	SLD 11	0.085	4549	8111	SLD 11	15877	Si
5.28	0.41	0.0003	3150	SLD 11	0.085	4549	8130	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000255	2127	SLE RA 20	60905	1494000	755225	36000000	1921	SLE QP 2	55014	1120500	Si
0.15	0.41	0.00000255	2119	SLE RA 20	60685	1494000	752488	36000000	1914	SLE QP 2	54810	1120500	Si
2.64	0.41	0.00000255	1744	SLE RA 20	49926	1494000	619083	36000000	1572	SLE QP 2	45014	1120500	Si
5.18	0.41	0.00000255	2051	SLE RA 20	58730	1494000	728247	36000000	1852	SLE QP 2	53038	1120500	Si
5.28	0.41	0.00000255	2056	SLE RA 20	58876	1494000	730065	36000000	1857	SLE QP 2	53174	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
5.28	1.3	SLU 2	ST	LT	170	-613	-47260	0	-1	19	0	0	1.1	14376	636	22.61	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
467,468,469,470,471,472,473,474,475,476,477,478,479	5.28	1.3	SLU 83	ST	BT	2.3	237097	76442	3.1	Si
467,468,469,470,471,472,473,474,475,476,477,478,479	5.28	1.3	SLD 8	SIS	BT	2.3	214536	78261	2.74	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-526	-76442	-8214.49	-1106.48	0	0	-0.01	-0.11	1.09	5.25	1496	2060	0	14430	
0	-10293	-2298	6039.3	-3117.95	0	-77	-1.36	2.63	-3.96	2.57	1496	2060	0	14430	0.07
0	4830	-78261	-11503.28	-2388.1	0	4	-0.03	-0.15	1.01	5.22	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

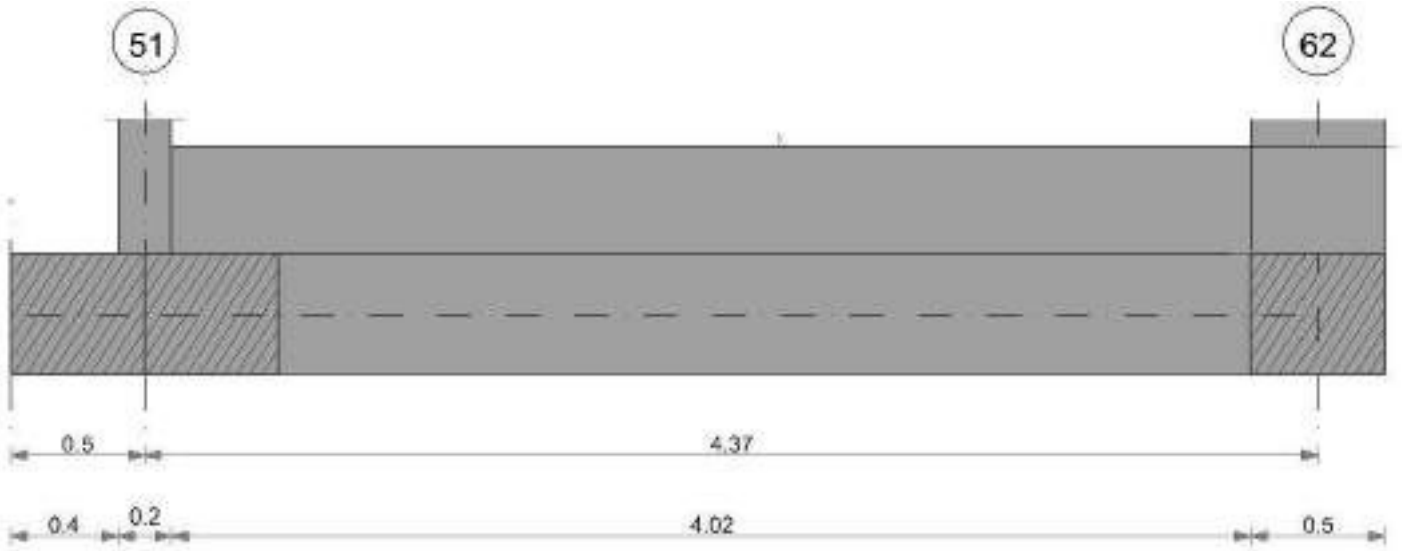
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1038	SLE RA 20	0.05	0	1038	1051	SLE RA 15	0.05	0	1051	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1051	SLE RA 1	0.05	0	1051	1051	SLE RA 1	0.05	0	1051	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1051	SLE RA 1	0.05	0	1051	1051	SLE RA 1	0.05	0	1051	SLE RA 1	0.0033	0	SLE RA 1	Si

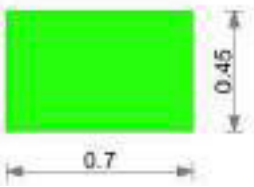
Verifiche geotecniche - Rotazioni assolute e differenziali

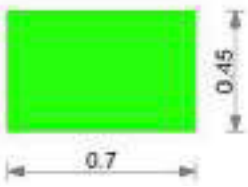
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 15	0.19	0	1051	1038	SLE RA 15	0.19	0	1051	SLE RA 1	0.1	0	1051	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1051	1038	SLE RA 1	0.19	0	1051	SLE RA 1	0.1	0	1051	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1051	1038	SLE RA 1	0.19	0	1051	SLE RA 1	0.1	0	1051	SLE RA 1	Si

CORDOLO 4

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

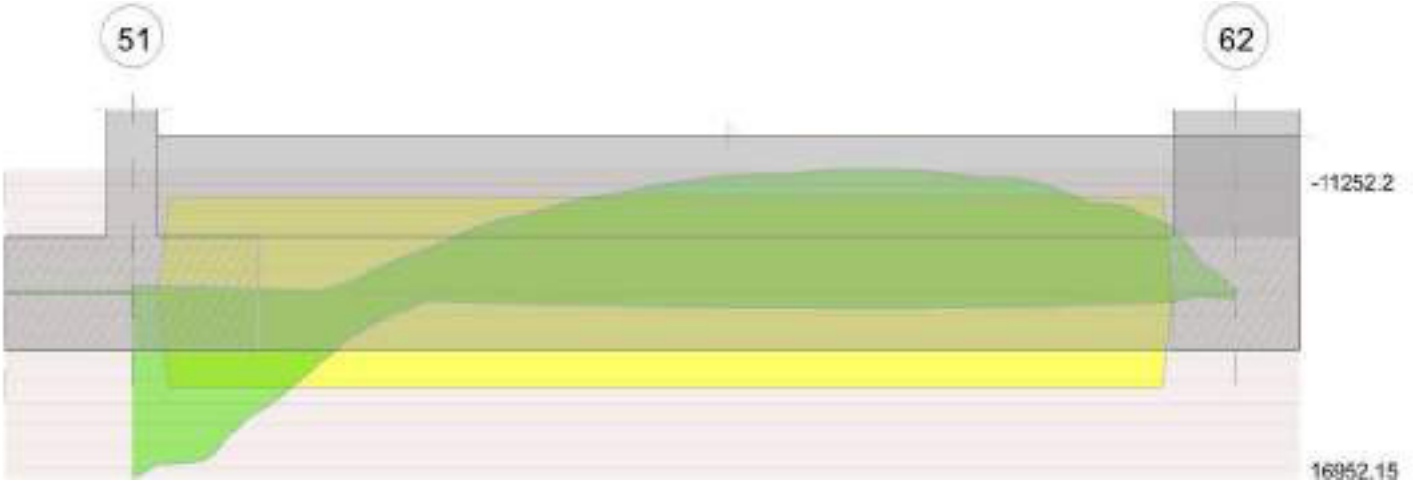
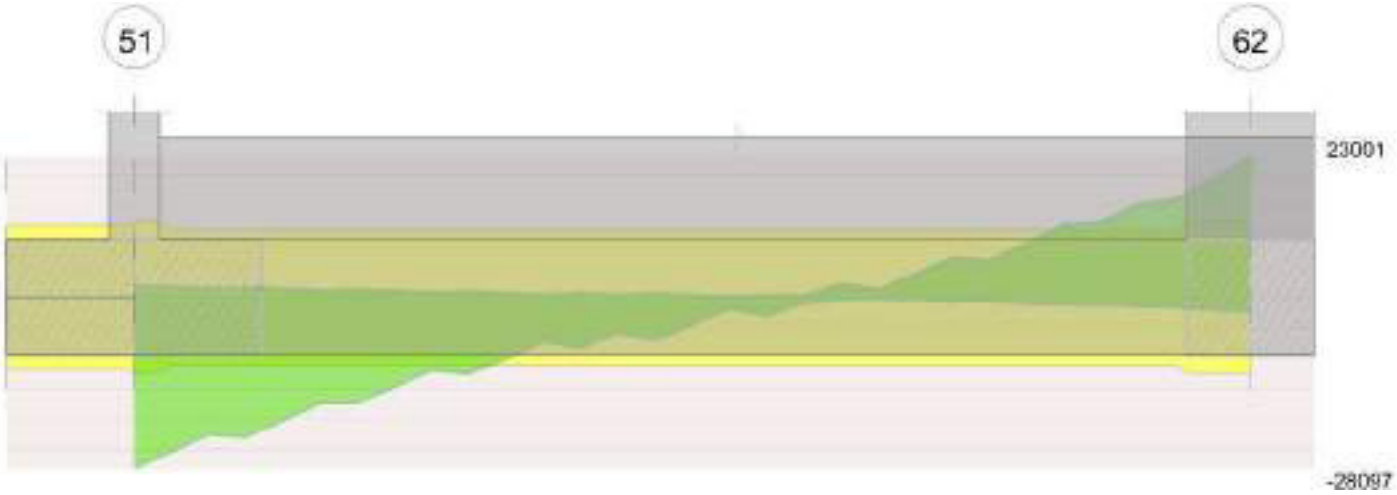


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 51 - 62, sezione R 70x45, aste 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.18	0.41	0.0003	3935	SLV FO 11	0.105	4031	10154	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3150	SLD 11	0.086	4671	8130	SLD 11	15877	Si
0.1	0.41	0.0003	3156	SLD 11	0.086	4671	8144	SLD 11	15877	Si
2.18	0.41	0.0003	2889	SLD 11	0.086	4671	7455	SLD 11	15877	Si
4.12	0.41	0.0003	3763	SLD 11	0.086	4671	9712	SLD 11	15877	Si
4.37	0.41	0.0003	3964	SLD 11	0.086	4671	10230	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000262	2056	SLE RA 20	58822	1494000	729392	36000000	1857	SLE QP 2	53125	1120500	Si
0.1	0.41	0.00000262	2060	SLE RA 20	58939	1494000	730839	36000000	1861	SLE QP 2	53235	1120500	Si
2.18	0.41	0.00000262	1862	SLE RA 20	53280	1494000	660672	36000000	1684	SLE QP 2	48170	1120500	Si
4.12	0.41	0.00000262	2405	SLE RA 20	68795	1494000	853055	36000000	2180	SLE QP 2	62364	1120500	Si
4.37	0.41	0.00000262	2532	SLE RA 20	72445	1494000	898314	36000000	2296	SLE QP 2	65695	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
4.62	1.3	SLU 2	ST	LT	-189	-397	-41488	0	-1	19	0	0	1.1	12620	440	28.68	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
480,481,482,483,484,485,486,487,488,489,490	4.62	1.3	SLU 83	ST	BT	2.3	216503	66939	3.23	Si
480,481,482,483,484,485,486,487,488,489,490	4.62	1.3	SLD 11	SIS	BT	2.3	196281	70415	2.79	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-304	-66939	-5397.74	2851.34	0	0	0.04	-0.08	1.14	4.53	1496	2060	0	14430	
0	-8244	-4485	4490.32	1247.29	0	-61	0.28	1	-0.7	4.06	1496	2060	0	14430	0.07
0	4350	-70415	-8453.21	4230.62	0	4	0.06	-0.12	1.06	4.5	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

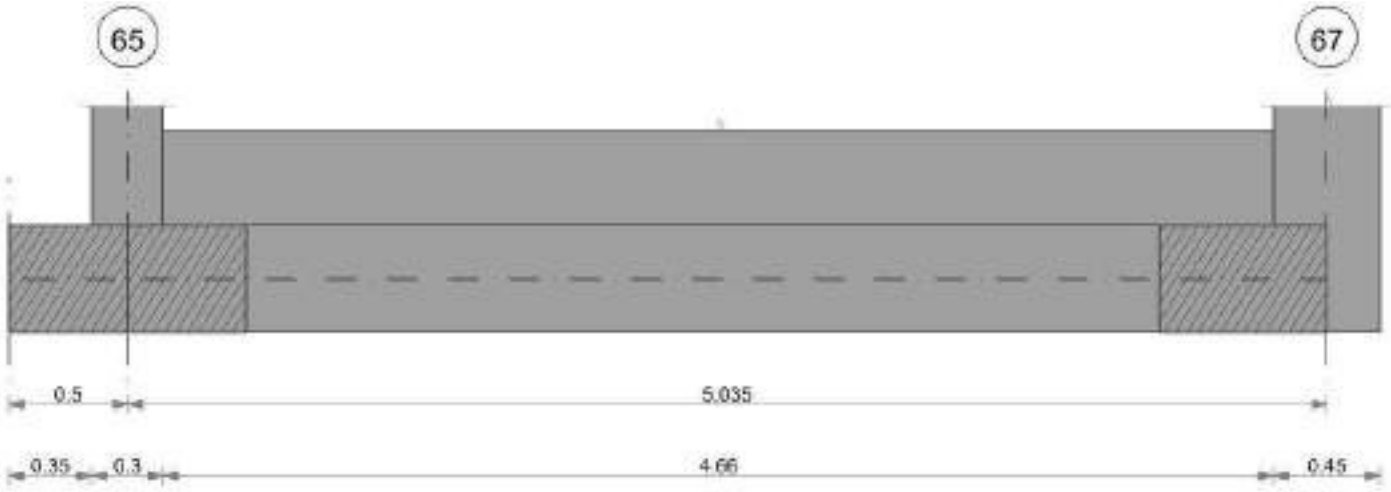
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1051	SLE RA 20	0.05	0	1051	1062	SLE RA 20	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1062	SLE RA 1	0.05	0	1062	1062	SLE RA 1	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1062	SLE RA 1	0.05	0	1062	1062	SLE RA 1	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	1062	1051	SLE RA 20	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1062	1051	SLE RA 1	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1062	1051	SLE RA 1	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si

CORDOLO 5

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

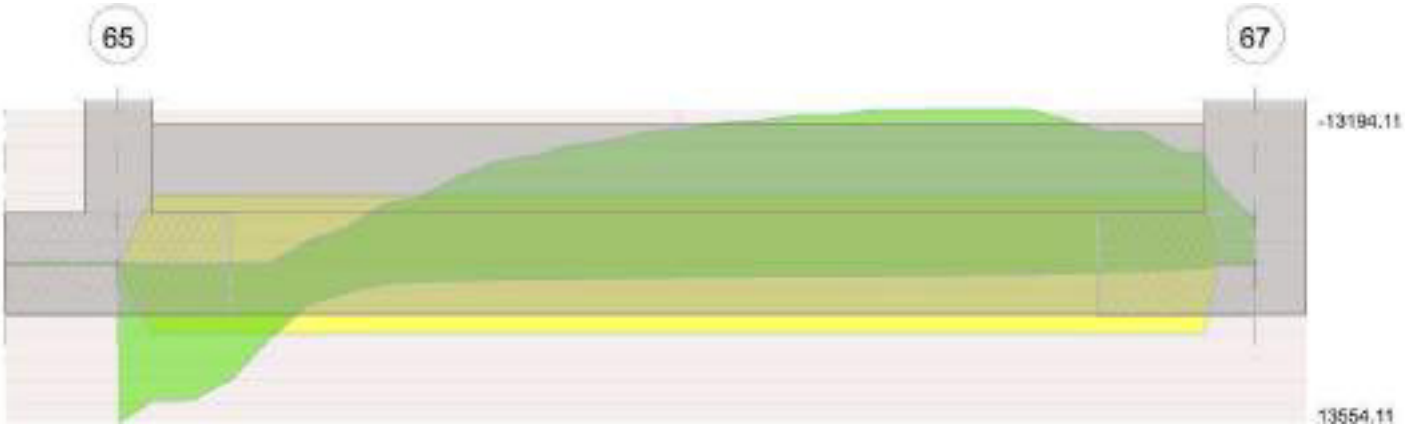
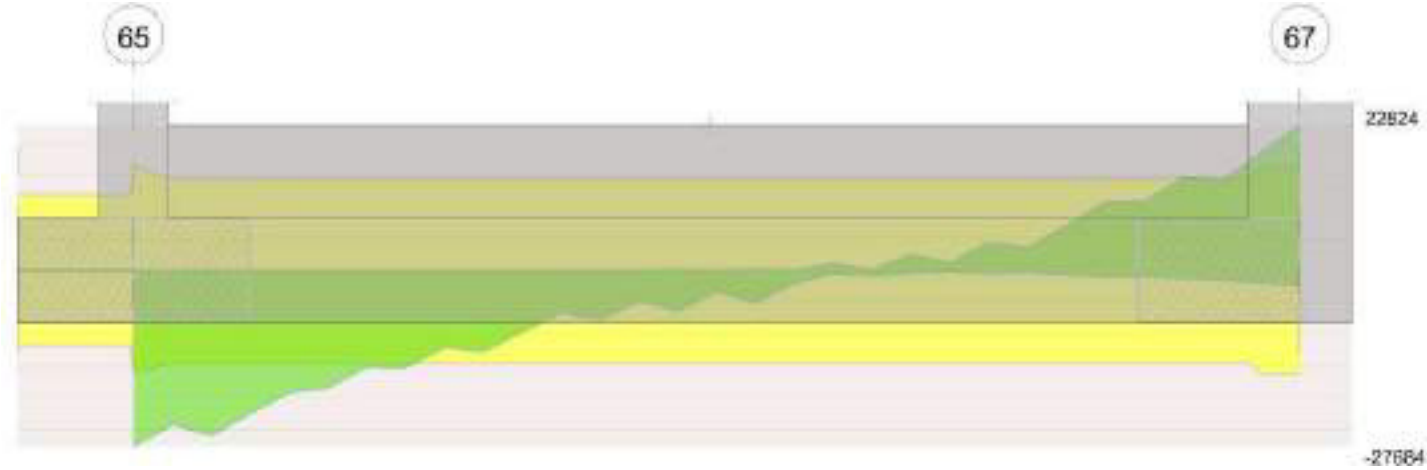


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 65 - 67, sezione R 70x45, aste 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4890	SLV FO 11	0.12	5267	12620	SLV FO 11	15877	Si
0.15	0.41	0.0003	4859	SLV FO 11	0.12	5267	12538	SLV FO 11	15877	Si
2.52	0.41	0.0003	4176	SLV FO 11	0.12	5267	10778	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3658	SLD 11	0.099	6111	9440	SLD 11	15877	Si
0.15	0.41	0.0003	3636	SLD 11	0.099	6111	9383	SLD 11	15877	Si
2.52	0.41	0.0003	3094	SLD 11	0.099	6111	7985	SLD 11	15877	Si
4.81	0.41	0.0003	4382	SLD 11	0.099	6111	11308	SLD 11	15877	Si
5.03	0.41	0.0003	4620	SLD 11	0.099	6111	11923	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000344	2467	SLE RA 20	69803	1494000	865554	36000000	2235	SLE QP 2	63235	1120500	Si
0.15	0.41	0.00000344	2455	SLE RA 20	69461	1494000	861312	36000000	2224	SLE QP 2	62927	1120500	Si
2.52	0.41	0.00000344	2028	SLE RA 20	57382	1494000	711537	36000000	1838	SLE QP 2	52015	1120500	Si
4.81	0.41	0.00000344	2789	SLE RA 20	78935	1494000	978800	36000000	2539	SLE QP 2	71844	1120500	Si
5.03	0.41	0.00000344	2940	SLE RA 20	83204	1494000	1031724	36000000	2677	SLE QP 2	75758	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
5.26	1.3	SLU 5	ST	LT	-831	-727	-50980	-1	-1	19	0	0	1.1	15507	1104	14.05	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
294,295,296,297,298,299,300,301,302,303,304,305,306	5.26	1.3	SLU 83	ST	BT	2.3	238607	80528	2.96	Si
294,295,296,297,298,299,300,301,302,303,304,305,306	5.26	1.3	SLD 11	SIS	BT	2.3	215524	84181	2.56	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-761	-80528	-7982.64	2235.34	0	-1	0.03	-0.1	1.1	5.2	1496	2060	0	14430	
0	-8348	-1922	5680.57	-4918.64	0	-77	-2.56	2.96	-4.61	0.14	1496	2060	0	14430	0.07
0	4305	-84181	-11635.05	5155.09	0	3	0.06	-0.14	1.02	5.14	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

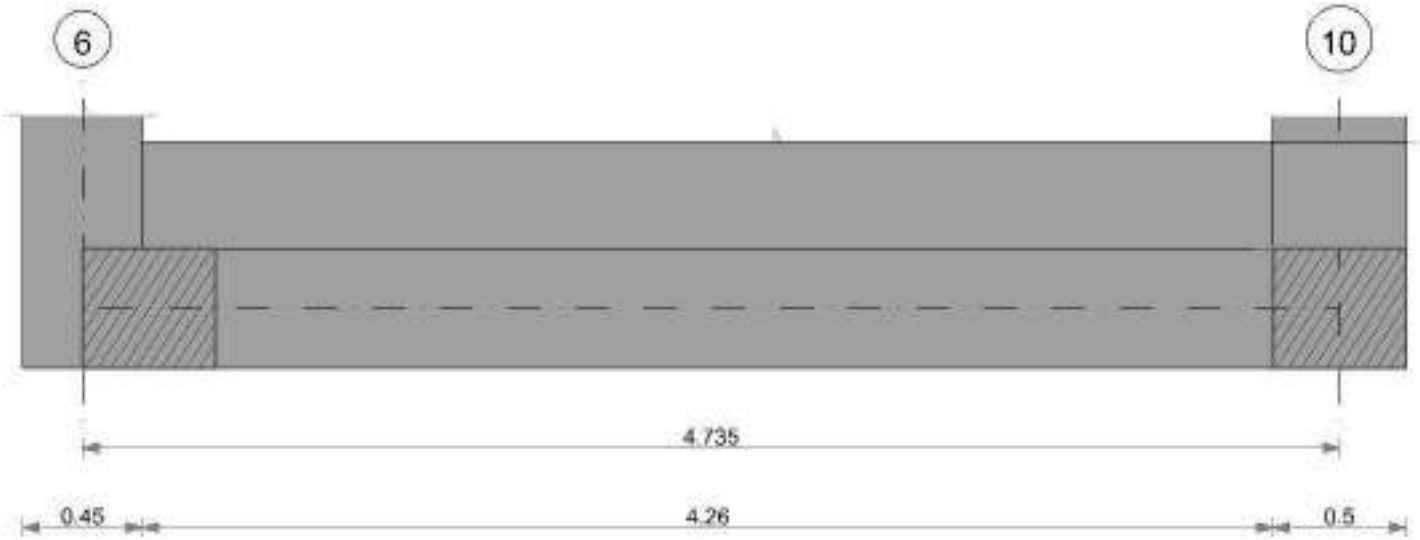
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	958	SLE RA 20	0.05	0	958	972	SLE RA 20	0.05	0	972	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	972	SLE RA 1	0.05	0	972	972	SLE RA 1	0.05	0	972	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	972	SLE RA 1	0.05	0	972	972	SLE RA 1	0.05	0	972	SLE RA 1	0.0033	0	SLE RA 1	Si

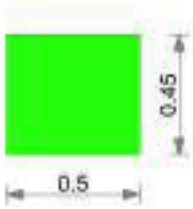
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	972	958	SLE RA 20	0.19	0	972	SLE RA 1	0.1	0	972	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	972	958	SLE RA 1	0.19	0	972	SLE RA 1	0.1	0	972	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	972	958	SLE RA 1	0.19	0	972	SLE RA 1	0.1	0	972	SLE RA 1	Si

CORDOLO 6

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

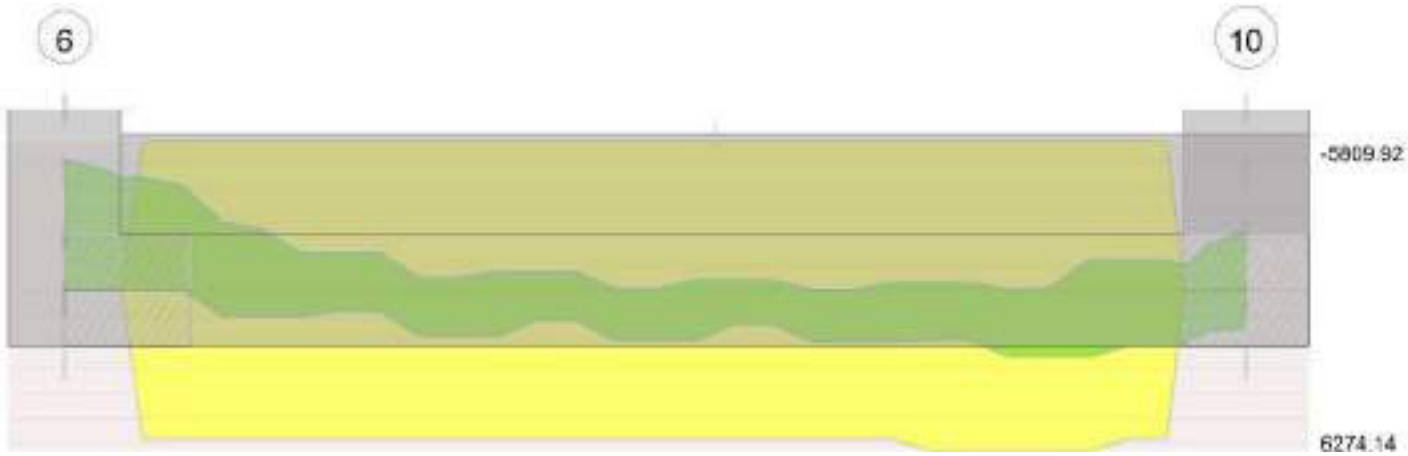
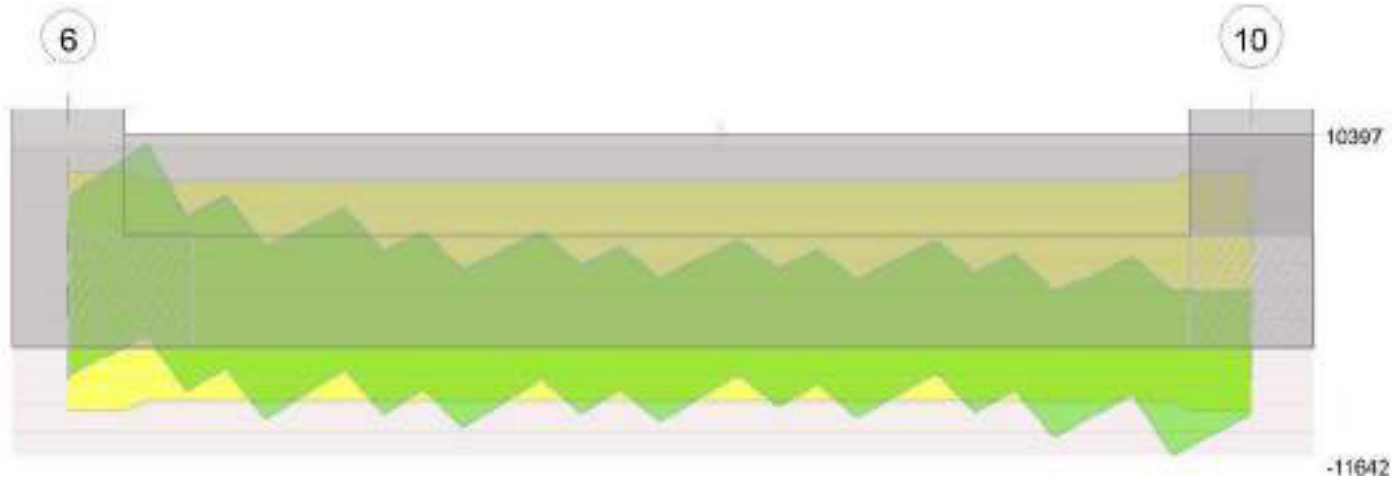


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 10, sezione R 50x45, aste 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2273	SLV FO 4	0.086	2676	7907	SLV FO 4	15877	Si
0.23	0.41	0.0002	2219	SLV FO 4	0.086	2676	7720	SLV FO 4	15877	Si
2.37	0.41	0.0002	2029	SLU 83	0.017	2751	7059	SLU 83	15877	Si
4.49	0.41	0.0002	1833	SLU 83	0.017	2751	6375	SLU 83	15877	Si
4.74	0.41	0.0002	1796	SLU 83	0.017	2751	6245	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1923	SLD 4	0.07	3097	6688	SLD 4	15877	Si
0.23	0.41	0.0002	1883	SLD 4	0.07	3097	6551	SLD 4	15877	Si
2.37	0.41	0.0002	1661	SLD 1	0.07	3097	5776	SLD 1	15877	Si
4.49	0.41	0.0002	1389	SLD 1	0.07	3097	4830	SLD 1	15877	Si
4.74	0.41	0.0002	1350	SLD 3	0.07	3097	4696	SLD 3	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	1575	SLE RA 20	45605	1494000	565501	36000000	1433	SLE QP 2	41494	1120500	Si
0.23	0.41	0.00000172	1555	SLE RA 20	45020	1494000	558246	36000000	1414	SLE QP 2	40945	1120500	Si
2.37	0.41	0.00000172	1481	SLE RA 20	42875	1494000	531654	36000000	1343	SLE QP 2	38863	1120500	Si
4.49	0.41	0.00000172	1336	SLE RA 20	38680	1494000	479627	36000000	1208	SLE QP 2	34967	1120500	Si
4.74	0.41	0.00000172	1309	SLE RA 20	37889	1494000	469822	36000000	1183	SLE QP 2	34242	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
5.21	1.1	SLU 2	ST	LT	583	-284	-48298	1	0	19	0	0	1.1	14691	649	22.65	Si
5.21	1.1	SLV FO 13	SIS	LT	5972	-3778	-34955	10	-6	19	0	0	1.1	10633	7067	1.5	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
207,208,209,210,211,212,213,214,215,216,217,218	5.21	1.1	SLU 84	ST	BT	2.3	241683	76431	3.16	Si
207,208,209,210,211,212,213,214,215,216,217,218	5.21	1.1	SLV FO 4	SIS	BT	2.3	217454	69052	3.15	Si
207,208,209,210,211,212,213,214,215,216,217,218	5.21	1.1	SLD 4	SIS	BT	2.3	227158	61940	3.67	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-251	-76431	160.11	-3319.35	0	0	-0.04	0	1.1	5.12	1496	2060	0	14430	
0	3598	-69052	-1750.53	-11673.69	0	3	-0.17	-0.03	1.05	4.87	1496	2060	0	14430	0.07
0	1939	-61940	-928.61	-7767.76	0	2	-0.13	-0.01	1.07	4.96	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Nγ	Sq	Sc	Sγ	Dq	Dc	Dγ	Iq	Ic	Iγ	Bq	Bc	Bγ	Gq	Gc	Gγ	Pq	Pc	Pγ	Eq	Ec	Eγ
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

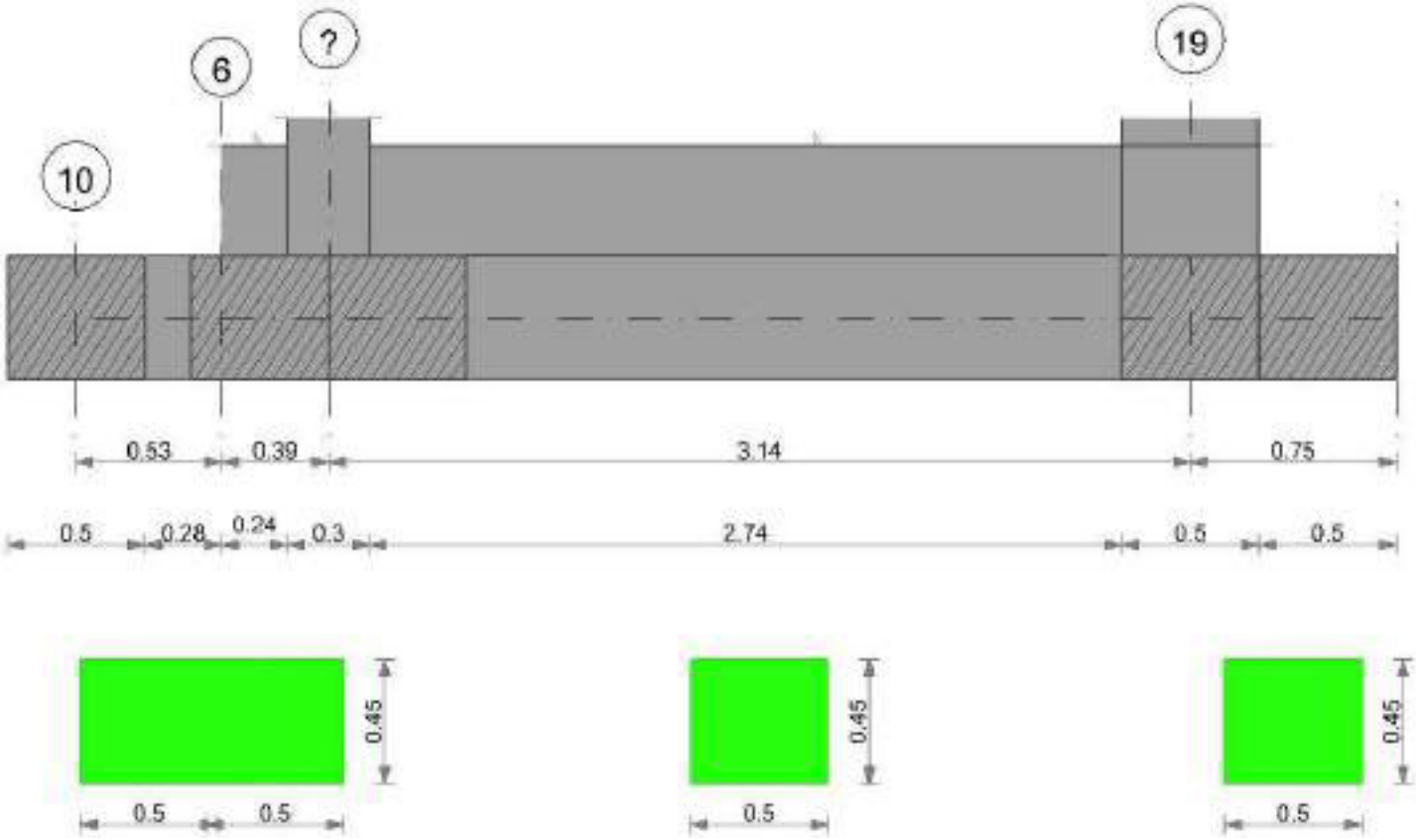
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	722	SLE RA 20	0.05	0.001	722	710	SLE RA 20	0.05	0	722	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	722	SLE RA 1	0.05	0	722	722	SLE RA 1	0.05	0	722	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	722	SLE RA 1	0.05	0	722	722	SLE RA 1	0.05	0	722	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	722	710	SLE RA 20	0.19	0	722	SLE RA 1	0.1	0	722	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	722	710	SLE RA 1	0.19	0	722	SLE RA 1	0.1	0	722	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	722	710	SLE RA 1	0.19	0	722	SLE RA 1	0.1	0	722	SLE RA 1	Si

CORDOLO 7

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

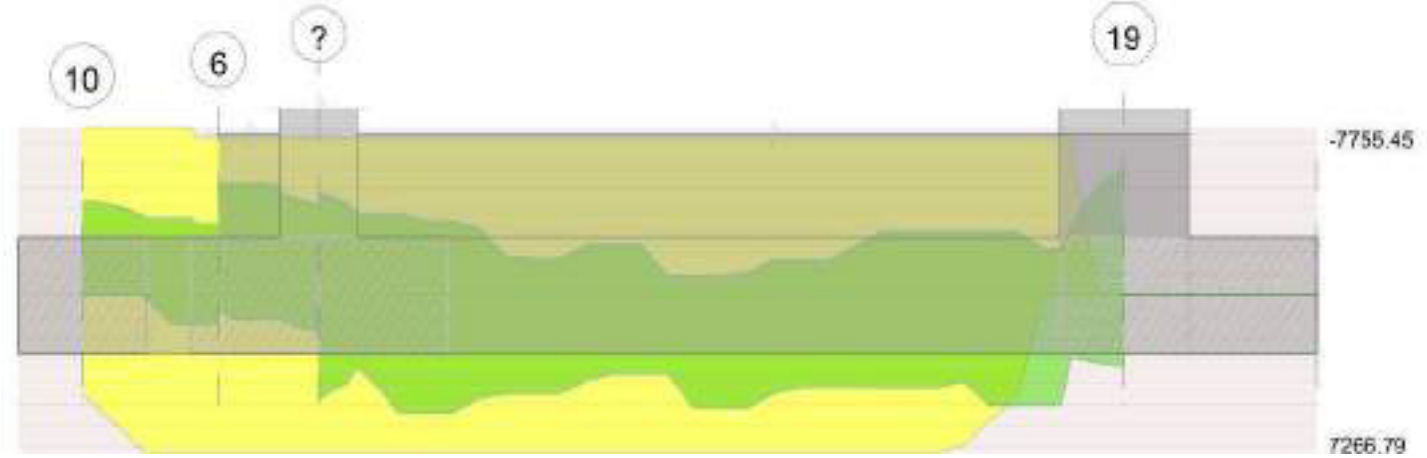
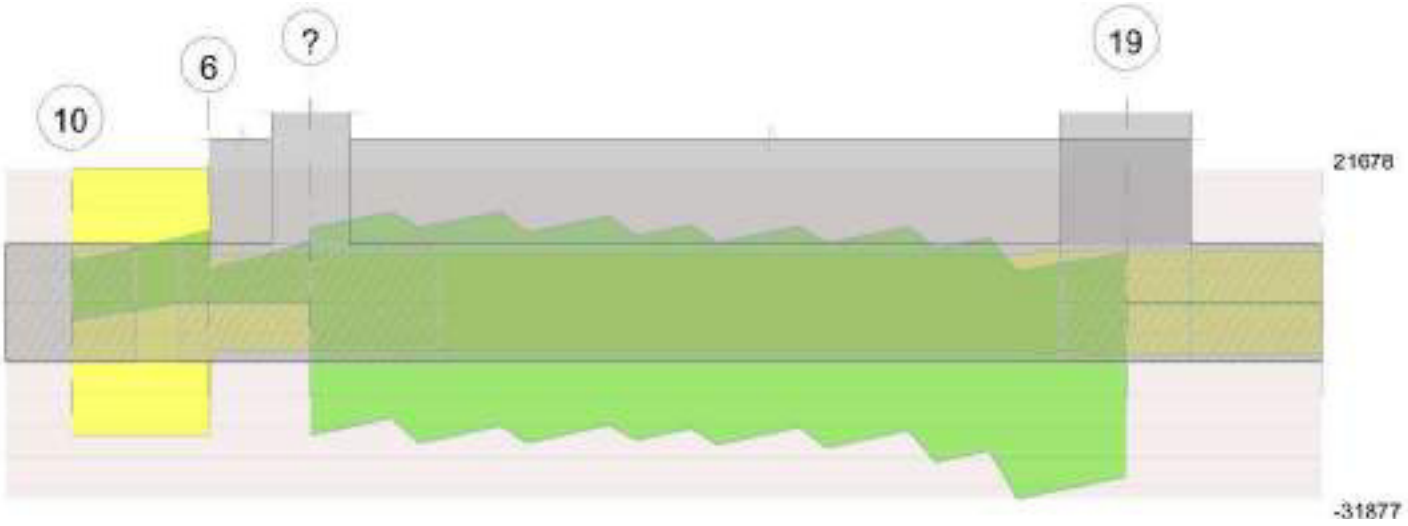


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 10 - 6, sezione R 50x45, asta 523

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-4678.49	SLU 83	-4320.35	-7738.37	0.109	1.79	Si
0.25	0.000509	0.052	0.000508	0.052							-3579.84	SLU 84	-3579.84	-7755.42	0.113	2.17	Si
0.26	0.000509	0.052	0.000509	0.052							-3489.96	SLU 84	-3579.84	-7755.45	0.113	2.17	Si
0.53	0.000509	0.052	0.000509	0.052							-1434.75	SLU 84	-2919.48	-7755.45	0.113	2.66	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-4128.75	SLV FO 2	-3594.46	-7269.88	0.2	2.02	Si
0.25	0.000509	0.052	0.000508	0.052	-1437.74	SLV FO 12	209.4	7260.75	0.197	34.67	-3298.06	SLV FO 5	-3306.26	-7266.86	0.197	2.2	Si
0.26	0.000509	0.052	0.000509	0.052	-1329.76	SLV FO 12	367.08	7266.79	0.197	19.8	-3289.31	SLV FO 5	-3306.26	-7266.79	0.197	2.2	Si
0.53	0.000509	0.052	0.000509	0.052	1312.75	SLV FO 8	1312.75	7266.79	0.197	5.54	-3246.91	SLV FO 9	-3306.26	-7266.79	0.197	2.2	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-3681.23	SLD 2	-3269.47	-7269.88	0.2	2.22	Si
0.25	0.000509	0.052	0.000508	0.052							-2863.76	SLD 5	-2863.76	-7266.86	0.197	2.54	Si
0.26	0.000509	0.052	0.000509	0.052							-2830.89	SLD 5	-2863.76	-7266.79	0.197	2.54	Si
0.53	0.000509	0.052	0.000509	0.052	262.29	SLD 8	262.29	7266.79	0.197	27.71	-2196.44	SLD 9	-2666.93	-7266.79	0.197	2.72	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000155	0.000509	0	2860	SLU 83	2860	7764	63178	21678	21678	1	7.58	Si
0.25	0.0000155	0.000509	0	5994	SLU 83	5994	7764	63178	21678	21678	1	3.62	Si
0.26	0.0000155	0.000509	0	6181	SLU 83	6181	7764	63178	21678	21678	1	3.51	Si
0.53	0.0000155	0.000509	0	9489	SLU 83	9489	7764	63178	21678	21678	1	2.28	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000155	0.000509	0	6559	SLV FO 8	6559	7764	63178	21678	21678	1	3.3	Si
0	0.0000155	0.000509	0	-3054	SLV FO 9	-3054	-7764	-63178	-21678	-21678	1	7.1	Si
0.25	0.0000155	0.000509	0	8862	SLV FO 8	8862	7764	63178	21678	21678	1	2.45	Si
0.25	0.0000155	0.000509	0	-1182	SLV FO 9	-1182	-7764	-63178	-21678	-21678	1	18.33	Si
0.26	0.0000155	0.000509	0	9000	SLV FO 8	9000	7764	63178	21678	21678	1	2.41	Si
0.26	0.0000155	0.000509	0	-1071	SLV FO 9	-1071	-7764	-63178	-21678	-21678	1	20.23	Si
0.53	0.0000155	0.000508	0	11561	SLV FO 4	11561	7764	63178	21678	21678	1	1.88	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000155	0.000509	0	4363	SLD 8	4363	7764	63178	21678	21678	1	4.97	Si
0	0.0000155	0.000509	0	-858	SLD 9	-858	-7764	-63178	-21678	-21678	1	25.26	Si
0.25	0.0000155	0.000509	0	6633	SLD 4	6633	7764	63178	21678	21678	1	3.27	Si
0.26	0.0000155	0.000509	0	6773	SLD 4	6773	7764	63178	21678	21678	1	3.2	Si
0.53	0.0000155	0.000509	0	9248	SLD 4	9248	7764	63178	21678	21678	1	2.34	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-3407.3	20	-3151.87	171861	1494000	2529635	36000000	-3067.38	2	-2847.85	155284	1120500			Si
0.25	-2616.15	21	-2616.15	138387	1494000	2075710	36000000	-2367.9	2	-2367.9	125255	1120500			Si
0.26	-2551.11	21	-2616.15	138377	1494000	2075658	36000000	-2309.54	2	-2367.9	125246	1120500			Si
0.53	-1060.16	21	-2137.84	113078	1494000	1696168	36000000	-967.08	2	-1938.15	102515	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 10 - 6, sezione R 50x45, asta 523

Campata 2 tra i fili 6 - ?, sezione R 50x45, asta 524

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0008	1743	SLU 83	0.065	12112	6062	SLU 83	30277	Si
0.2	0.41	0.0003	1746	SLU 83	0.023	4108	6072	SLU 83	15877	Si
0.24	0.41	0.0003	1747	SLU 83	0.023	4108	6077	SLU 83	15877	Si
0.39	0.41	0.0003	1753	SLU 83	0.023	4108	6098	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0008	1301	SLD 3	0.147	13462	4526	SLD 3	34818	Si
0.2	0.41	0.0003	1299	SLD 4	0.086	4604	4518	SLD 4	15877	Si
0.24	0.41	0.0003	1299	SLD 4	0.086	4604	4518	SLD 4	15877	Si
0.39	0.41	0.0003	1299	SLD 4	0.086	4604	4518	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000773	1270	SLE RA 20	34031	1494000	421980	36000000	1147	SLE QP 2	30725	1120500	Si
0.2	0.41	0.00000258	1272	SLE RA 20	36406	1494000	451438	36000000	1148	SLE QP 2	32865	1120500	Si
0.24	0.41	0.00000258	1273	SLE RA 20	36436	1494000	451804	36000000	1149	SLE QP 2	32891	1120500	Si
0.39	0.41	0.00000258	1277	SLE RA 20	36560	1494000	453345	36000000	1153	SLE QP 2	33000	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili ? - 19, sezione R 50x45, aste 525, 526, 527, 528, 529, 530, 531, 532

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1753	SLU 83	0.023	4108	6098	SLU 83	15877	Si
0.15	0.41	0.0002	1759	SLU 83	0.018	2812	6120	SLU 83	15877	Si
1.57	0.41	0.0002	1802	SLU 83	0.018	2812	6269	SLU 83	15877	Si
2.89	0.41	0.0002	1707	SLU 83	0.018	2812	5937	SLU 83	15877	Si
3.14	0.41	0.0002	1676	SLU 83	0.018	2812	5831	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1299	SLD 4	0.086	4604	4518	SLD 4	15877	Si
0.15	0.41	0.0002	1299	SLD 4	0.071	3164	4517	SLD 4	15877	Si
1.57	0.41	0.0002	1254	SLD 3	0.071	3164	4362	SLD 3	15877	Si
2.89	0.41	0.0002	1145	SLD 11	0.071	3164	3981	SLD 11	15877	Si
3.14	0.41	0.0002	1129	SLD 11	0.071	3164	3926	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000258	1277	SLE RA 20	36560	1494000	453345	36000000	1153	SLE QP 2	33000	1120500	Si
0.15	0.41	0.00000176	1282	SLE RA 20	37090	1494000	459917	36000000	1157	SLE QP 2	33475	1120500	Si
1.57	0.41	0.00000176	1313	SLE RA 20	37987	1494000	471037	36000000	1184	SLE QP 2	34247	1120500	Si
2.89	0.41	0.00000176	1243	SLE RA 20	35963	1494000	445939	36000000	1119	SLE QP 2	32380	1120500	Si
3.14	0.41	0.00000176	1221	SLE RA 20	35320	1494000	437973	36000000	1099	SLE QP 2	31793	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.31	1.1	SLU 2	ST	LT	299	-340	-36955	0	-1	19	0	0	1.1	11241	453	24.83	Si
4.31	1.1	SLV FO 9	SIS	LT	1585	-6705	-36735	2	-10	19	0	0	1.1	11174	6890	1.62	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
523,524,525,526,527,528,529,530,531,532	4.31	1.1	SLU 84	ST	BT	2.3	204109	58800	3.47	Si
523,524,525,526,527,528,529,530,531,532	4.31	1.1	SLV FO 8	SIS	BT	2.3	168052	43074	3.9	Si
523,524,525,526,527,528,529,530,531,532	4.31	1.1	SLD 8	SIS	BT	2.3	185035	41648	4.44	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-376	-58800	154.32	72.4	0	0	0	0	1.09	4.31	1496	2060	0	14430	
0	6319	-43074	-3242.77	-1868.2	0	8	-0.04	-0.08	0.95	4.22	1496	2060	0	14430	0.07
0	3284	-41648	-1696.1	-1060.79	0	5	-0.03	-0.04	1.02	4.26	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

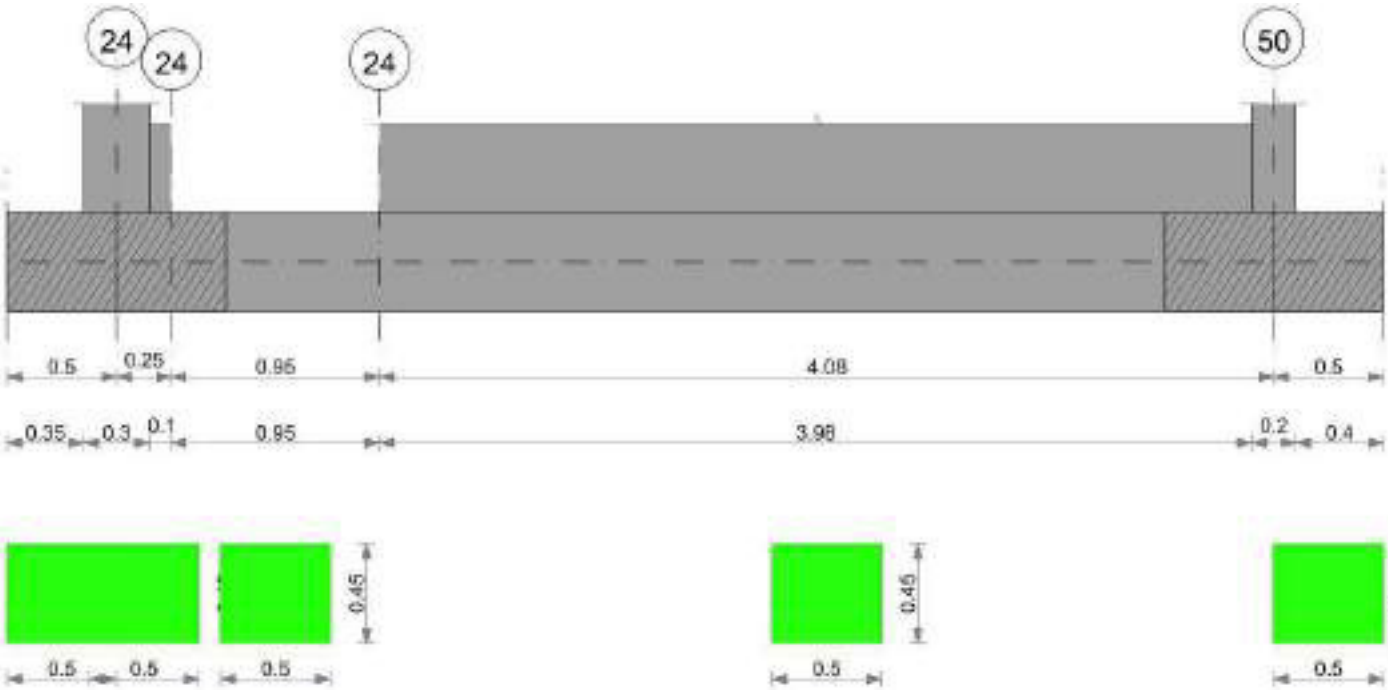
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	733	SLE RA 20	0.05	0	733	723	SLE RA 20	0.05	0	725	SLE RA 18	0.0033	0	SLE FR 6	Si
D	0.05	0	733	SLE RA 1	0.05	0	733	733	SLE RA 1	0.05	0	725	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	733	SLE RA 1	0.05	0	733	733	SLE RA 1	0.05	0	725	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0.01	724	723	SLE RA 20	0.19	0	724	SLE RA 20	0.1	0	725	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	733	725	SLE RA 1	0.19	0	733	SLE RA 1	0.1	0	725	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	733	725	SLE RA 1	0.19	0	733	SLE RA 1	0.1	0	725	SLE RA 1	Si

CORDOLO 8

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

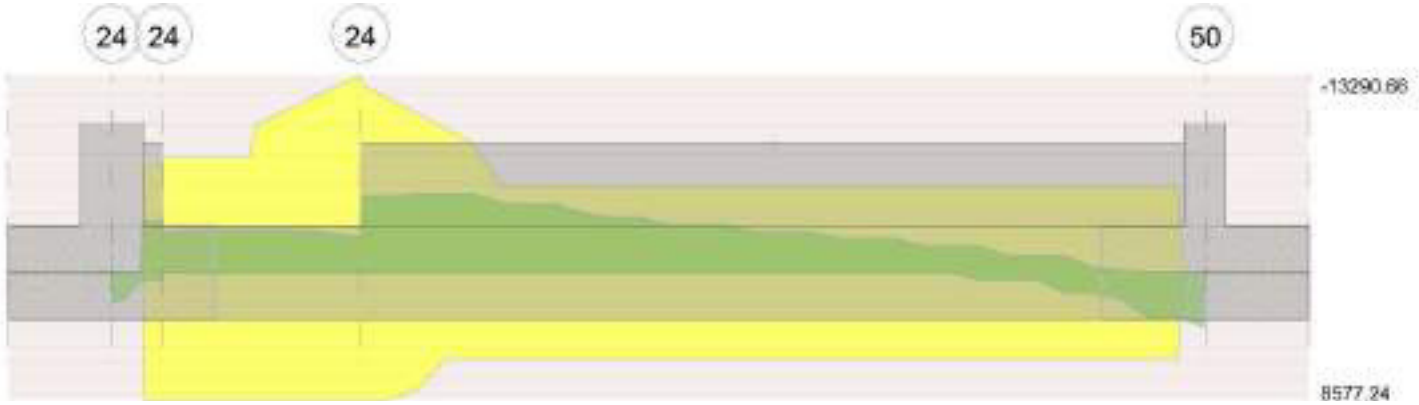


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 734

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051							-2439.01	SLU 83	-2739.96	-7750.24	0.114	2.83	Si
0.28	0.000509	0.052	0.000603	0.051							-2826.03	SLU 83	-2845.03	-7750.24	0.114	2.72	Si
0.47	0.000682	0.052	0.000603	0.051							-2810.43	SLU 83	-2845.03	-10133.71	0.124	3.56	Si
0.95	0.000911	0.052	0.000603	0.051							-1860	SLU 83	-2367	-13290.66	0.141	5.61	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051							-1971.65	SLV FO 15	-2222.26	-7266.96	0.196	3.27	Si
0.41	0.000509	0.052	0.000603	0.051							-2367.77	SLV FO 16	-2384.29	-7266.96	0.196	3.05	Si
0.47	0.000682	0.052	0.000603	0.051							-2382.53	SLV FO 16	-2384.29	-9603.77	0.224	4.03	Si
0.95	0.000911	0.052	0.000603	0.051							-2027.9	SLV FO 16	-2254.83	-12682.89	0.256	5.62	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051							-1804.2	SLD 15	-2040.46	-7266.96	0.196	3.56	Si
0.28	0.000509	0.052	0.000603	0.051							-2120.99	SLD 15	-2165.4	-7266.96	0.196	3.36	Si
0.47	0.000682	0.052	0.000603	0.051							-2165.05	SLD 16	-2165.4	-9603.77	0.224	4.44	Si
0.95	0.000911	0.052	0.000603	0.051							-1715.91	SLD 16	-1980.37	-12682.89	0.256	6.4	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000509	0	-2671	SLU 77	-2671	-7764	-63178	-16909	-16909	1	6.33	Si
0.47	0.0000095	0.000509	0	764	SLU 83	764	7767	63218	13358	13358	1	17.48	Si
0.95	0.0000095	0.000712	0	3952	SLU 83	3952	8465	63248	13364	13364	1	3.38	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000509	0	-2644	SLV FO 12	-2644	-7764	-63178	-16909	-16909	1	6.4	Si
0.47	0.0000095	0.000509	0	1094	SLV FO 3	1094	7767	63218	13358	13358	1	12.21	Si
0.47	0.0000095	0.000509	0	-311	SLV FO 14	-311	-7767	-63218	-13358	-13358	1	42.9	Si
0.95	0.0000095	0.000712	0	3694	SLV FO 7	3694	8465	63248	13364	13364	1	3.62	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000509	0	-2292	SLD 12	-2292	-7764	-63178	-16909	-16909	1	7.38	Si
0.47	0.0000095	0.000509	0	790	SLD 3	790	7767	63218	13358	13358	1	16.91	Si
0.47	0.0000095	0.000509	0	-8	SLD 14	-8	-7767	-63218	-13358	-13358	1	1745.52	Si
0.95	0.0000095	0.000712	0	3148	SLD 7	3148	8465	63248	13364	13364	1	4.25	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1768.71	20	-1994.4	103895	1494000	1573029	36000000	-1581.7	2	-1798.56	93693	1120500			Si
0.47	-2055.61	20	-2077.74	107176	1494000	1596154	36000000	-1873.95	2	-1887.67	97371	1120500			Si
0.95	-1377.35	20	-1741.59	88730	1494000	1293474	36000000	-1290.55	2	-1608.91	81970	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 24 - 24, sezione R 50x45, asta 733

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1955	SLU 83	0.051	9503	5587	SLU 83	15877	Si
0.13	0.41	0.0006	1874	SLU 83	0.051	9503	5354	SLU 83	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.15	0.41	0.0006	1857	SLU 83	0.051	9503	5306	SLU 83	15877	Si
0.25	0.41	0.0006	1791	SLU 83	0.051	9503	5117	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1531	SLD 7	0.13	10576	4373	SLD 7	15877	Si
0.13	0.41	0.0006	1472	SLD 7	0.13	10576	4206	SLD 7	15877	Si
0.15	0.41	0.0006	1460	SLD 7	0.13	10576	4171	SLD 7	15877	Si
0.25	0.41	0.0006	1412	SLD 7	0.13	10576	4034	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000603	1421	SLE RA 20	38904	1494000	482413	36000000	1278	SLE QP 2	34978	1120500	Si
0.13	0.41	0.00000603	1361	SLE RA 20	37268	1494000	462122	36000000	1223	SLE QP 2	33478	1120500	Si
0.15	0.41	0.00000603	1349	SLE RA 20	36932	1494000	457958	36000000	1212	SLE QP 2	33171	1120500	Si
0.25	0.41	0.00000603	1301	SLE RA 20	35603	1494000	441471	36000000	1167	SLE QP 2	31952	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 734

Campata 4 tra i fili 24 - 50, sezione R 50x45, aste 735, 736, 737, 738, 739, 740, 741, 742, 743, 744

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1520	SLU 83	0.04	7535	4344	SLU 83	15877	Si
2.04	0.41	0.0002	1413	SLU 83	0.017	2755	4038	SLU 83	15877	Si
3.98	0.41	0.0002	1708	SLU 83	0.017	2755	4880	SLU 83	15877	Si
4.08	0.41	0.0002	1720	SLU 83	0.017	2755	4915	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1216	SLD 7	0.116	8399	3474	SLD 7	15877	Si
2.04	0.41	0.0002	1126	SLD 8	0.07	3100	3216	SLD 8	15877	Si
3.98	0.41	0.0002	1395	SLD 12	0.07	3100	3986	SLD 12	15877	Si
4.08	0.41	0.0002	1406	SLD 12	0.07	3100	4017	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000476	1102	SLE RA 20	30655	1494000	380120	36000000	985	SLE QP 2	27393	1120500	Si
2.04	0.41	0.00000172	1023	SLE RA 20	29613	1494000	367205	36000000	912	SLE QP 2	26400	1120500	Si
3.98	0.41	0.00000172	1240	SLE RA 20	35894	1494000	445086	36000000	1112	SLE QP 2	32189	1120500	Si
4.08	0.41	0.00000172	1249	SLE RA 20	36155	1494000	448322	36000000	1120	SLE QP 2	32431	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
5.28	1.1	SLU 2	ST	LT	-223	-448	-31894	0	-1	19	0	0	1.1	9701	500	19.39	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
733,734,735,736,737,738,739,740,741,742,743,744	5.28	1.1	SLU 84	ST	BT	2.3	241956	50479	4.79	Si
733,734,735,736,737,738,739,740,741,742,743,744	5.28	1.1	SLV FO 5	SIS	LT	2.3	77400	25020	3.09	Si
733,734,735,736,737,738,739,740,741,742,743,744	5.28	1.1	SLD 7	SIS	BT	2.3	220099	39774	5.53	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-484	-50479	603.68	-1175.26	0	-1	-0.02	0.01	1.08	5.23	1496	2060	0	14430	
0	-8635	-25020	4759.68	-3274.94	0	-19	-0.13	0.19	0.72	5.02	1496	2060	37	0	0.07
0	4169	-39774	-1957.94	-1708.12	0	6	-0.04	-0.05	1	5.19	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.11	1.11	0.94	1.16	1.27	1	0.45	0.44	0.3	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

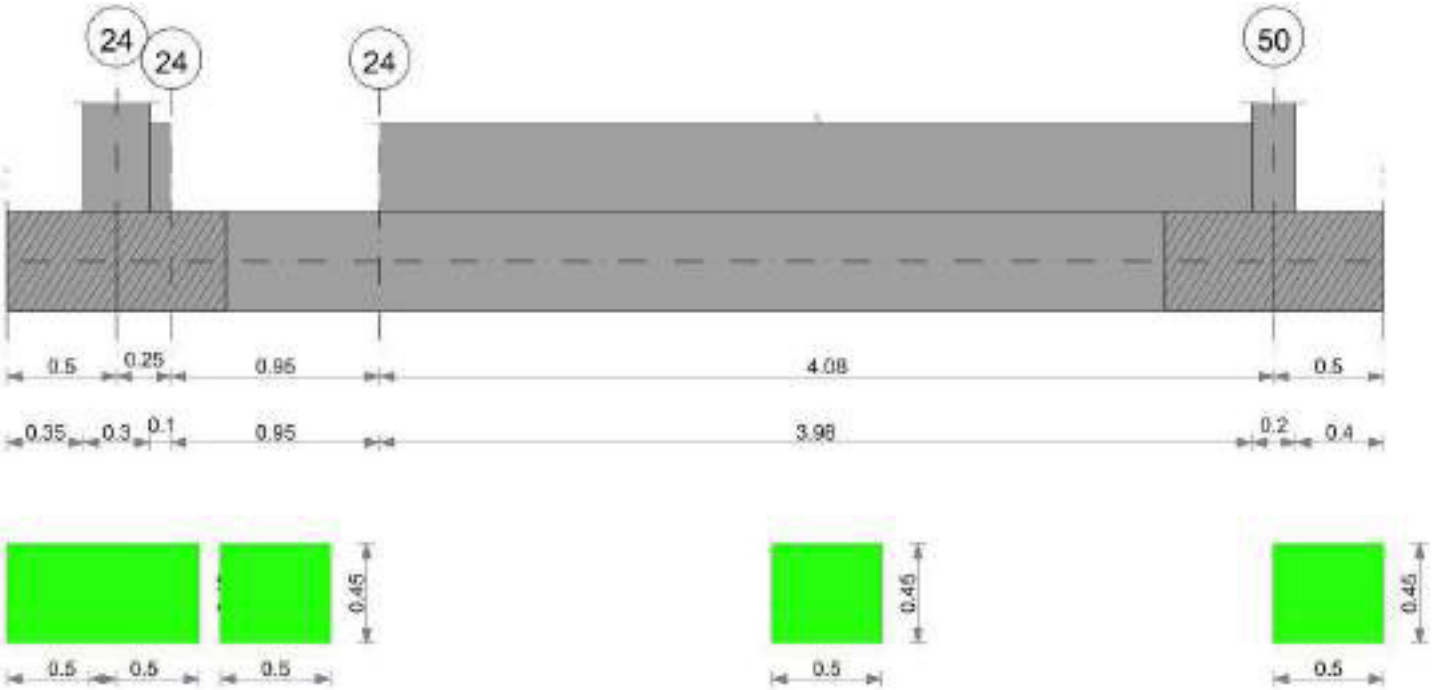
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	857	SLE RA 20	0.05	0	857	859	SLE RA 20	0.05	0	859	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	869	SLE RA 1	0.05	0	869	869	SLE RA 1	0.05	0	859	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	869	SLE RA 1	0.05	0	869	869	SLE RA 1	0.05	0	859	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0.02	859	858	SLE RA 20	0.19	0	858	SLE RA 15	0.1	0.02	859	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	869	859	SLE RA 1	0.19	0	869	SLE RA 1	0.1	0	859	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	869	859	SLE RA 1	0.19	0	869	SLE RA 1	0.1	0	859	SLE RA 1	Si

CORDOLO 9

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

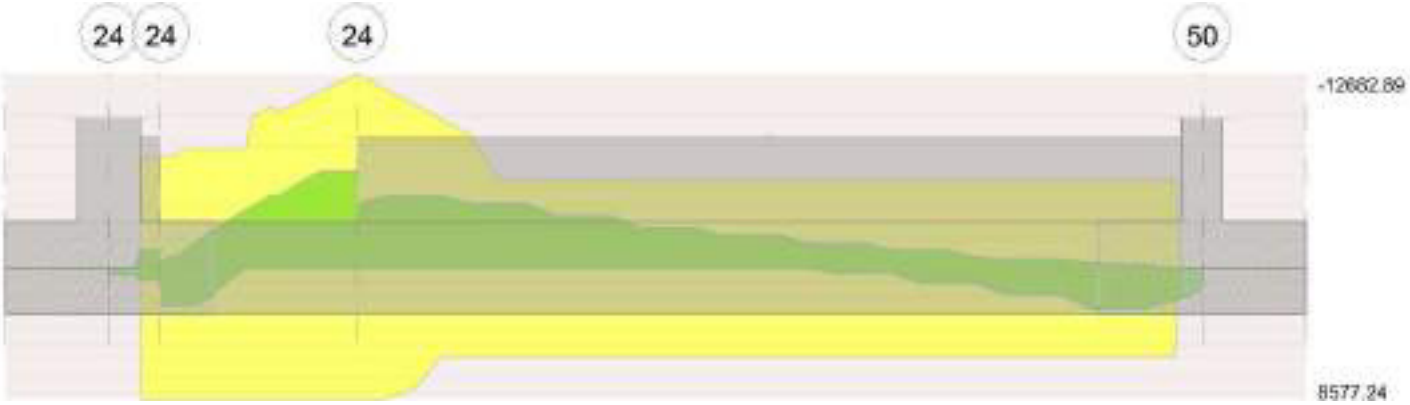


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 722

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051	2022.44	SLU 83	2022.44	9076.41	0.12	4.49	1203	SLU 2	-2.61	-7750.24	0.114	2966	Si
0.47	0.000682	0.052	0.000603	0.051							-2823.28	SLU 83	-4280.63	-10133.71	0.124	2.37	Si
0.76	0.000819	0.052	0.000603	0.051							-5052.33	SLU 83	-6205.2	-12029.78	0.134	1.94	Si
0.95	0.000911	0.052	0.000603	0.051							-6270.03	SLU 83	-6270.03	-13290.66	0.141	2.12	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051	2471.29	SLV FO 15	2471.29	8577.24	0.213	3.47	194.33	SLV FO 2	-520.67	-7266.96	0.196	13.96	Si
0.47	0.000682	0.052	0.000603	0.051							-2387.52	SLV FO 16	-3955.72	-9603.77	0.224	2.43	Si
0.76	0.000819	0.052	0.000603	0.051							-4835.01	SLV FO 15	-6224.98	-11458.44	0.244	1.84	Si
0.95	0.000911	0.052	0.000603	0.051							-6306.18	SLV FO 15	-6306.18	-12682.89	0.256	2.01	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051	1987.21	SLD 15	1987.21	8577.24	0.213	4.32	678.41	SLD 2	-296.82	-7266.96	0.196	24.48	Si
0.47	0.000682	0.052	0.000603	0.051							-2171.75	SLD 16	-3484.98	-9603.77	0.224	2.76	Si
0.76	0.000819	0.052	0.000603	0.051							-4208.75	SLD 15	-5334.47	-11458.44	0.244	2.15	Si
0.95	0.000911	0.052	0.000603	0.051							-5399.55	SLD 15	-5399.55	-12682.89	0.256	2.35	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000603	0	-13958	SLU 83	-13958	-8014	-63336	-16952	-16952	1	1.21	Si
0.47	0.0000095	0.000509	0	-10319	SLU 83	-10319	-7767	-63218	-13358	-13358	1	1.29	Si
0.95	0.0000095	0.000712	0	-6955	SLU 83	-6955	-8465	-63248	-13364	-13364	1	1.92	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000603	0	-13310	SLV FO 15	-13310	-8014	-63336	-16952	-16952	1	1.27	Si
0.03	0.0000095	0.000603	0	-13144	SLV FO 15	-13144	-8014	-63336	-13383	-13383	1	1.02	Si
0.47	0.0000095	0.000509	0	-10933	SLV FO 15	-10933	-7767	-63218	-13358	-13358	1	1.22	Si
0.95	0.0000095	0.000712	0	-8779	SLV FO 15	-8779	-8465	-63248	-13364	-13364	1	1.52	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000603	0	-11582	SLD 15	-11582	-8014	-63336	-16952	-16952	1	1.46	Si
0.03	0.0000095	0.000603	0	-11417	SLD 15	-11417	-8014	-63336	-13383	-13383	1	1.17	Si
0.47	0.0000095	0.000509	0	-9198	SLD 15	-9198	-7767	-63218	-13358	-13358	1	1.45	Si
0.95	0.0000095	0.000712	0	-7020	SLD 15	-7020	-8465	-63248	-13364	-13364	1	1.9	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	1475.99	20	1475.99	77610	1494000	1153342	36000000	1332.81	2	1332.81	70081	1120500			Si
0.47	-2065.04	20	-3130.13	161461	1494000	2404613	36000000	-1882.49	2	-2849.79	147001	1120500			Si
0.95	-4584.3	20	-4584.3	233560	1494000	3404747	36000000	-4170.88	2	-4170.88	212497	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 24 - 24, sezione R 50x45, asta 721

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2075	SLU 83	0.051	9503	5928	SLU 83	15877	Si
0.13	0.41	0.0006	1994	SLU 83	0.051	9503	5697	SLU 83	15877	Si
0.15	0.41	0.0006	1978	SLU 83	0.051	9503	5651	SLU 83	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.25	0.41	0.0006	1913	SLU 83	0.051	9503	5465	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1539	SLD 7	0.13	10576	4396	SLD 7	15877	Si
0.13	0.41	0.0006	1481	SLD 7	0.13	10576	4231	SLD 7	15877	Si
0.15	0.41	0.0006	1469	SLD 7	0.13	10576	4198	SLD 7	15877	Si
0.25	0.41	0.0006	1423	SLD 7	0.13	10576	4065	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000603	1509	SLE RA 20	41297	1494000	512084	36000000	1357	SLE QP 2	37141	1120500	Si
0.13	0.41	0.00000603	1450	SLE RA 20	39679	1494000	492019	36000000	1303	SLE QP 2	35659	1120500	Si
0.15	0.41	0.00000603	1438	SLE RA 20	39353	1494000	487980	36000000	1292	SLE QP 2	35360	1120500	Si
0.25	0.41	0.00000603	1390	SLE RA 20	38051	1494000	471829	36000000	1248	SLE QP 2	34166	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 722

Campata 4 tra i fili 24 - 50, sezione R 50x45, aste 723, 724, 725, 726, 727, 728, 729, 730, 731, 732

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1613	SLU 83	0.04	7535	4609	SLU 83	15877	Si
2.04	0.41	0.0002	1489	SLU 83	0.017	2755	4254	SLU 83	15877	Si
3.98	0.41	0.0002	1771	SLU 83	0.017	2755	5060	SLU 83	15877	Si
4.08	0.41	0.0002	1783	SLU 83	0.017	2755	5095	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1206	SLD 7	0.116	8399	3446	SLD 7	15877	Si
2.04	0.41	0.0002	1102	SLD 8	0.07	3100	3147	SLD 8	15877	Si
3.98	0.41	0.0002	1356	SLD 12	0.07	3100	3874	SLD 12	15877	Si
4.08	0.41	0.0002	1367	SLD 12	0.07	3100	3905	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000476	1170	SLE RA 20	32554	1494000	403668	36000000	1047	SLE QP 2	29115	1120500	Si
2.04	0.41	0.00000172	1079	SLE RA 20	31234	1494000	387303	36000000	963	SLE QP 2	27872	1120500	Si
3.98	0.41	0.00000172	1287	SLE RA 20	37244	1494000	461831	36000000	1155	SLE QP 2	33420	1120500	Si
4.08	0.41	0.00000172	1296	SLE RA 20	37503	1494000	465043	36000000	1163	SLE QP 2	33660	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
5.28	1.1	SLU 2	ST	LT	-199	-448	-33198	0	-1	19	0	0	1.1	10098	490	20.6	Si
5.28	1.1	SLV FO 5	SIS	LT	-2193	-8635	-29627	-4	-16	19	0	0	1.1	9012	8909	1.01	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
721,722,723,724,725,726,727,728,729,730,731,732	5.28	1.1	SLU 84	ST	BT	2.3	241271	52522	4.59	Si
721,722,723,724,725,726,727,728,729,730,731,732	5.28	1.1	SLV FO 5	SIS	LT	2.3	102847	29627	3.47	Si
721,722,723,724,725,726,727,728,729,730,731,732	5.28	1.1	SLD 7	SIS	BT	2.3	218902	39350	5.56	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-484	-52522	603.68	-1749.33	0	-1	-0.03	0.01	1.08	5.21	1496	2060	0	14430	
0	-8635	-29627	4759.68	-3414.88	0	-16	-0.12	0.16	0.78	5.05	1496	2060	37	0	0.07
0	4169	-39350	-1957.94	-2139.57	0	6	-0.05	-0.05	1	5.17	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.12	1.12	0.94	1.16	1.27	1	0.53	0.51	0.37	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

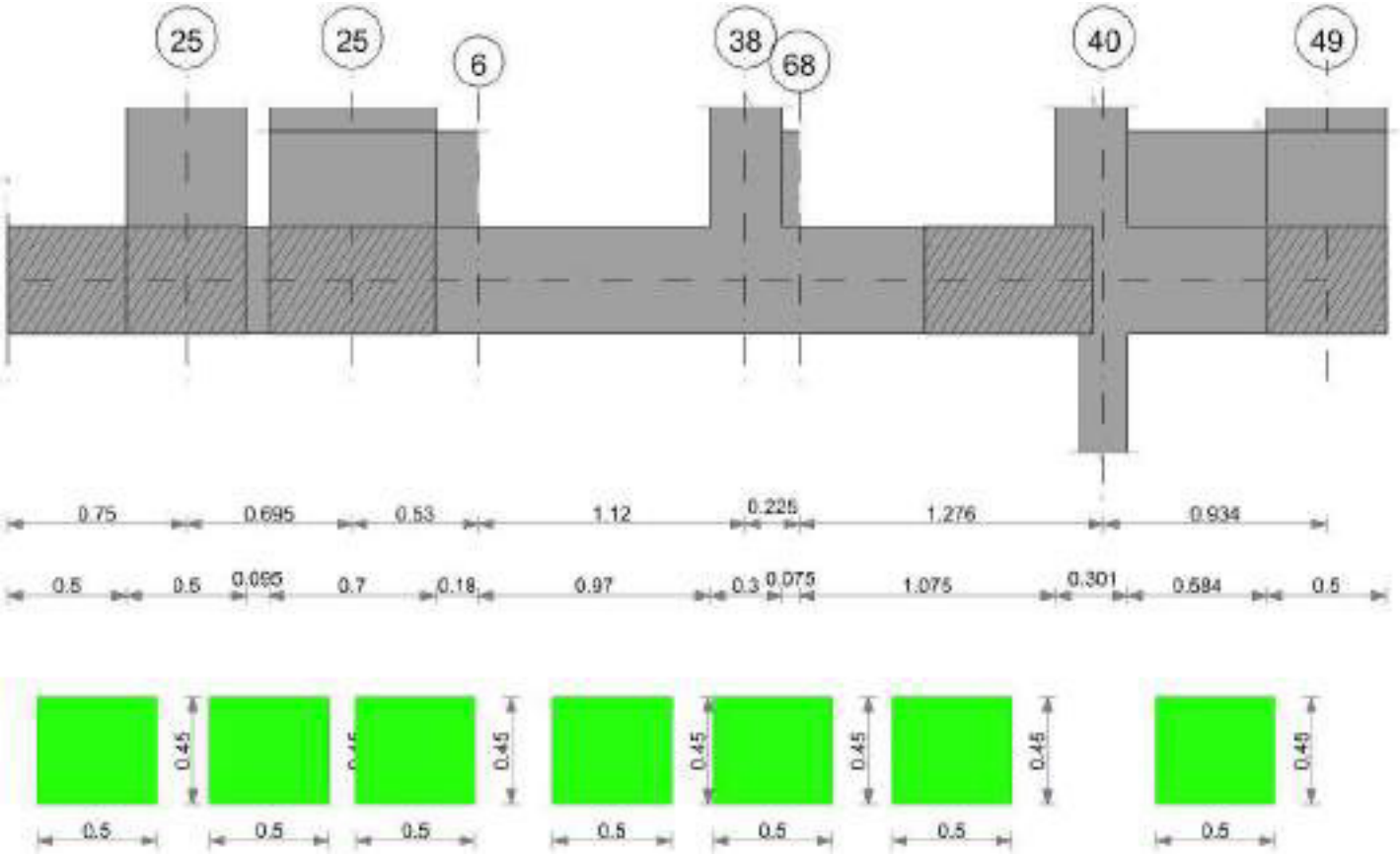
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0.001	815	SLE RA 20	0.05	0	815	817	SLE RA 20	0.05	0	817	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	827	SLE RA 1	0.05	0	827	827	SLE RA 1	0.05	0	817	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	827	SLE RA 1	0.05	0	827	827	SLE RA 1	0.05	0	817	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 6	0.19	0.02	817	816	SLE RA 20	0.19	0	816	SLE RA 21	0.1	0.02	817	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	827	817	SLE RA 1	0.19	0	827	SLE RA 1	0.1	0	817	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	827	817	SLE RA 1	0.19	0	827	SLE RA 1	0.1	0	817	SLE RA 1	Si

CORDOLO 10

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

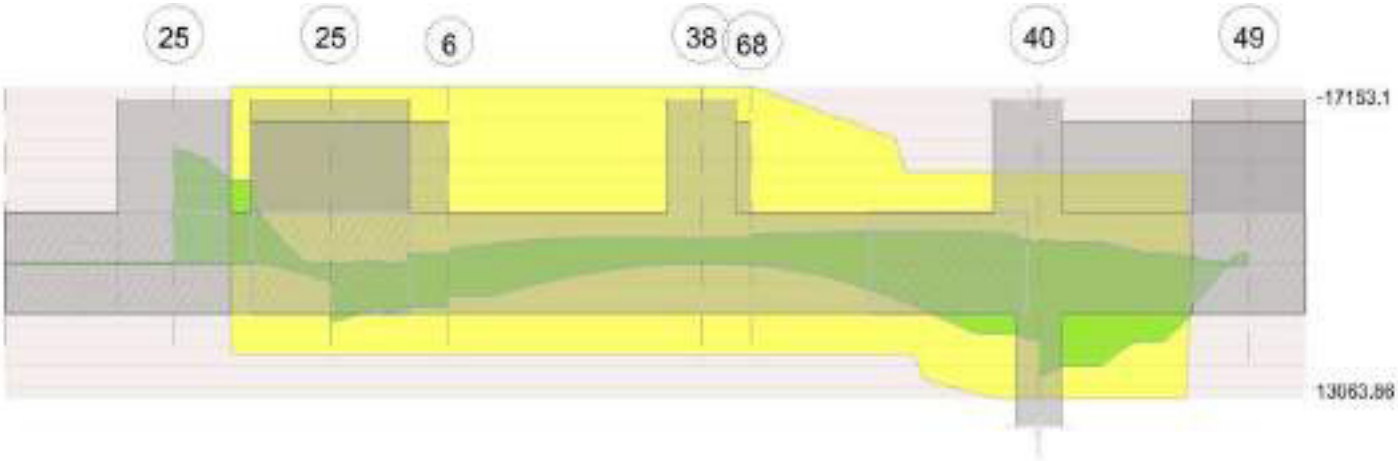
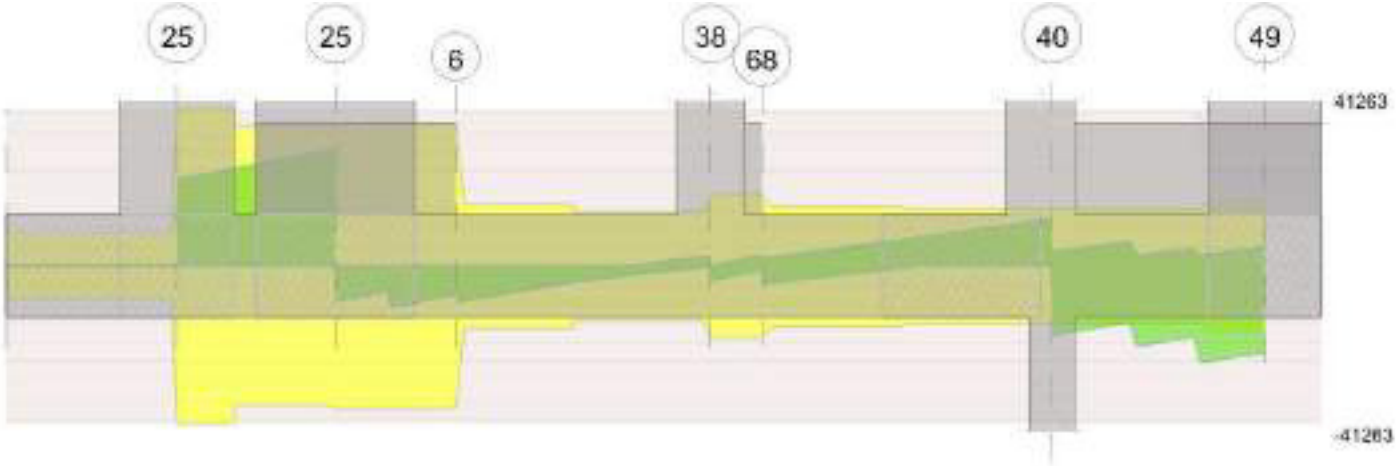


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 25 - 25, sezione R 50x45, asta 533

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-4756.53	SLU 83	-7228.68	-17905.28	0.173	2.48	Si
0.35	0.001257	0.053	0.000628	0.053							-4690.36	SLU 83	-4690.33	-17905.28	0.173	3.82	Si
0.7	0.001257	0.053	0.000628	0.053	5256.03	SLU 83	153.9	9394.23	0.128	61.04							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-5670.87	SLV FO 8	-7972.74	-17153.1	0.299	2.15	Si
0.35	0.001257	0.053	0.000628	0.053							-5609.51	SLV FO 8	-5609.51	-17153.1	0.299	3.06	Si
0.7	0.001257	0.053	0.000628	0.053	5004.92	SLV FO 15	1509.1	8862.89	0.207	5.87							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-4519.52	SLD 8	-6507.17	-17153.1	0.299	2.64	Si
0.35	0.001257	0.053	0.000628	0.053							-4466.46	SLD 8	-4466.46	-17153.1	0.299	3.84	Si
0.7	0.001257	0.053	0.000628	0.053	4345.76	SLD 15	908.76	8862.89	0.207	9.75							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	22572	SLU 83	22572	8455	71432	41263	41263	1	1.83	Si
0.25	0.000026	0	0	25475	SLU 83	25475	8455	71432	41263	41263	1	1.62	Si
0.35	0.000026	0	0	26575	SLU 83	26575	7751	63019	36403	36403	1	1.37	Si
0.35	0.000026	0	0	26604	SLU 83	26604	7751	63019	36403	36403	1	1.37	Si
0.67	0.000026	0.000628	0	30376	SLU 83	30376	8105	63019	36403	36403	1	1.2	Si
0.7	0.0000266	0.000628	0	30646	SLU 83	30646	8105	63019	37128	37128	1	1.21	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	22763	SLV FO 12	22763	8455	71432	41263	41263	1	1.81	Si
0.25	0.000026	0	0	24838	SLV FO 12	24838	8455	71432	41263	41263	1	1.66	Si
0.35	0.000026	0	0	25635	SLV FO 12	25635	7751	63019	36403	36403	1	1.42	Si
0.35	0.000026	0	0	25656	SLV FO 12	25656	7751	63019	36403	36403	1	1.42	Si
0.67	0.000026	0.000628	0	28433	SLV FO 12	28433	8105	63019	36403	36403	1	1.28	Si
0.7	0.0000266	0.000628	0	28636	SLV FO 12	28636	8105	63019	37128	37128	1	1.3	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	19120	SLD 12	19120	8455	71432	41263	41263	1	2.16	Si
0.25	0.000026	0	0	21127	SLD 12	21127	8455	71432	41263	41263	1	1.95	Si
0.35	0.000026	0	0	21893	SLD 12	21893	7751	63019	36403	36403	1	1.66	Si
0.35	0.000026	0	0	21913	SLD 12	21913	7751	63019	36403	36403	1	1.66	Si
0.67	0.000026	0.000628	0	24563	SLD 12	24563	8105	63019	36403	36403	1	1.48	Si
0.7	0.0000266	0.000628	0	24755	SLD 12	24755	8105	63019	37128	37128	1	1.5	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.35	-3487.62	20	-5295.5	265064	1494000	3756008	36000000	-3178.65	2	-4812.74	240899	1120500			Si
0.35	-3439.23	20	-3439.21	172148	1494000	2439374	36000000	-3134.9	2	-3134.89	156915	1120500			Si
0.7	3834.56	20	114.96	5436	1494000	86315	36000000	3441.97	2	112.35	5312	1120500			Si

Campata 4 tra i fili 6 - 38, sezione R 50x45, asta 536

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	2016.55	SLU 83	2016.55	9394.23	0.128	4.66							Si
0.56	0.001257	0.053	0.000628	0.053							-1202.39	SLU 84	-1648.64	-17905.28	0.173	10.86	Si
0.97	0.001257	0.053	0.000628	0.053							-1816.57	SLU 84	-1820.94	-17905.28	0.173	9.83	Si

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.12	0.001257	0.053	0.000628	0.053							-1678.25	SLU 84	-1678.25	-17905.28	0.173	10.67	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	3256.64	SLV FO 16	3256.64	8862.89	0.207	2.72	-660.17	SLV FO 1	-1306.25	-17153.1	0.299	13.13	Si
0.56	0.001257	0.053	0.000628	0.053	583.16	SLV FO 12	1196.23	8862.89	0.207	7.41	-2231.95	SLV FO 5	-2432.96	-17153.1	0.299	7.05	Si
0.97	0.001257	0.053	0.000628	0.053	18.3	SLV FO 11	121.29	8862.89	0.207	73.07	-2477.98	SLV FO 6	-2489.67	-17153.1	0.299	6.89	Si
1.12	0.001257	0.053	0.000628	0.053	106.5	SLV FO 11	22.69	8862.89	0.207	390.59	-2379.57	SLV FO 6	-2379.57	-17153.1	0.299	7.21	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	2417.13	SLD 16	2417.13	8862.89	0.207	3.67	179.35	SLD 1	-541.1	-17153.1	0.299	31.7	Si
0.56	0.001257	0.053	0.000628	0.053	-62.52	SLD 12	492.42	8862.89	0.207	18	-1586.28	SLD 5	-1828.38	-17153.1	0.299	9.38	Si
0.97	0.001257	0.053	0.000628	0.053							-1899.84	SLD 6	-1906.7	-17153.1	0.299	9	Si
1.12	0.001257	0.053	0.000628	0.053							-1801.2	SLD 6	-1801.2	-17153.1	0.299	9.52	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-9429	SLU 83	-9429	-8105	-63019	-37128	-37128	1	3.94	Si
0.04	0.0000116	0.000628	0	-9051	SLU 83	-9051	-8105	-63019	-16212	-16212	1	1.79	Si
0.56	0.0000101	0.001257	0	-3785	SLU 83	-3785	-10212	-63019	-14056	-14056	1	3.71	Si
0.97	0.0000101	0.001257	0	321	SLU 83	321	10212	63019	14056	14056	1	43.84	Si
1.12	0.0000134	0.001257	0	1820	SLU 83	1820	10212	63019	18756	18756	1	10.31	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-8053	SLV FO 16	-8053	-8105	-63019	-37128	-37128	1	4.61	Si
0.04	0.0000116	0.000628	0	-7779	SLV FO 16	-7779	-8105	-63019	-16212	-16212	1	2.08	Si
0.56	0.0000101	0.000628	0	-3961	SLV FO 16	-3961	-8105	-63019	-14056	-14056	1	3.55	Si
0.97	0.0000101	0.001257	0	1565	SLV FO 3	1565	10212	63019	14056	14056	1	8.98	Si
0.97	0.0000101	0.001257	0	-1123	SLV FO 14	-1123	-10212	-63019	-14056	-14056	1	12.51	Si
1.12	0.0000134	0.001257	0	2601	SLV FO 3	2601	10212	63019	18756	18756	1	7.21	Si
1.12	0.0000134	0.001257	0	-167	SLV FO 14	-167	-10212	-63019	-18756	-18756	1	112.63	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-7287	SLD 16	-7287	-8105	-63019	-37128	-37128	1	5.1	Si
0.04	0.0000116	0.000628	0	-7023	SLD 16	-7023	-8105	-63019	-16212	-16212	1	2.31	Si
0.56	0.0000101	0.001257	0	-3349	SLD 16	-3349	-10212	-63019	-14056	-14056	1	4.2	Si
0.97	0.0000101	0.001257	0	1000	SLD 3	1000	10212	63019	14056	14056	1	14.05	Si
0.97	0.0000101	0.001257	0	-559	SLD 14	-559	-10212	-63019	-14056	-14056	1	25.15	Si
1.12	0.0000134	0.001257	0	2017	SLD 3	2017	10212	63019	18756	18756	1	9.3	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	1469.87	20	1469.87	69503	1494000	1103602	36000000	1298.24	2	1298.24	61388	1120500			Si
0.56	-883.46	21	-1209.74	60553	1494000	858047	36000000	-824.4	2	-1119.93	56058	1120500			Si
0.97	-1332.23	21	-1335.5	66848	1494000	947246	36000000	-1229.84	2	-1233.05	61720	1120500			Si
1.12	-1230.71	21	-1230.71	61603	1494000	872921	36000000	-1136.54	2	-1136.54	56889	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 6 tra i fili 68 - 40, sezione R 50x45, asta 538

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053							-1669.81	SLU 84	-1877.41	-17905.28	0.173	9.54	Si
0.64	0.000871	0.053	0.000628	0.053	-459	SLU 1	254.67	9389.48	0.126	36.87	-850.33	SLU 84	-1519.08	-12698.03	0.141	8.36	Si
1.18	0.000628	0.053	0.000942	0.053	3297.02	SLU 83	3297.02	13662.92	0.147	4.14							Si
1.28	0.000628	0.053	0.000942	0.053	4410.39	SLU 83	3849.27	13662.92	0.147	3.55							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	117.14	SLV FO 11	236.04	8862.89	0.207	37.55	-2360.22	SLV FO 6	-2726.04	-17153.1	0.299	6.29	Si
0.64	0.000871	0.053	0.000628	0.053	2069.61	SLV FO 3	3414.41	8867.15	0.212	2.6	-3112.96	SLV FO 14	-3122.06	-12125.57	0.251	3.88	Si
1.18	0.000628	0.053	0.000942	0.053	6861.94	SLV FO 3	6861.94	13063.86	0.261	1.9	-2334.17	SLV FO 14	-2809.43	-8866.46	0.211	3.16	Si
1.28	0.000628	0.053	0.000942	0.053	8000.86	SLV FO 3	7435.5	13063.86	0.261	1.76	-1974.75	SLV FO 14	-1974.75	-8866.46	0.211	4.49	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053							-1781.41	SLD 6	-2043.25	-17153.1	0.299	8.4	Si
0.64	0.000871	0.053	0.000628	0.053	961.69	SLD 3	2031.26	8867.15	0.212	4.37	-2005.04	SLD 14	-2102.32	-12125.57	0.251	5.77	Si
1.18	0.000628	0.053	0.000942	0.053	4902.93	SLD 3	4902.93	13063.86	0.261	2.66	-375.16	SLD 14	-1141.84	-8866.46	0.211	7.77	Si
1.28	0.000628	0.053	0.000942	0.053	5876	SLD 3	5390.66	13063.86	0.261	2.42							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	-2210	SLU 84	-2210	-9543	-63019	-18756	-18756	1	8.49	Si
0.64	0.0000108	0.000628	0	4925	SLU 83	4925	8105	63019	15119	15119	1	3.07	Si
1.18	0.0000108	0.000809	0	11045	SLU 83	11045	8817	63019	15119	15119	1	1.37	Si
1.28	0.0000108	0.000864	0	12193	SLU 83	12193	9013	63019	15119	15119	1	1.24	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	2010	SLV FO 3	2010	9543	63019	18756	18756	1	9.33	Si
0	0.0000134	0.001026	0	-4782	SLV FO 14	-4782	-9543	-63019	-18756	-18756	1	3.92	Si
0.64	0.0000108	0.000628	0	7088	SLV FO 3	7088	8105	63019	15119	15119	1	2.13	Si
0.64	0.0000108	0.000628	0	-372	SLV FO 14	-372	-8105	-63019	-15119	-15119	1	40.59	Si
1.18	0.0000108	0.000809	0	11471	SLV FO 3	11471	8817	63019	15119	15119	1	1.32	Si
1.28	0.0000108	0.000864	0	12285	SLV FO 3	12285	9013	63019	15119	15119	1	1.23	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	587	SLD 3	587	9543	63019	18756	18756	1	31.95	Si
0	0.0000134	0.001026	0	-3359	SLD 14	-3359	-9543	-63019	-18756	-18756	1	5.58	Si
0.64	0.0000108	0.000628	0	5511	SLD 3	5511	8105	63019	15119	15119	1	2.74	Si
1.18	0.0000108	0.000809	0	9755	SLD 3	9755	8817	63019	15119	15119	1	1.55	Si
1.28	0.0000108	0.000864	0	10546	SLD 3	10546	9013	63019	15119	15119	1	1.43	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1223.08	21	-1371.48	68649	1494000	972768	36000000	-1121.54	2	-1245.25	62330	1120500			Si
0.64	-610.06	21	-1103.43	56283	1494000	825432	36000000	-521.67	2	-982.69	50124	1120500			Si
1.18	2435.69	20	2435.69	123789	1494000	1803784	36000000	2263.88	2	2263.88	115057	1120500			Si
1.28	3252.96	20	2841.12	144394	1494000	2104028	36000000	3013.06	2	2635.66	133952	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 25 - 25, sezione R 50x45, asta 533

Campata 3 tra i fili 25 - 6, sezione R 50x45, aste 534, 535

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1622	SLU 83	0.112	20398	5642	SLU 83	51984	Si
0.26	0.41	0.0013	1628	SLU 83	0.112	20398	5662	SLU 83	51984	Si
0.35	0.41	0.0013	1628	SLU 83	0.112	20398	5662	SLU 83	51984	Si
0.53	0.41	0.0013	1625	SLU 83	0.112	20398	5651	SLU 83	51984	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1144	SLD 11	0.191	22680	3978	SLD 11	59782	Si
0.26	0.41	0.0013	1163	SLD 11	0.191	22680	4045	SLD 11	59782	Si
0.35	0.41	0.0013	1167	SLD 11	0.191	22680	4059	SLD 11	59782	Si
0.53	0.41	0.0013	1173	SLD 11	0.191	22680	4079	SLD 11	59782	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00001328	1181	SLE RA 20	29626	1494000	367365	36000000	1062	SLE QP 2	26643	1120500	Si
0.26	0.41	0.00001328	1186	SLE RA 20	29737	1494000	368744	36000000	1066	SLE QP 2	26742	1120500	Si
0.35	0.41	0.00001328	1186	SLE RA 20	29736	1494000	368726	36000000	1066	SLE QP 2	26741	1120500	Si
0.53	0.41	0.00001328	1184	SLE RA 20	29682	1494000	368059	36000000	1064	SLE QP 2	26693	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 6 - 38, sezione R 50x45, asta 536

Campata 5 tra i fili 38 - 68, sezione R 50x45, asta 537

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1603	SLU 83	0.057	10543	5576	SLU 83	26261	Si
0.11	0.41	0.0007	1603	SLU 83	0.057	10543	5577	SLU 83	26261	Si
0.15	0.41	0.0007	1604	SLU 83	0.057	10543	5579	SLU 83	26261	Si
0.22	0.41	0.0007	1606	SLU 83	0.057	10543	5586	SLU 83	26261	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1180	SLD 11	0.137	11726	4104	SLD 11	30200	Si
0.11	0.41	0.0007	1182	SLD 11	0.137	11726	4112	SLD 11	30200	Si
0.15	0.41	0.0007	1183	SLD 11	0.137	11726	4116	SLD 11	30200	Si
0.22	0.41	0.0007	1186	SLD 11	0.137	11726	4124	SLD 11	30200	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000671	1168	SLE RA 20	31709	1494000	393189	36000000	1051	SLE QP 2	28538	1120500	Si
0.11	0.41	0.00000671	1169	SLE RA 20	31719	1494000	393322	36000000	1052	SLE QP 2	28555	1120500	Si
0.15	0.41	0.00000671	1169	SLE RA 20	31733	1494000	393490	36000000	1053	SLE QP 2	28571	1120500	Si
0.22	0.41	0.00000671	1171	SLE RA 20	31778	1494000	394043	36000000	1054	SLE QP 2	28617	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 6 tra i fili 68 - 40, sezione R 50x45, asta 538

Campata 7 tra i fili 40 - 49, sezione R 50x45, aste 539, 540, 541

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1667	SLU 83	0.046	8537	5799	SLU 83	21168	Si
0.1	0.41	0.0005	1671	SLU 83	0.045	8458	5813	SLU 83	20969	Si
0.47	0.41	0.0005	1668	SLU 83	0.045	8458	5801	SLU 83	20969	Si
0.68	0.41	0.0005	1654	SLU 83	0.045	8458	5754	SLU 83	20969	Si
0.93	0.41	0.0005	1634	SLU 83	0.045	8458	5683	SLU 83	20969	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1213	SLD 7	0.123	9507	4220	SLD 7	24343	Si
0.1	0.41	0.0005	1211	SLD 11	0.123	9419	4214	SLD 11	24114	Si
0.47	0.41	0.0005	1190	SLD 12	0.123	9419	4139	SLD 12	24114	Si
0.68	0.41	0.0005	1167	SLD 12	0.123	9419	4061	SLD 12	24114	Si
0.93	0.41	0.0005	1137	SLD 12	0.123	9419	3955	SLD 12	24114	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000541	1216	SLE RA 20	33558	1494000	416115	36000000	1098	SLE QP 2	30288	1120500	Si
0.1	0.41	0.00000536	1219	SLE RA 20	33660	1494000	417381	36000000	1101	SLE QP 2	30384	1120500	Si
0.47	0.41	0.00000536	1217	SLE RA 20	33591	1494000	416526	36000000	1099	SLE QP 2	30329	1120500	Si
0.68	0.41	0.00000536	1207	SLE RA 20	33320	1494000	413172	36000000	1090	SLE QP 2	30085	1120500	Si
0.93	0.41	0.00000536	1192	SLE RA 20	32906	1494000	408034	36000000	1076	SLE QP 2	29710	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
5.03	1.1	SLU 50	ST	LT	42	482	-52375	0	1	19	0	0	1.1	15931	484	32.91	Si
5.03	1.1	SLV FO 5	SIS	LT	-1856	-8060	-37899	-3	-12	19	0	0	1.1	11528	8271	1.39	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
533,534,535,536,537,538,539,540,541	5.03	1.1	SLU 83	ST	BT	2.3	225605	64897	3.48	Si
533,534,535,536,537,538,539,540,541	5.03	1.1	SLV FO 9	SIS	LT	2.3	138709	38388	3.61	Si
533,534,535,536,537,538,539,540,541	5.03	1.1	SLD 12	SIS	BT	2.3	222681	47395	4.7	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	581	-64897	1673.37	715.61	0	1	0.01	0.03	1.05	5.01	1496	2060	0	14430	
0	-8125	-38388	5364.01	306.44	0	-12	0.01	0.14	0.82	5.01	1496	2060	37	0	0.07
0	4901	-47395	-997.8	1383.91	0	6	0.03	-0.02	1.06	4.97	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.12	1.13	0.93	1.16	1.27	1	0.64	0.63	0.51	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

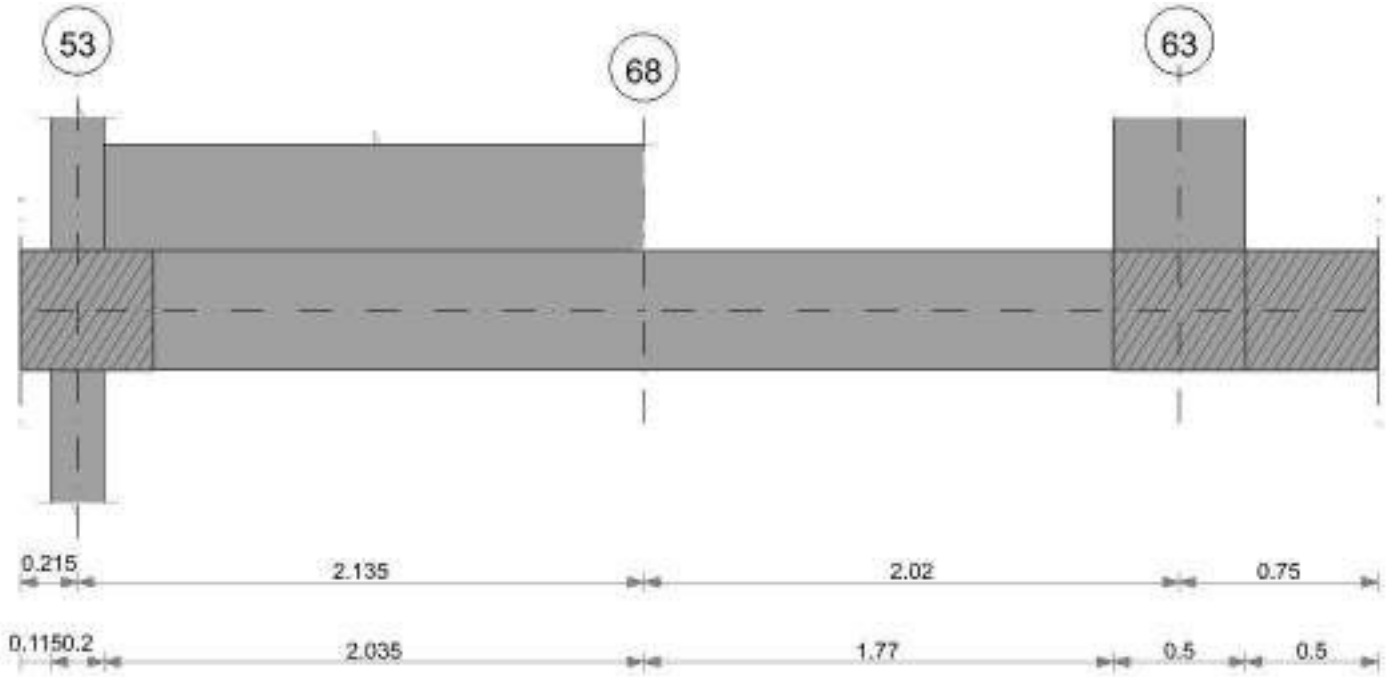
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	740	SLE RA 20	0.05	0	740	734	SLE RA 20	0.05	0	740	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	743	SLE RA 1	0.05	0	743	743	SLE RA 1	0.05	0	740	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	743	SLE RA 1	0.05	0	743	743	SLE RA 1	0.05	0	740	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 19	0.19	0.01	739	738	SLE RA 21	0.19	0.01	740	SLE RA 20	0.1	0.01	738	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	743	740	SLE RA 1	0.19	0	743	SLE RA 1	0.1	0	740	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	743	740	SLE RA 1	0.19	0	743	SLE RA 1	0.1	0	740	SLE RA 1	Si

CORDOLO 11

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

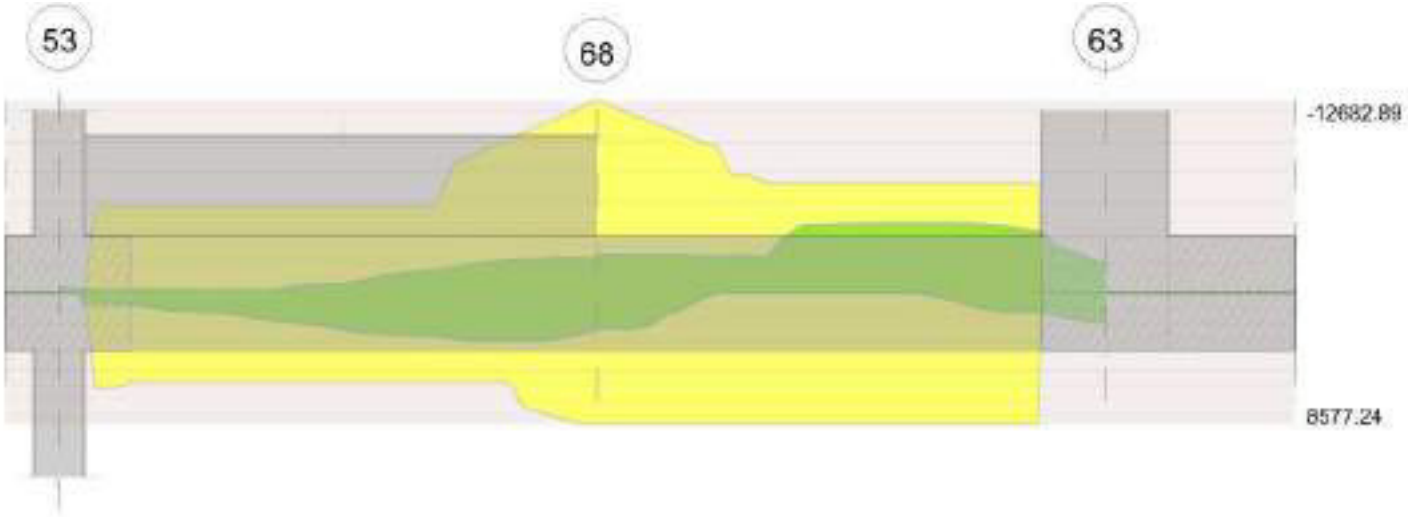
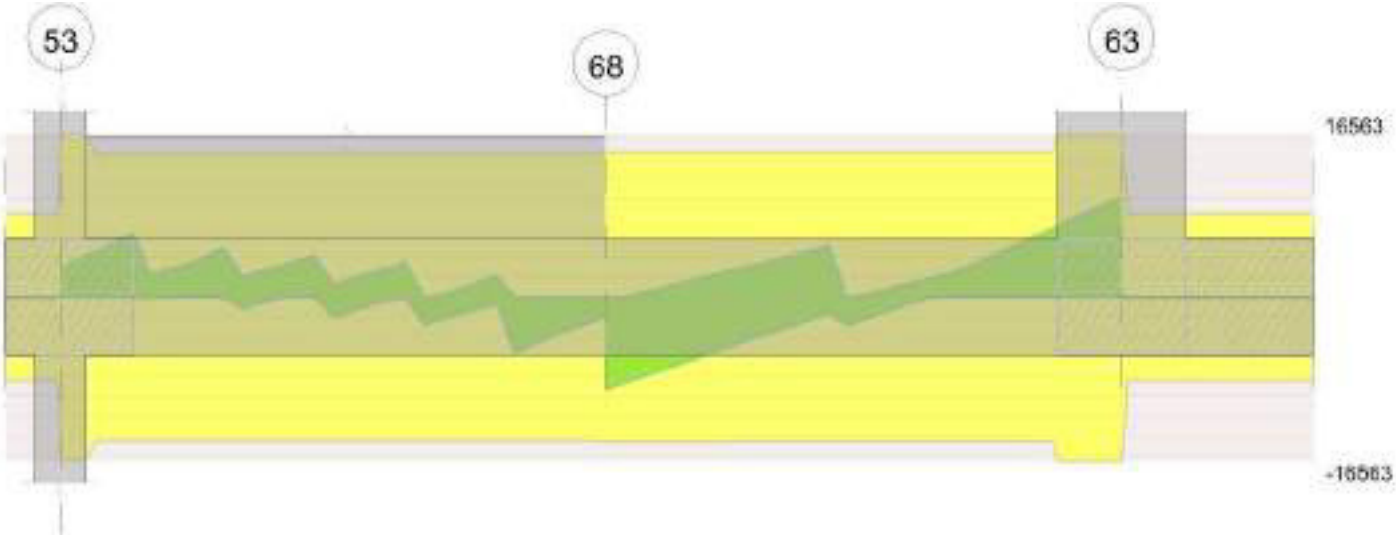


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 68 - 63, sezione R 50x45, aste 757, 758

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000603	0.051							-123.31	SLU 50	-1233.04	-13290.66	0.141	10.78	Si
1.01	0.000509	0.052	0.000603	0.051							-3729.32	SLU 84	-3829.34	-7750.24	0.114	2.02	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000603	0.051	2354.44	SLV FO 13	2354.44	8575.42	0.206	3.64	-2532.15	SLV FO 4	-2549.07	-12682.89	0.256	4.98	Si
1.01	0.000509	0.052	0.000603	0.051							-4445.83	SLV FO 10	-4553.27	-7266.96	0.196	1.6	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000603	0.051	1329.65	SLD 13	1329.65	8575.42	0.206	6.45	-1507.37	SLD 4	-1810.3	-12682.89	0.256	7.01	Si
1.01	0.000509	0.052	0.000603	0.051							-3547.38	SLD 10	-3685.7	-7266.96	0.196	1.97	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000716	0	-7399	SLU 84	-7399	-8479	-63248	-14665	-14665	1	1.98	Si
1.01	0.0000105	0.000509	0	-1534	SLU 83	-1534	-7764	-63178	-14649	-14649	1	9.55	Si
1.77	0.0000105	0	0	7242	SLU 84	7242	8455	71432	16563	16563	1	2.29	Si
2.02	0.0000105	0	0	10213	SLU 84	10213	8455	71432	16563	16563	1	1.62	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000603	0	-9355	SLV FO 14	-9355	-8014	-63336	-14686	-14686	1	1.57	Si
1.01	0.0000105	0.000509	0	288	SLV FO 2	288	7764	63178	14649	14649	1	50.82	Si
1.01	0.0000105	0.000509	0	-2292	SLV FO 15	-2292	-7764	-63178	-14649	-14649	1	6.39	Si
1.77	0.0000105	0	0	5245	SLV FO 8	5245	8455	71432	16563	16563	1	3.16	Si
2.02	0.0000105	0	0	7332	SLV FO 12	7332	8455	71432	16563	16563	1	2.26	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000603	0	-7486	SLD 14	-7486	-8014	-63336	-14686	-14686	1	1.96	Si
1.01	0.0000105	0.000509	0	-1746	SLD 15	-1746	-7764	-63178	-14649	-14649	1	8.39	Si
1.77	0.0000105	0	0	5062	SLD 8	5062	8455	71432	16563	16563	1	3.27	Si
2.02	0.0000105	0	0	7100	SLD 12	7100	8455	71432	16563	16563	1	2.33	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-93.12	8	-907.93	46257	1494000	674315	36000000	-92.65	1	-838.68	42729	1120500			Si
1.01	-2737.6	21	-2809.67	146366	1494000	2216058	36000000	-2477.55	2	-2542.49	132447	1120500			Si
1.77	-1152.9	21	-1961.97	-116265	1494000	0	36000000	-1026.83	2	-1766.24	-104666	1120500			Si
2.02	463.96	14	454.71	26945	1494000	0	36000000	432.35	2	420.32	24908	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 53 - 68, sezione R 50x45, aste 751, 752, 753, 754, 755, 756

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1668	SLU 83	0.044	8185	5800	SLU 83	20279	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.1	0.41	0.0005	1668	SLU 83	0.044	8185	5802	SLU 83	20279	Si
1.07	0.41	0.0005	1661	SLU 83	0.044	8185	5778	SLU 83	20279	Si
2.14	0.41	0.0005	1609	SLU 83	0.044	8256	5595	SLU 83	20459	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1181	SLD 16	0.121	9117	4108	SLD 16	23321	Si
0.1	0.41	0.0005	1186	SLD 16	0.121	9117	4125	SLD 16	23321	Si
1.07	0.41	0.0005	1223	SLD 16	0.121	9117	4253	SLD 16	23321	Si
2.14	0.41	0.0005	1206	SLD 15	0.121	9196	4195	SLD 15	23528	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000518	1217	SLE RA 20	33665	1494000	417450	36000000	1099	SLE QP 2	30409	1120500	Si
0.1	0.41	0.00000518	1217	SLE RA 20	33671	1494000	417520	36000000	1099	SLE QP 2	30413	1120500	Si
1.07	0.41	0.00000518	1212	SLE RA 20	33524	1494000	415697	36000000	1094	SLE QP 2	30277	1120500	Si
2.14	0.41	0.00000523	1173	SLE RA 20	32431	1494000	402149	36000000	1059	SLE QP 2	29292	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 68 - 63, sezione R 50x45, aste 757, 758

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
4.16	1.1	SLU 2	ST	LT	-370	-289	-35179	-1	0	19	0	0	1.1	10701	469	22.8	Si
4.16	1.1	SLV FO 6	SIS	LT	-2042	-6956	-33714	-3	-12	19	0	0	1.1	10255	7249	1.41	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
751,752,753,754,755,756,757,758	4.16	1.1	SLU 84	ST	BT	2.3	191214	55659	3.44	Si
751,752,753,754,755,756,757,758	4.16	1.1	SLV FO 6	SIS	LT	2.3	127493	33714	3.78	Si
751,752,753,754,755,756,757,758	4.16	1.1	SLD 11	SIS	BT	2.3	184375	40236	4.58	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-290	-55659	801.59	-988.47	0	0	-0.02	0.01	1.07	4.12	1496	2060	0	14430	
0	-6956	-33714	3742.7	-1776.5	0	-12	-0.05	0.11	0.88	4.05	1496	2060	37	0	0.07
0	3510	-40236	-1210.38	-20.67	0	5	0	-0.03	1.04	4.15	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.16	1.17	0.91	1.16	1.27	1	0.66	0.65	0.52	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

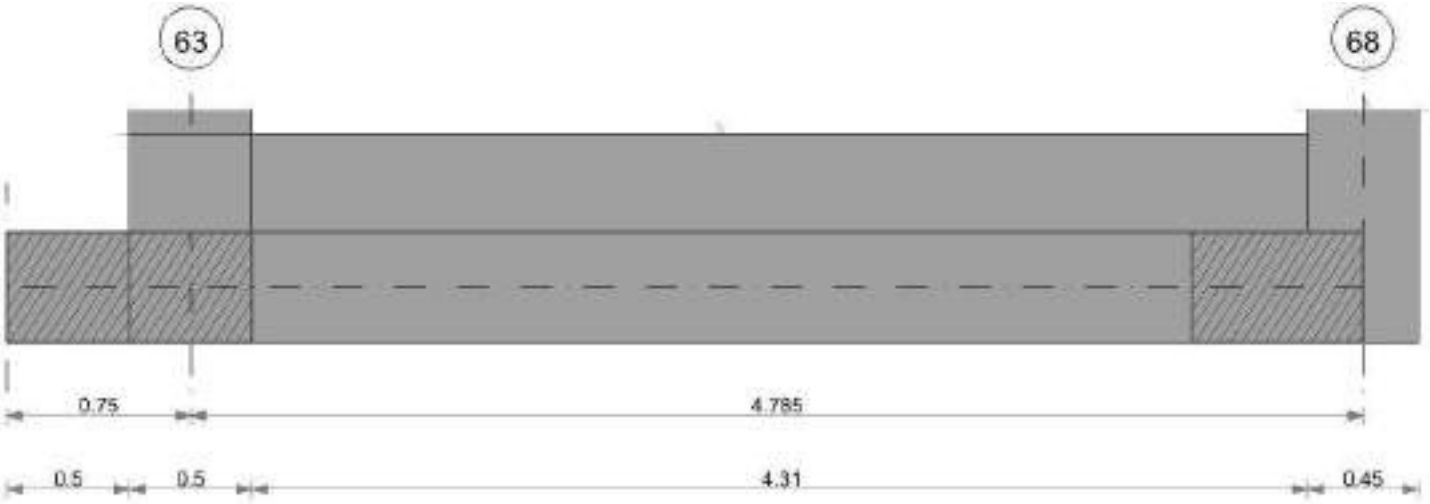
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	744	SLE RA 20	0.05	0.001	744	752	SLE RA 21	0.05	0	750	SLE RA 4	0.0033	0	SLE RA 4	Si
D	0.05	0	752	SLE RA 1	0.05	0	752	752	SLE RA 1	0.05	0	750	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	752	SLE RA 1	0.05	0	752	752	SLE RA 1	0.05	0	750	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	750	744	SLE RA 21	0.19	0	752	SLE RA 1	0.1	0.01	750	SLE RA 4	Si
D	0.19	0	SLE RA 1	0.19	0	752	750	SLE RA 1	0.19	0	752	SLE RA 1	0.1	0	750	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	752	750	SLE RA 1	0.19	0	752	SLE RA 1	0.1	0	750	SLE RA 1	Si

CORDOLO 12

Geometria



Caratteristiche dei materiali

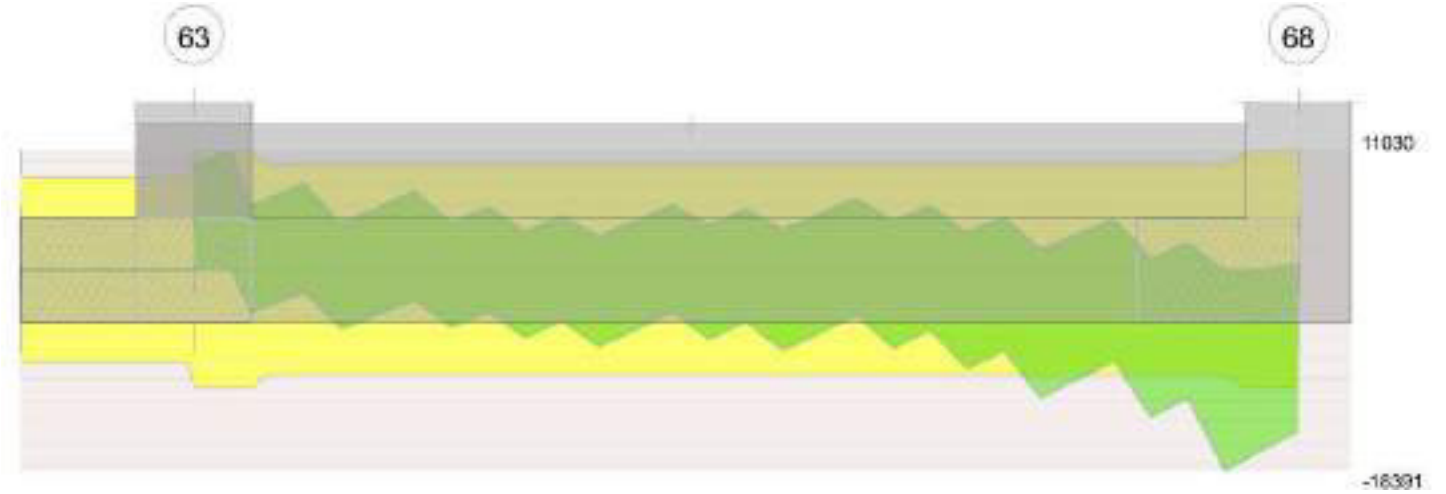
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 63 - 68, sezione R 50x45, aste 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1736	SLU 83	0.029	5423	6039	SLU 83	15877	Si
0.25	0.41	0.0003	1771	SLU 83	0.029	5423	6161	SLU 83	15877	Si
2.39	0.41	0.0003	1988	SLU 83	0.029	5423	6915	SLU 83	15877	Si
4.56	0.41	0.0003	2152	SLV FO 15	0.119	5224	7487	SLV FO 15	15877	Si
4.79	0.41	0.0003	2227	SLV FO 15	0.119	5224	7747	SLV FO 15	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1276	SLD 15	0.098	6061	4439	SLD 15	15877	Si
0.25	0.41	0.0003	1306	SLD 16	0.098	6061	4542	SLD 16	15877	Si
2.39	0.41	0.0003	1584	SLD 15	0.098	6061	5509	SLD 15	15877	Si
4.56	0.41	0.0003	1844	SLD 15	0.098	6061	6416	SLD 15	15877	Si
4.79	0.41	0.0003	1902	SLD 15	0.098	6061	6617	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000341	1266	SLE RA 20	35843	1494000	444452	36000000	1146	SLE QP 2	32441	1120500	Si
0.25	0.41	0.00000341	1292	SLE RA 20	36570	1494000	453465	36000000	1169	SLE QP 2	33106	1120500	Si
2.39	0.41	0.00000341	1452	SLE RA 20	41095	1494000	509579	36000000	1318	SLE QP 2	37301	1120500	Si
4.56	0.41	0.00000341	1555	SLE RA 20	44014	1494000	545770	36000000	1416	SLE QP 2	40092	1120500	Si
4.79	0.41	0.00000341	1592	SLE RA 20	45058	1494000	558715	36000000	1450	SLE QP 2	41061	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
5.01	1.1	SLU 5	ST	LT	-762	-585	-48530	-1	-1	19	0	0	1.1	14762	960	15.37	Si
5.01	1.1	SLV FO 6	SIS	LT	-2368	-8438	-45956	-3	-10	19	0	0	1.1	13979	8764	1.6	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
542,543,544,545,546,547,548,549,550,551,552,553,554	5.01	1.1	SLU 84	ST	BT	2.3	230511	75645	3.05	Si
542,543,544,545,546,547,548,549,550,551,552,553,554	5.01	1.1	SLV FO 14	SIS	BT	2.3	205598	65589	3.13	Si
542,543,544,545,546,547,548,549,550,551,552,553,554	5.01	1.1	SLD 14	SIS	BT	2.3	215294	59751	3.6	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-705	-75645	311.4	3938.95	0	-1	0.05	0	1.09	4.91	1496	2060	0	14430	
0	-3873	-65589	1881.3	12225.49	0	-3	0.19	0.03	1.04	4.64	1496	2060	0	14430	0.07
0	-2305	-59751	1107.36	8269.17	0	-2	0.14	0.02	1.06	4.73	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

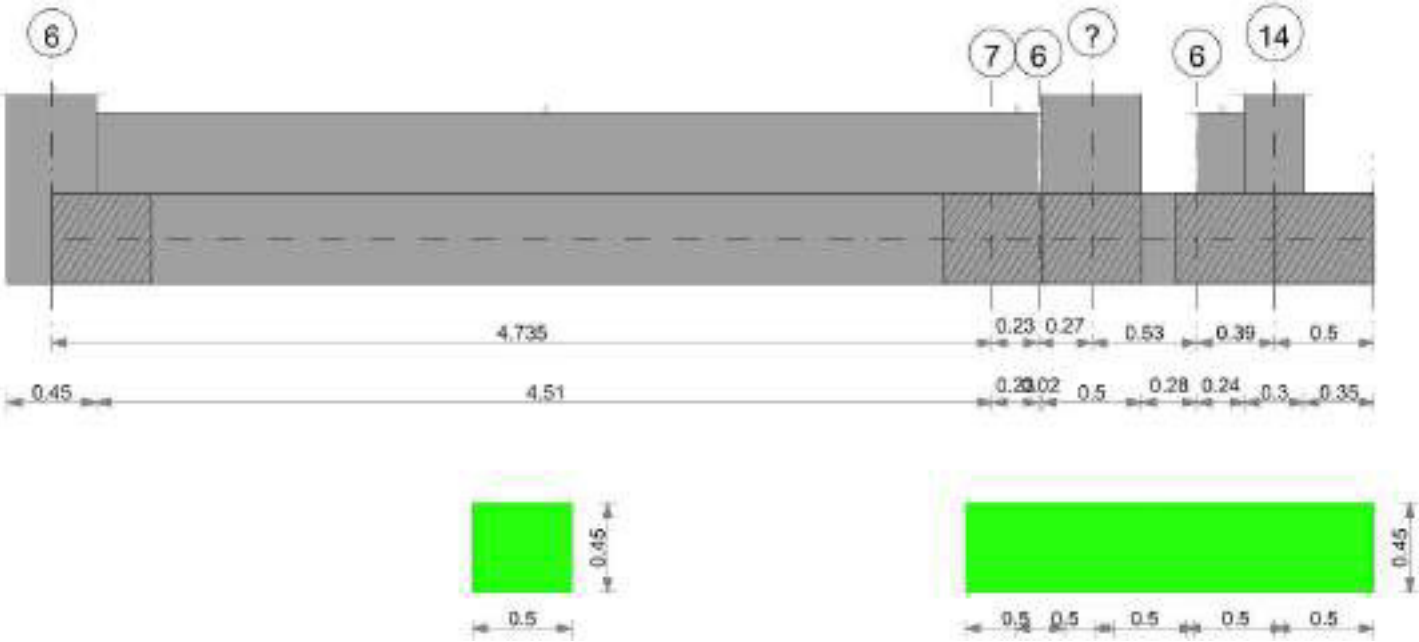
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	753	SLE RA 20	0.05	0.001	753	766	SLE RA 20	0.05	0	766	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	766	SLE RA 1	0.05	0	766	766	SLE RA 1	0.05	0	766	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	766	SLE RA 1	0.05	0	766	766	SLE RA 1	0.05	0	766	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	766	753	SLE RA 20	0.19	0	766	SLE RA 1	0.1	0	766	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	766	753	SLE RA 1	0.19	0	766	SLE RA 1	0.1	0	766	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	766	753	SLE RA 1	0.19	0	766	SLE RA 1	0.1	0	766	SLE RA 1	Si

CORDOLO 13

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

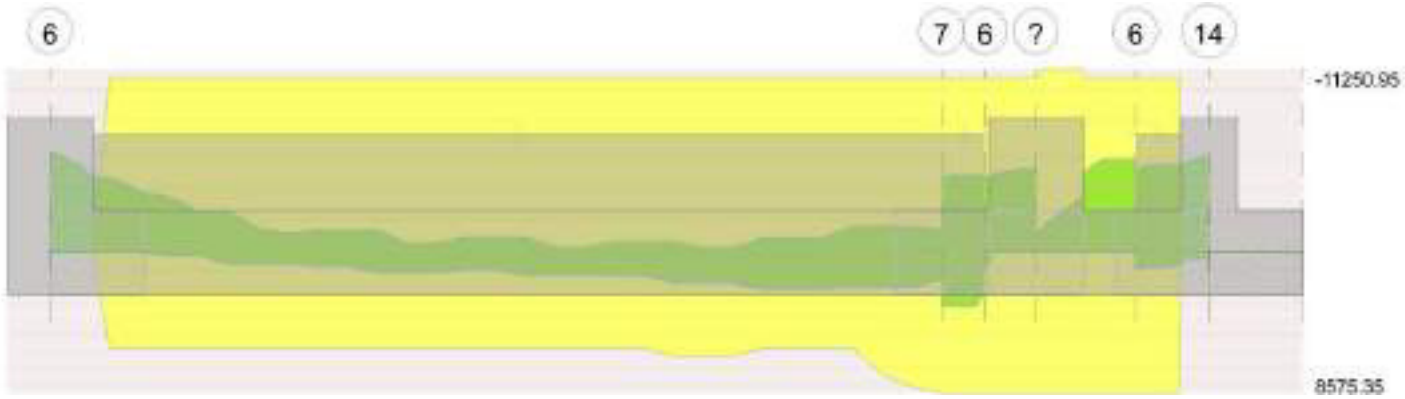
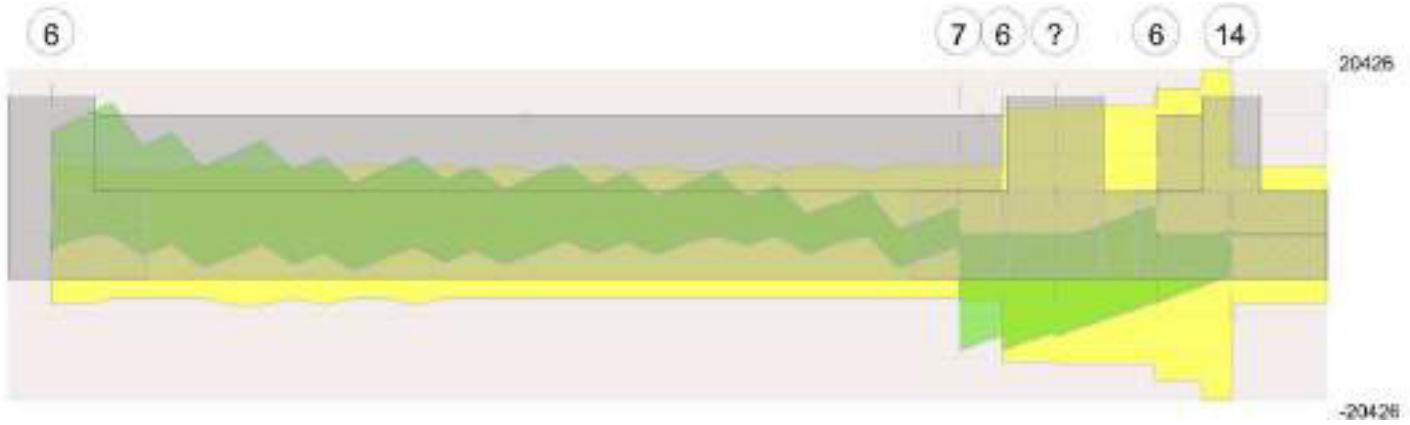


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 6 - ?, sezione R 50x45, asta 232

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-3002.91	SLU 83	-3248.73	-11250.95	0.13	3.46	Si
0.02	0.000763	0.052	0.000603	0.051							-3248.73	SLU 83	-3248.73	-11250.95	0.13	3.46	Si
0.14	0.000763	0.052	0.000603	0.051							-4564.34	SLU 83	-4326.24	-11250.95	0.13	2.6	Si
0.27	0.000763	0.052	0.000603	0.051							-5895.67	SLU 83	-4769.78	-11250.95	0.13	2.36	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051	569.03	SLV FO 13	569.03	8575.35	0.209	15.07	-4574.44	SLV FO 4	-4659.12	-10722.22	0.236	2.3	Si
0.02	0.000763	0.052	0.000603	0.051	328.85	SLV FO 13	569.03	8575.35	0.209	15.07	-4659.12	SLV FO 4	-4659.12	-10722.22	0.236	2.3	Si
0.14	0.000763	0.052	0.000603	0.051							-5069.81	SLV FO 4	-5019.86	-10722.22	0.236	2.14	Si
0.27	0.000763	0.052	0.000603	0.051							-5389.22	SLV FO 4	-5168.35	-10722.22	0.236	2.07	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-3471.32	SLD 4	-3590.16	-10722.22	0.236	2.99	Si
0.02	0.000763	0.052	0.000603	0.051							-3590.16	SLD 4	-3590.16	-10722.22	0.236	2.99	Si
0.14	0.000763	0.052	0.000603	0.051							-4201.59	SLD 4	-4105.8	-10722.22	0.236	2.61	Si
0.27	0.000763	0.052	0.000603	0.051							-4764.45	SLD 4	-4318.06	-10722.22	0.236	2.48	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000112	0.000763	0	-12486	SLU 84	-12486	-8659	-63178	-15657	-15657	1	1.25	Si
0.02	0.0000112	0.000763	0	-12232	SLU 84	-12232	-8659	-63178	-15657	-15657	1	1.28	Si
0.14	0.0000112	0.000763	0	-10775	SLU 84	-10775	-8659	-63178	-15657	-15657	1	1.45	Si
0.27	0.0000114	0.000763	0	-9076	SLU 84	-9076	-8659	-63178	-15952	-15952	1	1.76	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000112	0.000603	0	-14179	SLV FO 9	-14179	-8014	-63336	-15696	-15696	1	1.11	Si
0.02	0.0000112	0.000603	0	-14011	SLV FO 9	-14011	-8014	-63336	-15696	-15696	1	1.12	Si
0.14	0.0000112	0.000763	0	-13052	SLV FO 9	-13052	-8659	-63178	-15657	-15657	1	1.2	Si
0.27	0.0000114	0.000763	0	67	SLV FO 8	67	8659	63178	15952	15952	1	239.03	Si
0.27	0.0000114	0.000763	0	-11942	SLV FO 9	-11942	-8659	-63178	-15952	-15952	1	1.34	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000112	0.000763	0	-11420	SLD 9	-11420	-8659	-63178	-15657	-15657	1	1.37	Si
0.02	0.0000112	0.000763	0	-11252	SLD 9	-11252	-8659	-63178	-15657	-15657	1	1.39	Si
0.14	0.0000112	0.000763	0	-10291	SLD 9	-10291	-8659	-63178	-15657	-15657	1	1.52	Si
0.27	0.0000114	0.000763	0	-9175	SLD 9	-9175	-8659	-63178	-15952	-15952	1	1.74	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-2199.51	20	-2378.95	122190	1494000	1806053	36000000	-2002.7	2	-2165.14	111208	1120500			Si
0.02	-2378.95	20	-2378.95	122190	1494000	1806053	36000000	-2165.14	2	-2165.14	111208	1120500			Si
0.14	-3339.11	20	-3165.47	162588	1494000	2403161	36000000	-3033.92	2	-2877.08	147775	1120500			Si
0.27	-4310.32	20	-3489.23	179217	1494000	2648950	36000000	-3911.8	2	-3170.13	162827	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili ? - 6, sezione R 50x45, asta 233

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-1186.88	SLU 83	-1186.88	-11250.95	0.13	9.48	Si
0.25	0.000763	0.052	0.000603	0.051							-3381.85	SLU 84	-4479.03	-11250.95	0.13	2.51	Si
0.26	0.000763	0.052	0.000603	0.051							-3489.29	SLU 84	-4553.04	-11250.95	0.13	2.47	Si
0.41	0.000763	0.052	0.000603	0.051							-4362.01	SLU 84	-4922.48	-11250.95	0.13	2.29	Si

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.53	0.000763	0.052	0.000603	0.051							-4922.48	SLU 84	-4922.48	-11250.95	0.13	2.29	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-1431.05	SLV FO 8	-1431.05	-10722.22	0.236	7.49	Si
0.25	0.000763	0.052	0.000603	0.051							-3145.81	SLV FO 5	-4853.21	-10722.22	0.236	2.21	Si
0.26	0.000763	0.052	0.000603	0.051							-3295.66	SLV FO 5	-4986.95	-10722.22	0.236	2.15	Si
0.41	0.000763	0.052	0.000603	0.051							-4647.5	SLV FO 9	-5720.3	-10722.22	0.236	1.87	Si
0.53	0.000763	0.052	0.000603	0.051							-5720.3	SLV FO 9	-5720.3	-10722.22	0.236	1.87	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-1151.96	SLD 8	-1151.96	-10722.22	0.236	9.31	Si
0.25	0.000763	0.052	0.000603	0.051							-2722.54	SLD 5	-3957.6	-10722.22	0.236	2.71	Si
0.26	0.000763	0.052	0.000603	0.051							-2834.06	SLD 5	-4050.83	-10722.22	0.236	2.65	Si
0.41	0.000763	0.052	0.000603	0.051							-3813.23	SLD 9	-4550.57	-10722.22	0.236	2.36	Si
0.53	0.000763	0.052	0.000603	0.051							-4550.57	SLD 9	-4550.57	-10722.22	0.236	2.36	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000114	0.000763	0	-10361	SLU 84	-10361	-8659	-63178	-15952	-15952	1	1.54	Si
0.25	0.0000114	0.000763	0	-7239	SLU 84	-7239	-8659	-63178	-15952	-15952	1	2.2	Si
0.26	0.0000114	0.000763	0	-7052	SLU 84	-7052	-8659	-63178	-15952	-15952	1	2.26	Si
0.53	0.0000129	0.000763	0	-3766	SLU 84	-3766	-8659	-63178	-18065	-18065	1	4.8	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000114	0.000763	0	-12496	SLV FO 9	-12496	-8659	-63178	-15952	-15952	1	1.28	Si
0.25	0.0000114	0.000763	0	1212	SLV FO 8	1212	8659	63178	15952	15952	1	13.16	Si
0.25	0.0000114	0.000763	0	-10466	SLV FO 9	-10466	-8659	-63178	-15952	-15952	1	1.52	Si
0.26	0.0000114	0.000763	0	1340	SLV FO 8	1340	8659	63178	15952	15952	1	11.9	Si
0.26	0.0000114	0.000763	0	-10346	SLV FO 9	-10346	-8659	-63178	-15952	-15952	1	1.54	Si
0.53	0.0000129	0.000763	0	3626	SLV FO 8	3626	8659	63178	18065	18065	1	4.98	Si
0.53	0.0000129	0.000763	0	-8252	SLV FO 9	-8252	-8659	-63178	-18065	-18065	1	2.19	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000114	0.000763	0	-9797	SLD 9	-9797	-8659	-63178	-15952	-15952	1	1.63	Si
0.25	0.0000114	0.000763	0	-7752	SLD 9	-7752	-8659	-63178	-15952	-15952	1	2.06	Si
0.26	0.0000114	0.000763	0	-7630	SLD 9	-7630	-8659	-63178	-15952	-15952	1	2.09	Si
0.53	0.0000129	0.000763	0	872	SLD 8	872	8659	63178	18065	18065	1	20.71	Si
0.53	0.0000129	0.000763	0	-5499	SLD 9	-5499	-8659	-63178	-18065	-18065	1	3.29	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-880.92	20	-880.92	45247	1494000	668780	36000000	-824.27	2	-824.27	42337	1120500			Si
0.25	-2472.89	21	-3265.37	167719	1494000	2479006	36000000	-2240.44	2	-2936.33	150819	1120500			Si
0.26	-2550.64	21	-3318.66	170456	1494000	2519463	36000000	-2309.08	2	-2982.71	153200	1120500			Si
0.53	-3584.02	21	-3584.02	184086	1494000	2720917	36000000	-3212.01	2	-3212.01	164978	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 7, sezione R 50x45, aste 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2293	SLV FO 2	0.086	2676	7976	SLV FO 2	15877	Si
0.23	0.41	0.0002	2240	SLV FO 2	0.086	2676	7792	SLV FO 2	15877	Si
2.37	0.41	0.0002	2037	SLU 84	0.017	2751	7085	SLU 84	15877	Si
4.74	0.41	0.0002	1813	SLU 84	0.02	3486	6306	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1932	SLD 2	0.07	3097	6721	SLD 2	15877	Si
0.23	0.41	0.0002	1894	SLD 2	0.07	3097	6587	SLD 2	15877	Si
2.37	0.41	0.0002	1681	SLD 1	0.07	3097	5848	SLD 1	15877	Si
4.74	0.41	0.0002	1377	SLD 1	0.079	3914	4789	SLD 1	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	1574	SLE RA 21	45574	1494000	565123	36000000	1432	SLE QP 2	41457	1120500	Si
0.23	0.41	0.00000172	1554	SLE RA 21	44995	1494000	557933	36000000	1413	SLE QP 2	40913	1120500	Si
2.37	0.41	0.00000172	1487	SLE RA 21	43037	1494000	533662	36000000	1347	SLE QP 2	38997	1120500	Si
4.74	0.41	0.00000219	1322	SLE RA 21	38029	1494000	471565	36000000	1194	SLE QP 2	34361	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 7 - 6, sezione R 50x45, asta 231

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1813	SLU 84	0.02	3486	6306	SLU 84	15877	Si
0.11	0.41	0.0002	1797	SLU 84	0.02	3486	6249	SLU 84	15877	Si
0.23	0.41	0.0006	1781	SLU 84	0.047	8813	6196	SLU 84	21866	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1377	SLD 1	0.079	3914	4789	SLD 1	15877	Si
0.11	0.41	0.0002	1359	SLD 1	0.079	3914	4728	SLD 1	15877	Si
0.23	0.41	0.0006	1343	SLD 1	0.125	9812	4672	SLD 1	25146	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000219	1322	SLE RA 21	38029	1494000	471565	36000000	1194	SLE QP 2	34361	1120500	Si
0.11	0.41	0.00000219	1310	SLE RA 21	37683	1494000	467274	36000000	1183	SLE QP 2	34045	1120500	Si
0.23	0.41	0.00000559	1299	SLE RA 21	35748	1494000	443281	36000000	1173	SLE QP 2	32295	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 6 - ?, sezione R 50x45, asta 232

Campata 4 tra i fili ? - 6, sezione R 50x45, asta 233

Campata 5 tra i fili 6 - 14, sezione R 50x45, asta 234

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1730	SLU 83	0.054	10139	6016	SLU 83	25230	Si
0.2	0.41	0.0006	1732	SLU 83	0.054	10139	6023	SLU 83	25230	Si
0.24	0.41	0.0006	1733	SLU 83	0.054	10139	6027	SLU 83	25230	Si
0.39	0.41	0.0006	1739	SLU 83	0.054	10139	6047	SLU 83	25230	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1276	SLD 1	0.134	11278	4438	SLD 1	29015	Si
0.2	0.41	0.0006	1272	SLD 3	0.134	11278	4424	SLD 3	29015	Si
0.24	0.41	0.0006	1271	SLD 3	0.134	11278	4423	SLD 3	29015	Si
0.39	0.41	0.0006	1271	SLD 3	0.134	11278	4421	SLD 3	29015	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000644	1261	SLE RA 20	34331	1494000	425710	36000000	1139	SLE QP 2	31003	1120500	Si
0.2	0.41	0.00000644	1262	SLE RA 20	34369	1494000	426173	36000000	1140	SLE QP 2	31033	1120500	Si
0.24	0.41	0.00000644	1263	SLE RA 20	34392	1494000	426458	36000000	1140	SLE QP 2	31053	1120500	Si
0.39	0.41	0.00000644	1267	SLE RA 20	34506	1494000	427873	36000000	1144	SLE QP 2	31153	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
6.38	1.1	SLU 2	ST	LT	704	-363	-61126	1	0	19	0	0	1.1	18593	792	23.46	Si
6.38	1.1	SLV FO 13	SIS	LT	7862	-4753	-47329	9	-6	19	0	0	1.1	14396	9187	1.57	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234	6.38	1.1	SLU 84	ST	BT	2.3	290983	96762	3.01	Si
219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234	6.38	1.1	SLV FO 1	SIS	BT	2.3	263096	86402	3.05	Si
219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234	6.38	1.1	SLD 1	SIS	BT	2.3	273808	77739	3.52	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-323	-96762	132.2	-8974.42	0	0	-0.09	0	1.1	6.19	1496	2060	0	14430	
0	-3245	-86402	1687.5	-23294.57	0	-2	-0.27	0.02	1.06	5.84	1496	2060	0	14430	0.07
0	-1786	-77739	920.64	-16123.36	0	-1	-0.21	0.01	1.08	5.97	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

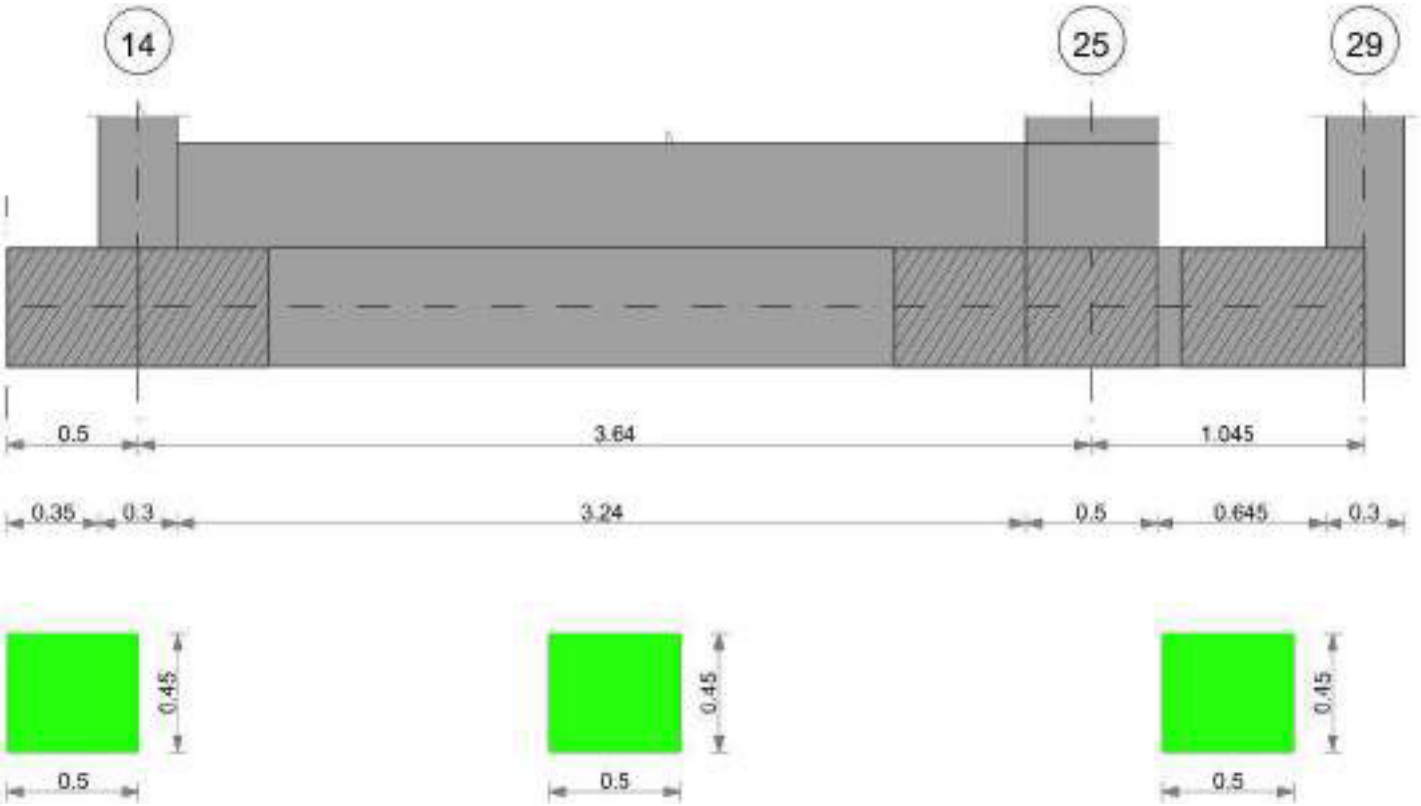
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	596	SLE RA 21	0.05	0.001	596	579	SLE RA 21	0.05	0	592	SLE FR 6	0.0033	0	SLE RA 18	Si
D	0.05	0	596	SLE RA 1	0.05	0	596	596	SLE RA 1	0.05	0	595	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	596	SLE RA 1	0.05	0	596	596	SLE RA 1	0.05	0	595	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.03	593	592	SLE RA 18	0.19	0.04	592	SLE RA 18	0.1	0.03	593	SLE RA 18	Si
D	0.19	0	SLE RA 1	0.19	0	596	595	SLE RA 1	0.19	0	596	SLE RA 1	0.1	0	595	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	596	595	SLE RA 1	0.19	0	596	SLE RA 1	0.1	0	595	SLE RA 1	Si

CORDOLO 14

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

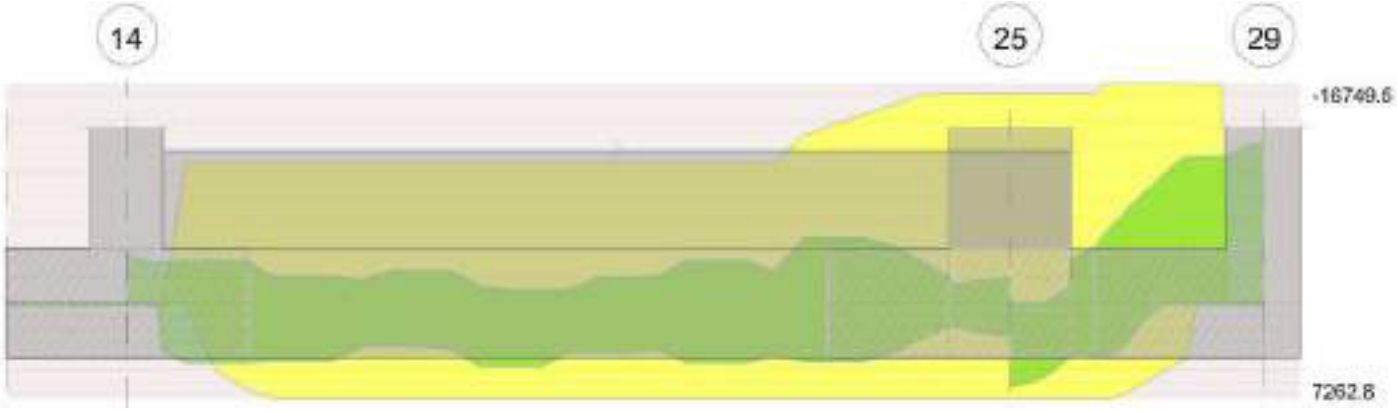
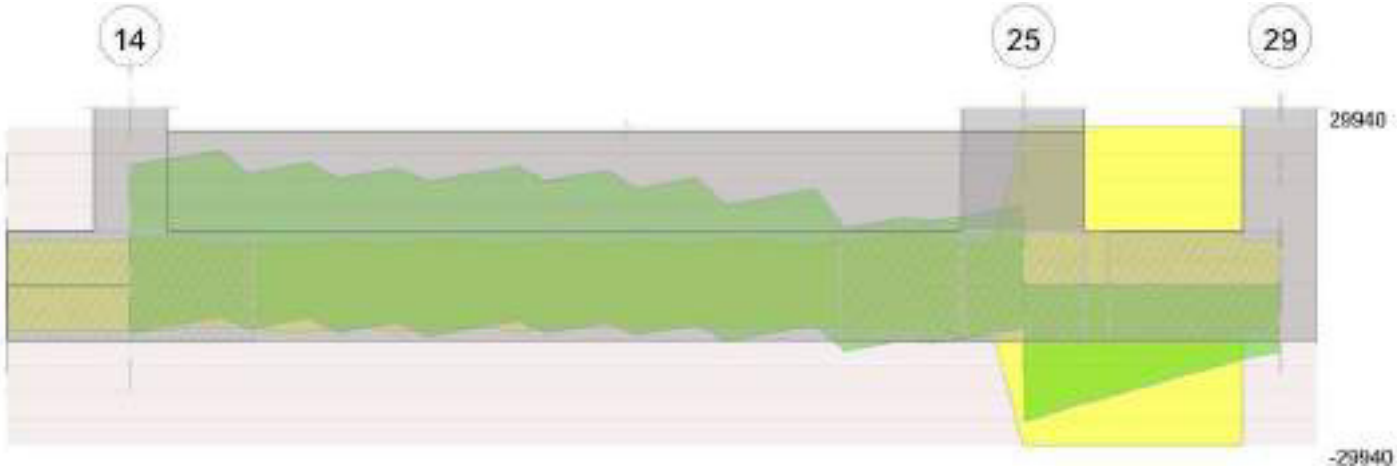


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 25 - 29, sezione R 50x45, asta 600

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	8810.1	SLU 84	4765.63	7774.71	0.12	1.63							Si
0.25	0.001166	0.052	0.000509	0.052	2017.52	SLU 84	2017.52	7774.71	0.12	3.85	1172.21	SLU 1	-2283.71	-16748.89	0.167	7.33	Si
0.52	0.001166	0.052	0.000444	0.052							-4321.33	SLU 83	-7862.5	-16747.91	0.17	2.13	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	9588.62	SLV FO 9	6265.63	7257.26	0.188	1.16							Si
0.25	0.001166	0.052	0.000509	0.052	3941.31	SLV FO 9	3941.31	7257.26	0.188	1.84	-1345.54	SLV FO 8	-3337.51	-15990.14	0.291	4.79	Si
0.52	0.001166	0.052	0.000444	0.052	-1506.6	SLV FO 9	1992.15	6356.58	0.178	3.19	-4248.16	SLV FO 8	-5957.95	-15981.15	0.293	2.68	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	7846.93	SLD 9	4818.68	7257.26	0.188	1.51							Si
0.25	0.001166	0.052	0.000509	0.052	2725.63	SLD 9	2725.63	7257.26	0.188	2.66	-129.87	SLD 8	-2502.17	-15990.14	0.291	6.39	Si
0.52	0.001166	0.052	0.000444	0.052	-2142.32	SLD 9	974.37	6356.58	0.178	6.52	-3612.44	SLD 8	-5618.52	-15981.15	0.293	2.84	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-25360	SLU 84	-25360	-7764	-63178	-29914	-29914	1	1.18	Si
0.25	0.0000213	0.000336	0	-21985	SLU 84	-21985	-7764	-63178	-29914	-29914	1	1.36	Si
0.52	0.0000213	0	0	-18410	SLU 84	-18410	-7769	-63232	-29940	-29940	1	1.63	Si
0.9	0.0000213	0	0	-13673	SLU 84	-13673	-8455	-71432	-33822	-33822	1	2.47	Si
0.91	0	0	0	-13539	SLU 84	-13539	-8455	-71432	0	-8455	1	0.62	Si
1.05	0	0	0	-11783	SLU 84	-11783	-8455	-71432	0	-8455	1	0.72	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-21032	SLV FO 13	-21032	-7764	-63178	-29914	-29914	1	1.42	Si
0.25	0.0000213	0.000336	0	-18701	SLV FO 13	-18701	-7764	-63178	-29914	-29914	1	1.6	Si
0.52	0.0000213	0	0	-16308	SLV FO 9	-16308	-7769	-63232	-29940	-29940	1	1.84	Si
0.9	0.0000213	0	0	-13387	SLV FO 9	-13387	-8455	-71432	-33822	-33822	1	2.53	Si
0.91	0	0	0	-13306	SLV FO 9	-13306	-8455	-71432	0	-8455	1	0.64	Si
1.05	0	0	0	-12258	SLV FO 9	-12258	-8455	-71432	0	-8455	1	0.69	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-19208	SLD 13	-19208	-7764	-63178	-29914	-29914	1	1.56	Si
0.25	0.0000213	0.000336	0	-16914	SLD 13	-16914	-7764	-63178	-29914	-29914	1	1.77	Si
0.52	0.0000213	0	0	-14485	SLD 13	-14485	-7769	-63232	-29940	-29940	1	2.07	Si
0.9	0.0000213	0	0	-11385	SLD 9	-11385	-8455	-71432	-33822	-33822	1	2.97	Si
0.91	0	0	0	-11300	SLD 9	-11300	-8455	-71432	0	-8455	1	0.75	Si
1.05	0	0	0	-10196	SLD 9	-10196	-8455	-71432	0	-8455	1	0.83	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	6429.34	21	3473.54	166953	1494000	2661246	36000000	5789.69	2	3114.57	149699	1120500			Si
0.25	1465.39	21	1465.39	70433	1494000	1122707	36000000	1297.88	2	1297.88	62382	1120500			Si
0.52	-3164.95	20	-5752.36	446940	1494000	13966359	36000000	-2877.38	2	-5220.33	405602	1120500			Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 14 - 25, sezione R 50x45, aste 591, 592, 593, 594, 595, 596, 597, 598, 599

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1739	SLU 83	0.02	3305	6047	SLU 83	15877	Si
0.15	0.41	0.0002	1745	SLU 83	0.02	3305	6069	SLU 83	15877	Si
1.82	0.41	0.0002	1799	SLU 83	0.02	3305	6258	SLU 83	15877	Si
3.39	0.41	0.0002	1681	SLU 83	0.02	3305	5847	SLU 83	15877	Si
3.64	0.41	0.0011	1656	SLU 83	0.09	16544	5759	SLU 83	41778	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1271	SLD 3	0.077	3713	4421	SLD 3	15877	Si
0.15	0.41	0.0002	1271	SLD 3	0.077	3713	4420	SLD 3	15877	Si
1.82	0.41	0.0002	1225	SLD 3	0.077	3713	4263	SLD 3	15877	Si
3.39	0.41	0.0002	1131	SLD 15	0.077	3713	3933	SLD 15	15877	Si
3.64	0.41	0.0011	1122	SLD 15	0.172	18380	3902	SLD 15	48045	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000207	1267	SLE RA 20	36511	1494000	452742	36000000	1144	SLE QP 2	32964	1120500	Si
0.15	0.41	0.00000207	1272	SLE RA 20	36642	1494000	454357	36000000	1148	SLE QP 2	33079	1120500	Si
1.82	0.41	0.00000207	1311	SLE RA 20	37770	1494000	468351	36000000	1182	SLE QP 2	34051	1120500	Si
3.39	0.41	0.00000207	1224	SLE RA 20	35278	1494000	437443	36000000	1102	SLE QP 2	31752	1120500	Si
3.64	0.41	0.00001067	1206	SLE RA 20	31182	1494000	386662	36000000	1085	SLE QP 2	28058	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 25 - 29, sezione R 50x45, asta 600

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
4.84	1.1	SLU 2	ST	LT	312	-381	-41517	0	-1	19	0	0	1.1	12628	493	25.62	Si
4.84	1.1	SLV FO 9	SIS	LT	1811	-7695	-43505	2	-10	19	0	0	1.1	13233	7905	1.67	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
591,592,593,594,595,596,597,598,599,600	4.84	1.1	SLU 83	ST	BT	2.3	224804	66055	3.4	Si
591,592,593,594,595,596,597,598,599,600	4.84	1.1	SLV FO 5	SIS	LT	2.3	171751	44249	3.88	Si
591,592,593,594,595,596,597,598,599,600	4.84	1.1	SLD 8	SIS	BT	2.3	202618	45499	4.45	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-296	-66055	-47.84	-3077.58	0	0	-0.05	0	1.1	4.74	1496	2060	0	14430	
0	-7677	-44249	3644.85	-4865.82	0	-10	-0.11	0.08	0.94	4.62	1496	2060	37	0	0.07
0	3789	-45499	-2006.22	-2702.15	0	5	-0.06	-0.04	1.01	4.72	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Nγ	Sq	Sc	Sγ	Dq	Dc	Dγ	Iq	Ic	Iγ	Bq	Bc	Bγ	Gq	Gc	Gγ	Pq	Pc	Pγ	Eq	Ec	Eγ
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.15	1.16	0.92	1.16	1.27	1	0.71	0.7	0.58	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

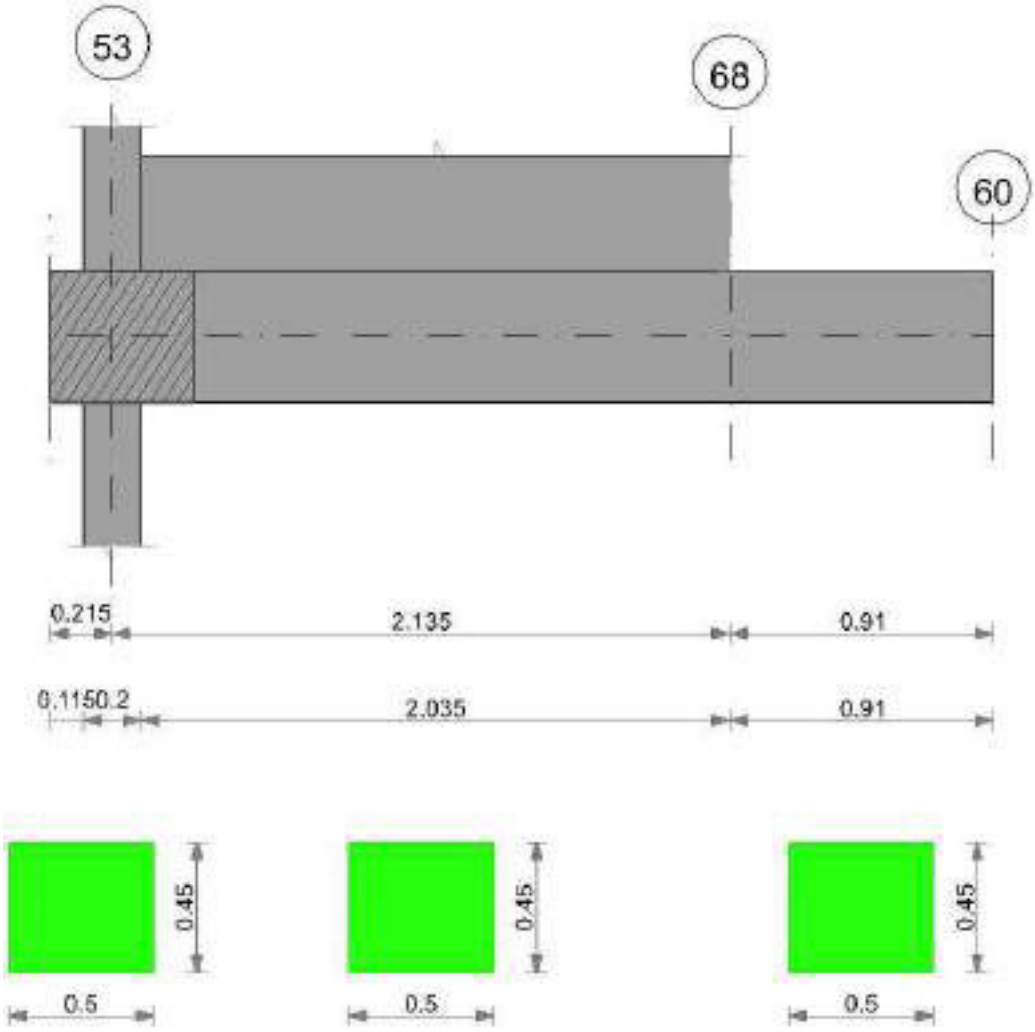
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	606	SLE RA 20	0.05	0	606	596	SLE RA 20	0.05	0	605	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	606	SLE RA 1	0.05	0	606	606	SLE RA 1	0.05	0	605	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	606	SLE RA 1	0.05	0	606	606	SLE RA 1	0.05	0	605	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	606	605	SLE RA 18	0.19	0	605	SLE RA 10	0.1	0	605	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	606	605	SLE RA 1	0.19	0	606	SLE RA 1	0.1	0	605	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	606	605	SLE RA 1	0.19	0	606	SLE RA 1	0.1	0	605	SLE RA 1	Si

CORDOLO 15

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

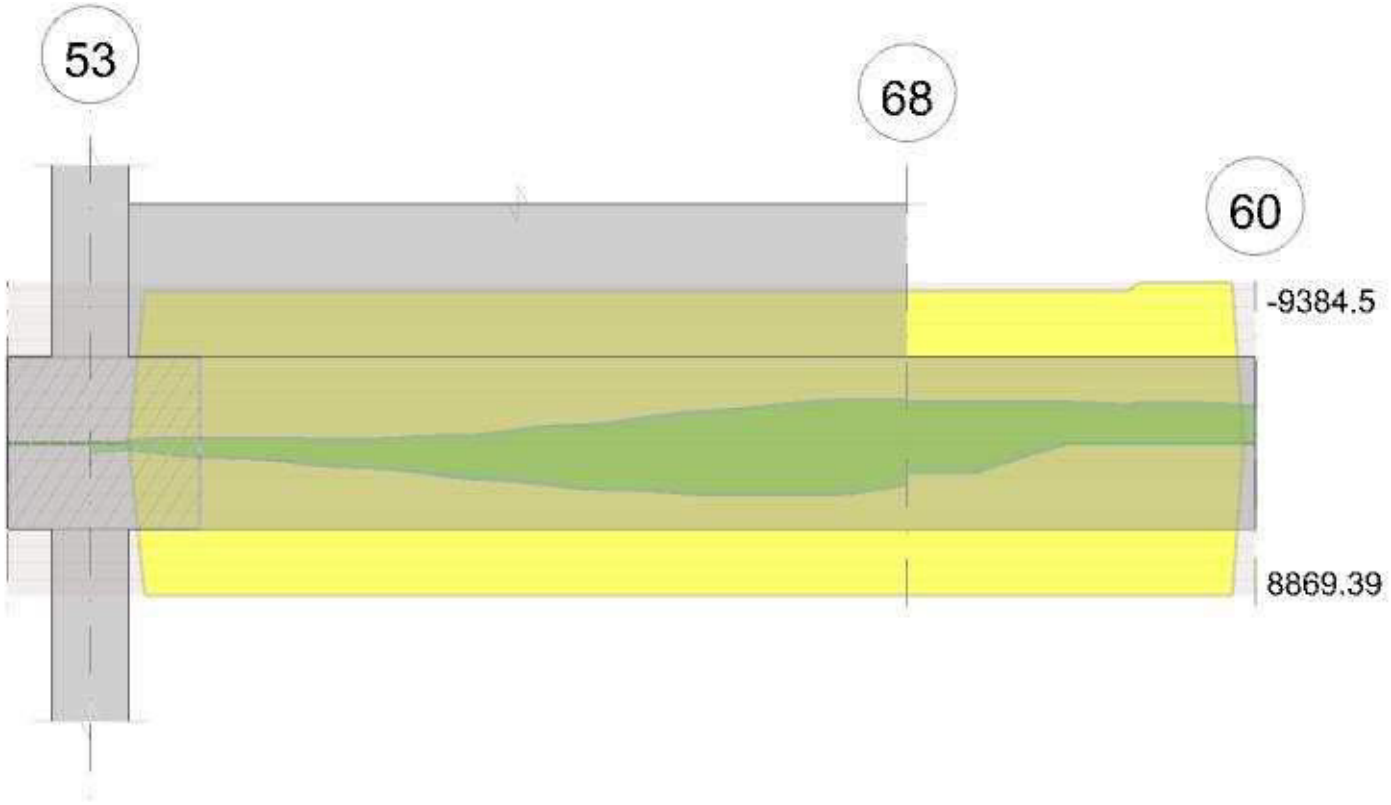
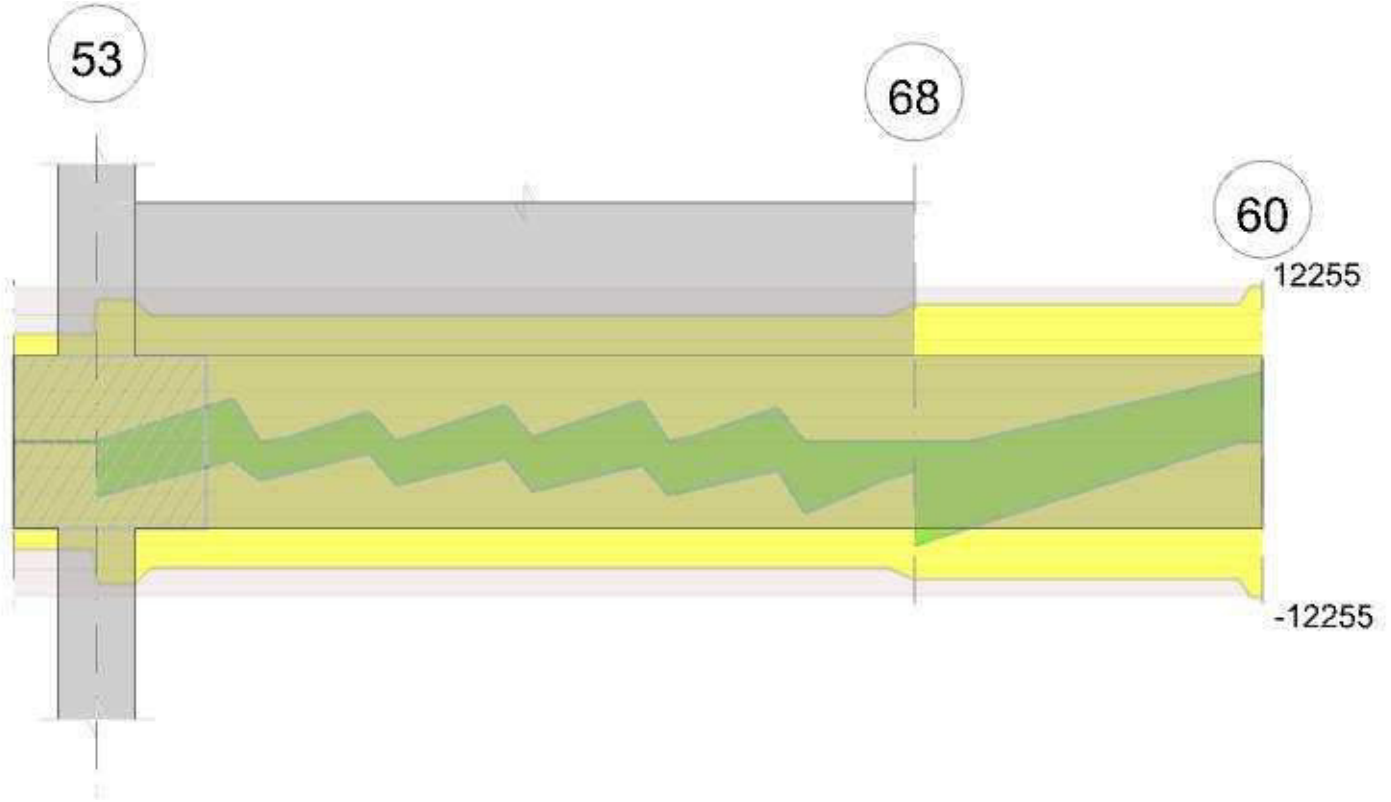


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 68 - 60, sezione R 50x45, asta 394

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053							-474.55	SLU 83	-1496.76	-9384.5	0.124	6.27	Si
0.45	0.000628	0.053	0.000628	0.053							-2288.15	SLU 84	-2342.03	-9384.5	0.124	4.01	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053	1711.95	SLV FO 14	1711.95	8869.39	0.216	5.18	-2354.59	SLV FO 3	-2425.05	-8869.39	0.216	3.66	Si
0.45	0.000628	0.053	0.000628	0.053							-2179.91	SLV FO 2	-2362.61	-8869.39	0.216	3.75	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053	853.65	SLD 14	853.65	8869.39	0.216	10.39	-1496.3	SLD 3	-1823.93	-8869.39	0.216	4.86	Si
0.45	0.000628	0.053	0.000628	0.053							-1906.83	SLD 2	-1917.21	-8869.39	0.216	4.63	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-6859	SLU 84	-6859	-8105	-63019	-10812	-10812	1	1.58	Si
0.45	0.0000077	0.000628	0	-1159	SLU 84	-1159	-8105	-63019	-10812	-10812	1	9.33	Si
0.91	0.0000077	0	0	4526	SLU 83	4526	8455	71432	12255	12255	1	2.71	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-8151	SLV FO 14	-8151	-8105	-63019	-10812	-10812	1	1.33	Si
0.45	0.0000077	0.000628	0	2209	SLV FO 3	2209	8105	63019	10812	10812	1	4.89	Si
0.45	0.0000077	0.000628	0	-3736	SLV FO 14	-3736	-8105	-63019	-10812	-10812	1	2.89	Si
0.91	0.0000077	0	0	5446	SLV FO 3	5446	8455	71432	12255	12255	1	2.25	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-6636	SLD 14	-6636	-8105	-63019	-10812	-10812	1	1.63	Si
0.45	0.0000077	0.000628	0	943	SLD 3	943	8105	63019	10812	10812	1	11.47	Si
0.45	0.0000077	0.000628	0	-2470	SLD 14	-2470	-8105	-63019	-10812	-10812	1	4.38	Si
0.91	0.0000077	0	0	4402	SLD 3	4402	8455	71432	12255	12255	1	2.78	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-345.64	20	-1096.29	56646	1494000	849690	36000000	-321.32	2	-1005.02	51930	1120500			Si
0.45	-1678.76	21	-1719.06	88825	1494000	1332369	36000000	-1533.48	2	-1568.5	81045	1120500			Si
0.91	-1126.24	21	-1568.23	-92932	1494000	0	36000000	-1020.52	2	-1427.31	-84581	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 53 - 68, sezione R 50x45, aste 388, 389, 390, 391, 392, 393

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1826	SLU 83	0.03	5612	6353	SLU 83	15877	Si
0.1	0.41	0.0004	1827	SLU 83	0.03	5612	6354	SLU 83	15877	Si
1.07	0.41	0.0004	1819	SLU 83	0.03	5612	6327	SLU 83	15877	Si
2.14	0.41	0.0004	1765	SLU 83	0.033	6137	6140	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1284	SLD 16	0.1	6270	4466	SLD 16	15900	Si
0.1	0.41	0.0004	1289	SLD 16	0.1	6270	4483	SLD 16	15900	Si
1.07	0.41	0.0004	1326	SLD 16	0.1	6270	4613	SLD 16	15900	Si
2.14	0.41	0.0004	1310	SLD 15	0.105	6852	4557	SLD 15	17409	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000353	1334	SLE RA 20	37698	1494000	467455	36000000	1206	SLE QP 2	34102	1120500	Si
0.1	0.41	0.00000353	1334	SLE RA 20	37703	1494000	467518	36000000	1207	SLE QP 2	34106	1120500	Si
1.07	0.41	0.00000353	1328	SLE RA 20	37530	1494000	465368	36000000	1201	SLE QP 2	33945	1120500	Si
2.14	0.41	0.00000387	1288	SLE RA 20	36250	1494000	449501	36000000	1165	SLE QP 2	32790	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 68 - 60, sezione R 50x45, asta 394

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
3.05	1.1	SLU 2	ST	LT	-240	-225	-28062	0	0	19	0	0	1.1	8536	329	25.93	Si
3.05	1.1	SLV FO 6	SIS	LT	-1268	-5275	-27716	-3	-11	19	0	0	1.1	8431	5425	1.55	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
388,389,390,391,392,393,394	3.05	1.1	SLU 84	ST	BT	2.3	141317	44425	3.18	Si
388,389,390,391,392,393,394	3.05	1.1	SLV FO 6	SIS	LT	2.3	101990	27716	3.68	Si
388,389,390,391,392,393,394	3.05	1.1	SLD 14	SIS	BT	2.3	137019	32363	4.23	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-366	-226	-44425	694.34	-754.82	0	0	-0.02	0.02	1.07	3.01	1496	2060	0	14430	

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-1268	-5275	-27716	2874.08	-1264.36	-3	-11	-0.05	0.1	0.89	2.95	1496	2060	37	0	0.07
1857	-938	-32363	853.52	675.84	3	-2	0.02	0.03	1.05	3	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.23	1.23	0.88	1.16	1.27	1	0.68	0.68	0.55	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

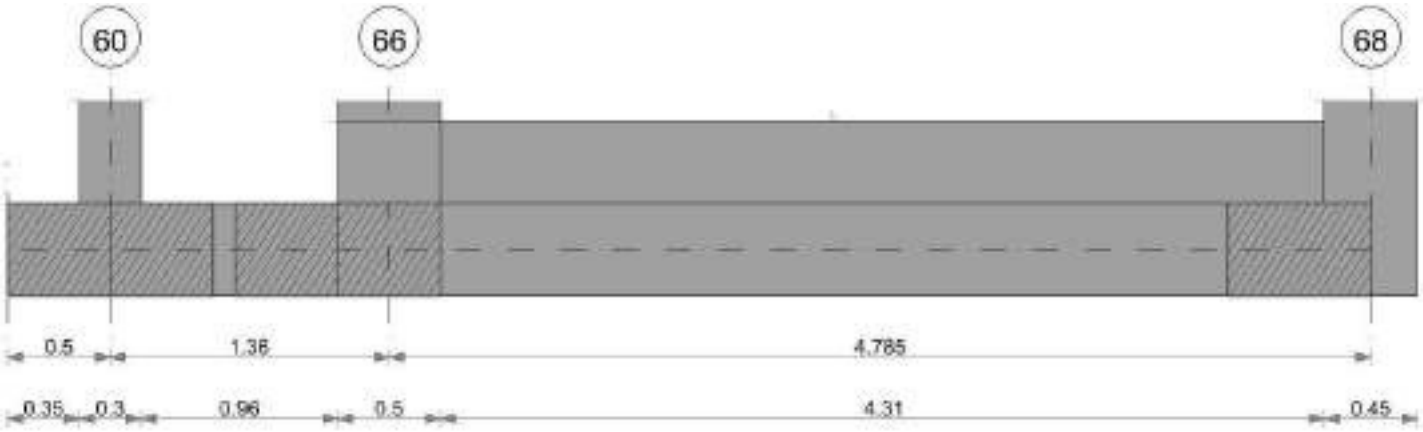
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	607	SLE RA 21	0.05	0.001	607	613	SLE RA 21	0.05	0	613	SLE FR 3	0.0033	0	SLE FR 3	Si
D	0.05	0	614	SLE RA 1	0.05	0	614	614	SLE RA 1	0.05	0	613	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	614	SLE RA 1	0.05	0	614	614	SLE RA 1	0.05	0	613	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	613	607	SLE RA 21	0.19	0	614	SLE RA 1	0.1	0.02	613	SLE FR 3	Si
D	0.19	0	SLE RA 1	0.19	0	614	613	SLE RA 1	0.19	0	614	SLE RA 1	0.1	0	613	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	614	613	SLE RA 1	0.19	0	614	SLE RA 1	0.1	0	613	SLE RA 1	Si

CORDOLO 16

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

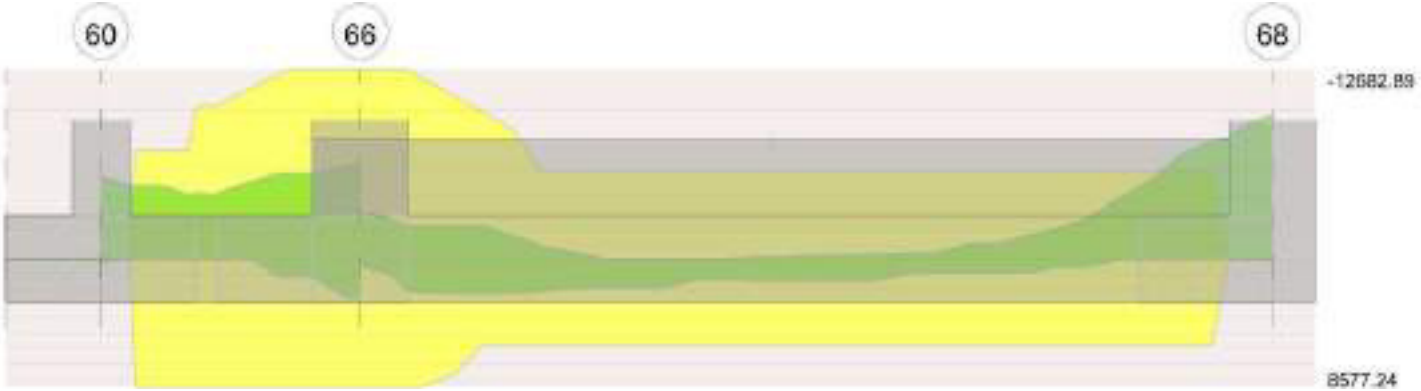
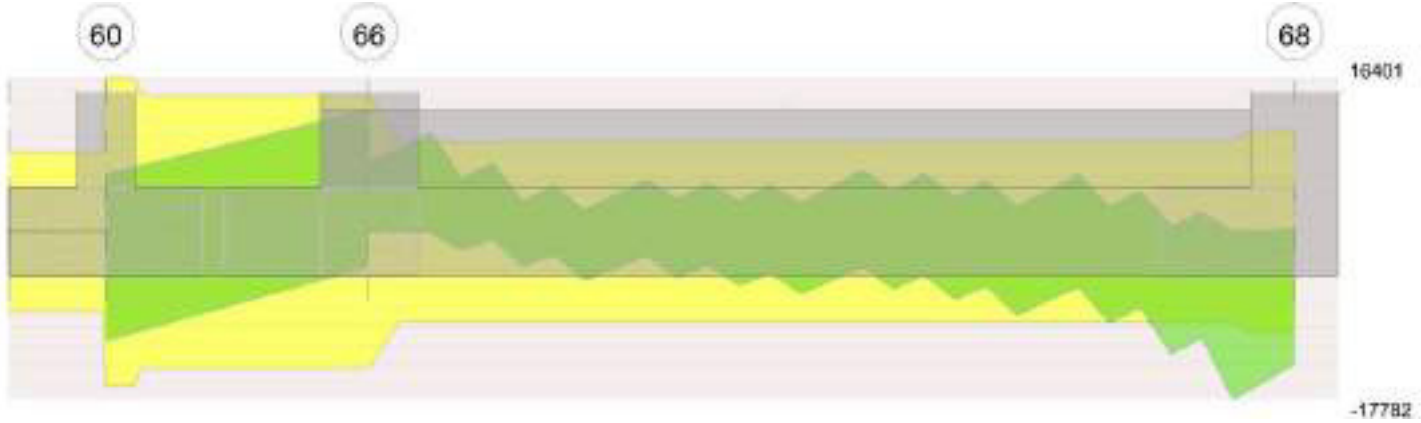


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 60 - 66, sezione R 50x45, asta 555

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000765	0.052	0.000603	0.051							-4285.84	SLU 83	-4385.05	-11282.22	0.13	2.57	Si
1.11	0.000911	0.052	0.000603	0.051							-3312.93	SLU 83	-3843.79	-13290.66	0.141	3.46	Si
1.36	0.000911	0.052	0.000603	0.051							-2269.5	SLU 83	-2269.5	-13290.66	0.141	5.86	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000765	0.052	0.000603	0.051							-3862.82	SLV FO 11	-4723.63	-10729.36	0.236	2.27	Si
1.11	0.000911	0.052	0.000603	0.051	1193.14	SLV FO 6	1193.14	8575.42	0.206	7.19	-5719.85	SLV FO 11	-5719.85	-12682.89	0.256	2.22	Si
1.36	0.000911	0.052	0.000603	0.051	3309.09	SLV FO 6	2659.29	8575.42	0.206	3.22	-6468.49	SLV FO 11	-6358.2	-12682.89	0.256	1.99	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000765	0.052	0.000603	0.051							-3417.27	SLD 11	-3797.53	-10729.36	0.236	2.83	Si
1.11	0.000911	0.052	0.000603	0.051							-4123.11	SLD 11	-4123.11	-12682.89	0.256	3.08	Si
1.36	0.000911	0.052	0.000603	0.051	1047.69	SLD 6	574.36	8575.42	0.206	14.93	-4207.09	SLD 11	-4207.09	-12682.89	0.256	3.01	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000103	0	0	-3983	SLU 83	-3983	-8455	-71432	-16401	-16401	1	4.12	Si
0.15	0.0000103	0	0	-2773	SLU 77	-2773	-8455	-71432	-16401	-16401	1	5.92	Si
0.68	0.0000103	0.000509	0	1651	SLU 82	1651	7769	63231	14518	14518	1	8.79	Si
1.11	0.0000103	0.000787	0	5179	SLU 84	5179	8751	63248	14521	14521	1	2.8	Si
1.36	0.0000103	0.000896	0	7259	SLU 84	7259	9139	63248	14521	14521	1	2	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000103	0	0	6129	SLV FO 6	6129	8455	71432	16401	16401	1	2.68	Si
0	0.0000103	0	0	-11606	SLV FO 11	-11606	-8455	-71432	-16401	-16401	1	1.41	Si
0.15	0.0000103	0	0	6859	SLV FO 6	6859	8455	71432	16401	16401	1	2.39	Si
0.15	0.0000103	0	0	-10710	SLV FO 11	-10710	-8455	-71432	-16401	-16401	1	1.53	Si
0.68	0.0000103	0.000509	0	9497	SLV FO 6	9497	7769	63231	14518	14518	1	1.53	Si
0.68	0.0000103	0.000509	0	-7593	SLV FO 11	-7593	-7769	-63231	-14518	-14518	1	1.91	Si
1.11	0.0000103	0.000603	0	11729	SLV FO 6	11729	8014	63336	14542	14542	1	1.24	Si
1.11	0.0000103	0.000787	0	-5107	SLV FO 11	-5107	-8751	-63248	-14521	-14521	1	2.84	Si
1.36	0.0000103	0.000603	0	13068	SLV FO 6	13068	8014	63336	14542	14542	1	1.11	Si
1.36	0.0000103	0.000896	0	-3667	SLV FO 11	-3667	-9139	-63248	-14521	-14521	1	3.96	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000103	0	0	2028	SLD 6	2028	8455	71432	16401	16401	1	8.09	Si
0	0.0000103	0	0	-7505	SLD 11	-7505	-8455	-71432	-16401	-16401	1	2.19	Si
0.15	0.0000103	0	0	2795	SLD 6	2795	8455	71432	16401	16401	1	5.87	Si
0.15	0.0000103	0	0	-6646	SLD 11	-6646	-8455	-71432	-16401	-16401	1	2.47	Si
0.68	0.0000103	0.000509	0	5538	SLD 6	5538	7769	63231	14518	14518	1	2.62	Si
0.68	0.0000103	0.000509	0	-3634	SLD 11	-3634	-7769	-63231	-14518	-14518	1	4	Si
1.11	0.0000103	0.000787	0	7824	SLD 6	7824	8751	63248	14521	14521	1	1.86	Si
1.11	0.0000103	0.000787	0	-1201	SLD 11	-1201	-8751	-63248	-14521	-14521	1	12.09	Si
1.36	0.0000103	0.000603	0	9183	SLD 6	9183	8014	63336	14542	14542	1	1.58	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-2746.79	21	-2746.79	-162773	1494000	0	36000000	-2474.25	2	-2474.25	-146622	1120500			Si
0.15	-2993.75	21	-3170.13	-187860	1494000	0	36000000	-2712.64	2	-2889.09	-171206	1120500			Si
0.68	-3150.37	20	-3220.74	165375	1494000	2443667	36000000	-2890.32	2	-2947.05	151322	1120500			Si
1.11	-2443.45	20	-2829.88	144176	1494000	2101744	36000000	-2263.35	2	-2608.41	132893	1120500			Si
1.36	-1682.6	20	-1682.6	85725	1494000	1249666	36000000	-1579.7	2	-1579.7	80482	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 60 - 66, sezione R 50x45, asta 555

Campata 3 tra i fili 66 - 68, sezione R 50x45, aste 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1708	SLU 83	0.044	8176	5939	SLU 83	20259	Si
0.25	0.41	0.0003	1744	SLU 83	0.029	5423	6065	SLU 83	15877	Si
2.39	0.41	0.0003	1982	SLU 84	0.029	5423	6892	SLU 84	15877	Si
4.56	0.41	0.0003	2150	SLV FO 14	0.119	5224	7477	SLV FO 14	15877	Si
4.79	0.41	0.0003	2227	SLV FO 14	0.119	5224	7746	SLV FO 14	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1241	SLD 14	0.121	9108	4317	SLD 14	23297	Si
0.25	0.41	0.0003	1275	SLD 14	0.098	6061	4433	SLD 14	15877	Si
2.39	0.41	0.0003	1574	SLD 14	0.098	6061	5475	SLD 14	15877	Si
4.56	0.41	0.0003	1842	SLD 14	0.098	6061	6407	SLD 14	15877	Si
4.79	0.41	0.0003	1902	SLD 14	0.098	6061	6615	SLD 14	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000517	1245	SLE RA 20	34464	1494000	427351	36000000	1127	SLE QP 2	31193	1120500	Si
0.25	0.41	0.00000341	1272	SLE RA 20	36009	1494000	446516	36000000	1152	SLE QP 2	32600	1120500	Si
2.39	0.41	0.00000341	1447	SLE RA 21	40967	1494000	507989	36000000	1313	SLE QP 2	37179	1120500	Si
4.56	0.41	0.00000341	1553	SLE RA 21	43965	1494000	545167	36000000	1415	SLE QP 2	40044	1120500	Si
4.79	0.41	0.00000341	1591	SLE RA 21	45043	1494000	558532	36000000	1450	SLE QP 2	41045	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
6.37	1.1	SLU 5	ST	LT	-948	-631	-58595	-1	-1	19	0	0	1.1	17823	1139	15.64	Si
6.37	1.1	SLV FO 2	SIS	LT	-7772	-3784	-47025	-9	-5	19	0	0	1.1	14304	8645	1.65	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
555,556,557,558,559,560,561,562,563,564,565,566,567,568	6.37	1.1	SLU 84	ST	BT	2.3	288629	91235	3.16	Si
555,556,557,558,559,560,561,562,563,564,565,566,567,568	6.37	1.1	SLV FO 14	SIS	BT	2.3	257414	78288	3.29	Si
555,556,557,558,559,560,561,562,563,564,565,566,567,568	6.37	1.1	SLD 14	SIS	BT	2.3	269646	71551	3.77	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-739	-91235	296.45	8998.53	0	0	0.1	0	1.09	6.17	1496	2060	0	14430	
0	-4380	-78288	2124.23	21484.69	0	-3	0.27	0.03	1.05	5.82	1496	2060	0	14430	0.07
0	-2577	-71551	1227.67	15072.78	0	-2	0.21	0.02	1.07	5.95	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	616	SLE RA 20	0.05	0.001	616	629	SLE RA 20	0.05	0	616	SLE RA 10	0.0033	0	SLE RA 1	Si
D	0.05	0	629	SLE RA 1	0.05	0	629	629	SLE RA 1	0.05	0	616	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	629	SLE RA 1	0.05	0	629	629	SLE RA 1	0.05	0	616	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	629	616	SLE RA 20	0.19	0.01	616	SLE RA 10	0.1	0	629	SLE RA 1	Si

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
D	0.19	0	SLE RA 1	0.19	0	629	616	SLE RA 1	0.19	0	629	SLE RA 1	0.1	0	616	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	629	616	SLE RA 1	0.19	0	629	SLE RA 1	0.1	0	616	SLE RA 1	Si

CORDOLO 17

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

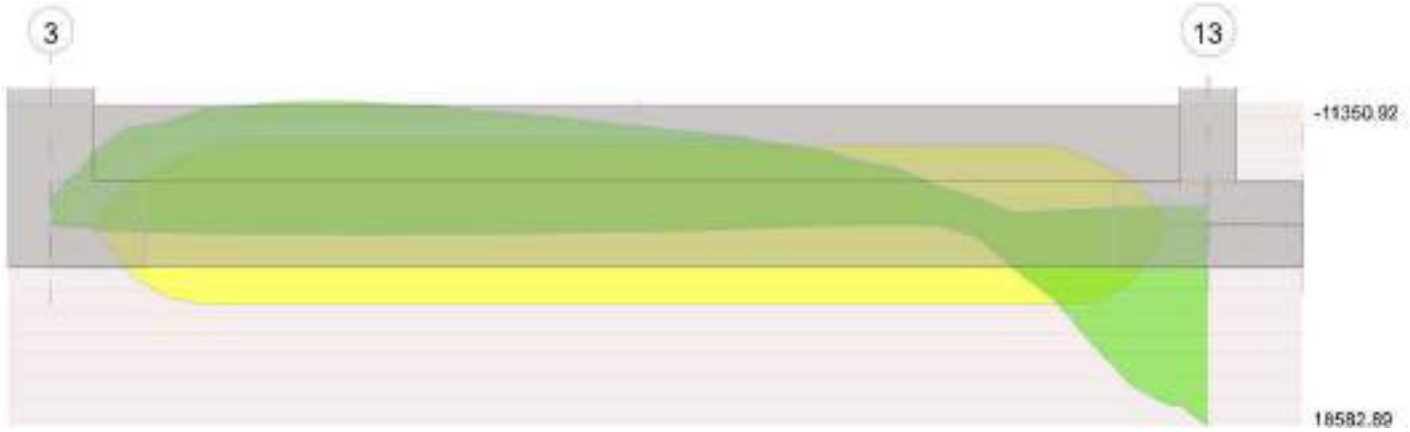


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 3 - 13, sezione R 70x45, aste 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
3.08	0.41	0.0003	3219	SLV FO 5	0.119	5189	8307	SLV FO 5	15877	Si
6.01	0.41	0.0003	4266	SLV FO 5	0.119	5189	11009	SLV FO 5	15877	Si
6.16	0.41	0.0003	4281	SLV FO 5	0.119	5189	11048	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4373	SLD 5	0.098	6020	11284	SLD 5	15877	Si
0.23	0.41	0.0003	4105	SLD 5	0.098	6020	10592	SLD 5	15877	Si
3.08	0.41	0.0003	2383	SLD 5	0.098	6020	6151	SLD 5	15877	Si
6.01	0.41	0.0003	3232	SLD 5	0.098	6020	8341	SLD 5	15877	Si
6.16	0.41	0.0003	3249	SLD 5	0.098	6020	8383	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000339	2843	SLE RA 21	80504	1494000	998245	36000000	2569	SLE QP 2	72760	1120500	Si
0.23	0.41	0.00000339	2667	SLE RA 21	75517	1494000	936412	36000000	2409	SLE QP 2	68218	1120500	Si
3.08	0.41	0.00000339	1574	SLE RA 21	44582	1494000	552814	36000000	1412	SLE QP 2	39999	1120500	Si
6.01	0.41	0.00000339	2268	SLE RA 21	64213	1494000	796242	36000000	2040	SLE QP 2	57758	1120500	Si
6.16	0.41	0.00000339	2288	SLE RA 21	64784	1494000	803324	36000000	2058	SLE QP 2	58276	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
6.38	1.3	SLU 26	ST	LT	1743	-457	-66655	1	0	19	0	0	1.1	20275	1802	11.25	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184	6.38	1.3	SLU 84	ST	BT	2.3	264607	90300	2.93	Si
169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184	6.38	1.3	SLD 5	SIS	BT	2.3	234595	92663	2.53	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-426	-90300	12767.98	-3961.92	0	0	-0.04	0.14	1.02	6.29	1496	2060	0	14430	
0	10070	-5195	-6374.42	7754.48	0	63	1.49	-1.23	-1.15	3.39	1496	2060	0	14430	0.07
0	-6337	-92663	16844.03	-8581.74	0	-4	-0.09	0.18	0.94	6.19	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.03	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

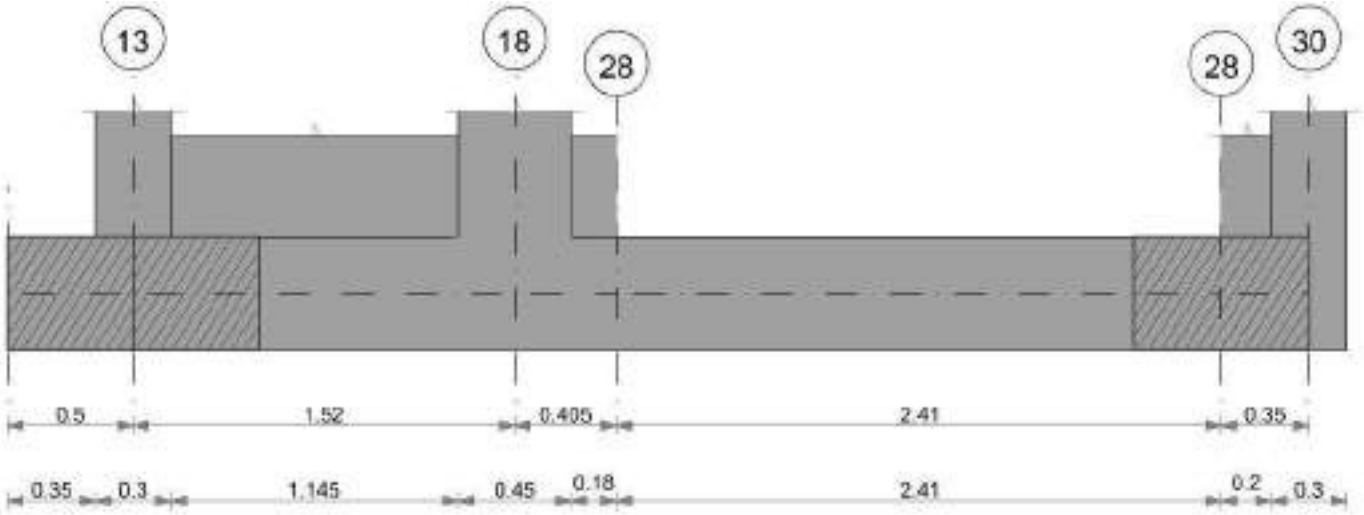
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0	370	SLE RA 21	0.05	0	370	354	SLE RA 21	0.05	0	370	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	370	SLE RA 1	0.05	0	370	370	SLE RA 1	0.05	0	370	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	370	SLE RA 1	0.05	0	370	370	SLE RA 1	0.05	0	370	SLE RA 1	0.0033	0	SLE RA 1	Si

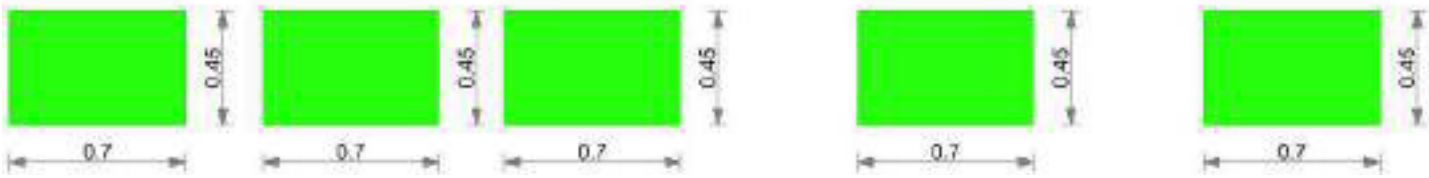
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	370	354	SLE RA 21	0.19	0	370	SLE RA 1	0.1	0	370	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	370	354	SLE RA 1	0.19	0	370	SLE RA 1	0.1	0	370	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	370	354	SLE RA 1	0.19	0	370	SLE RA 1	0.1	0	370	SLE RA 1	Si

CORDOLO 18

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

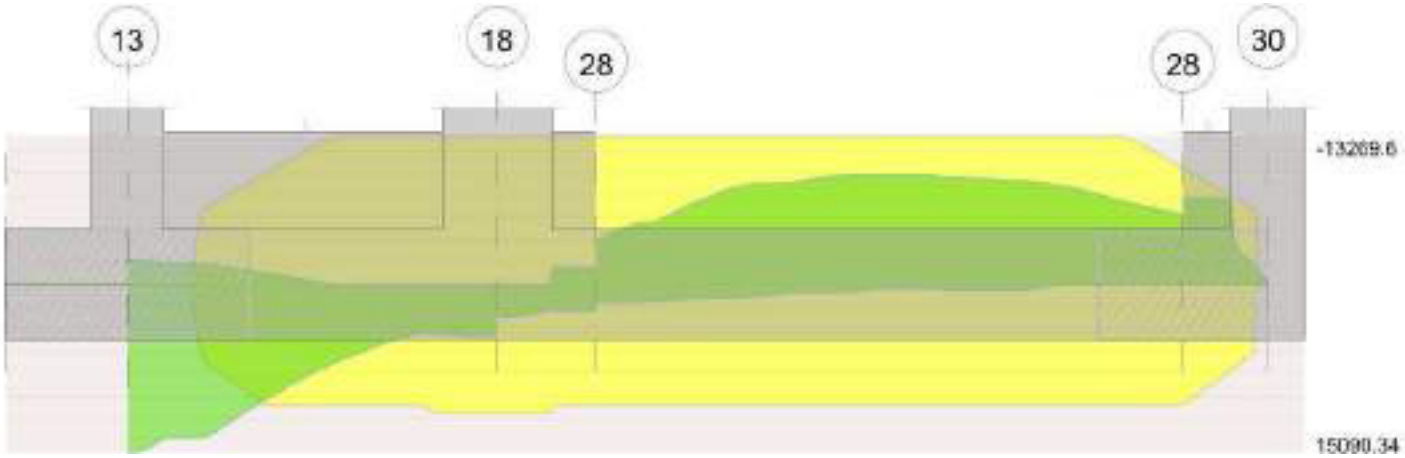


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 4 tra i fili 28 - 28, sezione R 70x45, aste 313, 314, 315, 316, 317, 318

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	144.83	SLU 71	144.83	11583.13	0.12	79.98	65.21	SLU 10	-1896.26	-13985.55	0.125	7.38	Si
1.12	0.000942	0.053	0.000763	0.052							-7332.27	SLU 84	-7624.59	-13985.55	0.125	1.83	Si
1.21	0.000942	0.053	0.000763	0.052							-7624.59	SLU 84	-7624.59	-13985.55	0.125	1.83	Si
2.41	0.000734	0.053	0.000763	0.052							-5605.54	SLU 84	-5692.12	-11131.59	0.115	1.96	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	1605.51	SLV FO 12	1605.51	10865.3	0.201	6.77	-1394.03	SLV FO 5	-3839.27	-13269.6	0.224	3.46	Si
1.12	0.000942	0.053	0.000763	0.052	-77.25	SLV FO 12	470.61	10865.3	0.201	23.09	-9613	SLV FO 5	-9782.24	-13269.6	0.224	1.36	Si
1.21	0.000942	0.053	0.000763	0.052	-298.43	SLV FO 12	380.11	10865.3	0.201	28.58	-9782.24	SLV FO 5	-9782.24	-13269.6	0.224	1.36	Si
2.41	0.000734	0.053	0.000763	0.052							-5062.9	SLV FO 9	-6281.15	-10443.74	0.2	1.66	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	914.2	SLD 12	914.2	10865.3	0.201	11.89	-702.71	SLD 5	-2628.09	-13269.6	0.224	5.05	Si
1.12	0.000942	0.053	0.000763	0.052							-7388.15	SLD 5	-7568.11	-13269.6	0.224	1.75	Si
1.21	0.000942	0.053	0.000763	0.052							-7568.11	SLD 5	-7568.11	-13269.6	0.224	1.75	Si
2.41	0.000734	0.053	0.000763	0.052							-4443.72	SLD 9	-5106.2	-10443.74	0.2	2.05	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000763	0	-12987	SLU 84	-12987	-10870	-88449	-30506	-30506	1	2.35	Si
1.21	0.0000218	0.000942	0	-3325	SLU 83	-3325	-11611	-88226	-30430	-30430	1	9.15	Si
2.41	0.0000218	0.000734	0	1650	SLU 73	1650	10851	88226	30430	30430	1	18.44	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-16272	SLV FO 9	-16272	-11611	-88226	-30430	-30430	1	1.87	Si
1.21	0.0000218	0.000942	0	-3928	SLV FO 16	-3928	-11611	-88226	-30430	-30430	1	7.75	Si
2.41	0.0000218	0.000734	0	9751	SLV FO 5	9751	10851	88226	30430	30430	1	3.12	Si
2.41	0.0000218	0.000734	0	-7670	SLV FO 12	-7670	-10851	-88226	-30430	-30430	1	3.97	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-12707	SLD 9	-12707	-11611	-88226	-30430	-30430	1	2.39	Si
1.21	0.0000218	0.000942	0	-3208	SLD 16	-3208	-11611	-88226	-30430	-30430	1	9.49	Si
2.41	0.0000218	0.000734	0	5710	SLD 5	5710	10851	88226	30430	30430	1	5.33	Si
2.41	0.0000218	0.000734	0	-3629	SLD 12	-3629	-10851	-88226	-30430	-30430	1	8.39	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	107.26	8	107.26	3949	1494000	59932	36000000	107.18	1	107.18	3946	1120500			Si
1.21	-5588.41	21	-5588.41	208161	1494000	3085921	36000000	-5040.33	2	-5040.33	187746	1120500			Si
2.41	-4106.24	21	-4171.63	156682	1494000	2355494	36000000	-3722.37	2	-3774.82	141779	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 13 - 18, sezione R 70x45, aste 307, 308, 309, 310

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4281	SLV FO 5	0.123	5511	11048	SLV FO 5	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.15	0.41	0.0004	4291	SLV FO 5	0.123	5511	11074	SLV FO 5	15877	Si
0.76	0.41	0.0004	4219	SLV FO 5	0.123	5511	10888	SLV FO 5	15877	Si
1.29	0.41	0.0004	4062	SLV FO 5	0.123	5511	10484	SLV FO 5	15877	Si
1.52	0.41	0.0004	3983	SLV FO 5	0.126	5794	10278	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3249	SLD 5	0.101	6395	8383	SLD 5	15877	Si
0.15	0.41	0.0004	3261	SLD 5	0.101	6395	8414	SLD 5	15877	Si
0.76	0.41	0.0004	3227	SLD 5	0.101	6395	8327	SLD 5	15877	Si
1.29	0.41	0.0004	3124	SLD 5	0.101	6395	8061	SLD 5	15877	Si
1.52	0.41	0.0004	3068	SLD 5	0.104	6725	7919	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000036	2288	SLE RA 21	64602	1494000	801070	36000000	2058	SLE QP 2	58113	1120500	Si
0.15	0.41	0.0000036	2304	SLE RA 21	65068	1494000	806844	36000000	2073	SLE QP 2	58535	1120500	Si
0.76	0.41	0.0000036	2316	SLE RA 21	65402	1494000	810989	36000000	2084	SLE QP 2	58845	1120500	Si
1.29	0.41	0.0000036	2272	SLE RA 21	64169	1494000	795697	36000000	2044	SLE QP 2	57733	1120500	Si
1.52	0.41	0.00000379	2243	SLE RA 21	63170	1494000	783308	36000000	2017	SLE QP 2	56829	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 18 - 28, sezione R 70x45, aste 311, 312

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3983	SLV FO 5	0.126	5794	10278	SLV FO 5	15877	Si
0.2	0.41	0.0004	3878	SLV FO 5	0.126	5794	10007	SLV FO 5	15877	Si
0.23	0.41	0.0004	3865	SLV FO 5	0.126	5794	9975	SLV FO 5	15877	Si
0.41	0.41	0.0007	3769	SLV FO 5	0.172	10865	9725	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3068	SLD 5	0.104	6725	7919	SLD 5	15877	Si
0.2	0.41	0.0004	2994	SLD 5	0.104	6725	7727	SLD 5	15877	Si
0.23	0.41	0.0004	2986	SLD 5	0.104	6725	7705	SLD 5	15877	Si
0.41	0.41	0.0007	2915	SLD 5	0.142	12654	7523	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000379	2243	SLE RA 21	63170	1494000	783308	36000000	2017	SLE QP 2	56829	1120500	Si
0.2	0.41	0.00000379	2201	SLE RA 21	62002	1494000	768820	36000000	1980	SLE QP 2	55770	1120500	Si
0.23	0.41	0.00000379	2196	SLE RA 21	61856	1494000	767017	36000000	1975	SLE QP 2	55639	1120500	Si
0.41	0.41	0.00000725	2153	SLE RA 21	58028	1494000	719543	36000000	1936	SLE QP 2	52185	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 28 - 28, sezione R 70x45, aste 313, 314, 315, 316, 317, 318

Campata 5 tra i fili 28 - 30, sezione R 70x45, asta 319

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3848	SLV FO 9	0.172	10865	9932	SLV FO 9	15877	Si
0.18	0.41	0.0007	3986	SLV FO 9	0.172	10865	10287	SLV FO 9	15877	Si
0.2	0.41	0.0007	4007	SLV FO 9	0.172	10865	10342	SLV FO 9	15877	Si
0.35	0.41	0.0007	4137	SLV FO 9	0.172	10865	10676	SLV FO 9	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2985	SLD 9	0.142	12654	7702	SLD 9	15877	Si
0.18	0.41	0.0007	3091	SLD 9	0.142	12654	7978	SLD 9	15877	Si
0.2	0.41	0.0007	3108	SLD 9	0.142	12654	8020	SLD 9	15877	Si
0.35	0.41	0.0007	3209	SLD 9	0.142	12654	8281	SLD 9	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000725	2227	SLE RA 21	60039	1494000	744480	36000000	1998	SLE QP 2	53872	1120500	Si
0.18	0.41	0.00000725	2307	SLE RA 21	62176	1494000	770979	36000000	2070	SLE QP 2	55788	1120500	Si
0.2	0.41	0.00000725	2319	SLE RA 21	62505	1494000	775062	36000000	2080	SLE QP 2	56083	1120500	Si
0.35	0.41	0.00000725	2394	SLE RA 21	64543	1494000	800334	36000000	2148	SLE QP 2	57912	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	382	SLE RA 21	0.05	0	382	376	SLE RA 21	0.05	0	376	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	383	SLE RA 1	0.05	0	383	383	SLE RA 1	0.05	0	382	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	383	SLE RA 1	0.05	0	383	383	SLE RA 1	0.05	0	382	SLE RA 1	0.0033	0	SLE RA 1	Si

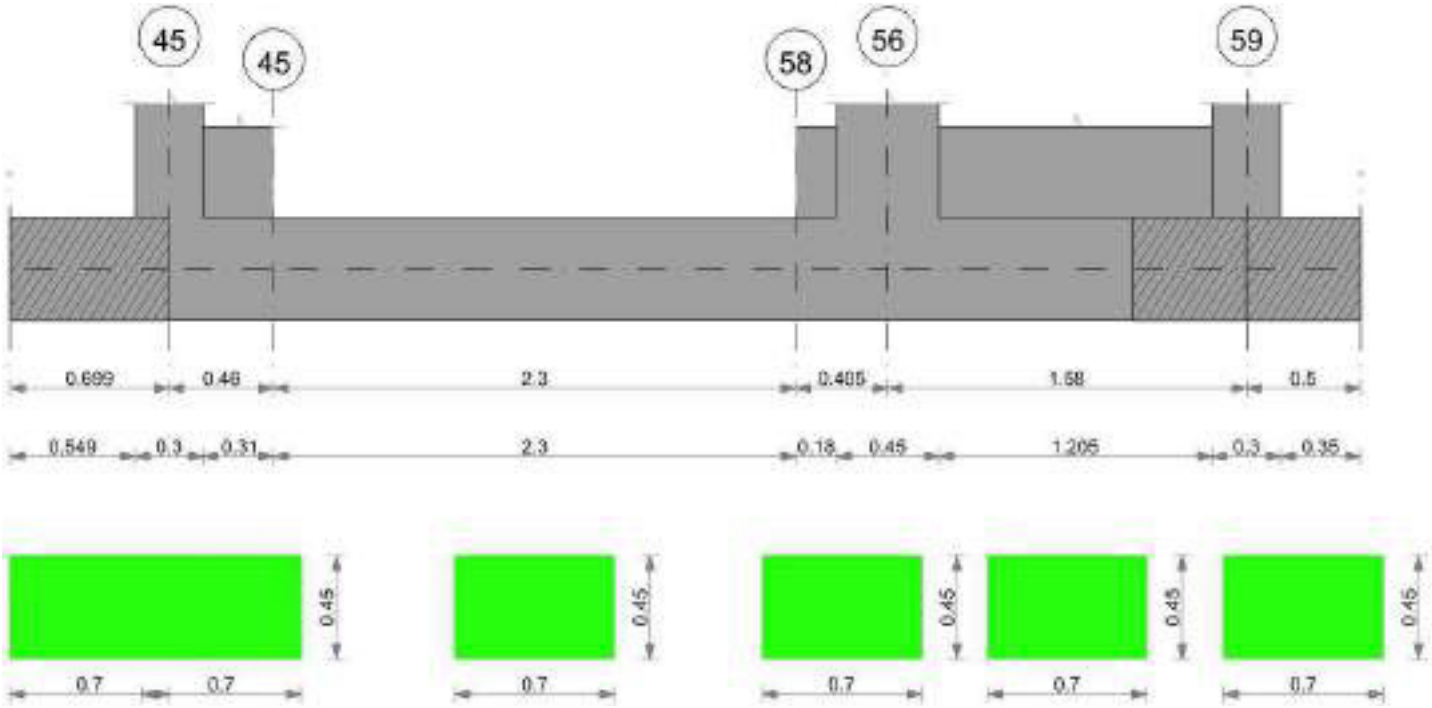
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	383	382	SLE FR 5	0.19	0.01	382	SLE RA 21	0.1	0.01	376	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	383	382	SLE RA 1	0.19	0	383	SLE RA 1	0.1	0	382	SLE RA 1	Si

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
Z	0.19	0	SLE RA 1	0.19	0	383	382	SLE RA 1	0.19	0	383	SLE RA 1	0.1	0	382	SLE RA 1	Si

CORDOLO 19

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

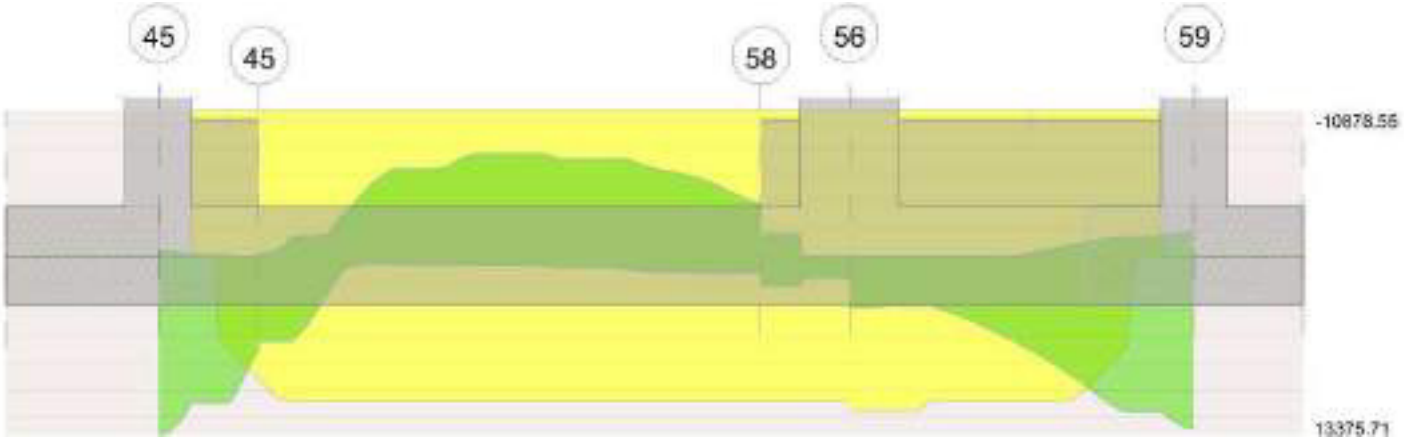
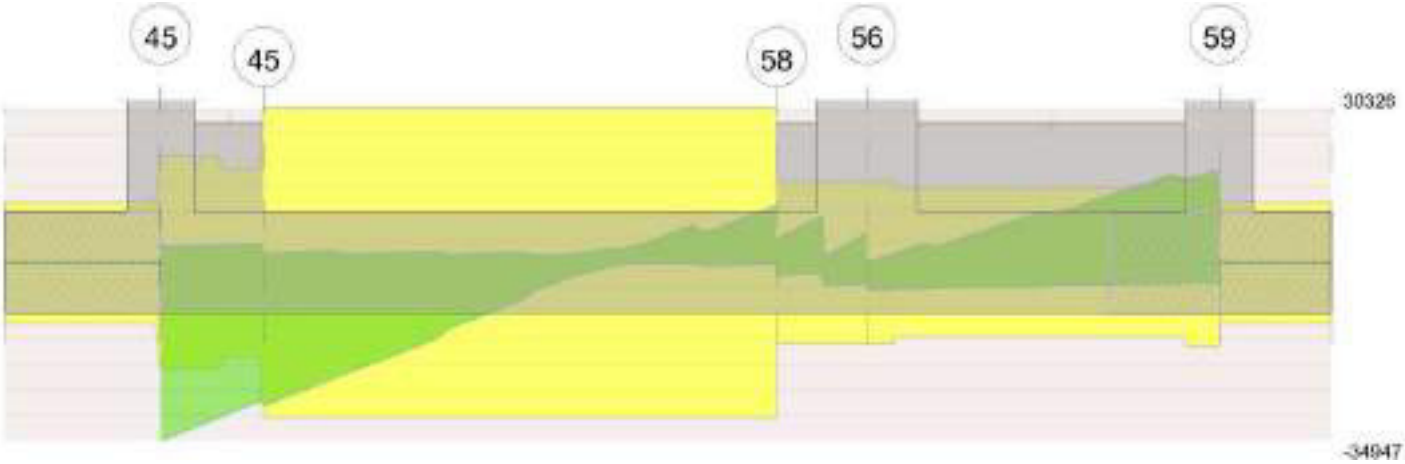


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 45 - 58, sezione R 70x45, aste 774, 773, 772, 771, 770, 769

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	4637.67	SLU 84	4637.67	9903	0.111	2.14							Si
1.15	0.000763	0.052	0.000763	0.052							-5279.98	SLU 84	-5279.98	-11561.07	0.116	2.19	Si
2.3	0.000763	0.052	0.000763	0.052							-691.9	SLU 84	-1948.43	-11561.07	0.116	5.93	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	6355.28	SLV FO 10	6355.28	9214.73	0.188	1.45	-151.35	SLV FO 7	-151.35	-10871.8	0.204	71.83	Si
1.15	0.000763	0.052	0.000763	0.052	652.43	SLV FO 7	652.43	10870.29	0.203	16.66	-7645.85	SLV FO 10	-7645.85	-10870.29	0.203	1.42	Si
1.3	0.000763	0.052	0.000763	0.052	421.31	SLV FO 7	707.55	10870.29	0.203	15.36	-6737.5	SLV FO 10	-7645.85	-10870.29	0.203	1.42	Si
2.3	0.000763	0.052	0.000763	0.052	1262.55	SLV FO 7	1262.55	10870.29	0.203	8.61	-2151.14	SLV FO 10	-3789.05	-10870.29	0.203	2.87	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	4840.32	SLD 10	4840.32	9214.73	0.188	1.9							Si
1.15	0.000763	0.052	0.000763	0.052							-5719.3	SLD 10	-5719.3	-10870.29	0.203	1.9	Si
1.3	0.000763	0.052	0.000763	0.052							-5071.31	SLD 10	-5719.3	-10870.29	0.203	1.9	Si
2.3	0.000763	0.052	0.000763	0.052	474.64	SLD 7	474.64	10870.29	0.203	22.9	-1363.22	SLD 10	-2622.99	-10870.29	0.203	4.14	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000643	0	-19694	SLU 84	-19694	-10870	-88449	-30326	-30326	1	1.54	Si
1.15	0.0000216	0.000763	0	-4173	SLU 84	-4173	-10870	-88449	-30326	-30326	1	7.27	Si
2.3	0.0000216	0.000763	0	8314	SLU 84	8314	10870	88449	30326	30326	1	3.65	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000763	0	1887	SLV FO 7	1887	10870	88449	30326	30326	1	16.07	Si
0	0.0000216	0.000643	0	-28119	SLV FO 10	-28119	-10870	-88449	-30326	-30326	1	1.08	Si
1.15	0.0000216	0.000763	0	2010	SLV FO 7	2010	10870	88449	30326	30326	1	15.09	Si
1.15	0.0000216	0.000763	0	-7585	SLV FO 10	-7585	-10870	-88449	-30326	-30326	1	4	Si
2.3	0.0000216	0.000763	0	11179	SLV FO 6	11179	10870	88449	30326	30326	1	2.71	Si
2.3	0.0000216	0.000763	0	-157	SLV FO 11	-157	-10870	-88449	-30326	-30326	1	193.28	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000643	0	-21146	SLD 10	-21146	-10870	-88449	-30326	-30326	1	1.43	Si
1.15	0.0000216	0.000763	0	-5373	SLD 10	-5373	-10870	-88449	-30326	-30326	1	5.64	Si
2.3	0.0000216	0.000763	0	8540	SLD 6	8540	10870	88449	30326	30326	1	3.55	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	3417.23	21	3417.23	128760	1494000	1947444	36000000	3101.97	2	3101.97	116881	1120500			Si
1.15	-3874.12	21	-3874.12	145254	1494000	2178807	36000000	-3496.71	2	-3496.71	131103	1120500			Si
2.3	-508.21	21	-1428.5	53559	1494000	803388	36000000	-444.29	2	-1276.26	47851	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 45 - 45, sezione R 70x45, asta 775

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3887	SLV FO 6	0.135	6651	10031	SLV FO 6	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.15	0.41	0.0004	3881	SLV FO 10	0.135	6651	10016	SLV FO 10	15877	Si
0.23	0.41	0.0004	3874	SLV FO 10	0.135	6651	9997	SLV FO 10	15877	Si
0.46	0.41	0.0007	3841	SLV FO 10	0.172	10803	9911	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3020	SLD 6	0.111	7725	7793	SLD 6	15877	Si
0.15	0.41	0.0004	3016	SLD 10	0.111	7725	7783	SLD 10	15877	Si
0.23	0.41	0.0004	3011	SLD 10	0.111	7725	7769	SLD 10	15877	Si
0.46	0.41	0.0007	2985	SLD 10	0.142	12581	7704	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000437	2256	SLE RA 21	63085	1494000	782254	36000000	2030	SLE QP 2	56769	1120500	Si
0.15	0.41	0.00000437	2254	SLE RA 21	63018	1494000	781421	36000000	2029	SLE QP 2	56718	1120500	Si
0.23	0.41	0.00000437	2250	SLE RA 21	62911	1494000	780096	36000000	2025	SLE QP 2	56626	1120500	Si
0.46	0.41	0.00000721	2231	SLE RA 21	60182	1494000	746254	36000000	2009	SLE QP 2	54181	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 45 - 58, sezione R 70x45, aste 774, 773, 772, 771, 770, 769

Campata 4 tra i fili 58 - 56, sezione R 70x45, aste 768, 767

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3889	SLV FO 10	0.172	10803	10035	SLV FO 10	15877	Si
0.18	0.41	0.0004	3970	SLV FO 10	0.126	5794	10246	SLV FO 10	15877	Si
0.2	0.41	0.0004	3981	SLV FO 10	0.126	5794	10273	SLV FO 10	15877	Si
0.4	0.41	0.0004	4072	SLV FO 10	0.126	5794	10509	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3009	SLD 10	0.142	12581	7764	SLD 10	15877	Si
0.18	0.41	0.0004	3067	SLD 10	0.104	6725	7914	SLD 10	15877	Si
0.2	0.41	0.0004	3074	SLD 10	0.104	6725	7933	SLD 10	15877	Si
0.4	0.41	0.0004	3137	SLD 10	0.104	6725	8095	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000721	2216	SLE RA 21	59773	1494000	741189	36000000	1999	SLE QP 2	53903	1120500	Si
0.18	0.41	0.00000379	2250	SLE RA 21	63367	1494000	785753	36000000	2029	SLE QP 2	57150	1120500	Si
0.2	0.41	0.00000379	2254	SLE RA 21	63481	1494000	787161	36000000	2032	SLE QP 2	57253	1120500	Si
0.4	0.41	0.00000379	2286	SLE RA 21	64397	1494000	798527	36000000	2062	SLE QP 2	58084	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili 56 - 59, sezione R 70x45, aste 766, 765, 764, 763

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4072	SLV FO 10	0.126	5794	10509	SLV FO 10	15877	Si
0.23	0.41	0.0003	4129	SLV FO 10	0.12	5289	10655	SLV FO 10	15877	Si
0.79	0.41	0.0003	4251	SLV FO 10	0.12	5289	10970	SLV FO 10	15877	Si
1.43	0.41	0.0003	4321	SLV FO 10	0.12	5289	11152	SLV FO 10	15877	Si
1.58	0.41	0.0003	4320	SLV FO 10	0.12	5289	11147	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3137	SLD 10	0.104	6725	8095	SLD 10	15877	Si
0.23	0.41	0.0003	3175	SLD 10	0.099	6136	8194	SLD 10	15877	Si
0.79	0.41	0.0003	3252	SLD 10	0.099	6136	8391	SLD 10	15877	Si
1.43	0.41	0.0003	3285	SLD 10	0.099	6136	8477	SLD 10	15877	Si
1.58	0.41	0.0003	3279	SLD 10	0.099	6136	8462	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000379	2286	SLE RA 21	64397	1494000	798527	36000000	2062	SLE QP 2	58084	1120500	Si
0.23	0.41	0.00000345	2304	SLE RA 21	65188	1494000	808330	36000000	2078	SLE QP 2	58798	1120500	Si
0.79	0.41	0.00000345	2330	SLE RA 21	65918	1494000	817389	36000000	2101	SLE QP 2	59452	1120500	Si
1.43	0.41	0.00000345	2319	SLE RA 21	65607	1494000	813530	36000000	2091	SLE QP 2	59154	1120500	Si
1.58	0.41	0.00000345	2307	SLE RA 21	65280	1494000	809468	36000000	2080	SLE QP 2	58853	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	384	SLE RA 21	0.05	0	384	397	SLE RA 21	0.05	0	391	SLE RA 8	0.0033	0	SLE RA 11	Si
D	0.05	0	397	SLE RA 1	0.05	0	397	397	SLE RA 1	0.05	0	393	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	397	SLE RA 1	0.05	0	397	397	SLE RA 1	0.05	0	393	SLE RA 1	0.0033	0	SLE RA 1	Si

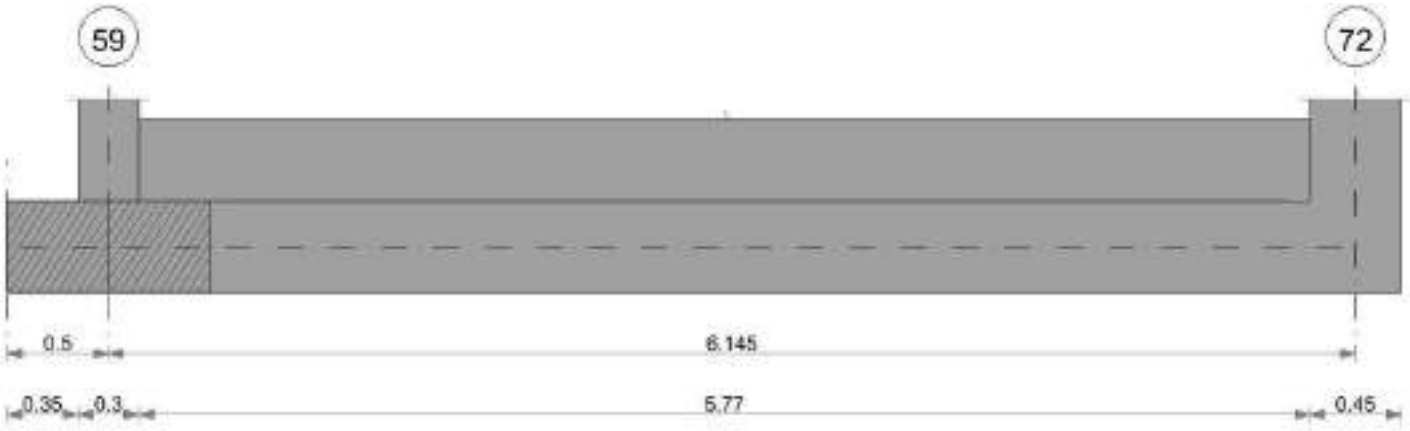
Verifiche geotecniche - Rotazioni assolute e differenziali

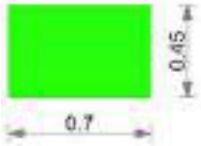
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	391	385	SLE RA 21	0.19	0.01	385	SLE RA 19	0.1	0.01	391	SLE RA 11	Si
D	0.19	0	SLE RA 1	0.19	0	397	393	SLE RA 1	0.19	0	397	SLE RA 1	0.1	0	393	SLE RA 1	Si

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
Z	0.19	0	SLE RA 1	0.19	0	397	393	SLE RA 1	0.19	0	397	SLE RA 1	0.1	0	393	SLE RA 1	Si

CORDOLO 20

Geometria





Caratteristiche dei materiali

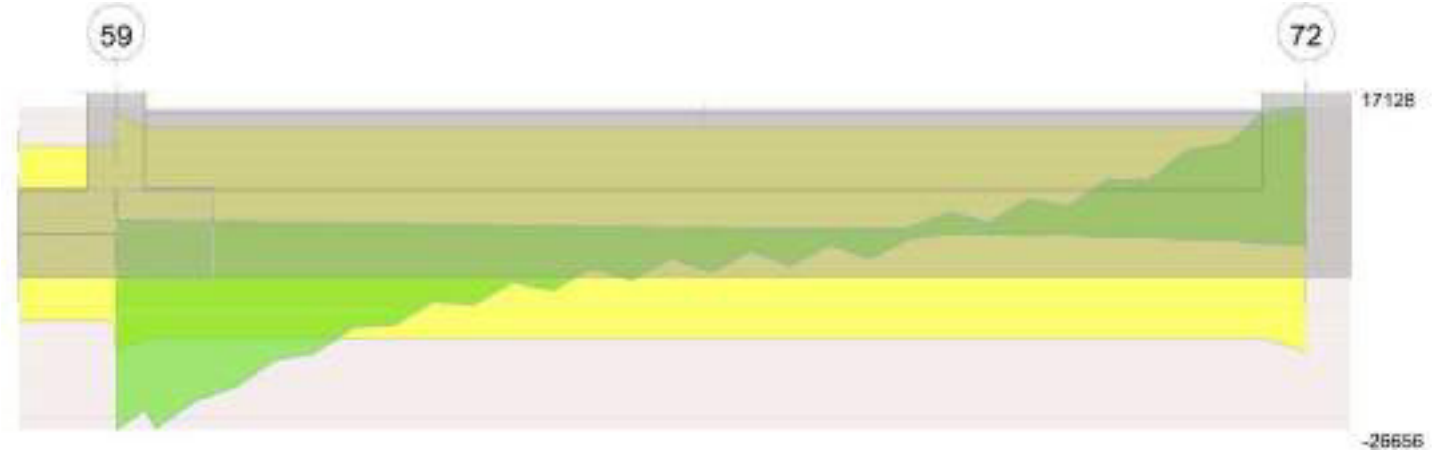
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 59 - 72, sezione R 70x45, aste 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4292	SLV FO 10	0.119	5197	11076	SLV FO 10	15877	Si
0.15	0.41	0.0003	4274	SLV FO 10	0.119	5197	11030	SLV FO 10	15877	Si
3.07	0.41	0.0003	3251	SLV FO 10	0.119	5197	8390	SLV FO 10	15877	Si
6.15	0.41	0.0003	5093	SLV FO 10	0.119	5197	13143	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3239	SLD 10	0.098	6029	8359	SLD 10	15877	Si
0.15	0.41	0.0003	3220	SLD 10	0.098	6029	8310	SLD 10	15877	Si
3.07	0.41	0.0003	2398	SLD 10	0.098	6029	6189	SLD 10	15877	Si
5.92	0.41	0.0003	3959	SLD 10	0.098	6029	10216	SLD 10	15877	Si
6.15	0.41	0.0003	3753	SLD 10	0.098	6029	9684	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000339	2247	SLE RA 21	63631	1494000	789018	36000000	2025	SLE QP 2	57337	1120500	Si
0.15	0.41	0.00000339	2225	SLE RA 21	63009	1494000	781313	36000000	2005	SLE QP 2	56768	1120500	Si
3.07	0.41	0.00000339	1567	SLE RA 21	44384	1494000	550356	36000000	1408	SLE QP 2	39875	1120500	Si
5.92	0.41	0.00000339	2553	SLE RA 21	72294	1494000	896442	36000000	2309	SLE QP 2	65372	1120500	Si
6.15	0.41	0.00000339	2418	SLE RA 21	68473	1494000	849069	36000000	2186	SLE QP 2	61888	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
6.37	1.3	SLU 2	ST	LT	-777	-257	-55938	-1	0	19	0	0	1.1	17015	818	20.8	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360	6.37	1.3	SLU 84	ST	BT	2.3	266037	85404	3.12	Si
345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360	6.37	1.3	SLD 10	SIS	BT	2.3	236338	88288	2.68	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-137	-85404	11941.05	2952.97	0	0	0.03	0.14	1.02	6.3	1496	2060	0	14430	
0	11319	-2804	-7078.25	-6293.67	0	76	-2.24	-2.52	-3.75	1.88	1496	2060	0	14430	0.07
0	-5997	-88288	15946.76	6730.4	0	-4	0.08	0.18	0.94	6.22	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.03	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

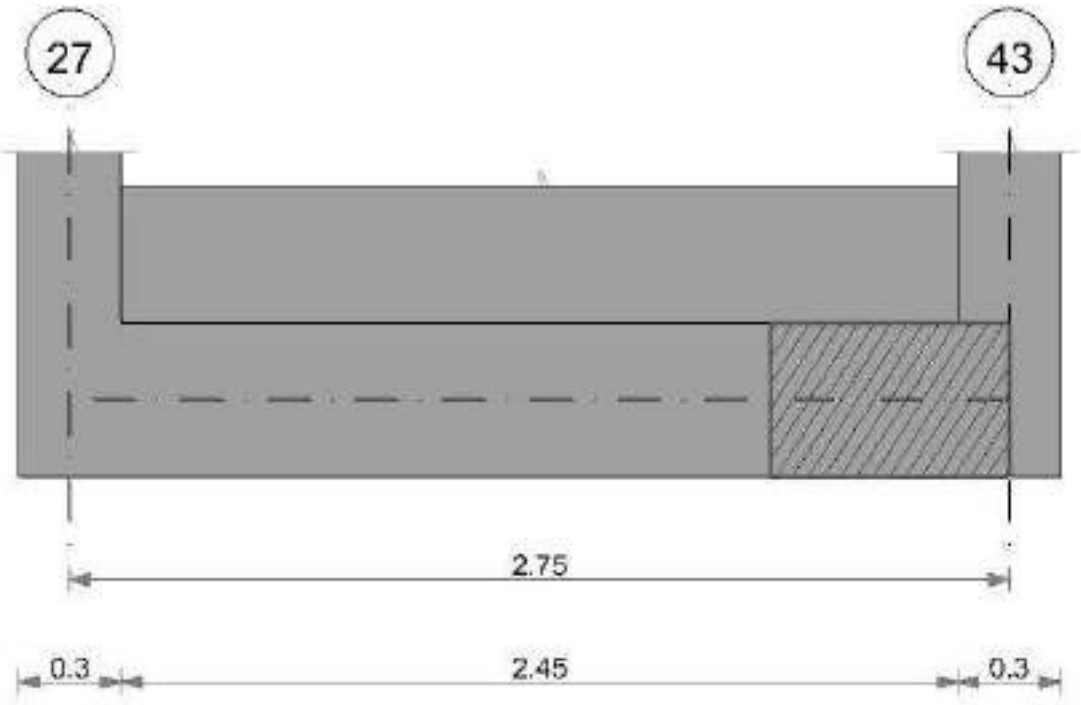
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	398	SLE RA 21	0.05	0	398	414	SLE RA 21	0.05	0	414	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	414	SLE RA 1	0.05	0	414	414	SLE RA 1	0.05	0	414	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	414	SLE RA 1	0.05	0	414	414	SLE RA 1	0.05	0	414	SLE RA 1	0.0033	0	SLE RA 1	Si

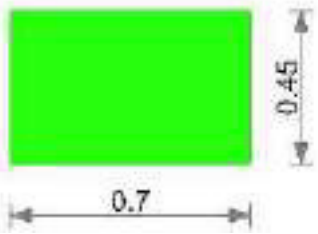
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	414	398	SLE RA 21	0.19	0	414	SLE RA 1	0.1	0	414	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	414	398	SLE RA 1	0.19	0	414	SLE RA 1	0.1	0	414	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	414	398	SLE RA 1	0.19	0	414	SLE RA 1	0.1	0	414	SLE RA 1	Si

CORDOLO 21

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

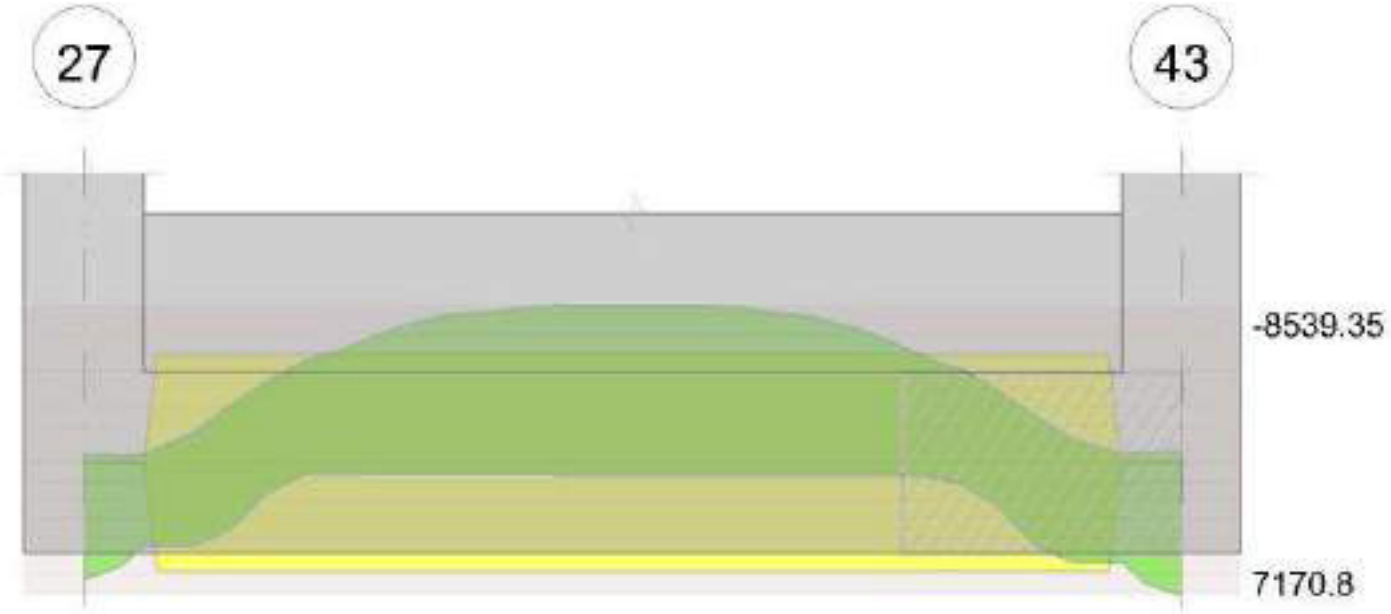
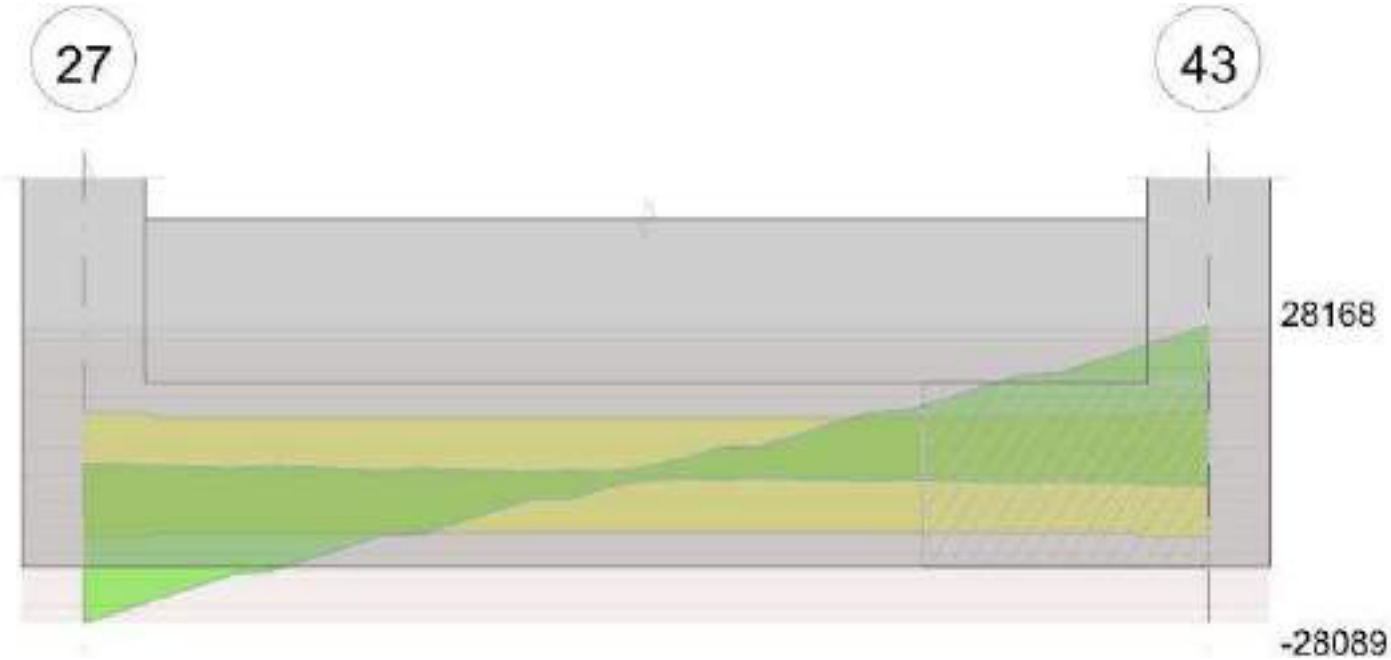


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 27 - 43, sezione R 70x45, aste 590, 589, 588, 587, 586, 585, 584

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4267	SLD 5	0.099	6147	11012	SLD 5	15877	Si
0.15	0.41	0.0003	4227	SLD 5	0.099	6147	10909	SLD 5	15877	Si
1.38	0.41	0.0003	3964	SLD 10	0.099	6147	10229	SLD 10	15877	Si
2.6	0.41	0.0003	4098	SLD 10	0.099	6147	10575	SLD 10	15877	Si
2.75	0.41	0.0003	4120	SLD 10	0.099	6147	10631	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000346	2812	SLE RA 21	79547	1494000	986386	36000000	2522	SLE QP 2	71344	1120500	Si
0.15	0.41	0.00000346	2785	SLE RA 21	78783	1494000	976910	36000000	2497	SLE QP 2	70656	1120500	Si
1.38	0.41	0.00000346	2600	SLE RA 21	73553	1494000	912063	36000000	2332	SLE QP 2	65986	1120500	Si
2.6	0.41	0.00000346	2678	SLE RA 21	75755	1494000	939360	36000000	2406	SLE QP 2	68059	1120500	Si
2.75	0.41	0.00000346	2690	SLE RA 21	76107	1494000	943721	36000000	2417	SLE QP 2	68387	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
3.05	1.3	SLU 8	ST	LT	60	180	-33630	0	0	19	0	0	1.1	10229	190	53.93	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
590,589,588,587,586,585,584	3.05	1.3	SLU 84	ST	BT	2.3	160755	52282	3.07	Si
590,589,588,587,586,585,584	3.05	1.3	SLV FO 6	SIS	BT	2.3	140993	72356	1.95	Si
590,589,588,587,586,585,584	3.05	1.3	SLD 6	SIS	BT	2.3	147807	55090	2.68	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
104	167	-52282	1732.72	-402.68	0	0	-0.01	0.03	1.23	3.03	1496	2060	0	14430	
-1703	-5655	-72356	6221.54	-1358.48	-1	-4	-0.02	0.09	1.13	3.01	1496	2060	0	14430	0.07
-959	-2928	-55090	3835.18	-880.11	-1	-3	-0.02	0.07	1.16	3.02	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.08	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.23	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

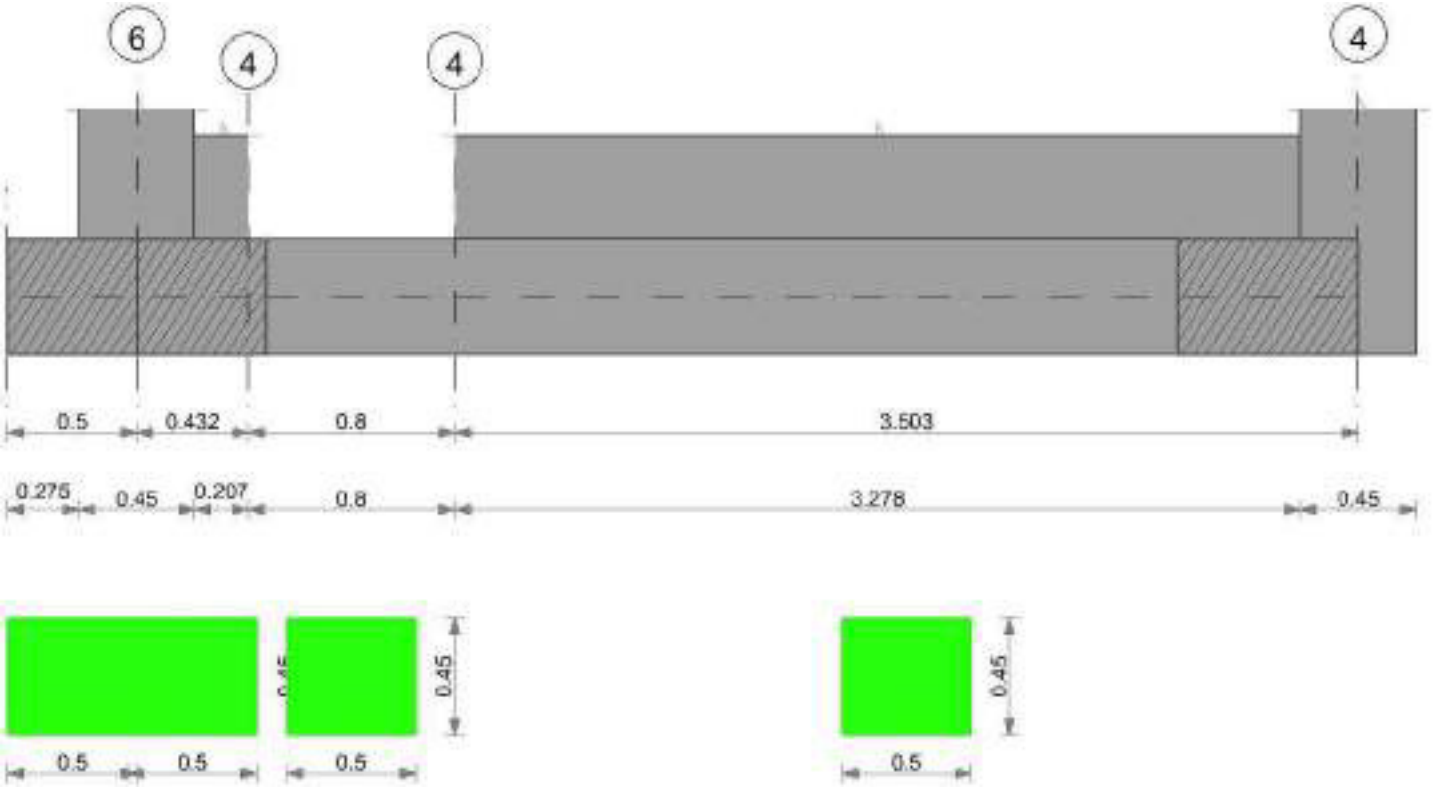
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	216	SLE RA 21	0.05	0	216	209	SLE RA 21	0.05	0	216	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	216	SLE RA 1	0.05	0	216	216	SLE RA 1	0.05	0	216	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	216	SLE RA 1	0.05	0	216	216	SLE RA 1	0.05	0	216	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	216	209	SLE RA 21	0.19	0	216	SLE RA 1	0.1	0	216	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	216	209	SLE RA 1	0.19	0	216	SLE RA 1	0.1	0	216	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	216	209	SLE RA 1	0.19	0	216	SLE RA 1	0.1	0	216	SLE RA 1	Si

CORDOLO 22

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

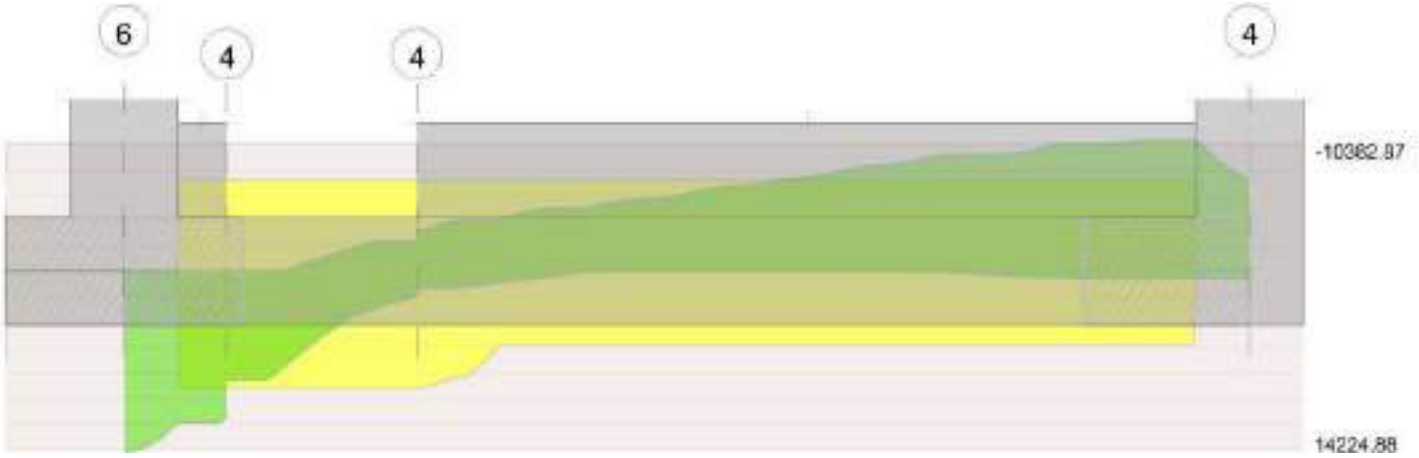
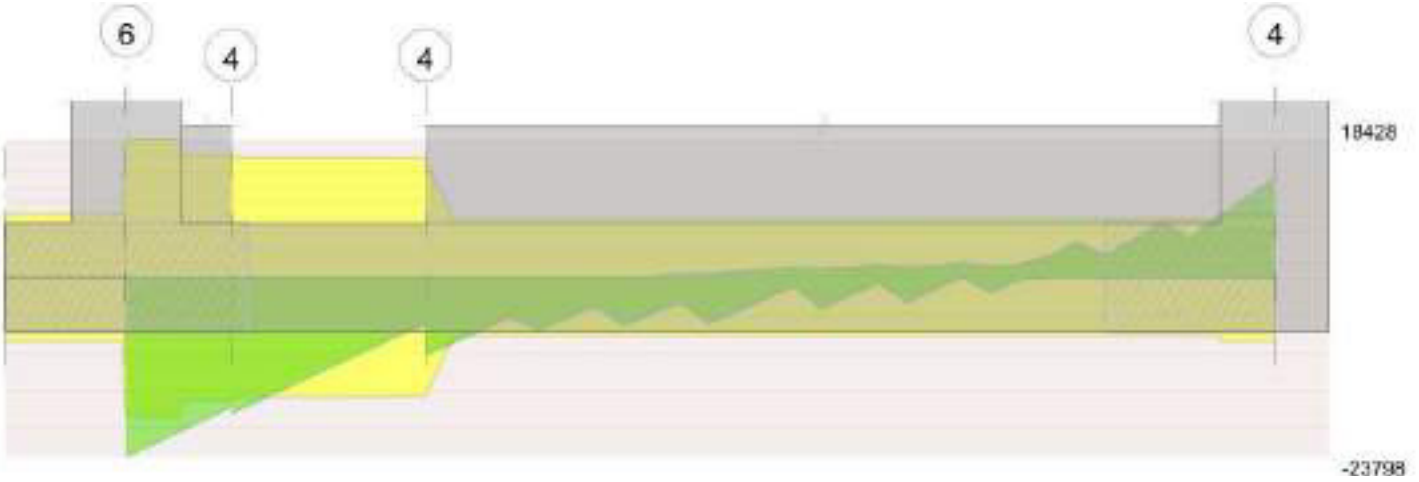


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 4 - 4, sezione R 50x45, asta 454

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	7998.43	SLU 84	7998.43	9802.96	0.123	1.23							Si
0.16	0.000509	0.052	0.000657	0.051	5517.66	SLU 84	7998.43	9802.96	0.123	1.23							Si
0.4	0.000509	0.052	0.000657	0.051	2499	SLU 84	4673.42	9802.96	0.123	2.1							Si
0.8	0.000509	0.052	0.000657	0.051	-390.87	SLU 2	452.26	9802.96	0.123	21.68	-733.08	SLU 83	-733.08	-7757.04	0.115	10.58	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	8558.65	SLV FO 2	8558.65	9282.47	0.222	1.08							Si
0.16	0.000509	0.052	0.000657	0.051	6018.38	SLV FO 2	8558.65	9282.47	0.222	1.08							Si
0.4	0.000509	0.052	0.000657	0.051	3172.8	SLV FO 5	5153.99	9282.47	0.222	1.8	128.26	SLV FO 12	-1083.05	-7265.54	0.195	6.71	Si
0.8	0.000509	0.052	0.000657	0.051	1423.72	SLV FO 9	1901.61	9282.47	0.222	4.88	-2386.1	SLV FO 8	-2386.1	-7265.54	0.195	3.04	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	7198.92	SLD 2	7198.92	9282.47	0.222	1.29							Si
0.4	0.000509	0.052	0.000657	0.051	2475.73	SLD 5	4283.07	9282.47	0.222	2.17	825.33	SLD 12	-343.58	-7265.54	0.195	21.15	Si
0.8	0.000509	0.052	0.000657	0.051	540.83	SLD 9	1150.57	9282.47	0.222	8.07	-1503.21	SLD 8	-1503.21	-7265.54	0.195	4.83	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.4	0.0000113	0.000657	0	-10876	SLU 83	-10876	-8240	-63275	-15877	-15877	1	1.46	Si
0.8	0.0000113	0.000509	0	-5252	SLU 83	-5252	-7764	-63178	-15852	-15852	1	3.02	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.4	0.0000113	0.000657	0	-12040	SLV FO 4	-12040	-8240	-63275	-15877	-15877	1	1.32	Si
0.8	0.0000113	0.000509	0	-6148	SLV FO 4	-6148	-7764	-63178	-15852	-15852	1	2.58	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000116	0.000657	0	-15174	SLD 4	-15174	-8240	-63275	-16324	-16324	1	1.08	Si
0.03	0.0000113	0.000657	0	-14826	SLD 4	-14826	-8240	-63275	-15877	-15877	1	1.07	Si
0.4	0.0000113	0.000657	0	-10009	SLD 4	-10009	-8240	-63275	-15877	-15877	1	1.59	Si
0.8	0.0000113	0.000509	0	-5008	SLD 4	-5008	-7764	-63178	-15852	-15852	1	3.17	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	5849.64	21	5849.64	556668	1494000	24603908	36000000	5322.79	2	5322.79	506531	1120500			Si
0.4	1826.7	21	3416.88	179166	1494000	2649418	36000000	1650.53	2	3101.48	162628	1120500			Si
0.8	-532.25	20	-532.25	27514	1494000	418636	36000000	-481.19	2	-481.19	24874	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0	inferiore	0.398	0.00072	0.000285	21	0.398	0.00067	0.000266	6	0.398	0.00065	0.000259	2	Si
0.11	inferiore	0.398	0.00072	0.000285	21	0.398	0.00067	0.000266	6	0.398	0.00065	0.000259	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 6 - 4, sezione R 50x45, asta 455

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2219	SLV FO 2	0.155	8772	7719	SLV FO 2	22763	Si
0.22	0.41	0.0006	2208	SLV FO 4	0.155	8772	7681	SLV FO 4	22763	Si
0.23	0.41	0.0006	2208	SLV FO 4	0.155	8772	7680	SLV FO 4	22763	Si
0.43	0.41	0.0006	2198	SLV FO 4	0.155	8772	7645	SLV FO 4	22763	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1881	SLD 2	0.128	10204	6544	SLD 2	26177	Si
0.22	0.41	0.0006	1875	SLD 4	0.128	10204	6521	SLD 4	26177	Si
0.23	0.41	0.0006	1875	SLD 4	0.128	10204	6520	SLD 4	26177	Si
0.43	0.41	0.0006	1863	SLD 4	0.128	10204	6478	SLD 4	26177	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000581	1551	SLE RA 20	42580	1494000	527992	36000000	1411	SLE QP 2	38725	1120500	Si
0.22	0.41	0.00000581	1550	SLE RA 20	42539	1494000	527489	36000000	1409	SLE QP 2	38688	1120500	Si
0.23	0.41	0.00000581	1549	SLE RA 20	42530	1494000	527371	36000000	1409	SLE QP 2	38679	1120500	Si
0.43	0.41	0.00000581	1535	SLE RA 20	42125	1494000	522355	36000000	1396	SLE QP 2	38310	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 4 - 4, sezione R 50x45, asta 454

Campata 4 tra i fili 4 - 4, sezione R 50x45, aste 453, 452, 451, 450, 449, 448, 447, 446, 445

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2085	SLV FO 4	0.153	8540	7251	SLV FO 4	22140	Si
1.75	0.41	0.0002	2159	SLV FO 8	0.086	2722	7509	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1748	SLD 4	0.126	9932	6079	SLD 4	25461	Si
1.75	0.41	0.0002	1696	SLD 8	0.071	3150	5899	SLD 8	15877	Si
3.28	0.41	0.0002	2404	SLD 8	0.071	3150	8363	SLD 8	15877	Si
3.5	0.41	0.0002	2565	SLD 8	0.071	3150	8921	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000565	1414	SLE RA 20	38882	1494000	482138	36000000	1285	SLE QP 2	35356	1120500	Si
1.75	0.41	0.00000175	1261	SLE RA 20	36493	1494000	452512	36000000	1147	SLE QP 2	33177	1120500	Si
3.28	0.41	0.00000175	1543	SLE RA 20	44648	1494000	553637	36000000	1404	SLE QP 2	40626	1120500	Si
3.5	0.41	0.00000175	1623	SLE RA 20	46976	1494000	582499	36000000	1477	SLE QP 2	42752	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
4.96	1.1	SLU 2	ST	LT	-222	-609	-45845	0	-1	19	0	0	1.1	13945	648	21.51	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
455,454,453,452,451,450,449,448,447,446,445	4.96	1.1	SLU 83	ST	BT	2.3	197254	72869	2.71	Si
455,454,453,452,451,450,449,448,447,446,445	4.96	1.1	SLV FO 8	SIS	BT	2.3	166804	77738	2.15	Si
455,454,453,452,451,450,449,448,447,446,445	4.96	1.1	SLD 8	SIS	BT	2.3	178918	65007	2.75	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-921	-72869	-5923.76	-1484.68	0	-1	-0.02	-0.08	0.94	4.92	1496	2060	0	14430	
0	162	-77738	-7850.76	24943.42	0	0	0.32	-0.1	0.9	4.32	1496	2060	0	14430	0.07
0	-146	-65007	-6107.05	12828.28	0	0	0.2	-0.09	0.91	4.57	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

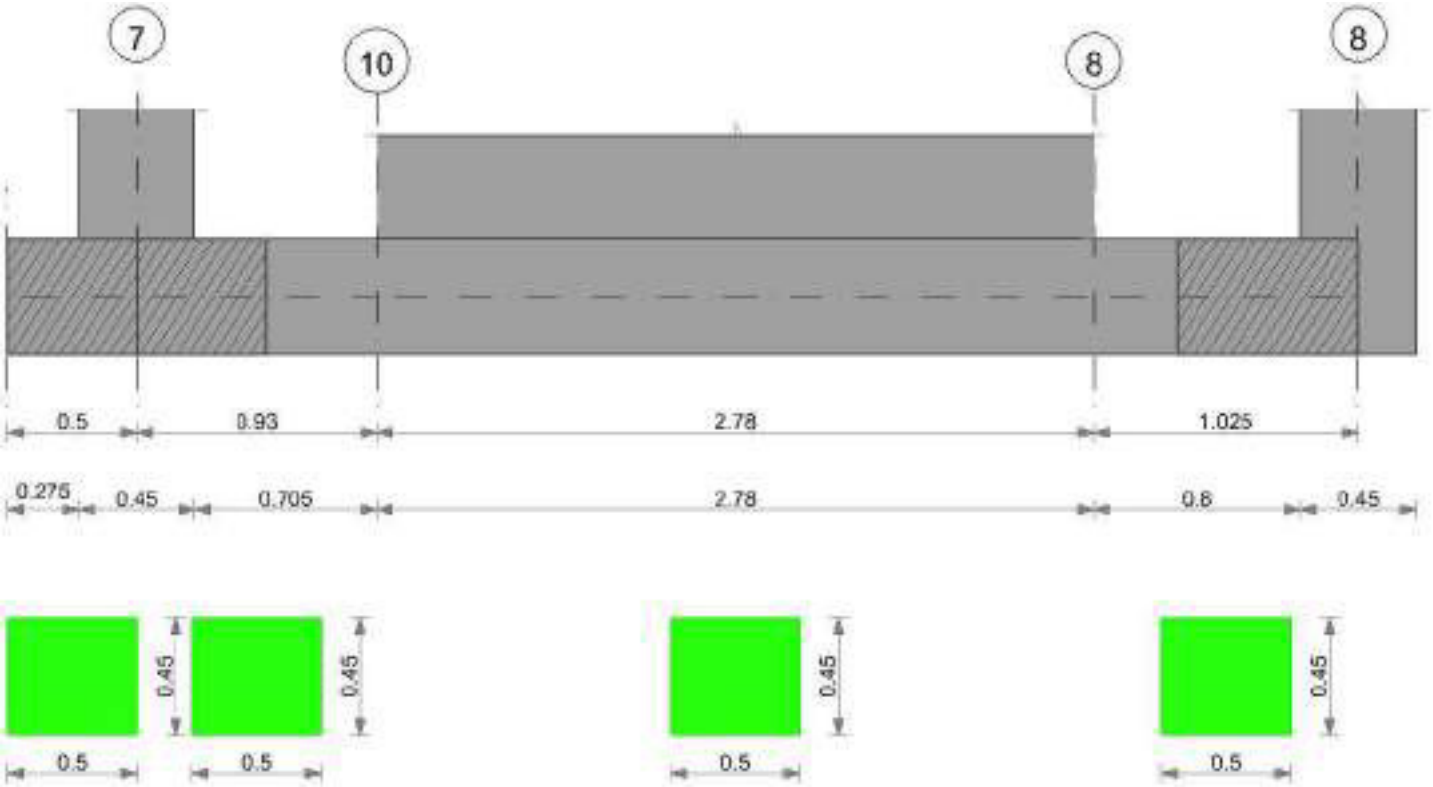
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	636	SLE RA 21	0.05	0	636	983	SLE RA 21	0.05	0	786	SLE RA 10	0.0033	0	SLE RA 10	Si
D	0.05	0	636	SLE RA 1	0.05	0	636	636	SLE RA 1	0.05	0	770	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	636	SLE RA 1	0.05	0	636	636	SLE RA 1	0.05	0	770	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0.01	770	786	SLE RA 21	0.19	0	770	SLE RA 21	0.1	0.01	786	SLE RA 10	Si
D	0.19	0	SLE RA 1	0.19	0	636	770	SLE RA 1	0.19	0	636	SLE RA 1	0.1	0	770	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	636	770	SLE RA 1	0.19	0	636	SLE RA 1	0.1	0	770	SLE RA 1	Si

CORDOLO 23

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

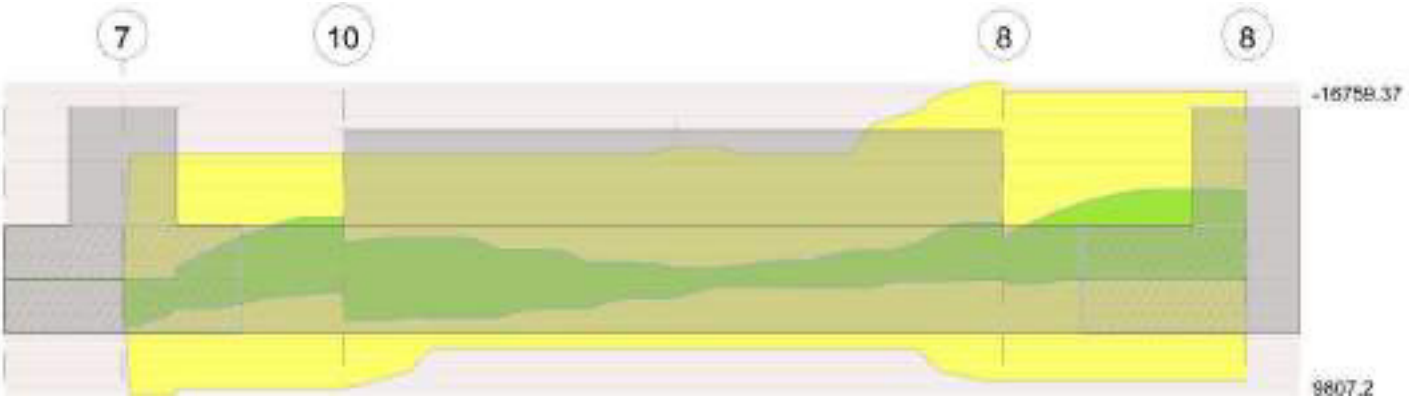


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 444

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2521.85	SLU 84	2521.85	9807.2	0.125	3.89							Si
0.47	0.000763	0.052	0.000657	0.051	-52.88	SLU 10	1783.05	9807.2	0.125	5.5	-148.21	SLU 69	-1632.44	-11252.05	0.131	6.89	Si
0.93	0.000763	0.052	0.000657	0.051							-3185.51	SLU 83	-3185.51	-11252.05	0.131	3.53	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2419.31	SLV FO 6	2419.31	9282.36	0.217	3.84	916.51	SLV FO 11	-1057.87	-10721.8	0.235	10.14	Si
0.47	0.000763	0.052	0.000657	0.051	1491.32	SLV FO 9	2122.68	9282.36	0.217	4.37	-1680.1	SLV FO 8	-3313.54	-10721.8	0.235	3.24	Si
0.93	0.000763	0.052	0.000657	0.051	1058.58	SLV FO 9	1058.58	9282.36	0.217	8.77	-5297.67	SLV FO 8	-5297.67	-10721.8	0.235	2.02	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2067.06	SLD 6	2067.06	9282.36	0.217	4.49	1268.76	SLD 11	-423.95	-10721.8	0.235	25.29	Si
0.47	0.000763	0.052	0.000657	0.051	755.07	SLD 9	1680.1	9282.36	0.217	5.52	-943.84	SLD 8	-2281.5	-10721.8	0.235	4.7	Si
0.93	0.000763	0.052	0.000657	0.051							-3821.33	SLD 8	-3821.33	-10721.8	0.235	2.81	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-15469	SLU 83	-15469	-8716	-71432	-27410	-27410	1	1.77	Si
0.03	0.0000173	0.000657	0	-15070	SLU 83	-15070	-8240	-63275	-24280	-24280	1	1.61	Si
0.23	0.0000173	0.000657	0	-12577	SLU 83	-12577	-8240	-63275	-24280	-24280	1	1.93	Si
0.47	0.0000173	0.000763	0	-9509	SLU 83	-9509	-8659	-63178	-24242	-24242	1	2.55	Si
0.93	0.0000173	0.000763	0	-3626	SLU 83	-3626	-8659	-63178	-24242	-24242	1	6.69	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-14233	SLV FO 8	-14233	-8716	-71432	-27410	-27410	1	1.93	Si
0.03	0.0000173	0.000657	0	-13957	SLV FO 8	-13957	-8240	-63275	-24280	-24280	1	1.74	Si
0.23	0.0000173	0.000657	0	-12210	SLV FO 8	-12210	-8240	-63275	-24280	-24280	1	1.99	Si
0.47	0.0000173	0.000763	0	-10006	SLV FO 8	-10006	-8659	-63178	-24242	-24242	1	2.42	Si
0.93	0.0000173	0.000657	0	848	SLV FO 9	848	8240	63275	24280	24280	1	28.65	Si
0.93	0.0000173	0.000763	0	-5646	SLV FO 8	-5646	-8659	-63178	-24242	-24242	1	4.29	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-12419	SLD 8	-12419	-8716	-71432	-27410	-27410	1	2.21	Si
0.03	0.0000173	0.000657	0	-12146	SLD 8	-12146	-8240	-63275	-24280	-24280	1	2	Si
0.23	0.0000173	0.000657	0	-10433	SLD 8	-10433	-8240	-63275	-24280	-24280	1	2.33	Si
0.47	0.0000173	0.000763	0	-8297	SLD 8	-8297	-8659	-63178	-24242	-24242	1	2.92	Si
0.93	0.0000173	0.000763	0	-4129	SLD 8	-4129	-8659	-63178	-24242	-24242	1	5.87	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4146.05	20	2874.83	170360	1494000	0	36000000	3765.44	2	2608.73	154592	1120500			Si
0.23	1844.01	21	1844.01	93070	1494000	1409775	36000000	1667.91	2	1667.91	84182	1120500			Si
0.47	-106.09	6	-1191.27	60717	1494000	901879	36000000	-95.31	1	-1089.58	55533	1120500			Si
0.93	-2324.98	20	-2324.98	118499	1494000	1760177	36000000	-2119.54	2	-2119.54	108028	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 436

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051							-1148.15	SLU 84	-2891.59	-16759.37	0.162	5.8	Si
0.51	0.001166	0.052	0.000603	0.051							-5082.97	SLU 83	-5680.03	-16759.37	0.162	2.95	Si
0.8	0.001166	0.052	0.000603	0.051							-5842.53	SLU 83	-5842.53	-16759.37	0.162	2.87	Si
0.85	0.001166	0.052	0.000603	0.051							-5868.91	SLU 83	-5868.91	-16759.37	0.162	2.86	Si
1.02	0.001166	0.052	0.000603	0.051							-5694.78	SLU 83	-5694.78	-16759.37	0.162	2.94	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	294.74	SLV FO 14	294.74	8572.71	0.203	29.09	-1895.72	SLV FO 3	-3581.87	-16008.95	0.288	4.47	Si
0.51	0.001166	0.052	0.000603	0.051							-6530.83	SLV FO 8	-7364.35	-16008.95	0.288	2.17	Si
0.8	0.001166	0.052	0.000603	0.051							-7598.43	SLV FO 8	-7598.43	-16008.95	0.288	2.11	Si
0.85	0.001166	0.052	0.000603	0.051							-7640.06	SLV FO 8	-7640.06	-16008.95	0.288	2.1	Si
1.02	0.001166	0.052	0.000603	0.051							-7414.95	SLV FO 8	-7414.95	-16008.95	0.288	2.16	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051							-1433.22	SLD 3	-2835.82	-16008.95	0.288	5.65	Si
0.51	0.001166	0.052	0.000603	0.051							-5079.12	SLD 8	-5702.31	-16008.95	0.288	2.81	Si
0.8	0.001166	0.052	0.000603	0.051							-5872.9	SLD 8	-5872.9	-16008.95	0.288	2.73	Si
0.85	0.001166	0.052	0.000603	0.051							-5900.76	SLD 8	-5900.76	-16008.95	0.288	2.71	Si
1.02	0.001166	0.052	0.000603	0.051							-5717.69	SLD 8	-5717.69	-16008.95	0.288	2.8	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-10864	SLU 83	-10864	-9974	-63232	-14667	-14667	1	1.35	Si
0.51	0.0000105	0.001166	0	-4477	SLU 83	-4477	-9974	-63232	-14667	-14667	1	3.28	Si
0.8	0.0000105	0.001166	0	-804	SLU 83	-804	-9974	-63232	-14667	-14667	1	18.24	Si
1.02	0.0000105	0.001166	0	2143	SLU 83	2143	9974	63232	14667	14667	1	6.84	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	193	SLV FO 9	193	9974	63232	14667	14667	1	76.19	Si
0	0.0000105	0.001166	0	-14548	SLV FO 8	-14548	-9974	-63232	-14667	-14667	1	1.01	Si
0.51	0.0000105	0.001166	0	721	SLV FO 5	721	9974	63232	14667	14667	1	20.36	Si
0.51	0.0000105	0.001166	0	-6564	SLV FO 12	-6564	-9974	-63232	-14667	-14667	1	2.23	Si
0.8	0.0000105	0.001166	0	1129	SLV FO 1	1129	9974	63232	14667	14667	1	12.99	Si
0.8	0.0000105	0.001166	0	-2075	SLV FO 16	-2075	-9974	-63232	-14667	-14667	1	7.07	Si
1.02	0.0000105	0.001166	0	3568	SLV FO 3	3568	9974	63232	14667	14667	1	4.11	Si
1.02	0.0000105	0.001166	0	-581	SLV FO 14	-581	-9974	-63232	-14667	-14667	1	25.23	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-11114	SLD 8	-11114	-9974	-63232	-14667	-14667	1	1.32	Si
0.51	0.0000105	0.001166	0	-4872	SLD 12	-4872	-9974	-63232	-14667	-14667	1	3.01	Si
0.8	0.0000105	0.001166	0	441	SLD 1	441	9974	63232	14667	14667	1	33.22	Si
0.8	0.0000105	0.001166	0	-1387	SLD 16	-1387	-9974	-63232	-14667	-14667	1	10.58	Si
1.02	0.0000105	0.001166	0	2683	SLD 3	2683	9974	63232	14667	14667	1	5.47	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-853.64	21	-2123.73	106837	1494000	1522144	36000000	-800.49	2	-1953.36	98266	1120500			Si
0.51	-3717.25	20	-4149.24	208732	1494000	2973886	36000000	-3393.19	2	-3779.93	190153	1120500			Si
0.8	-4265.34	20	-4265.34	214572	1494000	3057099	36000000	-3881.41	2	-3881.41	195258	1120500			Si
1.02	-4151.76	20	-4151.76	208859	1494000	2975695	36000000	-3768.53	2	-3768.53	189580	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 444

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 443, 442, 441, 440, 439, 438, 437

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	2249	SLU 83	0.073	13502	6921	SLU 83	30740	Si
1.39	0.41	0.0002	2257	SLV FO 8	0.096	3356	6944	SLV FO 8	15877	Si
2.78	0.41	0.0005	2856	SLV FO 8	0.147	7913	8787	SLV FO 8	18582	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	1716	SLD 3	0.155	15002	5279	SLD 3	35351	Si
1.39	0.41	0.0002	1886	SLD 8	0.079	3886	5805	SLD 8	15877	Si
2.78	0.41	0.0005	2204	SLD 8	0.121	9199	6782	SLD 8	21369	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000865	1639	SLE RA 20	43433	1494000	538570	36000000	1481	SLE QP 2	39247	1120500	Si
1.39	0.41	0.00000217	1607	SLE RA 20	46252	1494000	573524	36000000	1452	SLE QP 2	41794	1120500	Si
2.78	0.41	0.00000523	1602	SLE RA 20	44291	1494000	549202	36000000	1448	SLE QP 2	40054	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 436

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.96	1.1	SLU 2	ST	LT	-323	-549	-42531	0	-1	19	0	0	1.1	12937	637	20.31	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
444,443,442,441,440,439,438,437,436	4.96	1.1	SLU 83	ST	BT	2.3	231738	68073	3.4	Si
444,443,442,441,440,439,438,437,436	4.96	1.1	SLV FO 8	SIS	BT	2.3	205110	67651	3.03	Si
444,443,442,441,440,439,438,437,436	4.96	1.1	SLD 8	SIS	BT	2.3	216035	57794	3.74	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-839	-68073	393.02	-299.62	0	-1	0	0.01	1.09	4.95	1496	2060	0	14430	
0	282	-67651	98.15	21720.76	0	0	0.32	0	1.1	4.32	1496	2060	0	14430	0.07
0	-51	-57794	144.72	11498.14	0	0	0.2	0	1.09	4.56	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

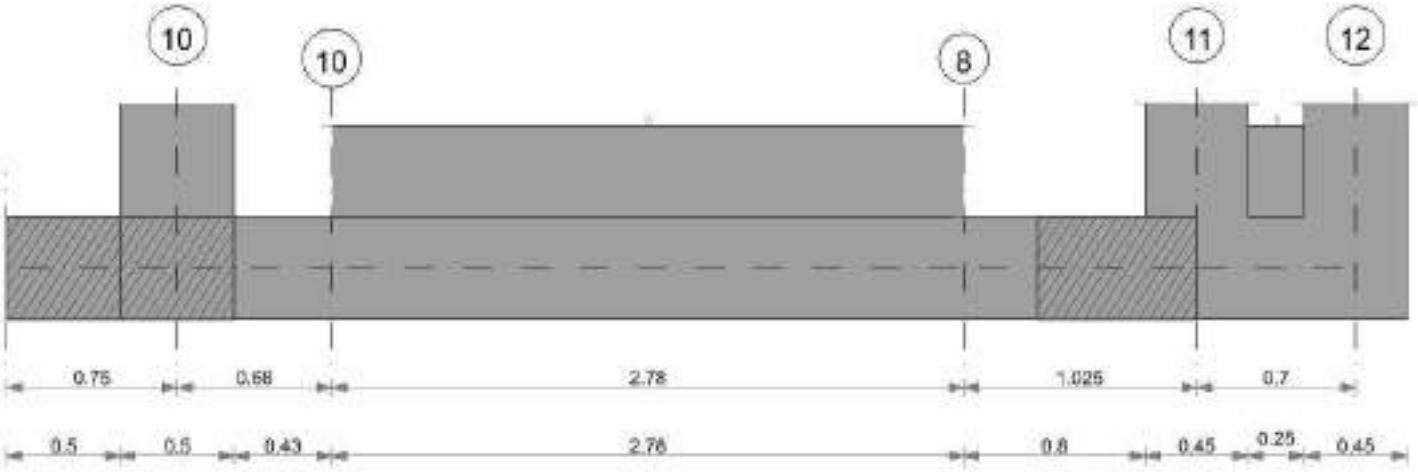
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	773	SLE RA 20	0.05	0.001	773	995	SLE RA 21	0.05	0	773	SLE RA 20	0.0033	0	SLE FR 4	Si
D	0.05	0	648	SLE RA 1	0.05	0	648	648	SLE RA 1	0.05	0	773	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	648	SLE RA 1	0.05	0	648	648	SLE RA 1	0.05	0	773	SLE RA 1	0.0033	0	SLE RA 1	Si

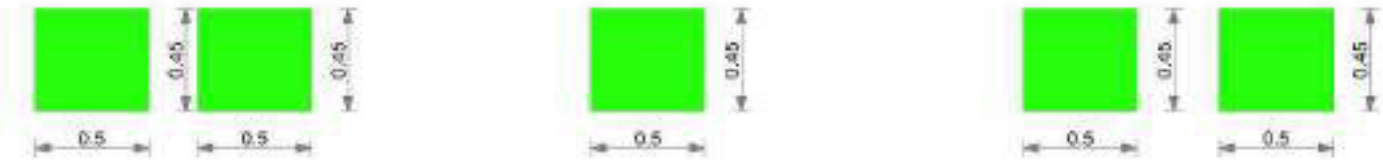
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	773	923	SLE RA 21	0.19	0.02	773	SLE RA 20	0.1	0.01	923	SLE FR 4	Si
D	0.19	0	SLE RA 1	0.19	0	648	773	SLE RA 1	0.19	0	648	SLE RA 1	0.1	0	773	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	648	773	SLE RA 1	0.19	0	648	SLE RA 1	0.1	0	773	SLE RA 1	Si

CORDOLO 24

Geometria





Caratteristiche dei materiali

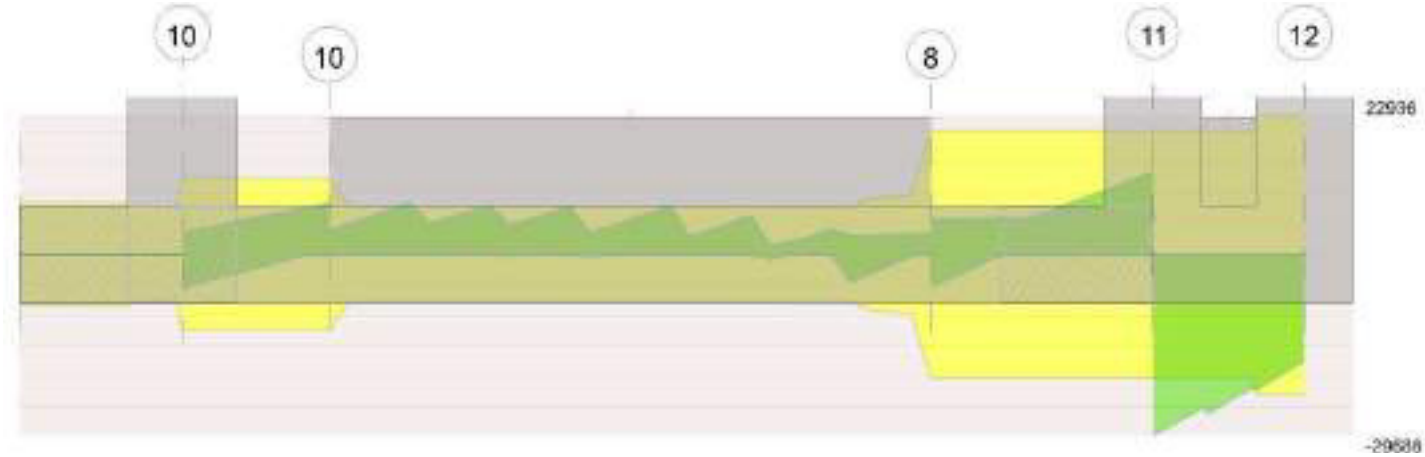
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 246

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	843.99	SLU 83	653.64	7755.45	0.113	11.86							Si
0.25	0.000509	0.052	0.000509	0.052	859.75	SLU 84	1357.13	7755.45	0.113	5.71							Si
0.34	0.000509	0.052	0.000509	0.052	1059.05	SLU 84	1759.55	7755.45	0.113	4.41							Si
0.66	0.000509	0.052	0.000509	0.052	2575.71	SLU 84	2732.52	7755.45	0.113	2.84							Si
0.68	0.000509	0.052	0.000509	0.052	2732.52	SLU 84	2732.52	7755.45	0.113	2.84							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	1552.33	SLV FO 2	1396.73	7266.79	0.197	5.2	-519.74	SLV FO 15	-519.74	-7266.79	0.197	13.98	Si
0.25	0.000509	0.052	0.000509	0.052	2024.41	SLV FO 5	3021.64	7266.79	0.197	2.4	-959.28	SLV FO 12	-1288.42	-7266.79	0.197	5.64	Si
0.34	0.000509	0.052	0.000509	0.052	2491.18	SLV FO 5	3624.48	7266.79	0.197	2	-1157.8	SLV FO 12	-1352.31	-7266.79	0.197	5.37	Si
0.66	0.000509	0.052	0.000509	0.052	4678.18	SLV FO 5	4865.5	7266.79	0.197	1.49	-1314.19	SLV FO 12	-1358.16	-7266.79	0.197	5.35	Si
0.68	0.000509	0.052	0.000509	0.052	4865.5	SLV FO 5	4865.5	7266.79	0.197	1.49	-1291.85	SLV FO 12	-1358.16	-7266.79	0.197	5.35	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	1113.43	SLD 2	965.08	7266.79	0.197	7.53	-80.84	SLD 15	-80.84	-7266.79	0.197	89.89	Si
0.25	0.000509	0.052	0.000509	0.052	1337.32	SLD 5	2023.81	7266.79	0.197	3.59	-272.18	SLD 12	-314.94	-7266.79	0.197	23.07	Si
0.34	0.000509	0.052	0.000509	0.052	1648.14	SLD 5	2470.7	7266.79	0.197	2.94	-314.77	SLD 12	-314.94	-7266.79	0.197	23.07	Si
0.66	0.000509	0.052	0.000509	0.052	3287.18	SLD 5	3436	7266.79	0.197	2.11	76.81	SLD 12	-248.79	-7266.79	0.197	29.21	Si
0.68	0.000509	0.052	0.000509	0.052	3436	SLD 5	3436	7266.79	0.197	2.11	137.65	SLD 12	-222.66	-7266.79	0.197	32.64	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	-1566	SLU 83	-1566	-7764	-63178	-12433	-12433	1	7.94	Si
0.25	0.0000089	0.000509	0	1654	SLU 76	1654	7764	63178	12433	12433	1	7.52	Si
0.34	0.0000089	0.000509	0	2782	SLU 84	2782	7764	63178	12433	12433	1	4.47	Si
0.68	0.0000089	0.000509	0	7060	SLU 84	7060	7764	63178	12433	12433	1	1.76	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	3483	SLV FO 9	3483	7764	63178	12433	12433	1	3.57	Si
0	0.0000089	0.000509	0	-5450	SLV FO 8	-5450	-7764	-63178	-12433	-12433	1	2.28	Si
0.25	0.0000089	0.000509	0	5346	SLV FO 9	5346	7764	63178	12433	12433	1	2.33	Si
0.25	0.0000089	0.000509	0	-3119	SLV FO 8	-3119	-7764	-63178	-12433	-12433	1	3.99	Si
0.34	0.0000089	0.000509	0	6001	SLV FO 9	6001	7764	63178	12433	12433	1	2.07	Si
0.34	0.0000089	0.000509	0	-2264	SLV FO 8	-2264	-7764	-63178	-12433	-12433	1	5.49	Si
0.68	0.0000089	0.000509	0	8444	SLV FO 5	8444	7764	63178	12433	12433	1	1.47	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	1417	SLD 9	1417	7764	63178	12433	12433	1	8.77	Si
0	0.0000089	0.000509	0	-3384	SLD 8	-3384	-7764	-63178	-12433	-12433	1	3.67	Si
0.25	0.0000089	0.000509	0	3382	SLD 9	3382	7764	63178	12433	12433	1	3.68	Si
0.25	0.0000089	0.000509	0	-1156	SLD 8	-1156	-7764	-63178	-12433	-12433	1	10.76	Si
0.34	0.0000089	0.000509	0	4082	SLD 9	4082	7764	63178	12433	12433	1	3.05	Si
0.34	0.0000089	0.000509	0	-345	SLD 8	-345	-7764	-63178	-12433	-12433	1	36.07	Si
0.68	0.0000089	0.000509	0	6707	SLD 5	6707	7764	63178	12433	12433	1	1.85	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	601.83	20	464.81	24585	1494000	368782	36000000	516.29	2	393.4	20808	1120500			Si
0.25	617.62	21	984.37	52067	1494000	781000	36000000	532.57	2	866.61	45838	1120500			Si
0.34	764.87	21	1280.2	67714	1494000	1015715	36000000	666.69	2	1136.08	60091	1120500			Si
0.68	1994.54	21	1994.54	105498	1494000	1582474	36000000	1786.82	2	1786.82	94511	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 238

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-6225.31	SLU 83	-6225.31	-20525.72	0.198	3.3	Si
0.07	0.001451	0.053	0.000509	0.052							-6180.99	SLU 83	-6225.31	-20525.72	0.198	3.3	Si
0.51	0.001451	0.053	0.000509	0.052							-4462.05	SLU 83	-5453.77	-20525.72	0.198	3.76	Si
0.8	0.001451	0.053	0.000509	0.052							-2001.12	SLU 83	-3660.13	-20525.72	0.198	5.61	Si
1.02	0.001451	0.053	0.000509	0.052	716.85	SLU 82	716.85	7792.26	0.123	10.87							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-5548.1	SLV FO 7	-6177.73	-19592.87	0.324	3.17	Si
0.14	0.001451	0.053	0.000509	0.052							-6074.56	SLV FO 7	-6320.99	-19592.87	0.324	3.1	Si
0.51	0.001451	0.053	0.000509	0.052	56.19	SLV FO 9	1087.32	7250.15	0.186	6.67	-6015.85	SLV FO 8	-6318.49	-19592.87	0.324	3.1	Si
0.8	0.001451	0.053	0.000509	0.052	1704.05	SLV FO 9	1704.05	7250.15	0.186	4.25	-4354.8	SLV FO 8	-5561.61	-19592.87	0.324	3.52	Si
1.02	0.001451	0.053	0.000509	0.052	2956.78	SLV FO 9	2328.78	7250.15	0.186	3.11	-2007.33	SLV FO 8	-2007.33	-19592.87	0.324	9.76	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-4920.85	SLD 7	-5178.47	-19592.87	0.324	3.78	Si
0.07	0.001451	0.053	0.000509	0.052							-5065.31	SLD 7	-5184.8	-19592.87	0.324	3.78	Si
0.51	0.001451	0.053	0.000509	0.052							-4611.92	SLD 8	-5085.64	-19592.87	0.324	3.85	Si
0.8	0.001451	0.053	0.000509	0.052	301.74	SLD 9	301.74	7250.15	0.186	24.03	-2952.48	SLD 8	-4117.46	-19592.87	0.324	4.76	Si
1.02	0.001451	0.053	0.000509	0.052	1806.83	SLD 9	1001.9	7250.15	0.186	7.24	-857.37	SLD 8	-857.37	-19592.87	0.324	22.85	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	436	SLU 44	436	10718	63074	20252	20252	1	46.42	Si
0.51	0.0000145	0.001451	0	6714	SLU 84	6714	10718	63074	20252	20252	1	3.02	Si
0.8	0.0000145	0.001451	0	10436	SLU 83	10436	10718	63074	20252	20252	1	1.94	Si
1.02	0.0000145	0.000509	0	13449	SLU 83	13449	7764	63178	20285	20285	1	1.51	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	5715	SLV FO 9	5715	10718	63074	20252	20252	1	3.54	Si
0	0.0000145	0.001451	0	-5303	SLV FO 8	-5303	-10718	-63074	-20252	-20252	1	3.82	Si
0.51	0.0000145	0.001451	0	6016	SLV FO 5	6016	10718	63074	20252	20252	1	3.37	Si
0.8	0.0000145	0.001451	0	8567	SLV FO 7	8567	10718	63074	20252	20252	1	2.36	Si
1.02	0.0000145	0.001451	0	12728	SLV FO 7	12728	10718	63074	20252	20252	1	1.59	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	3156	SLD 9	3156	10718	63074	20252	20252	1	6.42	Si
0	0.0000145	0.001451	0	-2745	SLD 8	-2745	-10718	-63074	-20252	-20252	1	7.38	Si
0.51	0.0000145	0.001451	0	5316	SLD 5	5316	10718	63074	20252	20252	1	3.81	Si
0.8	0.0000145	0.001451	0	7847	SLD 7	7847	10718	63074	20252	20252	1	2.58	Si
1.02	0.0000145	0.001451	0	11010	SLD 7	11010	10718	63074	20252	20252	1	1.84	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-4564.31	20	-4564.31	230294	1494000	3172879	36000000	-4181.4	2	-4181.4	210974	1120500			Si
0.51	-3263.42	20	-3992.44	201440	1494000	2775341	36000000	-2979.83	2	-3649.83	184153	1120500			Si
0.8	-1458.15	20	-2674.8	134958	1494000	1859384	36000000	-1325.37	2	-2439.96	123109	1120500			Si
1.02	531.32	19	531.32	24623	1494000	402119	36000000	474.73	2	474.73	22001	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 246

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 245, 244, 243, 242, 241, 240, 239

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2248	SLU 83	0.037	7026	6916	SLU 83	15877	Si
1.39	0.41	0.0002	2313	SLV FO 8	0.088	2806	7116	SLV FO 8	15877	Si
2.78	0.41	0.0007	2920	SLV FO 8	0.172	10838	8984	SLV FO 8	25722	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1715	SLD 4	0.112	7836	5277	SLD 4	18130	Si
1.39	0.41	0.0002	1918	SLD 8	0.072	3248	5903	SLD 8	15877	Si
2.78	0.41	0.0007	2244	SLD 8	0.142	12622	6904	SLD 8	29580	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000444	1637	SLE RA 20	45742	1494000	567204	36000000	1479	SLE QP 2	41314	1120500	Si
1.39	0.41	0.00000181	1613	SLE RA 20	46646	1494000	578409	36000000	1457	SLE QP 2	42132	1120500	Si
2.78	0.41	0.00000724	1615	SLE RA 20	43552	1494000	540049	36000000	1460	SLE QP 2	39371	1120500	Si

Verifiche di apertura delle fessure
La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 238

Campata 5 tra i fili 11 - 12, sezione R 50x45, aste 237, 236, 235

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3579	SLV FO 8	0.172	10838	11014	SLV FO 8	25722	Si
0.23	0.41	0.0007	3746	SLV FO 8	0.172	10838	11526	SLV FO 8	25722	Si
0.35	0.41	0.0007	3838	SLV FO 8	0.172	10838	11811	SLV FO 8	25722	Si
0.48	0.41	0.0007	3934	SLV FO 8	0.172	10838	12104	SLV FO 8	25722	Si
0.7	0.41	0.0007	4120	SLV FO 8	0.172	10838	12676	SLV FO 8	25722	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2665	SLD 8	0.142	12622	8199	SLD 8	29580	Si
0.23	0.41	0.0007	2772	SLD 8	0.142	12622	8529	SLD 8	29580	Si
0.35	0.41	0.0007	2831	SLD 8	0.142	12622	8712	SLD 8	29580	Si
0.48	0.41	0.0007	2892	SLD 8	0.142	12622	8899	SLD 8	29580	Si
0.7	0.41	0.0007	3013	SLD 8	0.142	12622	9269	SLD 8	29580	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000724	1774	SLE RA 20	47827	1494000	593059	36000000	1607	SLE QP 2	43321	1120500	Si
0.23	0.41	0.00000724	1817	SLE RA 20	48992	1494000	607502	36000000	1646	SLE QP 2	44394	1120500	Si
0.35	0.41	0.00000724	1840	SLE RA 20	49603	1494000	615073	36000000	1667	SLE QP 2	44956	1120500	Si
0.48	0.41	0.00000724	1863	SLE RA 20	50234	1494000	622905	36000000	1689	SLE QP 2	45537	1120500	Si
0.7	0.41	0.00000724	1912	SLE RA 20	51547	1494000	639189	36000000	1734	SLE QP 2	46744	1120500	Si

Verifiche di apertura delle fessure
La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
5.41	1.1	SLU 2	ST	LT	-372	-594	-47138	0	-1	19	0	0	1.1	14338	701	20.46	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
246,245,244,243,242,241,240,239,238,237,236,235	5.41	1.1	SLU 83	ST	BT	2.3	249834	75773	3.3	Si
246,245,244,243,242,241,240,239,238,237,236,235	5.41	1.1	SLV FO 8	SIS	BT	2.3	219932	81869	2.69	Si
246,245,244,243,242,241,240,239,238,237,236,235	5.41	1.1	SLD 8	SIS	BT	2.3	231496	67812	3.41	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-918	-75773	327.85	2794.94	0	-1	0.04	0	1.09	5.34	1496	2060	0	14430	
0	248	-81869	-47.13	31793.02	0	0	0.39	0	1.1	4.63	1496	2060	0	14430	0.07
0	-85	-67812	42.48	17856.48	0	0	0.26	0	1.1	4.88	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

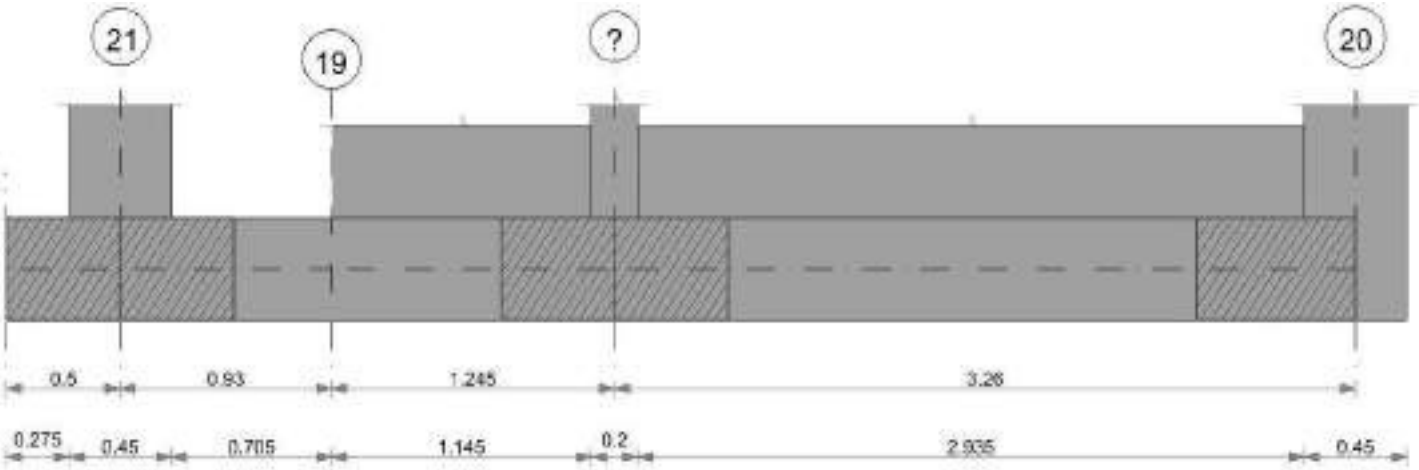
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	775	SLE RA 20	0.05	0.001	775	1068	SLE RA 21	0.05	0	775	SLE RA 16	0.0033	0	SLE RA 9	Si
D	0.05	0	723	SLE RA 1	0.05	0	723	723	SLE RA 1	0.05	0	775	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	723	SLE RA 1	0.05	0	723	723	SLE RA 1	0.05	0	775	SLE RA 1	0.0033	0	SLE RA 1	Si

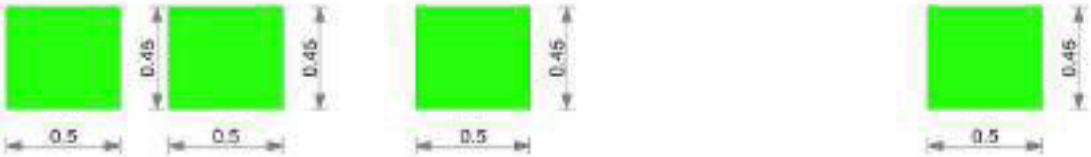
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	998	1068	SLE RA 20	0.19	0.02	775	SLE RA 16	0.1	0.01	925	SLE RA 9	Si
D	0.19	0	SLE RA 1	0.19	0	723	775	SLE RA 1	0.19	0	723	SLE RA 1	0.1	0	775	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	723	775	SLE RA 1	0.19	0	723	SLE RA 1	0.1	0	775	SLE RA 1	Si

CORDOLO 25

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

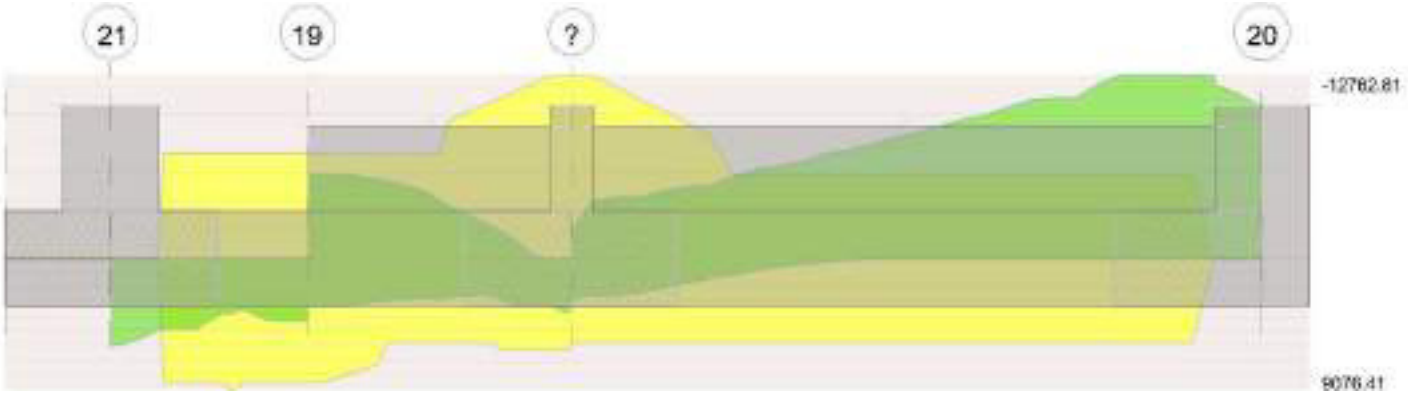
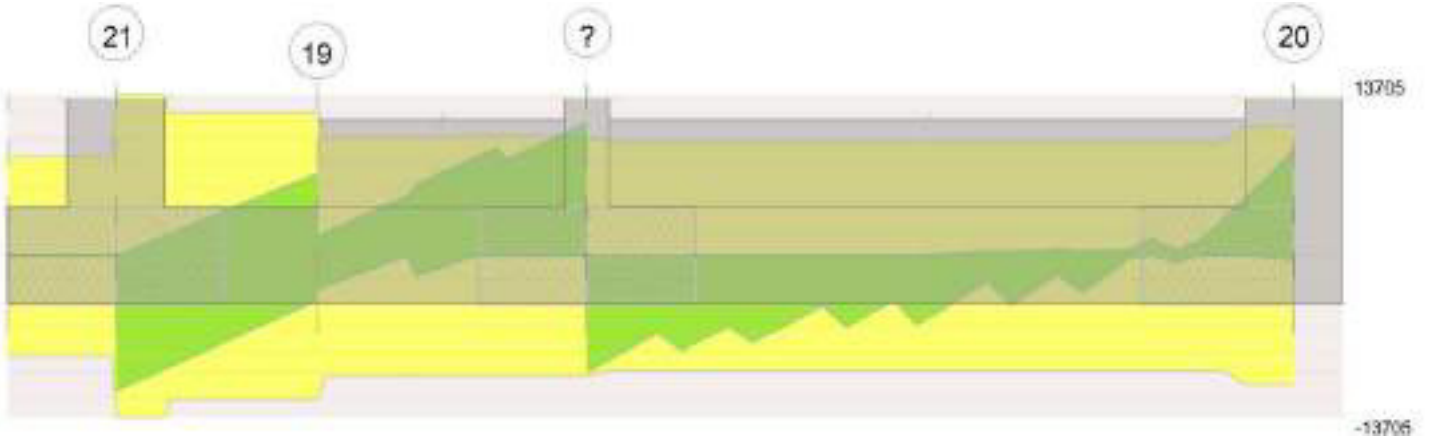


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 21 - 19, sezione R 50x45, asta 260

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	3494.13	SLU 83	4266.32	9076.41	0.12	2.13							Si
0.93	0.000509	0.052	0.000603	0.051	3294.67	SLU 84	3294.67	9076.41	0.12	2.75							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	2818.45	SLV FO 12	4312.84	8577.24	0.213	1.99							Si
0.93	0.000509	0.052	0.000603	0.051	4326.57	SLV FO 9	4326.57	8577.24	0.213	1.98							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	2578.16	SLD 12	3605.66	8577.24	0.213	2.38							Si
0.93	0.000509	0.052	0.000603	0.051	3333.58	SLD 9	3333.58	8577.24	0.213	2.57							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	-8824	SLU 83	-8824	-8455	-71432	-13705	-13705	1	1.55	Si
0.23	0.0000086	0	0	-6110	SLU 83	-6110	-8455	-71432	-13705	-13705	1	2.24	Si
0.47	0.0000086	0	0	-3237	SLU 83	-3237	-7777	-63336	-12152	-12152	1	3.75	Si
0.93	0.0000086	0.000603	0	2306	SLU 76	2306	8014	63336	12152	12152	1	5.27	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	-11475	SLV FO 12	-11475	-8455	-71432	-13705	-13705	1	1.19	Si
0.23	0.0000086	0	0	1714	SLV FO 5	1714	8455	71432	13705	13705	1	8	Si
0.23	0.0000086	0	0	-9608	SLV FO 12	-9608	-8455	-71432	-13705	-13705	1	1.43	Si
0.47	0.0000086	0	0	3535	SLV FO 5	3535	7777	63336	12152	12152	1	3.44	Si
0.47	0.0000086	0	0	-7614	SLV FO 12	-7614	-7777	-63336	-12152	-12152	1	1.6	Si
0.93	0.0000086	0.000603	0	6946	SLV FO 5	6946	8014	63336	12152	12152	1	1.75	Si
0.93	0.0000086	0.000603	0	-3788	SLV FO 12	-3788	-8014	-63336	-12152	-12152	1	3.21	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	-8805	SLD 12	-8805	-8455	-71432	-13705	-13705	1	1.56	Si
0.23	0.0000086	0	0	-6968	SLD 12	-6968	-8455	-71432	-13705	-13705	1	1.97	Si
0.47	0.0000086	0	0	935	SLD 5	935	7777	63336	12152	12152	1	12.99	Si
0.47	0.0000086	0	0	-5015	SLD 12	-5015	-7777	-63336	-12152	-12152	1	2.42	Si
0.93	0.0000086	0.000603	0	4444	SLD 5	4444	8014	63336	12152	12152	1	2.73	Si
0.93	0.0000086	0.000603	0	-1286	SLD 12	-1286	-8014	-63336	-12152	-12152	1	9.45	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4578.5	20	3858.2	228634	1494000	0	36000000	4103.72	2	3457.93	204914	1120500			Si
0.23	3360.16	20	3360.16	199120	1494000	0	36000000	3013.9	2	3013.9	178601	1120500			Si
0.47	2549.41	20	3106.77	163359	1494000	2427636	36000000	2295.17	2	2788.26	146611	1120500			Si
0.93	2420.31	21	2420.31	127264	1494000	1891233	36000000	2192.71	2	2192.71	115296	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 21 - 19, sezione R 50x45, asta 260

Campata 3 tra i fili 19 - ?, sezione R 50x45, aste 259, 258, 257

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2042	SLU 83	0.036	6853	6282	SLU 83	15877	Si
0.62	0.41	0.0004	1933	SLU 83	0.031	5772	5947	SLU 83	15877	Si
1.15	0.41	0.0004	1844	SLU 83	0.031	5772	5675	SLU 83	15877	Si
1.25	0.41	0.0004	1824	SLU 83	0.031	5772	5612	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1401	SLD 7	0.111	7644	4312	SLD 7	17675	Si
0.62	0.41	0.0004	1383	SLD 7	0.101	6448	4255	SLD 7	15877	Si
1.15	0.41	0.0004	1387	SLD 7	0.101	6448	4267	SLD 7	15877	Si
1.25	0.41	0.0004	1385	SLD 7	0.101	6448	4263	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000432	1486	SLE RA 20	41578	1494000	515568	36000000	1338	SLE QP 2	37425	1120500	Si
0.62	0.41	0.00000363	1406	SLE RA 20	39701	1494000	492292	36000000	1266	SLE QP 2	35736	1120500	Si
1.15	0.41	0.00000363	1342	SLE RA 20	37869	1494000	469577	36000000	1208	SLE QP 2	34086	1120500	Si
1.25	0.41	0.00000363	1327	SLE RA 20	37449	1494000	464362	36000000	1194	SLE QP 2	33705	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 20, sezione R 50x45, aste 256, 255, 254, 253, 252, 251, 250, 249

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1824	SLU 83	0.031	5772	5612	SLU 83	15877	Si
0.1	0.41	0.0003	1803	SLU 83	0.029	5502	5549	SLU 83	15877	Si
1.63	0.41	0.0003	1994	SLV FO 8	0.12	5299	6135	SLV FO 8	15877	Si
3.03	0.41	0.0003	3269	SLV FO 8	0.12	5299	10058	SLV FO 8	15877	Si
3.26	0.41	0.0003	3581	SLV FO 8	0.12	5299	11020	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1385	SLD 7	0.101	6448	4263	SLD 7	15877	Si
0.1	0.41	0.0003	1384	SLD 7	0.099	6148	4259	SLD 7	15877	Si
1.63	0.41	0.0003	1568	SLD 8	0.099	6148	4825	SLD 8	15877	Si
3.03	0.41	0.0003	2409	SLD 8	0.099	6148	7412	SLD 8	15877	Si
3.26	0.41	0.0003	2627	SLD 8	0.099	6148	8083	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000363	1327	SLE RA 20	37449	1494000	464362	36000000	1194	SLE QP 2	33705	1120500	Si
0.1	0.41	0.00000346	1312	SLE RA 20	37106	1494000	460113	36000000	1180	SLE QP 2	33395	1120500	Si
1.63	0.41	0.00000346	1199	SLE RA 20	33917	1494000	420566	36000000	1079	SLE QP 2	30535	1120500	Si
3.03	0.41	0.00000346	1575	SLE RA 20	44552	1494000	552441	36000000	1423	SLE QP 2	40265	1120500	Si
3.26	0.41	0.00000346	1696	SLE RA 20	47978	1494000	594927	36000000	1534	SLE QP 2	43393	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
5.66	1.1	SLU 2	ST	LT	-719	-76	-42574	-1	0	19	0	0	1.1	12950	723	17.9	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
260,259,258,257,256,255,254,253,252,251,250,249	5.66	1.1	SLU 83	ST	BT	2.3	241462	68033	3.55	Si
260,259,258,257,256,255,254,253,252,251,250,249	5.66	1.1	SLV FO 12	SIS	BT	2.3	197922	63886	3.1	Si
260,259,258,257,256,255,254,253,252,251,250,249	5.66	1.1	SLD 12	SIS	BT	2.3	217142	55617	3.9	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-120	-68033	3005.67	-3101.63	0	0	-0.05	0.04	1.01	5.57	1496	2060	0	14430	
0	-2506	-63886	4717.46	24711.65	0	-2	0.39	0.07	0.95	4.89	1496	2060	0	14430	0.07
0	-1479	-55617	3491.11	12195.92	0	-2	0.22	0.06	0.97	5.22	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

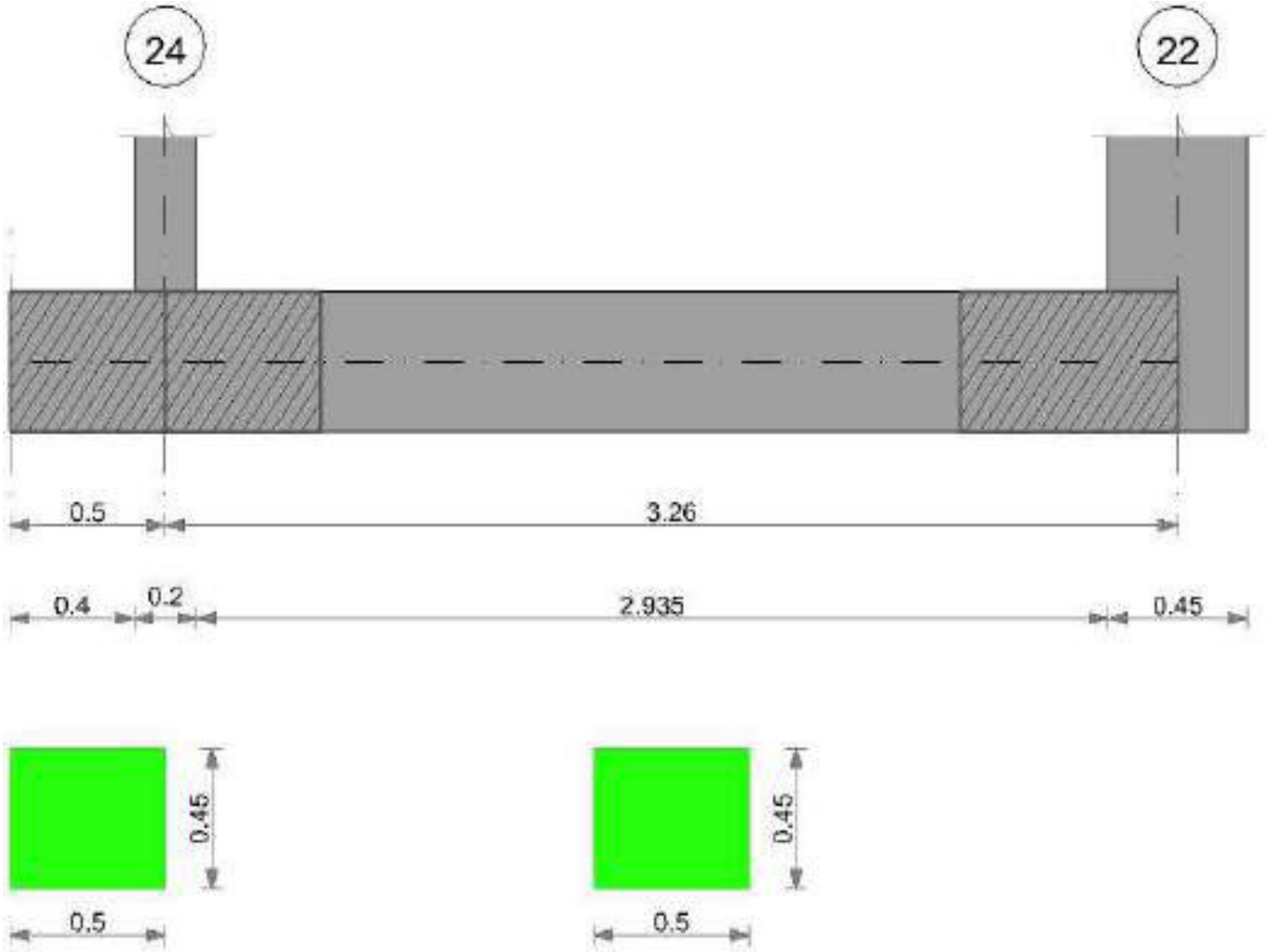
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	662	SLE RA 20	0.05	0.001	662	1081	SLE RA 21	0.05	0	776	SLE RA 20	0.0033	0	SLE FR 6	Si
D	0.05	0	662	SLE RA 1	0.05	0	662	662	SLE RA 1	0.05	0	776	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	662	SLE RA 1	0.05	0	662	662	SLE RA 1	0.05	0	776	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	776	838	SLE RA 21	0.19	0.01	776	SLE RA 19	0.1	0.01	838	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	662	776	SLE RA 1	0.19	0	662	SLE RA 1	0.1	0	776	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	662	776	SLE RA 1	0.19	0	662	SLE RA 1	0.1	0	776	SLE RA 1	Si

CORDOLO 26

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

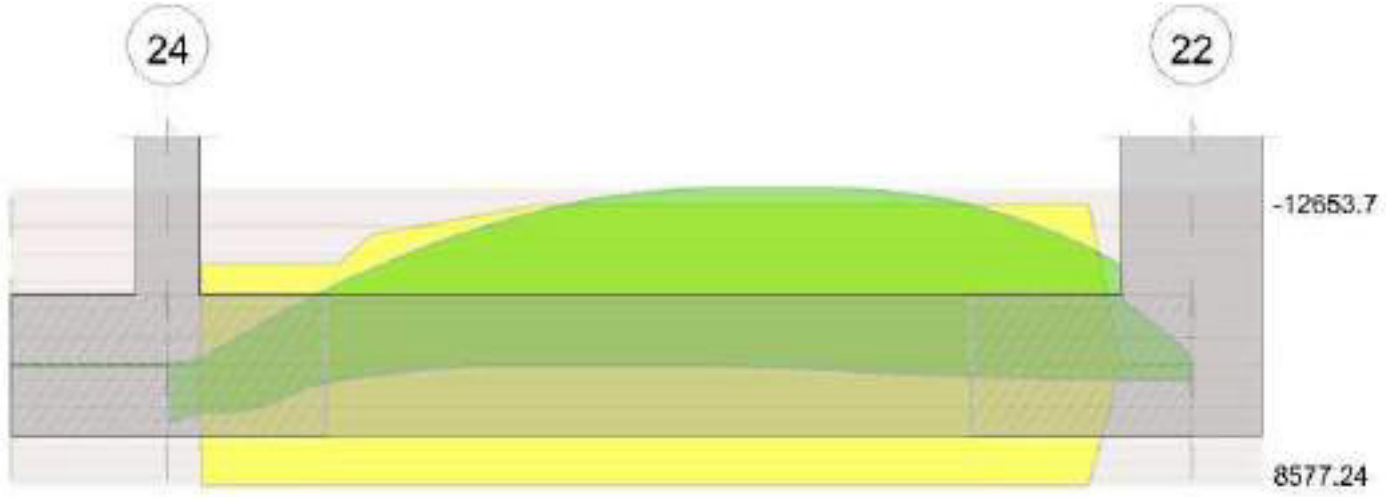
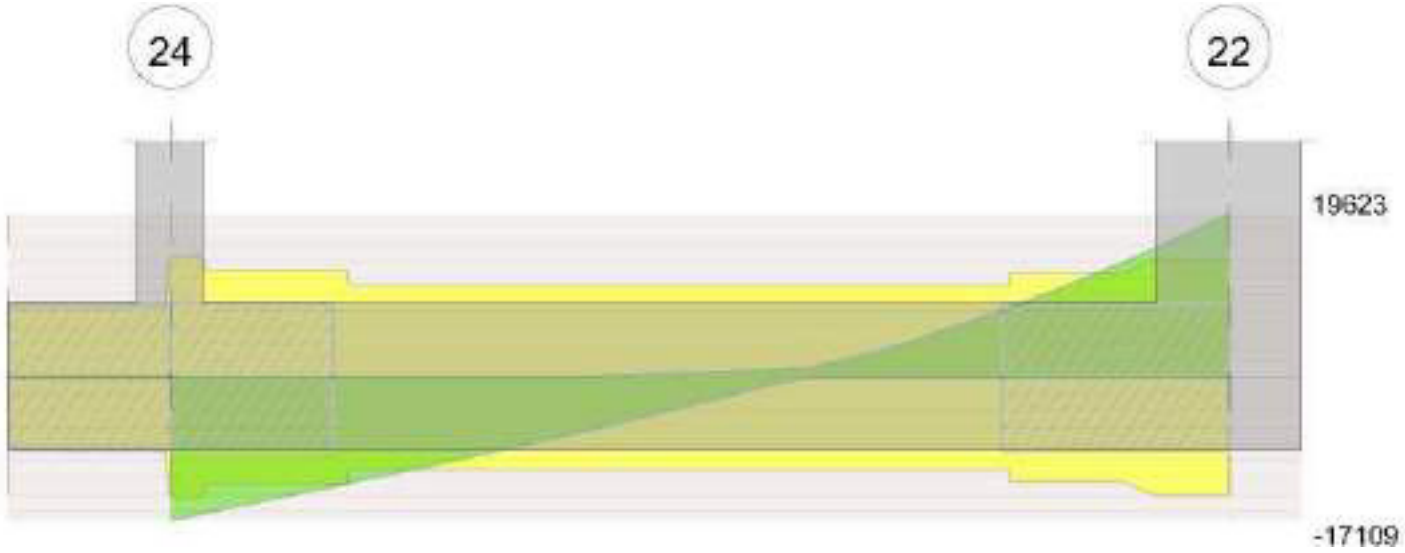


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 24 - 22, sezione R 50x45, aste 248, 247

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	3538.03	20	2956.43	175196	1494000	0	36000000	3205.8	2	2677.26	158652	1120500			Si
0.1	2407.78	20	2407.78	142683	1494000	0	36000000	2178.63	2	2178.63	129104	1120500			Si
1.63	-6859.32	20	-6991.02	602741	1494000	23701478	36000000	-6245.05	2	-6364.62	548734	1120500			Si
3.03	-2058.02	20	-3485.92	-206573	1494000	0	36000000	-1872.15	2	-3172.5	-188000	1120500			Si
3.26	153.26	21	153.26	9082	1494000	0	36000000	135.91	2	135.91	8054	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
1.63	superiore	0.365	0.00069	0.000252	20	0.365	0.00066	0.00024	6	0.365	0.00063	0.00023	2	Si
1.96	superiore	0.365	0.00069	0.000253	20	0.365	0.00066	0.000241	6	0.365	0.00063	0.000231	2	Si

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
3.48	1.1	SLU 2	ST	LT	-399	-21	-23085	-1	0	19	0	0	1.1	7022	400	17.57	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
248,247	3.48	1.1	SLU 83	ST	BT	2.3	160273	36930	4.34	Si
248,247	3.48	1.1	SLV FO 7	SIS	BT	2.3	136596	41374	3.3	Si
248,247	3.48	1.1	SLD 7	SIS	BT	2.3	144624	33831	4.27	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-43	-36930	-101.04	2632.11	0	0	0.07	0	1.09	3.34	1496	2060	0	14430	
0	1327	-41374	-702.34	11483.45	0	2	0.28	-0.02	1.07	2.93	1496	2060	0	14430	0.07
0	759	-33831	-435.42	6941.12	0	1	0.21	-0.01	1.07	3.07	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

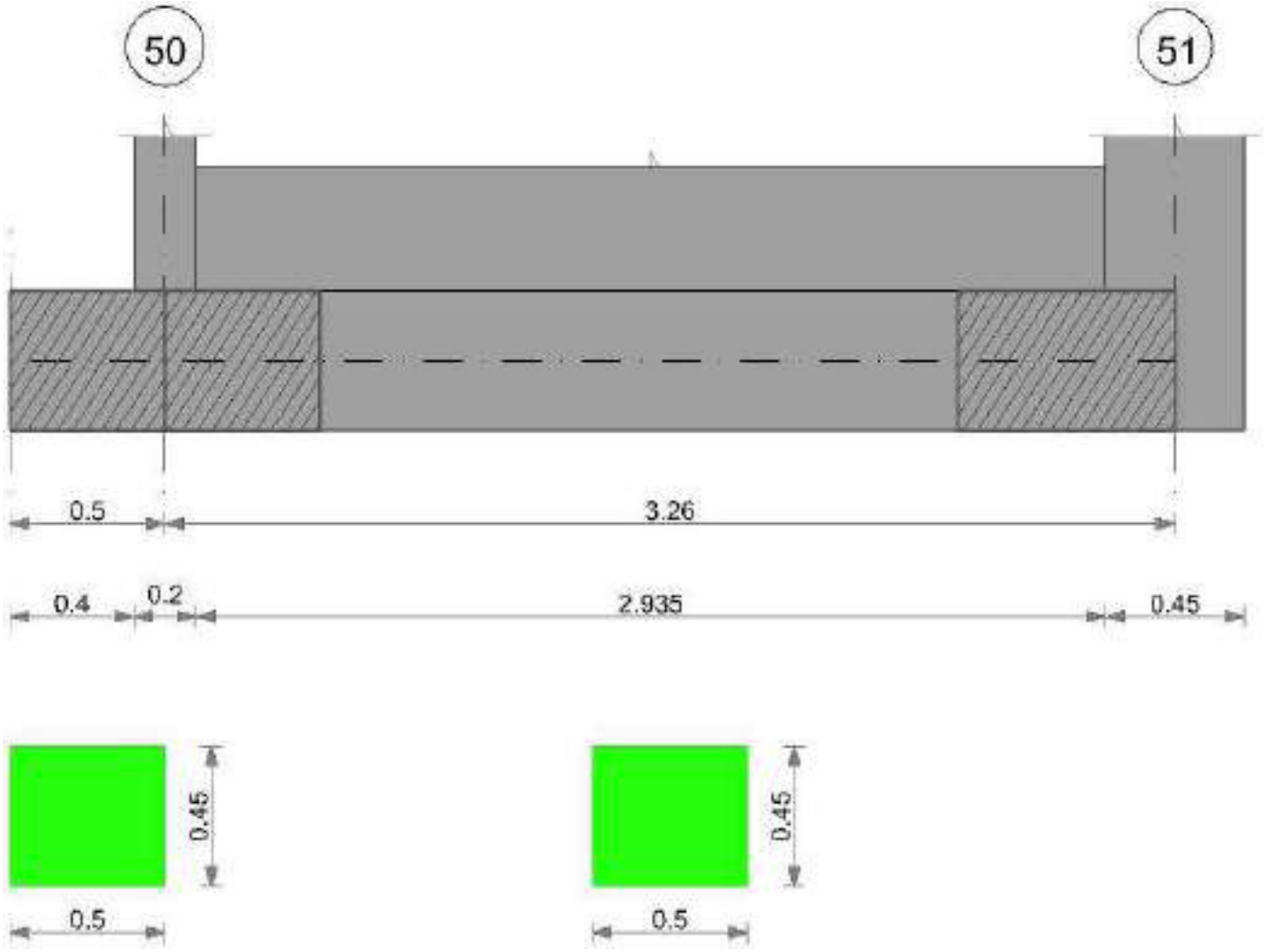
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	840	SLE RA 20	0.05	0.001	840	1083	SLE RA 20	0.05	0	840	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	840	SLE RA 1	0.05	0	840	840	SLE RA 1	0.05	0	840	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	840	SLE RA 1	0.05	0	840	840	SLE RA 1	0.05	0	840	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	840	1083	SLE RA 20	0.19	0	840	SLE RA 1	0.1	0	840	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	840	1083	SLE RA 1	0.19	0	840	SLE RA 1	0.1	0	840	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	840	1083	SLE RA 1	0.19	0	840	SLE RA 1	0.1	0	840	SLE RA 1	Si

CORDOLO 27

Geometria



Caratteristiche dei materiali

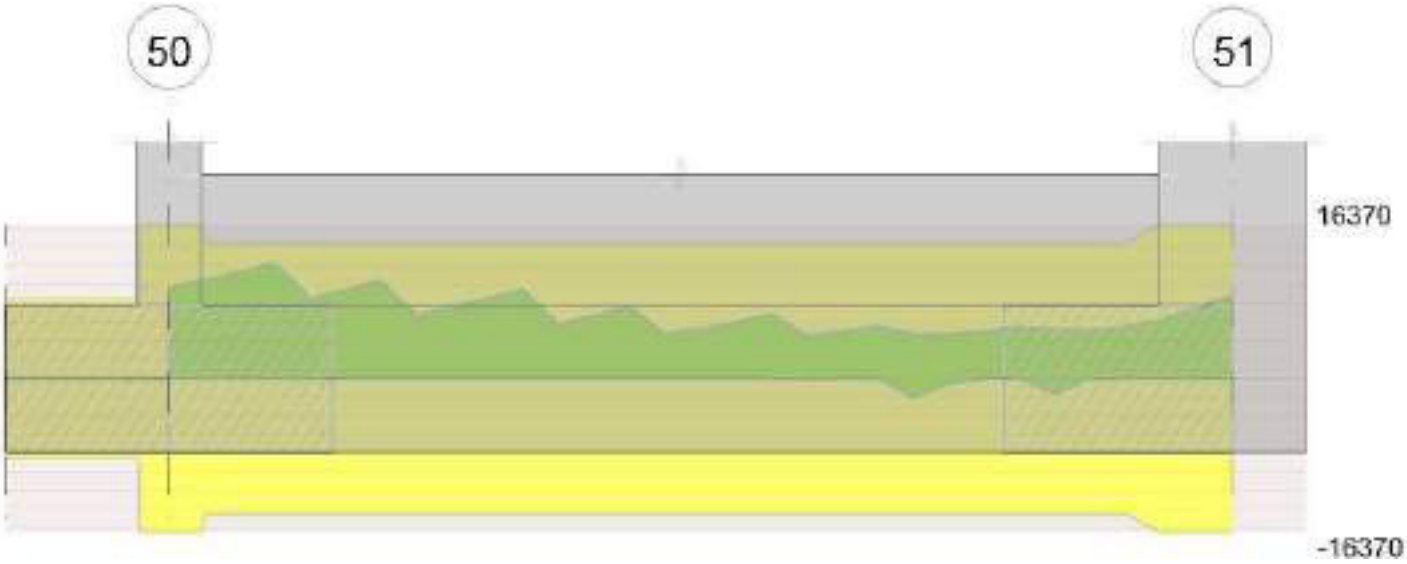
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 50 - 51, sezione R 50x45, aste 280, 279, 278, 277, 276, 275, 274, 273

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1722	SLU 83	0.044	8162	4919	SLU 83	15877	Si
0.1	0.41	0.0005	1710	SLU 83	0.044	8162	4885	SLU 83	15877	Si
1.63	0.41	0.0005	2333	SLV FO 11	0.146	7821	6666	SLV FO 11	15877	Si
3.03	0.41	0.0005	3639	SLV FO 11	0.146	7821	10397	SLV FO 11	15877	Si
3.26	0.41	0.0005	3930	SLV FO 11	0.146	7821	11229	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1360	SLD 12	0.121	9092	3885	SLD 12	15877	Si
0.1	0.41	0.0005	1368	SLD 12	0.121	9092	3909	SLD 12	15877	Si
1.63	0.41	0.0005	1801	SLD 11	0.121	9092	5145	SLD 11	15877	Si
3.03	0.41	0.0005	2672	SLD 11	0.121	9092	7635	SLD 11	15877	Si
3.26	0.41	0.0005	2874	SLD 11	0.121	9092	8212	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000516	1250	SLE RA 20	34599	1494000	429023	36000000	1121	SLE QP 2	31027	1120500	Si
0.1	0.41	0.00000516	1241	SLE RA 20	34351	1494000	425947	36000000	1113	SLE QP 2	30801	1120500	Si
1.63	0.41	0.00000516	1322	SLE RA 20	36581	1494000	453601	36000000	1188	SLE QP 2	32877	1120500	Si
3.03	0.41	0.00000516	1731	SLE RA 20	47901	1494000	593968	36000000	1564	SLE QP 2	43275	1120500	Si
3.26	0.41	0.00000516	1840	SLE RA 20	50914	1494000	631334	36000000	1663	SLE QP 2	46035	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
3.48	1.1	SLU 2	ST	LT	-297	80	-23099	-1	0	19	0	0	1.1	7026	308	22.82	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
280,279,278,277,276,275,274,273	3.48	1.1	SLU 83	ST	BT	2.3	159624	37031	4.31	Si
280,279,278,277,276,275,274,273	3.48	1.1	SLV FO 12	SIS	BT	2.3	137397	42937	3.2	Si
280,279,278,277,276,275,274,273	3.48	1.1	SLD 12	SIS	BT	2.3	144788	34705	4.17	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	119	-37031	70.98	2980.24	0	0	0.08	0	1.1	3.32	1496	2060	0	14430	
0	-1205	-42937	681.29	11720.86	0	-2	0.27	0.02	1.07	2.94	1496	2060	0	14430	0.07
0	-668	-34705	416.01	7180.93	0	-1	0.21	0.01	1.08	3.07	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

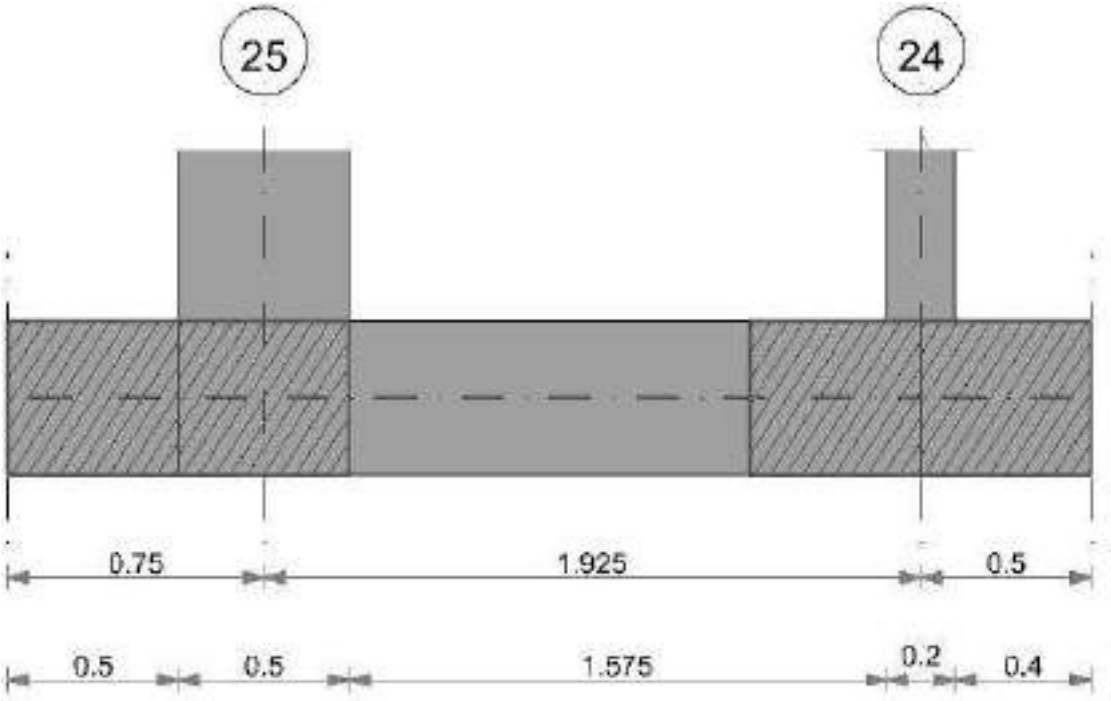
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	852	SLE RA 20	0.05	0.001	852	1096	SLE RA 20	0.05	0	852	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	852	SLE RA 1	0.05	0	852	852	SLE RA 1	0.05	0	852	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	852	SLE RA 1	0.05	0	852	852	SLE RA 1	0.05	0	852	SLE RA 1	0.0033	0	SLE RA 1	Si

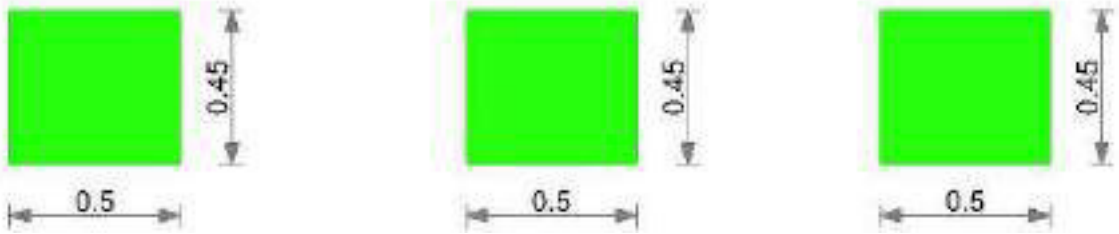
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	852	1096	SLE RA 20	0.19	0	852	SLE RA 1	0.1	0	852	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	852	1096	SLE RA 1	0.19	0	852	SLE RA 1	0.1	0	852	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	852	1096	SLE RA 1	0.19	0	852	SLE RA 1	0.1	0	852	SLE RA 1	Si

CORDOLO 28

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

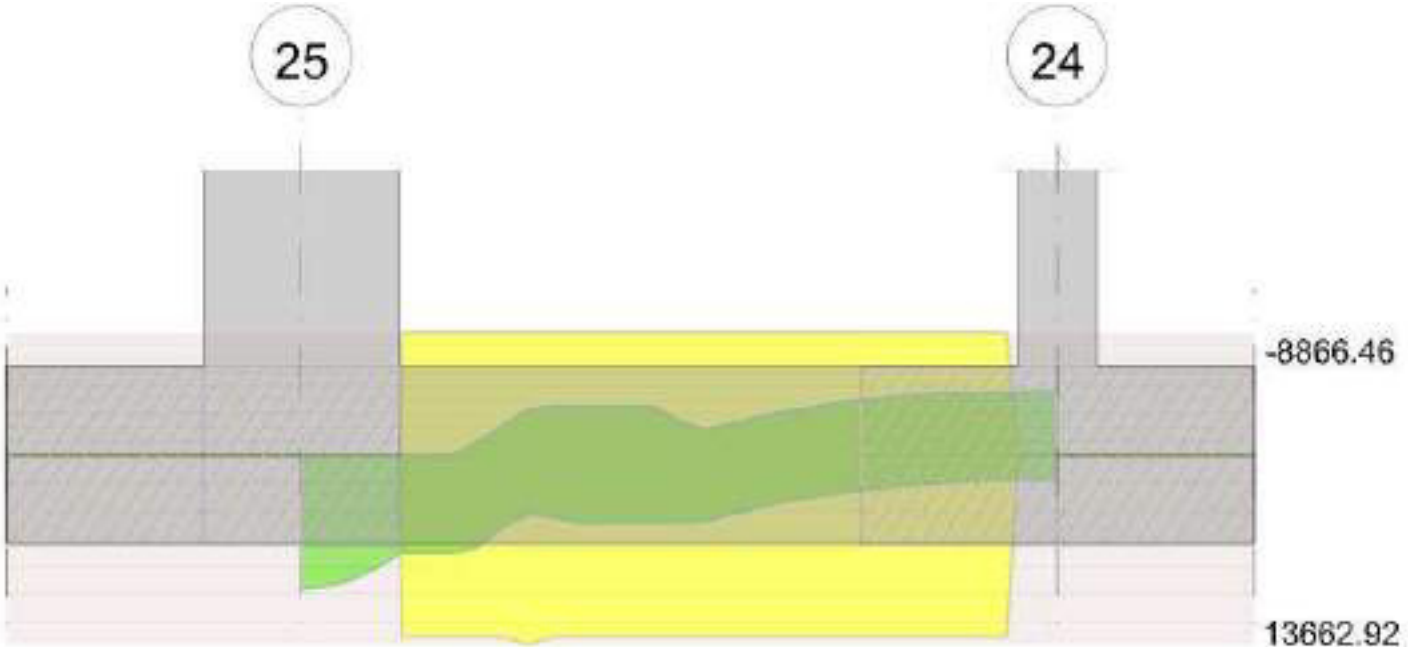
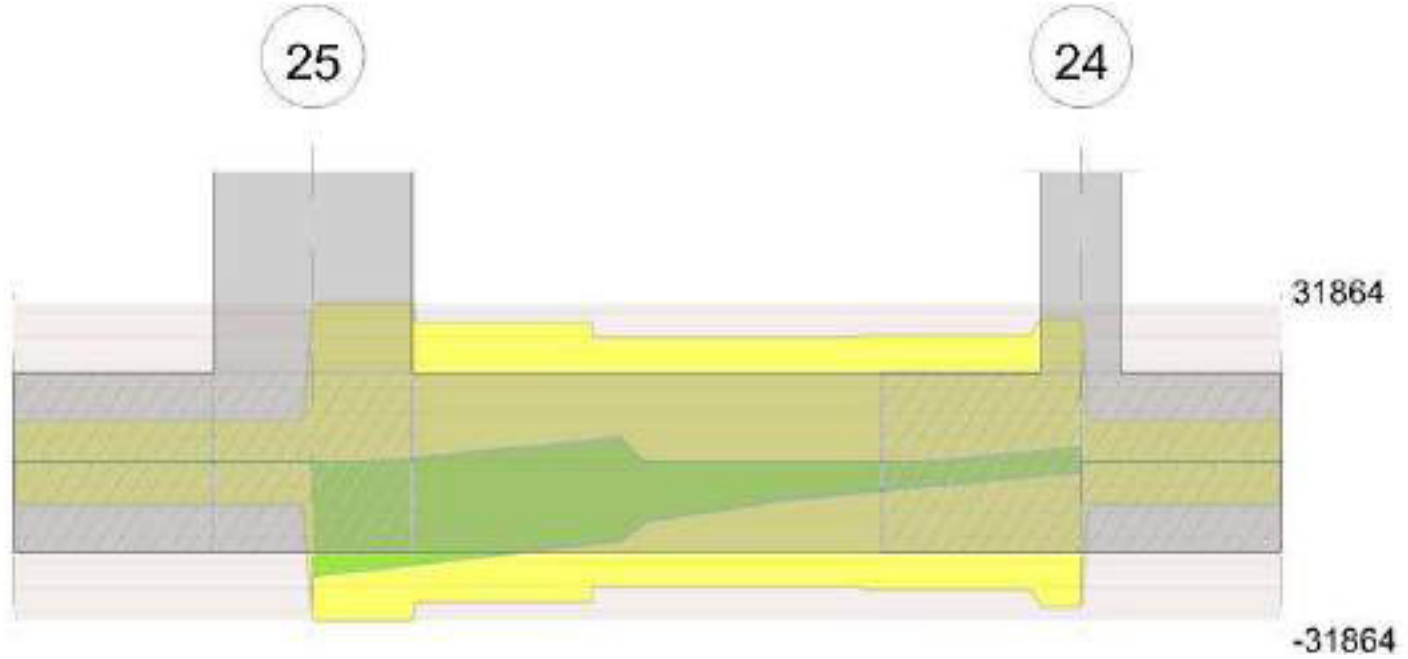


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 25 - 24, sezione R 50x45, aste 746, 745

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.96	2225.22	21	3399.03	172749	1494000	2517199	36000000	2020.81	2	3092.1	157150	1120500			Si
1.83	-1511.01	20	-1511.01	-89541	1494000	0	36000000	-1382.55	2	-1382.55	-81929	1120500			Si
1.93	-1496.7	20	-1496.7	-88694	1494000	0	36000000	-1372.74	2	-1372.74	-81347	1120500			Si

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
1.93	1.1	SLU 2	ST	LT	-221	-19	-16967	-1	0	19	0	0	1.1	5161	222	23.23	Si
1.93	1.1	SLV FO 5	SIS	LT	-3628	729	-16608	-12	3	19	0	0	1.1	5052	3701	1.37	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
746,745	1.93	1.1	SLU 84	ST	BT	2.3	91015	27027	3.37	Si
746,745	1.93	1.1	SLV FO 7	SIS	BT	2.3	83741	20253	4.13	Si
746,745	1.93	1.1	SLD 1	SIS	BT	2.3	82618	18207	4.54	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-254	-17	-27027	-189.23	-1082.99	-1	0	-0.04	-0.01	1.09	1.84	1496	2060	0	14430	

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
3203	817	-20253	-483.86	1358.29	9	2	0.07	-0.02	1.05	1.79	1496	2060	0	14430	0.07
-773	1471	-18207	-805.77	-873.15	-2	5	-0.05	-0.04	1.01	1.83	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.12	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.12	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.11	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

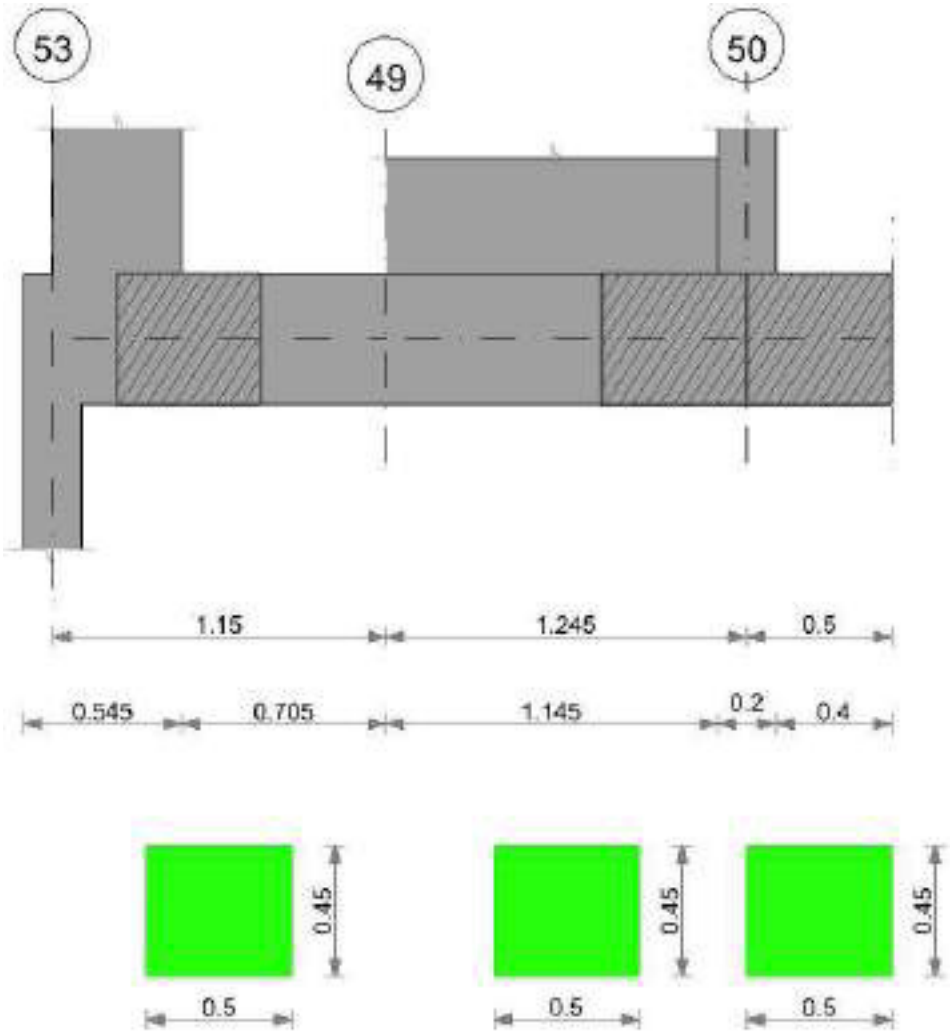
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	664	SLE RA 20	0.05	0	664	840	SLE RA 21	0.05	0	664	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	664	SLE RA 1	0.05	0	664	664	SLE RA 1	0.05	0	664	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	664	SLE RA 1	0.05	0	664	664	SLE RA 1	0.05	0	664	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	664	840	SLE RA 21	0.19	0	664	SLE RA 1	0.1	0	664	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	664	840	SLE RA 1	0.19	0	664	SLE RA 1	0.1	0	664	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	664	840	SLE RA 1	0.19	0	664	SLE RA 1	0.1	0	664	SLE RA 1	Si

CORDOLO 29

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

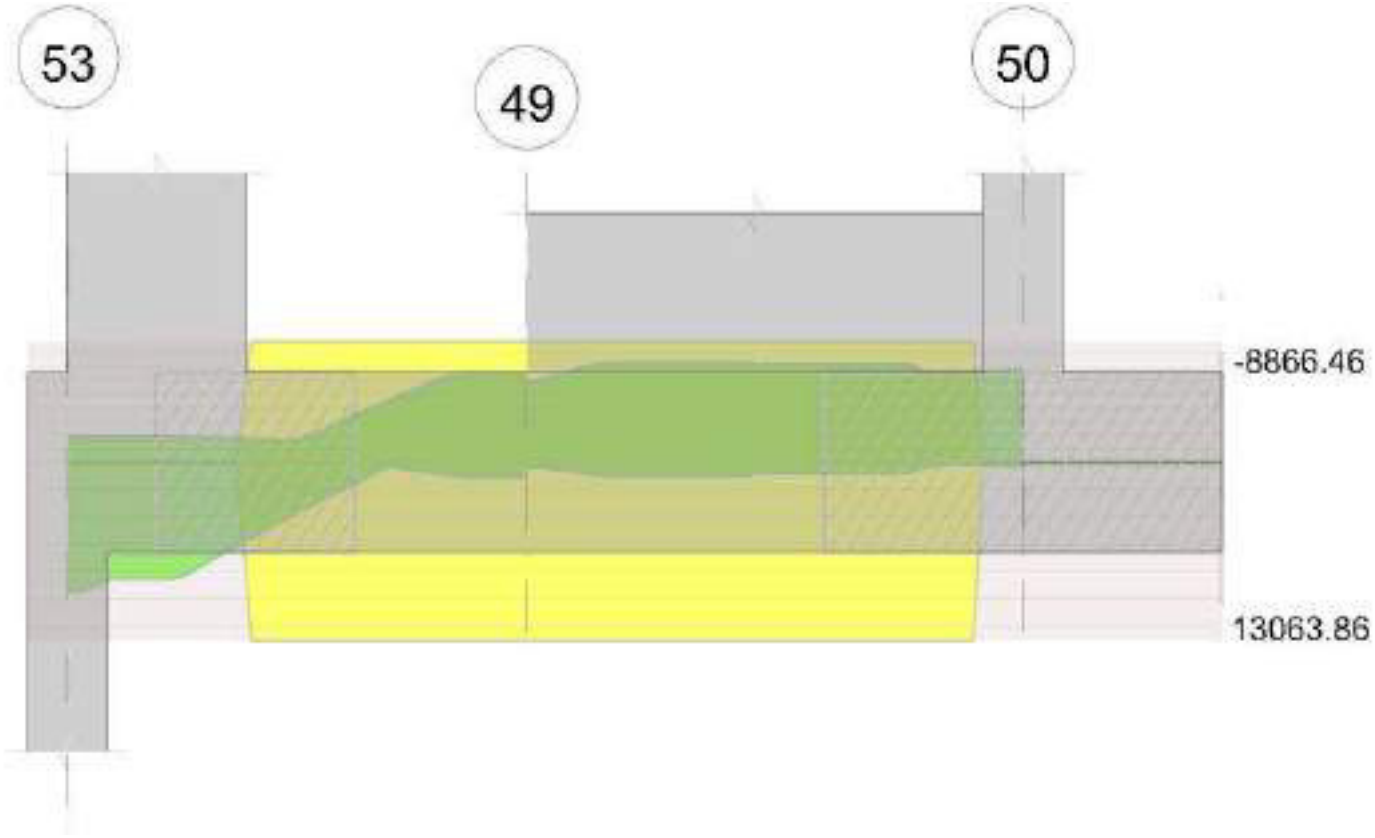
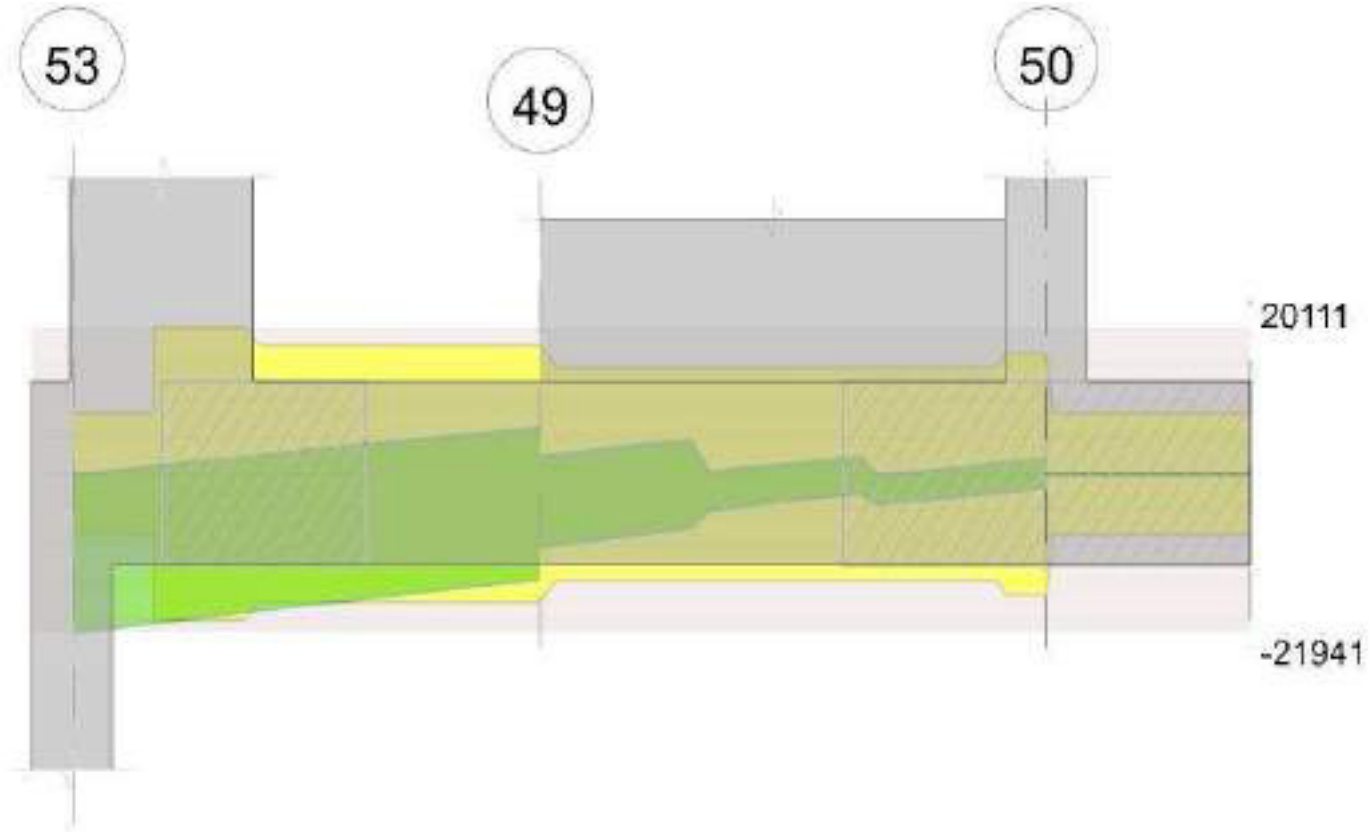


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 53 - 49, sezione R 50x45, asta 750

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	-60.55	SLU 27	1608.88	13662.92	0.147	8.49	-172.46	SLU 52	-1606.53	-9390.61	0.127	5.85	Si
1.15	0.000628	0.053	0.000942	0.053							-4098.3	SLU 83	-4098.3	-9390.61	0.127	2.29	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	982.94	SLV FO 7	3687.93	13063.86	0.261	3.54	-1179.11	SLV FO 10	-1641.87	-8866.46	0.211	5.4	Si
1.15	0.000628	0.053	0.000942	0.053	1043.49	SLV FO 10	1043.49	13063.86	0.261	12.52	-6602.84	SLV FO 7	-6602.84	-8866.46	0.211	1.34	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	485.27	SLD 7	2473.83	13063.86	0.261	5.28	-681.44	SLD 10	-1390.2	-8866.46	0.211	6.38	Si
1.15	0.000628	0.053	0.000942	0.053							-4828.03	SLD 7	-4828.03	-8866.46	0.211	1.84	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-16566	SLU 83	-16566	-8455	-71432	0	-8455	1	0.51	Si
0.58	0.0000127	0	0	-11092	SLU 83	-11092	-7751	-63019	-17742	-17742	1	1.6	Si
1.15	0.0000127	0.000628	0	-6108	SLU 83	-6108	-8105	-63019	-17742	-17742	1	2.9	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-21941	SLV FO 7	-21941	-8455	-71432	0	-8455	1	0.39	Si
0.1	0	0	0	362	SLV FO 10	362	8455	71432	0	8455	1	23.34	Si
0.58	0.0000127	0	0	3193	SLV FO 10	3193	7751	63019	17742	17742	1	5.56	Si
1.15	0.0000127	0.000942	0	6294	SLV FO 10	6294	9278	63019	17742	17742	1	2.82	Si
1.15	0.0000127	0.000628	0	-14564	SLV FO 7	-14564	-8105	-63019	-17742	-17742	1	1.22	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-16913	SLD 7	-16913	-8455	-71432	0	-8455	1	0.5	Si
0.58	0.0000127	0	0	-13164	SLD 7	-13164	-7751	-63019	-17742	-17742	1	1.35	Si
1.15	0.0000127	0.000628	0	1464	SLD 10	1464	8105	63019	17742	17742	1	12.12	Si
1.15	0.0000127	0.000628	0	-9734	SLD 7	-9734	-8105	-63019	-17742	-17742	1	1.82	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4607.74	20	4226.84	250479	1494000	0	36000000	4203.8	2	3855.73	228487	1120500			Si

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.1	3655.42	20	3655.42	216618	1494000	0	36000000	3333.42	2	3333.42	197536	1120500			Si
0.58	-115.93	10	-1189.06	58705	1494000	906477	36000000	-98.08	2	-1099.01	54259	1120500			Si
1.15	-3020.01	20	-3020.01	149101	1494000	2302289	36000000	-2779.67	2	-2779.67	137235	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 53 - 49, sezione R 50x45, asta 750

Campata 2 tra i fili 49 - 50, sezione R 50x45, aste 749, 748, 747

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2079	SLU 83	0.054	9986	5941	SLU 83	15877	Si
0.62	0.41	0.0005	1847	SLU 83	0.044	8292	5276	SLU 83	15877	Si
1.15	0.41	0.0005	1735	SLU 83	0.044	8292	4956	SLU 83	15877	Si
1.25	0.41	0.0005	1722	SLU 83	0.044	8292	4919	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1470	SLD 12	0.133	11109	4201	SLD 12	15877	Si
0.62	0.41	0.0005	1358	SLD 12	0.122	9235	3880	SLD 12	15877	Si
1.15	0.41	0.0005	1352	SLD 12	0.122	9235	3863	SLD 12	15877	Si
1.25	0.41	0.0005	1360	SLD 12	0.122	9235	3885	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000635	1514	SLE RA 20	41282	1494000	511898	36000000	1363	SLE QP 2	37166	1120500	Si
0.62	0.41	0.00000525	1343	SLE RA 20	37116	1494000	460234	36000000	1206	SLE QP 2	33332	1120500	Si
1.15	0.41	0.00000525	1260	SLE RA 20	34827	1494000	431853	36000000	1130	SLE QP 2	31236	1120500	Si
1.25	0.41	0.00000525	1250	SLE RA 20	34562	1494000	428565	36000000	1121	SLE QP 2	30994	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
2.5	1.1	SLU 2	ST	LT	-140	81	-16621	0	0	19	0	0	1.1	5056	162	31.3	Si
2.5	1.1	SLV FO 6	SIS	LT	-4015	921	-15563	-14	3	19	0	0	1.1	4734	4119	1.15	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
750,749,748,747	2.5	1.1	SLU 84	ST	BT	2.3	116638	26214	4.45	Si
750,749,748,747	2.5	1.1	SLV FO 14	SIS	BT	2.3	97356	18718	5.2	Si
750,749,748,747	2.5	1.1	SLD 14	SIS	BT	2.3	105452	18405	5.73	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-118	124	-26214	2.36	-1570.59	0	0	-0.06	0	1.1	2.38	1496	2060	0	14430	
-1358	-2478	-18718	1263.8	-1646.87	-4	-8	-0.09	0.07	0.96	2.32	1496	2060	0	14430	0.07
-749	-1406	-18405	735.11	-1361.89	-2	-4	-0.07	0.04	1.02	2.35	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.09	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.09	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

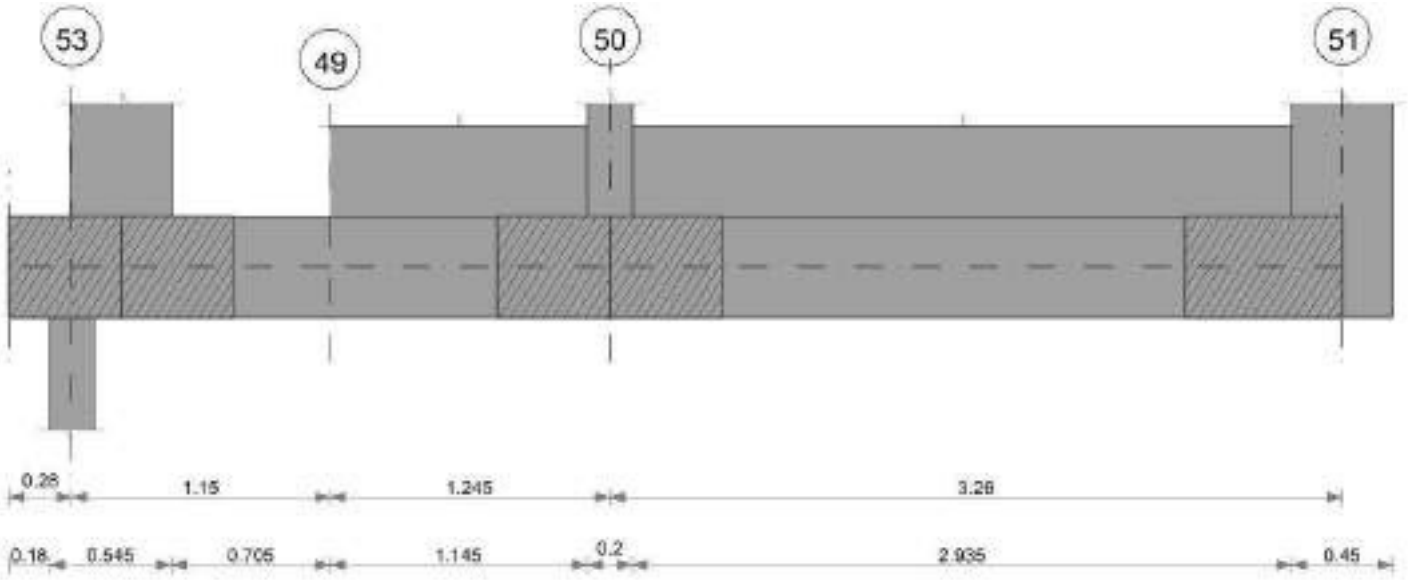
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	679	SLE RA 20	0.05	0.001	679	852	SLE RA 21	0.05	0	779	SLE RA 2	0.0033	0	SLE RA 2	Si
D	0.05	0	679	SLE RA 1	0.05	0	679	679	SLE RA 1	0.05	0	779	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	679	SLE RA 1	0.05	0	679	679	SLE RA 1	0.05	0	779	SLE RA 1	0.0033	0	SLE RA 1	Si

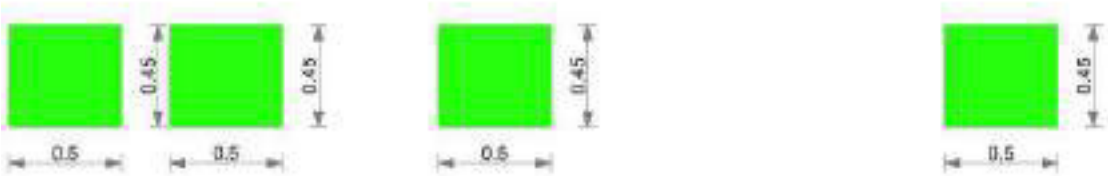
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.03	SLE RA 21	0.19	0.03	679	779	SLE RA 21	0.19	0	679	SLE RA 1	0.1	0	779	SLE RA 2	Si
D	0.19	0	SLE RA 1	0.19	0	679	779	SLE RA 1	0.19	0	679	SLE RA 1	0.1	0	779	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	679	779	SLE RA 1	0.19	0	679	SLE RA 1	0.1	0	779	SLE RA 1	Si

CORDOLO 30

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

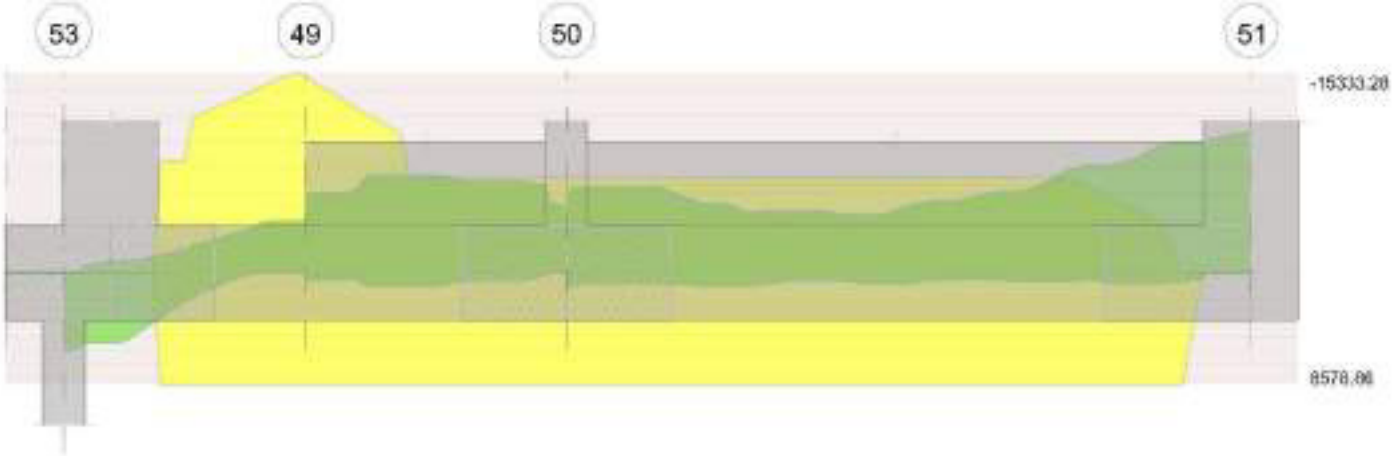


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 53 - 49, sezione R 50x45, asta 272

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	5111.49	SLU 83	4661.61	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	-130.23	SLU 6	1159.79	9071.72	0.119	7.82	-243.95	SLU 82	-1371.96	-9071.72	0.119	6.61	Si
1.15	0.001087	0.051	0.000603	0.051							-3084.18	SLU 83	-3084.18	-15699.13	0.155	5.09	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	6534.33	SLV FO 7	6072.37	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	807.4	SLV FO 3	2323.61	8578.86	0.211	3.69	-1120.29	SLV FO 14	-1797.12	-8578.86	0.211	4.77	Si
1.15	0.001087	0.051	0.000603	0.051							-3955.59	SLV FO 11	-3955.59	-15005.04	0.279	3.79	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	5084.84	SLD 7	4698.81	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	395.28	SLD 3	1609.6	8578.86	0.211	5.33	-708.16	SLD 14	-1430.77	-8578.86	0.211	6	Si
1.15	0.001087	0.051	0.000603	0.051							-3091.55	SLD 11	-3091.55	-15005.04	0.279	4.85	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-14312	SLU 83	-14312	-8455	-71432	0	-8455	1	0.59	Si
0.58	0.0000176	0	0	-8732	SLU 83	-8732	-7777	-63336	-24721	-24721	1	2.83	Si
1.15	0.0000105	0.000932	0	-3633	SLU 83	-3633	-9261	-63262	-14793	-14793	1	4.07	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-15047	SLV FO 11	-15047	-8455	-71432	0	-8455	1	0.56	Si
0.58	0.0000176	0	0	-10991	SLV FO 11	-10991	-7777	-63336	-24721	-24721	1	2.25	Si
1.15	0.0000105	0.000932	0	2320	SLV FO 6	2320	9261	63262	14793	14793	1	6.38	Si
1.15	0.0000105	0.000932	0	-7235	SLV FO 11	-7235	-9261	-63262	-14793	-14793	1	2.04	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-12504	SLD 11	-12504	-8455	-71432	0	-8455	1	0.68	Si
0.58	0.0000176	0	0	-8598	SLD 11	-8598	-7777	-63336	-24721	-24721	1	2.88	Si
1.15	0.0000105	0.000932	0	90	SLD 6	90	9261	63262	14793	14793	1	164.31	Si
1.15	0.0000105	0.000932	0	-5005	SLD 11	-5005	-9261	-63262	-14793	-14793	1	2.96	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	3745.21	20	3415.48	202399	1494000	0	36000000	3418.95	2	3117.91	184765	1120500			Si
0.1	2927.8	20	2927.8	173499	1494000	0	36000000	2672.56	2	2672.56	158374	1120500			Si
0.58	-179.2	19	-1007.41	52171	1494000	782559	36000000	-156.44	2	-924.11	47857	1120500			Si
1.15	-2263.89	20	-2263.89	114306	1494000	1639840	36000000	-2076.63	2	-2076.63	104851	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 53 - 49, sezione R 50x45, asta 272

Campata 3 tra i fili 49 - 50, sezione R 50x45, aste 271, 270, 269

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	2136	SLU 83	0.044	8324	6104	SLU 83	15877	Si
0.62	0.41	0.0005	1905	SLU 83	0.044	8324	5444	SLU 83	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
1.15	0.41	0.0002	1795	SLU 83	0.019	3218	5128	SLU 83	15877	Si
1.25	0.41	0.0002	1782	SLU 83	0.019	3218	5091	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1536	SLD 16	0.122	9272	4388	SLD 16	15877	Si
0.62	0.41	0.0005	1410	SLD 12	0.122	9272	4027	SLD 12	15877	Si
1.15	0.41	0.0002	1406	SLD 12	0.076	3616	4016	SLD 12	15877	Si
1.25	0.41	0.0002	1413	SLD 12	0.076	3616	4038	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000527	1556	SLE RA 20	43010	1494000	533321	36000000	1402	SLE QP 2	38749	1120500	Si
0.62	0.41	0.00000527	1386	SLE RA 20	38301	1494000	474932	36000000	1246	SLE QP 2	34428	1120500	Si
1.15	0.41	0.00000202	1304	SLE RA 20	37601	1494000	466252	36000000	1171	SLE QP 2	33759	1120500	Si
1.25	0.41	0.00000202	1294	SLE RA 20	37325	1494000	462834	36000000	1162	SLE QP 2	33507	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 50 - 51, sezione R 50x45, aste 268, 267, 266, 265, 264, 263, 262, 261

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1782	SLU 83	0.019	3218	5091	SLU 83	15877	Si
0.1	0.41	0.0002	1770	SLU 83	0.019	3218	5056	SLU 83	15877	Si
1.63	0.41	0.0002	2383	SLV FO 11	0.092	3123	6807	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1413	SLD 12	0.076	3616	4038	SLD 12	15877	Si
0.1	0.41	0.0002	1421	SLD 12	0.076	3616	4061	SLD 12	15877	Si
1.63	0.41	0.0002	1842	SLD 11	0.076	3616	5262	SLD 11	15877	Si
3.03	0.41	0.0002	2700	SLD 11	0.076	3616	7714	SLD 11	15877	Si
3.26	0.41	0.0002	2901	SLD 11	0.076	3616	8288	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000202	1294	SLE RA 20	37325	1494000	462834	36000000	1162	SLE QP 2	33507	1120500	Si
0.1	0.41	0.00000202	1285	SLE RA 20	37063	1494000	459585	36000000	1154	SLE QP 2	33269	1120500	Si
1.63	0.41	0.00000202	1355	SLE RA 20	39060	1494000	484344	36000000	1218	SLE QP 2	35132	1120500	Si
3.03	0.41	0.00000202	1751	SLE RA 20	50479	1494000	625944	36000000	1582	SLE QP 2	45622	1120500	Si
3.26	0.41	0.00000202	1859	SLE RA 20	53596	1494000	664591	36000000	1681	SLE QP 2	48476	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
5.88	1.1	SLU 2	ST	LT	-457	175	-40393	-1	0	19	0	0	1.1	12287	489	25.13	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
272,271,270,269,268,267,266,265,264,263,262,261	5.88	1.1	SLU 83	ST	BT	2.3	275078	64358	4.27	Si
272,271,270,269,268,267,266,265,264,263,262,261	5.88	1.1	SLV FO 12	SIS	BT	2.3	230191	64377	3.58	Si
272,271,270,269,268,267,266,265,264,263,262,261	5.88	1.1	SLD 12	SIS	BT	2.3	247710	54870	4.51	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	262	-64358	88.74	-1093.71	0	0	-0.02	0	1.1	5.85	1496	2060	0	14430	
0	-2006	-64377	1134.2	26561.03	0	-2	0.41	0.02	1.06	5.05	1496	2060	0	14430	0.07
0	-1086	-54870	680.81	13796.68	0	-1	0.25	0.01	1.08	5.38	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

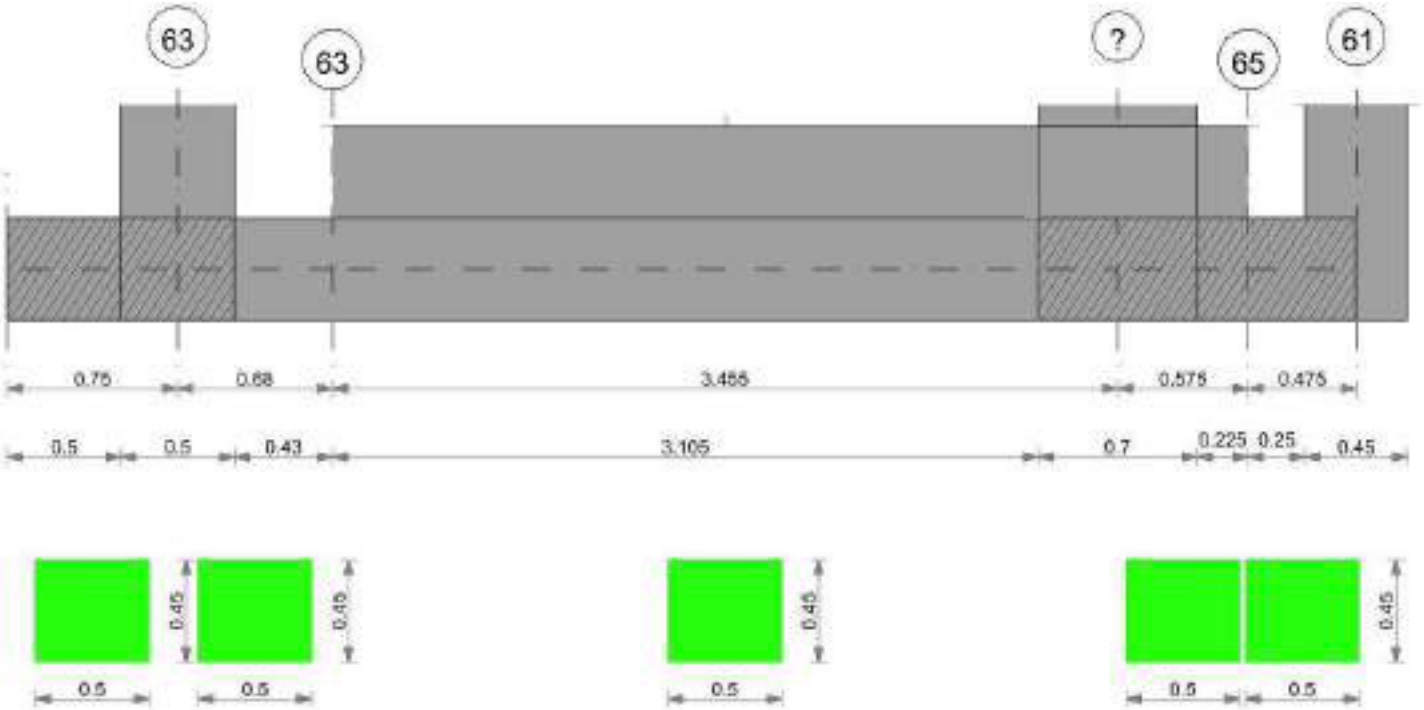
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	682	SLE RA 20	0.05	0.002	682	1098	SLE RA 21	0.05	0	854	SLE FR 4	0.0033	0	SLE FR 6	Si
D	0.05	0	682	SLE RA 1	0.05	0	682	682	SLE RA 1	0.05	0	781	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	682	SLE RA 1	0.05	0	682	682	SLE RA 1	0.05	0	781	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.04	682	781	SLE RA 21	0.19	0	682	SLE RA 1	0.1	0.02	854	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	682	781	SLE RA 1	0.19	0	682	SLE RA 1	0.1	0	781	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	682	781	SLE RA 1	0.19	0	682	SLE RA 1	0.1	0	781	SLE RA 1	Si

CORDOLO 31

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

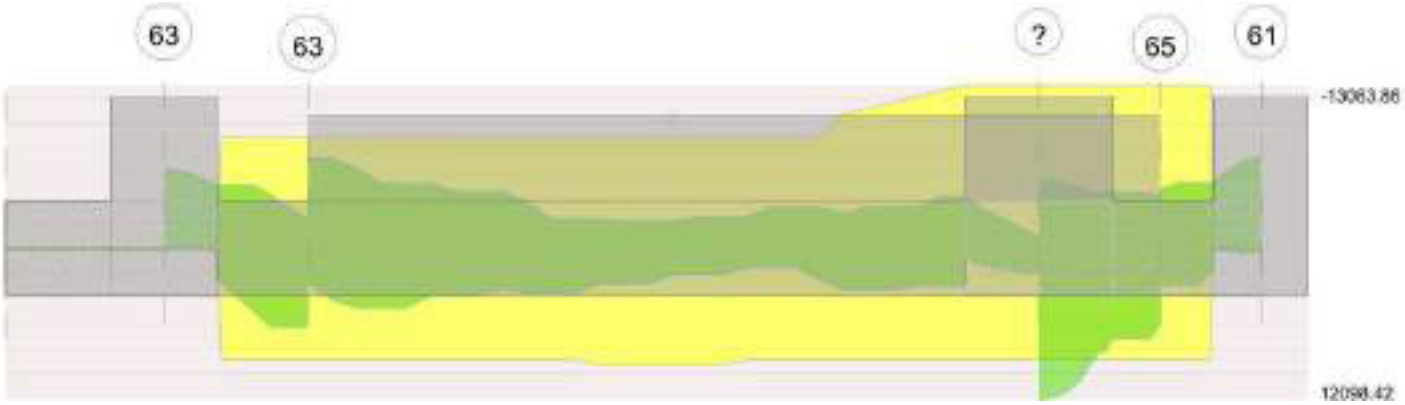
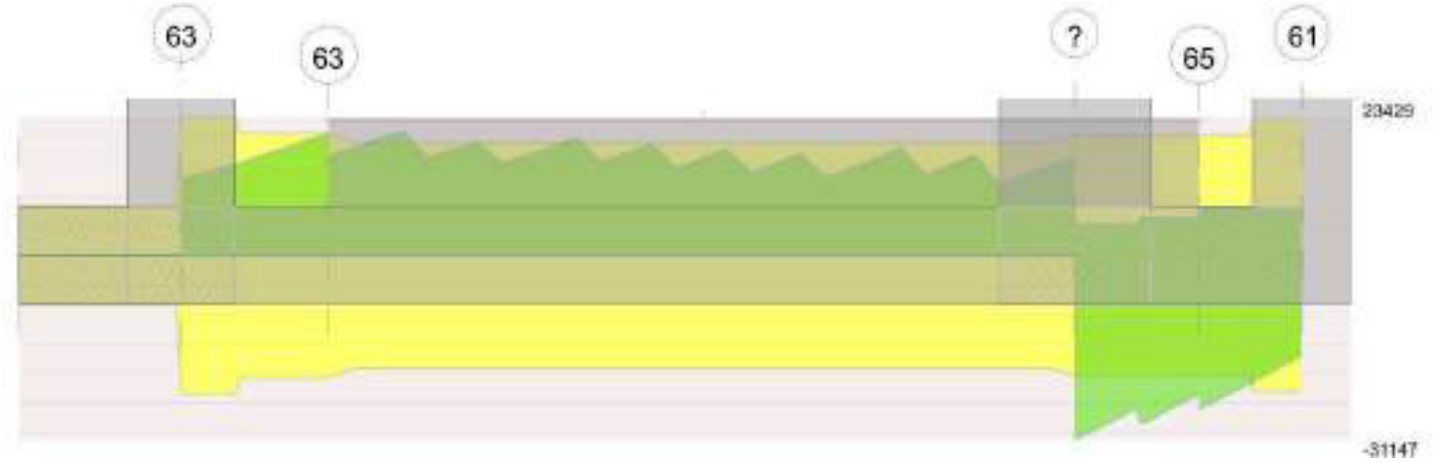


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 63 - 63, sezione R 50x45, asta 293

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	-1187.53	SLU 2	1156.34	9384.5	0.124	8.12	-2031.33	SLU 83	-3466.95	-9384.5	0.124	2.71	Si
0.68	0.000628	0.053	0.000628	0.053	4319.91	SLU 84	4319.91	9384.5	0.124	2.17							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	1363.77	SLV FO 6	3745.89	8869.39	0.216	2.37	-4078.7	SLV FO 11	-5027.12	-8869.39	0.216	1.76	Si
0.68	0.000628	0.053	0.000628	0.053	6244.19	SLV FO 10	6244.19	8869.39	0.216	1.42	-556.41	SLV FO 7	-2446.64	-8869.39	0.216	3.63	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	97.71	SLD 6	2351.12	8869.39	0.216	3.77	-2812.64	SLD 11	-3769.35	-8869.39	0.216	2.35	Si
0.68	0.000628	0.053	0.000628	0.053	4677.97	SLD 10	4677.97	8869.39	0.216	1.9	1009.8	SLD 7	-1071.69	-8869.39	0.216	8.28	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	12444	SLU 84	12444	8455	71432	23429	23429	1	1.88	Si
0.25	0.0000148	0	0	15444	SLU 84	15444	8455	71432	23429	23429	1	1.52	Si
0.34	0.0000148	0	0	16527	SLU 84	16527	7751	63019	20670	20670	1	1.25	Si
0.68	0.0000148	0.000628	0	20639	SLU 84	20639	8105	63019	20670	20670	1	1	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	12961	SLV FO 14	12961	8455	71432	23429	23429	1	1.81	Si
0.25	0.0000148	0	0	15232	SLV FO 14	15232	8455	71432	23429	23429	1	1.54	Si
0.34	0.0000148	0	0	16049	SLV FO 14	16049	7751	63019	20670	20670	1	1.29	Si
0.68	0.0000148	0.000628	0	19155	SLV FO 14	19155	8105	63019	20670	20670	1	1.08	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	10970	SLD 14	10970	8455	71432	23429	23429	1	2.14	Si
0.25	0.0000148	0	0	13132	SLD 14	13132	8455	71432	23429	23429	1	1.78	Si
0.34	0.0000148	0	0	13911	SLD 14	13911	7751	63019	20670	20670	1	1.49	Si
0.68	0.0000148	0.000628	0	16871	SLD 14	16871	8105	63019	20670	20670	1	1.23	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-5074.57	20	-3941.42	-233566	1494000	0	36000000	-4628.29	2	-3596.19	-213107	1120500			Si
0.25	-2533.49	20	-2533.49	-150133	1494000	0	36000000	-2313.49	2	-2313.49	-137096	1120500			Si
0.34	-1484.16	20	-2533.49	130907	1494000	1963599	36000000	-1357.46	2	-2313.49	119539	1120500			Si
0.68	3156.17	21	3156.17	163081	1494000	2446212	36000000	2843.89	2	2843.89	146945	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 5 tra i fili 65 - 61, sezione R 50x45, asta 281

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053							-974.16	SLU 82	-3196.99	-13662.92	0.147	4.27	Si
0.24	0.000942	0.053	0.000628	0.053							-3836.79	SLU 83	-3967.32	-13662.92	0.147	3.44	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053	2918.09	SLV FO 3	2918.09	8866.46	0.211	3.04	-4288.07	SLV FO 14	-4699.09	-13063.86	0.261	2.78	Si
0.24	0.000942	0.053	0.000628	0.053	-140.76	SLV FO 1	1847.76	8866.46	0.211	4.8	-5023.39	SLV FO 16	-5238.47	-13063.86	0.261	2.49	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053	1389.93	SLD 3	1389.93	8866.46	0.211	6.38	-2759.91	SLD 14	-3622.48	-13063.86	0.261	3.61	Si
0.24	0.000942	0.053	0.000628	0.053	-1188.59	SLD 1	565.42	8866.46	0.211	15.68	-3975.56	SLD 16	-4062.67	-13063.86	0.261	3.22	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	-13791	SLU 83	-13791	-7751	-63019	-20282	-20282	1	1.47	Si
0.24	0.0000145	0	0	-10550	SLU 83	-10550	-7751	-63019	-20282	-20282	1	1.92	Si
0.25	0.0000145	0	0	-10379	SLU 83	-10379	-8455	-71432	-22989	-22989	1	2.21	Si
0.47	0.0000145	0	0	-7293	SLU 83	-7293	-8455	-71432	-22989	-22989	1	3.15	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	7987	SLV FO 10	7987	7751	63019	20282	20282	1	2.54	Si
0.24	0.0000145	0	0	7787	SLV FO 10	7787	7751	63019	20282	20282	1	2.6	Si
0.25	0.0000145	0	0	7775	SLV FO 10	7775	8455	71432	22989	22989	1	2.96	Si
0.25	0.0000145	0	0	-21357	SLV FO 7	-21357	-8455	-71432	-22989	-22989	1	1.08	Si
0.47	0.0000145	0	0	7529	SLV FO 10	7529	8455	71432	22989	22989	1	3.05	Si
0.47	0.0000145	0	0	-16987	SLV FO 7	-16987	-8455	-71432	-22989	-22989	1	1.35	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	98	SLD 10	98	7751	63019	20282	20282	1	206.41	Si
0	0.0000145	0	0	-18236	SLD 7	-18236	-7751	-63019	-20282	-20282	1	1.11	Si
0.24	0.0000145	0	0	1011	SLD 10	1011	7751	63019	20282	20282	1	20.06	Si
0.24	0.0000145	0	0	-14822	SLD 7	-14822	-7751	-63019	-20282	-20282	1	1.37	Si
0.25	0.0000145	0	0	1058	SLD 10	1058	8455	71432	22989	22989	1	21.72	Si
0.25	0.0000145	0	0	-14641	SLD 7	-14641	-8455	-71432	-22989	-22989	1	1.57	Si
0.47	0.0000145	0	0	1900	SLD 10	1900	8455	71432	22989	22989	1	12.1	Si
0.47	0.0000145	0	0	-11358	SLD 7	-11358	-8455	-71432	-22989	-22989	1	2.02	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-729.62	19	-2347.87	119326	1494000	1738752	36000000	-684.99	2	-2163	109930	1120500			Si
0.24	-2812.8	20	-2907.62	147774	1494000	2153279	36000000	-2582.08	2	-2667.49	135570	1120500			Si
0.25	-2907.62	20	-2907.62	-172303	1494000	0	36000000	-2667.49	2	-2667.49	-158073	1120500			Si
0.47	-4350.56	20	-3755.84	-222568	1494000	0	36000000	-3963.91	2	-3431.49	-203348	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 63 - 63, sezione R 50x45, asta 293

Campata 3 tra i fili 63 - ?, sezione R 50x45, aste 292, 291, 290, 289, 288, 287, 286, 285, 284

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2167	SLU 83	0.062	11592	6668	SLU 83	26276	Si
1.73	0.41	0.0007	2600	SLV FO 11	0.167	10262	8000	SLV FO 11	24306	Si
3.1	0.41	0.0007	3338	SLV FO 11	0.167	10262	10270	SLV FO 11	24306	Si
3.45	0.41	0.0007	3515	SLV FO 11	0.172	10862	10814	SLV FO 11	25782	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1625	SLD 15	0.144	12886	5000	SLD 15	30217	Si
1.73	0.41	0.0007	2096	SLD 11	0.138	11947	6450	SLD 11	27952	Si
3.1	0.41	0.0007	2520	SLD 11	0.138	11947	7755	SLD 11	27952	Si
3.45	0.41	0.0007	2624	SLD 11	0.142	12651	8075	SLD 11	29650	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000739	1580	SLE RA 20	42506	1494000	527076	36000000	1429	SLE QP 2	38450	1120500	Si
1.73	0.41	0.00000684	1672	SLE RA 20	45294	1494000	561645	36000000	1512	SLE QP 2	40976	1120500	Si
3.1	0.41	0.00000684	1742	SLE RA 20	47193	1494000	585189	36000000	1577	SLE QP 2	42728	1120500	Si
3.45	0.41	0.00000725	1762	SLE RA 20	47510	1494000	589120	36000000	1596	SLE QP 2	43035	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 65, sezione R 50x45, aste 283, 282

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3515	SLV FO 11	0.172	10862	10814	SLV FO 11	25782	Si
0.29	0.41	0.0007	3652	SLV FO 11	0.172	10862	11235	SLV FO 11	25782	Si
0.35	0.41	0.0007	3677	SLV FO 11	0.172	10862	11315	SLV FO 11	25782	Si
0.57	0.41	0.0007	3765	SLV FO 11	0.172	10862	11583	SLV FO 11	25782	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2624	SLD 11	0.142	12651	8075	SLD 11	29650	Si
0.29	0.41	0.0007	2704	SLD 11	0.142	12651	8320	SLD 11	29650	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.35	0.41	0.0007	2719	SLD 11	0.142	12651	8366	SLD 11	29650	Si
0.57	0.41	0.0007	2768	SLD 11	0.142	12651	8517	SLD 11	29650	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000725	1762	SLE RA 20	47510	1494000	589120	36000000	1596	SLE QP 2	43035	1120500	Si
0.29	0.41	0.00000725	1777	SLE RA 20	47900	1494000	593964	36000000	1610	SLE QP 2	43406	1120500	Si
0.35	0.41	0.00000725	1779	SLE RA 20	47947	1494000	594538	36000000	1612	SLE QP 2	43453	1120500	Si
0.57	0.41	0.00000725	1783	SLE RA 20	48068	1494000	596039	36000000	1617	SLE QP 2	43580	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili 65 - 61, sezione R 50x45, asta 281

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
5.41	1.1	SLU 5	ST	LT	-486	637	-48352	-1	1	19	0	0	1.1	14707	802	18.35	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
293,292,291,290,289,288,287,286,285,284,283,282,281	5.41	1.1	SLU 83	ST	BT	2.3	249052	76370	3.26	Si
293,292,291,290,289,288,287,286,285,284,283,282,281	5.41	1.1	SLV FO 11	SIS	BT	2.3	218269	84299	2.59	Si
293,292,291,290,289,288,287,286,285,284,283,282,281	5.41	1.1	SLD 11	SIS	BT	2.3	229922	69303	3.32	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	965	-76370	-216.85	4030.02	0	1	0.05	0	1.09	5.3	1496	2060	0	14430	
0	-116	-84299	297.65	33237.93	0	0	0.39	0	1.09	4.62	1496	2060	0	14430	0.07
0	168	-69303	123.23	19012.77	0	0	0.27	0	1.1	4.86	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

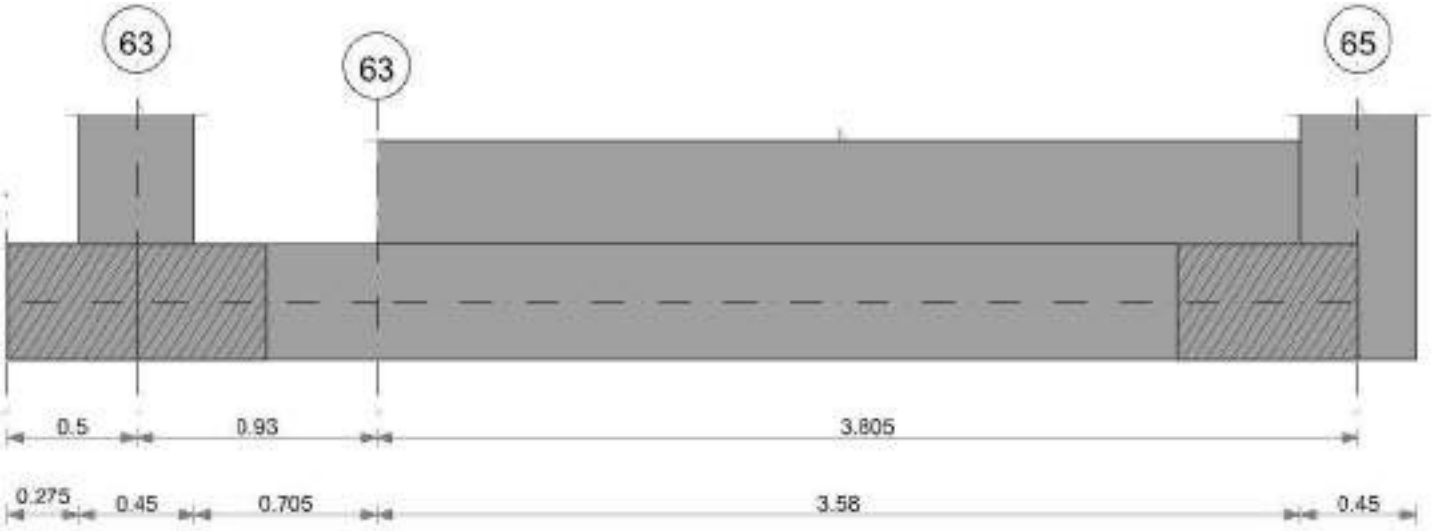
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	782	SLE RA 20	0.05	0.001	782	1109	SLE RA 20	0.05	0	782	SLE RA 14	0.0033	0	SLE RA 8	Si
D	0.05	0	752	SLE RA 1	0.05	0	752	752	SLE RA 1	0.05	0	782	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	752	SLE RA 1	0.05	0	752	752	SLE RA 1	0.05	0	782	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	956	1019	SLE RA 20	0.19	0.02	782	SLE RA 14	0.1	0.01	1019	SLE RA 8	Si
D	0.19	0	SLE RA 1	0.19	0	752	782	SLE RA 1	0.19	0	752	SLE RA 1	0.1	0	782	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	752	782	SLE RA 1	0.19	0	752	SLE RA 1	0.1	0	782	SLE RA 1	Si

CORDOLO 32

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

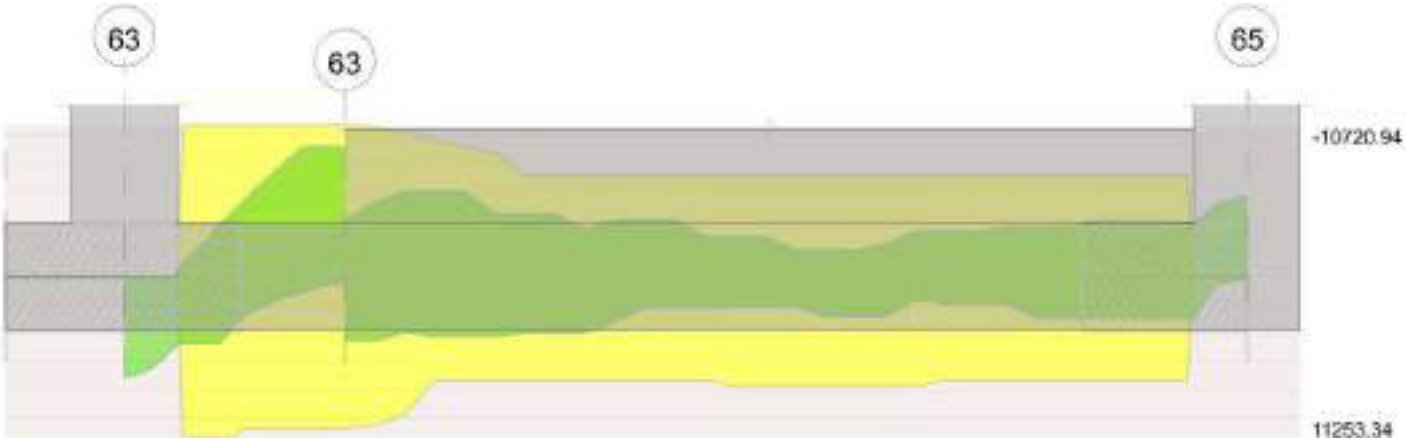
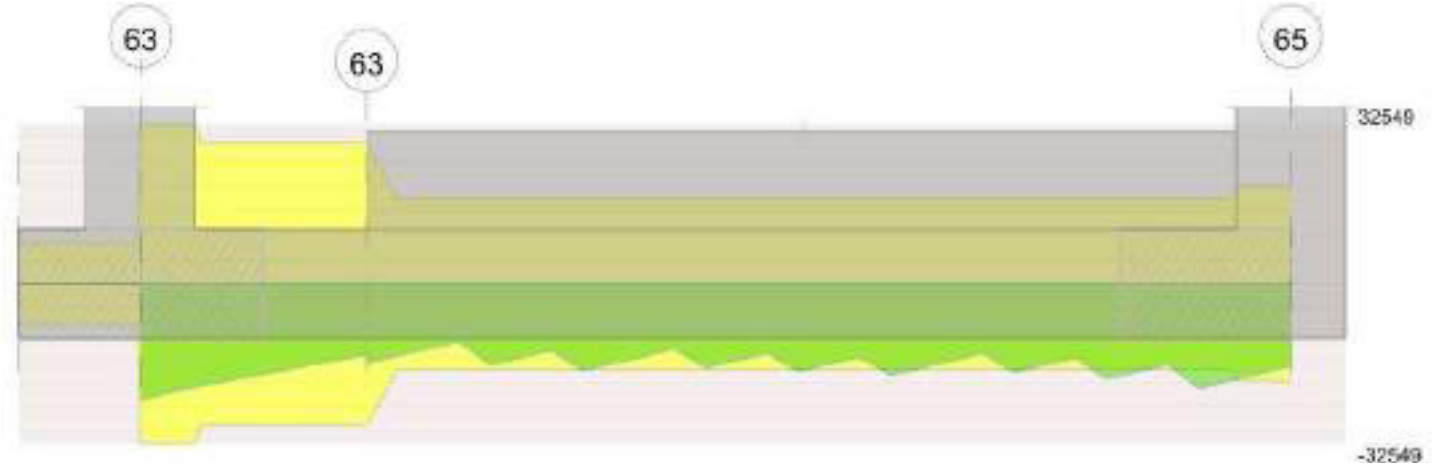


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 63 - 63, sezione R 50x45, asta 511

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	42.18	SLU 10	3420.94	11253.34	0.131	3.29	-19.4	SLU 69	-3007.59	-11253.34	0.131	3.74	Si
0.93	0.000763	0.052	0.000763	0.052							-6999.77	SLU 83	-6999.77	-11253.34	0.131	1.61	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	1605.48	SLV FO 10	3212.01	10720.94	0.233	3.34	-1608.31	SLV FO 7	-4719.06	-10720.94	0.233	2.27	Si
0.93	0.000763	0.052	0.000763	0.052	-134	SLV FO 6	329.96	10720.94	0.233	32.49	-9178.92	SLV FO 11	-9178.92	-10720.94	0.233	1.17	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	857.6	SLD 10	2808.97	10720.94	0.233	3.82	-860.43	SLD 7	-3457.86	-10720.94	0.233	3.1	Si
0.93	0.000763	0.052	0.000763	0.052							-7084.02	SLD 11	-7084.02	-10720.94	0.233	1.51	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-23700	SLU 83	-23700	-8455	-71432	-32549	-32549	1	1.37	Si
0.23	0.0000205	0	0	-20906	SLU 83	-20906	-8455	-71432	-32549	-32549	1	1.56	Si
0.47	0.0000205	0	0	-17931	SLU 83	-17931	-7764	-63178	-28788	-28788	1	1.61	Si
0.93	0.0000205	0.000763	0	-12200	SLU 83	-12200	-8659	-63178	-28788	-28788	1	2.36	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-22956	SLV FO 12	-22956	-8455	-71432	-32549	-32549	1	1.42	Si
0.23	0.0000205	0	0	-20941	SLV FO 12	-20941	-8455	-71432	-32549	-32549	1	1.55	Si
0.25	0.0000205	0	0	-20732	SLV FO 12	-20732	-7764	-63178	-28788	-28788	1	1.39	Si
0.47	0.0000205	0	0	-18737	SLV FO 12	-18737	-7764	-63178	-28788	-28788	1	1.54	Si
0.93	0.0000205	0.000763	0	-14297	SLV FO 12	-14297	-8659	-63178	-28788	-28788	1	2.01	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-19658	SLD 12	-19658	-8455	-71432	-32549	-32549	1	1.66	Si
0.23	0.0000205	0	0	-17708	SLD 12	-17708	-8455	-71432	-32549	-32549	1	1.84	Si
0.25	0.0000205	0	0	-17507	SLD 12	-17507	-7764	-63178	-28788	-28788	1	1.64	Si
0.47	0.0000205	0	0	-15600	SLD 12	-15600	-7764	-63178	-28788	-28788	1	1.85	Si
0.93	0.0000205	0.000763	0	-11438	SLD 12	-11438	-8659	-63178	-28788	-28788	1	2.52	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.23	3407.93	20	3407.93	201952	1494000	0	36000000	3099.55	2	3099.55	183677	1120500			Si
0.47	25.91	10	2498.03	125394	1494000	1880912	36000000								Si
0.47	-13.05	6	-2196.65	110266	1494000	1653984	36000000	-4.99	1	-2004.27	100609	1120500			Si
0.93	-5110.43	20	-5110.43	443691	1494000	18597122	36000000	-4656.46	2	-4656.46	404277	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.93	superiore	0.377	0.00054	0.000204	20	0.377	0.00051	0.000191	6	0.377	0.00049	0.000186	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 63 - 63, sezione R 50x45, asta 511

Campata 3 tra i fili 63 - 65, sezione R 50x45, aste 510, 509, 508, 507, 506, 505, 504, 503, 502

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	2198	SLU 83	0.087	15943	6762	SLU 83	36503	Si
1.9	0.41	0.0006	2554	SLV FO 11	0.16	9388	7860	SLV FO 11	22168	Si
3.58	0.41	0.0006	3338	SLV FO 11	0.16	9388	10271	SLV FO 11	22168	Si
3.8	0.41	0.0006	3440	SLV FO 11	0.16	9388	10585	SLV FO 11	22168	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	1648	SLD 15	0.169	17712	5069	SLD 15	41979	Si
1.9	0.41	0.0006	2070	SLD 11	0.132	10924	6371	SLD 11	25493	Si
3.58	0.41	0.0006	2513	SLD 11	0.132	10924	7733	SLD 11	25493	Si
3.8	0.41	0.0006	2573	SLD 11	0.132	10924	7917	SLD 11	25493	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00001027	1602	SLE RA 20	41626	1494000	516167	36000000	1450	SLE QP 2	37665	1120500	Si
1.9	0.41	0.00000624	1667	SLE RA 20	45520	1494000	564454	36000000	1509	SLE QP 2	41189	1120500	Si
3.58	0.41	0.00000624	1723	SLE RA 20	47050	1494000	583415	36000000	1561	SLE QP 2	42611	1120500	Si
3.8	0.41	0.00000624	1735	SLE RA 20	47372	1494000	587419	36000000	1572	SLE QP 2	42915	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
4.96	1.1	SLU 5	ST	LT	-408	572	-40843	-1	1	19	0	0	1.1	12424	703	17.68	Si
4.96	1.1	SLV FO 6	SIS	LT	-7167	1380	-23633	-17	3	19	0	0	1.1	7298	7298	1.00	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
511,510,509,508,507,506,505,504,503,502	4.96	1.1	SLU 83	ST	BT	2.3	230170	64191	3.59	Si
511,510,509,508,507,506,505,504,503,502	4.96	1.1	SLV FO 11	SIS	BT	2.3	206550	63746	3.24	Si
511,510,509,508,507,506,505,504,503,502	4.96	1.1	SLD 11	SIS	BT	2.3	215973	54480	3.96	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	866	-64191	-359.95	1427.61	0	1	0.02	-0.01	1.09	4.92	1496	2060	0	14430	
0	-166	-63746	-76.68	19594.24	0	0	0.31	0	1.1	4.35	1496	2060	0	14430	0.07
0	124	-54480	-125.58	10890.27	0	0	0.2	0	1.1	4.56	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

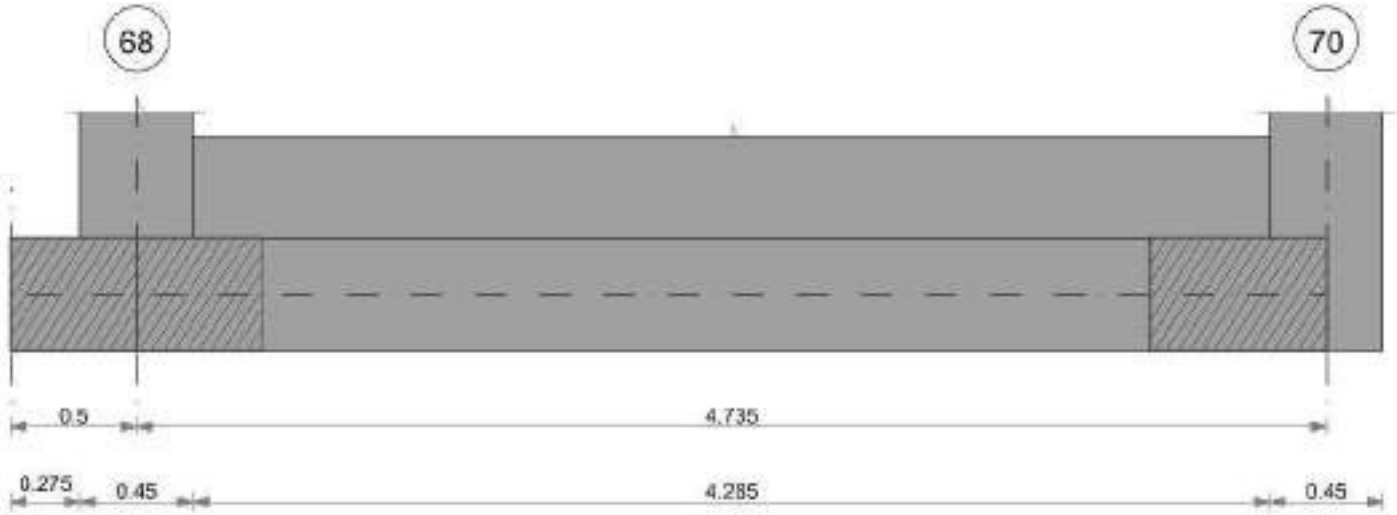
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	695	SLE RA 20	0.05	0.001	695	958	SLE RA 21	0.05	0	784	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	695	SLE RA 1	0.05	0	695	695	SLE RA 1	0.05	0	784	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	695	SLE RA 1	0.05	0	695	695	SLE RA 1	0.05	0	784	SLE RA 1	0.0033	0	SLE RA 1	Si

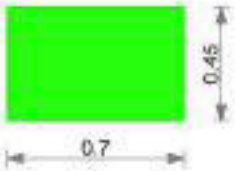
Verifiche geotecniche - Rotazioni assolute e differenziali

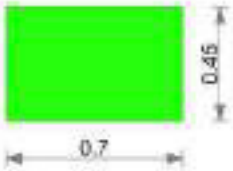
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	784	958	SLE RA 21	0.19	0.01	784	SLE RA 20	0.1	0	695	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	695	784	SLE RA 1	0.19	0	695	SLE RA 1	0.1	0	784	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	695	784	SLE RA 1	0.19	0	695	SLE RA 1	0.1	0	784	SLE RA 1	Si

CORDOLO 33

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

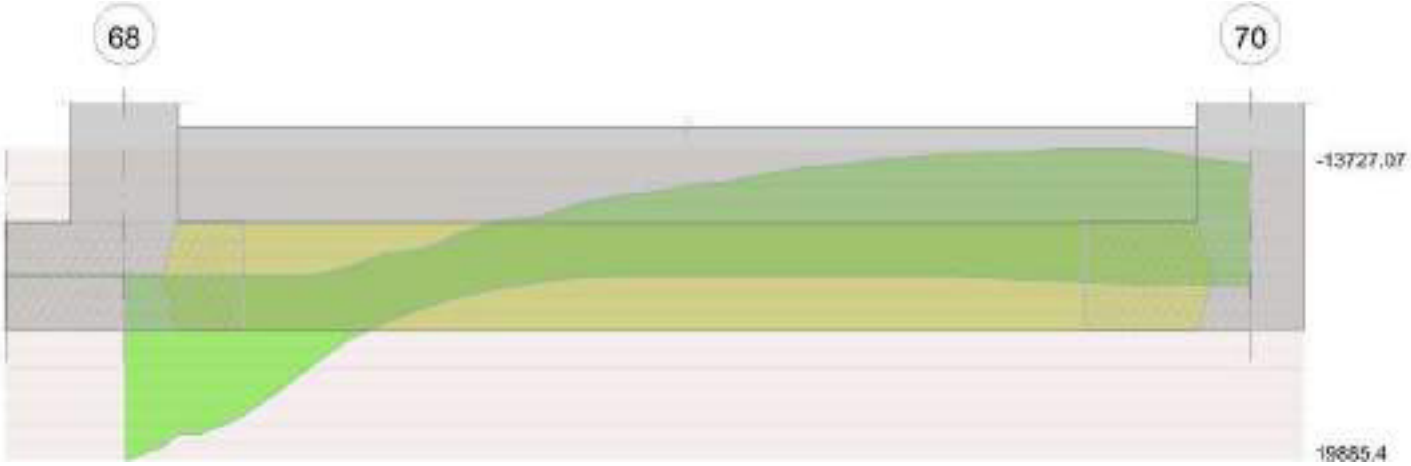
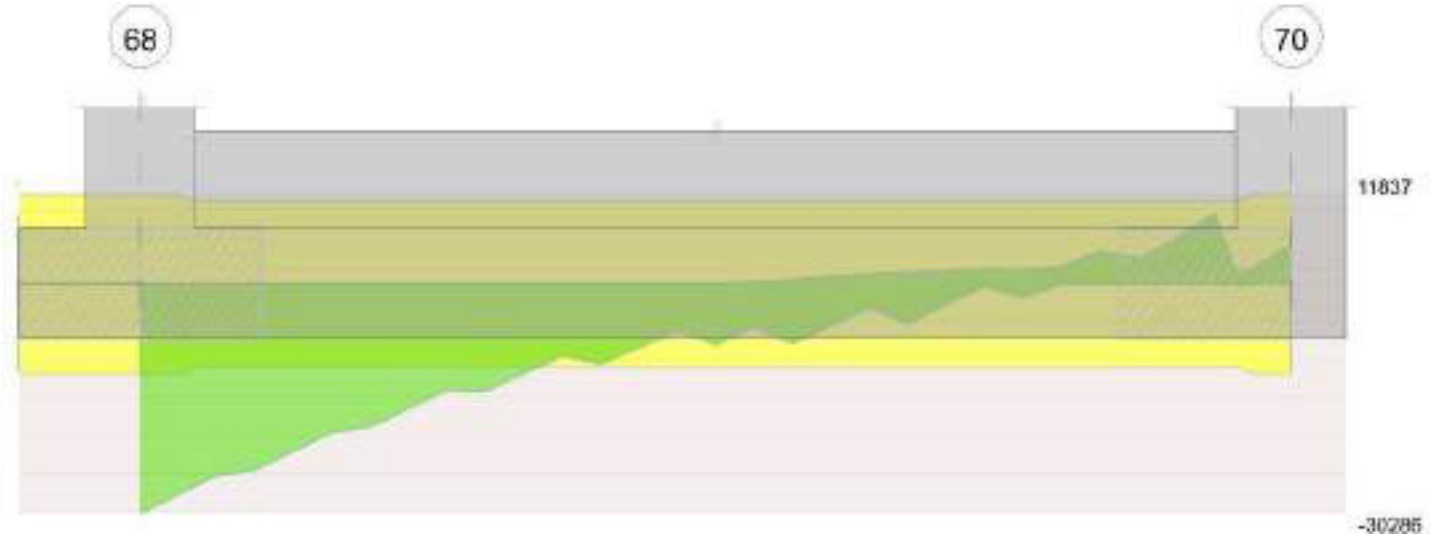


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 68 - 70, sezione R 70x45, aste 501, 500, 499, 498, 497, 496, 495, 494, 493, 492, 491

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	2781	SLE RA 20	80514	1494000	998378	36000000	2533	SLE QP 2	73326	1120500	Si
0.23	0.41	0.00000172	2779	SLE RA 20	80434	1494000	997387	36000000	2530	SLE QP 2	73249	1120500	Si
2.37	0.41	0.00000172	2236	SLE RA 20	64728	1494000	802630	36000000	2034	SLE QP 2	58871	1120500	Si
4.51	0.41	0.00000172	2575	SLE RA 20	74532	1494000	924199	36000000	2342	SLE QP 2	67807	1120500	Si
4.74	0.41	0.00000172	2692	SLE RA 20	77917	1494000	966177	36000000	2449	SLE QP 2	70898	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.96	1.3	SLU 5	ST	LT	-675	748	-49871	-1	1	19	0	0	1.1	15170	1008	15.05	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
501,500,499,498,497,496,495,494,493,492,491	4.96	1.3	SLU 83	ST	BT	2.3	225874	77760	2.9	Si
501,500,499,498,497,496,495,494,493,492,491	4.96	1.3	SLV FO 11	SIS	BT	2.3	195117	81517	2.39	Si
501,500,499,498,497,496,495,494,493,492,491	4.96	1.3	SLD 11	SIS	BT	2.3	209456	68619	3.05	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	1119	-77760	7189.04	-3844.74	0	1	-0.05	0.09	1.12	4.86	1496	2060	0	14430	
0	-98	-81517	10213.46	21125.9	0	0	0.26	0.13	1.05	4.44	1496	2060	0	14430	0.07
0	235	-68619	7770.64	10022.59	0	0	0.15	0.11	1.07	4.67	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

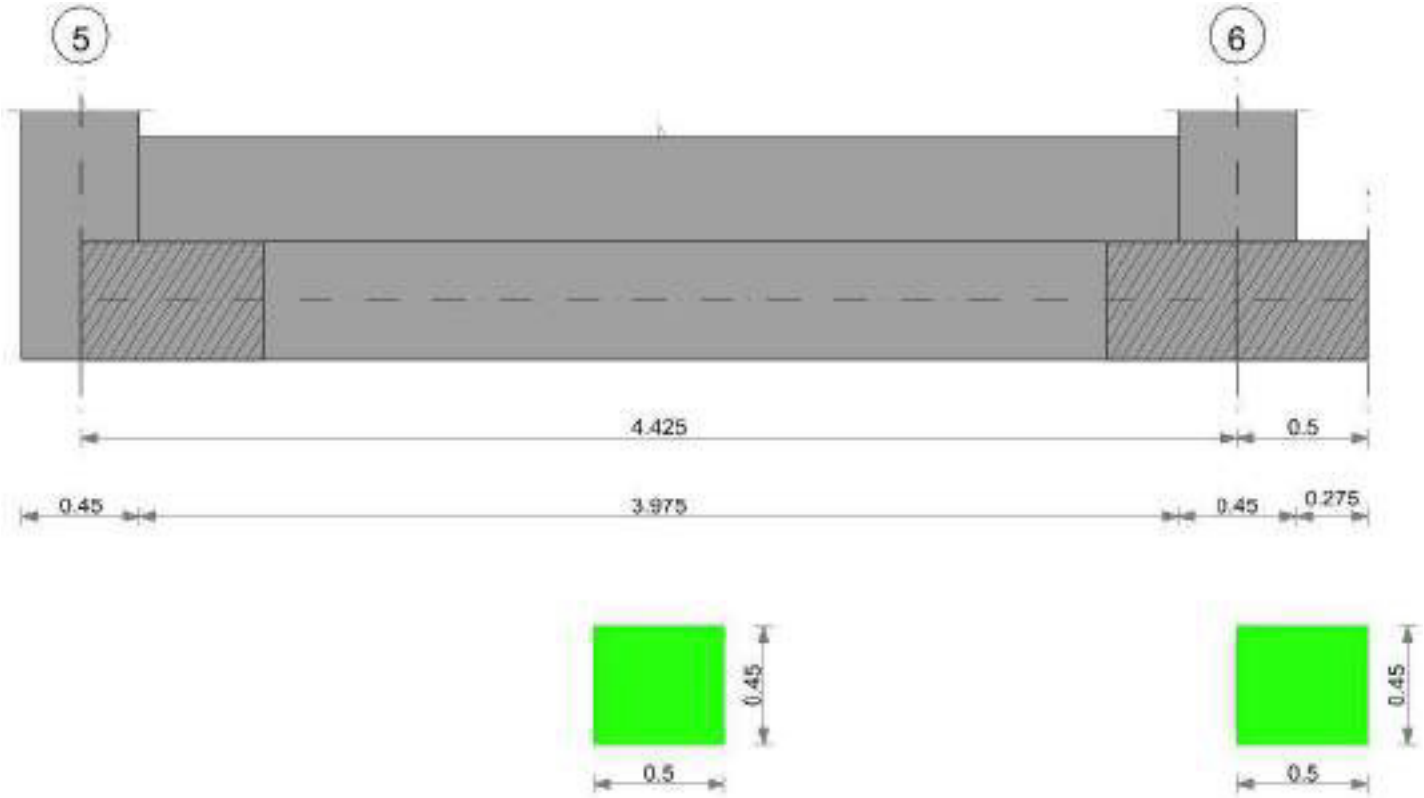
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	708	SLE RA 20	0.05	0	708	971	SLE RA 21	0.05	0	708	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	708	SLE RA 1	0.05	0	708	708	SLE RA 1	0.05	0	708	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	708	SLE RA 1	0.05	0	708	708	SLE RA 1	0.05	0	708	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	708	971	SLE RA 21	0.19	0	708	SLE RA 1	0.1	0	708	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	708	971	SLE RA 1	0.19	0	708	SLE RA 1	0.1	0	708	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	708	971	SLE RA 1	0.19	0	708	SLE RA 1	0.1	0	708	SLE RA 1	Si

CORDOLO 34

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

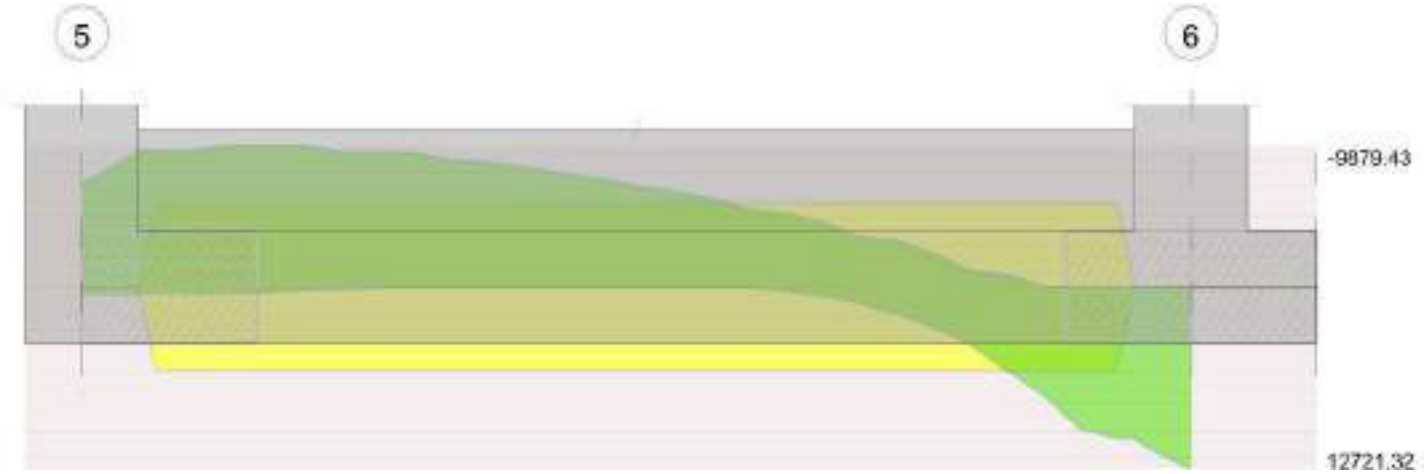
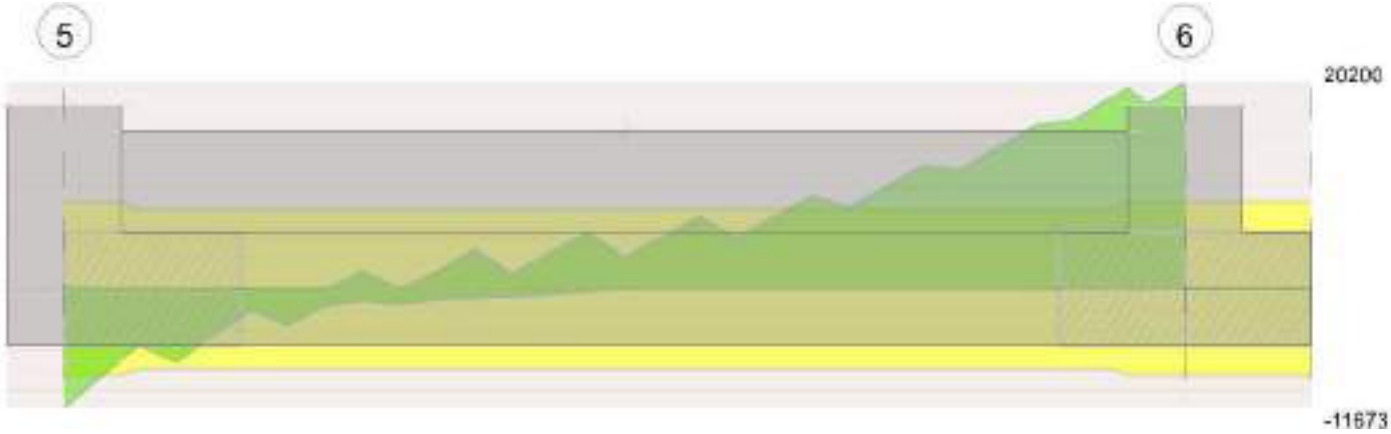


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 5 - 6, sezione R 50x45, aste 466, 465, 464, 463, 462, 461, 460, 459, 458, 457, 456

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2040	SLV FO 5	0.086	2686	7096	SLV FO 5	15877	Si
4.2	0.41	0.0002	2235	SLV FO 1	0.086	2686	7773	SLV FO 1	15877	Si
4.42	0.41	0.0002	2233	SLV FO 2	0.086	2686	7766	SLV FO 2	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2478	SLD 5	0.07	3109	8621	SLD 5	15877	Si
0.23	0.41	0.0002	2337	SLD 5	0.07	3109	8127	SLD 5	15877	Si
2.21	0.41	0.0002	1660	SLD 1	0.07	3109	5775	SLD 1	15877	Si
4.2	0.41	0.0002	1885	SLD 1	0.07	3109	6557	SLD 1	15877	Si
4.42	0.41	0.0002	1888	SLD 2	0.07	3109	6567	SLD 2	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1573	SLE RA 21	45527	1494000	564535	36000000	1421	SLE QP 2	41120	1120500	Si
0.23	0.41	0.00000173	1503	SLE RA 21	43513	1494000	539560	36000000	1358	SLE QP 2	39303	1120500	Si
2.21	0.41	0.00000173	1284	SLE RA 21	37156	1494000	460733	36000000	1163	SLE QP 2	33652	1120500	Si
4.2	0.41	0.00000173	1543	SLE RA 21	44652	1494000	553689	36000000	1402	SLE QP 2	40590	1120500	Si
4.42	0.41	0.00000173	1551	SLE RA 21	44893	1494000	556679	36000000	1410	SLE QP 2	40819	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.65	1.1	SLU 2	ST	LT	-344	-583	-41454	0	-1	19	0	0	1.1	12609	677	18.62	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
466,465,464,463,462,461,460,459,458,457,456	4.65	1.1	SLU 84	ST	BT	2.3	188792	64419	2.93	Si
466,465,464,463,462,461,460,459,458,457,456	4.65	1.1	SLV FO 5	SIS	BT	2.3	162435	70837	2.29	Si
466,465,464,463,462,461,460,459,458,457,456	4.65	1.1	SLD 5	SIS	BT	2.3	172777	58566	2.95	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-837	-64419	-4673.08	1305.21	0	-1	0.02	-0.07	0.95	4.61	1496	2060	0	14430	
0	-69	-70837	-6739.9	-17989.23	0	0	-0.25	-0.1	0.91	4.14	1496	2060	0	14430	0.07
0	-242	-58566	-5109.57	-9136.23	0	0	-0.16	-0.09	0.93	4.34	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

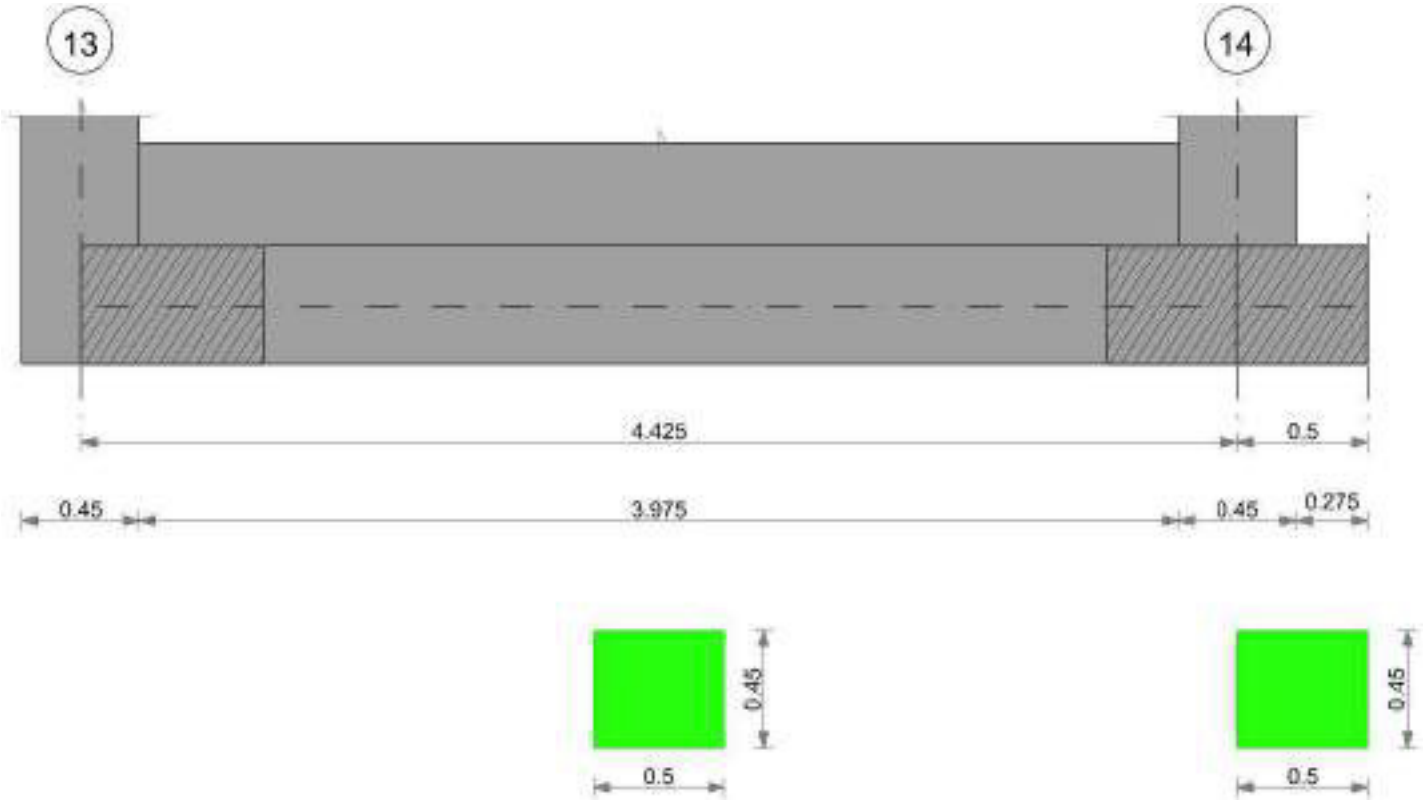
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	580	SLE RA 21	0.05	0	580	281	SLE RA 20	0.05	0	580	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	580	SLE RA 1	0.05	0	580	580	SLE RA 1	0.05	0	580	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	580	SLE RA 1	0.05	0	580	580	SLE RA 1	0.05	0	580	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	580	281	SLE RA 20	0.19	0	580	SLE RA 1	0.1	0	580	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	580	281	SLE RA 1	0.19	0	580	SLE RA 1	0.1	0	580	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	580	281	SLE RA 1	0.19	0	580	SLE RA 1	0.1	0	580	SLE RA 1	Si

CORDOLO 35

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

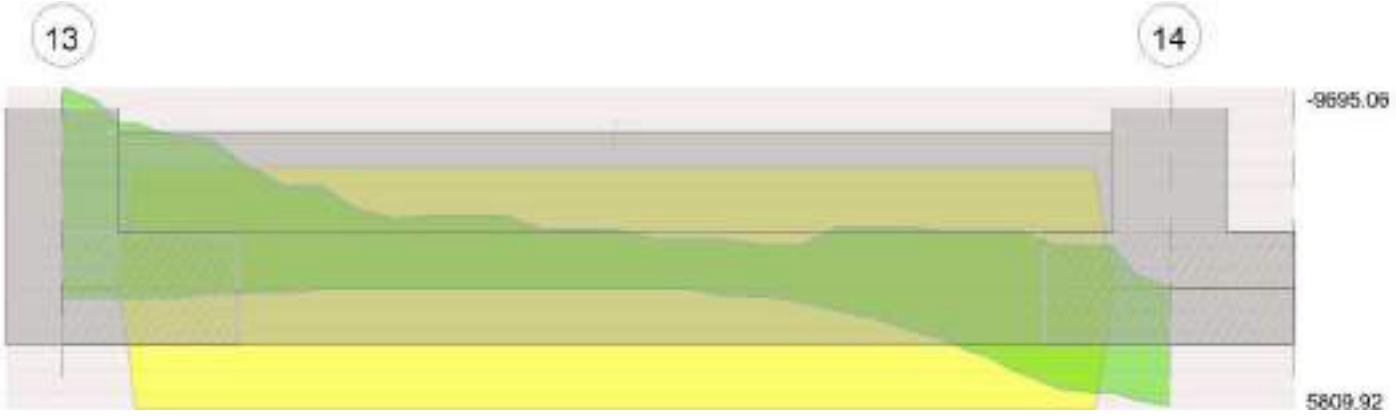
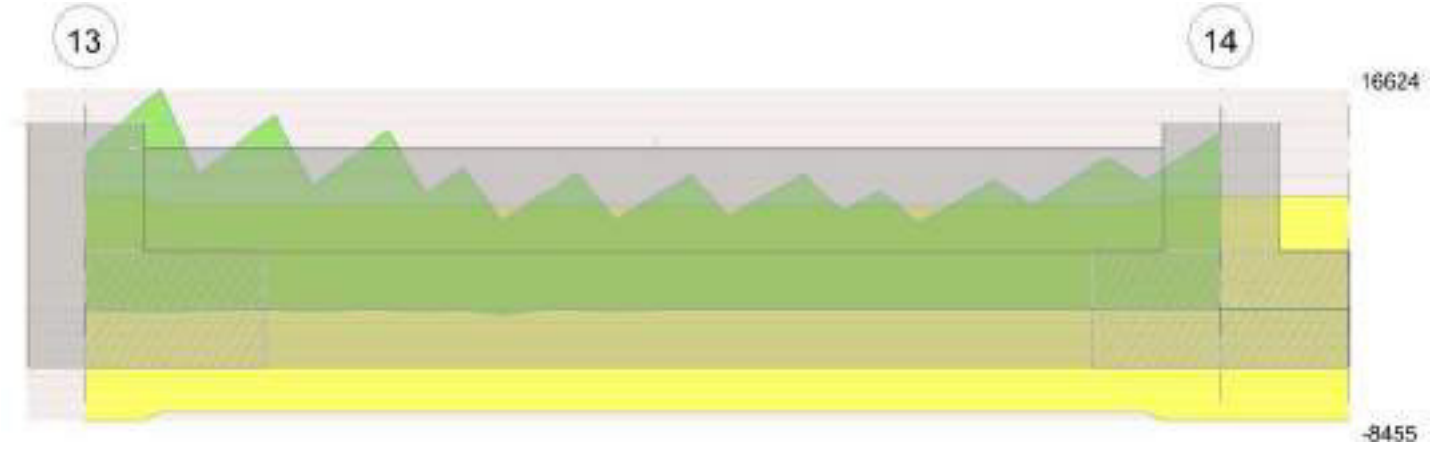


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 195, 194, 193, 192, 191, 190, 189, 188, 187, 186, 185

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2094	SLV FO 5	0.086	2686	6443	SLV FO 5	15877	Si
4.2	0.41	0.0002	2208	SLU 83	0.017	2762	6794	SLU 83	15877	Si
4.42	0.41	0.0002	2218	SLU 83	0.017	2762	6824	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2448	SLD 5	0.07	3109	7533	SLD 5	15877	Si
0.23	0.41	0.0002	2335	SLD 5	0.07	3109	7184	SLD 5	15877	Si
2.21	0.41	0.0002	1750	SLD 5	0.07	3109	5386	SLD 5	15877	Si
4.2	0.41	0.0002	1625	SLD 3	0.07	3109	5001	SLD 3	15877	Si
4.42	0.41	0.0002	1642	SLD 3	0.07	3109	5052	SLD 3	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1663	SLE RA 21	48135	1494000	596875	36000000	1495	SLE QP 2	43285	1120500	Si
0.23	0.41	0.00000173	1616	SLE RA 21	46772	1494000	579968	36000000	1453	SLE QP 2	42065	1120500	Si
2.21	0.41	0.00000173	1497	SLE RA 21	43345	1494000	537481	36000000	1350	SLE QP 2	39077	1120500	Si
4.2	0.41	0.00000173	1609	SLE RA 20	46584	1494000	577643	36000000	1453	SLE QP 2	42064	1120500	Si
4.42	0.41	0.00000173	1616	SLE RA 20	46780	1494000	580068	36000000	1459	SLE QP 2	42236	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.65	1.1	SLU 5	ST	LT	-124	-457	-39380	0	-1	19	0	0	1.1	11979	473	25.32	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
195,194,193,192,191,190,189,188,187,186,185	4.65	1.1	SLU 84	ST	BT	2.3	216808	60864	3.56	Si
195,194,193,192,191,190,189,188,187,186,185	4.65	1.1	SLV FO 9	SIS	BT	2.3	179805	55816	3.22	Si
195,194,193,192,191,190,189,188,187,186,185	4.65	1.1	SLD 9	SIS	BT	2.3	194326	48993	3.97	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-641	-60864	480.3	360.54	0	-1	0.01	0.01	1.08	4.64	1496	2060	0	14430	
0	-2975	-55816	1452.15	-18003.76	0	-3	-0.32	0.03	1.05	4	1496	2060	0	14430	0.07
0	-1884	-48993	969.24	-9474.85	0	-2	-0.19	0.02	1.06	4.26	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

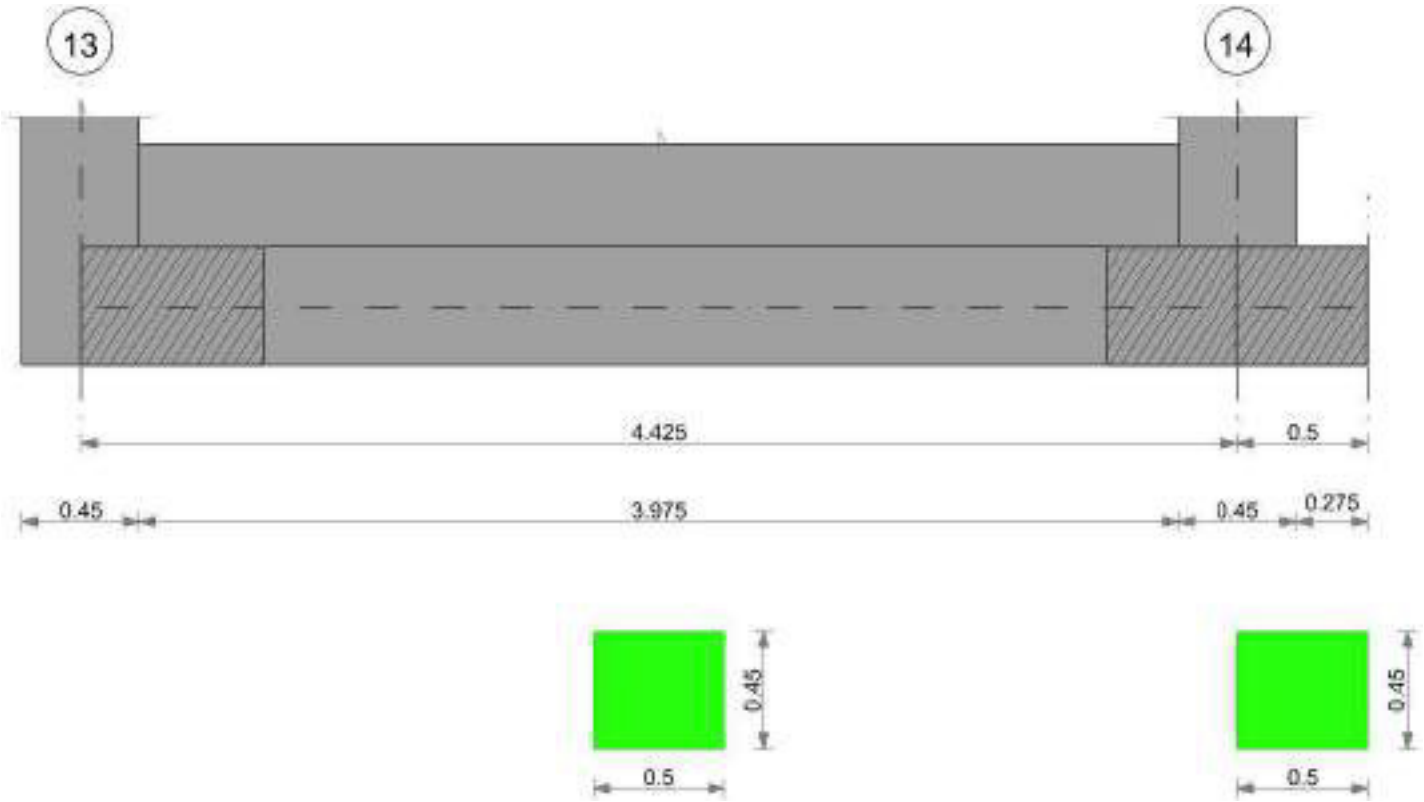
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	651	SLE RA 20	0.05	0.001	651	297	SLE RA 20	0.05	0	651	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	651	SLE RA 1	0.05	0	651	651	SLE RA 1	0.05	0	651	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	651	SLE RA 1	0.05	0	651	651	SLE RA 1	0.05	0	651	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	651	297	SLE RA 20	0.19	0	651	SLE RA 1	0.1	0	651	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	651	297	SLE RA 1	0.19	0	651	SLE RA 1	0.1	0	651	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	651	297	SLE RA 1	0.19	0	651	SLE RA 1	0.1	0	651	SLE RA 1	Si

CORDOLO 36

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

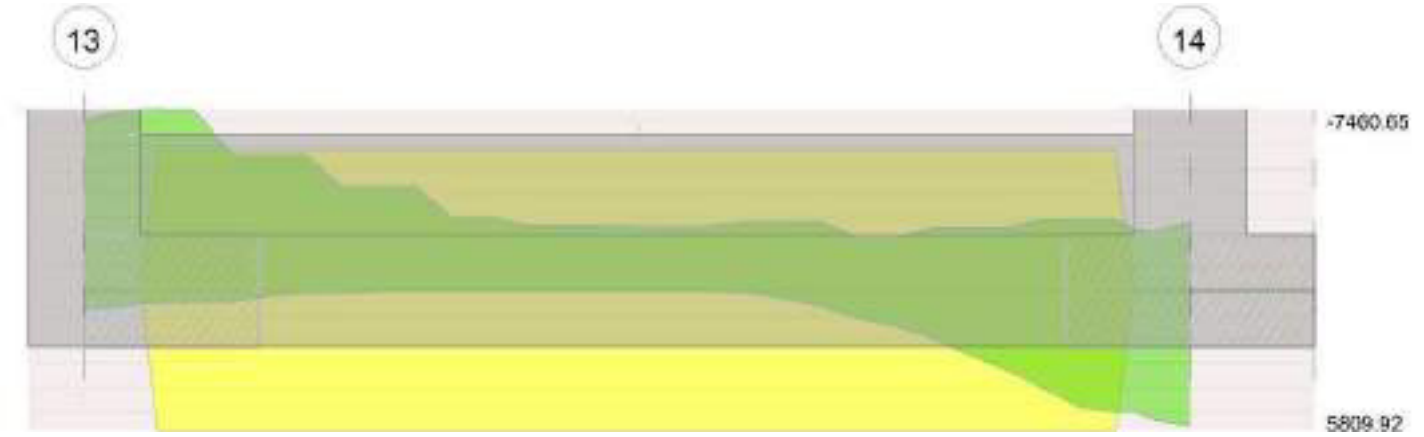


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 206, 205, 204, 203, 202, 201, 200, 199, 198, 197, 196

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2102	SLV FO 5	0.086	2686	6468	SLV FO 5	15877	Si
4.2	0.41	0.0002	2235	SLU 83	0.017	2762	6877	SLU 83	15877	Si
4.42	0.41	0.0002	2244	SLU 83	0.017	2762	6905	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2482	SLD 5	0.07	3109	7637	SLD 5	15877	Si
0.23	0.41	0.0002	2368	SLD 5	0.07	3109	7287	SLD 5	15877	Si
2.21	0.41	0.0002	1767	SLD 5	0.07	3109	5438	SLD 5	15877	Si
4.2	0.41	0.0002	1625	SLD 3	0.07	3109	4999	SLD 3	15877	Si
4.42	0.41	0.0002	1641	SLD 4	0.07	3109	5051	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1707	SLE RA 21	49411	1494000	612698	36000000	1535	SLE QP 2	44443	1120500	Si
0.23	0.41	0.00000173	1660	SLE RA 21	48038	1494000	595669	36000000	1493	SLE QP 2	43214	1120500	Si
2.21	0.41	0.00000173	1529	SLE RA 21	44254	1494000	548747	36000000	1378	SLE QP 2	39897	1120500	Si
4.2	0.41	0.00000173	1629	SLE RA 20	47153	1494000	584691	36000000	1471	SLE QP 2	42564	1120500	Si
4.42	0.41	0.00000173	1635	SLE RA 20	47339	1494000	587005	36000000	1476	SLE QP 2	42728	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.65	1.1	SLU 5	ST	LT	-64	-457	-39973	0	-1	19	0	0	1.1	12159	461	26.37	Si
4.65	1.1	SLV FO 12	SIS	LT	7078	-1348	-24410	16	-3	19	0	0	1.1	7425	7205	1.03	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
206,205,204,203,202,201,200,199,198,197,196	4.65	1.1	SLU 84	ST	BT	2.3	217272	61855	3.51	Si
206,205,204,203,202,201,200,199,198,197,196	4.65	1.1	SLV FO 9	SIS	BT	2.3	179887	56414	3.19	Si
206,205,204,203,202,201,200,199,198,197,196	4.65	1.1	SLD 9	SIS	BT	2.3	194295	49627	3.92	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-641	-61855	480.3	84.61	0	-1	0	0.01	1.08	4.65	1496	2060	0	14430	
0	-2975	-56414	1452.15	-18208.31	0	-3	-0.32	0.03	1.05	4	1496	2060	0	14430	0.07
0	-1884	-49627	969.24	-9669.11	0	-2	-0.19	0.02	1.06	4.26	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

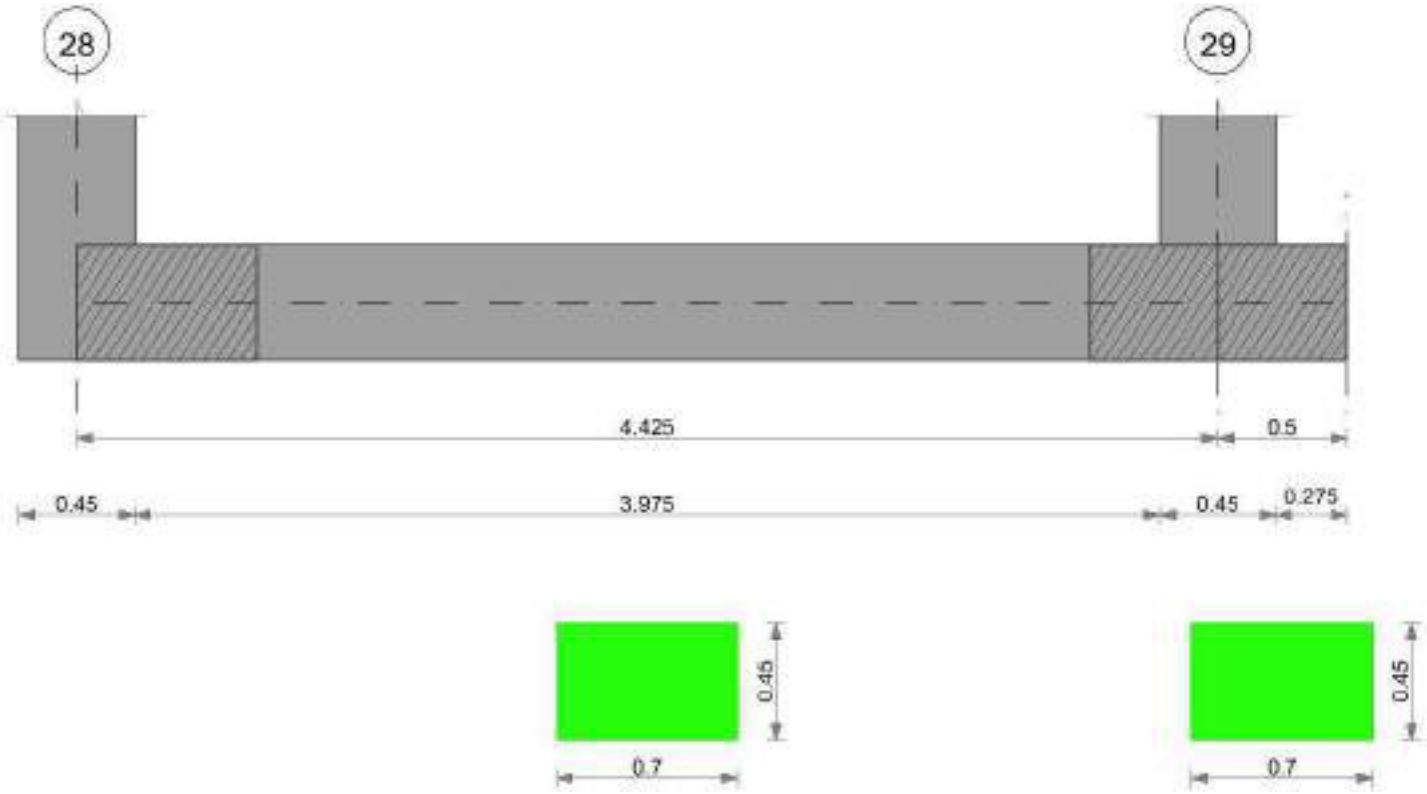
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	653	SLE RA 20	0.05	0.001	653	299	SLE RA 20	0.05	0	653	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	653	SLE RA 1	0.05	0	653	653	SLE RA 1	0.05	0	653	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	653	SLE RA 1	0.05	0	653	653	SLE RA 1	0.05	0	653	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	653	299	SLE RA 20	0.19	0	653	SLE RA 1	0.1	0	653	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	653	299	SLE RA 1	0.19	0	653	SLE RA 1	0.1	0	653	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	653	299	SLE RA 1	0.19	0	653	SLE RA 1	0.1	0	653	SLE RA 1	Si

CORDOLO 37

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

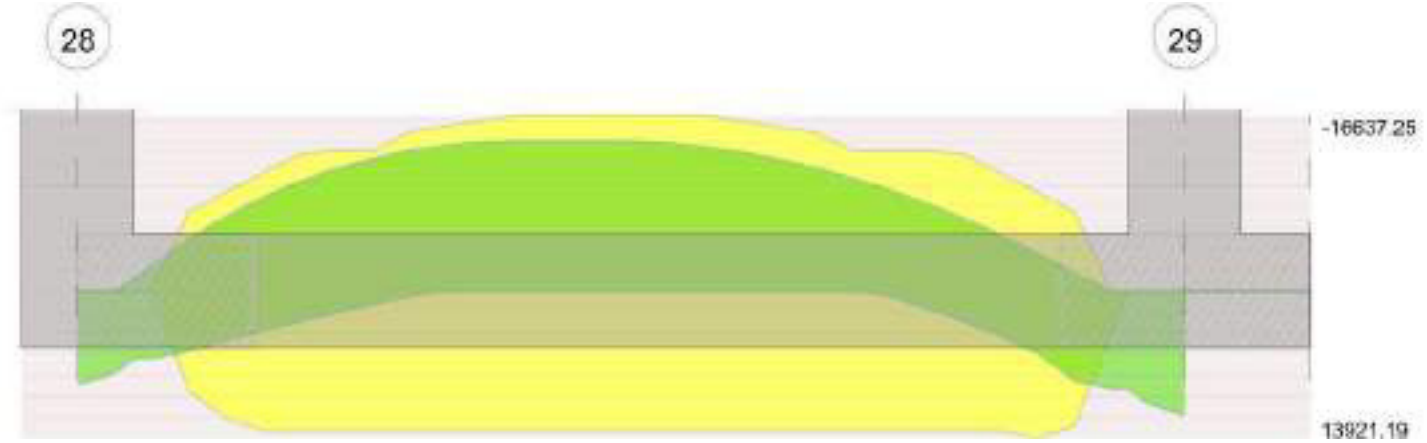
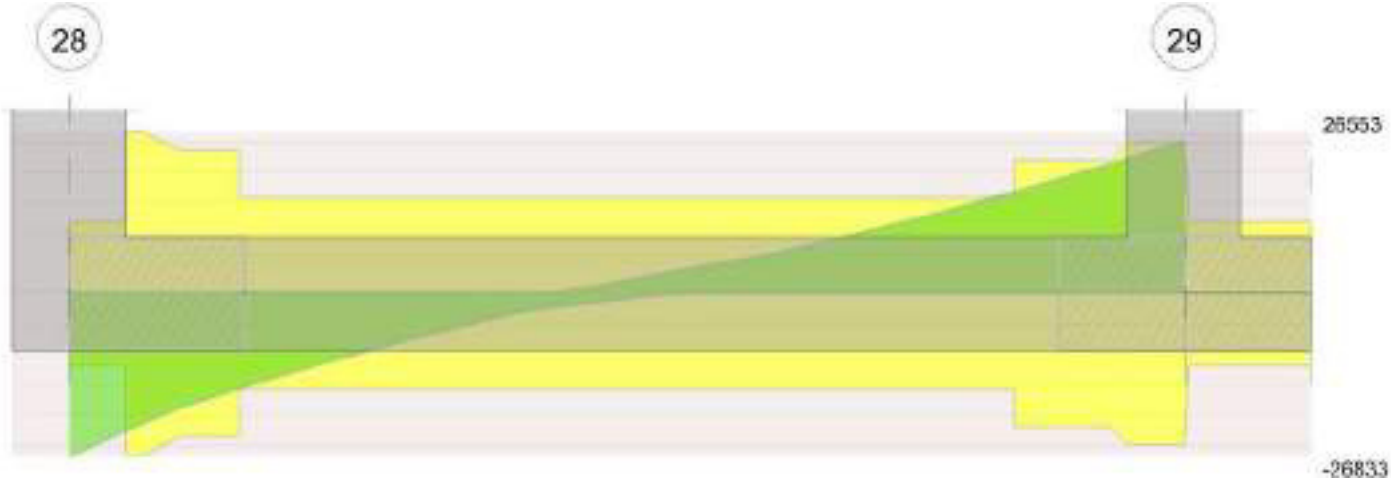


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 28 - 29, sezione R 70x45, aste 322, 321, 320

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.23	4710.19	20	4710.19	199373	1494000	0	36000000	4267.98	2	4267.98	180655	1120500			Si
2.21	-9164.46	21	-9195.05	555767	1494000	21539012	36000000	-8288.19	2	-8314.67	502555	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
2.21	superiore	0.366	0.00063	0.000229	21	0.366	0.00058	0.000213	6	0.366	0.00057	0.000207	2	Si

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
4.65	1.3	SLU 5	ST	LT	-145	-783	-39275	0	-1	19	0	0	1.1	11947	796	15	Si
4.65	1.3	SLV FO 8	SIS	LT	8835	1998	-29403	17	4	19	0	0	1.1	9058	9058	1.00	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
322,321,320	4.65	1.3	SLU 84	ST	BT	2.3	243709	60714	4.01	Si
322,321,320	4.65	1.3	SLV FO 9	SIS	BT	2.3	195905	53357	3.67	Si
322,321,320	4.65	1.3	SLD 9	SIS	BT	2.3	214864	47785	4.5	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-1147	-60714	718.97	-3181.59	0	-1	-0.05	0.01	1.28	4.55	1496	2060	0	14430	
0	-3591	-53357	1787.21	-22801.46	0	-4	-0.43	0.03	1.23	3.8	1496	2060	0	14430	0.07
0	-2385	-47785	1227.84	-13111.12	0	-3	-0.27	0.03	1.25	4.1	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.06	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.06	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.06	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

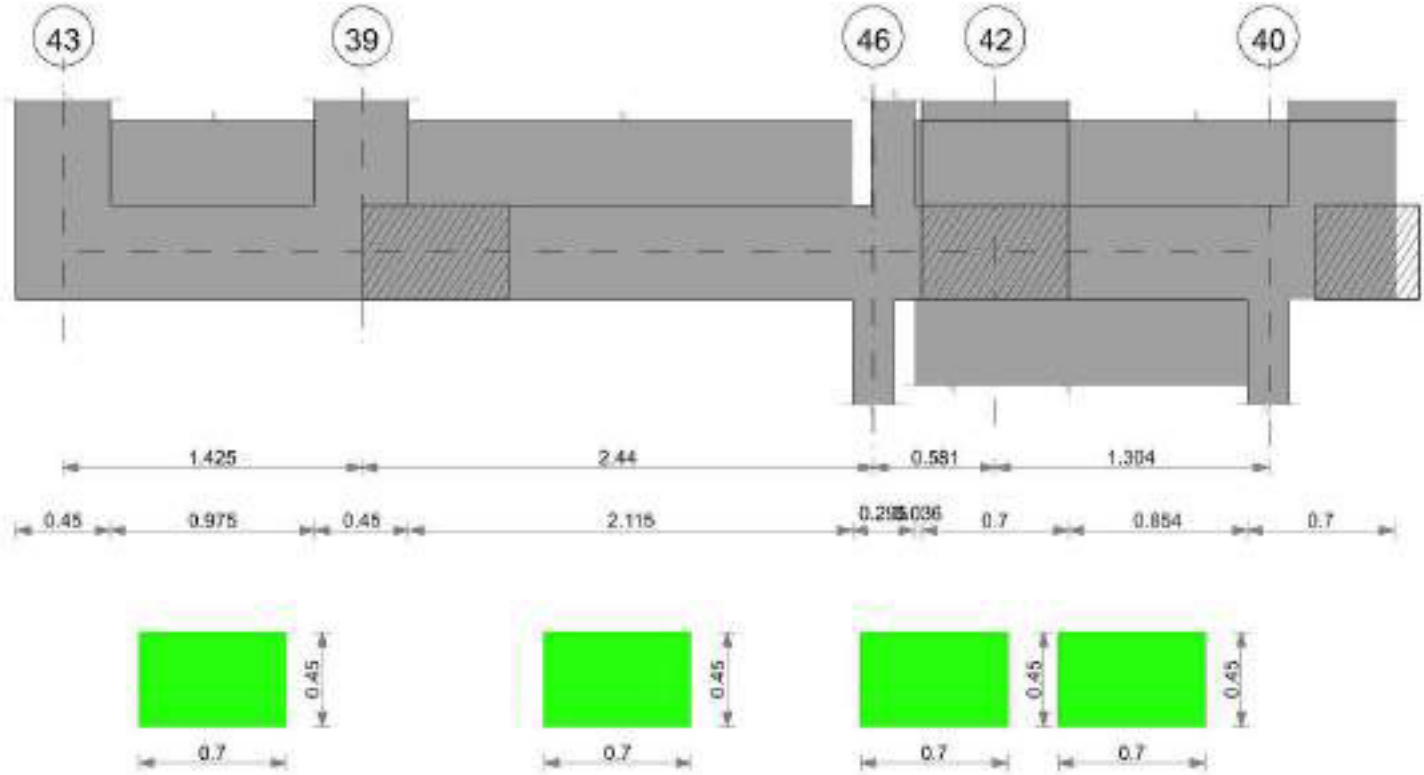
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0.001	666	SLE RA 20	0.05	0.001	666	313	SLE RA 20	0.05	0	666	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	666	SLE RA 1	0.05	0	666	666	SLE RA 1	0.05	0	666	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	666	SLE RA 1	0.05	0	666	666	SLE RA 1	0.05	0	666	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	666	313	SLE RA 20	0.19	0	666	SLE RA 1	0.1	0	666	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	666	313	SLE RA 1	0.19	0	666	SLE RA 1	0.1	0	666	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	666	313	SLE RA 1	0.19	0	666	SLE RA 1	0.1	0	666	SLE RA 1	Si

CORDOLO 38

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

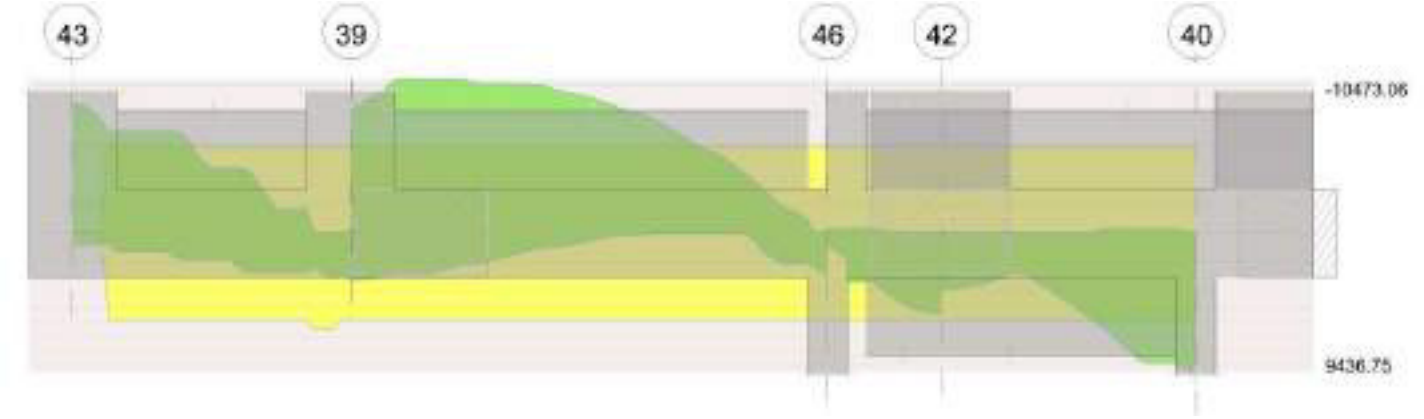


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 43 - 39, sezione R 70x45, aste 583, 582, 581, 580

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
1.42	0.41	0.0004	5161	SLV FO 6	0.121	5360	12157	SLV FO 6	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
1.42	0.41	0.0004	3942	SLD 6	0.1	6219	9286	SLD 6	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
1.42	0.41	0.0000035	2838	SLE RA 21	80240	1494000	994982	36000000	2552	SLE QP 2	72154	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 39 - 46, sezione R 70x45, aste 579, 578, 577, 576, 575, 574

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	5161	SLV FO 6	0.121	5360	12157	SLV FO 6	15877	Si
0.23	0.41	0.0004	4855	SLV FO 6	0.121	5360	11437	SLV FO 6	15877	Si
1.22	0.41	0.0004	3864	SLV FO 6	0.121	5360	9101	SLV FO 6	15877	Si
2.34	0.41	0.0004	3657	SLU 84	0.03	5566	8613	SLU 84	15877	Si
2.44	0.41	0.0004	3677	SLU 84	0.03	5566	8660	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3942	SLD 6	0.1	6219	9286	SLD 6	15877	Si
0.23	0.41	0.0004	3747	SLD 6	0.1	6219	8825	SLD 6	15877	Si
1.22	0.41	0.0004	3142	SLD 6	0.1	6219	7401	SLD 6	15877	Si
2.34	0.41	0.0004	2892	SLD 6	0.1	6219	6811	SLD 6	15877	Si
2.44	0.41	0.0004	2876	SLD 6	0.1	6219	6774	SLD 6	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000035	2838	SLE RA 21	80240	1494000	994982	36000000	2552	SLE QP 2	72154	1120500	Si
0.23	0.41	0.0000035	2759	SLE RA 21	78001	1494000	967208	36000000	2481	SLE QP 2	70156	1120500	Si
1.22	0.41	0.0000035	2574	SLE RA 21	72783	1494000	902508	36000000	2318	SLE QP 2	65548	1120500	Si
2.34	0.41	0.0000035	2675	SLE RA 21	75627	1494000	937769	36000000	2413	SLE QP 2	68233	1120500	Si
2.44	0.41	0.0000035	2689	SLE RA 21	76031	1494000	942787	36000000	2426	SLE QP 2	68608	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 46 - 42, sezione R 70x45, asta 573

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3677	SLU 84	0.03	5566	8660	SLU 84	15877	Si
0.1	0.41	0.0003	3696	SLU 84	0.023	4133	8706	SLU 84	15877	Si
0.23	0.41	0.0003	3721	SLU 84	0.023	4133	8764	SLU 84	15877	Si
0.29	0.41	0.0003	3731	SLU 84	0.023	4133	8788	SLU 84	15877	Si
0.58	0.41	0.0003	3769	SLU 84	0.029	5457	8878	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2876	SLD 6	0.1	6219	6774	SLD 6	15877	Si
0.1	0.41	0.0003	2860	SLD 6	0.086	4632	6736	SLD 6	15877	Si
0.23	0.41	0.0003	2838	SLD 6	0.086	4632	6684	SLD 6	15877	Si
0.29	0.41	0.0003	2827	SLD 6	0.086	4632	6658	SLD 6	15877	Si
0.58	0.41	0.0003	2762	SLD 6	0.099	6098	6506	SLD 6	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000035	2689	SLE RA 21	76031	1494000	942787	36000000	2426	SLE QP 2	68608	1120500	Si
0.1	0.41	0.00000259	2703	SLE RA 21	77348	1494000	959111	36000000	2439	SLE QP 2	69807	1120500	Si
0.23	0.41	0.00000259	2721	SLE RA 21	77856	1494000	965410	36000000	2456	SLE QP 2	70278	1120500	Si
0.29	0.41	0.00000259	2728	SLE RA 21	78069	1494000	968056	36000000	2463	SLE QP 2	70477	1120500	Si
0.58	0.41	0.00000343	2756	SLE RA 21	77986	1494000	967032	36000000	2489	SLE QP 2	70430	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 42 - 40, sezione R 70x45, aste 572, 571, 570, 569

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3769	SLU 84	0.029	5457	8878	SLU 84	15877	Si
0.35	0.41	0.0003	3781	SLU 84	0.029	5457	8906	SLU 84	15877	Si
0.65	0.41	0.0003	3768	SLU 83	0.029	5457	8876	SLU 83	15877	Si
1.2	0.41	0.0003	3688	SLU 83	0.029	5457	8686	SLU 83	15877	Si
1.3	0.41	0.0003	3663	SLU 83	0.029	5457	8628	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	2762	SLD 6	0.099	6098	6506	SLD 6	15877	Si
0.35	0.41	0.0003	2645	SLD 6	0.099	6098	6229	SLD 6	15877	Si
0.65	0.41	0.0003	2529	SLD 6	0.099	6098	5956	SLD 6	15877	Si
1.2	0.41	0.0003	2610	SLD 8	0.099	6098	6148	SLD 8	15877	Si
1.3	0.41	0.0003	2625	SLD 7	0.099	6098	6182	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000343	2756	SLE RA 21	77986	1494000	967032	36000000	2489	SLE QP 2	70430	1120500	Si
0.35	0.41	0.00000343	2763	SLE RA 21	78210	1494000	969802	36000000	2497	SLE QP 2	70666	1120500	Si
0.65	0.41	0.00000343	2753	SLE RA 20	77916	1494000	966164	36000000	2488	SLE QP 2	70414	1120500	Si
1.2	0.41	0.00000343	2692	SLE RA 20	76179	1494000	944618	36000000	2430	SLE QP 2	68780	1120500	Si
1.3	0.41	0.00000343	2673	SLE RA 20	75658	1494000	938165	36000000	2413	SLE QP 2	68296	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

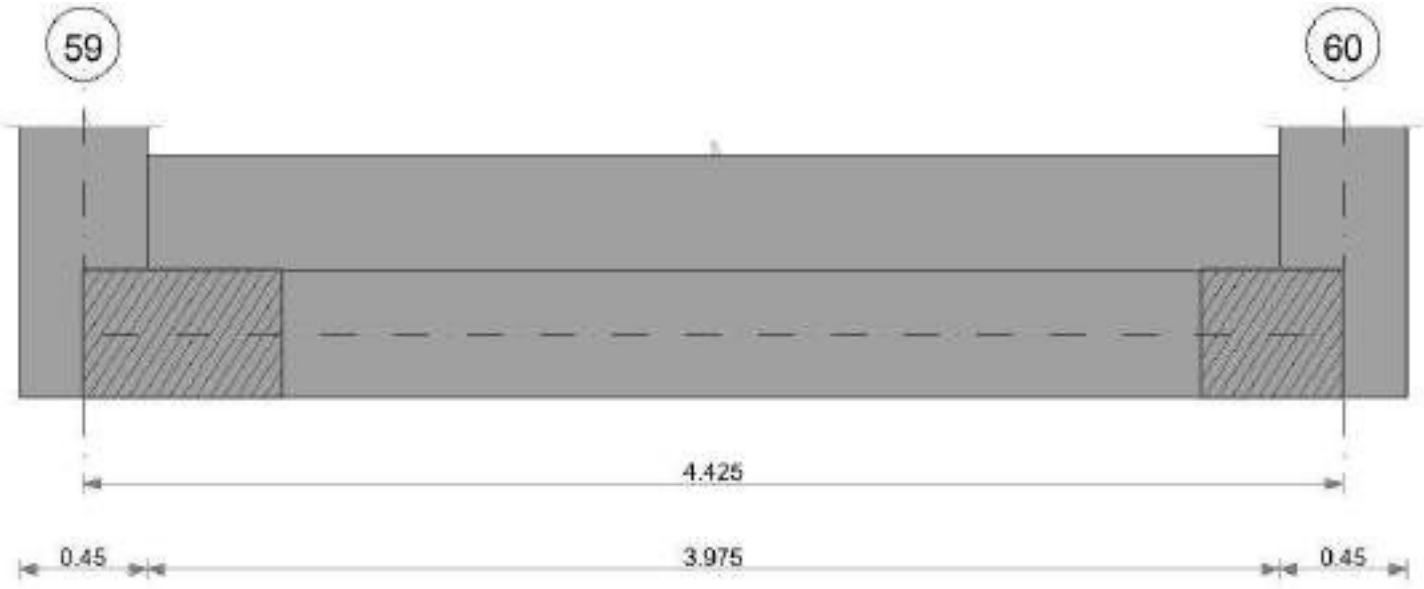
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	497	SLE RA 21	0.05	0.001	497	176	SLE RA 21	0.05	0.001	497	SLE RA 21	0.0033	0	SLE RA 6	Si
D	0.05	0	673	SLE RA 1	0.05	0	673	673	SLE RA 1	0.05	0	525	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	673	SLE RA 1	0.05	0	673	673	SLE RA 1	0.05	0	525	SLE RA 1	0.0033	0	SLE RA 1	Si

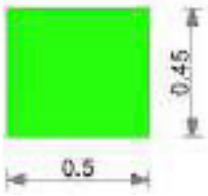
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.02	497	315	SLE RA 20	0.19	0.02	497	SLE RA 21	0.1	0.01	315	SLE RA 6	Si
D	0.19	0	SLE RA 1	0.19	0	673	525	SLE RA 1	0.19	0	673	SLE RA 1	0.1	0	525	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	673	525	SLE RA 1	0.19	0	673	SLE RA 1	0.1	0	525	SLE RA 1	Si

CORDOLO 39

Geometria





Caratteristiche dei materiali

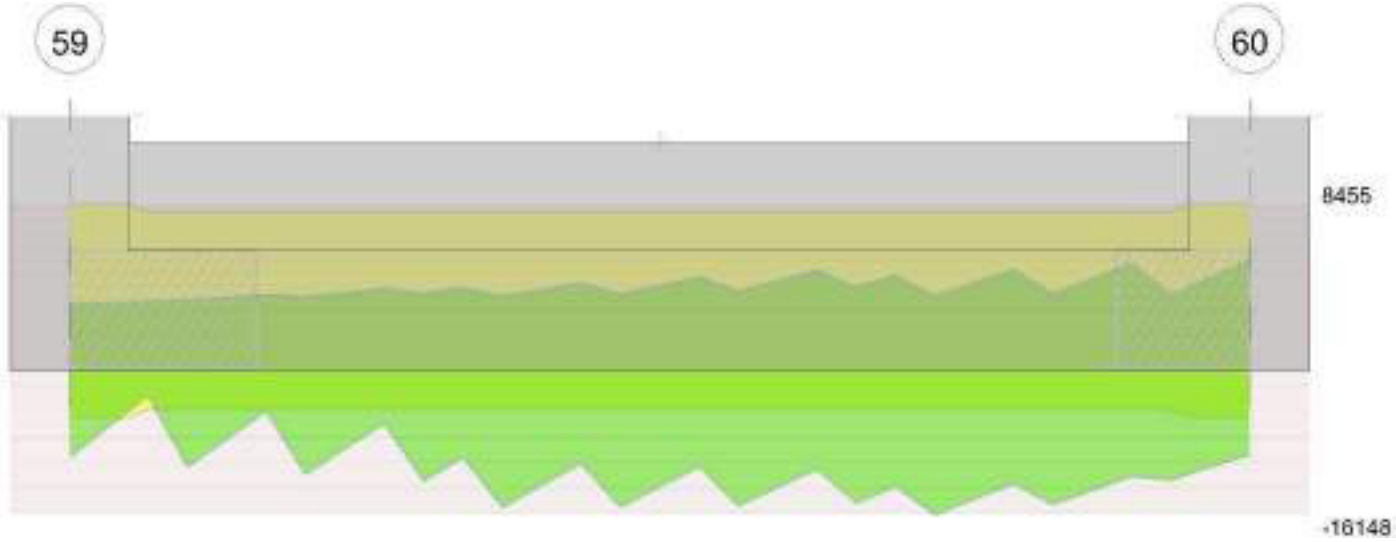
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 59 - 60, sezione R 50x45, aste 344, 343, 342, 341, 340, 339, 338, 337, 336, 335, 334

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2044	SLV FO 10	0.086	2722	6289	SLV FO 10	15877	Si
4.2	0.41	0.0002	2119	SLU 83	0.018	2799	6521	SLU 83	15877	Si
4.42	0.41	0.0002	2148	SLU 83	0.018	2799	6608	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2492	SLD 10	0.071	3150	7669	SLD 10	15877	Si
0.23	0.41	0.0002	2375	SLD 10	0.071	3150	7306	SLD 10	15877	Si
2.21	0.41	0.0002	1716	SLD 10	0.071	3150	5279	SLD 10	15877	Si
4.2	0.41	0.0002	1549	SLD 15	0.071	3150	4765	SLD 15	15877	Si
4.42	0.41	0.0002	1596	SLD 11	0.071	3150	4910	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000175	1703	SLE RA 21	49272	1494000	610973	36000000	1535	SLE QP 2	44409	1120500	Si
0.23	0.41	0.00000175	1653	SLE RA 21	47819	1494000	592953	36000000	1490	SLE QP 2	43107	1120500	Si
2.21	0.41	0.00000175	1477	SLE RA 21	42730	1494000	529855	36000000	1335	SLE QP 2	38624	1120500	Si
4.2	0.41	0.00000175	1546	SLE RA 20	44735	1494000	554713	36000000	1399	SLE QP 2	40493	1120500	Si
4.42	0.41	0.00000175	1566	SLE RA 20	45319	1494000	561952	36000000	1417	SLE QP 2	41013	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.87	1.1	SLU 43	ST	LT	502	609	-48292	1	1	19	0	0	1.1	14689	789	18.62	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
344,343,342,341,340,339,338,337,336,335,334	4.87	1.1	SLU 84	ST	BT	2.3	226201	60413	3.74	Si
344,343,342,341,340,339,338,337,336,335,334	4.87	1.1	SLV FO 10	SIS	BT	2.3	197051	58128	3.39	Si
344,343,342,341,340,339,338,337,336,335,334	4.87	1.1	SLD 6	SIS	BT	2.3	202356	48623	4.16	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	726	-60413	-462.2	-902.83	0	1	-0.01	-0.01	1.08	4.85	1496	2060	0	14430	
0	-542	-58128	336.44	-20144.48	0	-1	-0.35	0.01	1.09	4.18	1496	2060	0	14430	0.07
0	1870	-48623	-858.69	-10925.53	0	2	-0.22	-0.02	1.06	4.43	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

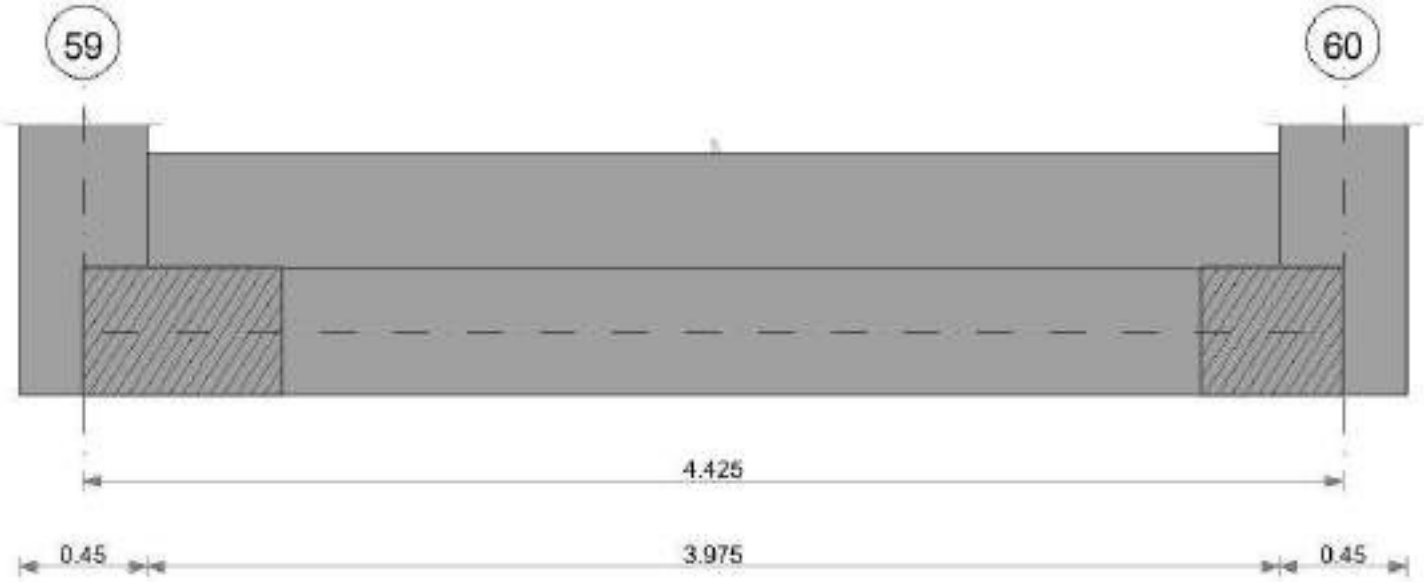
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	690	SLE RA 20	0.05	0.001	690	326	SLE RA 20	0.05	0	690	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	690	SLE RA 1	0.05	0	690	690	SLE RA 1	0.05	0	690	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	690	SLE RA 1	0.05	0	690	690	SLE RA 1	0.05	0	690	SLE RA 1	0.0033	0	SLE RA 1	Si

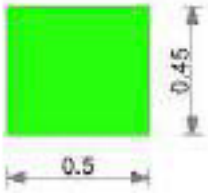
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	690	326	SLE RA 20	0.19	0	690	SLE RA 1	0.1	0	690	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	690	326	SLE RA 1	0.19	0	690	SLE RA 1	0.1	0	690	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	690	326	SLE RA 1	0.19	0	690	SLE RA 1	0.1	0	690	SLE RA 1	Si

CORDOLO 40

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

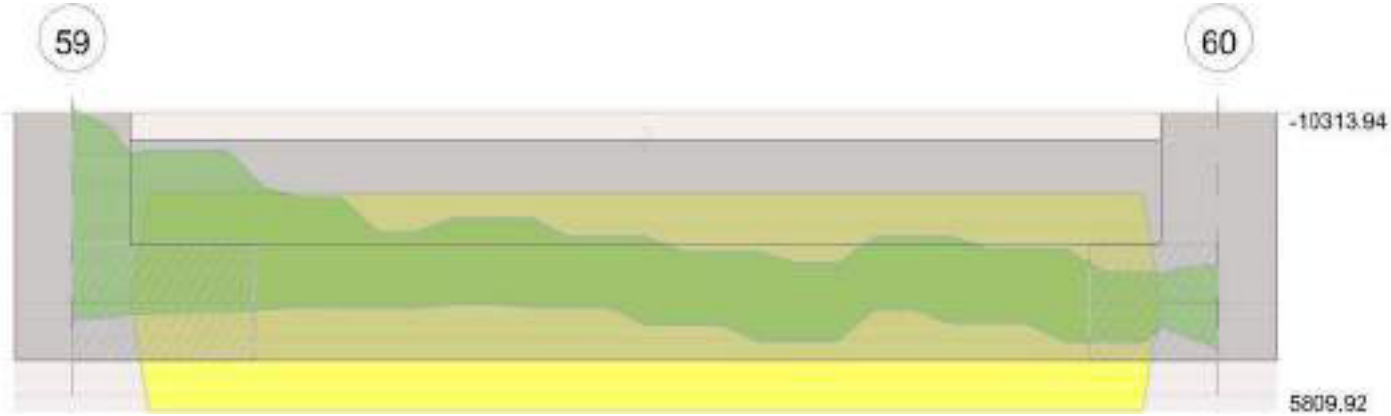
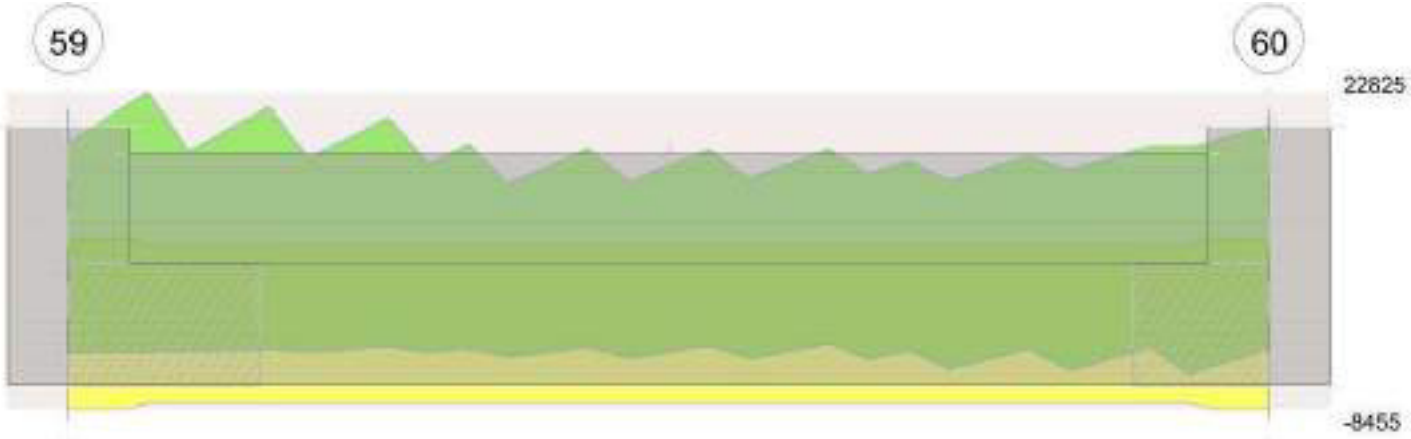


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 59 - 60, sezione R 50x45, aste 333, 332, 331, 330, 329, 328, 327, 326, 325, 324, 323

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2064	SLV FO 10	0.086	2722	6350	SLV FO 10	15877	Si
4.2	0.41	0.0002	2114	SLU 83	0.018	2799	6504	SLU 83	15877	Si
4.42	0.41	0.0002	2143	SLU 83	0.018	2799	6593	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2464	SLD 10	0.071	3150	7582	SLD 10	15877	Si
0.23	0.41	0.0002	2347	SLD 10	0.071	3150	7222	SLD 10	15877	Si
2.21	0.41	0.0002	1717	SLD 10	0.071	3150	5282	SLD 10	15877	Si
4.2	0.41	0.0002	1541	SLD 15	0.071	3150	4742	SLD 15	15877	Si
4.42	0.41	0.0002	1578	SLD 15	0.071	3150	4855	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000175	1660	SLE RA 21	48049	1494000	595805	36000000	1496	SLE QP 2	43286	1120500	Si
0.23	0.41	0.00000175	1611	SLE RA 21	46611	1494000	577974	36000000	1451	SLE QP 2	41997	1120500	Si
2.21	0.41	0.00000175	1454	SLE RA 21	42081	1494000	521799	36000000	1314	SLE QP 2	38015	1120500	Si
4.2	0.41	0.00000175	1542	SLE RA 20	44612	1494000	553190	36000000	1395	SLE QP 2	40374	1120500	Si
4.42	0.41	0.00000175	1562	SLE RA 20	45210	1494000	560605	36000000	1414	SLE QP 2	40907	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.87	1.1	SLU 45	ST	LT	528	617	-48364	1	1	19	0	0	1.1	14711	812	18.12	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
333,332,331,330,329,328,327,326,325,324,323	4.87	1.1	SLU 84	ST	BT	2.3	226918	59712	3.8	Si
333,332,331,330,329,328,327,326,325,324,323	4.87	1.1	SLV FO 10	SIS	BT	2.3	198433	58593	3.39	Si
333,332,331,330,329,328,327,326,325,324,323	4.87	1.1	SLD 6	SIS	BT	2.3	203275	48533	4.19	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	726	-59712	-462.2	-393.32	0	1	-0.01	-0.01	1.08	4.86	1496	2060	0	14430	
0	-542	-58593	336.44	-19425.01	0	-1	-0.33	0.01	1.09	4.21	1496	2060	0	14430	0.07
0	1870	-48533	-858.69	-10395.49	0	2	-0.21	-0.02	1.06	4.45	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

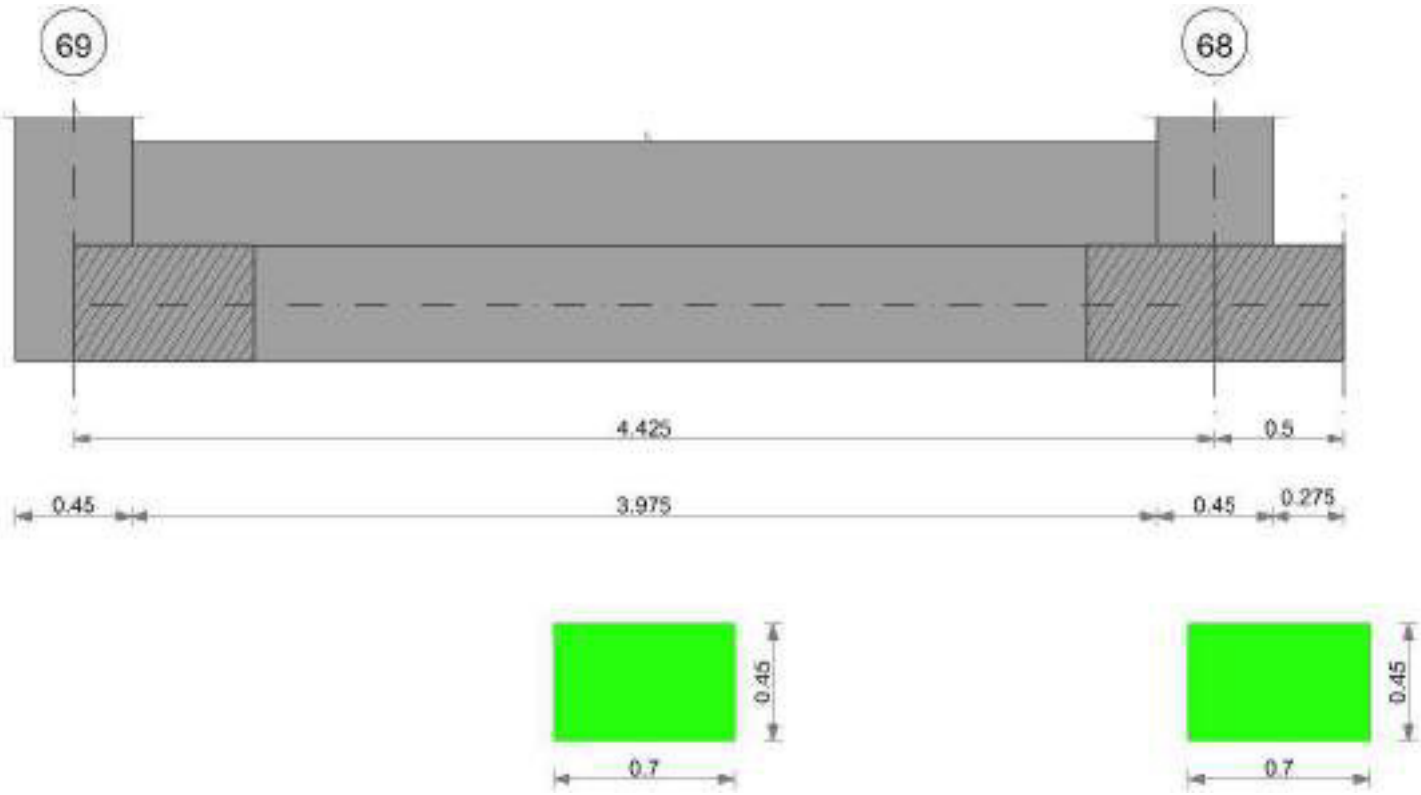
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	693	SLE RA 20	0.05	0.001	693	328	SLE RA 20	0.05	0	693	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	693	SLE RA 1	0.05	0	693	693	SLE RA 1	0.05	0	693	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	693	SLE RA 1	0.05	0	693	693	SLE RA 1	0.05	0	693	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	693	328	SLE RA 20	0.19	0	693	SLE RA 1	0.1	0	693	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	693	328	SLE RA 1	0.19	0	693	SLE RA 1	0.1	0	693	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	693	328	SLE RA 1	0.19	0	693	SLE RA 1	0.1	0	693	SLE RA 1	Si

CORDOLO 41

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

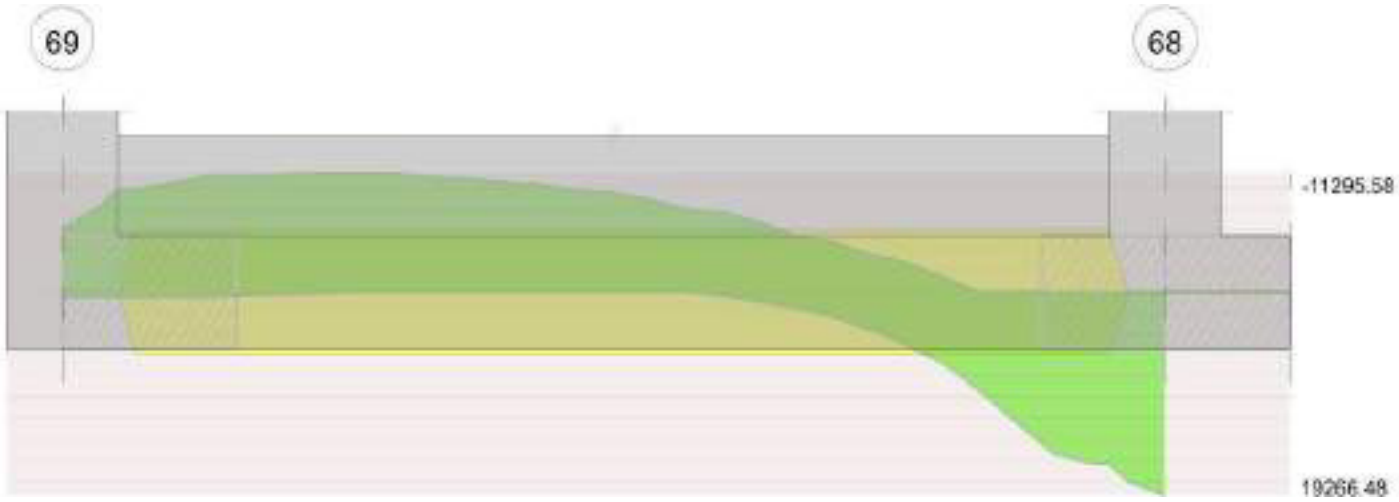


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 69 - 68, sezione R 70x45, aste 522, 521, 520, 519, 518, 517, 516, 515, 514, 513, 512

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	2603	SLE RA 21	75347	1494000	934307	36000000	2352	SLE QP 2	68089	1120500	Si
0.23	0.41	0.00000173	2499	SLE RA 21	72342	1494000	897046	36000000	2259	SLE QP 2	65385	1120500	Si
2.21	0.41	0.00000173	2228	SLE RA 21	64503	1494000	799839	36000000	2022	SLE QP 2	58516	1120500	Si
4.2	0.41	0.00000173	2777	SLE RA 21	80369	1494000	996570	36000000	2528	SLE QP 2	73184	1120500	Si
4.42	0.41	0.00000173	2781	SLE RA 20	80507	1494000	998288	36000000	2533	SLE QP 2	73319	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	γR	Rd	Ed	Rd/Ed	Verifica
4.65	1.3	SLU 5	ST	LT	-754	636	-50436	-1	1	19	0	0	1.1	15341	986	15.56	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
522,521,520,519,518,517,516,515,514,513,512	4.65	1.3	SLU 84	ST	BT	2.3	215086	77460	2.78	Si
522,521,520,519,518,517,516,515,514,513,512	4.65	1.3	SLV FO 10	SIS	BT	2.3	185263	82427	2.25	Si
522,521,520,519,518,517,516,515,514,513,512	4.65	1.3	SLD 10	SIS	BT	2.3	199394	68981	2.89	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	913	-77460	6568.19	3864.9	0	1	0.05	0.08	1.13	4.55	1496	2060	0	14430	
0	-289	-82427	9375.67	-22070.12	0	0	-0.27	0.11	1.07	4.11	1496	2060	0	14430	0.07
0	57	-68981	7128.51	-10492.53	0	0	-0.15	0.1	1.09	4.35	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

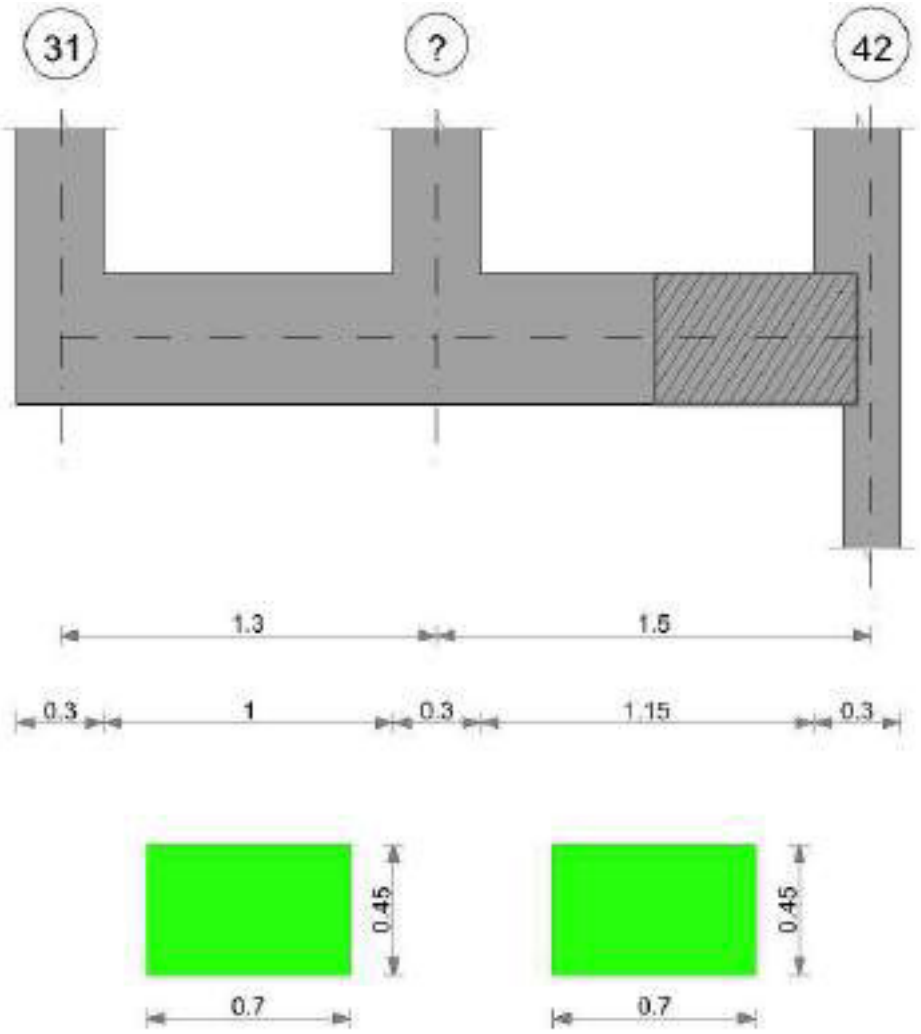
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	708	SLE RA 20	0.05	0	708	343	SLE RA 20	0.05	0	708	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	708	SLE RA 1	0.05	0	708	708	SLE RA 1	0.05	0	708	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	708	SLE RA 1	0.05	0	708	708	SLE RA 1	0.05	0	708	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	708	343	SLE RA 20	0.19	0	708	SLE RA 1	0.1	0	708	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	708	343	SLE RA 1	0.19	0	708	SLE RA 1	0.1	0	708	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	708	343	SLE RA 1	0.19	0	708	SLE RA 1	0.1	0	708	SLE RA 1	Si

CORDOLO 42

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

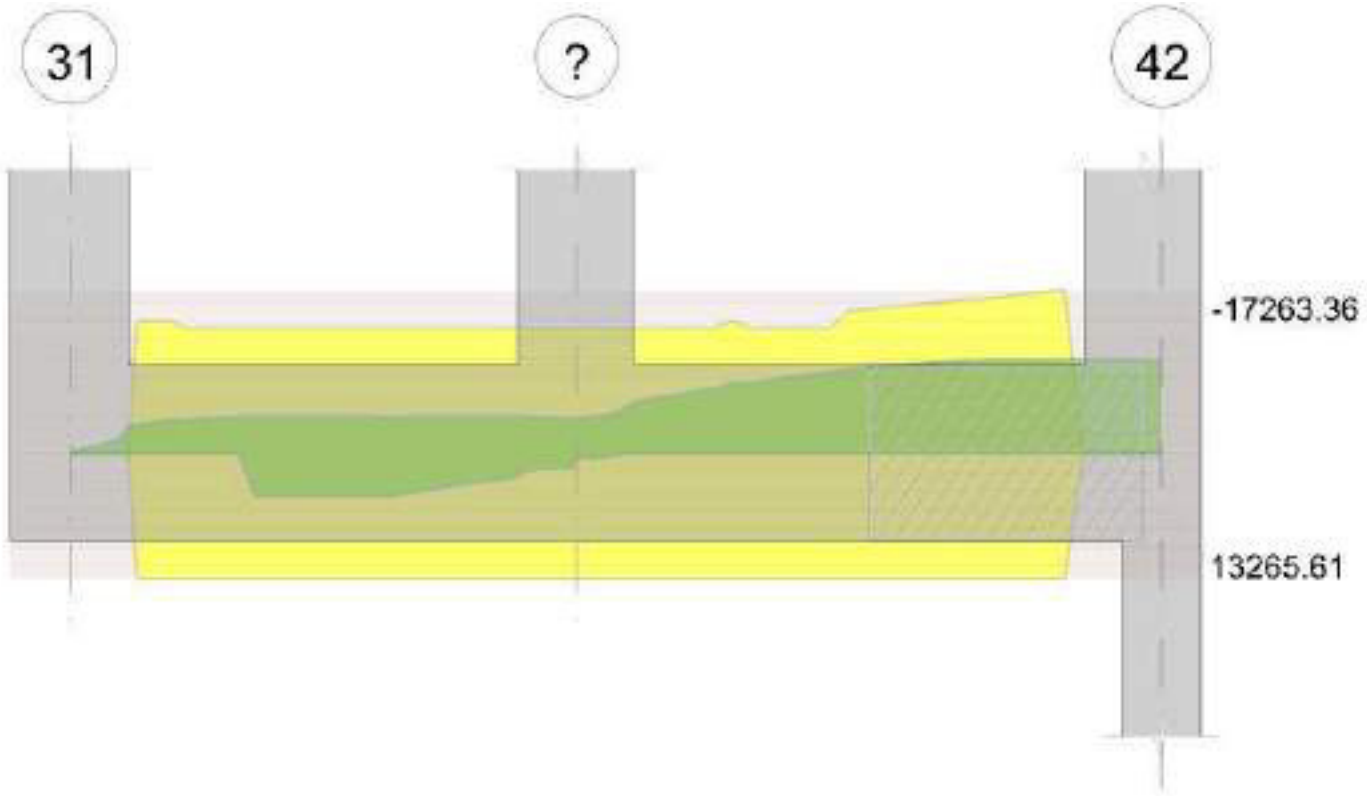
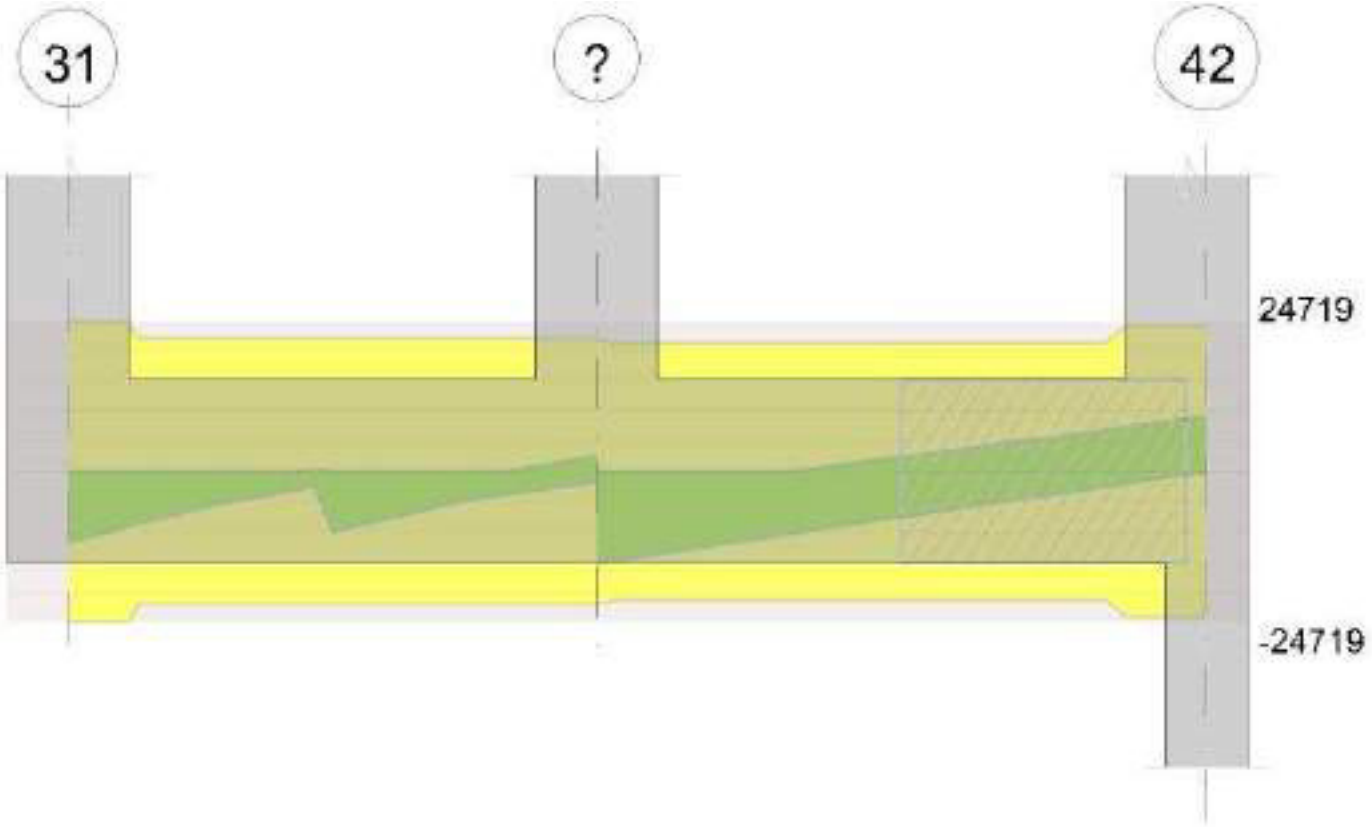


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 31 - ?, sezione R 70x45, aste 430, 429

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	1537.1	SLU 81	1537.1	13996.86	0.128	9.11	723	SLU 5	-3939.79	-13996.86	0.128	3.55	Si

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.15	0.000942	0.053	0.000942	0.053							-1490.87	SLU 78	-1490.87	-13996.86	0.128	9.39	Si
1.3	0.000942	0.053	0.000942	0.053							-1603.46	SLU 78	-1603.46	-13996.86	0.128	8.73	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	4605.21	SLV FO 15	4605.21	13265.61	0.222	2.88	-2827.47	SLV FO 2	-3847.66	-13265.61	0.222	3.45	Si
1.15	0.000942	0.053	0.000942	0.053	1836.01	SLV FO 15	2526.48	13265.61	0.222	5.25	-3844.3	SLV FO 2	-3859.86	-13265.61	0.222	3.44	Si
1.3	0.000942	0.053	0.000942	0.053	1514.66	SLV FO 15	1514.66	13265.61	0.222	8.76	-3643.17	SLV FO 2	-3643.17	-13265.61	0.222	3.64	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	3034.86	SLD 15	3034.86	13265.61	0.222	4.37	-1257.12	SLD 2	-3309.07	-13265.61	0.222	4.01	Si
1.15	0.000942	0.053	0.000942	0.053	640.87	SLD 15	1196.82	13265.61	0.222	11.08	-2649.17	SLD 2	-2649.17	-13265.61	0.222	5.01	Si
1.3	0.000942	0.053	0.000942	0.053	432.45	SLD 15	432.45	13265.61	0.222	30.68	-2560.97	SLD 2	-2560.97	-13265.61	0.222	5.18	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-11623	SLU 84	-11623	-11837	-100005	-24719	-24719	1	2.13	Si
0.15	0.0000156	0	0	-9046	SLU 84	-9046	-11837	-100005	-24719	-24719	1	2.73	Si
0.65	0.0000156	0.000942	0	-9981	SLU 83	-9981	-11611	-88226	-21808	-21808	1	2.18	Si
1.15	0.0000156	0.000942	0	-2054	SLU 83	-2054	-11611	-88226	-21808	-21808	1	10.62	Si
1.3	0.0000156	0.000942	0	632	SLU 47	632	11611	88226	21808	21808	1	34.52	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-10378	SLV FO 9	-10378	-11837	-100005	-24719	-24719	1	2.38	Si
0.15	0.0000156	0	0	-8354	SLV FO 9	-8354	-11837	-100005	-24719	-24719	1	2.96	Si
0.65	0.0000156	0.000942	0	-8246	SLV FO 15	-8246	-11611	-88226	-21808	-21808	1	2.64	Si
1.15	0.0000156	0.000942	0	773	SLV FO 6	773	11611	88226	21808	21808	1	28.21	Si
1.15	0.0000156	0.000942	0	-3111	SLV FO 11	-3111	-11611	-88226	-21808	-21808	1	7.01	Si
1.3	0.0000156	0.000942	0	2532	SLV FO 6	2532	11611	88226	21808	21808	1	8.61	Si
1.3	0.0000156	0.000942	0	-1797	SLV FO 11	-1797	-11611	-88226	-21808	-21808	1	12.13	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-9198	SLD 9	-9198	-11837	-100005	-24719	-24719	1	2.69	Si
0.15	0.0000156	0	0	-7319	SLD 9	-7319	-11837	-100005	-24719	-24719	1	3.38	Si
0.65	0.0000156	0.000942	0	-7477	SLD 15	-7477	-11611	-88226	-21808	-21808	1	2.92	Si
1.15	0.0000156	0.000942	0	-2222	SLD 11	-2222	-11611	-88226	-21808	-21808	1	9.81	Si
1.3	0.0000156	0.000942	0	1538	SLD 6	1538	11611	88226	21808	21808	1	14.18	Si
1.3	0.0000156	0.000942	0	-803	SLD 11	-803	-11611	-88226	-21808	-21808	1	27.15	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-6.67	20	-6.67	-282	1494000	0	36000000	-6.2	2	-6.2	-262	1120500			Si
0.15	-1141.71	21	-2126.98	-90031	1494000	0	36000000	-1051.59	2	-1964.63	-83159	1120500			Si
0.65	1108.04	18	1108.04	40524	1494000	607867	36000000	888.87	2	888.87	32509	1120500			Si
1.15	-1085.92	15	-1085.92	39715	1494000	595727	36000000	-1004.15	2	-1004.15	36725	1120500			Si
1.3	-1162.97	15	-1162.97	42533	1494000	637999	36000000	-1064.26	2	-1064.26	38923	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 2 tra i fili ? - 42, sezione R 70x45, asta 428

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-1600.12	SLU 78	-1600.12	-13996.86	0.128	8.75	Si
0.15	0.000942	0.053	0.000942	0.053							-3569.1	SLU 84	-5505.02	-13996.86	0.128	2.54	Si
0.75	0.001091	0.053	0.000942	0.053							-8320.17	SLU 84	-8778.14	-16016.12	0.135	1.82	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053	1520.3	SLV FO 15	602.78	13265.61	0.222	22.01	-3644.34	SLV FO 2	-3644.34	-13265.61	0.222	3.64	Si
0.15	0.000942	0.053	0.000942	0.053							-4470.76	SLV FO 2	-5381.11	-13265.61	0.222	2.47	Si
0.75	0.001091	0.053	0.000942	0.053							-8191.36	SLV FO 10	-9067.3	-15255	0.238	1.68	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053	436.68	SLD 15	387.69	13265.61	0.222	34.22	-2560.73	SLD 2	-2560.73	-13265.61	0.222	5.18	Si
0.15	0.000942	0.053	0.000942	0.053							-3580.58	SLD 2	-4589.14	-13265.61	0.222	2.89	Si
0.75	0.001091	0.053	0.000942	0.053							-6947.8	SLD 10	-7563.66	-15255	0.238	2.02	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-14714	SLU 84	-14714	-11611	-88226	-21808	-21808	1	1.48	Si
0.15	0.0000151	0.000942	0	-12510	SLU 84	-12510	-11611	-88226	-21083	-21083	1	1.69	Si
0.75	0.0000151	0.000942	0	-3928	SLU 84	-3928	-11611	-88226	-21083	-21083	1	5.37	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
1.4	0.0000151	0	0	5238	SLU 83	5238	11837	100005	23897	23897	1	4.56	Si
1.5	0.0000151	0	0	6659	SLU 83	6659	11837	100005	23897	23897	1	3.59	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-15216	SLV FO 13	-15216	-11611	-88226	-21808	-21808	1	1.43	Si
0.15	0.0000151	0.000942	0	-13620	SLV FO 13	-13620	-11611	-88226	-21083	-21083	1	1.55	Si
0.75	0.0000151	0.000942	0	2340	SLV FO 4	2340	11611	88226	21083	21083	1	9.01	Si
0.75	0.0000151	0.000942	0	-7483	SLV FO 13	-7483	-11611	-88226	-21083	-21083	1	2.82	Si
1.4	0.0000151	0	0	8123	SLV FO 4	8123	11837	100005	23897	23897	1	2.94	Si
1.4	0.0000151	0	0	-1070	SLV FO 13	-1070	-11837	-100005	-23897	-23897	1	22.33	Si
1.5	0.0000151	0	0	9029	SLV FO 4	9029	11837	100005	23897	23897	1	2.65	Si
1.5	0.0000151	0	0	-78	SLV FO 13	-78	-11837	-100005	-23897	-23897	1	307.5	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-12880	SLD 13	-12880	-11611	-88226	-21808	-21808	1	1.69	Si
0.15	0.0000151	0.000942	0	-11342	SLD 13	-11342	-11611	-88226	-21083	-21083	1	1.86	Si
0.75	0.0000151	0.000942	0	253	SLD 4	253	11611	88226	21083	21083	1	83.31	Si
0.75	0.0000151	0.000942	0	-5397	SLD 13	-5397	-11611	-88226	-21083	-21083	1	3.91	Si
1.4	0.0000151	0	0	6184	SLD 4	6184	11837	100005	23897	23897	1	3.86	Si
1.5	0.0000151	0	0	7112	SLD 4	7112	11837	100005	23897	23897	1	3.36	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1160.53	15	-1160.53	42444	1494000	636662	36000000	-1062.02	2	-1062.02	38841	1120500			Si
0.15	-2605.09	21	-4025.32	147218	1494000	2208267	36000000	-2369.19	2	-3650.54	133511	1120500			Si
0.75	-6091.4	21	-6428.01	233765	1494000	3472154	36000000	-5507.33	2	-5804.58	211093	1120500			Si
1.5	-5379.94	21	-5379.94	-227722	1494000	0	36000000	-4823.9	2	-4823.9	-204186	1120500			Si

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPl	γR	Rd	Ed	Rd/Ed	Verifica
3.05	1.3	SLU 62	ST	LT	-125	816	-44918	0	1	19	0	0	1.1	13663	826	16.54	Si
3.05	1.3	SLV FO 8	SIS	LT	-933	6931	-28208	-2	14	19	0	0	1.1	8580	6993	1.23	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
430,429,428	3.05	1.3	SLU 84	ST	BT	2.3	165447	49175	3.36	Si
430,429,428	3.05	1.3	SLV FO 5	SIS	BT	2.3	137157	38110	3.6	Si
430,429,428	3.05	1.3	SLD 9	SIS	BT	2.3	151351	36183	4.18	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-141	782	-49175	155.39	-1883.65	0	1	-0.04	0	1.29	2.97	1496	2060	0	14430	
-1625	-5625	-38110	3457.52	-1809.44	-2	-8	-0.05	0.09	1.12	2.96	1496	2060	0	14430	0.07
396	-2785	-36183	1891.26	-1096.79	1	-4	-0.03	0.05	1.2	2.99	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.09	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

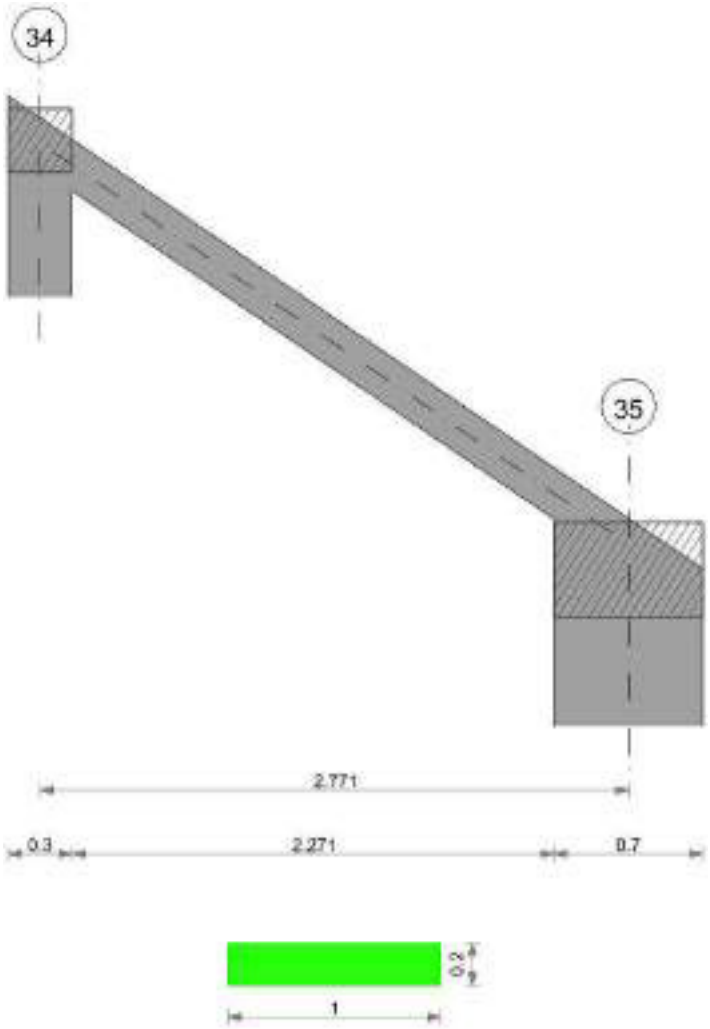
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	530	SLE RA 21	0.05	0.001	530	527	SLE RA 21	0.05	0	529	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	530	SLE RA 1	0.05	0	530	530	SLE RA 1	0.05	0	529	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	530	SLE RA 1	0.05	0	530	530	SLE RA 1	0.05	0	529	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	529	527	SLE RA 21	0.19	0	529	SLE RA 20	0.1	0	530	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	530	529	SLE RA 1	0.19	0	530	SLE RA 1	0.1	0	529	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	530	529	SLE RA 1	0.19	0	530	SLE RA 1	0.1	0	529	SLE RA 1	Si

scala piano interrato - terra

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 100x20	Rettangolare	1	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

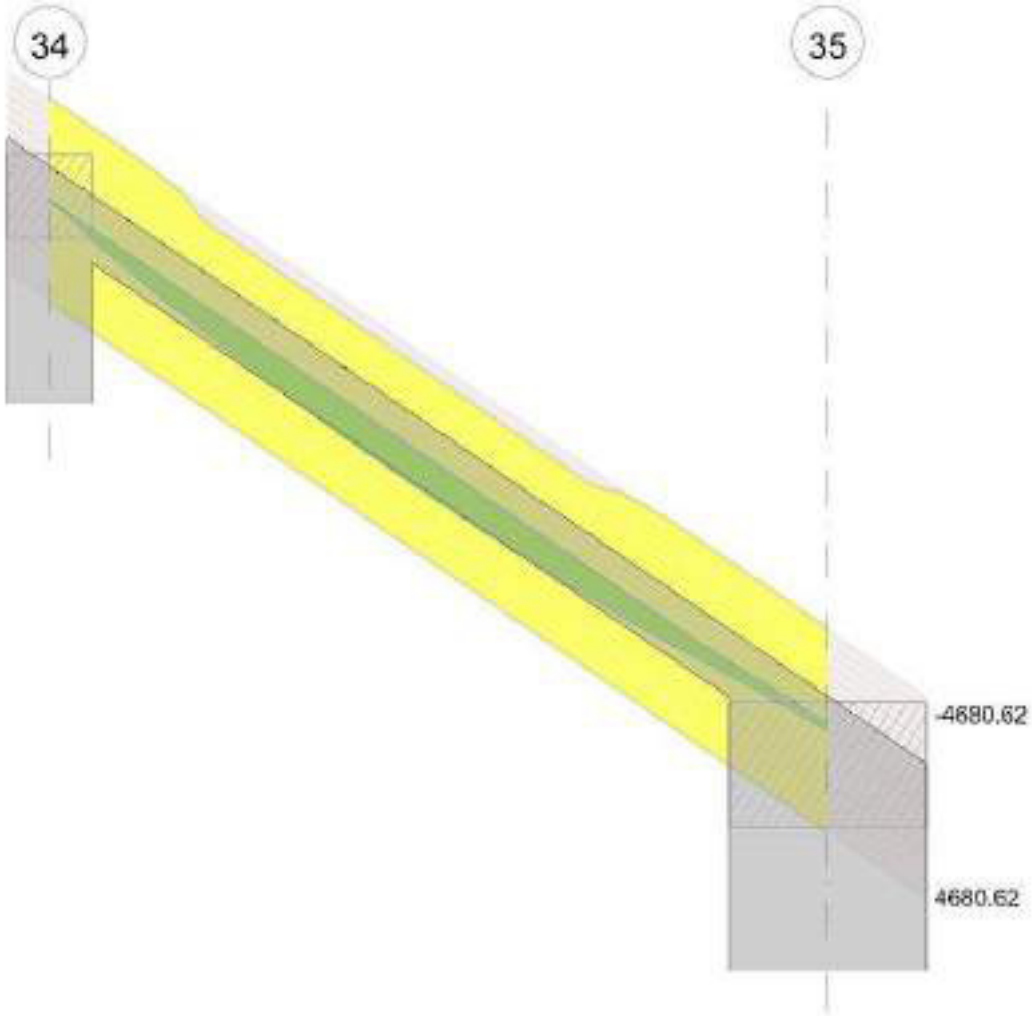


Diagramma verifica stato limite ultimo taglio

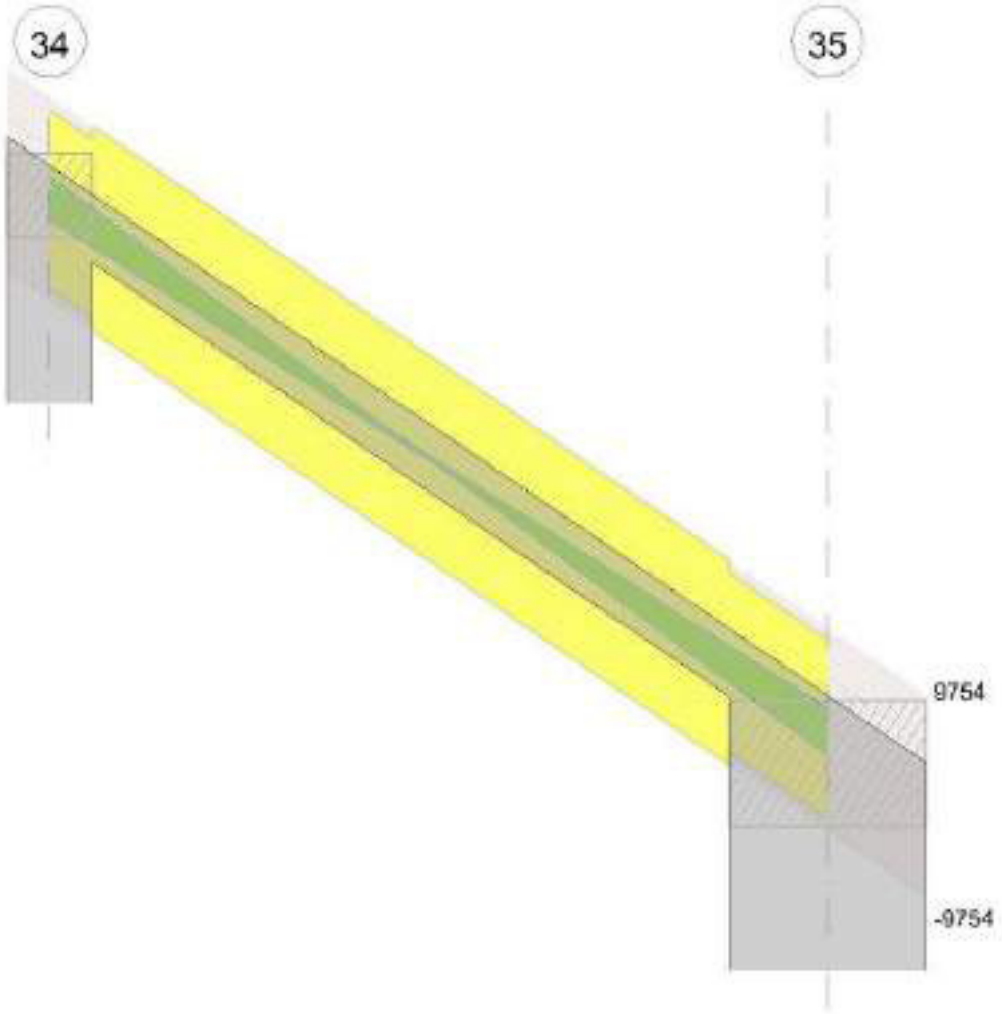
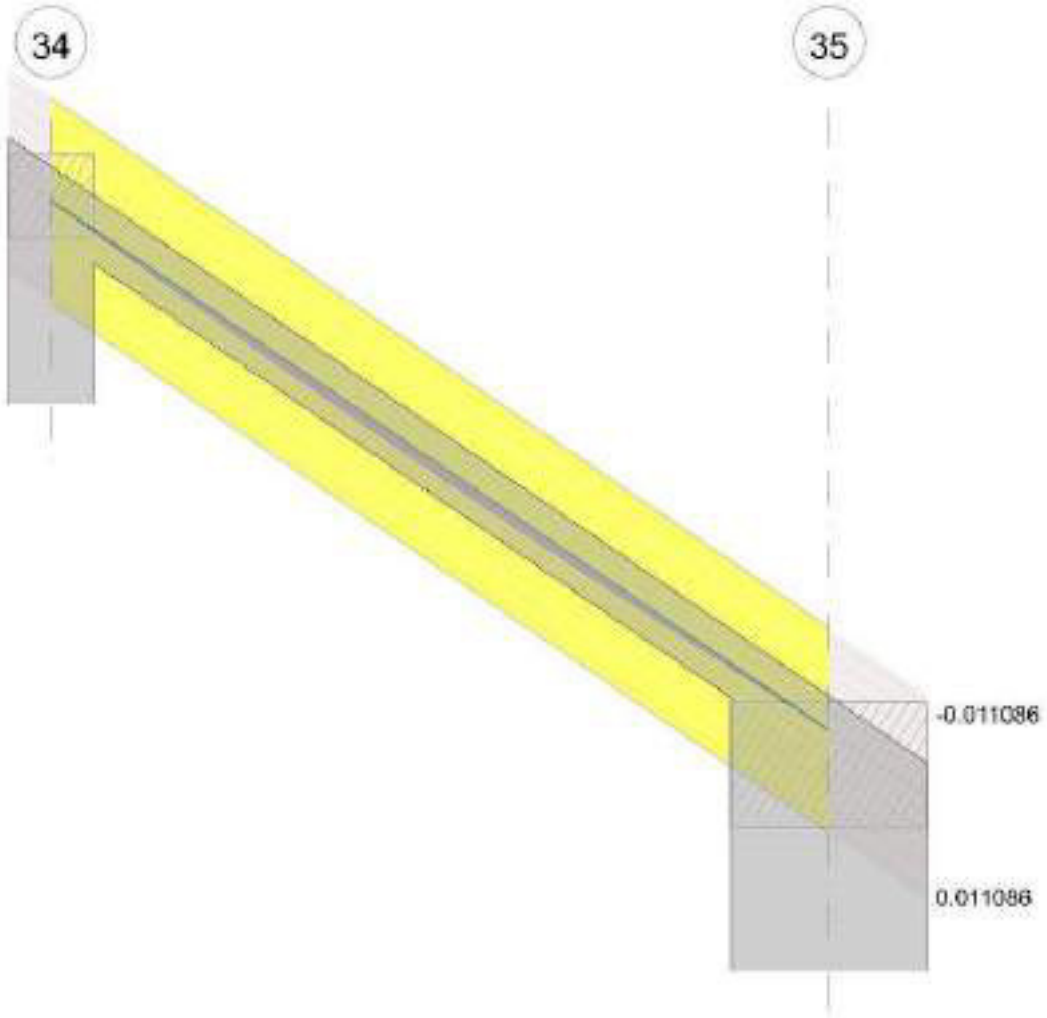


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 34 - 35, sezione R 100x20, asta 776; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-41.66	SLU 84	-41.66	-4680.62	0.274	112.37	Si
0.15	0.000804	0.051	0.000804	0.051	329.64	SLU 83	480.71	4680.62	0.274	9.74							Si
1.29	0.000603	0.051	0.000804	0.051	1666.35	SLU 83	1666.35	4649.72	0.264	2.79							Si
1.39	0.000603	0.051	0.000804	0.051	1657.59	SLU 83	1663.9	4649.72	0.264	2.79							Si
2.42	0.000804	0.051	0.000804	0.051	364.58	SLU 83	512.83	4680.62	0.274	9.13							Si
2.77	0.000804	0.051	0.000804	0.051							-571.18	SLU 82	-35.18	-4680.62	0.274	133.05	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-31.51	SLV 9	-31.51	-4680.62	0.274	148.54	Si
0.15	0.000804	0.051	0.000804	0.051	218.62	SLV 8	315.25	4680.62	0.274	14.85							Si
1.39	0.000603	0.051	0.000804	0.051	1138.78	SLV 12	1138.78	4649.72	0.264	4.08							Si
2.42	0.000804	0.051	0.000804	0.051	486.48	SLV 12	566.96	4680.62	0.274	8.26	-67.31	SLV 5	-67.31	-4680.62	0.274	69.54	Si
2.77	0.000804	0.051	0.000804	0.051							-658.35	SLV 5	-279.07	-4680.62	0.274	16.77	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-28.64	SLD 9	-28.64	-4680.62	0.274	163.41	Si
0.15	0.000804	0.051	0.000804	0.051	208.89	SLD 8	302.47	4680.62	0.274	15.47							Si
1.39	0.000603	0.051	0.000804	0.051	1072.23	SLD 12	1072.23	4649.72	0.264	4.34							Si
2.42	0.000804	0.051	0.000804	0.051	371.95	SLD 12	455.52	4680.62	0.274	10.28							Si
2.77	0.000804	0.051	0.000804	0.051							-527.6	SLD 5	-159.47	-4680.62	0.274	29.35	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	2160	SLU 83	2160	8502	47304	0	8502	1	3.94	Si
0.15	0.0000186	0.000804	0	1910	SLU 83	1910	8502	47304	9754	9754	1	5.11	Si
1.39	0.0000186	0.000804	0	-156	SLU 82	-156	-8502	-47304	-9754	-9754	1	62.42	Si
2.42	0.0000186	0.000804	0	-1887	SLU 82	-1887	-8502	-47304	-9754	-9754	1	5.17	Si
2.77	0	0.000804	0	-2471	SLU 82	-2471	-8502	-47304	0	-8502	1	3.44	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	1369	SLV 12	1369	8502	47304	0	8502	1	6.21	Si
0	0	0.000804	0	1185	Ger.	-1898	-8502	-47304	0	-8502	1	4.48	Si
0.15	0.0000186	0.000804	0	1220	SLV 12	1220	8502	47304	9754	9754	1	7.99	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.15	0.0000186	0.000804	0	1037	Ger.	-1712	-8502	-47304	-9754	-9754	1	5.7	Si
1.39	0.0000186	0.000804	0	-2	Ger.	275	8502	47304	9754	9754	1	35.53	Si
1.39	0.0000186	0.000804	0	-186	SLV 5	-186	-8502	-47304	-9754	-9754	1	52.57	Si
2.42	0.0000186	0.000804	0	-1026	Ger.	1554	8502	47304	9754	9754	1	6.28	Si
2.42	0.0000186	0.000804	0	-1210	SLV 5	-1210	-8502	-47304	-9754	-9754	1	8.06	Si
2.77	0	0.000804	0	-1373	Ger.	1987	8502	47304	0	8502	1	4.28	Si
2.77	0	0.000804	0	-1556	SLV 5	-1556	-8502	-47304	0	-8502	1	5.46	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	1331	SLD 12	1331	8502	47304	0	8502	1	6.39	Si
0.15	0.0000186	0.000804	0	1182	SLD 12	1182	8502	47304	9754	9754	1	8.25	Si
1.39	0.0000186	0.000804	0	-148	SLD 5	-148	-8502	-47304	-9754	-9754	1	66.08	Si
2.42	0.0000186	0.000804	0	-1172	SLD 5	-1172	-8502	-47304	-9754	-9754	1	8.32	Si
2.77	0	0.000804	0	-1518	SLD 5	-1518	-8502	-47304	0	-8502	1	5.6	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-29.89	21	-29.89	4125	1494000	61881	36000000	-24.43	2	-24.43	3371	1120500			Si
0.15	237.37	20	346.11	47766	1494000	716496	36000000	194.96	2	284.22	39225	1120500			Si
1.39	1192.68	20	1197.29	168041	1494000	2487151	36000000	977.9	2	981.82	137800	1120500			Si
2.42	260.61	20	367.43	50709	1494000	760629	36000000	209.58	2	297.54	41062	1120500			Si
2.77	-413.31	19	-22.91	3162	1494000	47433	36000000	-342.21	2	-13.89	1916	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.15	0.0001	0.00007	0.00009	0.00007	0.00008	0.00007	0.00008	0.00007	0.00008	0.00007	0.00021	2	0.00019	2	9999	Si
1.39	0.00054	0.0004	0.00051	0.00038	0.00047	0.0004	0.00045	0.00038	0.00044	0.0004	0.00118	2	0.00107	2	2343	Si
2.42	0.00019	0.00014	0.00018	0.00014	0.00017	0.00014	0.00016	0.00014	0.00016	0.00014	0.00042	2	0.00038	2	6550	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	ρ,tot	θ,m	θ,y	μΔ,pl	Vrd	VRcd(cotθ=1)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	0.228	0.041	0.2	0.008	0.00023	0.00569	0	8502	47304	9754	9754	15117	15117	1154	-4990	SLV 4	Si
2.571	1.386	0.041	0.2	0.008	0.00074	0.00569	0	8502	47304	9754	9754	9897	9897	-1148	-3249	SLV 2	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	-1712	-1898	-168	1185	-1712	1369	250	1369
0.15	-1527	-1712	-168	1037	-1527	1220	250	1220
1.39	0	-186	-168	-186	0	275	250	-2
2.42	1280	-1210	-168	-1210	1280	1554	250	-1026
2.77	1712	-1556	-168	-1556	1712	1987	250	-1373

Momenti resistenti a filo appoggi

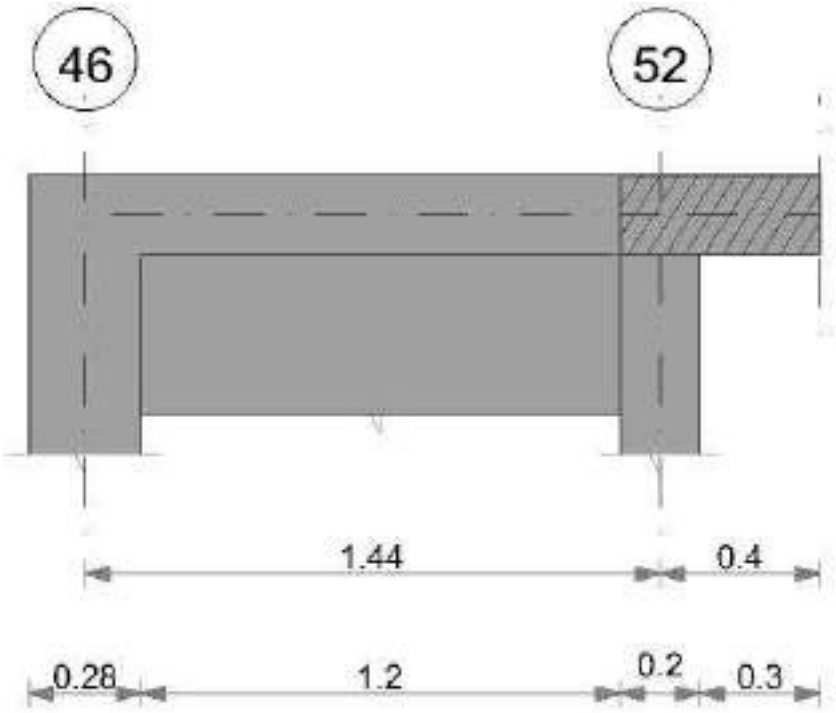
campata	x	appoggio	momento positivo	momento negativo
1	0.15	34	4680.62	-4680.62
1	2.42	35	4680.62	-4680.62

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 46-54

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

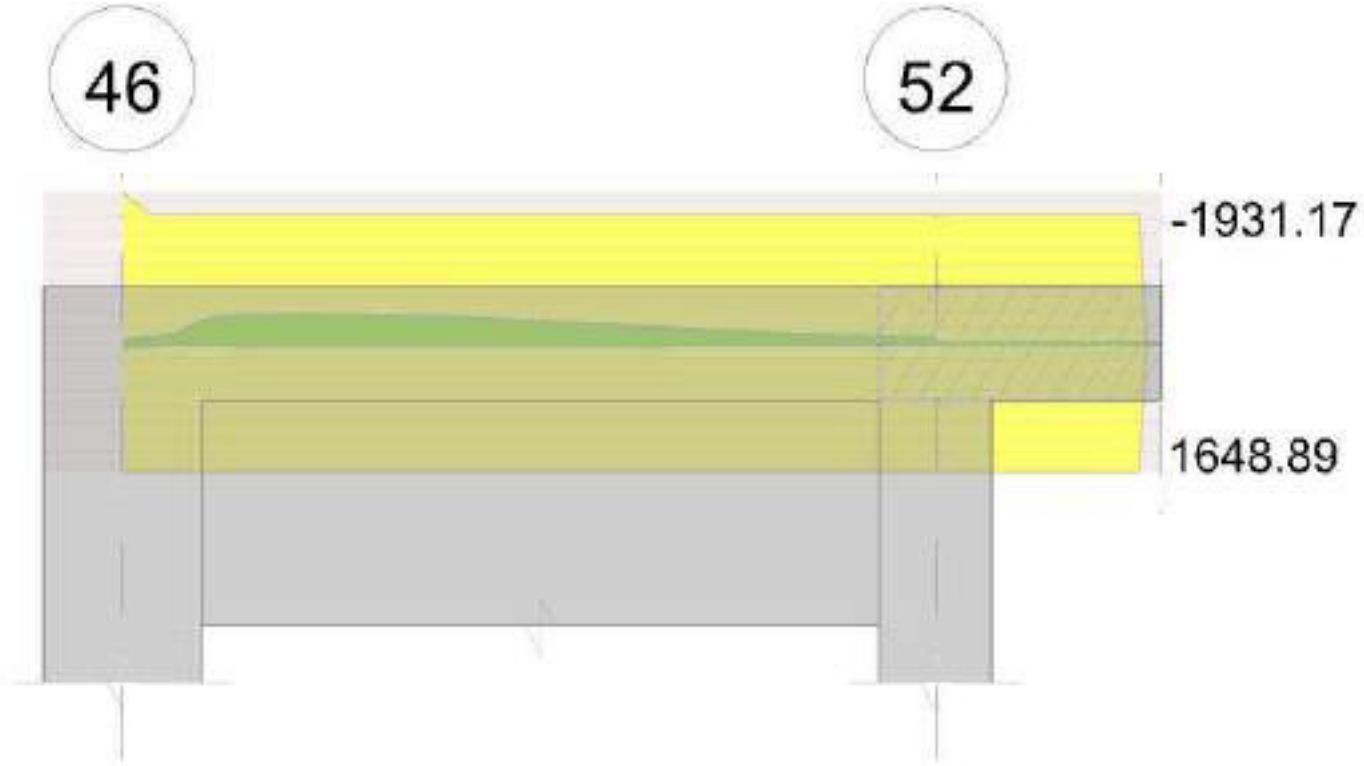


Diagramma verifica stato limite ultimo taglio

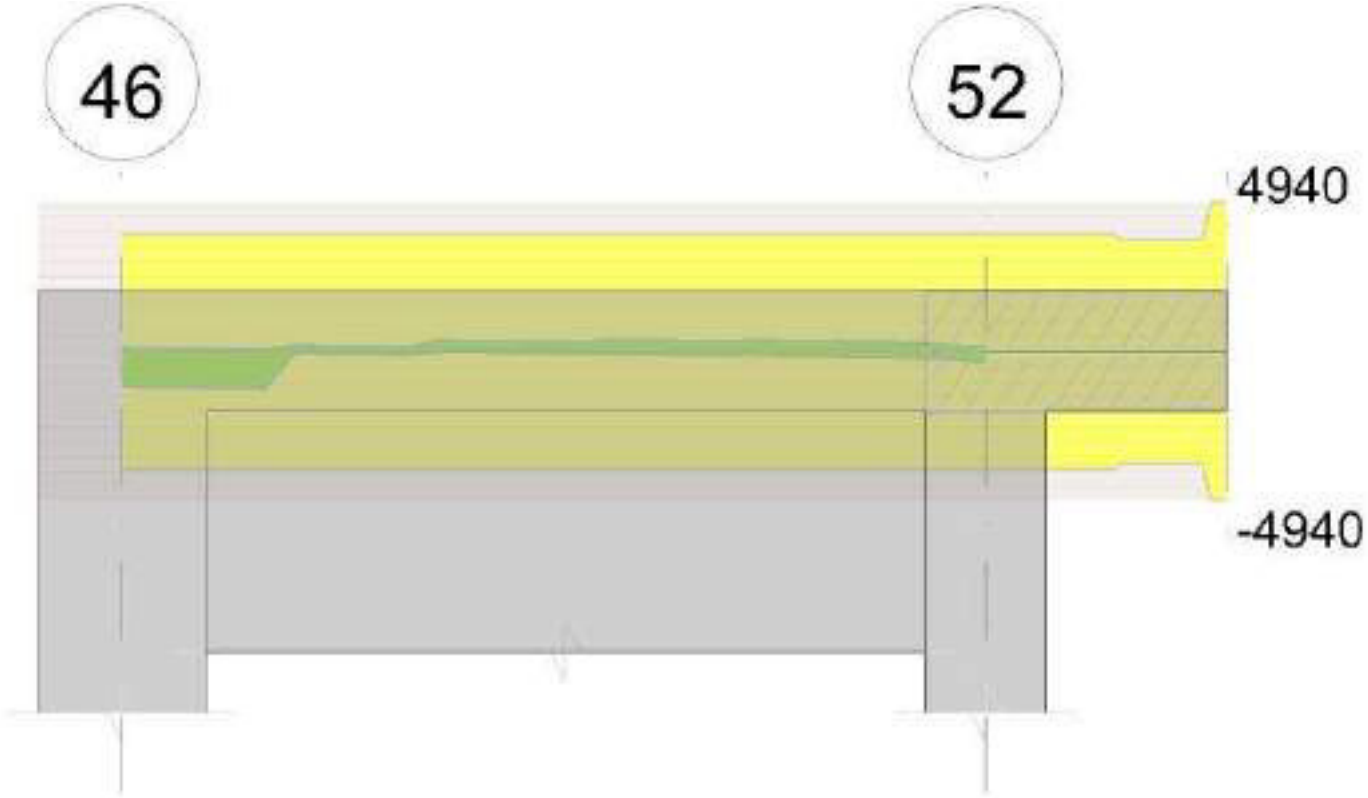
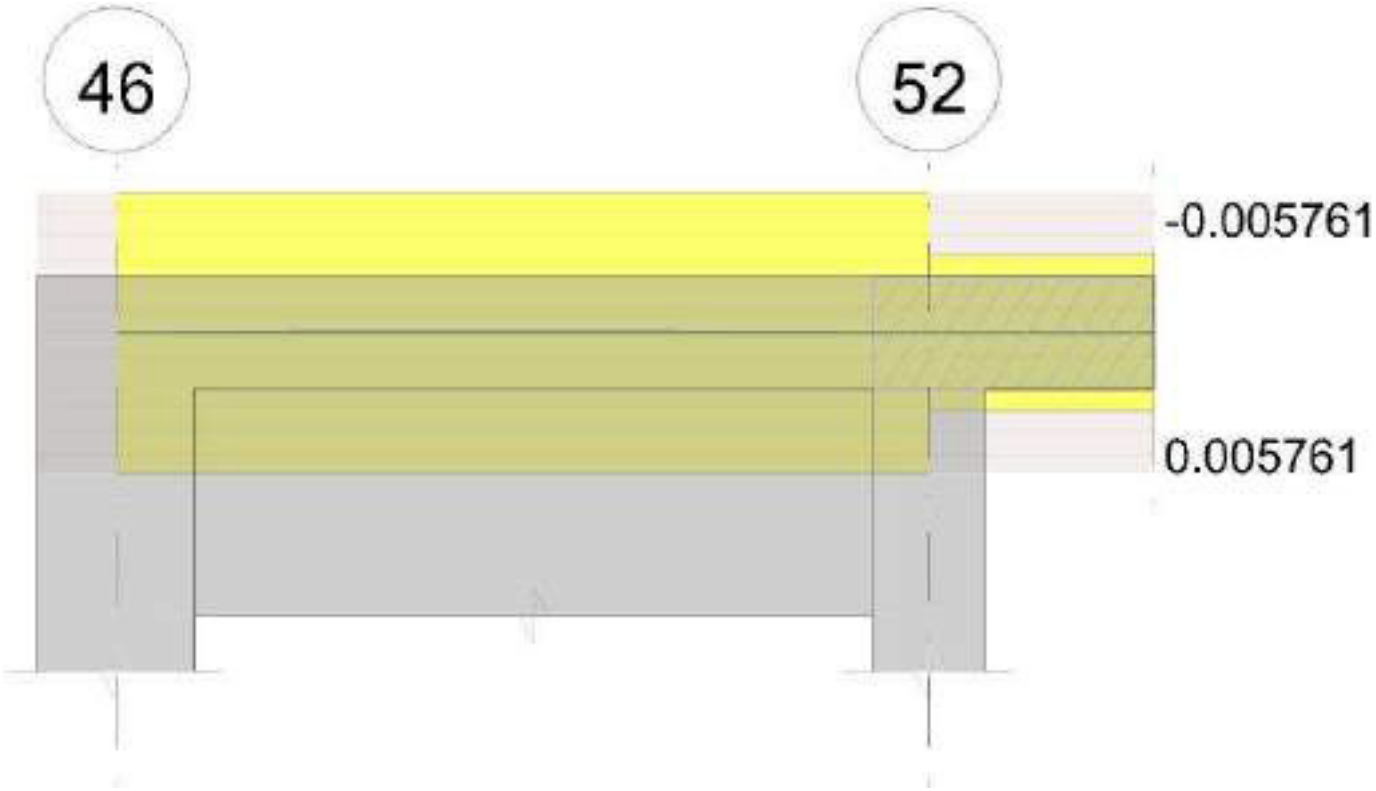


Diagramma verifica stato limite esercizio quasi permanente freccia



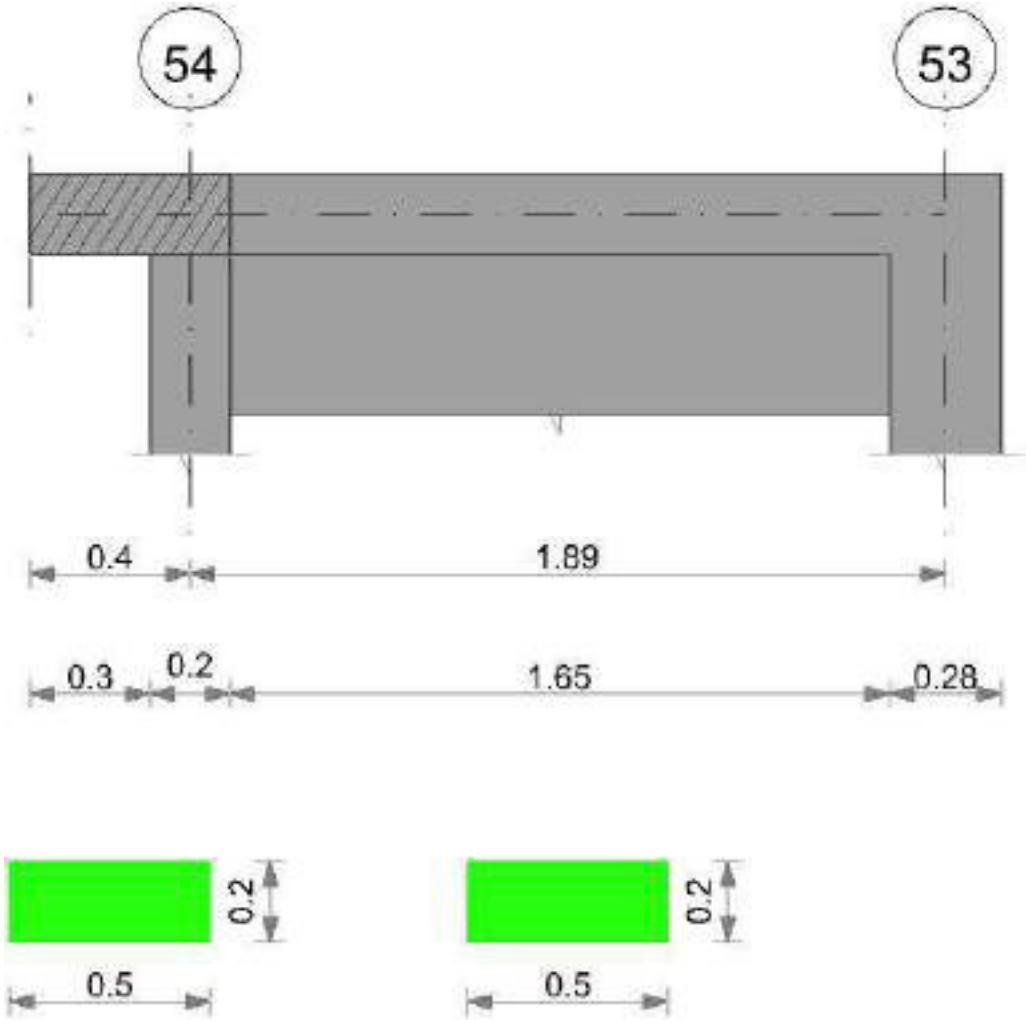
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 52-53

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

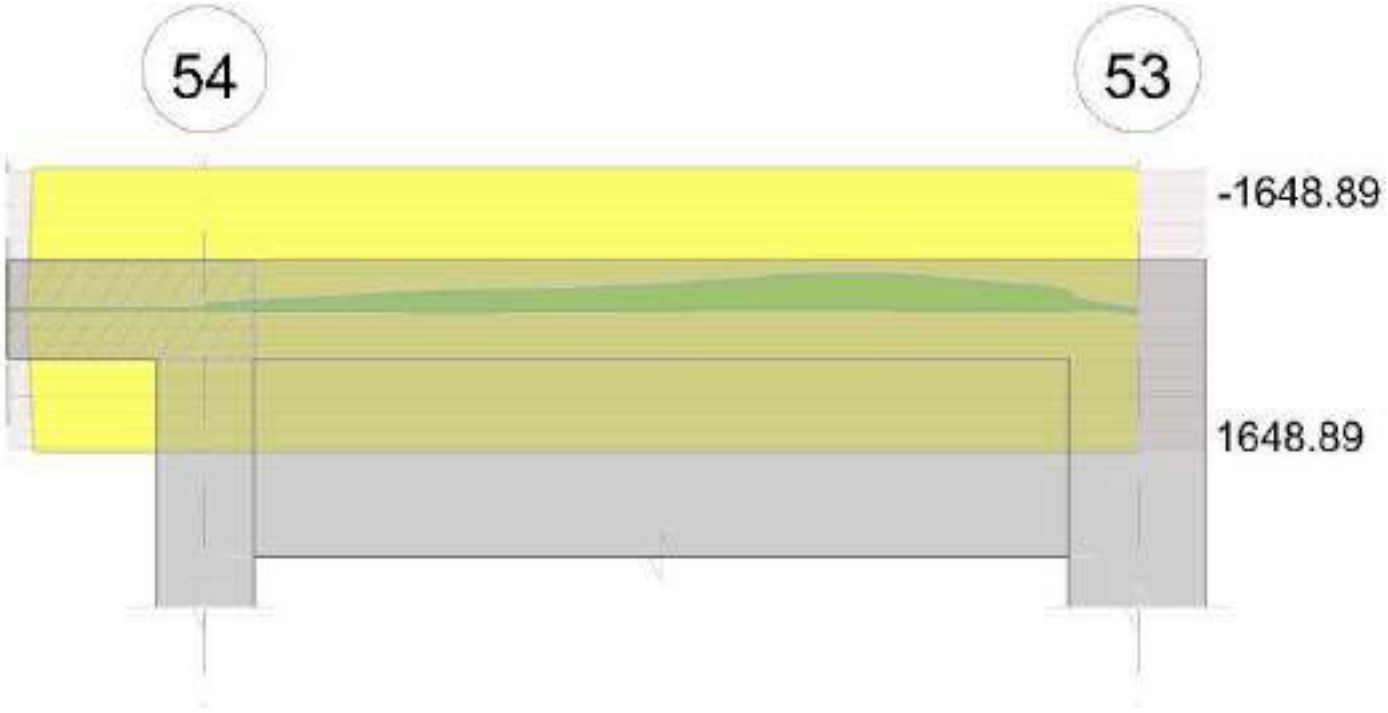


Diagramma verifica stato limite ultimo taglio

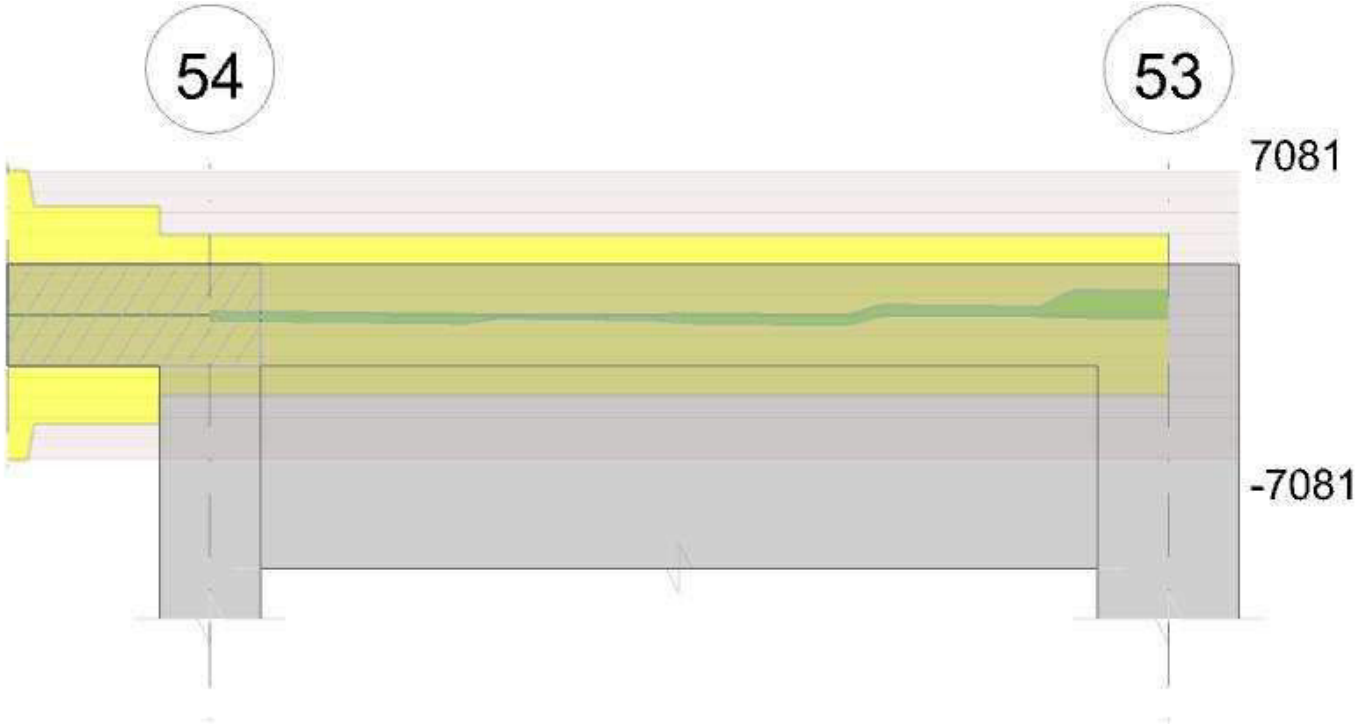
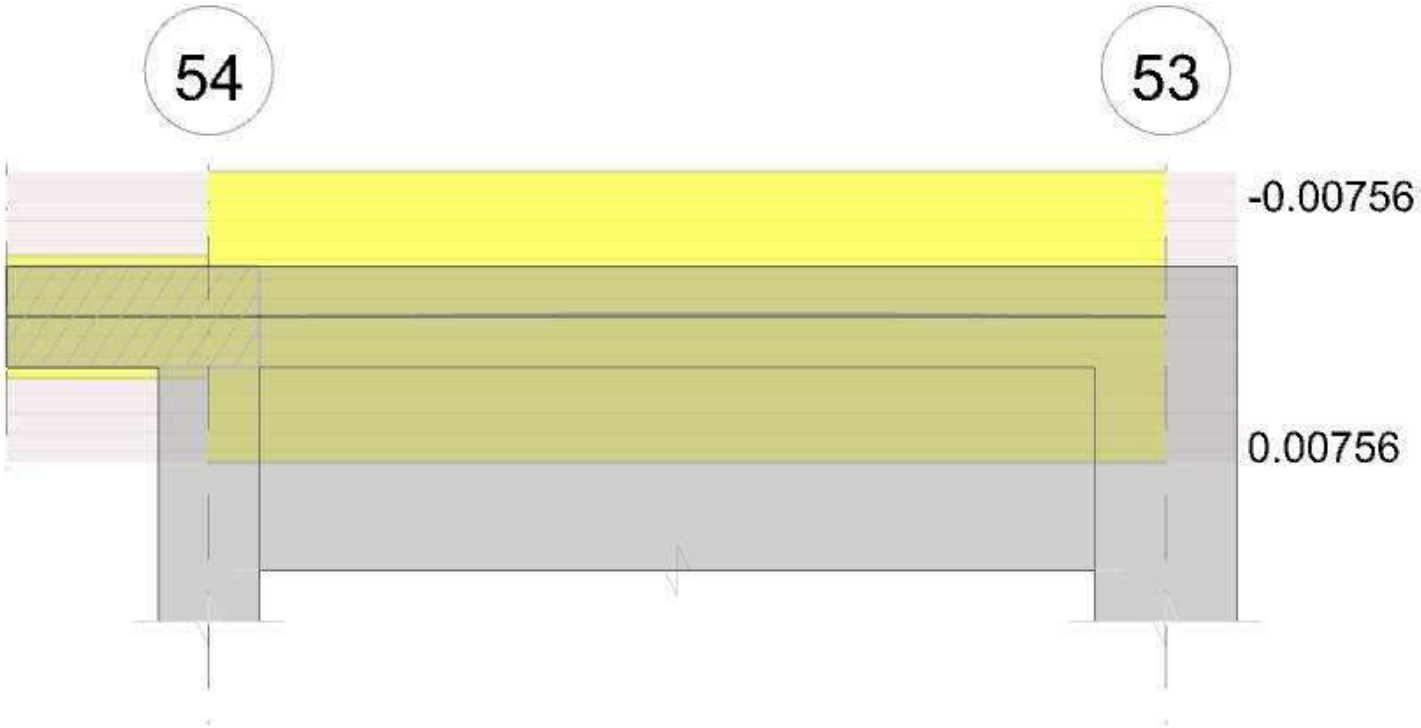


Diagramma verifica stato limite esercizio quasi permanente freccia



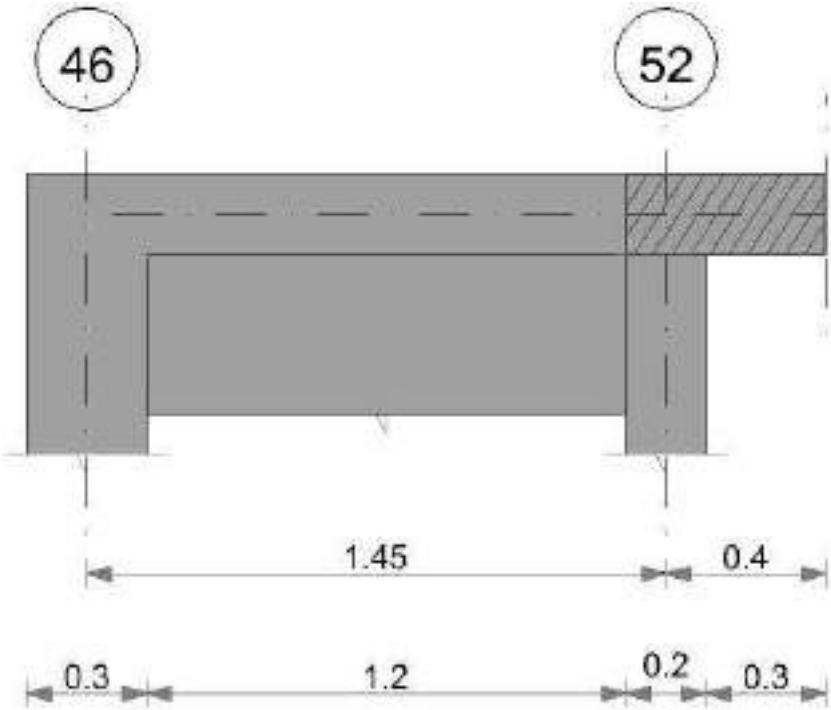
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 46-54

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

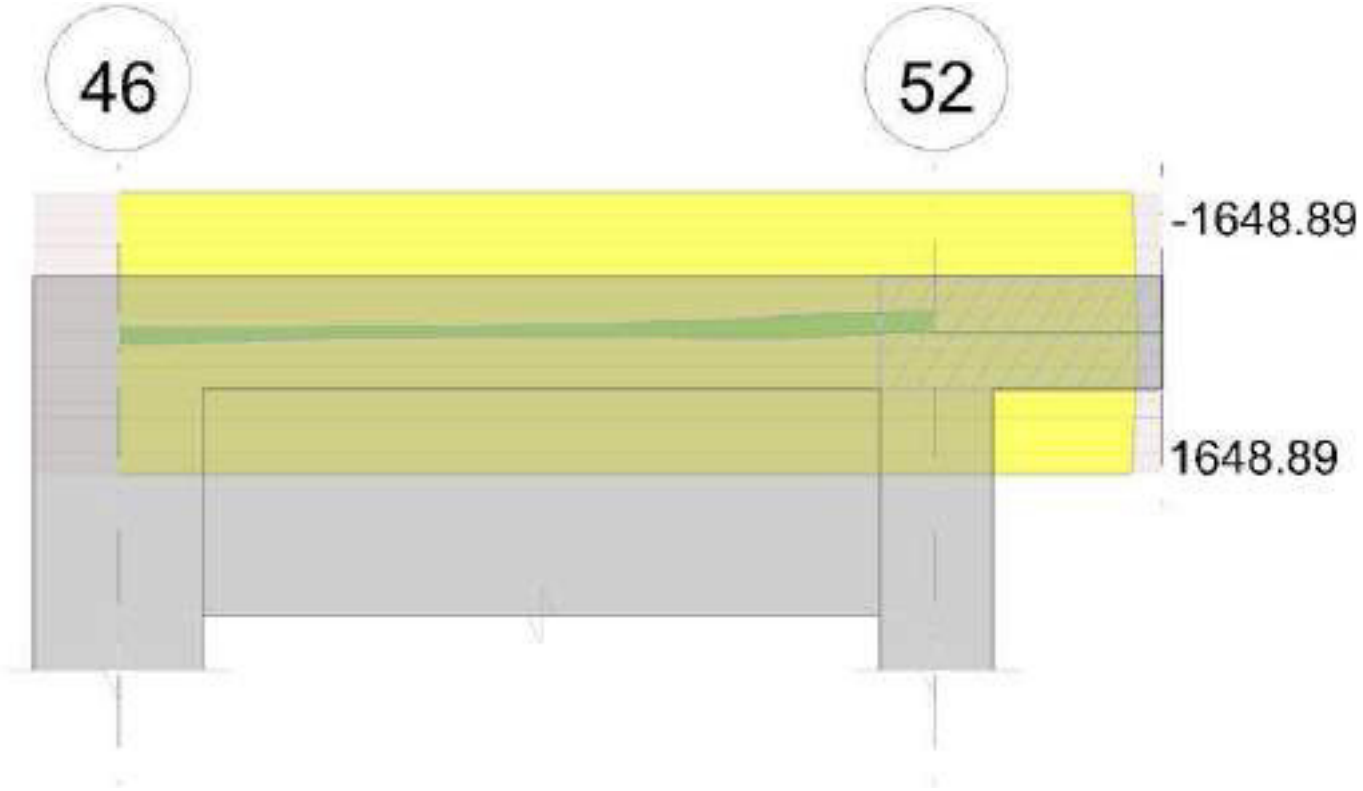
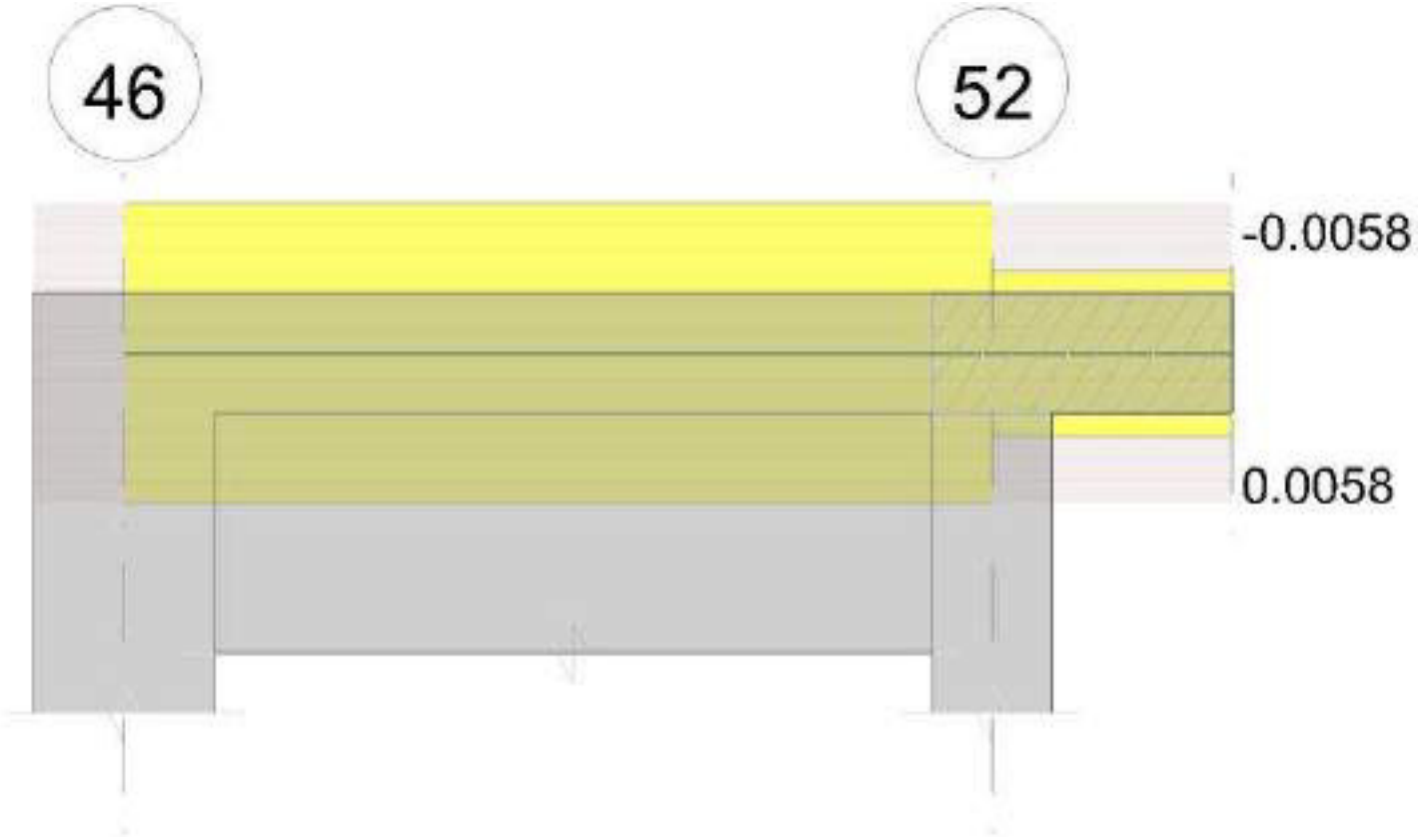


Diagramma verifica stato limite ultimo taglio

Diagramma verifica stato limite esercizio quasi permanente freccia



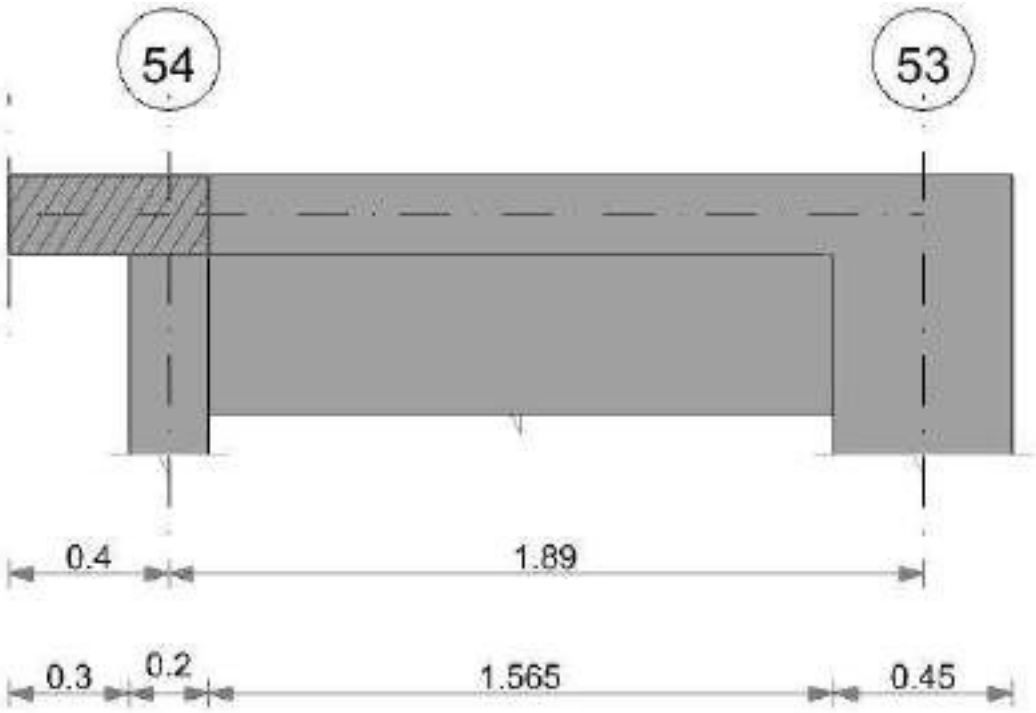
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 52-53

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

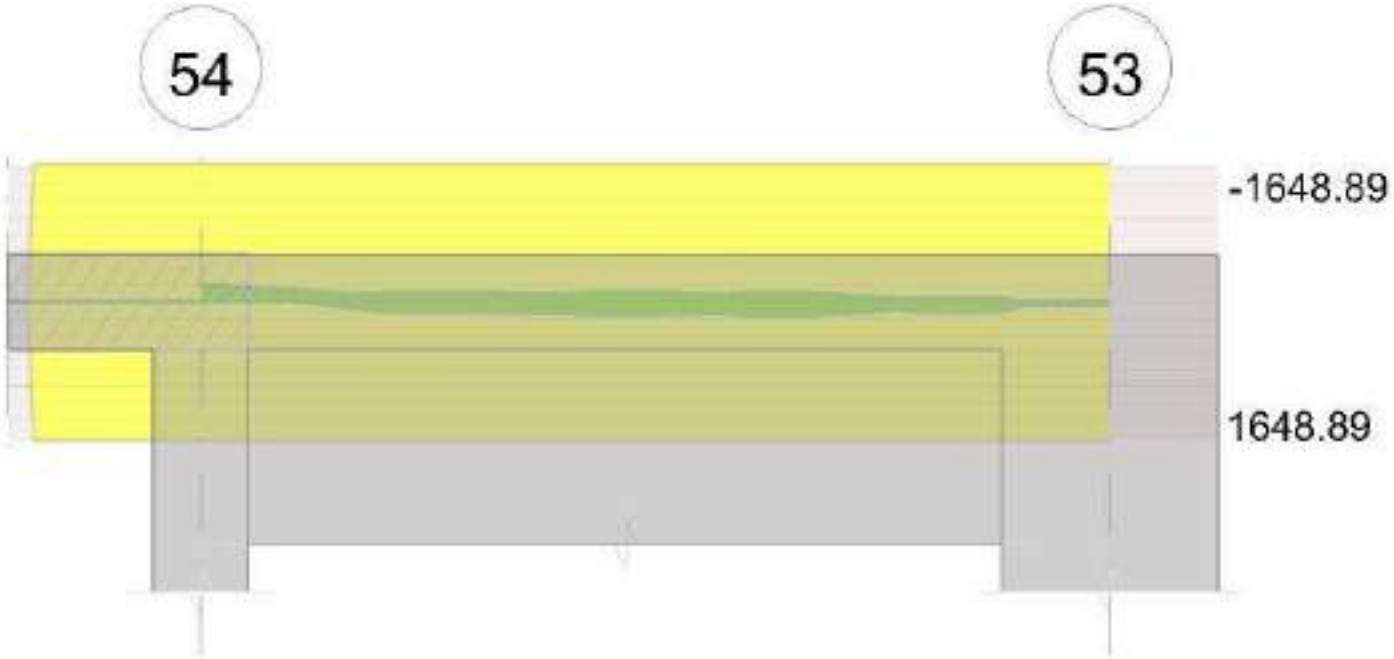


Diagramma verifica stato limite ultimo taglio

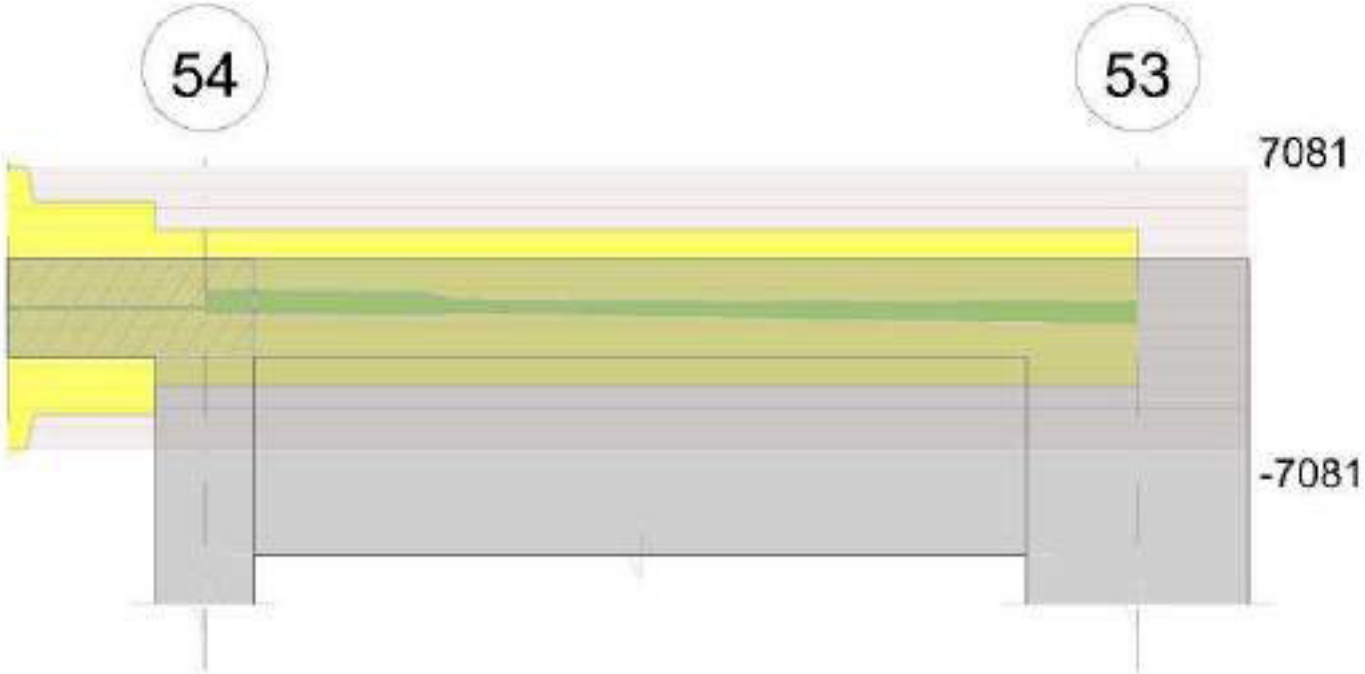
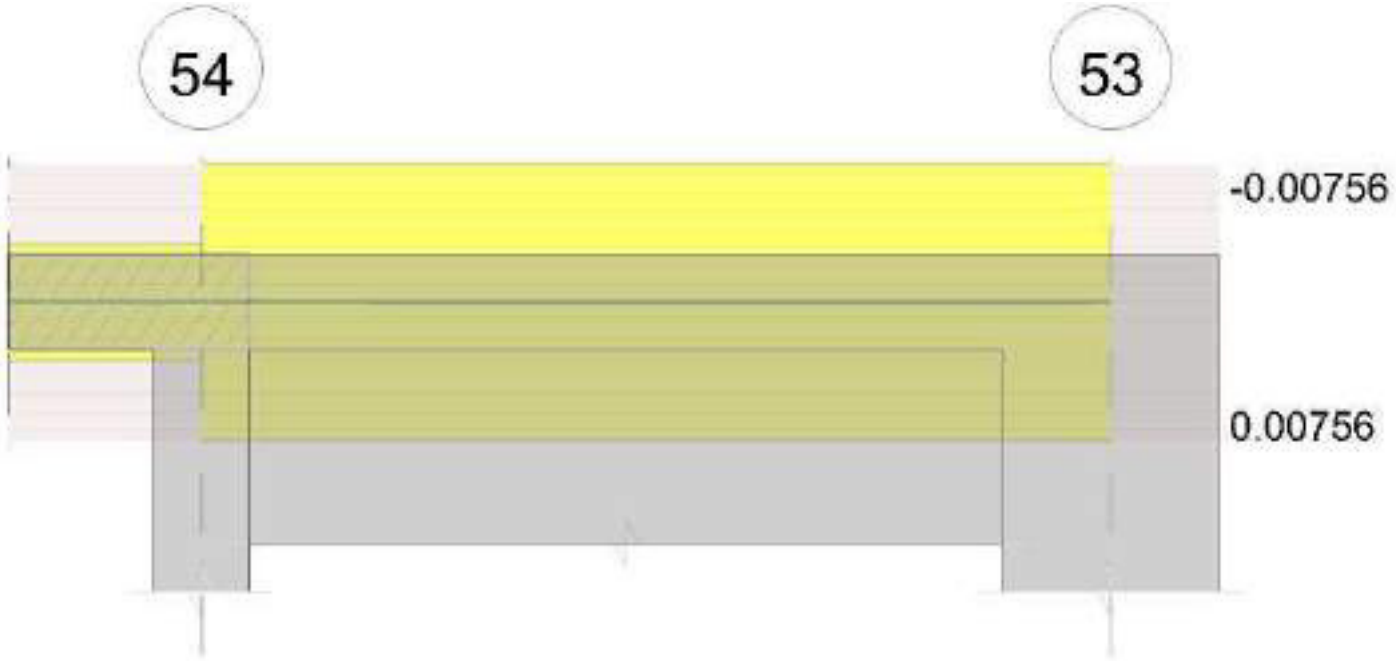


Diagramma verifica stato limite esercizio quasi permanente freccia



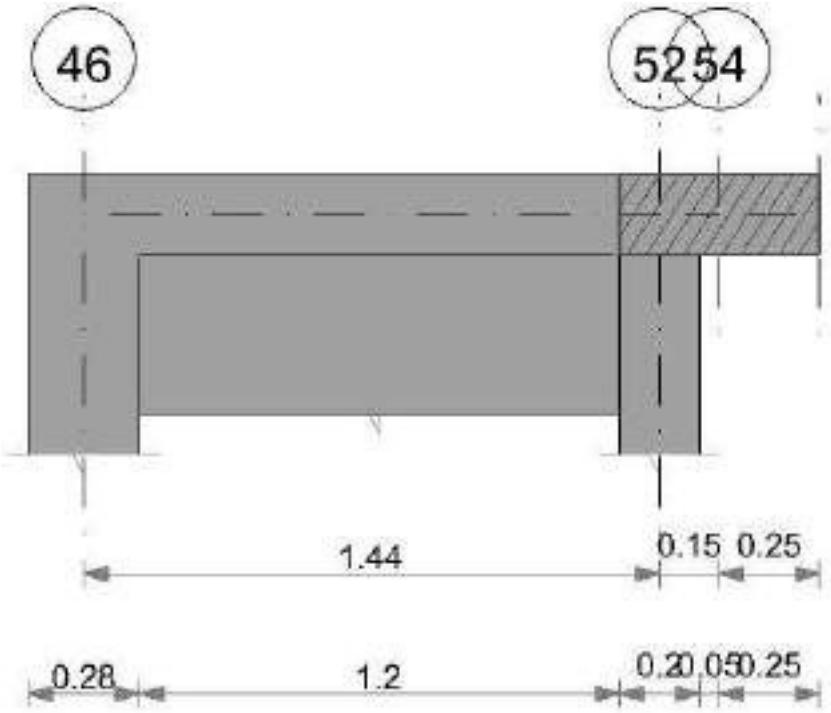
Output campate

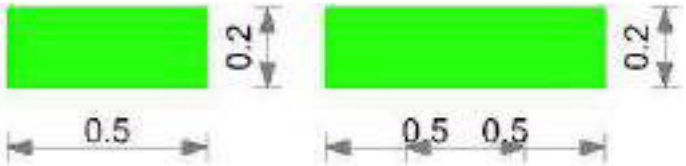
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 46-54

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

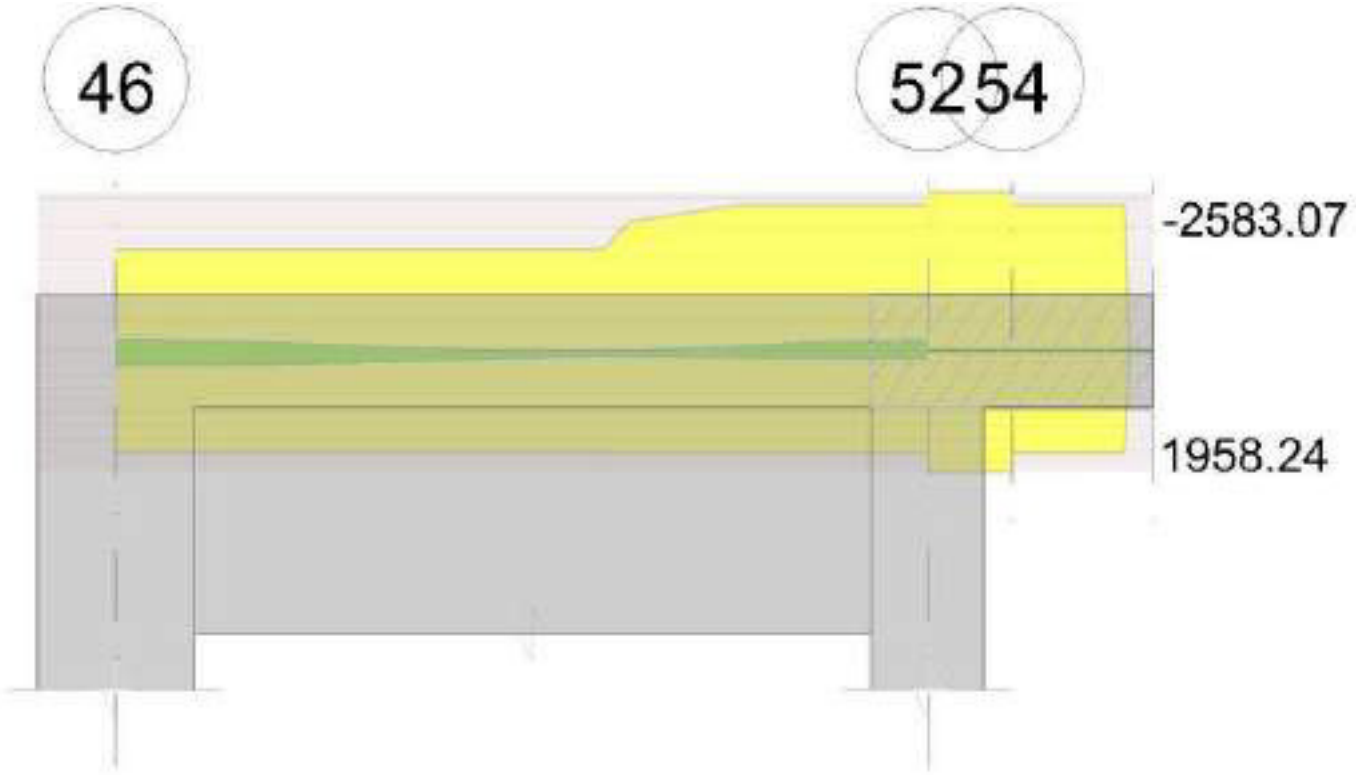


Diagramma verifica stato limite ultimo taglio

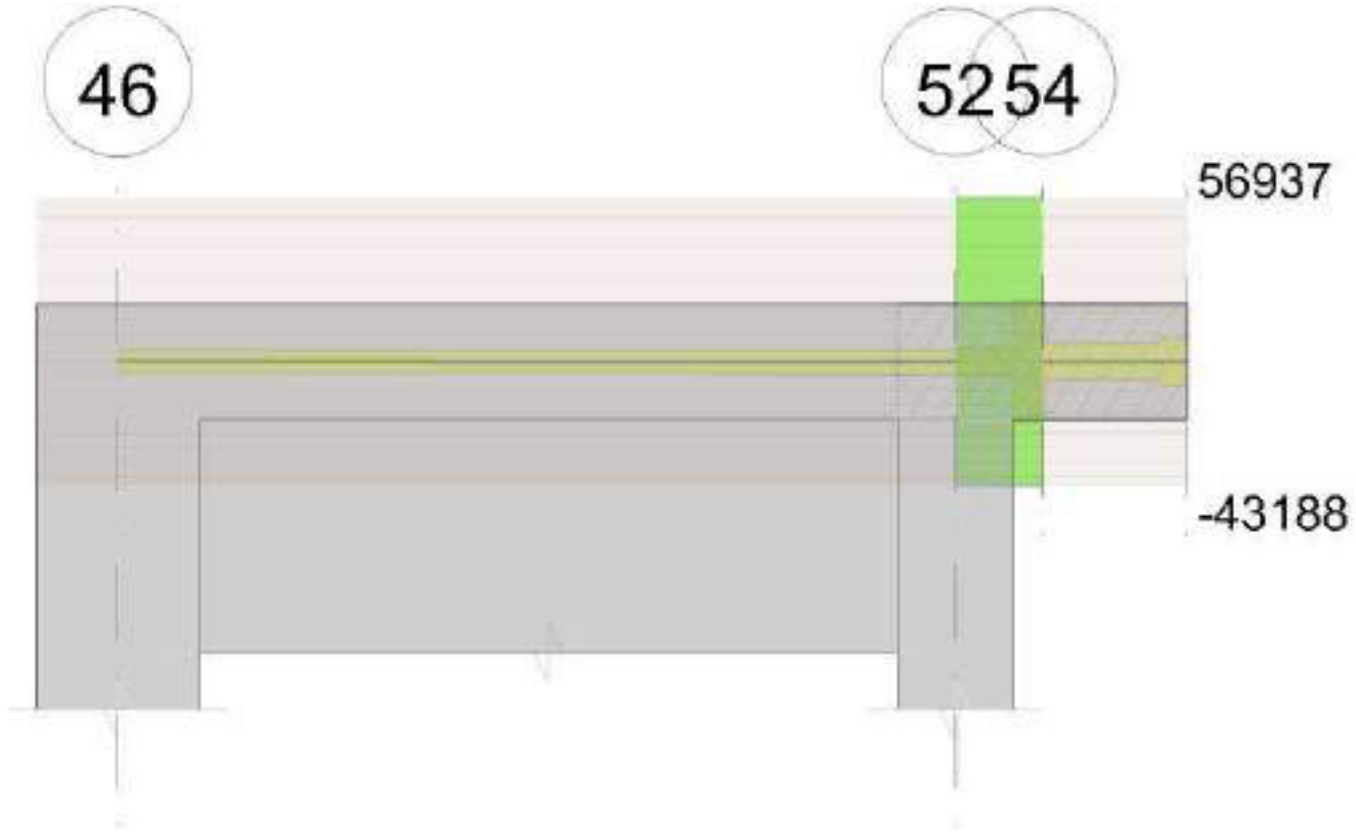
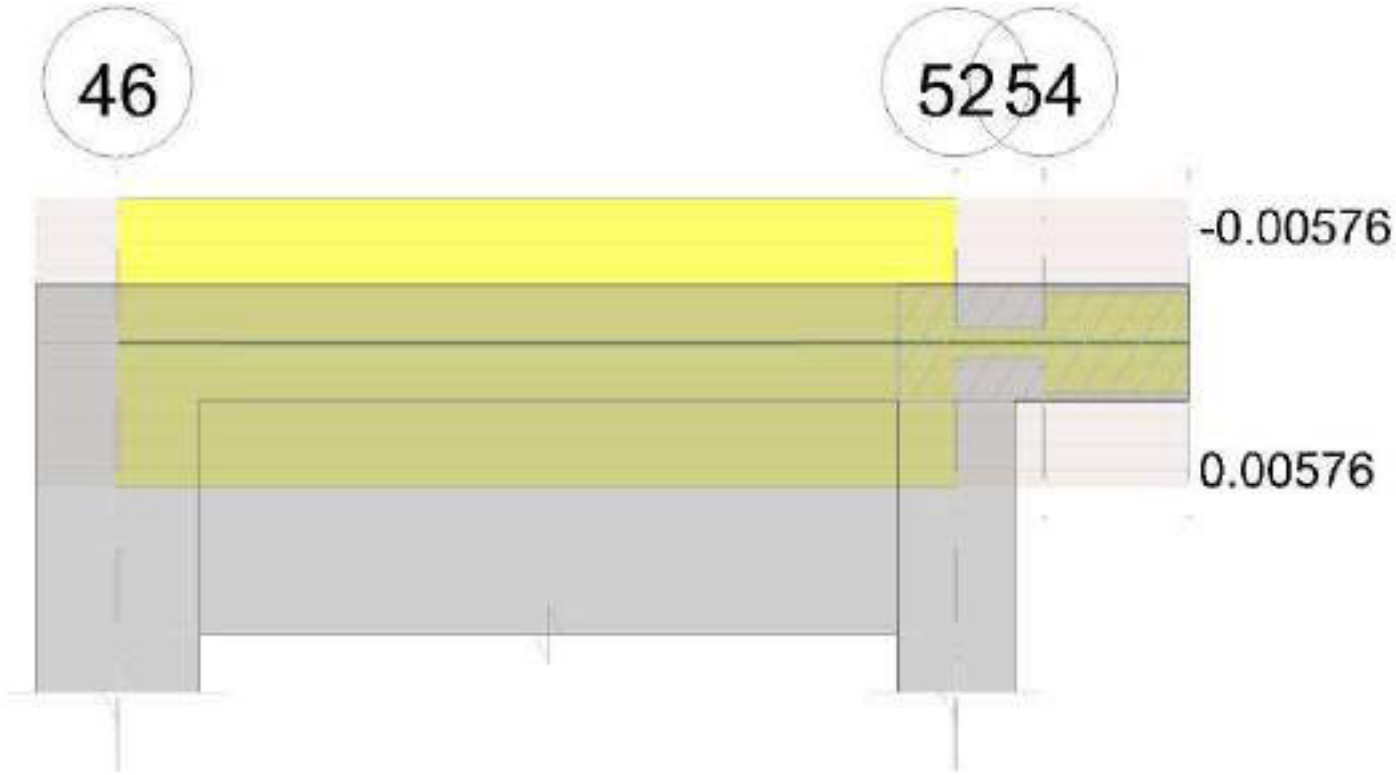


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 2 tra i fili 52 - 54, sezione R 50x20, asta 382; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05							-17.41	SLU 83	-3.72	-2583.07	0.272	694.33	Si
0.07	0.000462	0.05	0.000308	0.05							-2.79	SLU 83	-1.93	-2583.07	0.272	1338.14	Si
0.1	0.000462	0.05	0.000308	0.05	-0.36	SLU 7	0.43	1958.24	0.258	4569.46	-0.54	SLU 81	-0.54	-2583.07	0.272	4804.73	Si
0.15	0.000462	0.05	0.000308	0.05	0.02	SLU 83	0.43	1958.24	0.258	4569.46	0.01	SLU 4	-0.54	-2583.07	0.272	4804.73	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05							-10.09	SLV 3	-2.39	-2583.07	0.272	1081.83	Si
0.07	0.000462	0.05	0.000308	0.05							-1.71	SLV 3	-1.27	-2583.07	0.272	2037.6	Si
0.1	0.000462	0.05	0.000308	0.05	-0.36	SLV 14	0.33	1958.24	0.258	5915.36	-0.4	SLV 3	-0.4	-2583.07	0.272	6518.92	Si
0.15	0.000462	0.05	0.000308	0.05	0.2	SLV 13	0.33	1958.24	0.258	5915.36	-0.17	SLV 4	-0.4	-2583.07	0.272	6518.92	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05							-9.98	SLD 4	-2.32	-2583.07	0.272	1112.73	Si
0.07	0.000462	0.05	0.000308	0.05							-1.69	SLD 4	-1.23	-2583.07	0.272	2091.87	Si
0.1	0.000462	0.05	0.000308	0.05	-0.37	SLD 13	0.28	1958.24	0.258	6930.09	-0.39	SLD 4	-0.39	-2583.07	0.272	6634.22	Si
0.15	0.000462	0.05	0.000308	0.05	0.13	SLD 16	0.28	1958.24	0.258	6930.09	-0.11	SLD 1	-0.39	-2583.07	0.272	6634.22	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000462	0	274	SLU 83	274	4472	23811	0	4472	1	16.33	Si
0.07	0	0.000462	0	116	SLU 83	116	4472	23811	0	4472	1	38.48	Si
0.1	0.0000402	0.000462	0	64	SLU 83	64	4472	23811	21248	21248	1	333.82	Si
0.15	0.0000402	0.000308	0	-41	SLU 82	-41	-3906	-23811	-21248	-21248	1	513.58	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000462	0	155	Ger.	56937	4472	23811	0	4472	1	0.08	Si
0	0	0.000462	0	148	Ger.	-43015	-4472	-23811	0	-4472	1	0.1	Si
0.07	0	0.000462	0	69	Ger.	56850	4472	23811	0	4472	1	0.08	Si
0.07	0	0.000462	0	62	Ger.	-43102	-4472	-23811	0	-4472	1	0.1	Si
0.1	0.0000402	0.000462	0	40	Ger.	56821	4472	23811	21248	21248	1	0.37	Si
0.1	0.0000402	0.000462	0	33	Ger.	-43131	-4472	-23811	-21248	-21248	1	0.49	Si
0.15	0.0000402	0.000462	0	-18	Ger.	56764	4472	23811	21248	21248	1	0.37	Si
0.15	0.0000402	0.000308	0	-24	Ger.	-43188	-3906	-23811	-21248	-21248	1	0.49	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000462	0	154	SLD 4	154	4472	23811	0	4472	1	29.09	Si
0.07	0	0.000462	0	67	SLD 4	67	4472	23811	0	4472	1	66.33	Si
0.1	0.0000402	0.000462	0	39	SLD 4	39	4472	23811	21248	21248	1	549.9	Si
0.15	0.0000402	0.000308	0	-23	SLD 13	-23	-3906	-23811	-21248	-21248	1	920.55	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-12.12	20	-2.63	734	1494000	10784	36000000	-9.79	2	-2.2	615	1120500			Si
0.07	-1.97	20	-1.38	384	1494000	5643	36000000	-1.65	2	-1.18	328	1120500			Si
0.1	-0.4	18	-0.4	112	1494000	1643	36000000	-0.38	2	-0.38	105	1120500			Si
0.15	0.01	20	0.28	77	1494000	1186	36000000	0.01	2	0.2	55	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.05	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.07	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9999	Si
0.1	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9999	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	86	-43015	-39183	148	86	56937	51682	155
0.07	0	-43102	-39183	62	0	56850	51682	69
0.1	-29	-43131	-39183	33	-29	56821	51682	40
0.15	-86	-43188	-39183	-24	-86	56764	51682	-18

Momenti resistenti a filo appoggi

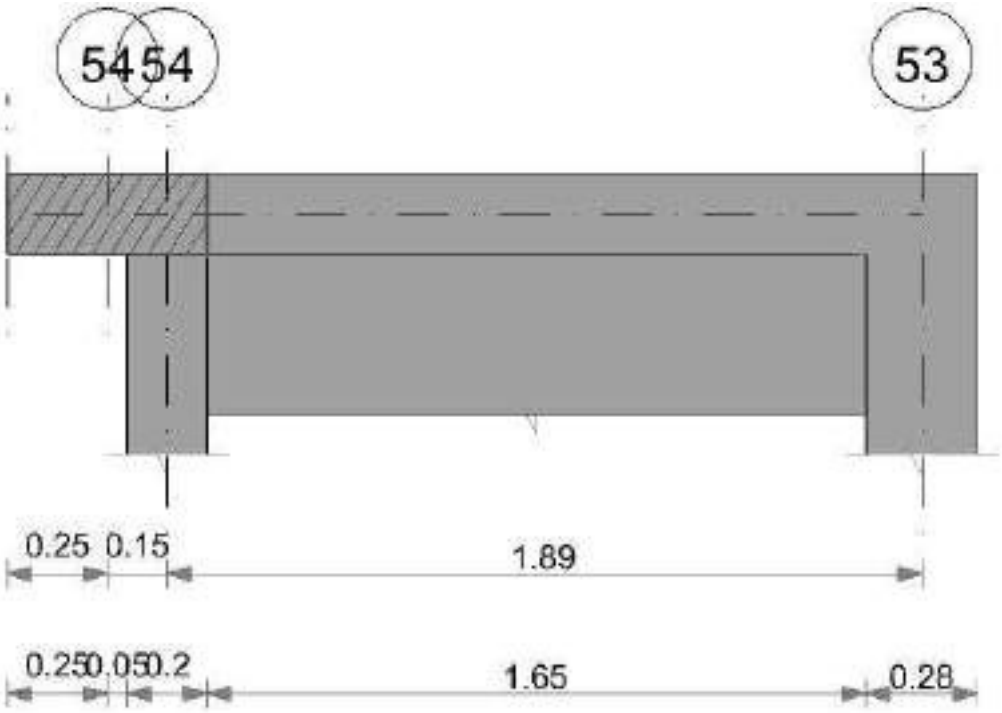
campata	x	appoggio	momento positivo	momento negativo
2	0.1	52	1958.24	-2583.07
2	0.15	54	1958.24	-2583.07

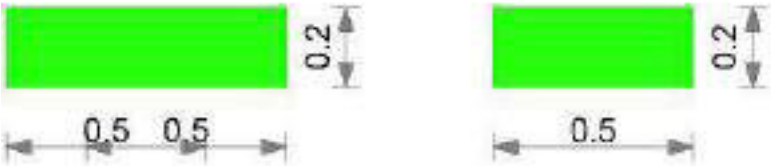
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 52-53

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

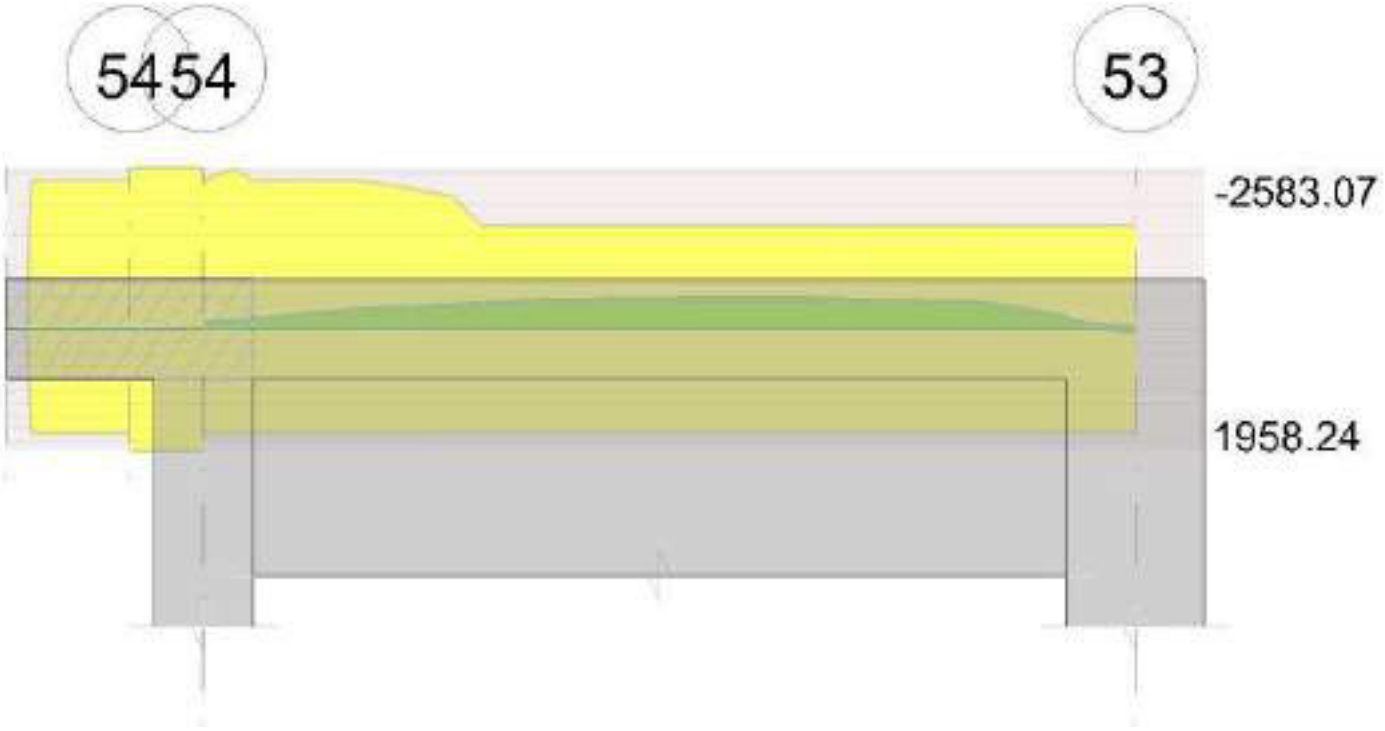


Diagramma verifica stato limite ultimo taglio

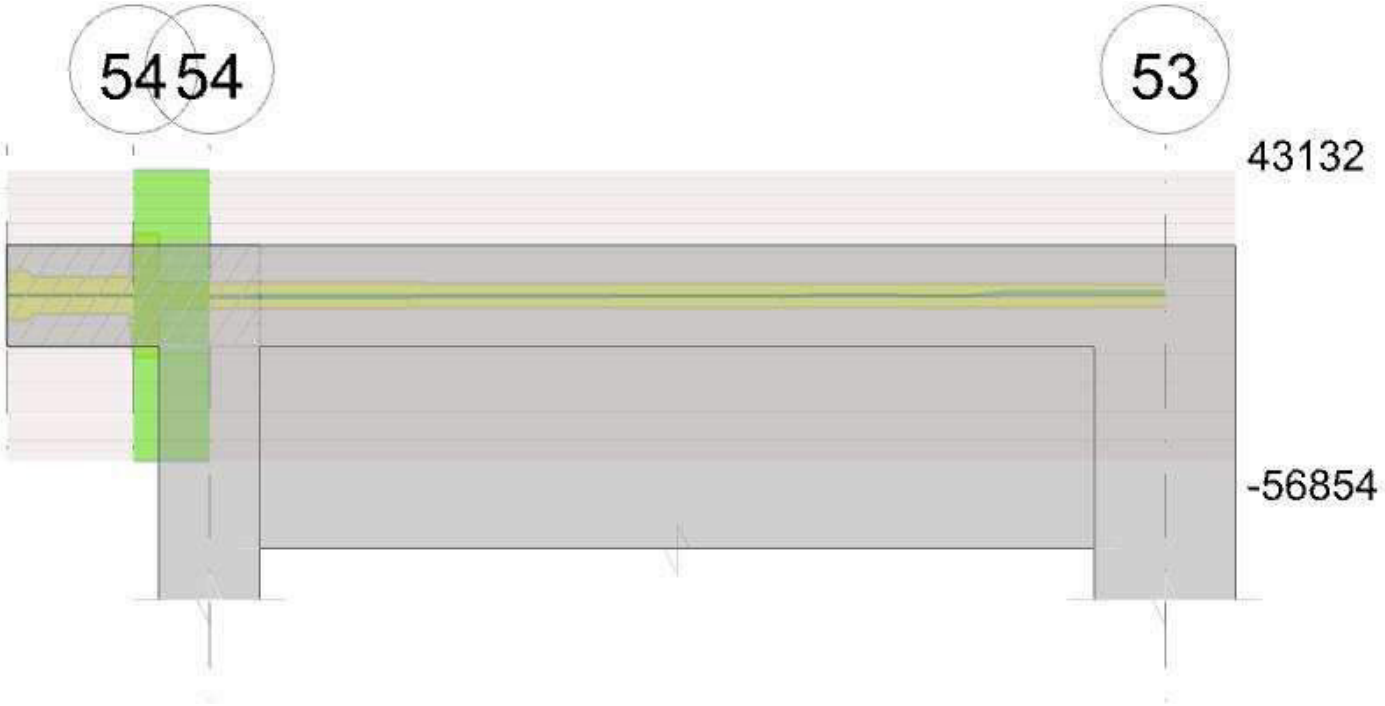
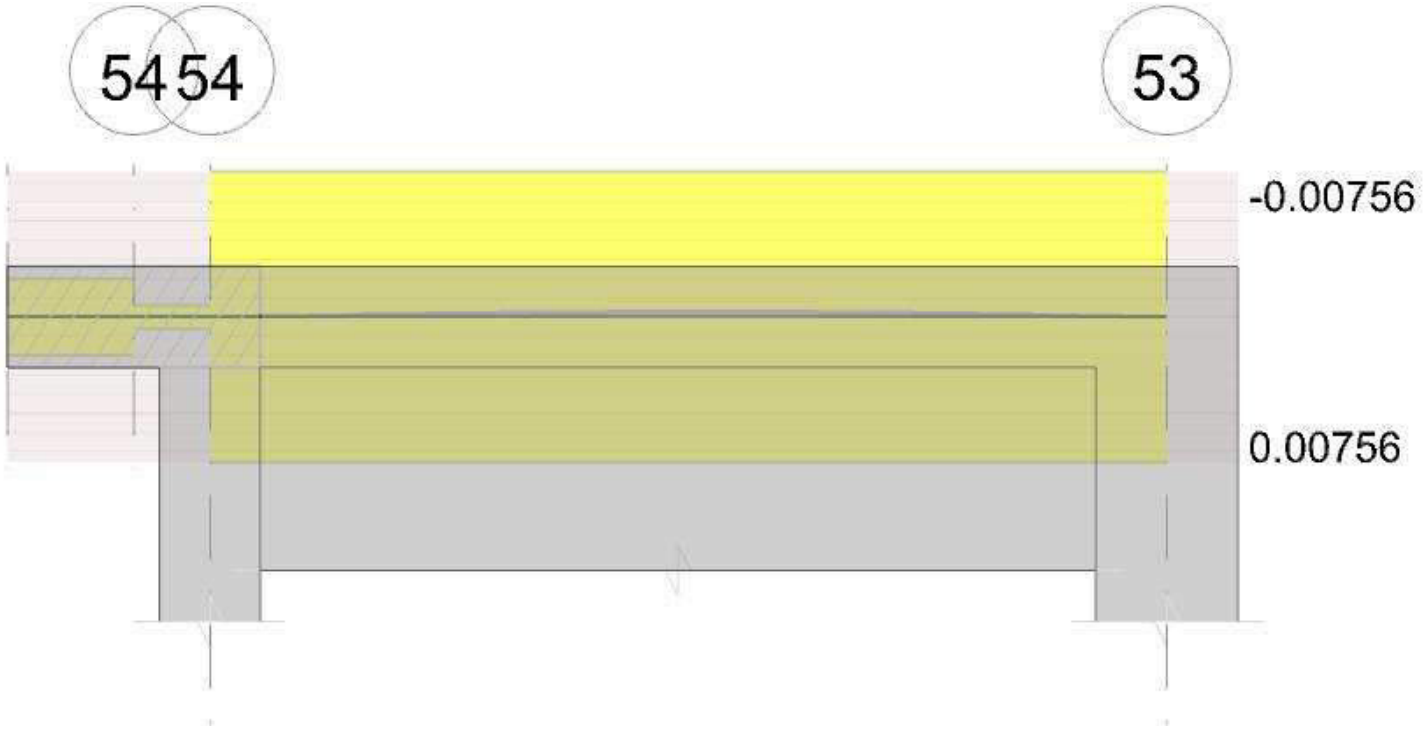


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 2 tra i fili 54 - 54, sezione R 50x20, asta 376; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05	0.04	SLU 84	0.04	1958.24	0.258	+∞	0.02	SLU 1	-2.44	-2583.07	0.272	1058.71	Si
0.05	0.000462	0.05	0.000308	0.05	-1.05	SLU 7	0.04	1958.24	0.258	+∞	-2.44	SLU 81	-2.44	-2583.07	0.272	1058.71	Si
0.07	0.000462	0.05	0.000308	0.05							-3.98	SLU 81	-3.7	-2583.07	0.272	698.06	Si
0.15	0.000462	0.05	0.000308	0.05							-9.83	SLU 81	-5.32	-2583.07	0.272	485.45	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05	0.26	SLV 13	0.26	1958.24	0.258	7438.74	-0.22	SLV 4	-1.41	-2583.07	0.272	1833.48	Si
0.05	0.000462	0.05	0.000308	0.05	-1.27	SLV 14	0.26	1958.24	0.258	7438.74	-1.41	SLV 3	-1.41	-2583.07	0.272	1833.48	Si
0.07	0.000462	0.05	0.000308	0.05							-2.28	SLV 3	-2.2	-2583.07	0.272	1175.03	Si
0.15	0.000462	0.05	0.000308	0.05							-6.23	SLV 3	-3.24	-2583.07	0.272	797.39	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05	0.18	SLD 4	0.18	1958.24	0.258	11174.79	-0.14	SLD 13	-1.38	-2583.07	0.272	1865.51	Si
0.05	0.000462	0.05	0.000308	0.05	-1.3	SLD 14	0.18	1958.24	0.258	11174.79	-1.38	SLD 3	-1.38	-2583.07	0.272	1865.51	Si
0.07	0.000462	0.05	0.000308	0.05							-2.27	SLD 3	-2.17	-2583.07	0.272	1192.29	Si
0.15	0.000462	0.05	0.000308	0.05							-6.12	SLD 3	-3.17	-2583.07	0.272	814.43	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000402	0.000308	0	-41	SLU 81	-41	-3906	-23811	-21243	-21243	1	513.45	Si
0.05	0.0000402	0.000462	0	-58	SLU 81	-58	-4472	-23811	-21243	-21243	1	368.66	Si
0.07	0	0.000462	0	-66	SLU 81	-66	-4472	-23811	0	-4472	1	68.01	Si
0.15	0	0.000462	0	-90	SLU 81	-90	-4472	-23811	0	-4472	1	49.62	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000402	0.000308	0	-17	Ger.	43132	3906	23811	21243	21243	1	0.49	Si
0	0.0000402	0.000462	0	-25	Ger.	-56816	-4472	-23811	-21243	-21243	1	0.37	Si
0.05	0.0000402	0.000462	0	-30	Ger.	43120	4472	23811	21243	21243	1	0.49	Si
0.05	0.0000402	0.000462	0	-37	Ger.	-56829	-4472	-23811	-21243	-21243	1	0.37	Si
0.07	0	0.000462	0	-36	Ger.	43114	4472	23811	0	4472	1	0.1	Si
0.07	0	0.000462	0	-43	Ger.	-56835	-4472	-23811	0	-4472	1	0.08	Si
0.15	0	0.000462	0	-55	Ger.	43095	4472	23811	0	4472	1	0.1	Si
0.15	0	0.000462	0	-62	Ger.	-56854	-4472	-23811	0	-4472	1	0.08	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000402	0.000308	0	-23	SLD 3	-23	-3906	-23811	-21243	-21243	1	914.07	Si
0.05	0.0000402	0.000462	0	-36	SLD 3	-36	-4472	-23811	-21243	-21243	1	594.39	Si
0.07	0	0.000462	0	-42	SLD 3	-42	-4472	-23811	0	-4472	1	106.49	Si
0.15	0	0.000462	0	-61	SLD 3	-61	-4472	-23811	0	-4472	1	73.62	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	0.02	21	0.02	7	1494000	102	36000000	0.02	2	0.02	5	1120500			Si
0.05	-1.69	18	-1.69	471	1494000	6923	36000000	-1.34	2	-1.34	374	1120500			Si
0.07	-2.78	18	-2.57	718	1494000	10556	36000000	-2.26	2	-2.07	579	1120500			Si
0.15	-6.99	18	-3.71	1036	1494000	15227	36000000	-5.94	2	-3.02	842	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.05	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.07	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.09	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	19	-56816	-51668	-25	19	43132	39194	-17
0.05	6	-56829	-51668	-37	6	43120	39194	-30
0.07	0	-56835	-51668	-43	0	43114	39194	-36
0.15	-19	-56854	-51668	-62	-19	43095	39194	-55

Momenti resistenti a filo appoggi

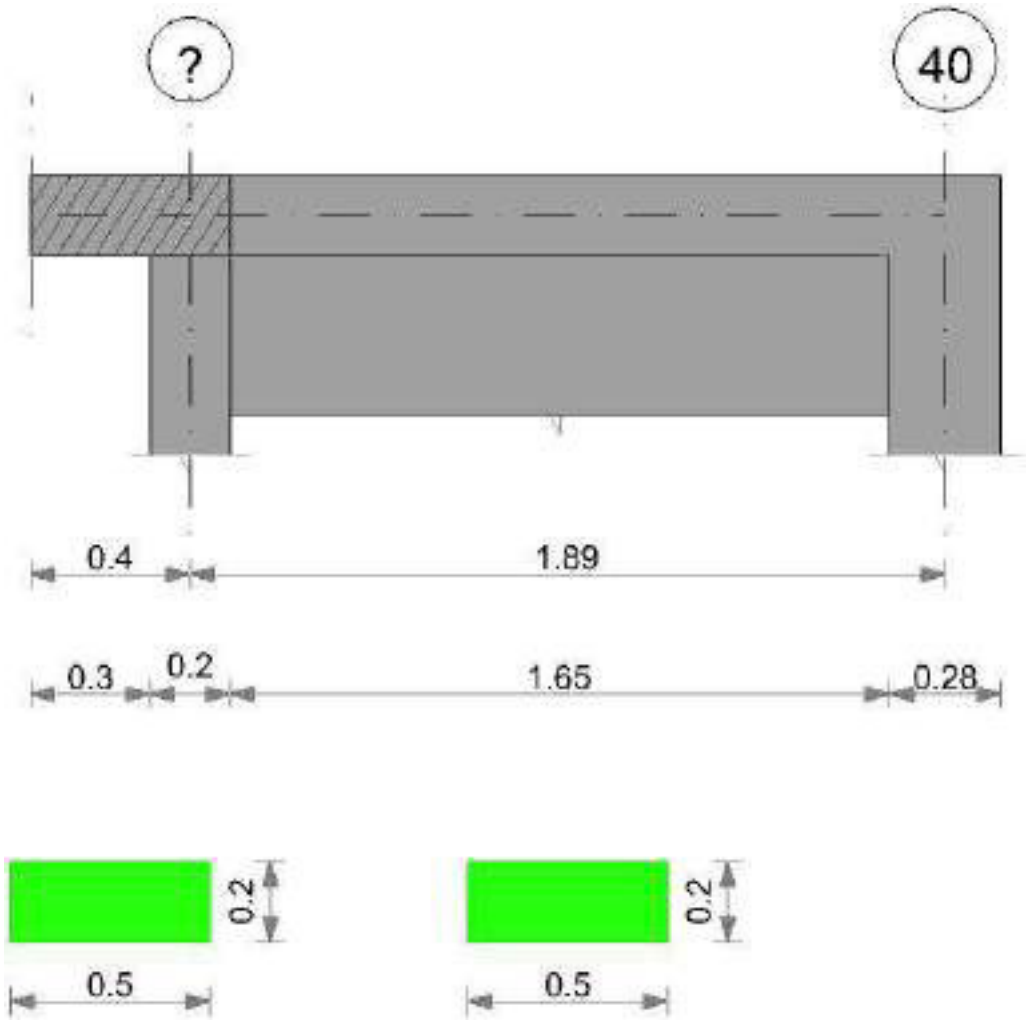
campata	x	appoggio	momento positivo	momento negativo
2	0	54	1958.24	-2583.07
2	0.05	54	1958.24	-2583.07

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 46-40

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

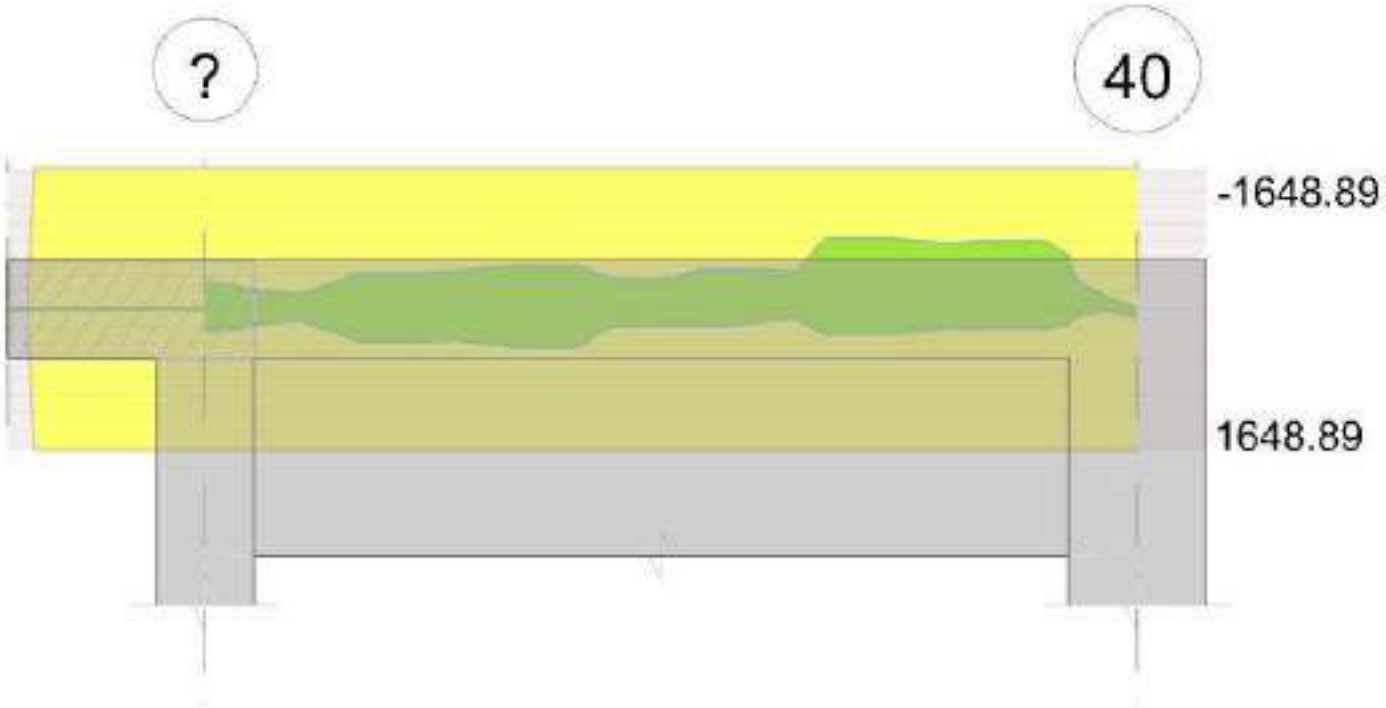


Diagramma verifica stato limite ultimo taglio

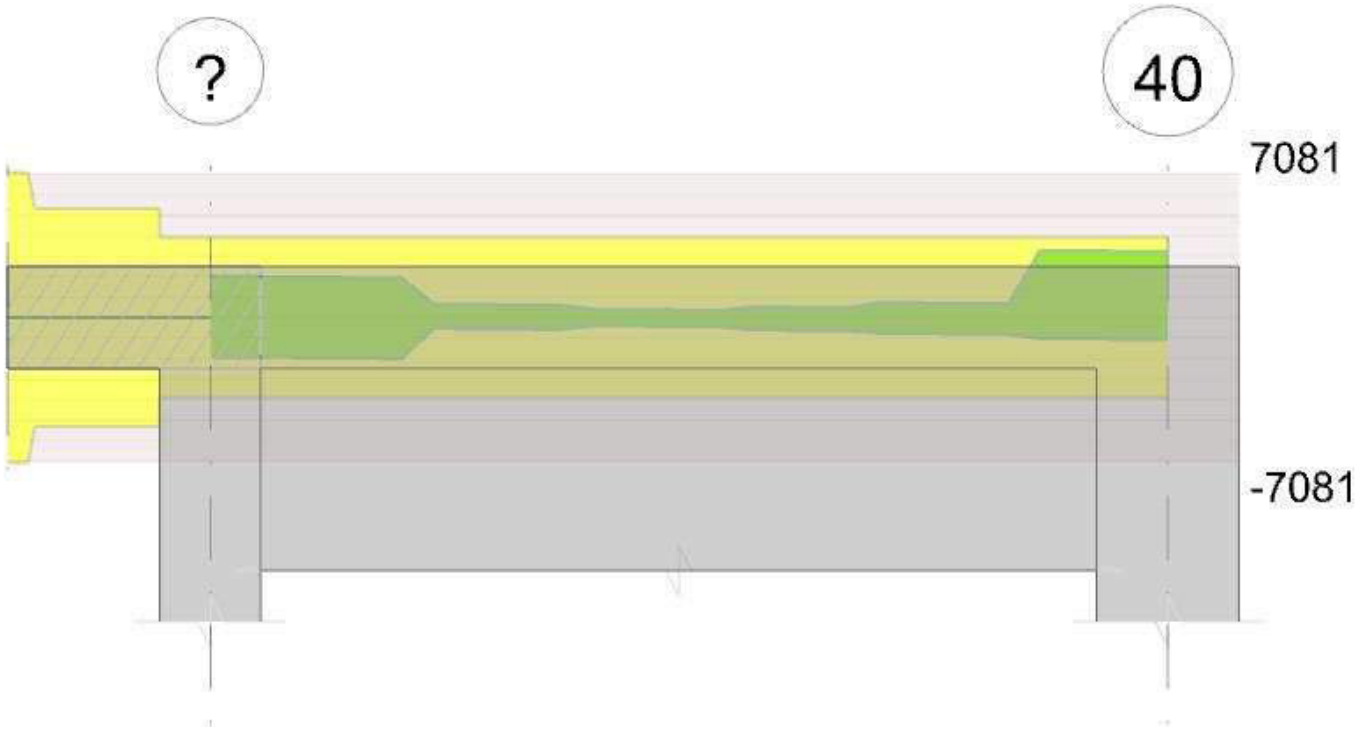
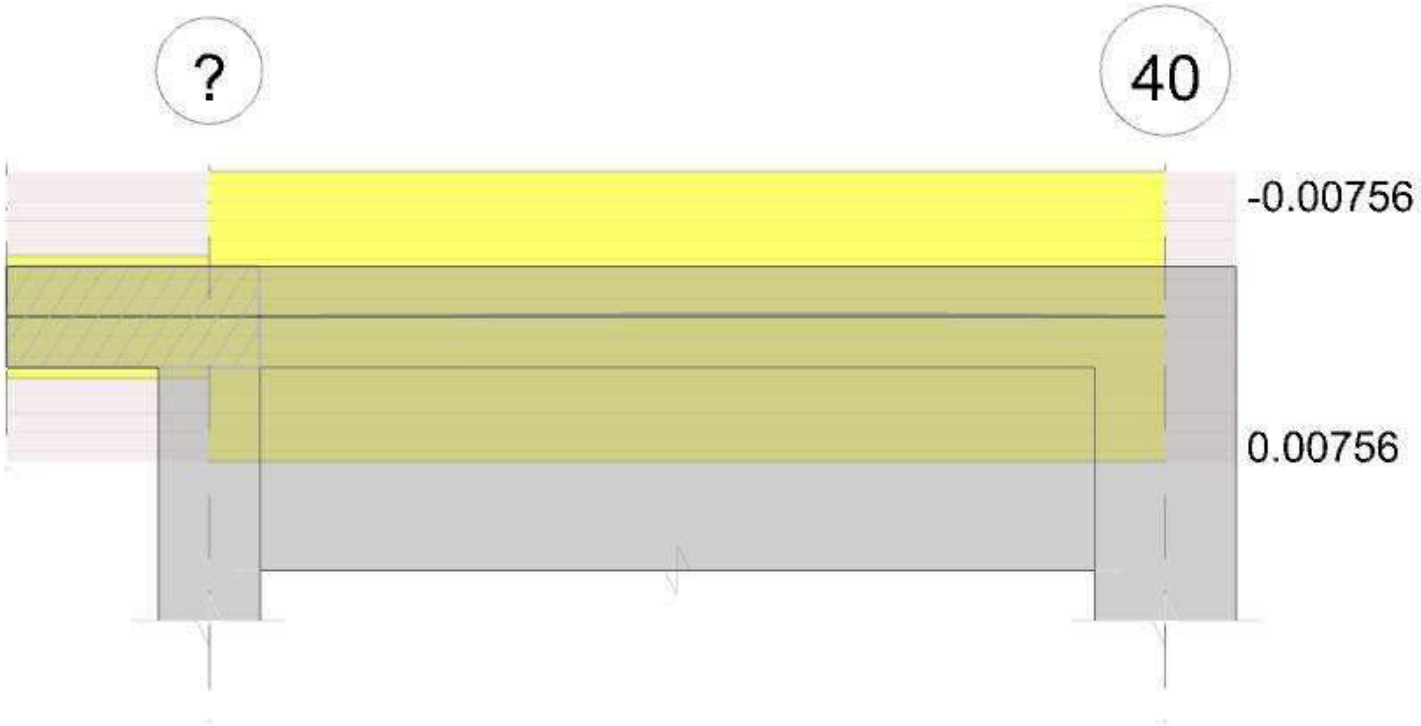


Diagramma verifica stato limite esercizio quasi permanente freccia



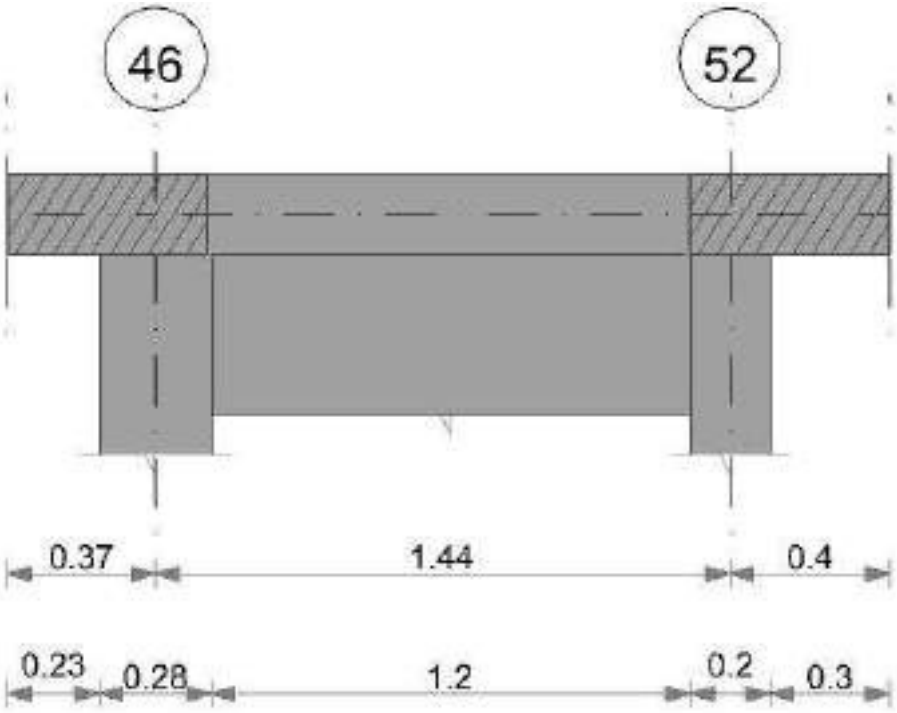
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 46-54

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

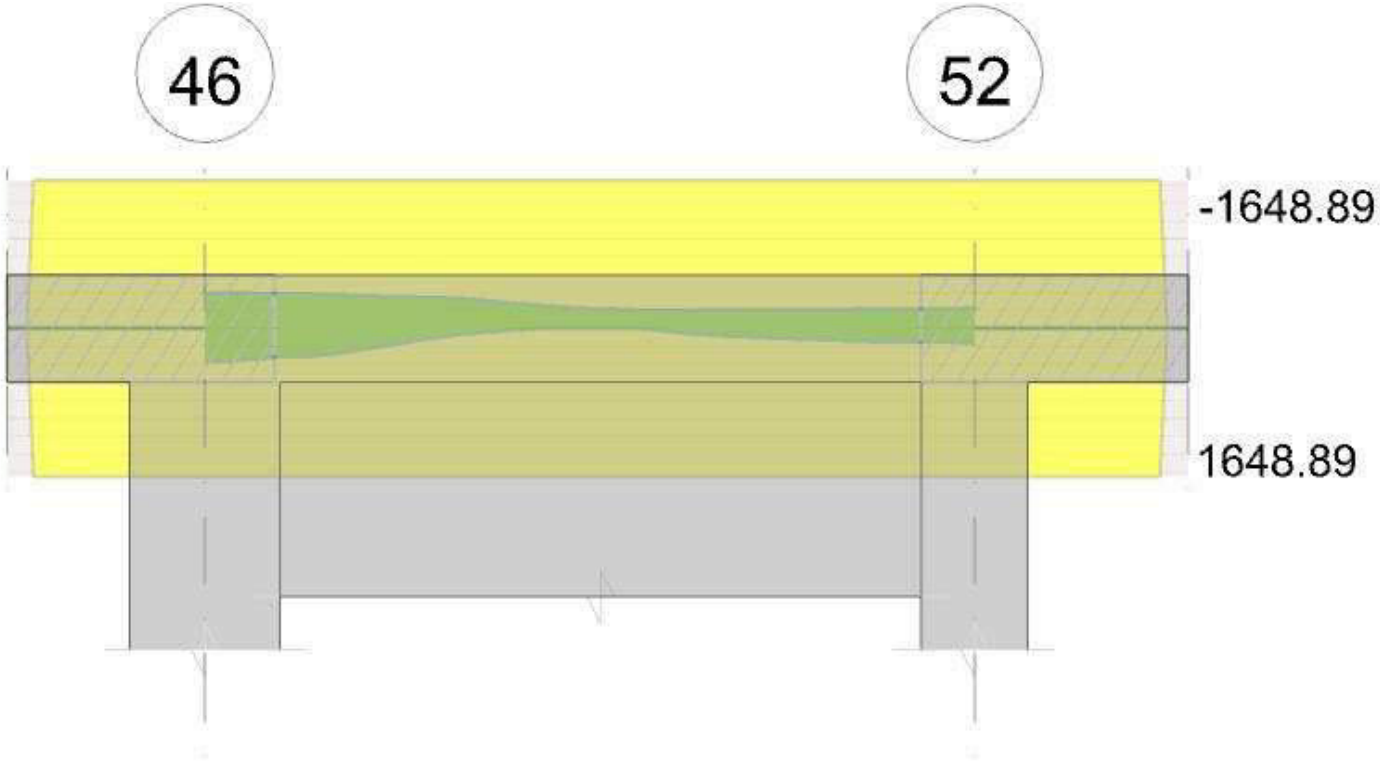


Diagramma verifica stato limite ultimo taglio

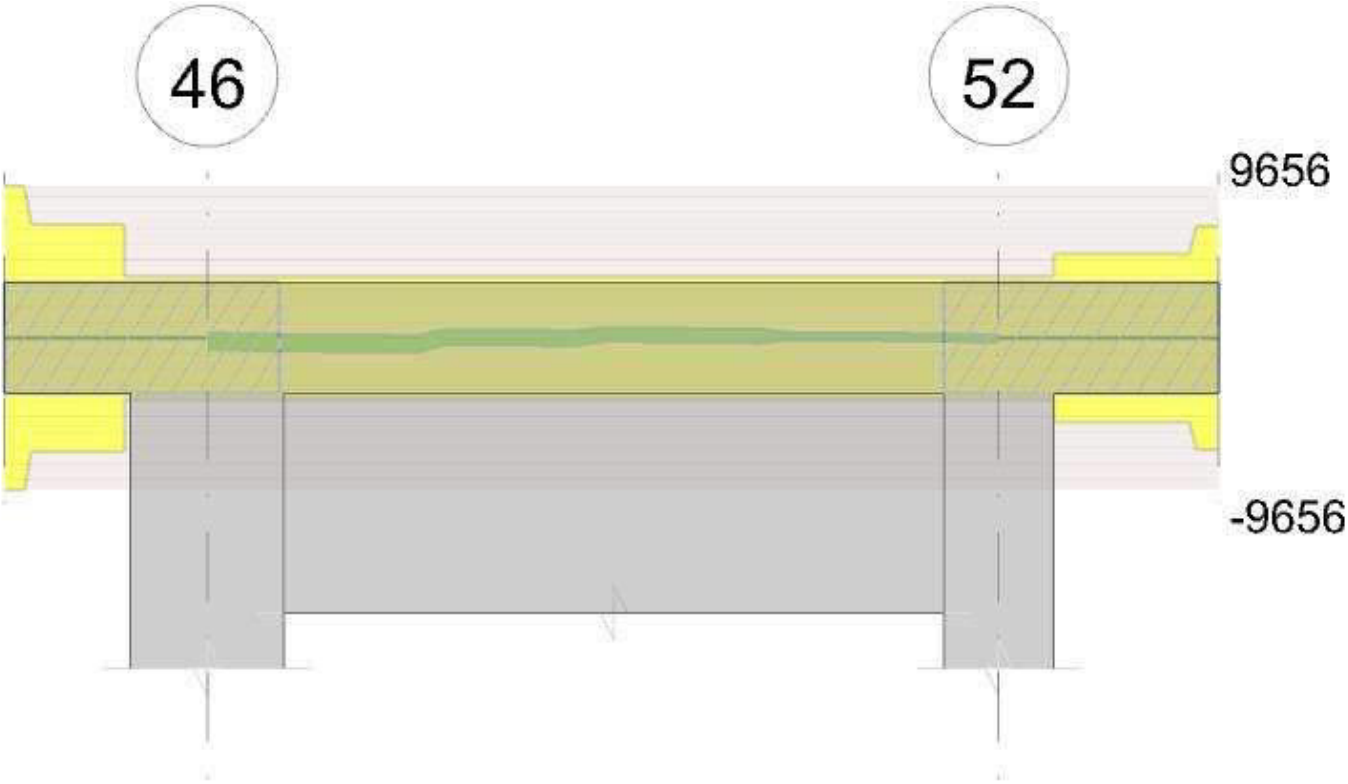
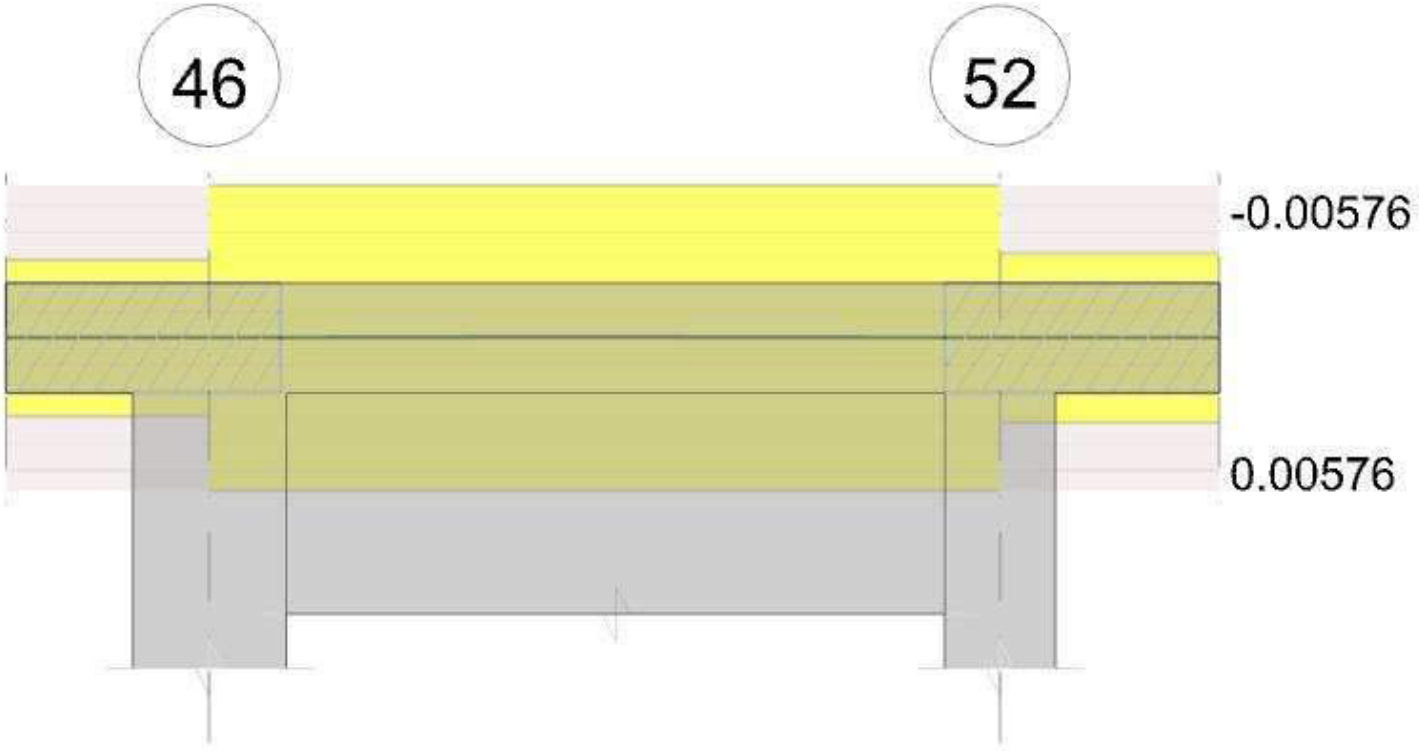


Diagramma verifica stato limite esercizio quasi permanente freccia



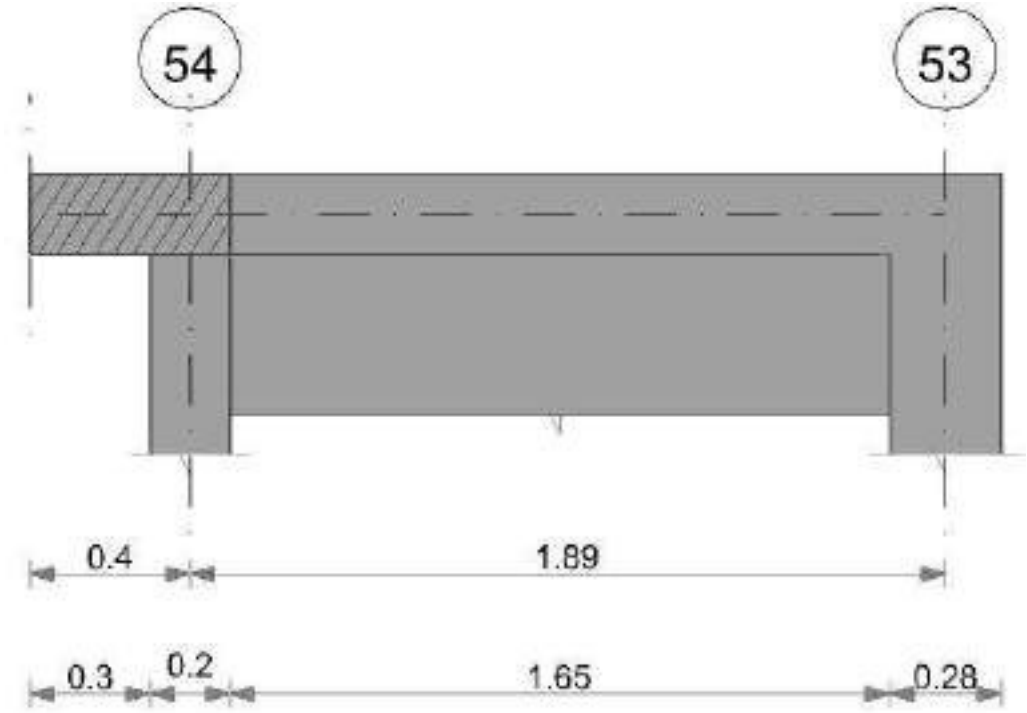
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 52-53

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

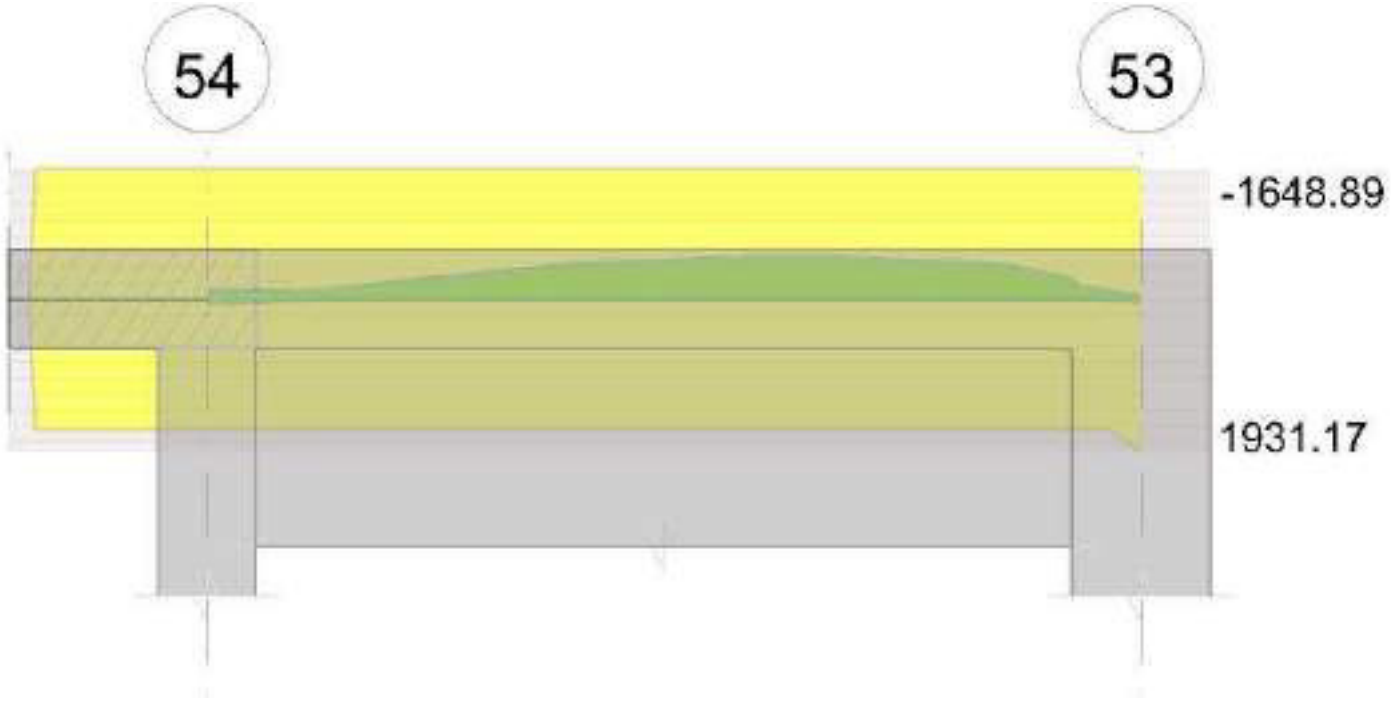


Diagramma verifica stato limite ultimo taglio

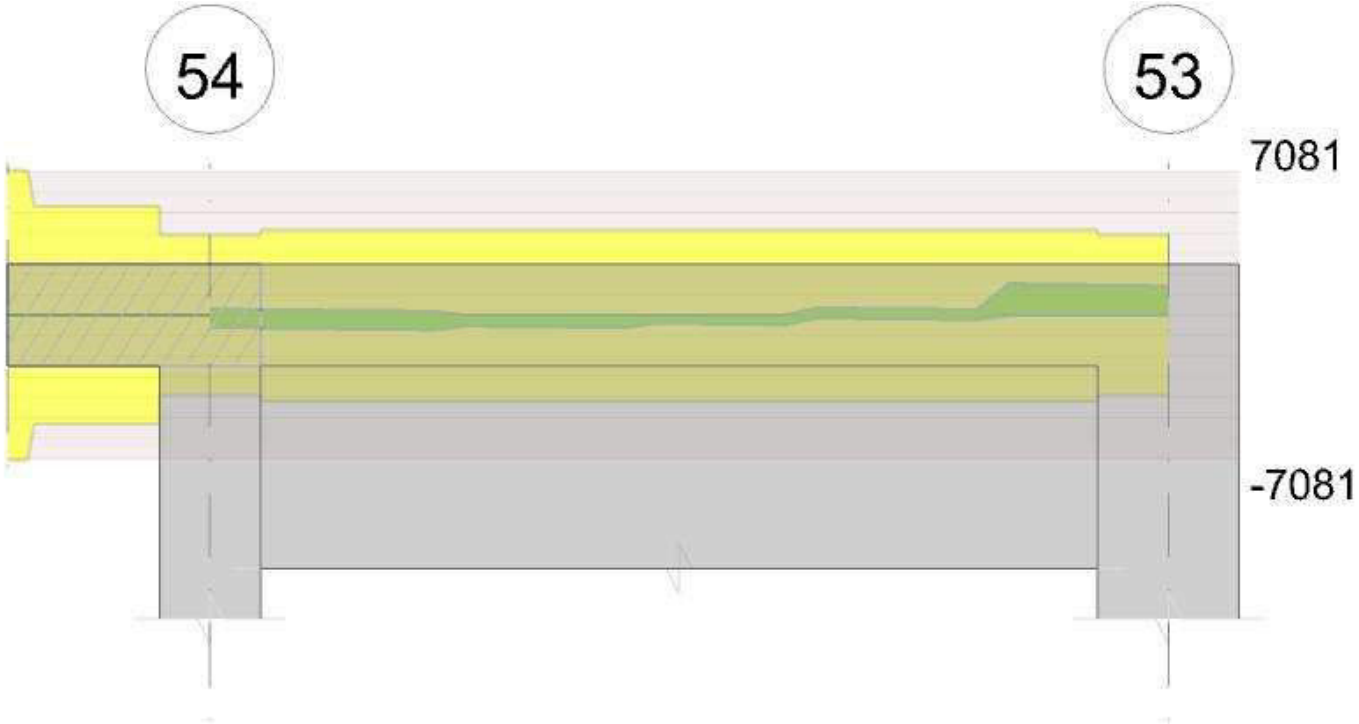
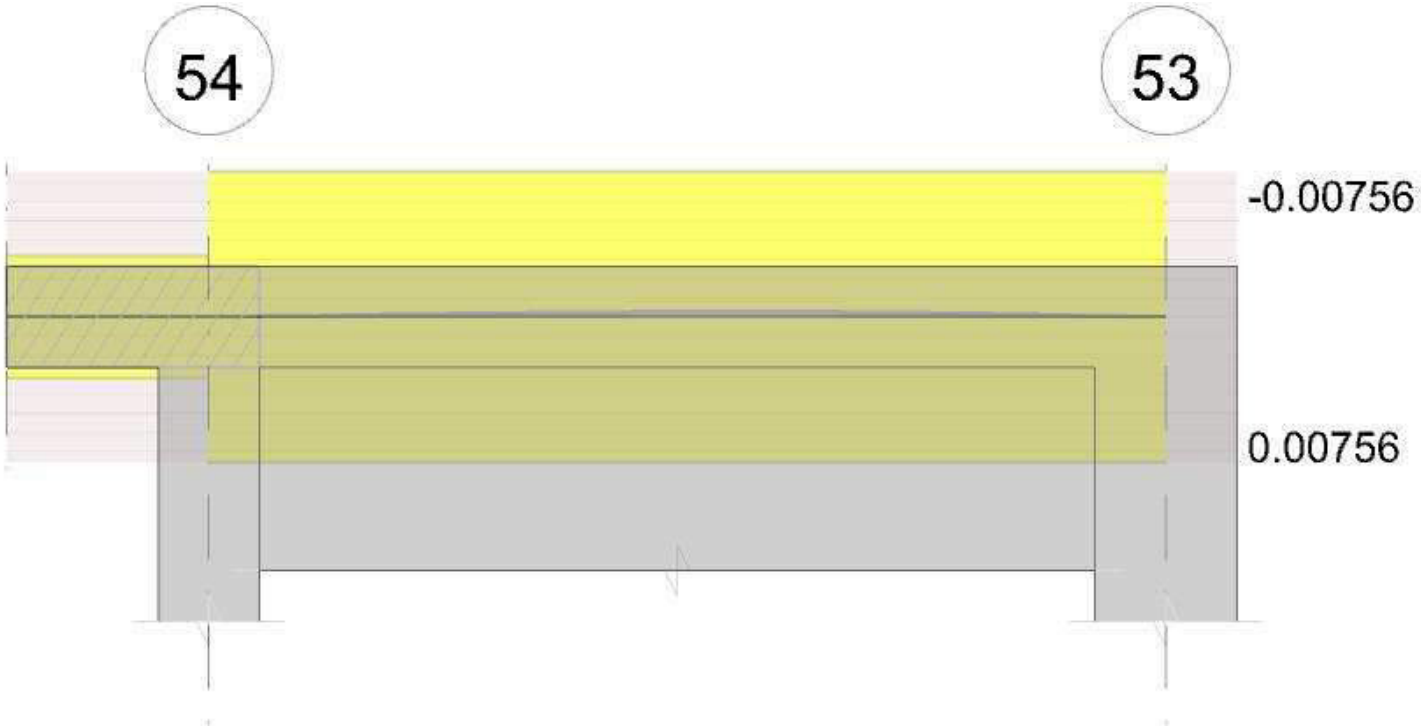


Diagramma verifica stato limite esercizio quasi permanente freccia



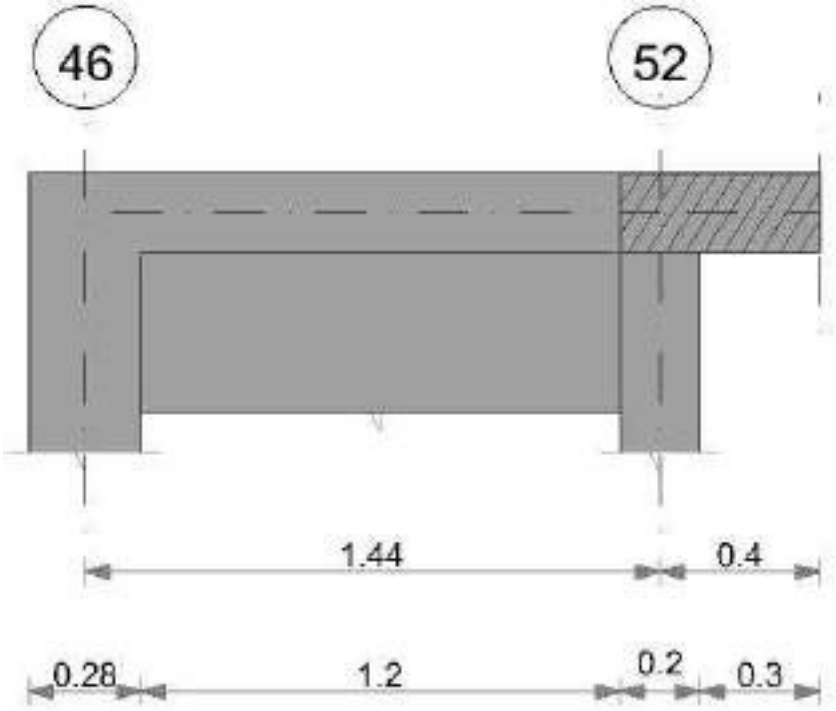
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 46-54

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

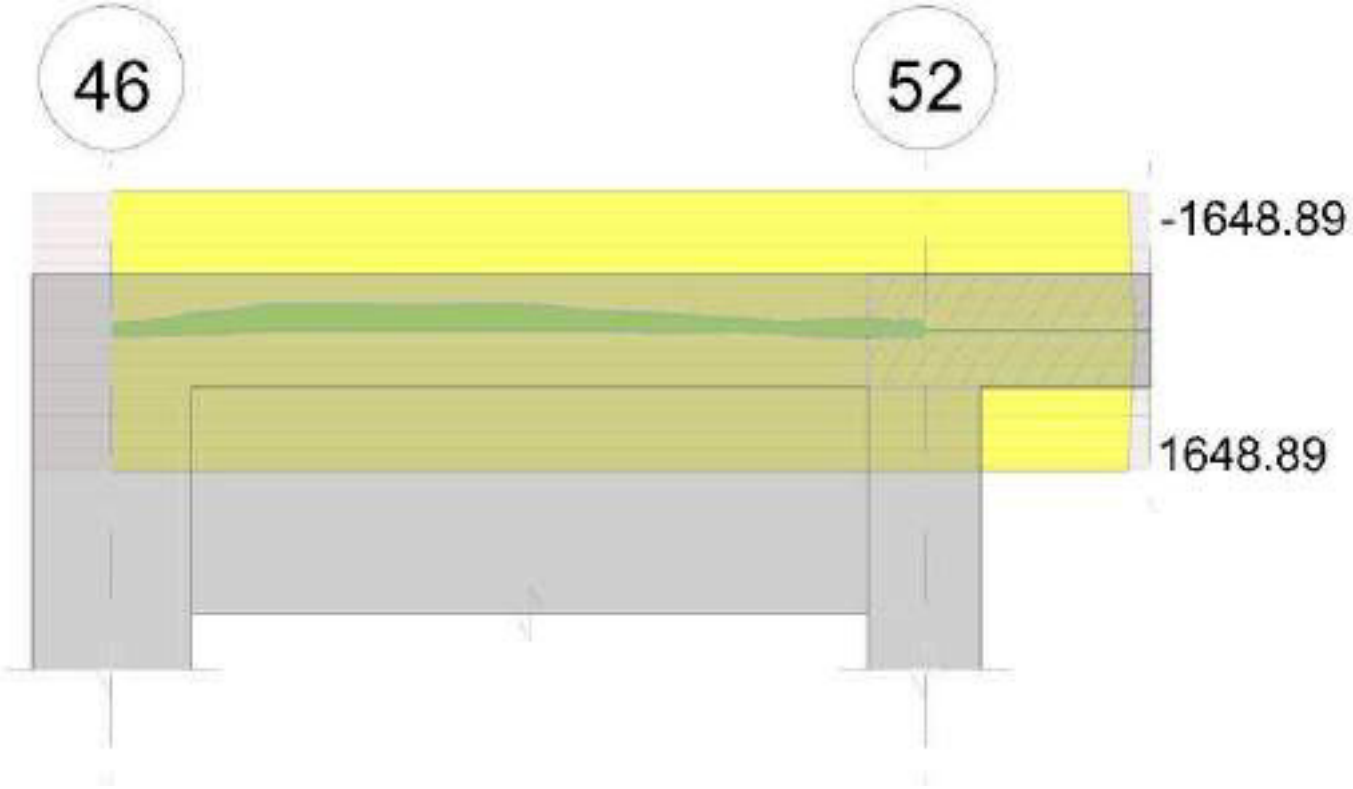


Diagramma verifica stato limite ultimo taglio

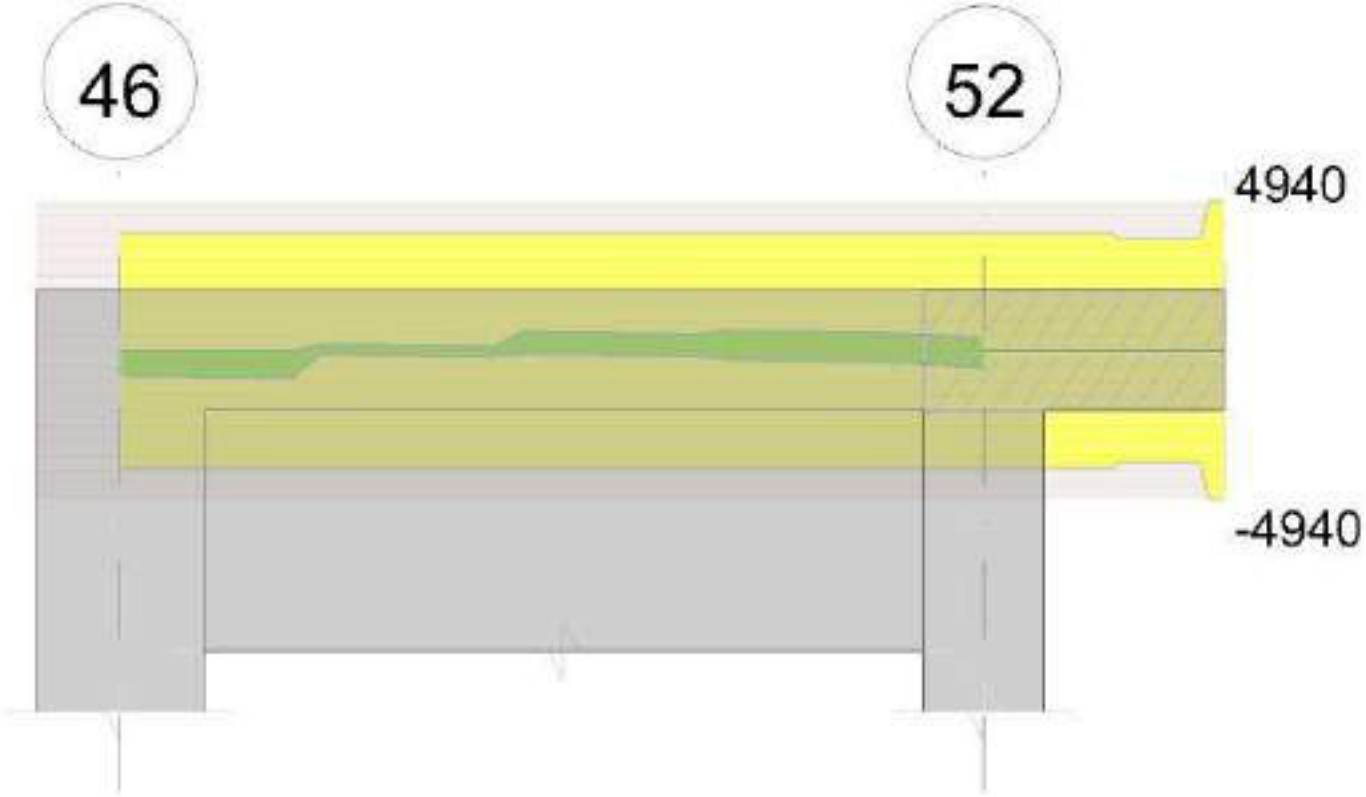
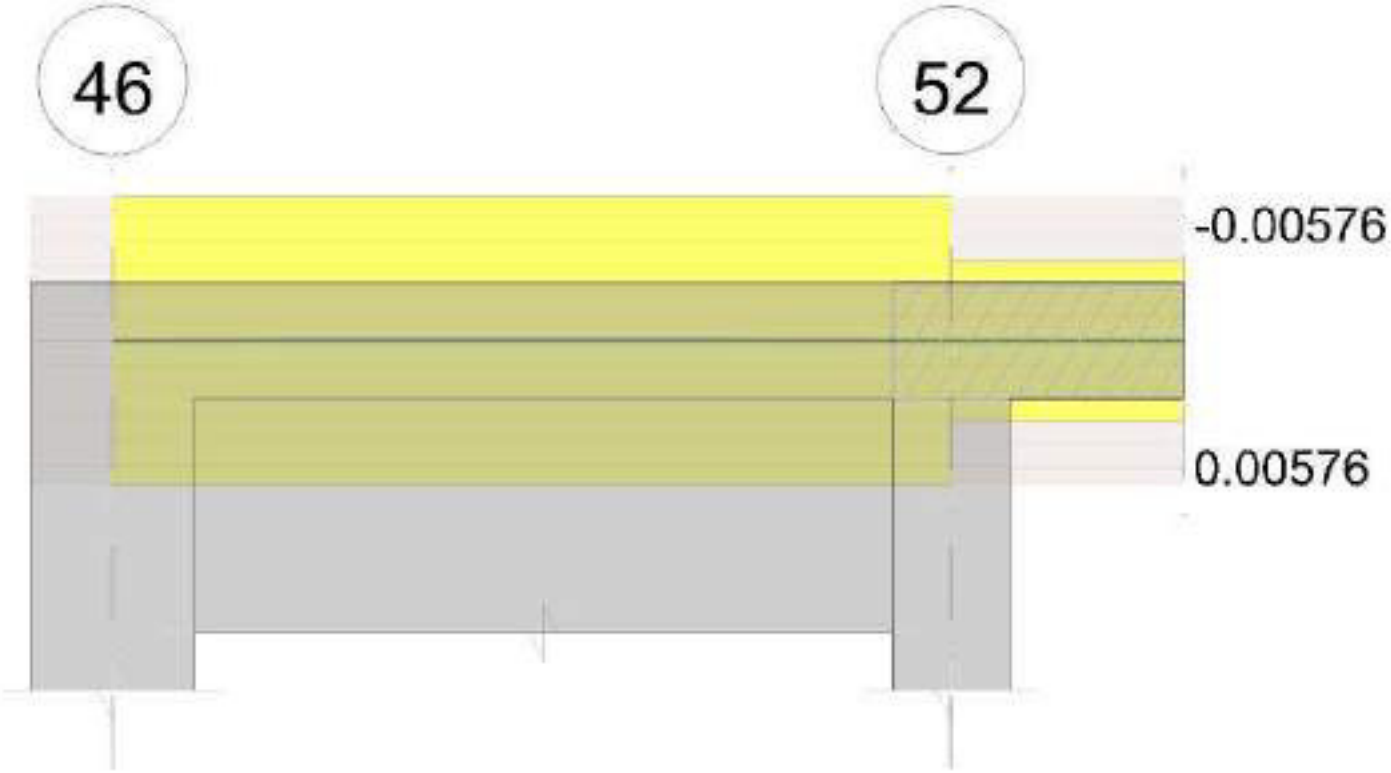


Diagramma verifica stato limite esercizio quasi permanente freccia



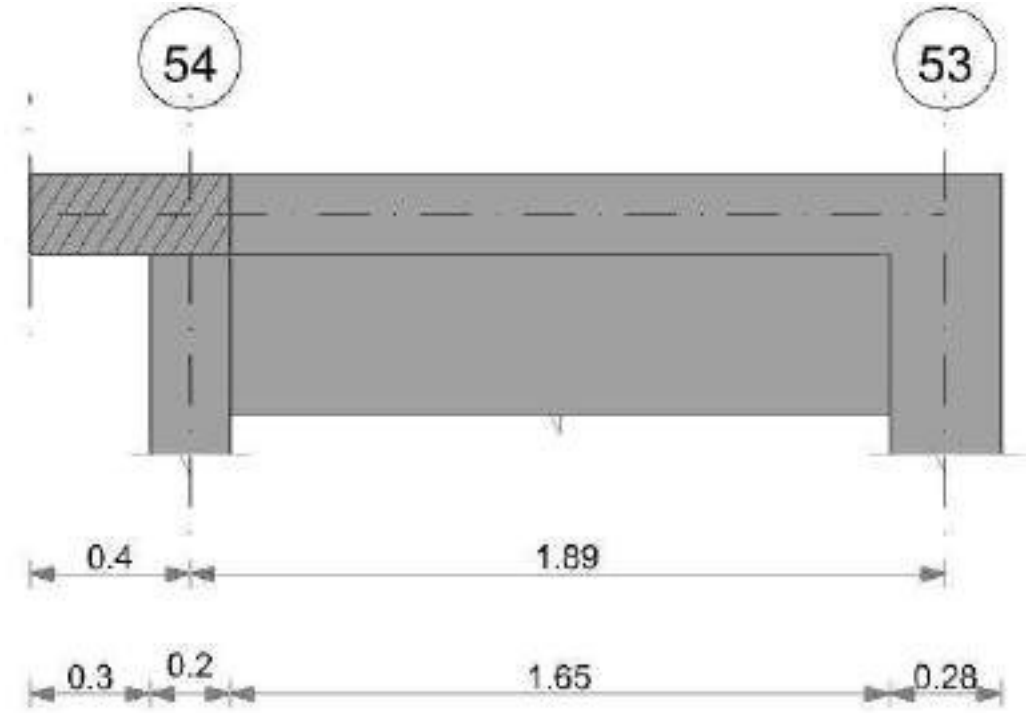
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 52-53

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

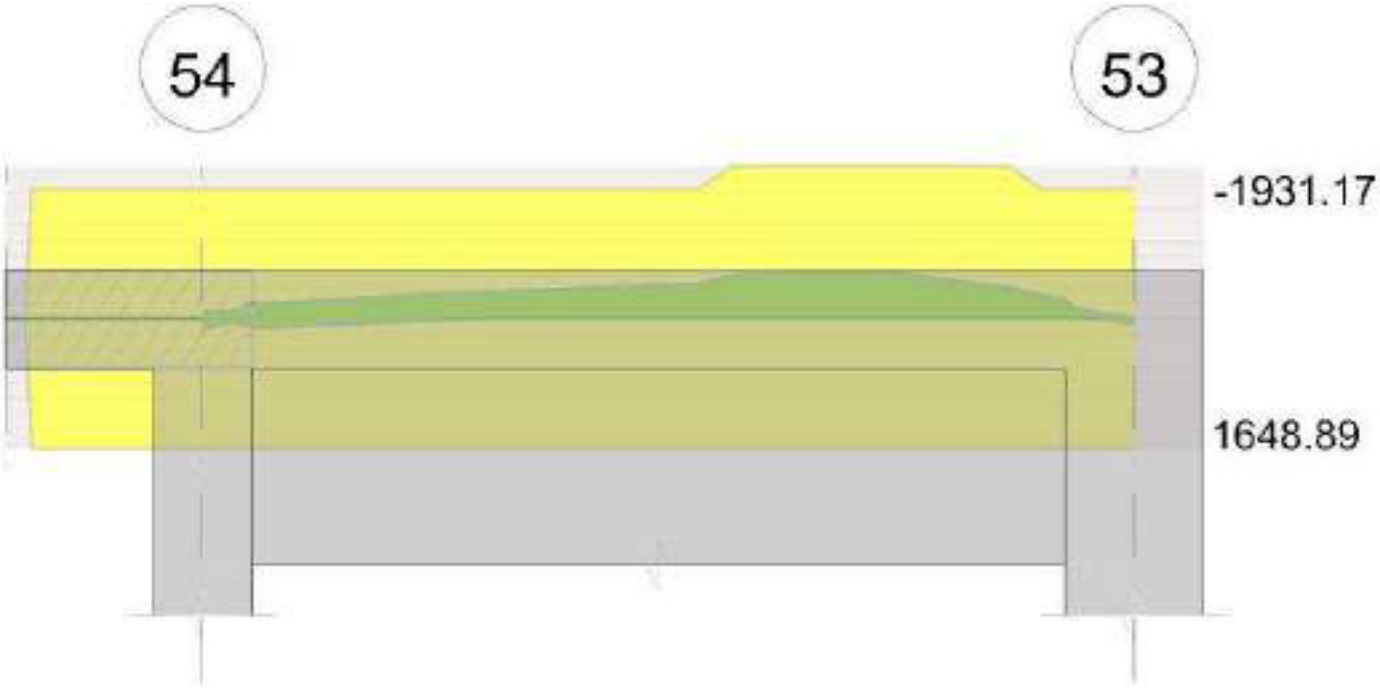


Diagramma verifica stato limite ultimo taglio

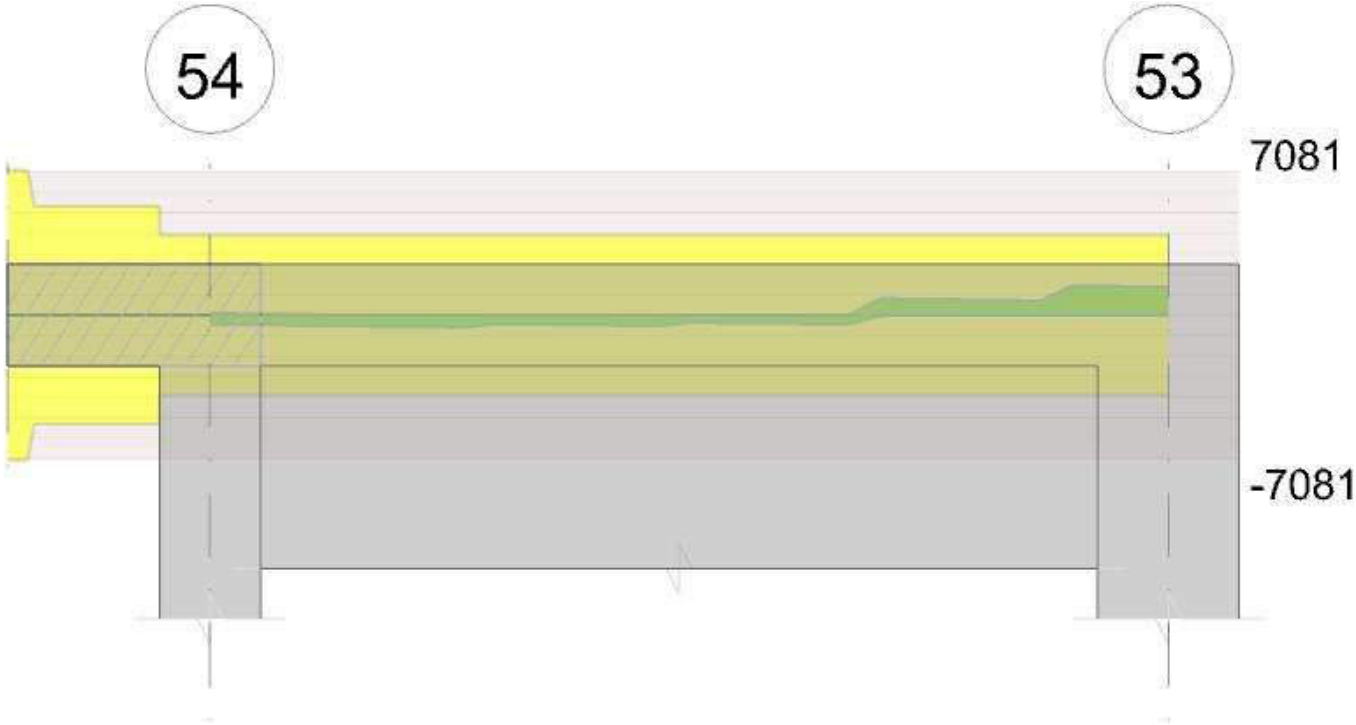
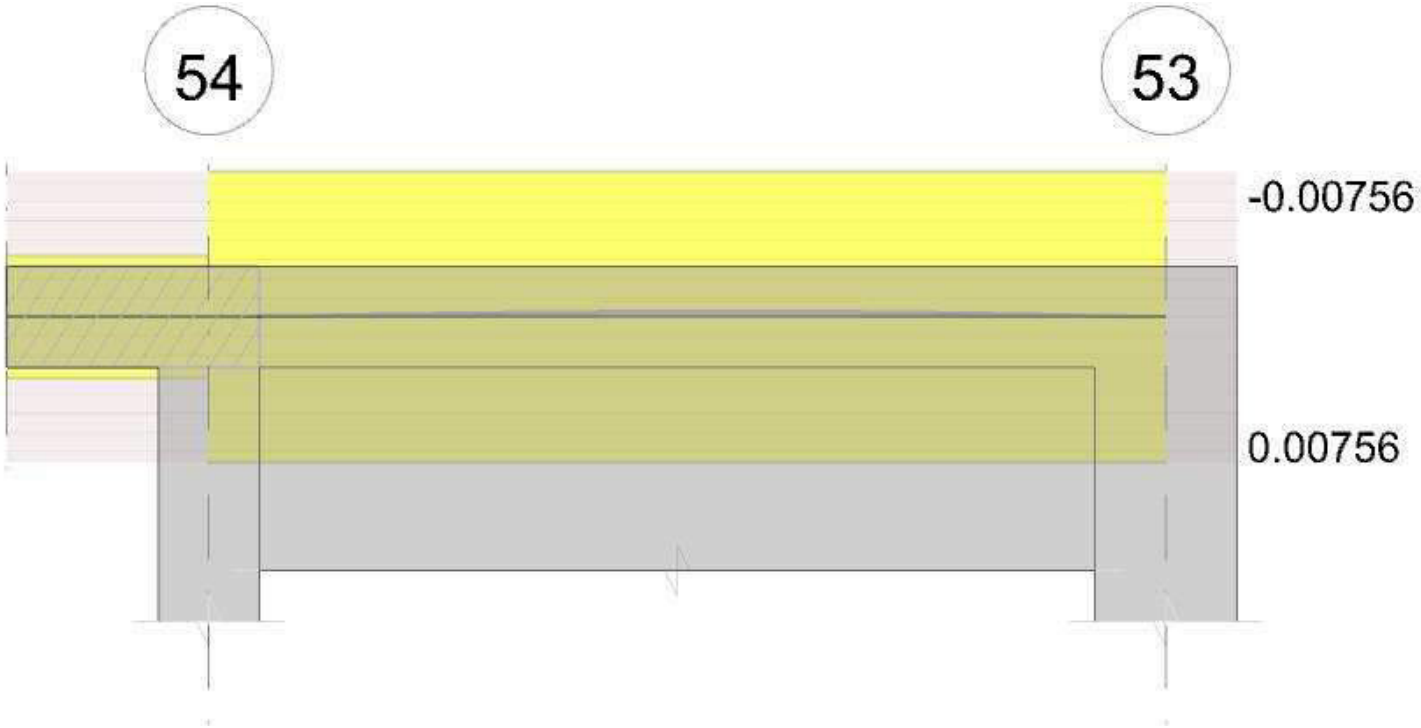


Diagramma verifica stato limite esercizio quasi permanente freccia



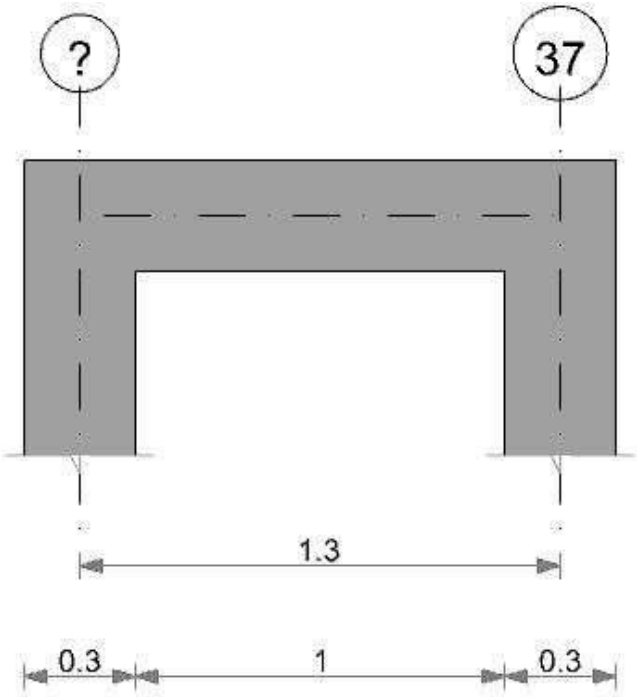
Output campate

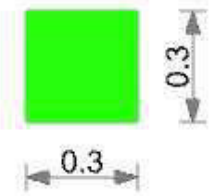
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

TRAVE PIANO TERRA

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 30x30	Rettangolare	0.3	0.3	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

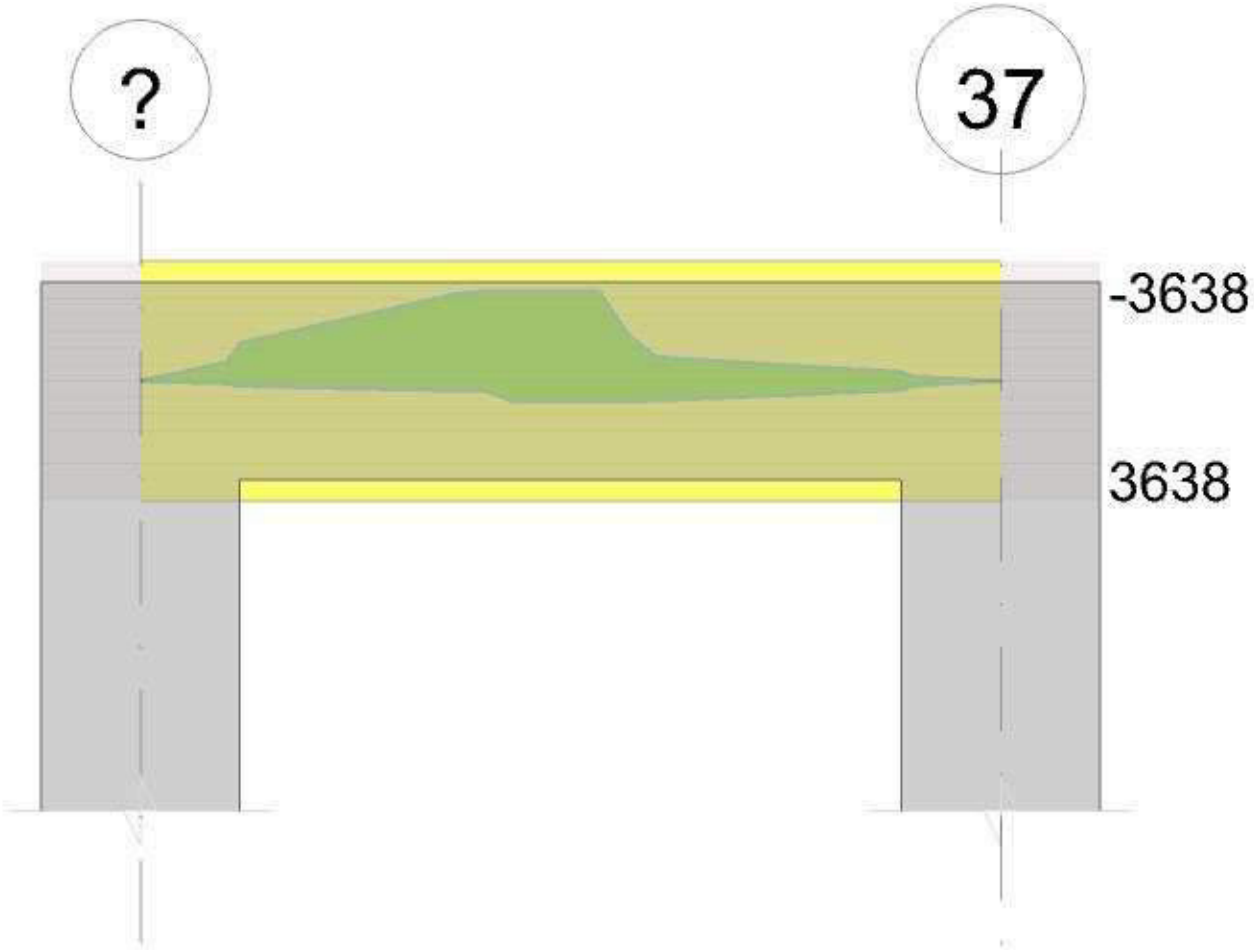


Diagramma verifica stato limite ultimo taglio

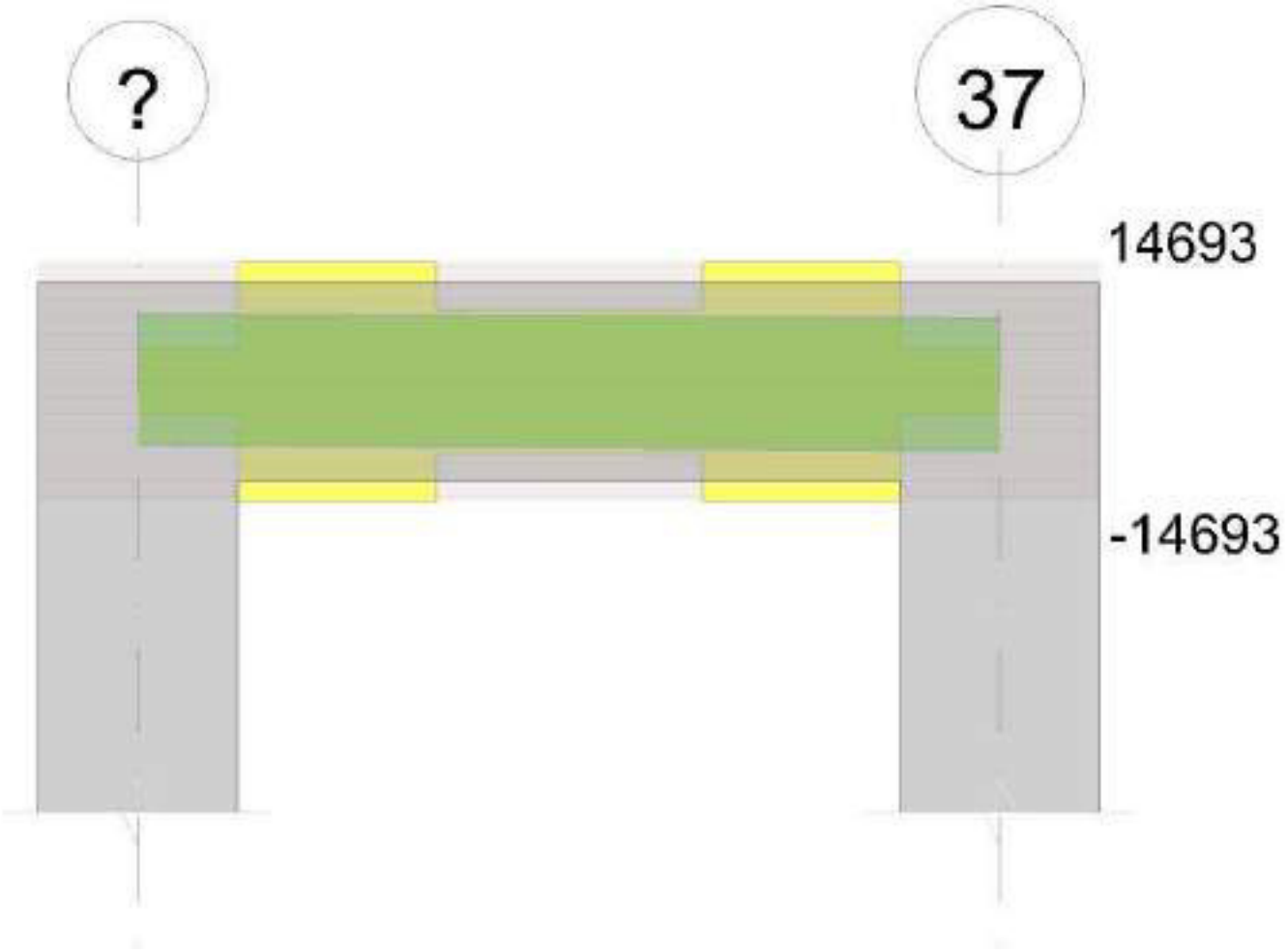
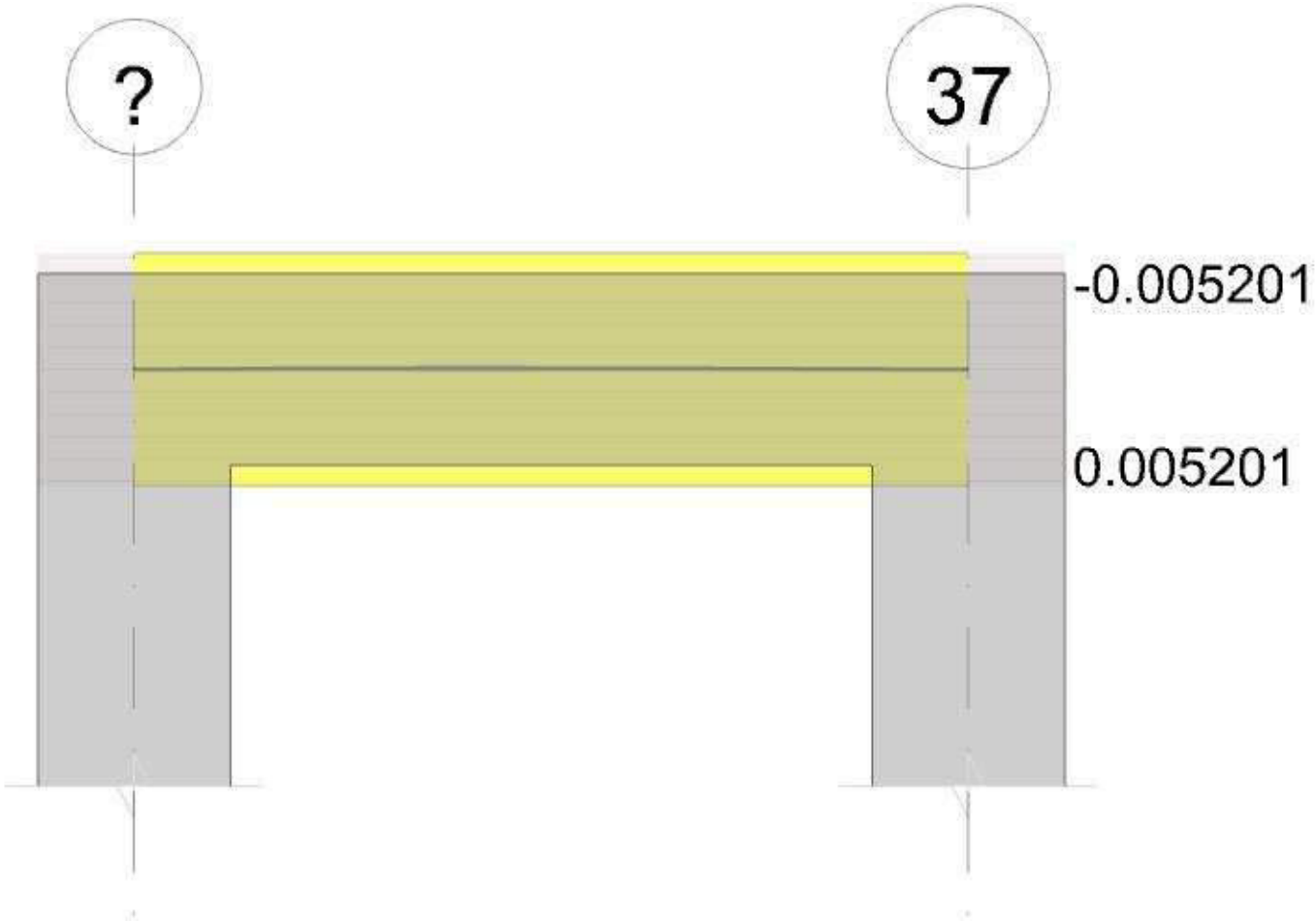


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili ? - 37, sezione R 30x30, aste 777, 778; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	0.73	SLU 27	0.73	3638	0.198	4993.79	-0.49	SLU 52	-0.49	-3638	0.198	7375.26	Si
0.15	0.000402	0.051	0.000402	0.051							-405.5	SLU 77	-722.12	-3638	0.198	5.04	Si
0.61	0.000402	0.051	0.000402	0.051	-1097.3	SLU 2	140.85	3638	0.198	25.83	-1780.13	SLU 77	-1780.13	-3638	0.198	2.04	Si
0.65	0.000402	0.051	0.000402	0.051	133.66	SLU 42	142.95	3638	0.198	25.45	-204.89	SLU 43	-1780.13	-3638	0.198	2.04	Si
1.15	0.000402	0.051	0.000402	0.051	71.06	SLU 42	108.51	3638	0.198	33.53	-28.58	SLU 43	-57.04	-3638	0.198	63.78	Si
1.3	0.000402	0.051	0.000402	0.051							-0.56	SLU 83	-0.56	-3638	0.198	6536.34	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	9.2	SLV 11	9.2	3638	0.198	395.35	-8.97	SLV 6	-7.45	-3638	0.198	488.48	Si
0.15	0.000402	0.051	0.000402	0.051	88.07	SLV 2	149.4	3638	0.198	24.35	-651.66	SLV 15	-1148.56	-3638	0.198	3.17	Si
0.61	0.000402	0.051	0.000402	0.051	295.72	SLV 2	605.11	3638	0.198	6.01	-2728.73	SLV 15	-2728.73	-3638	0.198	1.33	Si
0.65	0.000402	0.051	0.000402	0.051	605.11	SLV 13	605.11	3638	0.198	6.01	-754.38	SLV 4	-2728.73	-3638	0.198	1.33	Si
1.15	0.000402	0.051	0.000402	0.051	159.4	SLV 13	270.79	3638	0.198	13.43	-152.96	SLV 4	-275.24	-3638	0.198	13.22	Si
1.3	0.000402	0.051	0.000402	0.051	0.66	SLV 4	0.66	3638	0.198	5506.89	-1.21	SLV 13	-1.21	-3638	0.198	3008.36	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	5.48	SLD 11	5.48	3638	0.198	663.86	-5.25	SLD 6	-5.25	-3638	0.198	693.03	Si
0.15	0.000402	0.051	0.000402	0.051							-515.34	SLD 15	-909.3	-3638	0.198	4	Si
0.61	0.000402	0.051	0.000402	0.051	-261.9	SLD 2	357.19	3638	0.198	10.19	-2171.12	SLD 15	-2171.12	-3638	0.198	1.68	Si
0.65	0.000402	0.051	0.000402	0.051	357.19	SLD 13	357.19	3638	0.198	10.19	-506.46	SLD 4	-2171.12	-3638	0.198	1.68	Si
1.15	0.000402	0.051	0.000402	0.051	102.43	SLD 13	171.22	3638	0.198	21.25	-95.99	SLD 4	-175.66	-3638	0.198	20.71	Si
1.3	0.000402	0.051	0.000402	0.051	0.32	SLD 4	0.32	3638	0.198	11469.6	-0.87	SLD 13	-0.87	-3638	0.198	4201.62	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	-2637	SLU 69	-2637	-4038	-23715	0	-4038	1	1.53	Si
0.13	0	0.000402	0	-2761	SLU 77	-2761	-4038	-23715	0	-4038	1	1.46	Si
0.15	0.0000168	0.000402	0	-2781	SLU 77	-2781	-4038	-23715	-14693	-14693	1	5.28	Si
0.65	0.00001	0.000402	0	478	SLU 43	478	4038	23715	8812	8812	1	18.42	Si
1.15	0.0000168	0.000402	0	227	SLU 43	227	4038	23715	14693	14693	1	64.77	Si
1.15	0.0000168	0.000402	0	-396	SLU 42	-396	-4038	-23715	-14693	-14693	1	37.08	Si
1.3	0	0.000402	0	151	SLU 43	151	4038	23715	0	4038	1	26.66	Si
1.3	0	0.000402	0	-559	SLU 42	-559	-4038	-23715	0	-4038	1	7.23	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	663	Ger.	8361	4038	23715	0	4038	1	0.48	Si
0	0	0.000402	0	-4339	Ger.	-7643	-4038	-23715	0	-4038	1	0.53	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.15	0.0000168	0.000402	0	580	Ger.	8278	4038	23715	14693	14693	1	1.77	Si
0.15	0.0000168	0.000402	0	-4422	Ger.	-7727	-4038	-23715	-14693	-14693	1	1.9	Si
0.65	0.00001	0.000402	0	1340	Ger.	8002	4038	23715	8812	8812	1	1.1	Si
0.65	0.00001	0.000402	0	-753	Ger.	-8002	-4038	-23715	-8812	-8812	1	1.1	Si
1.15	0.0000168	0.000402	0	1065	Ger.	7727	4038	23715	14693	14693	1	1.9	Si
1.15	0.0000168	0.000402	0	-1029	Ger.	-8278	-4038	-23715	-14693	-14693	1	1.77	Si
1.3	0	0.000402	0	982	Ger.	7643	4038	23715	0	4038	1	0.53	Si
1.3	0	0.000402	0	-1112	Ger.	-8361	-4038	-23715	0	-4038	1	0.48	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	-3417	SLD 15	-3417	-4038	-23715	0	-4038	1	1.18	Si
0.13	0	0.000402	0	-3488	SLD 15	-3488	-4038	-23715	0	-4038	1	1.16	Si
0.15	0.0000168	0.000402	0	-3499	SLD 15	-3499	-4038	-23715	-14693	-14693	1	4.2	Si
0.65	0.00001	0.000402	0	959	SLD 4	959	4038	23715	8812	8812	1	9.19	Si
0.65	0.00001	0.000402	0	-372	SLD 13	-372	-4038	-23715	-8812	-8812	1	23.71	Si
1.15	0.0000168	0.000402	0	683	SLD 4	683	4038	23715	14693	14693	1	21.51	Si
1.15	0.0000168	0.000402	0	-647	SLD 13	-647	-4038	-23715	-14693	-14693	1	22.7	Si
1.3	0	0.000402	0	600	SLD 4	600	4038	23715	0	4038	1	6.72	Si
1.3	0	0.000402	0	-730	SLD 13	-730	-4038	-23715	0	-4038	1	5.53	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	0.34	6	0.34	64	1494000	954	36000000	0.16	1	0.16	31	1120500			Si
0	-0.1	10	-0.1	20	1494000	295	36000000								Si
0.15	-297.04	14	-528.56	99950	1494000	1499256	36000000	-281.79	2	-499.58	94470	1120500			Si
0.65	9.58	21	32.54	6154	1494000	92313	36000000								Si
0.65	-107.02	1	-1300.41	245906	1494000	3688594	36000000	-107.02	1	-1216.51	230040	1120500			Si
1.15	32.94	21	45.65	8632	1494000	129483	36000000	3.22	2	3.22	609	1120500			Si
1.15	-8.66	1	-21.25	4018	1494000	60270	36000000	-8.66	1	-21.25	4018	1120500			Si
1.3	-0.37	20	-0.37	71	1494000	1061	36000000	-0.27	2	-0.27	52	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.15	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00004	2	-0.00004	2	9999	Si
0.52	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.00011	2	-0.00011	2	9999	Si
0.65	-0.00005	-0.00005	-0.00003	-0.00004	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.0001	2	-0.0001	2	9999	Si
1.15	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00002	2	-0.00002	2	9999	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	ρ,tot	θ,m	θ,y	μΔ,pl	Vrd	VRcd(cotθ=1)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	0.616	0.049	0.3	0.009	0.00006	0.00824	0	4038	23715	14693	14693	15120	15120	8278	0	SLV 6	Si
1.3	0.65	0.049	0.3	0.009	0.00027	0.00824	0	4038	23715	14693	14693	15055	15055	-8278	0	SLV 9	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	359	-7643	-7275	-4339	359	8361	7275	663
0.15	275	-7727	-7275	-4422	275	8278	7275	580
0.65	0	-8002	-7275	-753	0	8002	7275	1340
1.15	-275	-8278	-7275	-1029	-275	7727	7275	1065
1.3	-359	-8361	-7275	-1112	-359	7643	7275	982

Momenti resistenti a filo appoggi

campata	x	appoggio	momento positivo	momento negativo
1	0.15	?	3638	-3638
1	1.15	37	3638	-3638

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

1.3 Verifiche pareti C.A.

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

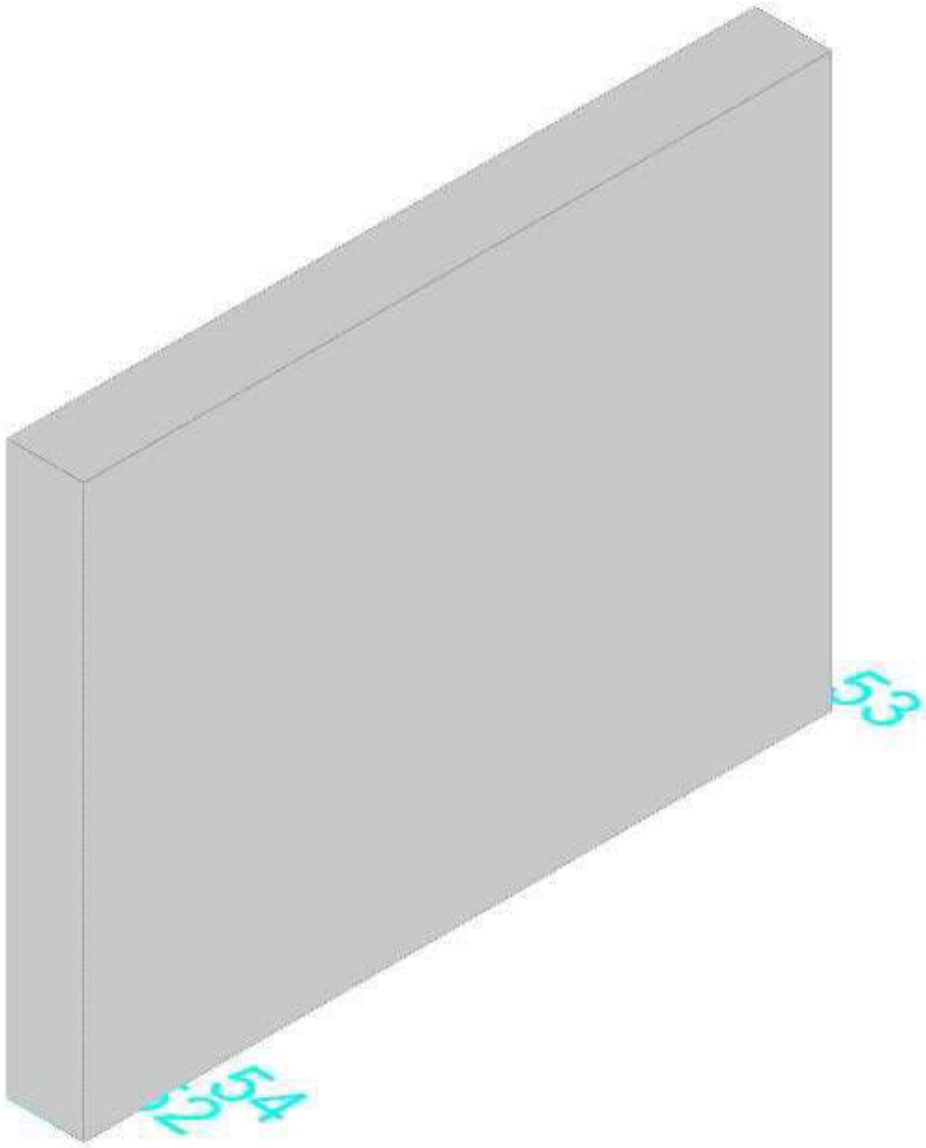
Descrizione breve: *nome sintetico assegnato al livello.*
Descrizione: *nome assegnato al livello.*
Quota: *quota superiore espressa nel sistema di riferimento assoluto. [m]*
Spessore: *spessore del livello. [m]*
Descrizione: *descrizione della sezione di verifica.*
Dir.: *direzione della sezione di verifica.*
Base: *base della sezione. [m]*
Altezza: *altezza della sezione. [m]*
As,sup: *area di acciaio efficace superiore. [m²]*
As,inf: *area di acciaio efficace inferiore. [m²]*
c,sup: *copriferro medio superiore. [m]*
c,inf: *copriferro medio inferiore. [m]*
Comb.: *combinazione di verifica.*

MEd: *momento agente. [daN*m]*
NEd: *sforzo normale agente, positivo se di trazione. [daN]*
MRd: *momento resistente. [daN*m]*
NRd: *sforzo normale resistente, positivo se di trazione. [daN]*
c.s.: *coefficiente di sicurezza.*
Verifica: *stato di verifica.*
d: *altezza utile. [m]*
bw: *minima larghezza anima. [m]*
Armatura a taglio: *necessità di armatura a taglio.*
Asw/s: *rapporto tra l'area dell'armatura trasversale e l'interasse tra due armature consecutive.*
VEd: *taglio agente. [daN]*
Vrd,c: *resistenza di calcolo a taglio per elementi privi di armature trasversali. [daN]*
Vrcd: *valore resistente di calcolo a taglio compressione del calcestruzzo d'anima. [daN]*
Vrsd: *valore resistente di calcolo a taglio trazione dell'armatura trasversale. [daN]*
VRd: *resistenza a taglio. [daN]*
cotg(ϑ): *cotangente dell'angolo dei puntoni rispetto all'asse.*
Asl: *area armatura longitudinale. [m²]*
Sezione fessurata: *sezione fessurata.*
σc: *tensione del calcestruzzo. [daN/m²]*
σc limite: *tensione limite del calcestruzzo. [daN/m²]*
Es/Ec: *coefficiente di omogenizzazione.*
σf: *tensione dell'armatura. [daN/m²]*
σf limite: *tensione limite dell'armatura. [daN/m²]*
Spessore: *spessore della parete in corrispondenza della barra. [m]*
Φ: *diametro barra. [m]*
Φ max: *diametro massimo ammissibile. [m]*
Passo: *passo massimo delle barre. [m]*
Passo max.: *passo massimo delle barre ammissibile da norma. [m]*
Ac: *area sezione. [m²]*
As,eff: *area efficace delle barre presenti nella sezione. [m²]*
As,min: *area minima richiesta. [m²]*
% min: *percentuale minima di area da prevedere.*

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
573 Prosp.A	Verticale	0.5	0.2	0.000458	0.000458	0.041	0.041
130 Prosp.A	Verticale	0.875	0.2	0.000824	0.000824	0.041	0.041
557 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041
504 Prosp.A	Verticale	0.5	0.2	0.000331	0.000426	0.041	0.041
108 Prosp.A	Verticale	1	0.2	0.000916	0.000916	0.041	0.041
123 Prosp.A	Verticale	0.875	0.2	0.000588	0.000758	0.041	0.041
25 Prosp.A	Orizzontale	0.6	0.2	0.000679	0.000679	0.0439	0.0439
28 Prosp.A	Orizzontale	0.997	0.2	0.001131	0.001131	0.0427	0.0427
82 Prosp.A	Orizzontale	1	0.2	0.001697	0.001697	0.041	0.041
104 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
573 Prosp.A	Verticale	SLV 6	76.96	14538	180.09	34017	2.3399	Si
573 Prosp.A	Verticale	SLV 6	-48.43	11438	-145.52	34370	3.005	Si
130 Prosp.A	Verticale	SLV 6	76.96	14538	324.16	61230	4.2118	Si
557 Prosp.A	Verticale	SLV 6	-52.35	8938	-244.61	41761	4.6722	Si
130 Prosp.A	Verticale	SLV 6	-68.46	12349	-338.65	61089	4.947	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
573 Prosp.A	Verticale	SLD 9	94.56	6648	444.48	31250	4.7006	Si

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
130 Prosp.A	Verticale	SLD 9	122.17	7271	922.74	54914	7.5527	Si
504 Prosp.A	Verticale	SLD 13	-273.85	561	-2210.43	4526	8.0718	Si
108 Prosp.A	Verticale	SLD 11	187.92	5488	1794.06	52395	9.5472	Si
123 Prosp.A	Verticale	SLD 13	-306.79	865	-3754.6	10585	12.2382	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
573 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 10	-865	14200	93.71	4636	17406	0	4636	2.5	0.000458	5.357	Si
504 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLU 84	514	14	-310.5	4526	17406	0	4526	2.5	0.0004263	8.8088	Si
130 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 10	-865	14200	93.71	8190	30461	0	8190	2.5	0.0008245	9.4632	Si
523 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLU 84	514	-1027	-74.68	5096	17533	0	5096	2.5	0.0005655	9.9174	Si
123 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLU 84	543	-38	-324.11	7967	30466	0	7967	2.5	0.0007578	14.6759	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
573 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 10	-560	6474	89.01	4636	17406	0	4636	2.5	0.000458	8.2734	Si
504 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 13	409	8	-255.57	4526	17406	0	4526	2.5	0.0004263	11.0746	Si
523 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 13	409	-1013	-54.76	5094	17531	0	5094	2.5	0.0005655	12.4643	Si
130 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 10	-563	6627	99.66	8190	30461	0	8190	2.5	0.0008245	14.5456	Si
123 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 13	427	-36	-265.19	7967	30466	0	7967	2.5	0.0007578	18.6536	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
504 Prosp.A	Verticale	SLE QP 2	-215.37	282	No	-55620	1120500	15	20.1457	Si
573 Prosp.A	Verticale	SLE QP 2	92.08	-3410	No	-54139	1120500	15	20.6968	Si
25 Prosp.A	Orizzontale	SLE QP 2	106.68	-4180	No	-52722	1120500	15	21.2529	Si
28 Prosp.A	Orizzontale	SLE QP 2	133.49	-7310	No	-48513	1120500	15	23.0968	Si
504 Prosp.A	Verticale	SLE RA 20	-237.22	324	No	-61142	1494000	15	24.435	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
504 Prosp.A	Verticale	SLE RA 21	-237.14	335	No	600229	36000000	15	59.9771	Si
108 Prosp.A	Verticale	SLE RA 20	124.35	4330	No	429909	36000000	15	83.7387	Si
123 Prosp.A	Verticale	SLE RA 21	-266.57	594	No	401297	36000000	15	89.7092	Si
82 Prosp.A	Orizzontale	SLE RA 1	73.1	-7461	No	-369379	36000000	15	97.4609	Si
104 Prosp.A	Orizzontale	SLE RA 2	35.18	-5712	No	-326559	36000000	15	110.2403	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
25 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
104 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
104 Prosp.A	Verticale	0.2	0.012	0.02	Si
106 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
106 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
25 Prosp.A	Orizzontale	0.1	0.3	Si
104 Prosp.A	Orizzontale	0.1	0.3	Si
104 Prosp.A	Verticale	0.1	0.3	Si
106 Prosp.A	Orizzontale	0.1	0.3	Si
106 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

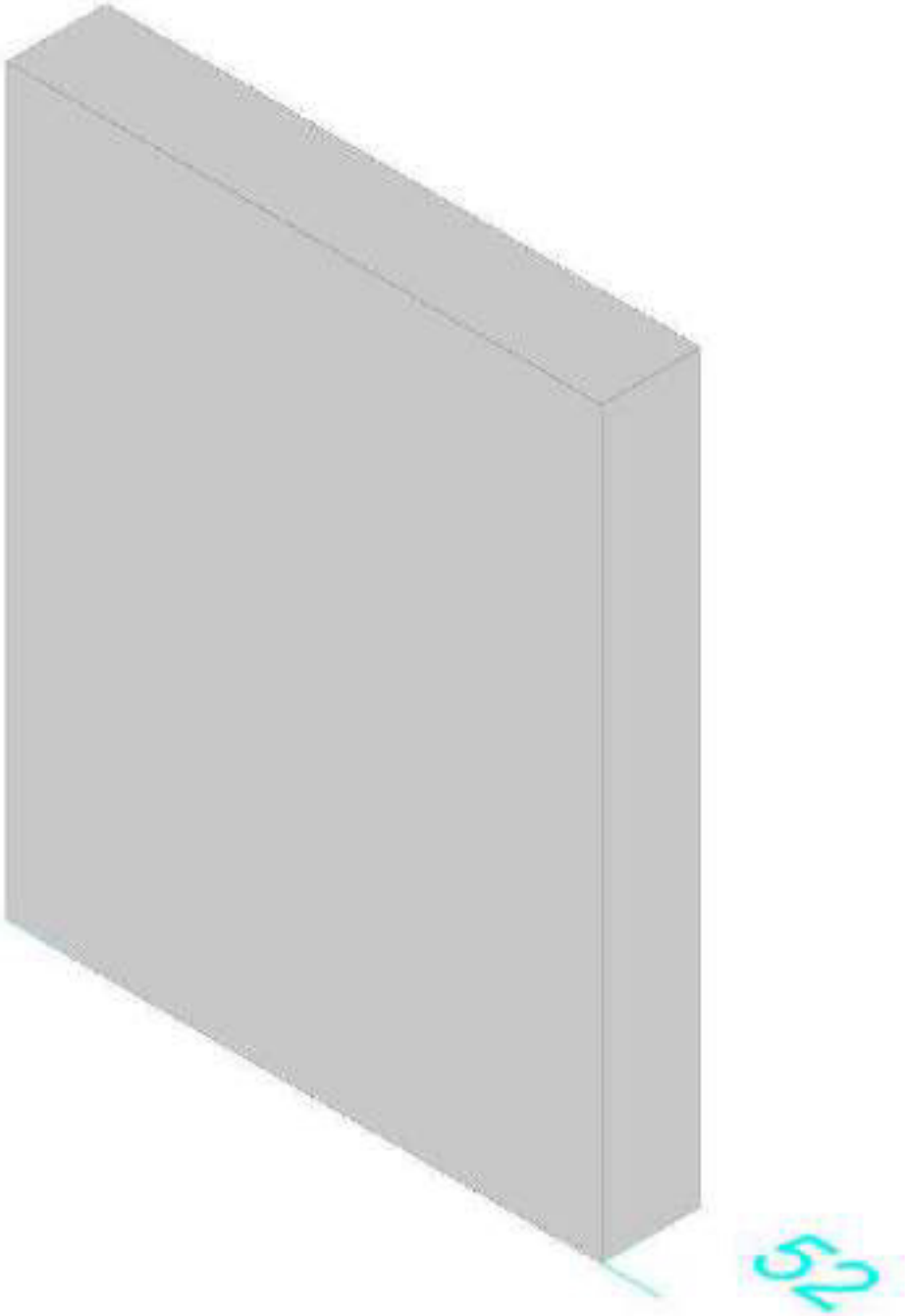
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
504 Prosp.A	Verticale	0.1	0.000757	0.0002	0.2	Si
123 Prosp.A	Verticale	0.175	0.001346	0.00035	0.2	Si
79 Prosp.A	Verticale	0.175	0.00143	0.00035	0.2	Si
101 Prosp.A	Verticale	0.2	0.001682	0.0004	0.2	Si
25 Prosp.A	Verticale	0.1	0.000841	0.0002	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
500 Prosp.A	Verticale	0.5	0.2	0.000333	0.000333	0.041	0.041
503 Prosp.A	Verticale	0.5	0.2	0.000333	0.000333	0.041	0.041
119 Prosp.A	Verticale	0.875	0.2	0.000599	0.000599	0.041	0.041
97 Prosp.A	Verticale	1	0.2	0.000665	0.000665	0.041	0.041
119 Prosp.A	Orizzontale	0.68	0.2	0.000792	0.000792	0.0435	0.0435
120 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427
121 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427
122 Prosp.A	Orizzontale	0.68	0.2	0.000792	0.000792	0.0435	0.0435
501 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
500 Prosp.A	Verticale	SLV 11	218.68	5239	752.72	18033	3.4422	Si
500 Prosp.A	Verticale	SLU 84	-134.12	4128	-630.5	19404	4.701	Si
503 Prosp.A	Verticale	SLU 83	-289.38	966	-1686.56	5630	5.8281	Si
119 Prosp.A	Verticale	SLV 11	248.4	5126	1494.53	30838	6.0166	Si
119 Prosp.A	Verticale	SLU 84	-175.23	5736	-1083.66	35472	6.1841	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
500 Prosp.A	Verticale	SLD 2	-97.17	3589	-549.43	20293	5.6541	Si
503 Prosp.A	Verticale	SLD 15	-253.24	840	-1688.62	5598	6.668	Si
500 Prosp.A	Verticale	SLD 11	153.53	2224	1025.92	14859	6.6821	Si
119 Prosp.A	Verticale	SLD 2	-122.81	5269	-878.88	37710	7.1562	Si
97 Prosp.A	Verticale	SLD 2	-116.98	5734	-876.99	42985	7.4969	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
500 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLU 84	2028	-1896	62.8	4393	17640	0	4393	2.5	0.0003326	2.1662	Si
119 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLU 84	2028	-1896	62.8	7587	30695	0	7587	2.5	0.0005986	3.7411	Si
119 Prosp.A	Orizzontale	0.157	0.68	Non necessaria	0	SLU 84	-1842	-10378	-484.83	7977	24567	0	7977	2.5	0.0007917	4.3318	Si
503 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 12	893	1097	123.15	4167	17406	0	4167	2.5	0.0003325	4.6669	Si
97 Prosp.A	Verticale	0.159	1	Non necessaria	0	SLU 84	-1663	4162	-48.66	8334	34813	0	8334	2.5	0.0006651	5.0115	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
500 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 10	1529	-3565	-33.21	4592	17846	0	4592	2.5	0.0003326	3.0029	Si
119 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 6	1588	-5074	-39.83	7966	31087	0	7966	2.5	0.0005986	5.0167	Si
119 Prosp.A	Orizzontale	0.157	0.68	Non necessaria	0	SLD 6	-1336	-8160	-400.45	7717	24297	0	7717	2.5	0.0007917	5.7761	Si
97 Prosp.A	Verticale	0.159	1	Non necessaria	0	SLD 2	-1304	4333	-23.26	8334	34813	0	8334	2.5	0.0006651	6.391	Si
503 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 12	640	900	97.25	4167	17406	0	4167	2.5	0.0003325	6.5055	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
119 Prosp.A	Orizzontale	SLE QP 2	-322.38	-6863	No	-103773	1120500	15	10.7977	Si
120 Prosp.A	Orizzontale	SLE QP 2	-456.83	-9357	No	-102145	1120500	15	10.9697	Si
121 Prosp.A	Orizzontale	SLE QP 2	-422.83	-8650	No	-94499	1120500	15	11.8573	Si
122 Prosp.A	Orizzontale	SLE QP 2	-313.76	-4588	No	-87909	1120500	15	12.7461	Si
119 Prosp.A	Orizzontale	SLE RA 21	-355.91	-7596	No	-114685	1494000	15	13.027	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
500 Prosp.A	Verticale	SLE RA 21	-98.12	3043	No	650932	36000000	15	55.3053	Si
503 Prosp.A	Verticale	SLE RA 20	-212.49	711	No	607873	36000000	15	59.2229	Si
119 Prosp.A	Verticale	SLE RA 21	-128.22	4228	No	504401	36000000	15	71.3718	Si
97 Prosp.A	Verticale	SLE RA 21	-126.32	4206	No	438677	36000000	15	82.0649	Si
501 Prosp.A	Verticale	SLE RA 20	107.86	1452	No	429447	36000000	15	83.8288	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
21 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
99 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
99 Prosp.A	Verticale	0.2	0.012	0.02	Si
100 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
100 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
21 Prosp.A	Orizzontale	0.1	0.3	Si
99 Prosp.A	Orizzontale	0.1	0.3	Si
99 Prosp.A	Verticale	0.1	0.3	Si
100 Prosp.A	Orizzontale	0.1	0.3	Si
100 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

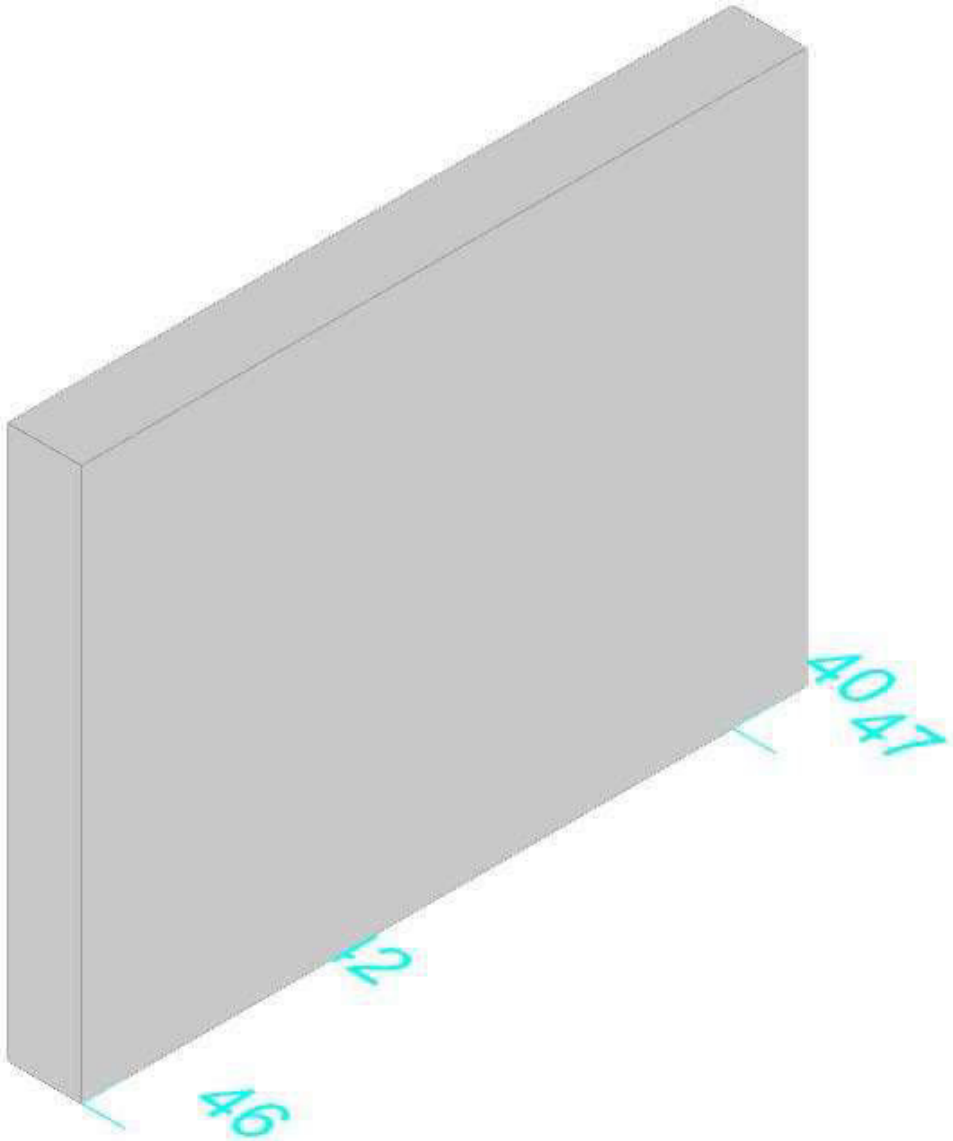
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
503 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
100 Prosp.A	Verticale	0.2	0.00133	0.0004	0.2	Si
24 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
500 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
97 Prosp.A	Verticale	0.2	0.00133	0.0004	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
499 Prosp.A	Verticale	0.5	0.2	0.000331	0.000379	0.041	0.041
118 Prosp.A	Verticale	0.875	0.2	0.000588	0.000673	0.041	0.041
125 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
118 Prosp.A	Orizzontale	0.6	0.2	0.000679	0.000679	0.0439	0.0439
125 Prosp.A	Verticale	0.875	0.2	0.001018	0.001018	0.041	0.041
129 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
127 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
131 Prosp.A	Orizzontale	0.7444	0.2	0.000905	0.000905	0.0432	0.0432

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
499 Prosp.A	Verticale	SLV 10	260.81	13077	439.14	22019	1.6838	Si
118 Prosp.A	Verticale	SLV 10	260.81	13077	780.65	39143	2.9932	Si
125 Prosp.A	Orizzontale	SLV 6	672.78	13362	2826.77	56140	4.2016	Si
499 Prosp.A	Verticale	SLV 2	-151.38	4554	-712.76	21441	4.7084	Si
118 Prosp.A	Orizzontale	SLV 6	249.92	8135	1222.83	39802	4.8928	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
499 Prosp.A	Verticale	SLD 10	213.32	10495	446.02	21943	2.0909	Si

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
118 Prosp.A	Verticale	SLD 10	213.32	10495	792.89	39007	3.7169	Si
125 Prosp.A	Orizzontale	SLD 6	516.12	10294	2820	56245	5.4638	Si
499 Prosp.A	Verticale	SLD 2	-129.21	3909	-709.72	21474	5.4929	Si
118 Prosp.A	Orizzontale	SLD 6	186.63	6450	1169.88	40431	6.2683	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
125 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLV 2	6372	6822	774.79	9947	34813	0	9947	2.5	0.001131	1.5611	Si
499 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 6	-1282	17113	222.51	4159	17406	0	4159	2.5	0.0003307	3.2432	Si
131 Prosp.A	Orizzontale	0.157	0.744	Non necessaria	0	SLV 15	-1710	-7945	-251.57	8450	26530	0	8450	2.5	0.0009048	4.9404	Si
127 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLV 2	2029	-3013	1017.59	10306	35184	0	10306	2.5	0.001131	5.0796	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
118 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLD 2	5098	3636	170.85	5896	20511	0	5896	2.5	0.0006786	1.1566	Si
125 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLD 2	5257	5905	571.86	9947	34813	0	9947	2.5	0.001131	1.8922	Si
499 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 6	-1056	14308	181.11	4159	17406	0	4159	2.5	0.0003307	3.9399	Si
131 Prosp.A	Orizzontale	0.157	0.744	Non necessaria	0	SLD 15	-1275	-7269	-123.43	8371	26448	0	8371	2.5	0.0009048	6.5632	Si
127 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLD 2	1547	-3618	761.87	10378	35259	0	10378	2.5	0.001131	6.7082	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
125 Prosp.A	Verticale	SLE QP 2	272.12	-8466	No	-80649	1120500	15	13.8936	Si
129 Prosp.A	Orizzontale	SLE QP 2	204.53	-10438	No	-70681	1120500	15	15.8528	Si
125 Prosp.A	Verticale	SLE RA 21	296.24	-9306	No	-88231	1494000	15	16.9328	Si
127 Prosp.A	Orizzontale	SLE QP 2	315.2	-4495	No	-59379	1120500	15	18.8702	Si
131 Prosp.A	Orizzontale	SLE QP 2	145.15	-6057	No	-59225	1120500	15	18.9193	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
499 Prosp.A	Verticale	SLE RA 21	162.49	7713	No	1443598	36000000	15	24.9377	Si
118 Prosp.A	Verticale	SLE RA 21	162.49	7713	No	823721	36000000	15	43.7041	Si
125 Prosp.A	Orizzontale	SLE RA 21	307.21	6695	No	775708	36000000	15	46.4092	Si
118 Prosp.A	Orizzontale	SLE RA 21	106.99	4580	No	693037	36000000	15	51.9452	Si
499 Prosp.A	Verticale	SLE RA 21	-98.64	3017	No	640424	36000000	15	56.2128	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
20 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
105 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
105 Prosp.A	Verticale	0.2	0.012	0.02	Si
107 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
107 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
20 Prosp.A	Orizzontale	0.1	0.3	Si
105 Prosp.A	Orizzontale	0.1	0.3	Si
105 Prosp.A	Verticale	0.1	0.3	Si
107 Prosp.A	Orizzontale	0.1	0.3	Si
107 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

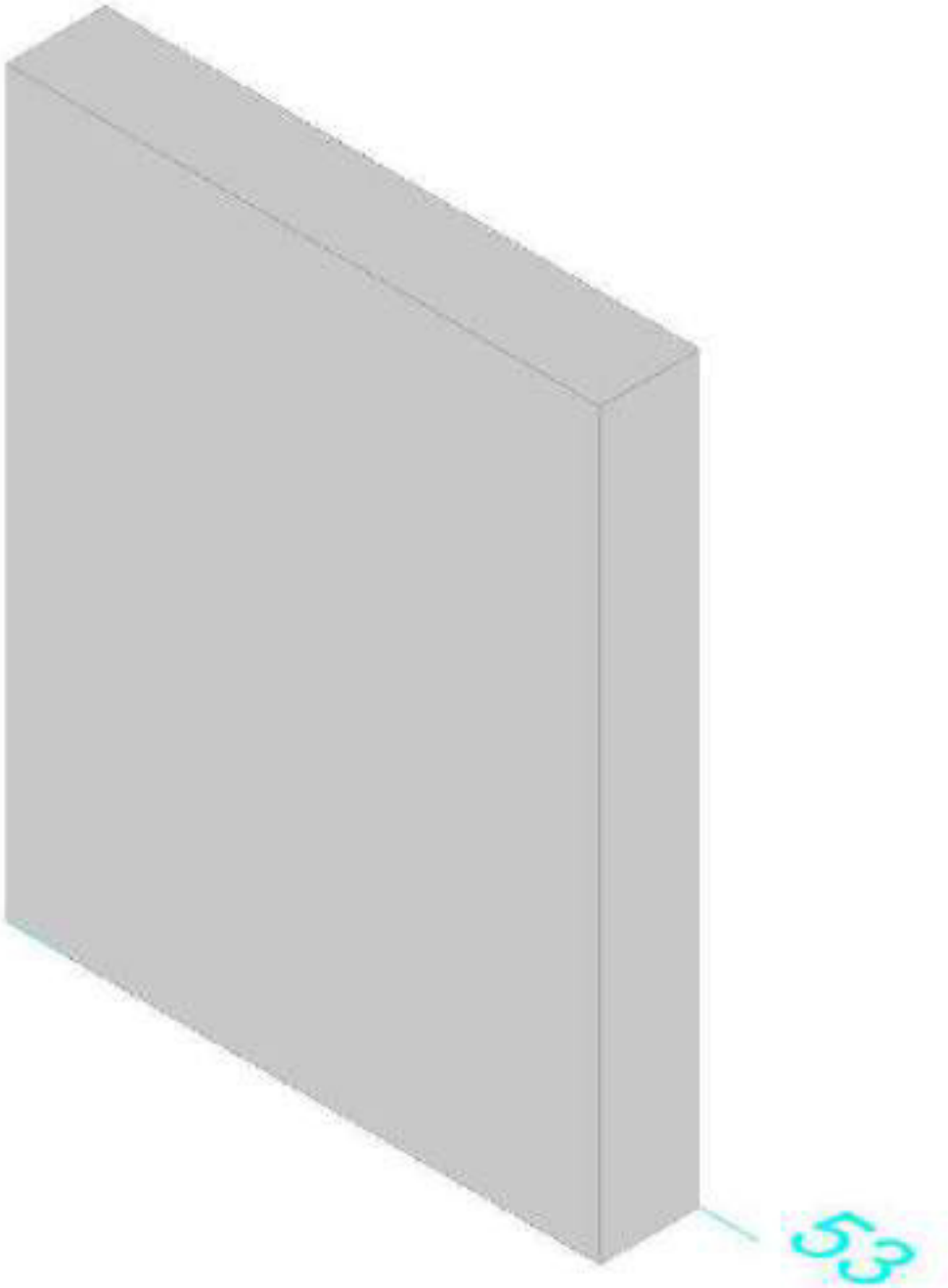
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
499 Prosp.A	Verticale	0.1	0.000709	0.0002	0.2	Si
118 Prosp.A	Verticale	0.175	0.001261	0.00035	0.2	Si
74 Prosp.A	Verticale	0.175	0.00134	0.00035	0.2	Si
20 Prosp.A	Verticale	0.1	0.000788	0.0002	0.2	Si
96 Prosp.A	Verticale	0.2	0.001576	0.0004	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
136 Prosp.A	Verticale	0.875	0.2	0	0.000758	0	0.041
133 Prosp.A	Verticale	0.875	0.2	0.000647	0.000791	0.041	0.041
634 Prosp.A	Verticale	0.5	0.2	0.000325	0.000446	0.041	0.041
134 Prosp.A	Verticale	0.875	0.2	0.001018	0.001018	0.041	0.041
633 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041
135 Prosp.A	Verticale	0.875	0.2	0.001018	0.001018	0.041	0.041
136 Prosp.A	Orizzontale	0.6527	0.2	0.000792	0.000792	0.0435	0.0435
134 Prosp.A	Orizzontale	0.9987	0.2	0.001131	0.001131	0.0427	0.0427
135 Prosp.A	Orizzontale	0.9132	0.2	0.001131	0.001131	0.0427	0.0427
133 Prosp.A	Orizzontale	0.701	0.2	0.000858	0.000858	0.0433	0.0433
631 Prosp.A	Verticale	0.5	0.2	0.000373	0.000373	0.041	0.041

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
136 Prosp.A	Verticale	SLV 11	878.97	-3741	1109.64	-4722	1.2624	Si
133 Prosp.A	Verticale	SLV 8	491.09	5332	2319.47	25183	4.7231	Si
634 Prosp.A	Verticale	SLV 6	-240.81	4325	-1156.25	20766	4.8016	Si
134 Prosp.A	Verticale	SLV 8	624.56	7801	3191.85	39866	5.1105	Si
633 Prosp.A	Verticale	SLV 11	-700.45	-1351	-3592.05	-6928	5.1282	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
136 Prosp.A	Verticale	SLD 11	597.98	-2609	1119.99	-4887	1.873	Si
133 Prosp.A	Verticale	SLD 8	381.71	3878	2381.8	24199	6.2399	Si
135 Prosp.A	Verticale	SLD 8	430.81	7043	2810.28	45941	6.5232	Si
134 Prosp.A	Verticale	SLD 8	477.35	5833	3222.25	39374	6.7503	Si
633 Prosp.A	Verticale	SLD 11	-494.55	-813	-3523.24	-5793	7.1241	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
633 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	4315	-916	-695.66	5083	17519	0	5083	2.5	0.0005655	1.1779	Si
136 Prosp.A	Verticale	0.18	0.875	Non necessaria	0	SLV 11	3687	-2066	697.65	8059	34773	0	8059	2.5	0	2.1858	Si
134 Prosp.A	Orizzontale	0.157	0.999	Non necessaria	0	SLV 7	4978	-14860	1392.79	11619	36204	0	11619	2.5	0.001131	2.334	Si
136 Prosp.A	Orizzontale	0.157	0.653	Non necessaria	0	SLV 7	3403	-12612	470.48	8057	23900	0	8057	2.5	0.0007917	2.3676	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
634 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	-3884	-7614	357.6	5041	18346	0	5041	2.5	0.0003246	1.2982	Si
633 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	2719	-401	-488.02	5021	17456	0	5021	2.5	0.0005655	1.8466	Si
136 Prosp.A	Orizzontale	0.157	0.653	Non necessaria	0	SLD 7	2738	-9856	342.75	7734	23566	0	7734	2.5	0.0007917	2.8246	Si
134 Prosp.A	Orizzontale	0.157	0.999	Non necessaria	0	SLD 7	3940	-12910	1043.2	11389	35966	0	11389	2.5	0.001131	2.8907	Si
135 Prosp.A	Orizzontale	0.157	0.913	Non necessaria	0	SLD 7	3509	-13371	713.58	10872	33079	0	10872	2.5	0.001131	3.0984	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
136 Prosp.A	Orizzontale	SLE QP 2	504.32	-6933	No	-143458	1120500	15	7.8107	Si
134 Prosp.A	Orizzontale	SLE QP 2	677.42	-11191	No	-134960	1120500	15	8.3025	Si
135 Prosp.A	Orizzontale	SLE QP 2	663.37	-9004	No	-133580	1120500	15	8.3883	Si
133 Prosp.A	Orizzontale	SLE QP 2	455.97	-7259	No	-126503	1120500	15	8.8575	Si
631 Prosp.A	Verticale	SLE QP 2	210.85	-6923	No	-118896	1120500	15	9.4242	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
135 Prosp.A	Verticale	SLE RA 20	264.61	5649	No	751802	36000000	15	47.8849	Si
134 Prosp.A	Verticale	SLE RA 20	294.16	3363	No	622939	36000000	15	57.7905	Si
633 Prosp.A	Verticale	SLE RA 20	-215.3	109	No	499603	36000000	15	72.0572	Si
133 Prosp.A	Verticale	SLE RA 20	248.69	2033	No	494898	36000000	15	72.7422	Si
631 Prosp.A	Verticale	SLE RA 2	198.65	-6540	No	-410072	36000000	15	87.7894	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
61 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
113 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
113 Prosp.A	Verticale	0.2	0.012	0.02	Si
114 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
114 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
61 Prosp.A	Orizzontale	0.1	0.3	Si
113 Prosp.A	Orizzontale	0.1	0.3	Si
113 Prosp.A	Verticale	0.1	0.3	Si
114 Prosp.A	Orizzontale	0.1	0.3	Si
114 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
136 Prosp.A	Verticale	0.175	0.000758	0.00035	0.2	Si
631 Prosp.A	Verticale	0.1	0.000746	0.0002	0.2	Si
634 Prosp.A	Verticale	0.1	0.000771	0.0002	0.2	Si
133 Prosp.A	Verticale	0.175	0.001438	0.00035	0.2	Si
111 Prosp.A	Verticale	0.2	0.001839	0.0004	0.2	Si

Verifiche generali

1.4 Verifiche piastre C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

Nodo: indice del nodo di verifica.
Dir.: direzione della sezione di verifica.
B: base della sezione rettangolare di verifica. [m]
H: altezza della sezione rettangolare di verifica. [m]
A. sup.: area barre armatura superiori. [m²]
C. sup.: distanza media delle barre superiori dal bordo superiore della sezione. [m]
A. inf.: area barre armatura inferiori. [m²]
C. inf.: distanza media delle barre inferiori dal bordo inferiore della sezione. [m]
Comb.: combinazione di verifica.
*M: momento flettente. [daN*m]*
N: sforzo normale. [daN]
*Mu: momento flettente ultimo. [daN*m]*
Nu: sforzo normale ultimo. [daN]
c.s.: coefficiente di sicurezza.
Verifica: stato di verifica.
σc: tensione nel calcestruzzo. [daN/m²]
σlim: tensione limite. [daN/m²]
Es/Ec: coefficiente di omogenizzazione.
σf: tensione nell'acciaio d'armatura. [daN/m²]
Comb.: combinazione.
Fh: componente orizzontale del carico. [daN]
Fv: componente verticale del carico. [daN]
Cnd: resistenza valutata a breve o lungo termine (BT - LT).
Ad: adesione di progetto. [daN/m²]
Phi: angolo di attrito di progetto. [deg]
RPl: resistenza passiva laterale unitaria di progetto. [daN/m²]
γR: coefficiente parziale sulla resistenza di progetto.
Rd: resistenza alla traslazione di progetto. [daN]
Ed: azione di progetto. [daN]
Rd/Ed: coefficiente di sicurezza allo scorrimento.
ID: indice della verifica di capacità portante.
Fx: componente lungo x del carico. [daN]
Fy: componente lungo y del carico. [daN]
Fz: componente verticale del carico. [daN]
*Mx: componente lungo x del momento. [daN*m]*
*My: componente lungo y del momento. [daN*m]*
ix: inclinazione del carico in x. [deg]
iy: inclinazione del carico in y. [deg]
ex: eccentricità del carico in x. [m]
ey: eccentricità del carico in y. [m]
B': larghezza efficace. [m]
L': lunghezza efficace. [m]
C: coesione di progetto. [daN/m²]
Qs: sovraccarico laterale da piano di posa. [daN/m²]
Rd: resistenza alla rottura del complesso di progetto. [daN]
Ed: azione di progetto (sforzo normale al piano di posa). [daN]
Rd/Ed: coefficiente di sicurezza alla capacità portante.
N:
Nq: fattore di capacità portante per il termine di sovraccarico.
Nc: fattore di capacità portante per il termine coesivo.
Ng: fattore di capacità portante per il termine attritivo.
S:
Sq: fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.
Sc: fattore correttivo di capacità portante per forma (shape), per il termine coesivo.
Sg: fattore correttivo di capacità portante per forma (shape), per il termine attritivo.
D:
Dq: fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.
Dc: fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.
Dg: fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.
I:
Iq: fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.
Ic: fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.
Ig: fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.
B:
Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.
Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.
Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.
G:
Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.
Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.
Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.
P:

Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.
Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.
Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.
E:
Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.
Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.
Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.
εsm: deformazione unitaria media delle barre di armatura.
Δmax: distanza massima tra le fessure. [m]
Wd: valore di calcolo di apertura delle fessure. [m]

Platea 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-17.056; -4.784; -1.95), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
149	Y	0.5	0.45	0.000283	0.036	0.00078	0.041	SLD 9	-4003.28	0	-4127.35	0	1.031	Si
312	X	0.96	0.45	0.001108	0.048	0.00112	0.048	SLD 5	13931.91	0	15529.11	0	1.1146	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
314	X	0.5	0.45	0.000602	0.048	0.000558	0.048	SLE QP 2	8535.63	0	-836581	1120500	15	Si
314	X	0.5	0.45	0.000602	0.048	0.000558	0.048	SLE RA 21	9435.42	0	-924771	1494000	15	Si
149	X	0.5	0.45	0.000614	0.048	0.000822	0.048	SLE QP 2	-6342.03	0	-579691	1120500	15	Si
312	X	0.96	0.45	0.001108	0.048	0.00112	0.048	SLE QP 2	11295.92	0	-568631	1120500	15	Si
279	X	0.5	0.45	0.000602	0.048	0.000636	0.048	SLE QP 2	5896.99	0	-548567	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
149	X	0.5	0.45	0.000614	0.048	0.000822	0.048	SLE RA 21	-7035.33	0	31227060	36000000	15	Si
312	X	0.96	0.45	0.001108	0.048	0.00112	0.048	SLE RA 21	12474.56	0	30296734	36000000	15	Si
196	X	0.5	0.45	0.000539	0.048	0.000557	0.048	SLE RA 21	-5900.8	0	29687687	36000000	15	Si
279	X	0.5	0.45	0.000602	0.048	0.000636	0.048	SLE RA 21	6519.76	0	27951621	36000000	15	Si

Verifiche SLE fessurazione nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	εsm	Δmax	Wd	Es/Ec	Verifica
196	X	0.5	0.45	0.000539	0.048	0.000557	0.048	SLE QP 2	-5304.21	0	0.00078	0.345	0.000268	15	Si
312	X	0.96	0.45	0.001108	0.048	0.00112	0.048	SLE QP 2	11295.92	0	0.0008	0.332	0.000265	15	Si
149	X	0.5	0.45	0.000614	0.048	0.000822	0.048	SLE QP 2	-6342.03	0	0.00082	0.317	0.00026	15	Si

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -15.4; -4; -2.4
Lato minore B dell'impronta: 1.5
Lato maggiore L dell'impronta: 3.3

Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 8	509	-42259	LT	0	19	0	1.1	12854	509	25.24	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m
Peso specifico efficace del terreno di progetto γs: 2060 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.18

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	462	488	-66698	1675.15	1186.6	0	0	0.02	0.03	1.45	3.26	LT	0	37	0	2.3	162528	66698	2.44	Si
2	SLV FO 9	3538	-6835	-92292	7816.27	2982.04	2	-4	0.03	0.08	1.33	3.23	LT	0	37	0	2.3	108600	92292	1.18	Si
3	SLD 9	2145	-3463	-70015	4665.3	2019.38	2	-3	0.03	0.07	1.37	3.23	LT	0	37	0	2.3	125558	70015	1.79	Si

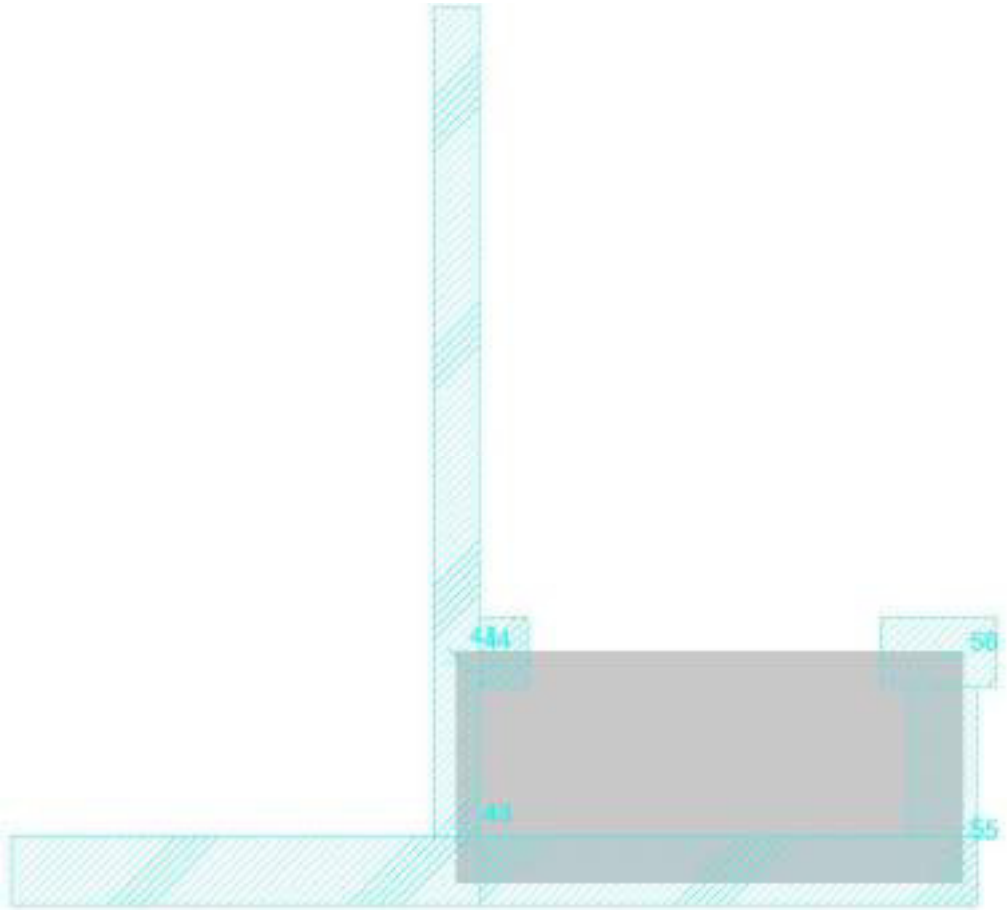
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.34	1.34	0.82	1	1	1	0.98	0.98	0.97	1	1	1	1	1	1	1	1	1	1	1	1
2	43	56	66	1.31	1.32	0.84	1	1	1	0.87	0.87	0.8	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	43	56	66	1.32	1.33	0.83	1	1	1	0.91	0.91	0.86	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

Platea 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.013; -4.784; -1.95), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
243	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLV FO 6	12141.01	0	16151.77	0	1.3303	Si
150	Y	0.5	0.45	0.000622	0.049	0.000614	0.045	SLV FO 6	6248.78	0	8314.26	0	1.3305	Si
199	Y	0.875	0.45	0.00106	0.049	0.001056	0.045	SLV FO 6	10656.22	0	14719.47	0	1.3813	Si
348	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLV FO 10	-5489.62	0	-8385.71	0	1.5276	Si
199	X	0.5	0.45	0.000487	0.048	0.001055	0.048	SLV FO 6	-4319.36	0	-6827.16	0	1.5806	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
243	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLD 6	9194.64	0	16151.77	0	1.7566	Si
150	Y	0.5	0.45	0.000622	0.049	0.000614	0.045	SLD 6	4587.51	0	8314.26	0	1.8124	Si
199	Y	0.875	0.45	0.00106	0.049	0.001056	0.045	SLD 6	7912.92	0	14719.47	0	1.8602	Si
322	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLD 5	4464.37	0	8372.76	0	1.8755	Si
348	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLD 10	-4048.94	0	-8385.71	0	2.0711	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
322	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE QP 2	3653.08	0	-187676	1120500	15	Si
320	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE QP 2	4634.6	0	-156970	1120500	15	Si
322	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4015.76	0	-206308	1494000	15	Si
243	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLE QP 2	5813.51	0	-150623	1120500	15	Si
199	Y	0.875	0.45	0.00106	0.049	0.001056	0.045	SLE QP 2	4747.12	0	-139586	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
322	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4015.76	0	2436427	36000000	15	Si
243	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLE RA 21	6421.75	0	2091598	36000000	15	Si
320	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE RA 21	5091.05	0	2033400	36000000	15	Si
199	Y	0.875	0.45	0.00106	0.049	0.001056	0.045	SLE RA 21	5248.06	0	1942263	36000000	15	Si
150	Y	0.5	0.45	0.000622	0.049	0.000614	0.045	SLE RA 21	2947.13	0	1904354	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -9.4; -4; -2.4
Lato minore B dell'impronta: 1.5
Lato maggiore L dell'impronta: 3.3
Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 6	794	-41614	LT	0	19	0	1.1	12658	794	15.94	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m
Peso specifico efficace del terreno di progetto γs: 2060 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.22

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	-2	1087	-65106	1165.91	124.7	0	1	0	0.02	1.46	3.29	LT	0	37	0	2.3	164012	65106	2.52	Si
2	SLV FO 6	-2928	-6824	-90120	7557.81	-1267.64	-2	-4	-0.01	0.08	1.33	3.26	LT	0	37	0	2.3	110350	90120	1.22	Si
3	SLD 6	-1682	-3266	-68415	4366.07	-700.8	-1	-3	-0.01	0.06	1.37	3.27	LT	0	37	0	2.3	129571	68415	1.89	Si

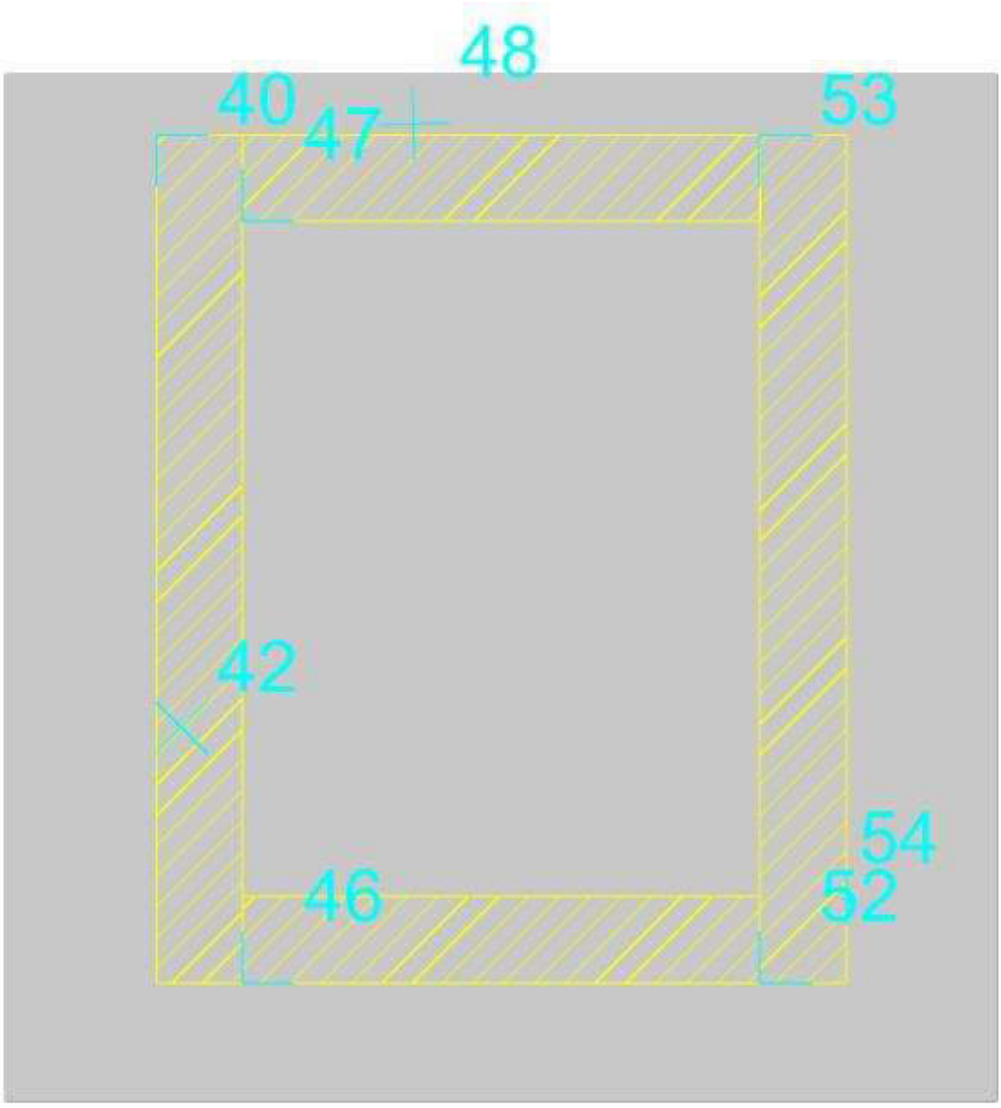
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.34	1.34	0.82	1	1	1	0.97	0.97	0.96	1	1	1	1	1	1	1	1	1	1	1	1
2	43	56	66	1.31	1.32	0.84	1	1	1	0.87	0.86	0.8	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	43	56	66	1.32	1.32	0.83	1	1	1	0.91	0.91	0.87	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

Platea a "Fondazione ascensore"

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.413; -1.219; -3.45), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
71	X	1	0.3	0.000565	0.048	0.000754	0.048	SLU 83	1122.07	0	7255.81	0	6.4665	Si
70	X	1	0.3	0.000565	0.048	0.000754	0.048	SLU 83	1112.96	0	7255.81	0	6.5194	Si
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 84	1498	0	12567.22	0	8.3894	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 84	1463.23	0	12568.71	0	8.5897	Si
35	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 84	1428.24	0	12568.71	0	8.8001	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
71	X	1	0.3	0.000565	0.048	0.000754	0.048	SLD 7	783.19	0	6573.28	0	8.393	Si
70	X	1	0.3	0.000565	0.048	0.000754	0.048	SLD 7	767.08	0	6573.28	0	8.5693	Si
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 10	1168.19	0	11538.06	0	9.8769	Si
25	Y	0.875	0.3	0.000947	0.036	0.001112	0.036	SLD 9	942.76	0	10013.31	0	10.6212	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 9	1087.62	0	11552.33	0	10.6217	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	997.77	0	-55226	1120500	15	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	974.59	0	-53942	1120500	15	Si
35	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	951.47	0	-52662	1120500	15	Si
27	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	927.53	0	-51338	1120500	15	Si
25	Y	0.875	0.3	0.000947	0.036	0.001112	0.036	SLE QP 2	787.63	0	-50171	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1098.02	0	682652	36000000	15	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1072.09	0	666531	36000000	15	Si
35	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1047.04	0	650957	36000000	15	Si
27	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1020.98	0	634757	36000000	15	Si
25	Y	0.875	0.3	0.000947	0.036	0.001112	0.036	SLE RA 21	867.1	0	620377	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -10.3; 0; -3.8
Lato minore B dell'impronta: 2.3
Lato maggiore L dell'impronta: 2.4
Area dell'impronta rettangolare di calcolo: 5.5

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 2.48

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 43	2305	-52622	LT	0	19	0	1.1	16007	2305	6.95	Si
SLV FO 2	5665	-46139	LT	0	19	0	1.1	14035	5665	2.48	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 2.1 m
Peso specifico efficace del terreno di progetto γs: 2046 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.64

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	-1888	1983	-67609	546.15	380.78	-2	2	0.01	0.01	2.29	2.36	LT	0	34	0	2.3	116870	67609	1.73	Si
2	SLV FO 6	-4328	-999	-52747	6192.7	-336	-5	-1	-0.01	0.12	2.15	2.29	LT	0	34	0	2.3	86654	52747	1.64	Si
3	SLD 6	-2956	136	-49357	3456.36	-100.27	-3	0	0	0.07	2.24	2.3	LT	0	34	0	2.3	101166	49357	2.05	Si

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	28	41	38	1.64	1.67	0.61	1	1	1	0.94	0.94	0.9	1	1	1	1	1	1	1	1	1	1	1	1
2	28	41	38	1.62	1.65	0.62	1	1	1	0.88	0.87	0.8	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	28	41	38	1.65	1.67	0.61	1	1	1	0.91	0.91	0.86	1	1	1	1	1	1	1	1	1	0.98	0.99	0.98

1.5 Verifica sismica globale

Le unità di misura elencate nel capitolo sono in [m] ove non espressamente specificato.

Desc.: *descrizione.*
Stato limite: *(muratura) V=Taglio; PF=Pressoflessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.*
Molt.: *moltiplicatore minimo della azione sismica che produce lo stato limite.*
Comb.: *combinazione.*
PGA: *accelerazione al suolo.*
iPGA (ζE): *indicatore di rischio sismico in termini di PGA ovvero rapporto tra l'azione sismica massima sopportabile dall'elemento e l'azione sismica massima che si utilizzerebbe nel progetto nuovo (§C8.3).*
TR: *tempo di ritorno.*
(TR/TRrif)^.41: *indicatore di rischio sismico in termini di periodo di ritorno.*
fa: *fattore di accelerazione.*
Stato limite: *(muratura) V=Taglio; PF=Presso flessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.*
Coeff.s.: *coefficiente minimo prodotto dallo stato limite.*
Verifica: *stato di verifica.*
Trave: *titolo della trave.*
Pressoflessione: *dati della verifica a pressoflessione.*
Coeff.s.: *coefficiente di sicurezza a flessione.*
iTR: *indicatore di rischio sismico in termini di tempo di ritorno.*
campata: *campata di riferimento.*
dist.: *ascissa relativa all'inizio della campata. [m]*
Taglio: *dati della verifica a taglio.*
Coeff.s.: *coefficiente di sicurezza a taglio.*
Maschio: *maschio.*

***Stato limite**: (maschio muratura) V=Taglio; PF=Presso flessione; PFFP=Presso flessione fuori piano; R=Ribaltamento.*
***Trave**: trave di collegamento in muratura.*
***Stato limite**: (trave muratura) V=Taglio; F=Flessione.*
***S. L.**: stato limite di riferimento.*
***TR,C**: periodo di ritorno di capacità.*
***PGA,C**: accelerazione di aggancio di capacità.*
***TR,Rif**: periodo di ritorno di riferimento.*
***PGA,Rif**: accelerazione di aggancio di riferimento.*
***Tipo rottura**: tipo di rottura che fornisce il valore minimo degli elementi considerati.*
***PAM**: perdita media annua attesa.*
***Classe PAM**: classe di rischio PAM.*
***IS-V**: indice di sicurezza.*
***Classe IS-V**: classe di rischio IS-V.*
***λ,SLR**: frequenza media annua di superamento in Stato Limite di Ricostruzione.*
***λ,SLC**: frequenza media annua di superamento in Stato Limite di Collasso.*
***λ,SLV**: frequenza media annua di superamento in Stato Limite di salvaguardia della Vita.*
***λ,SLD**: frequenza media annua di superamento in Stato Limite di Danno.*
***λ,SLO**: frequenza media annua di superamento in Stato Limite di Operatività.*
***λ,SLID**: frequenza media annua di superamento in Stato Limite di Inizio Danno.*

Verifica di elementi dotati di indicatori di rischio sismico mediante analisi con fattore q

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.) § C8.7.1

Accelerazioni e tempi di ritorno

Accelerazione di aggancio SLO (ag/g_SLO*S*ST) PGA,SLOrif = 0.081
Accelerazione di aggancio SLD (ag/g_SLD*S*ST) PGA,SLDrif = 0.101
Accelerazione di aggancio SLV (ag/g_SLV*S*ST) PGA,SLVrif = 0.244
Tr,SLOrif = 30 anni
Tr,SLDrif = 50 anni
Tr,SLVrif = 475 anni

Moltiplicatori minimi delle condizioni sismiche

(Il valore di ζE corrisponde al valore di I.R. PGA secondo quanto riportato nella Circolare 7 21-01-19 §C8.3)

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	fa
Maschio 240	PF	0.115	SLV 9	0.0309	0.1266	3	0.1254	0.1232
Maschio 129	V	0.602	SLV 7	0.1501	0.6145	138	0.6024	0.6135
Maschio 230	PFFP	0.266	SLV 5	0.0714	0.2921	23	0.289	0.2895
Maschio 285	R	0.616	SLV 13	0.146	0.5978	129	0.586	0.5958
Trave di accoppiamento 170	PF	0.592	SLV 10	0.1476	0.6041	133	0.5934	0.6038
Trave di accoppiamento 64	V	0.227	SLV 14	0.0534	0.2184	11	0.2136	0.2124

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	7.964	SLU 78	Si
Maschio 1	V SLU	55.247	SLU 34	Si
Maschio 1	PF	1.132	SLV 12	Si
Maschio 1	V	1.391	SLV 12	Si
Maschio 1	PFFP	14.122	SLV 12	Si
Maschio 1	R	1.93	SLV 1	Si
Maschio 2	PF SLU	3.48	SLU 47	Si
Maschio 2	V SLU	32.769	SLU 77	Si
Maschio 2	PF	0	SLV 9	No
Maschio 2	V	2.432	SLV 9	Si
Maschio 2	PFFP	0	SLV 10	No
Maschio 2	R	2.149	SLV 8	Si
Maschio 3	PF SLU	11.162	SLU 48	Si
Maschio 3	V SLU	2.824	SLU 77	Si
Maschio 3	PF	0	SLV 9	No
Maschio 3	V	1.872	SLV 8	Si
Maschio 3	PFFP	0	SLV 10	No
Maschio 3	R	2.316	SLV 8	Si
Maschio 4	PF SLU	4.466	SLU 48	Si
Maschio 4	V SLU	5.753	SLU 83	Si
Maschio 4	PF	0.804	SLV 9	No
Maschio 4	V	3.775	SLV 16	Si
Maschio 4	PFFP	4.784	SLV 9	Si
Maschio 4	R	2.224	SLV 8	Si
Maschio 6	PF SLU	8.426	SLU 76	Si
Maschio 6	V SLU	14.522	SLU 52	Si
Maschio 6	PF	1.103	SLV 9	Si
Maschio 6	V	2.139	SLV 5	Si
Maschio 6	PFFP	33.973	SLV 9	Si
Maschio 6	R	1.703	SLV 8	Si
Maschio 8	PF SLU	14.751	SLU 31	Si
Maschio 8	V SLU	2.125	SLU 84	Si
Maschio 8	PF	0	SLV 11	No
Maschio 8	V	1.474	SLV 9	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 8	PFFP	0	SLV 12	No
Maschio 8	R	3.653	SLV 5	Si
Maschio 9	PF SLU	2.307	SLU 69	Si
Maschio 9	V SLU	3.082	SLU 84	Si
Maschio 9	PF	1.809	SLV 13	Si
Maschio 9	V	1.864	SLV 13	Si
Maschio 9	PFFP	1.533	SLV 12	Si
Maschio 9	R	2.34	SLV 5	Si
Maschio 12	PF SLU	4.229	SLU 81	Si
Maschio 12	V SLU	14.705	SLU 76	Si
Maschio 12	PF	2.318	SLV 12	Si
Maschio 12	V	1.832	SLV 5	Si
Maschio 12	PFFP	21.563	SLV 12	Si
Maschio 12	R	2.814	SLV 5	Si
Maschio 13	PF SLU	2.812	SLU 83	Si
Maschio 13	V SLU	4.417	SLU 83	Si
Maschio 13	PF	0	SLV 9	No
Maschio 13	V	2.475	SLV 16	Si
Maschio 13	PFFP	0	SLV 10	No
Maschio 13	R	2.136	SLV 8	Si
Maschio 15	PF SLU	2.232	SLU 82	Si
Maschio 15	V SLU	2.66	SLU 84	Si
Maschio 15	PF	0	SLD 12	No
Maschio 15	V	1.765	SLV 2	Si
Maschio 15	PFFP	0	SLV 12	No
Maschio 15	R	2.781	SLV 6	Si
Maschio 16	PF SLU	10.334	SLU 82	Si
Maschio 16	V SLU	3.879	SLU 84	Si
Maschio 16	PF	1.299	SLV 9	Si
Maschio 16	V	1.759	SLV 5	Si
Maschio 16	PFFP	30.896	SLV 10	Si
Maschio 16	R	1.985	SLV 8	Si
Maschio 17	PF SLU	1.759	SLU 84	Si
Maschio 17	V SLU	6.408	SLU 78	Si
Maschio 17	PF	0	SLV 8	No
Maschio 17	V	2.419	SLV 8	Si
Maschio 17	PFFP	5.697	SLV 8	Si
Maschio 17	R	1.719	SLV 9	Si
Maschio 18	PF SLU	3.19	SLU 83	Si
Maschio 18	V SLU	2.828	SLU 77	Si
Maschio 18	PF	0.134	SLV 8	No
Maschio 18	V	0.55	SLV 8	No
Maschio 18	PFFP	0	SLV 8	No
Maschio 18	R	2.511	SLV 9	Si
Maschio 19	PF SLU	1.266	SLU 83	Si
Maschio 19	V SLU	3.376	SLU 83	Si
Maschio 19	PF	1.032	SLV 8	Si
Maschio 19	V	1.528	SLV 8	Si
Maschio 19	PFFP	24.184	SLV 8	Si
Maschio 19	R	3.163	SLV 13	Si
Maschio 21	PF SLU	11.092	SLU 70	Si
Maschio 21	V SLU	5.169	SLU 83	Si
Maschio 21	PF	2.794	SLV 14	Si
Maschio 21	V	2.933	SLV 3	Si
Maschio 21	PFFP	20.392	SLV 10	Si
Maschio 21	R	7.221	SLV 15	Si
Maschio 22	PF SLU	38.423	SLU 48	Si
Maschio 22	V SLU	14.754	SLU 48	Si
Maschio 22	PF	1.701	SLV 10	Si
Maschio 22	V	2.134	SLV 14	Si
Maschio 22	PFFP	2.452	SLV 9	Si
Maschio 22	R	1.742	SLV 7	Si
Maschio 23	PF SLU	14.073	SLU 83	Si
Maschio 23	V SLU	4.566	SLU 84	Si
Maschio 23	PF	5.18	SLV 13	Si
Maschio 23	V	3.87	SLV 14	Si
Maschio 23	PFFP	51.77	SLV 16	Si
Maschio 23	R	1.702	SLV 1	Si
Maschio 24	PF SLU	10.115	SLU 84	Si
Maschio 24	V SLU	13.888	SLU 83	Si
Maschio 24	PF	3.087	SLV 13	Si
Maschio 24	V	4.299	SLV 3	Si
Maschio 24	PFFP	74.898	SLV 16	Si
Maschio 24	R	1.639	SLV 1	Si
Maschio 26	PF SLU	3.868	SLU 84	Si
Maschio 26	V SLU	24.646	SLU 83	Si
Maschio 26	PF	1.138	SLV 4	Si
Maschio 26	V	12.651	SLV 15	Si
Maschio 26	PFFP	33.652	SLV 4	Si
Maschio 26	R	1.353	SLV 13	Si
Maschio 27	PF SLU	5.405	SLU 83	Si
Maschio 27	V SLU	4.325	SLU 84	Si
Maschio 27	PF	2.361	SLV 6	Si
Maschio 27	V	2.884	SLV 2	Si
Maschio 27	PFFP	61.374	SLV 1	Si
Maschio 27	R	2.159	SLV 14	Si
Maschio 28	PF SLU	4.97	SLU 84	Si
Maschio 28	V SLU	3.929	SLU 83	Si
Maschio 28	PF	2.35	SLV 14	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 28	V	2.677	SLV 16	Si
Maschio 28	PFFP	61.635	SLV 7	Si
Maschio 28	R	1.825	SLV 6	Si
Maschio 29	PF SLU	3.894	SLU 84	Si
Maschio 29	V SLU	14.278	SLU 83	Si
Maschio 29	PF	1.282	SLV 1	Si
Maschio 29	V	7.688	SLV 3	Si
Maschio 29	PFFP	79.908	SLV 7	Si
Maschio 29	R	1.618	SLV 2	Si
Maschio 30	PF SLU	10.423	SLU 84	Si
Maschio 30	V SLU	3.863	SLU 83	Si
Maschio 30	PF	5.681	SLV 2	Si
Maschio 30	V	3.585	SLV 3	Si
Maschio 30	PFFP	56.809	SLV 3	Si
Maschio 30	R	1.821	SLV 14	Si
Maschio 31	PF SLU	1.099	SLU 84	Si
Maschio 31	V SLU	1.985	SLU 84	Si
Maschio 31	PF	0.414	SLV 11	No
Maschio 31	V	2.574	SLV 13	Si
Maschio 31	PFFP	5.302	SLV 11	Si
Maschio 31	R	1.703	SLV 6	Si
Maschio 32	PF SLU	3.609	SLU 83	Si
Maschio 32	V SLU	2.096	SLU 83	Si
Maschio 32	PF	0.175	SLV 11	No
Maschio 32	V	0.922	SLV 11	No
Maschio 32	PFFP	36.606	SLV 11	Si
Maschio 32	R	2.591	SLV 6	Si
Maschio 33	PF SLU	8.523	SLU 82	Si
Maschio 33	V SLU	11.738	SLU 83	Si
Maschio 33	PF	2.283	SLV 7	Si
Maschio 33	V	1.805	SLV 7	Si
Maschio 33	PFFP	33.196	SLV 11	Si
Maschio 33	R	2.251	SLV 6	Si
Maschio 35	PF SLU	13.252	SLU 43	Si
Maschio 35	V SLU	2.834	SLU 83	Si
Maschio 35	PF	1.255	SLV 7	Si
Maschio 35	V	1.069	SLV 7	Si
Maschio 35	PFFP	36.109	SLV 5	Si
Maschio 35	R	1.915	SLV 14	Si
Maschio 36	PF SLU	30.89	SLU 48	Si
Maschio 36	V SLU	56.404	SLU 40	Si
Maschio 36	PF	1.428	SLV 5	Si
Maschio 36	V	2.424	SLV 14	Si
Maschio 36	PFFP	0	SLV 5	No
Maschio 36	R	1.337	SLV 12	Si
Maschio 37	PF SLU	5.399	SLU 79	Si
Maschio 37	V SLU	5.721	SLU 83	Si
Maschio 37	PF	0	SLV 5	No
Maschio 37	V	3.717	SLV 3	Si
Maschio 37	PFFP	1.577	SLV 5	Si
Maschio 37	R	2.979	SLV 7	Si
Maschio 39	PF SLU	3.343	SLU 83	Si
Maschio 39	V SLU	3.828	SLU 84	Si
Maschio 39	PF	1.399	SLV 6	Si
Maschio 39	V	1.745	SLV 10	Si
Maschio 39	PFFP	20.267	SLV 5	Si
Maschio 39	R	2.616	SLV 11	Si
Maschio 41	PF SLU	2.181	SLU 61	Si
Maschio 41	V SLU	3.849	SLU 83	Si
Maschio 41	PF	0	SLV 7	No
Maschio 41	V	1.957	SLV 13	Si
Maschio 41	PFFP	0	SLV 12	No
Maschio 41	R	2.695	SLV 9	Si
Maschio 42	PF SLU	5.562	SLU 84	Si
Maschio 42	V SLU	4.893	SLU 57	Si
Maschio 42	PF	2.417	SLV 7	Si
Maschio 42	V	2.055	SLV 13	Si
Maschio 42	PFFP	42.001	SLV 11	Si
Maschio 42	R	1.349	SLV 6	Si
Maschio 43	PF SLU	1.495	SLU 84	Si
Maschio 43	V SLU	2.077	SLU 84	Si
Maschio 43	PF	1.531	SLV 6	Si
Maschio 43	V	1.68	SLV 6	Si
Maschio 43	PFFP	42.858	SLV 8	Si
Maschio 43	R	1.937	SLV 10	Si
Maschio 44	PF SLU	2.431	SLU 83	Si
Maschio 44	V SLU	2.237	SLU 83	Si
Maschio 44	PF	1.542	SLV 11	Si
Maschio 44	V	1.196	SLV 11	Si
Maschio 44	PFFP	945.227	SLV 7	Si
Maschio 44	R	3.696	SLV 10	Si
Maschio 45	PF SLU	10.298	SLU 84	Si
Maschio 45	V SLU	2.794	SLU 83	Si
Maschio 45	PF	2.795	SLV 11	Si
Maschio 45	V	1.956	SLV 11	Si
Maschio 45	PFFP	1760.035	SLV 7	Si
Maschio 45	R	6.586	SLV 10	Si
Maschio 47	PF SLU	7.803	SLU 73	Si
Maschio 47	V SLU	14.038	SLU 83	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 47	PF	2.005	SLV 7	Si
Maschio 47	V	2.357	SLV 7	Si
Maschio 47	PFFP	23.252	SLV 7	Si
Maschio 47	R	1.959	SLV 10	Si
Maschio 48	PF SLU	8.062	SLU 73	Si
Maschio 48	V SLU	4.648	SLU 84	Si
Maschio 48	PF	0.963	SLV 6	No
Maschio 48	V	2.027	SLV 10	Si
Maschio 48	PFFP	23.751	SLV 6	Si
Maschio 48	R	1.421	SLV 11	Si
Maschio 50	PF SLU	2.577	SLU 69	Si
Maschio 50	V SLU	3.832	SLU 84	Si
Maschio 50	PF	1.812	SLV 2	Si
Maschio 50	V	1.42	SLV 4	Si
Maschio 50	PFFP	0	SLV 8	No
Maschio 50	R	2.65	SLV 10	Si
Maschio 51	PF SLU	5.065	SLU 73	Si
Maschio 51	V SLU	2.782	SLU 83	Si
Maschio 51	PF	2.794	SLV 4	Si
Maschio 51	V	1.662	SLV 6	Si
Maschio 51	PFFP	0	SLV 8	No
Maschio 51	R	4.428	SLV 10	Si
Maschio 52	PF SLU	3.319	SLU 48	Si
Maschio 52	V SLU	4.537	SLU 83	Si
Maschio 52	PF	0.244	SLV 6	No
Maschio 52	V	3.608	SLV 3	Si
Maschio 52	PFFP	3.629	SLV 6	Si
Maschio 52	R	2.377	SLV 11	Si
Maschio 53	PF SLU	7.54	SLU 48	Si
Maschio 53	V SLU	2.296	SLU 77	Si
Maschio 53	PF	0	SLV 5	No
Maschio 53	V	1.605	SLV 7	Si
Maschio 53	PFFP	0	SLV 6	No
Maschio 53	R	2.286	SLV 11	Si
Maschio 54	PF SLU	6.915	SLU 52	Si
Maschio 54	V SLU	52.449	SLU 55	Si
Maschio 54	PF	1.525	SLV 6	Si
Maschio 54	V	3.884	SLV 6	Si
Maschio 54	PFFP	21.375	SLV 2	Si
Maschio 54	R	2.44	SLV 13	Si
Maschio 55	PF SLU	9.034	SLU 52	Si
Maschio 55	V SLU	13.98	SLU 83	Si
Maschio 55	PF	1.249	SLV 9	Si
Maschio 55	V	0.649	SLV 12	No
Maschio 55	PFFP	7.283	SLV 15	Si
Maschio 55	R	1.739	SLV 1	Si
Maschio 56	PF SLU	27.242	SLU 42	Si
Maschio 56	V SLU	10.464	SLU 84	Si
Maschio 56	PF	0	SLV 5	No
Maschio 56	V	3.165	SLV 5	Si
Maschio 56	PFFP	0	SLV 10	No
Maschio 56	R	1.904	SLV 7	Si
Maschio 57	PF SLU	2.836	SLU 83	Si
Maschio 57	V SLU	2.752	SLU 83	Si
Maschio 57	PF	0	SLV 5	No
Maschio 57	V	1.749	SLV 16	Si
Maschio 57	PFFP	0	SLV 5	No
Maschio 57	R	1.428	SLV 12	Si
Maschio 58	PF SLU	2.666	SLU 81	Si
Maschio 58	V SLU	2.864	SLU 83	Si
Maschio 58	PF	0	SLV 7	No
Maschio 58	V	1.744	SLV 4	Si
Maschio 58	PFFP	0	SLV 12	No
Maschio 58	R	1.991	SLV 2	Si
Maschio 59	PF SLU	2.652	SLU 83	Si
Maschio 59	V SLU	2.761	SLU 84	Si
Maschio 59	PF	0.754	SLV 8	No
Maschio 59	V	1.921	SLV 13	Si
Maschio 59	PFFP	1.917	SLV 12	Si
Maschio 59	R	2.255	SLV 5	Si
Maschio 60	PF SLU	2.462	SLU 77	Si
Maschio 60	V SLU	4.68	SLU 77	Si
Maschio 60	PF	0.679	SLV 15	No
Maschio 60	V	1.756	SLV 13	Si
Maschio 60	PFFP	4.26	SLV 12	Si
Maschio 60	R	3.563	SLV 5	Si
Maschio 61	PF SLU	9.109	SLU 77	Si
Maschio 61	V SLU	7.461	SLU 76	Si
Maschio 61	PF	6.432	SLV 11	Si
Maschio 61	V	1.961	SLV 5	Si
Maschio 61	PFFP	5.926	SLV 9	Si
Maschio 61	R	1.165	SLV 4	Si
Maschio 62	PF SLU	2.576	SLU 84	Si
Maschio 62	V SLU	1.804	SLU 84	Si
Maschio 62	PF	0	SLD 5	No
Maschio 62	V	1.059	SLV 1	Si
Maschio 62	PFFP	0	SLV 10	No
Maschio 62	R	1.084	SLV 12	Si
Maschio 63	PF SLU	3.551	SLU 83	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 63	V SLU	6.895	SLU 83	Si
Maschio 63	PF	0.758	SLV 8	No
Maschio 63	V	2.64	SLV 4	Si
Maschio 63	PFFP	3.53	SLV 11	Si
Maschio 63	R	1.784	SLV 9	Si
Maschio 64	PF SLU	5.506	SLU 81	Si
Maschio 64	V SLU	5.849	SLU 83	Si
Maschio 64	PF	0.871	SLV 12	No
Maschio 64	V	2.434	SLV 8	Si
Maschio 64	PFFP	1.88	SLV 12	Si
Maschio 64	R	1.745	SLV 1	Si
Maschio 67	PF SLU	1.317	SLU 84	Si
Maschio 67	V SLU	3.264	SLU 84	Si
Maschio 67	PF	0	SLV 8	No
Maschio 67	V	2.643	SLV 13	Si
Maschio 67	PFFP	0	SLV 8	No
Maschio 67	R	2.343	SLV 2	Si
Maschio 71	PF SLU	6.763	SLU 83	Si
Maschio 71	V SLU	3.985	SLU 84	Si
Maschio 71	PF	2.499	SLV 10	Si
Maschio 71	V	2.129	SLV 5	Si
Maschio 71	PFFP	4.218	SLV 5	Si
Maschio 71	R	1.282	SLV 16	Si
Maschio 72	PF SLU	12.019	SLU 42	Si
Maschio 72	V SLU	6.793	SLU 84	Si
Maschio 72	PF	0	SLV 7	No
Maschio 72	V	1.848	SLV 8	Si
Maschio 72	PFFP	0	SLV 11	No
Maschio 72	R	1.644	SLV 9	Si
Maschio 73	PF SLU	30.334	SLU 19	Si
Maschio 73	V SLU	7.316	SLU 69	Si
Maschio 73	PF	0.799	SLV 8	No
Maschio 73	V	2.335	SLV 8	Si
Maschio 73	PFFP	9.258	SLV 8	Si
Maschio 73	R	1.851	SLV 9	Si
Maschio 74	PF SLU	5.595	SLU 83	Si
Maschio 74	V SLU	5.291	SLU 83	Si
Maschio 74	PF	1.357	SLV 12	Si
Maschio 74	V	1.6	SLV 8	Si
Maschio 74	PFFP	6.861	SLV 8	Si
Maschio 74	R	1.539	SLV 13	Si
Maschio 76	PF SLU	16.049	SLU 78	Si
Maschio 76	V SLU	5.194	SLU 84	Si
Maschio 76	PF	1.068	SLV 10	Si
Maschio 76	V	2.101	SLV 1	Si
Maschio 76	PFFP	3.402	SLV 10	Si
Maschio 76	R	1.203	SLV 3	Si
Maschio 77	PF SLU	25.01	SLU 83	Si
Maschio 77	V SLU	28.867	SLU 84	Si
Maschio 77	PF	2.368	SLV 5	Si
Maschio 77	V	2.883	SLV 1	Si
Maschio 77	PFFP	5.102	SLV 10	Si
Maschio 77	R	1.388	SLV 7	Si
Maschio 78	PF SLU	24.986	SLU 81	Si
Maschio 78	V SLU	60.205	SLU 43	Si
Maschio 78	PF	1.763	SLV 10	Si
Maschio 78	V	2.948	SLV 3	Si
Maschio 78	PFFP	4.331	SLV 5	Si
Maschio 78	R	1.544	SLV 12	Si
Maschio 79	PF SLU	3.767	SLU 83	Si
Maschio 79	V SLU	5.797	SLU 82	Si
Maschio 79	PF	0.6	SLV 1	No
Maschio 79	V	1.915	SLV 14	Si
Maschio 79	PFFP	3.966	SLV 1	Si
Maschio 79	R	1.234	SLV 16	Si
Maschio 80	PF SLU	42.659	SLU 84	Si
Maschio 80	V SLU	12.169	SLU 70	Si
Maschio 80	PF	5.494	SLV 16	Si
Maschio 80	V	2.612	SLV 13	Si
Maschio 80	PFFP	17.068	SLV 16	Si
Maschio 80	R	1.241	SLV 1	Si
Maschio 81	PF SLU	5.499	SLU 83	Si
Maschio 81	V SLU	12.636	SLU 83	Si
Maschio 81	PF	0.866	SLV 11	No
Maschio 81	V	4.353	SLV 15	Si
Maschio 81	PFFP	13.389	SLV 7	Si
Maschio 81	R	2.048	SLV 14	Si
Maschio 82	PF SLU	3.903	SLU 84	Si
Maschio 82	V SLU	10.778	SLU 84	Si
Maschio 82	PF	2.361	SLV 13	Si
Maschio 82	V	3.548	SLV 4	Si
Maschio 82	PFFP	18.256	SLV 11	Si
Maschio 82	R	1.304	SLV 2	Si
Maschio 83	PF SLU	4.387	SLU 84	Si
Maschio 83	V SLU	11.165	SLU 76	Si
Maschio 83	PF	1.217	SLV 3	Si
Maschio 83	V	2.566	SLV 2	Si
Maschio 83	PFFP	18.667	SLV 3	Si
Maschio 83	R	1.375	SLV 14	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 84	PF SLU	5.277	SLU 84	Si
Maschio 84	V SLU	6.659	SLU 69	Si
Maschio 84	PF	3.26	SLV 2	Si
Maschio 84	V	4.513	SLV 4	Si
Maschio 84	PFFP	14.222	SLV 4	Si
Maschio 84	R	1.312	SLV 13	Si
Maschio 85	PF SLU	14.297	SLU 77	Si
Maschio 85	V SLU	7.218	SLU 77	Si
Maschio 85	PF	0.322	SLV 11	No
Maschio 85	V	2.014	SLV 11	Si
Maschio 85	PFFP	5.679	SLV 7	Si
Maschio 85	R	1.71	SLV 10	Si
Maschio 86	PF SLU	11.113	SLU 83	Si
Maschio 86	V SLU	3.5	SLU 83	Si
Maschio 86	PF	0.943	SLV 11	No
Maschio 86	V	1.874	SLV 11	Si
Maschio 86	PFFP	14.39	SLV 8	Si
Maschio 86	R	2.077	SLV 6	Si
Maschio 88	PF SLU	31.539	SLU 40	Si
Maschio 88	V SLU	3.824	SLU 83	Si
Maschio 88	PF	3.526	SLV 11	Si
Maschio 88	V	1.229	SLV 11	Si
Maschio 88	PFFP	151.656	SLV 11	Si
Maschio 88	R	3.149	SLV 2	Si
Maschio 89	PF SLU	10.345	SLU 83	Si
Maschio 89	V SLU	2.994	SLU 83	Si
Maschio 89	PF	1.842	SLV 11	Si
Maschio 89	V	2.115	SLV 11	Si
Maschio 89	PFFP	24.081	SLV 1	Si
Maschio 89	R	1.938	SLV 16	Si
Maschio 92	PF SLU	10.226	SLU 44	Si
Maschio 92	V SLU	5.924	SLU 84	Si
Maschio 92	PF	1.49	SLV 10	Si
Maschio 92	V	1.664	SLV 10	Si
Maschio 92	PFFP	3.487	SLV 10	Si
Maschio 92	R	1.727	SLV 11	Si
Maschio 96	PF SLU	1.29	SLU 84	Si
Maschio 96	V SLU	1.731	SLU 84	Si
Maschio 96	PF	0.262	SLV 11	No
Maschio 96	V	1.514	SLV 2	Si
Maschio 96	PFFP	1.144	SLV 11	Si
Maschio 96	R	1.983	SLV 13	Si
Maschio 97	PF SLU	3.083	SLU 78	Si
Maschio 97	V SLU	7.193	SLU 83	Si
Maschio 97	PF	0.046	SLV 11	No
Maschio 97	V	2.087	SLV 15	Si
Maschio 97	PFFP	3.428	SLV 8	Si
Maschio 97	R	1.691	SLV 6	Si
Maschio 99	PF SLU	10.973	SLU 82	Si
Maschio 99	V SLU	4.127	SLU 83	Si
Maschio 99	PF	1.988	SLV 7	Si
Maschio 99	V	2.047	SLV 11	Si
Maschio 99	PFFP	4.566	SLV 7	Si
Maschio 99	R	1.527	SLV 14	Si
Maschio 100	PF SLU	5.999	SLU 83	Si
Maschio 100	V SLU	9.167	SLU 76	Si
Maschio 100	PF	5.427	SLV 8	Si
Maschio 100	V	2.422	SLV 6	Si
Maschio 100	PFFP	6.079	SLV 6	Si
Maschio 100	R	1.193	SLV 15	Si
Maschio 102	PF SLU	2.856	SLU 81	Si
Maschio 102	V SLU	5.193	SLU 81	Si
Maschio 102	PF	0.837	SLV 2	No
Maschio 102	V	2.083	SLV 2	Si
Maschio 102	PFFP	2.26	SLV 7	Si
Maschio 102	R	1.875	SLV 13	Si
Maschio 103	PF SLU	2.418	SLU 83	Si
Maschio 103	V SLU	2.643	SLU 84	Si
Maschio 103	PF	0.249	SLV 11	No
Maschio 103	V	1.803	SLV 2	Si
Maschio 103	PFFP	1.244	SLV 7	Si
Maschio 103	R	1.966	SLV 10	Si
Maschio 104	PF SLU	3.331	SLU 83	Si
Maschio 104	V SLU	2.712	SLU 83	Si
Maschio 104	PF	0	SLV 7	No
Maschio 104	V	1.648	SLV 15	Si
Maschio 104	PFFP	0	SLV 7	No
Maschio 104	R	1.978	SLV 9	Si
Maschio 105	PF SLU	3.476	SLU 43	Si
Maschio 105	V SLU	3.096	SLU 77	Si
Maschio 105	PF	0.095	SLV 10	No
Maschio 105	V	2.266	SLV 7	Si
Maschio 105	PFFP	0	SLV 6	No
Maschio 105	R	1.485	SLV 11	Si
Maschio 106	PF SLU	8.163	SLU 42	Si
Maschio 106	V SLU	6.171	SLU 84	Si
Maschio 106	PF	0	SLV 5	No
Maschio 106	V	2.885	SLV 14	Si
Maschio 106	PFFP	0	SLV 10	No

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 106	R	1.82	SLV 12	Si
Maschio 107	PF SLU	13.486	SLU 52	Si
Maschio 107	V SLU	27.108	SLU 81	Si
Maschio 107	PF	1.585	SLV 6	Si
Maschio 107	V	2.142	SLV 6	Si
Maschio 107	PFFP	9.617	SLV 2	Si
Maschio 107	R	1.678	SLV 15	Si
Maschio 108	PF SLU	18.564	SLU 52	Si
Maschio 108	V SLU	28.591	SLU 81	Si
Maschio 108	PF	2.417	SLV 9	Si
Maschio 108	V	1.461	SLV 8	Si
Maschio 108	PFFP	5.342	SLV 14	Si
Maschio 108	R	2.282	SLV 3	Si
Maschio 109	PF SLU	7.959	SLU 43	Si
Maschio 109	V SLU	20.131	SLU 42	Si
Maschio 109	PF	0	SLV 5	No
Maschio 109	V	2.773	SLV 5	Si
Maschio 109	PFFP	1.874	SLV 10	Si
Maschio 109	R	2.573	SLV 7	Si
Maschio 110	PF SLU	12.017	SLU 43	Si
Maschio 110	V SLU	8.386	SLU 81	Si
Maschio 110	PF	0	SLV 5	No
Maschio 110	V	3.965	SLV 16	Si
Maschio 110	PFFP	0	SLV 5	No
Maschio 110	R	1.667	SLV 12	Si
Maschio 111	PF SLU	8.623	SLU 81	Si
Maschio 111	V SLU	6.395	SLU 81	Si
Maschio 111	PF	0	SLV 12	No
Maschio 111	V	2.951	SLV 8	Si
Maschio 111	PFFP	2.724	SLV 11	Si
Maschio 111	R	2.208	SLV 2	Si
Maschio 112	PF SLU	9.638	SLU 81	Si
Maschio 112	V SLU	12.739	SLU 70	Si
Maschio 112	PF	2.28	SLV 8	Si
Maschio 112	V	3.365	SLV 13	Si
Maschio 112	PFFP	2.316	SLV 12	Si
Maschio 112	R	2.33	SLV 5	Si
Maschio 113	PF SLU	3.34	SLU 70	Si
Maschio 113	V SLU	16.621	SLU 83	Si
Maschio 113	PF	1.007	SLV 13	Si
Maschio 113	V	2.999	SLV 13	Si
Maschio 113	PFFP	3.121	SLV 11	Si
Maschio 113	R	2.343	SLV 2	Si
Maschio 114	PF SLU	14.836	SLU 82	Si
Maschio 114	V SLU	9.77	SLU 76	Si
Maschio 114	PF	2.9	SLV 9	Si
Maschio 114	V	2.652	SLV 9	Si
Maschio 114	PFFP	3.826	SLV 9	Si
Maschio 114	R	1.707	SLV 3	Si
Maschio 115	PF SLU	3.61	SLU 42	Si
Maschio 115	V SLU	5.682	SLU 78	Si
Maschio 115	PF	0	SLD 5	No
Maschio 115	V	2.012	SLV 5	Si
Maschio 115	PFFP	0	SLV 10	No
Maschio 115	R	1.388	SLV 3	Si
Maschio 116	PF SLU	4.346	SLU 70	Si
Maschio 116	V SLU	10.717	SLU 70	Si
Maschio 116	PF	0.541	SLV 8	No
Maschio 116	V	2.534	SLV 13	Si
Maschio 116	PFFP	2.373	SLV 11	Si
Maschio 116	R	2.05	SLV 9	Si
Maschio 117	PF SLU	5.521	SLU 43	Si
Maschio 117	V SLU	7.531	SLU 81	Si
Maschio 117	PF	1.317	SLV 12	Si
Maschio 117	V	2.669	SLV 12	Si
Maschio 117	PFFP	1.148	SLV 12	Si
Maschio 117	R	2.419	SLV 1	Si
Maschio 120	PF SLU	3.653	SLU 40	Si
Maschio 120	V SLU	2.911	SLU 84	Si
Maschio 120	PF	0	SLV 11	No
Maschio 120	V	2.205	SLV 13	Si
Maschio 120	PFFP	1.751	SLV 8	Si
Maschio 120	R	2.215	SLV 2	Si
Maschio 124	PF SLU	3.943	SLU 82	Si
Maschio 124	V SLU	13.607	SLU 73	Si
Maschio 124	PF	0.124	SLV 5	No
Maschio 124	V	2.353	SLV 5	Si
Maschio 124	PFFP	0.467	SLV 5	No
Maschio 124	R	1.88	SLV 16	Si
Maschio 125	PF SLU	9.375	SLU 40	Si
Maschio 125	V SLU	2.572	SLU 84	Si
Maschio 125	PF	1.659	SLV 8	Si
Maschio 125	V	1.555	SLV 9	Si
Maschio 125	PFFP	13.003	SLV 11	Si
Maschio 125	R	2.226	SLV 9	Si
Maschio 126	PF SLU	7.639	SLU 40	Si
Maschio 126	V SLU	4.997	SLU 84	Si
Maschio 126	PF	1.595	SLV 8	Si
Maschio 126	V	2.35	SLV 9	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 126	PFFP	5.918	SLV 8	Si
Maschio 126	R	2.451	SLV 9	Si
Maschio 128	PF SLU	15.38	SLU 41	Si
Maschio 128	V SLU	10.731	SLU 60	Si
Maschio 128	PF	4.962	SLV 11	Si
Maschio 128	V	1.743	SLV 7	Si
Maschio 128	PFFP	6.53	SLV 12	Si
Maschio 128	R	2.258	SLV 5	Si
Maschio 129	PF SLU	1.416	SLU 83	Si
Maschio 129	V SLU	2.5	SLU 83	Si
Maschio 129	PF	0	SLD 7	No
Maschio 129	V	0.602	SLV 8	No
Maschio 129	PFFP	0	SLV 12	No
Maschio 129	R	1.789	SLV 3	Si
Maschio 131	PF SLU	8.436	SLU 84	Si
Maschio 131	V SLU	39.651	SLU 42	Si
Maschio 131	PF	1.142	SLV 16	Si
Maschio 131	V	3.903	SLV 16	Si
Maschio 131	PFFP	3.698	SLV 14	Si
Maschio 131	R	1.816	SLV 3	Si
Maschio 132	PF SLU	34.082	SLU 80	Si
Maschio 132	V SLU	32.12	SLU 84	Si
Maschio 132	PF	3.387	SLV 14	Si
Maschio 132	V	3.226	SLV 1	Si
Maschio 132	PFFP	5.906	SLV 10	Si
Maschio 132	R	1.785	SLV 7	Si
Maschio 133	PF SLU	29.264	SLU 50	Si
Maschio 133	V SLU	22.507	SLU 81	Si
Maschio 133	PF	2.903	SLV 1	Si
Maschio 133	V	3.059	SLV 3	Si
Maschio 133	PFFP	6.102	SLV 5	Si
Maschio 133	R	1.944	SLV 12	Si
Maschio 134	PF SLU	8.01	SLU 50	Si
Maschio 134	V SLU	30.223	SLU 48	Si
Maschio 134	PF	0.642	SLV 3	No
Maschio 134	V	4.177	SLV 3	Si
Maschio 134	PFFP	1.77	SLV 3	Si
Maschio 134	R	1.704	SLV 16	Si
Maschio 135	PF SLU	16.262	SLU 84	Si
Maschio 135	V SLU	19.736	SLU 44	Si
Maschio 135	PF	6.217	SLV 14	Si
Maschio 135	V	3.188	SLV 13	Si
Maschio 135	PFFP	11.139	SLV 16	Si
Maschio 135	R	1.51	SLV 1	Si
Maschio 136	PF SLU	22.418	SLU 18	Si
Maschio 136	V SLU	179.219	SLU 65	Si
Maschio 136	PF	0.871	SLV 2	No
Maschio 136	V	5.215	SLV 2	Si
Maschio 136	PFFP	13.614	SLV 7	Si
Maschio 136	R	1.605	SLV 13	Si
Maschio 137	PF SLU	16.958	SLU 81	Si
Maschio 137	V SLU	14.206	SLU 83	Si
Maschio 137	PF	1.776	SLV 3	Si
Maschio 137	V	3.874	SLV 3	Si
Maschio 137	PFFP	13.952	SLV 7	Si
Maschio 137	R	1.552	SLV 15	Si
Maschio 138	PF SLU	16.102	SLU 43	Si
Maschio 138	V SLU	40.172	SLU 44	Si
Maschio 138	PF	1.857	SLV 2	Si
Maschio 138	V	4.08	SLV 2	Si
Maschio 138	PFFP	12.094	SLV 3	Si
Maschio 138	R	1.51	SLV 13	Si
Maschio 139	PF SLU	8.001	SLU 82	Si
Maschio 139	V SLU	18.063	SLU 43	Si
Maschio 139	PF	4.164	SLV 3	Si
Maschio 139	V	7.241	SLV 3	Si
Maschio 139	PFFP	8.582	SLV 4	Si
Maschio 139	R	1.674	SLV 13	Si
Maschio 140	PF SLU	12.061	SLU 82	Si
Maschio 140	V SLU	6.44	SLU 82	Si
Maschio 140	PF	4.214	SLV 7	Si
Maschio 140	V	2.644	SLV 6	Si
Maschio 140	PFFP	16.521	SLV 7	Si
Maschio 140	R	2.399	SLV 6	Si
Maschio 141	PF SLU	13.963	SLU 50	Si
Maschio 141	V SLU	6.798	SLU 77	Si
Maschio 141	PF	2.062	SLV 11	Si
Maschio 141	V	3.588	SLV 15	Si
Maschio 141	PFFP	11.952	SLV 11	Si
Maschio 141	R	2.782	SLV 10	Si
Maschio 142	PF SLU	14.337	SLU 71	Si
Maschio 142	V SLU	5.057	SLU 83	Si
Maschio 142	PF	3.169	SLV 11	Si
Maschio 142	V	3.853	SLV 8	Si
Maschio 142	PFFP	6.58	SLV 7	Si
Maschio 142	R	2.064	SLV 14	Si
Maschio 145	PF SLU	4.146	SLU 82	Si
Maschio 145	V SLU	9.843	SLU 73	Si
Maschio 145	PF	0.537	SLV 10	No

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 145	V	2.187	SLV 10	Si
Maschio 145	PFFP	1.867	SLV 10	Si
Maschio 145	R	2.23	SLV 15	Si
Maschio 149	PF SLU	3.646	SLU 82	Si
Maschio 149	V SLU	3.396	SLU 82	Si
Maschio 149	PF	0.958	SLV 11	No
Maschio 149	V	2.009	SLV 2	Si
Maschio 149	PFFP	2.637	SLV 11	Si
Maschio 149	R	2.118	SLV 13	Si
Maschio 151	PF SLU	8.84	SLU 71	Si
Maschio 151	V SLU	9.679	SLU 81	Si
Maschio 151	PF	2.223	SLV 7	Si
Maschio 151	V	2.485	SLV 11	Si
Maschio 151	PFFP	4.081	SLV 7	Si
Maschio 151	R	1.991	SLV 14	Si
Maschio 152	PF SLU	3.654	SLU 75	Si
Maschio 152	V SLU	10.588	SLU 70	Si
Maschio 152	PF	0.11	SLV 11	No
Maschio 152	V	1.854	SLV 2	Si
Maschio 152	PFFP	3.571	SLV 4	Si
Maschio 152	R	1.952	SLV 6	Si
Maschio 153	PF SLU	13.246	SLU 82	Si
Maschio 153	V SLU	10.727	SLU 72	Si
Maschio 153	PF	3.086	SLV 10	Si
Maschio 153	V	2.932	SLV 6	Si
Maschio 153	PFFP	3.868	SLV 6	Si
Maschio 153	R	1.741	SLV 15	Si
Maschio 155	PF SLU	2.829	SLU 65	Si
Maschio 155	V SLU	11.001	SLU 81	Si
Maschio 155	PF	0.622	SLV 4	No
Maschio 155	V	2.305	SLV 2	Si
Maschio 155	PFFP	2.365	SLV 8	Si
Maschio 155	R	2.315	SLV 13	Si
Maschio 156	PF SLU	7.562	SLU 81	Si
Maschio 156	V SLU	7.939	SLU 73	Si
Maschio 156	PF	1.7	SLV 11	Si
Maschio 156	V	2.764	SLV 2	Si
Maschio 156	PFFP	2.053	SLV 7	Si
Maschio 156	R	2.254	SLV 10	Si
Maschio 157	PF SLU	9.317	SLU 41	Si
Maschio 157	V SLU	8.104	SLU 83	Si
Maschio 157	PF	0.506	SLV 11	No
Maschio 157	V	2.359	SLV 11	Si
Maschio 157	PFFP	2.813	SLV 8	Si
Maschio 157	R	2.161	SLV 13	Si
Maschio 158	PF SLU	17.824	SLU 81	Si
Maschio 158	V SLU	8.767	SLU 81	Si
Maschio 158	PF	0	SLV 6	No
Maschio 158	V	4.113	SLV 3	Si
Maschio 158	PFFP	0	SLV 10	No
Maschio 158	R	1.694	SLV 7	Si
Maschio 159	PF SLU	7.959	SLU 42	Si
Maschio 159	V SLU	14.96	SLU 42	Si
Maschio 159	PF	0	SLV 5	No
Maschio 159	V	3.024	SLV 10	Si
Maschio 159	PFFP	1.162	SLV 5	Si
Maschio 159	R	2.372	SLV 12	Si
Maschio 160	PF SLU	20.118	SLU 61	Si
Maschio 160	V SLU	86.233	SLU 81	Si
Maschio 160	PF	2.686	SLV 6	Si
Maschio 160	V	1.56	SLV 6	Si
Maschio 160	PFFP	5.683	SLV 1	Si
Maschio 160	R	2.229	SLV 16	Si
Maschio 161	PF SLU	29.345	SLU 61	Si
Maschio 161	V SLU	61.126	SLU 55	Si
Maschio 161	PF	5.189	SLV 10	Si
Maschio 161	V	1.945	SLV 9	Si
Maschio 161	PFFP	3.428	SLV 14	Si
Maschio 161	R	3.812	SLV 3	Si
Maschio 162	PF SLU	7.017	SLU 40	Si
Maschio 162	V SLU	12.29	SLU 84	Si
Maschio 162	PF	0.482	SLV 5	No
Maschio 162	V	3.424	SLV 5	Si
Maschio 162	PFFP	2.461	SLV 10	Si
Maschio 162	R	3.736	SLV 1	Si
Maschio 163	PF SLU	9.531	SLU 50	Si
Maschio 163	V SLU	31.844	SLU 81	Si
Maschio 163	PF	1.525	SLV 5	Si
Maschio 163	V	9.035	SLV 16	Si
Maschio 163	PFFP	1.608	SLV 5	Si
Maschio 163	R	2.772	SLV 8	Si
Maschio 164	PF SLU	7.241	SLU 39	Si
Maschio 164	V SLU	8.553	SLU 81	Si
Maschio 164	PF	1.056	SLV 8	Si
Maschio 164	V	3.685	SLV 8	Si
Maschio 164	PFFP	2.787	SLV 15	Si
Maschio 164	R	3.227	SLV 4	Si
Maschio 165	PF SLU	10.959	SLU 81	Si
Maschio 165	V SLU	22.685	SLU 70	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 165	PF	2.05	SLV 8	Si
Maschio 165	V	4.652	SLV 13	Si
Maschio 165	PFFP	1.868	SLV 12	Si
Maschio 165	R	3.534	SLV 5	Si
Maschio 166	PF SLU	3.622	SLU 65	Si
Maschio 166	V SLU	39.571	SLU 78	Si
Maschio 166	PF	0.472	SLV 13	No
Maschio 166	V	3.676	SLV 13	Si
Maschio 166	PFFP	2.033	SLV 15	Si
Maschio 166	R	3.291	SLV 2	Si
Maschio 167	PF SLU	12.12	SLU 82	Si
Maschio 167	V SLU	18.601	SLU 47	Si
Maschio 167	PF	3.176	SLV 10	Si
Maschio 167	V	3.919	SLV 9	Si
Maschio 167	PFFP	2.354	SLV 10	Si
Maschio 167	R	2.584	SLV 3	Si
Maschio 168	PF SLU	3.244	SLU 60	Si
Maschio 168	V SLU	10.099	SLU 77	Si
Maschio 168	PF	0	SLD 5	No
Maschio 168	V	4.644	SLV 12	Si
Maschio 168	PFFP	0	SLV 9	No
Maschio 168	R	2.155	SLV 1	Si
Maschio 169	PF SLU	3.364	SLU 65	Si
Maschio 169	V SLU	16.93	SLU 65	Si
Maschio 169	PF	0.531	SLV 8	No
Maschio 169	V	2.837	SLV 13	Si
Maschio 169	PFFP	0	SLV 15	No
Maschio 169	R	2.951	SLV 13	Si
Maschio 170	PF SLU	6.574	SLU 43	Si
Maschio 170	V SLU	15.649	SLU 81	Si
Maschio 170	PF	1.037	SLV 12	Si
Maschio 170	V	3.726	SLV 11	Si
Maschio 170	PFFP	0.628	SLV 12	No
Maschio 170	R	3.763	SLV 1	Si
Maschio 173	PF SLU	3.341	SLU 40	Si
Maschio 173	V SLU	4.321	SLU 82	Si
Maschio 173	PF	0.635	SLV 15	No
Maschio 173	V	2.765	SLV 13	Si
Maschio 173	PFFP	1.368	SLV 8	Si
Maschio 173	R	3.325	SLV 2	Si
Maschio 177	PF SLU	4.392	SLU 83	Si
Maschio 177	V SLU	26.073	SLU 77	Si
Maschio 177	PF	0	SLV 5	No
Maschio 177	V	4.032	SLV 5	Si
Maschio 177	PFFP	0	SLV 5	No
Maschio 177	R	3.469	SLV 16	Si
Maschio 178	PF SLU	4.437	SLU 40	Si
Maschio 178	V SLU	3.925	SLU 84	Si
Maschio 178	PF	0.848	SLV 13	No
Maschio 178	V	2.23	SLV 9	Si
Maschio 178	PFFP	11.648	SLV 11	Si
Maschio 178	R	3.31	SLV 2	Si
Maschio 179	PF SLU	6.554	SLU 40	Si
Maschio 179	V SLU	6.288	SLU 82	Si
Maschio 179	PF	1.804	SLV 13	Si
Maschio 179	V	3.341	SLV 9	Si
Maschio 179	PFFP	8.082	SLV 11	Si
Maschio 179	R	5.018	SLV 2	Si
Maschio 181	PF SLU	19.975	SLU 42	Si
Maschio 181	V SLU	39.663	SLU 43	Si
Maschio 181	PF	3.957	SLV 12	Si
Maschio 181	V	2.433	SLV 7	Si
Maschio 181	PFFP	2.108	SLV 11	Si
Maschio 181	R	3.363	SLV 6	Si
Maschio 182	PF SLU	1.626	SLU 18	Si
Maschio 182	V SLU	3.177	SLU 36	Si
Maschio 182	PF	0	SLD 7	No
Maschio 182	V	0.743	SLV 7	No
Maschio 182	PFFP	0	SLV 12	No
Maschio 182	R	2.688	SLV 3	Si
Maschio 184	PF SLU	8.158	SLU 42	Si
Maschio 184	V SLU	29.226	SLU 84	Si
Maschio 184	PF	2.004	SLV 16	Si
Maschio 184	V	6.75	SLV 1	Si
Maschio 184	PFFP	3.142	SLV 14	Si
Maschio 184	R	2.803	SLV 11	Si
Maschio 185	PF SLU	49.102	SLU 80	Si
Maschio 185	V SLU	34.993	SLU 78	Si
Maschio 185	PF	3.126	SLV 1	Si
Maschio 185	V	3.847	SLV 1	Si
Maschio 185	PFFP	4.283	SLV 10	Si
Maschio 185	R	2.646	SLV 3	Si
Maschio 186	PF SLU	31.855	SLU 50	Si
Maschio 186	V SLU	32.353	SLU 81	Si
Maschio 186	PF	2.63	SLV 1	Si
Maschio 186	V	3.92	SLV 3	Si
Maschio 186	PFFP	4.391	SLV 1	Si
Maschio 186	R	2.672	SLV 16	Si
Maschio 187	PF SLU	13.175	SLU 38	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 187	V SLU	94.111	SLU 43	Si
Maschio 187	PF	1.902	SLV 1	Si
Maschio 187	V	9.497	SLV 3	Si
Maschio 187	PFFP	2.788	SLV 1	Si
Maschio 187	R	3.457	SLV 12	Si
Maschio 188	PF SLU	11.22	SLU 51	Si
Maschio 188	V SLU	37.338	SLU 44	Si
Maschio 188	PF	7.191	SLV 14	Si
Maschio 188	V	4.156	SLV 14	Si
Maschio 188	PFFP	6.132	SLV 15	Si
Maschio 188	R	2.012	SLV 2	Si
Maschio 189	PF SLU	13.904	SLU 18	Si
Maschio 189	V SLU	106.034	SLU 83	Si
Maschio 189	PF	0.876	SLV 2	No
Maschio 189	V	6.062	SLV 15	Si
Maschio 189	PFFP	7.148	SLV 8	Si
Maschio 189	R	2.122	SLV 15	Si
Maschio 190	PF SLU	10.487	SLU 39	Si
Maschio 190	V SLU	15.376	SLU 83	Si
Maschio 190	PF	1.432	SLV 3	Si
Maschio 190	V	4.547	SLV 3	Si
Maschio 190	PFFP	7.811	SLV 2	Si
Maschio 190	R	1.722	SLV 15	Si
Maschio 191	PF SLU	19.796	SLU 44	Si
Maschio 191	V SLU	45.452	SLU 44	Si
Maschio 191	PF	1.568	SLV 1	Si
Maschio 191	V	4.562	SLV 1	Si
Maschio 191	PFFP	6.341	SLV 4	Si
Maschio 191	R	2.026	SLV 15	Si
Maschio 192	PF SLU	9.95	SLU 36	Si
Maschio 192	V SLU	18.441	SLU 42	Si
Maschio 192	PF	4.806	SLV 14	Si
Maschio 192	V	9.769	SLV 14	Si
Maschio 192	PFFP	4.437	SLV 4	Si
Maschio 192	R	2.456	SLV 15	Si
Maschio 193	PF SLU	16.428	SLU 81	Si
Maschio 193	V SLU	12.39	SLU 82	Si
Maschio 193	PF	4.779	SLV 11	Si
Maschio 193	V	4.237	SLV 2	Si
Maschio 193	PFFP	13.284	SLV 8	Si
Maschio 193	R	3.384	SLV 9	Si
Maschio 194	PF SLU	8.974	SLU 58	Si
Maschio 194	V SLU	11.832	SLU 79	Si
Maschio 194	PF	2.462	SLV 11	Si
Maschio 194	V	4.932	SLV 15	Si
Maschio 194	PFFP	8.23	SLV 7	Si
Maschio 194	R	4.738	SLV 13	Si
Maschio 195	PF SLU	13.369	SLU 35	Si
Maschio 195	V SLU	7.382	SLU 78	Si
Maschio 195	PF	1.154	SLV 7	Si
Maschio 195	V	6.51	SLV 7	Si
Maschio 195	PFFP	1.279	SLV 8	Si
Maschio 195	R	2.912	SLV 10	Si
Maschio 196	PF SLU	3.719	SLU 28	Si
Maschio 196	V SLU	16.33	SLU 70	Si
Maschio 196	PF	0.501	SLV 9	No
Maschio 196	V	2.295	SLV 10	Si
Maschio 196	PFFP	3.594	SLV 9	Si
Maschio 196	R	2.739	SLV 14	Si
Maschio 198	PF SLU	5.488	SLU 82	Si
Maschio 198	V SLU	76.566	SLU 44	Si
Maschio 198	PF	0.701	SLV 10	No
Maschio 198	V	4.075	SLV 10	Si
Maschio 198	PFFP	0.642	SLV 10	No
Maschio 198	R	3.57	SLV 11	Si
Maschio 202	PF SLU	3.887	SLU 40	Si
Maschio 202	V SLU	4.021	SLU 82	Si
Maschio 202	PF	0.206	SLV 11	No
Maschio 202	V	2.382	SLV 6	Si
Maschio 202	PFFP	0	SLV 11	No
Maschio 202	R	3.188	SLV 13	Si
Maschio 204	PF SLU	9.813	SLU 9	Si
Maschio 204	V SLU	41.855	SLU 43	Si
Maschio 204	PF	3.11	SLV 7	Si
Maschio 204	V	3.432	SLV 11	Si
Maschio 204	PFFP	2.46	SLV 4	Si
Maschio 204	R	2.937	SLV 13	Si
Maschio 205	PF SLU	3.951	SLU 65	Si
Maschio 205	V SLU	12.25	SLU 73	Si
Maschio 205	PF	0	SLV 11	No
Maschio 205	V	2.069	SLV 6	Si
Maschio 205	PFFP	1.45	SLV 4	Si
Maschio 205	R	2.78	SLV 6	Si
Maschio 206	PF SLU	12.224	SLU 82	Si
Maschio 206	V SLU	18.816	SLU 51	Si
Maschio 206	PF	2.645	SLV 5	Si
Maschio 206	V	3.64	SLV 5	Si
Maschio 206	PFFP	2.467	SLV 5	Si
Maschio 206	R	2.439	SLV 16	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 208	PF SLU	3.79	SLU 65	Si
Maschio 208	V SLU	43.795	SLU 65	Si
Maschio 208	PF	0.029	SLV 2	No
Maschio 208	V	2.698	SLV 2	Si
Maschio 208	PFFP	1.692	SLV 4	Si
Maschio 208	R	2.946	SLV 15	Si
Maschio 209	PF SLU	10.512	SLU 64	Si
Maschio 209	V SLU	14.844	SLU 65	Si
Maschio 209	PF	1.133	SLV 11	Si
Maschio 209	V	3.747	SLV 2	Si
Maschio 209	PFFP	1.745	SLV 7	Si
Maschio 209	R	3.315	SLV 10	Si
Maschio 210	PF SLU	6.961	SLU 39	Si
Maschio 210	V SLU	11.328	SLU 83	Si
Maschio 210	PF	1.103	SLV 11	Si
Maschio 210	V	3.018	SLV 11	Si
Maschio 210	PFFP	2.725	SLV 8	Si
Maschio 210	R	3.412	SLV 13	Si
Maschio 211	PF SLU	11.708	SLU 43	Si
Maschio 211	V SLU	37.598	SLU 43	Si
Maschio 211	PF	2.09	SLV 10	Si
Maschio 211	V	9.932	SLV 3	Si
Maschio 211	PFFP	2.245	SLV 10	Si
Maschio 211	R	2.798	SLV 11	Si
Maschio 212	PF SLU	5.394	SLU 42	Si
Maschio 212	V SLU	10.367	SLU 84	Si
Maschio 212	PF	0.84	SLV 10	No
Maschio 212	V	3.626	SLV 10	Si
Maschio 212	PFFP	2.478	SLV 5	Si
Maschio 212	R	3.715	SLV 16	Si
Maschio 213	PF SLU	36.503	SLU 61	Si
Maschio 213	V SLU	26.906	SLU 73	Si
Maschio 213	PF	5.257	SLV 9	Si
Maschio 213	V	1.929	SLV 6	Si
Maschio 213	PFFP	3.593	SLV 1	Si
Maschio 213	R	3.772	SLV 15	Si
Maschio 214	PF SLU	12.509	SLU 17	Si
Maschio 214	V SLU	27.431	SLU 80	Si
Maschio 214	PF	3.105	SLV 11	Si
Maschio 214	V	4.067	SLV 5	Si
Maschio 214	PFFP	1.64	SLV 2	Si
Maschio 214	R	12.054	SLV 3	Si
Maschio 215	PF SLU	5.201	SLU 40	Si
Maschio 215	V SLU	11.052	SLU 78	Si
Maschio 215	PF	0.606	SLV 5	No
Maschio 215	V	5.168	SLV 9	Si
Maschio 215	PFFP	1.527	SLV 5	Si
Maschio 215	R	7.129	SLV 15	Si
Maschio 216	PF SLU	1.954	SLU 60	Si
Maschio 216	V SLU	42.188	SLU 48	Si
Maschio 216	PF	0	SLV 10	No
Maschio 216	V	12.812	SLV 12	Si
Maschio 216	PFFP	0	SLV 9	No
Maschio 216	R	7.516	SLV 3	Si
Maschio 217	PF SLU	6.406	SLU 39	Si
Maschio 217	V SLU	11.657	SLU 81	Si
Maschio 217	PF	0.458	SLV 8	No
Maschio 217	V	4.44	SLV 8	Si
Maschio 217	PFFP	1.423	SLV 11	Si
Maschio 217	R	6.138	SLV 14	Si
Maschio 218	PF SLU	11.943	SLU 73	Si
Maschio 218	V SLU	27.371	SLU 70	Si
Maschio 218	PF	1.623	SLV 8	Si
Maschio 218	V	6.603	SLV 9	Si
Maschio 218	PFFP	1.259	SLV 15	Si
Maschio 218	R	9.583	SLV 5	Si
Maschio 219	PF SLU	2.43	SLU 5	Si
Maschio 219	V SLU	50.785	SLU 68	Si
Maschio 219	PF	0	SLV 5	No
Maschio 219	V	4.861	SLV 9	Si
Maschio 219	PFFP	0	SLV 3	No
Maschio 219	R	5.575	SLV 8	Si
Maschio 220	PF SLU	2.179	SLU 51	Si
Maschio 220	V SLU	17.425	SLU 51	Si
Maschio 220	PF	1.7	SLV 10	Si
Maschio 220	V	4.585	SLV 5	Si
Maschio 220	PFFP	1.643	SLV 10	Si
Maschio 220	R	9.832	SLV 16	Si
Maschio 222	PF SLU	1.549	SLU 40	Si
Maschio 222	V SLU	11.482	SLU 73	Si
Maschio 222	PF	0	SLV 13	No
Maschio 222	V	3.806	SLV 13	Si
Maschio 222	PFFP	0	SLV 15	No
Maschio 222	R	10.082	SLV 2	Si
Maschio 223	PF SLU	5.346	SLU 38	Si
Maschio 223	V SLU	25.964	SLU 60	Si
Maschio 223	PF	1.281	SLV 11	Si
Maschio 223	V	6.84	SLV 7	Si
Maschio 223	PFFP	0.468	SLV 12	No

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 223	R	18.816	SLV 2	Si
Maschio 225	PF SLU	1.19	SLU 39	Si
Maschio 225	V SLU	4.7	SLU 82	Si
Maschio 225	PF	0	SLV 15	No
Maschio 225	V	3.544	SLV 13	Si
Maschio 225	PFFP	0	SLV 7	No
Maschio 225	R	8.94	SLV 2	Si
Maschio 227	PF SLU	3.693	SLU 77	Si
Maschio 227	V SLU	10.267	SLU 35	Si
Maschio 227	PF	0.057	SLV 5	No
Maschio 227	V	5.658	SLV 11	Si
Maschio 227	PFFP	0.432	SLV 5	No
Maschio 227	R	18.594	SLV 16	Si
Maschio 228	PF SLU	2.832	SLU 38	Si
Maschio 228	V SLU	13.28	SLU 36	Si
Maschio 228	PF	0	SLV 7	No
Maschio 228	V	3.492	SLV 7	Si
Maschio 228	PFFP	0	SLV 12	No
Maschio 228	R	12.955	SLV 2	Si
Maschio 230	PF SLU	4.466	SLU 78	Si
Maschio 230	V SLU	7.906	SLU 78	Si
Maschio 230	PF	0	SLD 1	No
Maschio 230	V	2.889	SLV 5	Si
Maschio 230	PFFP	0	SLV 10	No
Maschio 230	R	5.119	SLV 16	Si
Maschio 231	PF SLU	17.16	SLU 38	Si
Maschio 231	V SLU	42.992	SLU 84	Si
Maschio 231	PF	3.099	SLV 1	Si
Maschio 231	V	6.347	SLV 1	Si
Maschio 231	PFFP	2.394	SLV 10	Si
Maschio 231	R	7.061	SLV 3	Si
Maschio 232	PF SLU	23.72	SLU 60	Si
Maschio 232	V SLU	55.79	SLU 64	Si
Maschio 232	PF	2.425	SLV 3	Si
Maschio 232	V	6.739	SLV 3	Si
Maschio 232	PFFP	2.244	SLV 1	Si
Maschio 232	R	7.627	SLV 16	Si
Maschio 233	PF SLU	3.566	SLU 80	Si
Maschio 233	V SLU	7.584	SLU 80	Si
Maschio 233	PF	0	SLD 10	No
Maschio 233	V	3.985	SLV 14	Si
Maschio 233	PFFP	0	SLV 14	No
Maschio 233	R	5.126	SLV 3	Si
Maschio 234	PF SLU	5.1	SLU 51	Si
Maschio 234	V SLU	26.62	SLU 35	Si
Maschio 234	PF	3.475	SLV 2	Si
Maschio 234	V	6.588	SLV 3	Si
Maschio 234	PFFP	3.364	SLV 15	Si
Maschio 234	R	3.825	SLV 2	Si
Maschio 235	PF SLU	6.03	SLU 39	Si
Maschio 235	V SLU	60.459	SLU 83	Si
Maschio 235	PF	0.711	SLV 15	No
Maschio 235	V	7.016	SLV 15	Si
Maschio 235	PFFP	5.552	SLV 14	Si
Maschio 235	R	3.877	SLV 7	Si
Maschio 236	PF SLU	5.538	SLU 39	Si
Maschio 236	V SLU	16.101	SLU 69	Si
Maschio 236	PF	0.66	SLV 2	No
Maschio 236	V	5.45	SLV 3	Si
Maschio 236	PFFP	3.559	SLV 2	Si
Maschio 236	R	2.66	SLV 15	Si
Maschio 237	PF SLU	8.918	SLU 38	Si
Maschio 237	V SLU	67.593	SLU 35	Si
Maschio 237	PF	1.303	SLV 1	Si
Maschio 237	V	7.147	SLV 1	Si
Maschio 237	PFFP	3.427	SLV 4	Si
Maschio 237	R	2.604	SLV 14	Si
Maschio 238	PF SLU	4.58	SLU 37	Si
Maschio 238	V SLU	11.513	SLU 36	Si
Maschio 238	PF	2.799	SLV 14	Si
Maschio 238	V	14.363	SLV 14	Si
Maschio 238	PFFP	2.126	SLV 1	Si
Maschio 238	R	8.655	SLV 4	Si
Maschio 239	PF SLU	1.633	SLU 69	Si
Maschio 239	V SLU	9.967	SLU 78	Si
Maschio 239	PF	0	SLD 3	No
Maschio 239	V	13.282	SLV 9	Si
Maschio 239	PFFP	0	SLV 3	No
Maschio 239	R	9.503	SLV 13	Si
Maschio 240	PF SLU	1.006	SLU 36	Si
Maschio 240	V SLU	13.401	SLU 78	Si
Maschio 240	PF	0.475	SLV 8	No
Maschio 240	V	5.993	SLV 9	Si
Maschio 240	PFFP	1.663	SLV 15	Si
Maschio 240	R	6.646	SLV 9	Si
Maschio 242	PF SLU	4.742	SLU 77	Si
Maschio 242	V SLU	8.791	SLU 77	Si
Maschio 242	PF	1.265	SLV 6	Si
Maschio 242	V	7.607	SLV 7	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 242	PFFP	0.707	SLV 6	No
Maschio 242	R	13.875	SLV 15	Si
Maschio 244	PF SLU	1.446	SLU 40	Si
Maschio 244	V SLU	6.589	SLU 82	Si
Maschio 244	PF	0	SLV 7	No
Maschio 244	V	2.84	SLV 2	Si
Maschio 244	PFFP	0	SLV 12	No
Maschio 244	R	7.775	SLV 10	Si
Maschio 245	PF SLU	2.645	SLU 80	Si
Maschio 245	V SLU	15.585	SLU 78	Si
Maschio 245	PF	1.243	SLV 5	Si
Maschio 245	V	4.518	SLV 9	Si
Maschio 245	PFFP	0.932	SLV 3	No
Maschio 245	R	14.497	SLV 13	Si
Maschio 246	PF SLU	1.444	SLU 40	Si
Maschio 246	V SLU	9.411	SLU 82	Si
Maschio 246	PF	0	SLD 2	No
Maschio 246	V	2.316	SLV 6	Si
Maschio 246	PFFP	0	SLV 10	No
Maschio 246	R	8.607	SLV 15	Si
Maschio 247	PF SLU	1.804	SLU 50	Si
Maschio 247	V SLU	11.701	SLU 50	Si
Maschio 247	PF	1.64	SLV 1	Si
Maschio 247	V	7.405	SLV 9	Si
Maschio 247	PFFP	1.904	SLV 1	Si
Maschio 247	R	8.083	SLV 3	Si
Maschio 249	PF SLU	2.493	SLU 65	Si
Maschio 249	V SLU	35.46	SLU 65	Si
Maschio 249	PF	0	SLV 1	No
Maschio 249	V	3.461	SLV 6	Si
Maschio 249	PFFP	0	SLV 12	No
Maschio 249	R	4.724	SLV 11	Si
Maschio 250	PF SLU	8.219	SLU 82	Si
Maschio 250	V SLU	29.604	SLU 44	Si
Maschio 250	PF	1.565	SLV 11	Si
Maschio 250	V	6.268	SLV 11	Si
Maschio 250	PFFP	1.122	SLV 4	Si
Maschio 250	R	8.571	SLV 14	Si
Maschio 251	PF SLU	5.185	SLU 39	Si
Maschio 251	V SLU	13.976	SLU 83	Si
Maschio 251	PF	0.541	SLV 11	No
Maschio 251	V	4.309	SLV 11	Si
Maschio 251	PFFP	1.033	SLV 11	Si
Maschio 251	R	6.914	SLV 1	Si
Maschio 252	PF SLU	11.753	SLU 43	Si
Maschio 252	V SLU	50.94	SLU 38	Si
Maschio 252	PF	0.769	SLV 1	No
Maschio 252	V	15.629	SLV 10	Si
Maschio 252	PFFP	1.042	SLV 1	Si
Maschio 252	R	5.292	SLV 16	Si
Maschio 253	PF SLU	2.747	SLU 42	Si
Maschio 253	V SLU	8.499	SLU 78	Si
Maschio 253	PF	0.927	SLV 10	No
Maschio 253	V	5.369	SLV 10	Si
Maschio 253	PFFP	1.177	SLV 10	Si
Maschio 253	R	7.196	SLV 2	Si
Maschio 254	PF SLU	43.233	SLU 69	Si
Maschio 254	V SLU	27.193	SLU 82	Si
Maschio 254	PF	5.513	SLV 8	Si
Maschio 254	V	3.989	SLV 6	Si
Maschio 254	PFFP	1.734	SLV 14	Si
Maschio 254	R	11.883	SLV 16	Si
Maschio 257	PF SLU	27.207	SLU 81	Si
Maschio 257	V SLU	5.882	SLU 82	Si
Maschio 257	PF	17.206	SLV 13	Si
Maschio 257	V	3.584	SLV 9	Si
Maschio 257	PFFP	1.926	SLV 12	Si
Maschio 257	R	10.589	SLV 4	Si
Maschio 258	PF SLU	59.201	SLU 81	Si
Maschio 258	V SLU	15.208	SLU 59	Si
Maschio 258	PF	28.417	SLV 2	Si
Maschio 258	V	6.132	SLV 2	Si
Maschio 258	PFFP	1.961	SLV 3	Si
Maschio 258	R	10.657	SLV 15	Si
Maschio 263	PF SLU	2.696	SLU 84	Si
Maschio 263	V SLU	4.705	SLU 84	Si
Maschio 263	PF	0	SLV 4	No
Maschio 263	V	1.711	SLV 2	Si
Maschio 263	PFFP	0	SLV 12	No
Maschio 263	R	1.363	SLV 6	Si
Maschio 264	PF SLU	2.582	SLU 84	Si
Maschio 264	V SLU	2.285	SLU 84	Si
Maschio 264	PF	0	SLV 7	No
Maschio 264	V	1.488	SLV 13	Si
Maschio 264	PFFP	0	SLV 12	No
Maschio 264	R	1.315	SLV 9	Si
Maschio 267	PF SLU	14.808	SLU 44	Si
Maschio 267	V SLU	3.38	SLU 84	Si
Maschio 267	PF	0.16	SLV 8	No

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 267	V	1.544	SLV 13	Si
Maschio 267	PFFP	2.389	SLV 7	Si
Maschio 267	R	1.565	SLV 2	Si
Maschio 268	PF SLU	2.708	SLU 84	Si
Maschio 268	V SLU	3.61	SLU 84	Si
Maschio 268	PF	0	SLV 11	No
Maschio 268	V	1.545	SLV 15	Si
Maschio 268	PFFP	2.79	SLV 11	Si
Maschio 268	R	1.39	SLV 13	Si
Maschio 273	PF SLU	3.117	SLU 84	Si
Maschio 273	V SLU	3.751	SLU 84	Si
Maschio 273	PF	0.548	SLV 15	No
Maschio 273	V	1.858	SLV 15	Si
Maschio 273	PFFP	3.691	SLV 8	Si
Maschio 273	R	2.098	SLV 9	Si
Maschio 274	PF SLU	3.825	SLU 84	Si
Maschio 274	V SLU	3.82	SLU 84	Si
Maschio 274	PF	0.139	SLV 4	No
Maschio 274	V	1.907	SLV 13	Si
Maschio 274	PFFP	3.101	SLV 11	Si
Maschio 274	R	1.665	SLV 13	Si
Maschio 278	PF SLU	3.662	SLU 84	Si
Maschio 278	V SLU	3.938	SLU 84	Si
Maschio 278	PF	0	SLV 7	No
Maschio 278	V	1.855	SLV 15	Si
Maschio 278	PFFP	0	SLV 12	No
Maschio 278	R	3.194	SLV 6	Si
Maschio 280	PF SLU	2.974	SLU 40	Si
Maschio 280	V SLU	3.981	SLU 84	Si
Maschio 280	PF	0	SLD 13	No
Maschio 280	V	2.134	SLV 13	Si
Maschio 280	PFFP	1.219	SLV 8	Si
Maschio 280	R	5.084	SLV 13	Si
Maschio 281	PF SLU	3.777	SLU 40	Si
Maschio 281	V SLU	5.952	SLU 80	Si
Maschio 281	PF	0	SLD 4	No
Maschio 281	V	2.532	SLV 13	Si
Maschio 281	PFFP	1.457	SLV 8	Si
Maschio 281	R	5.967	SLV 4	Si
Maschio 285	PF SLU	6.934	SLU 42	Si
Maschio 285	V SLU	24.502	SLU 83	Si
Maschio 285	PFFP	1.876	SLV 7	Si
Maschio 285	R	0.584	SLV 14	No

Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
1	PF	1.041	SLV 12	0.254	1.038	530	1.046	Si
	V	1.394	SLV 12	0.333	1.364	1228	1.476	Si
	PFFP	1.489	SLV 12	0.355	1.451	1505	1.605	Si
	R	1.62	SLV 5	0.362	1.483	1618	1.653	Si
2	PF	0.732	SLV 9	0.185	0.755	225	0.736	No
	V	2.349	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	0.895	SLV 9	0.221	0.906	365	0.898	No
	R	1.676	SLV 8	0.362	1.483	1618	1.653	Si
3	PF	0.912	SLV 9	0.225	0.921	382	0.915	No
	V	2.283	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	0.869	SLV 9	0.216	0.882	340	0.872	No
	R	1.738	SLV 8	0.362	1.483	1618	1.653	Si
4	PF	0.976	SLV 9	0.239	0.978	447	0.975	No
	V	3.499	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1.108	SLV 9	0.269	1.1	631	1.123	Si
	R	1.711	SLV 8	0.362	1.483	1618	1.653	Si
6	PF	1.053	SLV 9	0.256	1.049	548	1.06	Si
	V	2.24	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.882	SLV 9	0.362	1.483	1618	1.653	Si
	R	1.498	SLV 8	0.357	1.459	1534	1.617	Si
8	PF	0.898	SLV 12	0.222	0.908	368	0.901	No
	V	1.816	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	0.847	SLV 12	0.211	0.862	320	0.85	No
	R	2.282	SLV 5	0.362	1.483	1618	1.653	Si
9	PF	1.173	SLV 12	0.283	1.16	740	1.199	Si
	V	1.24	SLV 13	0.299	1.222	865	1.279	Si
	PFFP	1.021	SLV 12	0.249	1.019	502	1.023	Si
	R	1.724	SLV 5	0.362	1.483	1618	1.653	Si
12	PF	1.29	SLV 12	0.31	1.268	966	1.338	Si
	V	1.579	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	1.864	SLV 12	0.362	1.483	1618	1.653	Si
	R	2.058	SLV 5	0.362	1.483	1618	1.653	Si
13	PF	0.924	SLV 5	0.228	0.932	394	0.926	No
	V	2.731	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.864	SLV 9	0.214	0.878	336	0.868	No
	R	1.647	SLV 8	0.362	1.483	1618	1.653	Si
15	PF	0.586	SLV 12	0.146	0.598	129	0.586	No
	V	2.037	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.637	SLV 11	0.159	0.65	157	0.635	No
	R	1.969	SLV 6	0.362	1.483	1618	1.653	Si
16	PF	1.19	SLV 9	0.287	1.176	770	1.219	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	2.057	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.304	SLV 9	0.362	1.483	1618	1.653	Si
	R	1.693	SLV 8	0.362	1.483	1618	1.653	Si
17	PF	0.798	SLV 8	0.199	0.816	277	0.802	No
	V	2.778	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.05	SLV 8	0.256	1.046	543	1.056	Si
	R	1.476	SLV 9	0.352	1.439	1465	1.587	Si
18	PF	0.815	SLV 8	0.203	0.833	292	0.819	No
	V	0.805	SLV 8	0.201	0.823	283	0.809	No
	PFFP	0.991	SLV 8	0.242	0.992	464	0.99	No
	R	2.08	SLV 9	0.362	1.483	1618	1.653	Si
19	PF	1.118	SLV 8	0.271	1.109	647	1.135	Si
	V	1.721	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.894	SLV 9	0.362	1.483	1618	1.653	Si
21	PF	2.473	SLV 14	0.362	1.483	1618	1.653	Si
	V	3.759	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	3.589	SLV 10	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
22	PF	1.048	SLV 10	0.255	1.045	541	1.055	Si
	V	2.026	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1.037	SLV 9	0.253	1.034	525	1.042	Si
	R	1.469	SLV 7	0.35	1.433	1444	1.578	Si
23	PF	2.495	SLV 15	0.362	1.483	1618	1.653	Si
	V	4.072	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	2.798	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.545	SLV 1	0.362	1.483	1618	1.653	Si
24	PF	2.721	SLV 9	0.362	1.483	1618	1.653	Si
	V	3.742	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.555	SLV 1	0.362	1.483	1618	1.653	Si
26	PF	1.089	SLV 4	0.265	1.083	602	1.102	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.922	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.257	SLV 13	0.302	1.238	899	1.299	Si
27	PF	2.197	SLV 6	0.362	1.483	1618	1.653	Si
	V	3.809	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.807	SLV 14	0.362	1.483	1618	1.653	Si
28	PF	2.126	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.769	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.66	SLV 6	0.362	1.483	1618	1.653	Si
29	PF	1.323	SLV 2	0.317	1.299	1045	1.382	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.52	SLV 2	0.362	1.481	1609	1.649	Si
30	PF	2.654	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.441	SLV 3	0.362	1.483	1618	1.653	Si
	R	1.655	SLV 14	0.362	1.483	1618	1.653	Si
31	PF	0.875	SLV 11	0.217	0.887	345	0.877	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.044	SLV 11	0.254	1.04	534	1.049	Si
	R	1.468	SLV 6	0.35	1.432	1441	1.576	Si
32	PF	0.846	SLV 11	0.21	0.861	319	0.849	No
	V	0.843	SLV 11	0.21	0.859	317	0.847	No
	PFFP	1.051	SLV 11	0.256	1.047	545	1.058	Si
	R	2.128	SLV 6	0.362	1.483	1618	1.653	Si
33	PF	1.357	SLV 11	0.325	1.33	1129	1.426	Si
	V	1.581	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.482	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.994	SLV 6	0.362	1.483	1618	1.653	Si
35	PF	1.214	SLV 7	0.293	1.198	814	1.247	Si
	V	1.071	SLV 7	0.26	1.066	574	1.081	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.728	SLV 14	0.362	1.483	1618	1.653	Si
36	PF	1.024	SLV 5	0.25	1.022	506	1.026	Si
	V	1.725	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.991	SLV 6	0.242	0.992	464	0.99	No
	R	1.221	SLV 12	0.294	1.204	827	1.255	Si
37	PF	0.955	SLV 6	0.235	0.96	426	0.956	No
	V	3.623	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.027	SLV 5	0.25	1.025	510	1.03	Si
	R	2.055	SLV 7	0.362	1.483	1618	1.653	Si
39	PF	1.174	SLV 6	0.284	1.161	742	1.201	Si
	V	2.016	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.899	SLV 5	0.362	1.483	1618	1.653	Si
	R	2.003	SLV 11	0.362	1.483	1618	1.653	Si
41	PF	0.602	SLV 7	0.15	0.614	138	0.602	No
	V	1.996	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	0.758	SLV 8	0.191	0.78	246	0.764	No
	R	1.95	SLV 9	0.362	1.483	1618	1.653	Si
42	PF	1.129	SLV 7	0.274	1.12	665	1.148	Si
	V	2.322	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.475	SLV 11	0.351	1.438	1462	1.586	Si
	R	1.262	SLV 6	0.303	1.242	908	1.304	Si
43	PF	1.262	SLV 7	0.303	1.242	908	1.304	Si
	V	1.787	SLV 6	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.613	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.651	SLV 10	0.362	1.483	1618	1.653	Si
44	PF	1.194	SLV 11	0.288	1.179	777	1.224	Si
	V	1.122	SLV 11	0.272	1.113	654	1.14	Si
	PFFP	1.493	SLV 7	0.355	1.455	1518	1.61	Si
	R	3.12	SLV 10	0.362	1.483	1618	1.653	Si
45	PF	1.213	SLV 7	0.292	1.197	812	1.246	Si
	V	1.066	SLV 11	0.259	1.061	567	1.075	Si
	PFFP	1.254	SLV 7	0.302	1.235	892	1.295	Si
	R	3.887	SLV 3	0.362	1.483	1618	1.653	Si
47	PF	1.359	SLV 7	0.325	1.332	1135	1.429	Si
	V	1.91	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.84	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.599	SLV 10	0.362	1.483	1618	1.653	Si
48	PF	0.982	SLV 6	0.24	0.983	453	0.981	No
	V	2.412	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.503	SLV 6	0.358	1.464	1549	1.624	Si
	R	1.302	SLV 11	0.313	1.279	993	1.353	Si
50	PF	1.061	SLV 7	0.258	1.057	560	1.07	Si
	V	1.289	SLV 2	0.31	1.268	965	1.337	Si
	PFFP	0.938	SLV 7	0.231	0.944	408	0.94	No
	R	1.841	SLV 10	0.362	1.483	1618	1.653	Si
51	PF	1.042	SLV 7	0.254	1.039	532	1.048	Si
	V	2.157	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	0.934	SLV 7	0.23	0.94	403	0.935	No
	R	2.613	SLV 10	0.362	1.483	1618	1.653	Si
52	PF	0.886	SLV 6	0.219	0.898	357	0.89	No
	V	3.796	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.072	SLV 6	0.261	1.067	576	1.082	Si
	R	1.813	SLV 11	0.362	1.483	1618	1.653	Si
53	PF	0.827	SLV 6	0.206	0.844	303	0.832	No
	V	1.911	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	0.85	SLV 6	0.211	0.865	323	0.854	No
	R	1.722	SLV 11	0.362	1.483	1618	1.653	Si
54	PF	1.514	SLV 6	0.36	1.475	1588	1.64	Si
	V	2.357	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.201	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.974	SLV 13	0.362	1.483	1618	1.653	Si
55	PF	1.239	SLV 9	0.298	1.221	862	1.277	Si
	V	0.969	SLV 12	0.237	0.972	440	0.969	No
	PFFP	2.176	SLV 15	0.362	1.483	1618	1.653	Si
	R	1.528	SLV 1	0.362	1.483	1618	1.653	Si
56	PF	0.688	SLV 5	0.173	0.708	191	0.688	No
	V	3.513	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.845	SLV 9	0.21	0.861	319	0.849	No
	R	1.531	SLV 7	0.362	1.483	1618	1.653	Si
57	PF	0.908	SLV 5	0.224	0.917	378	0.911	No
	V	2.239	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	0.942	SLV 9	0.231	0.947	411	0.942	No
	R	1.267	SLV 12	0.305	1.247	918	1.31	Si
58	PF	0.461	SLV 8	0.116	0.477	75	0.469	No
	V	2.152	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	0.883	SLV 11	0.219	0.896	354	0.886	No
	R	1.602	SLV 6	0.362	1.483	1618	1.653	Si
59	PF	0.932	SLV 8	0.229	0.939	401	0.933	No
	V	2.406	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.112	SLV 12	0.27	1.104	637	1.128	Si
	R	1.74	SLV 5	0.362	1.483	1618	1.653	Si
60	PF	0.654	SLV 13	0.156	0.637	150	0.623	No
	V	1.997	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.229	SLV 12	0.296	1.211	842	1.265	Si
	R	2.378	SLV 5	0.362	1.483	1618	1.653	Si
61	PF	1.433	SLV 9	0.342	1.4	1337	1.529	Si
	V	1.661	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.52	SLV 9	0.362	1.48	1607	1.648	Si
	R	1.129	SLV 4	0.274	1.12	666	1.149	Si
62	PF	0.361	SLV 5	0.094	0.384	44	0.377	No
	V	1.088	SLV 1	0.264	1.082	600	1.101	Si
	PFFP	0.902	SLV 9	0.223	0.912	371	0.904	No
	R	1.052	SLV 12	0.256	1.048	546	1.059	Si
63	PF	0.949	SLV 8	0.233	0.955	420	0.951	No
	V	2.748	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.157	SLV 11	0.28	1.145	712	1.181	Si
	R	1.486	SLV 9	0.354	1.448	1496	1.601	Si
64	PF	0.953	SLV 12	0.234	0.958	423	0.954	No
	V	2.906	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.071	SLV 12	0.26	1.066	574	1.081	Si
	R	1.549	SLV 1	0.362	1.483	1618	1.653	Si
67	PF	0.826	SLV 8	0.206	0.843	302	0.831	No
	V	3.677	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.851	SLV 8	0.212	0.866	324	0.855	No
	R	1.728	SLV 2	0.362	1.483	1618	1.653	Si
71	PF	1.229	SLV 5	0.296	1.211	842	1.265	Si
	V	1.959	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.234	SLV 5	0.297	1.216	852	1.271	Si
	R	1.222	SLV 16	0.294	1.205	830	1.257	Si
72	PF	0.78	SLV 8	0.196	0.801	263	0.785	No
	V	1.754	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	0.991	SLV 11	0.242	0.992	464	0.99	No

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	R	1.424	SLV 9	0.34	1.392	1311	1.516	Si
73	PF	0.969	SLV 8	0.237	0.972	440	0.969	No
	V	2.338	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.122	SLV 8	0.272	1.113	654	1.14	Si
	R	1.556	SLV 9	0.362	1.483	1618	1.653	Si
74	PF	1.326	SLV 12	0.318	1.301	1051	1.385	Si
	V	1.282	SLV 8	0.308	1.261	949	1.328	Si
	PFFP	1.678	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.425	SLV 13	0.34	1.393	1316	1.519	Si
76	PF	1.005	SLV 10	0.245	1.005	481	1.005	Si
	V	1.826	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.229	SLV 10	0.296	1.211	842	1.265	Si
	R	1.14	SLV 3	0.276	1.13	684	1.161	Si
77	PF	1.247	SLV 10	0.3	1.228	878	1.286	Si
	V	2.041	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.388	SLV 10	0.332	1.359	1211	1.468	Si
	R	1.259	SLV 7	0.303	1.239	902	1.301	Si
78	PF	1.095	SLV 10	0.266	1.088	611	1.109	Si
	V	2.298	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.28	SLV 5	0.308	1.259	945	1.326	Si
	R	1.36	SLV 12	0.326	1.333	1137	1.43	Si
79	PF	0.861	SLV 1	0.209	0.855	314	0.844	No
	V	1.687	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1.307	SLV 1	0.314	1.284	1006	1.36	Si
	R	1.157	SLV 16	0.28	1.146	713	1.181	Si
80	PF	3.317	SLV 16	0.362	1.483	1618	1.653	Si
	V	2.37	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	4.075	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.208	SLV 1	0.291	1.192	804	1.241	Si
81	PF	0.905	SLV 11	0.223	0.914	374	0.907	No
	V	3.939	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.695	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.822	SLV 14	0.362	1.483	1618	1.653	Si
82	PF	2.058	SLV 7	0.362	1.483	1618	1.653	Si
	V	3.414	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	2.556	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.284	SLV 2	0.309	1.263	954	1.331	Si
83	PF	1.167	SLV 3	0.282	1.155	730	1.193	Si
	V	2.188	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	3.134	SLV 3	0.362	1.483	1618	1.653	Si
	R	1.318	SLV 14	0.316	1.294	1033	1.375	Si
84	PF	2.739	SLV 4	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.608	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.253	SLV 13	0.302	1.234	891	1.294	Si
85	PF	0.867	SLV 11	0.215	0.881	339	0.871	No
	V	2.231	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.076	SLV 7	0.262	1.071	582	1.087	Si
	R	1.464	SLV 10	0.349	1.428	1428	1.57	Si
86	PF	0.985	SLV 11	0.241	0.986	458	0.985	No
	V	1.933	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.237	SLV 8	0.298	1.219	858	1.274	Si
	R	1.696	SLV 6	0.362	1.483	1618	1.653	Si
88	PF	3.134	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.286	SLV 11	0.309	1.264	958	1.333	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.699	SLV 2	0.362	1.483	1618	1.653	Si
89	PF	2.012	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.702	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.833	SLV 16	0.362	1.483	1618	1.653	Si
92	PF	1.166	SLV 10	0.282	1.154	728	1.191	Si
	V	1.79	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.201	SLV 10	0.29	1.186	790	1.232	Si
	R	1.46	SLV 11	0.348	1.425	1416	1.565	Si
96	PF	0.785	SLV 4	0.19	0.778	244	0.761	No
	V	1.874	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.01	SLV 11	0.247	1.009	488	1.011	Si
	R	1.667	SLV 9	0.362	1.483	1618	1.653	Si
97	PF	0.738	SLV 11	0.186	0.762	231	0.744	No
	V	1.768	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.171	SLV 8	0.283	1.158	736	1.197	Si
	R	1.428	SLV 6	0.341	1.395	1323	1.522	Si
99	PF	1.197	SLV 7	0.289	1.182	783	1.227	Si
	V	2.373	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.453	SLV 7	0.346	1.418	1396	1.556	Si
	R	1.42	SLV 14	0.339	1.388	1301	1.512	Si
100	PF	1.371	SLV 6	0.328	1.343	1166	1.445	Si
	V	2.013	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.511	SLV 6	0.359	1.471	1575	1.635	Si
	R	1.151	SLV 15	0.279	1.14	702	1.174	Si
102	PF	0.818	SLV 2	0.198	0.811	273	0.797	No
	V	2.242	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.072	SLV 7	0.261	1.067	576	1.082	Si
	R	1.621	SLV 13	0.362	1.483	1618	1.653	Si
103	PF	0.824	SLV 11	0.205	0.841	300	0.828	No
	V	2.219	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.026	SLV 7	0.25	1.024	510	1.03	Si
	R	1.575	SLV 10	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
104	PF	0.502	SLV 11	0.126	0.516	91	0.508	No
	V	1.997	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.909	SLV 7	0.224	0.918	378	0.911	No
	R	1.578	SLV 9	0.362	1.483	1618	1.653	Si
105	PF	0.896	SLV 10	0.221	0.907	366	0.899	No
	V	3.006	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	0.924	SLV 6	0.228	0.932	394	0.926	No
	R	1.303	SLV 11	0.313	1.28	996	1.355	Si
106	PF	0.695	SLV 6	0.175	0.716	197	0.697	No
	V	3.493	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	0.787	SLV 6	0.197	0.807	268	0.791	No
	R	1.482	SLV 12	0.353	1.445	1483	1.595	Si
107	PF	1.542	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.077	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	2.301	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.49	SLV 15	0.355	1.452	1510	1.607	Si
108	PF	2.281	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.47	SLV 12	0.35	1.434	1447	1.579	Si
	PFFP	2.519	SLV 14	0.362	1.483	1618	1.653	Si
	R	1.918	SLV 3	0.362	1.483	1618	1.653	Si
109	PF	0.727	SLV 5	0.184	0.751	222	0.732	No
	V	2.842	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.143	SLV 10	0.277	1.132	689	1.165	Si
	R	1.953	SLV 7	0.362	1.483	1618	1.653	Si
110	PF	0.857	SLV 5	0.213	0.871	329	0.86	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.928	SLV 5	0.229	0.936	398	0.93	No
	R	1.405	SLV 12	0.336	1.374	1258	1.491	Si
111	PF	0.831	SLV 8	0.207	0.848	306	0.835	No
	V	2.702	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.316	SLV 11	0.316	1.292	1027	1.372	Si
	R	1.809	SLV 2	0.362	1.483	1618	1.653	Si
112	PF	1.393	SLV 8	0.333	1.363	1225	1.475	Si
	V	3.515	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.228	SLV 12	0.296	1.21	840	1.263	Si
	R	1.786	SLV 5	0.362	1.483	1618	1.653	Si
113	PF	1.008	SLV 13	0.246	1.007	485	1.009	Si
	V	2.969	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.388	SLV 11	0.332	1.359	1211	1.468	Si
	R	1.865	SLV 2	0.362	1.483	1618	1.653	Si
114	PF	1.667	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.321	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.516	SLV 9	0.361	1.477	1594	1.643	Si
	R	1.512	SLV 3	0.36	1.473	1580	1.637	Si
115	PF	0.38	SLV 5	0.098	0.403	50	0.397	No
	V	2.25	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.791	SLV 5	0.198	0.81	272	0.796	No
	R	1.247	SLV 3	0.3	1.228	878	1.286	Si
116	PF	0.849	SLV 15	0.206	0.843	302	0.831	No
	V	2.592	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.191	SLV 11	0.287	1.176	772	1.22	Si
	R	1.625	SLV 9	0.362	1.483	1618	1.653	Si
117	PF	1.101	SLV 12	0.267	1.094	620	1.115	Si
	V	3.211	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	1.046	SLV 12	0.255	1.043	538	1.052	Si
	R	1.98	SLV 1	0.362	1.483	1618	1.653	Si
120	PF	0.59	SLV 15	0.14	0.571	117	0.563	No
	V	2.696	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.101	SLV 8	0.267	1.094	620	1.115	Si
	R	1.763	SLV 6	0.362	1.483	1618	1.653	Si
124	PF	0.699	SLV 5	0.176	0.722	200	0.701	No
	V	2.523	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.895	SLV 5	0.221	0.906	365	0.898	No
	R	1.614	SLV 12	0.362	1.483	1618	1.653	Si
125	PF	1.102	SLV 8	0.267	1.094	622	1.117	Si
	V	1.757	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.37	SLV 11	0.328	1.342	1163	1.444	Si
	R	1.77	SLV 9	0.362	1.483	1618	1.653	Si
126	PF	1.109	SLV 8	0.269	1.101	633	1.125	Si
	V	2.537	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.179	SLV 8	0.285	1.165	750	1.206	Si
	R	1.875	SLV 9	0.362	1.483	1618	1.653	Si
128	PF	1.641	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.621	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	1.702	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.777	SLV 5	0.362	1.483	1618	1.653	Si
129	PF	0.226	SLV 7	0.061	0.249	16	0.249	No
	V	0.602	SLV 7	0.15	0.614	138	0.602	No
	PFFP	0.455	SLV 8	0.115	0.471	73	0.464	No
	R	1.521	SLV 3	0.362	1.482	1612	1.65	Si
131	PF	1.08	SLV 16	0.262	1.074	588	1.091	Si
	V	3.648	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.413	SLV 14	0.338	1.382	1281	1.502	Si
	R	1.561	SLV 3	0.362	1.483	1618	1.653	Si
132	PF	2.143	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.196	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.918	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.504	SLV 7	0.358	1.465	1552	1.625	Si
133	PF	1.993	SLV 1	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	2.178	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	2.164	SLV 5	0.362	1.483	1618	1.653	Si
	R	1.606	SLV 12	0.362	1.483	1618	1.653	Si
134	PF	0.862	SLV 3	0.209	0.856	315	0.845	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.093	SLV 3	0.265	1.086	608	1.107	Si
	R	1.462	SLV 16	0.349	1.427	1424	1.569	Si
135	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.901	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	3.895	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.434	SLV 1	0.342	1.401	1341	1.53	Si
136	PF	0.895	SLV 2	0.218	0.891	350	0.882	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.493	SLV 13	0.356	1.455	1520	1.611	Si
137	PF	1.787	SLV 3	0.362	1.483	1618	1.653	Si
	V	3.752	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.494	SLV 15	0.356	1.456	1522	1.612	Si
138	PF	1.681	SLV 4	0.362	1.483	1618	1.653	Si
	V	3.36	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	3.429	SLV 3	0.362	1.483	1618	1.653	Si
	R	1.432	SLV 13	0.342	1.399	1336	1.528	Si
139	PF	2.624	SLV 4	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.417	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.535	SLV 13	0.362	1.483	1618	1.653	Si
140	PF	1.344	SLV 7	0.322	1.318	1096	1.409	Si
	V	2.86	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.554	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.89	SLV 6	0.362	1.483	1618	1.653	Si
141	PF	1.294	SLV 11	0.311	1.272	975	1.343	Si
	V	2.982	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.59	SLV 11	0.362	1.483	1618	1.653	Si
	R	2.119	SLV 10	0.362	1.483	1618	1.653	Si
142	PF	2.196	SLV 7	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.919	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.762	SLV 10	0.362	1.483	1618	1.653	Si
145	PF	0.699	SLV 10	0.176	0.72	199	0.7	No
	V	2.383	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.063	SLV 10	0.259	1.059	563	1.072	Si
	R	1.824	SLV 7	0.362	1.483	1618	1.653	Si
149	PF	0.99	SLV 11	0.242	0.991	464	0.99	No
	V	1.851	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.2	SLV 11	0.289	1.185	788	1.231	Si
	R	1.777	SLV 13	0.362	1.483	1618	1.653	Si
151	PF	1.545	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.747	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.714	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.734	SLV 13	0.362	1.483	1618	1.653	Si
152	PF	0.717	SLV 11	0.181	0.741	214	0.721	No
	V	1.918	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.397	SLV 4	0.334	1.367	1237	1.481	Si
	R	1.566	SLV 6	0.362	1.483	1618	1.653	Si
153	PF	1.709	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.455	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.515	SLV 6	0.361	1.476	1591	1.641	Si
	R	1.538	SLV 15	0.362	1.483	1618	1.653	Si
155	PF	0.692	SLV 2	0.166	0.678	173	0.661	No
	V	2.373	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.206	SLV 8	0.291	1.19	800	1.238	Si
	R	1.904	SLV 13	0.362	1.483	1618	1.653	Si
156	PF	1.171	SLV 11	0.283	1.158	736	1.197	Si
	V	2.928	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.158	SLV 7	0.28	1.146	714	1.182	Si
	R	1.74	SLV 10	0.362	1.483	1618	1.653	Si
157	PF	0.875	SLV 11	0.217	0.887	345	0.877	No
	V	2.595	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.347	SLV 8	0.323	1.321	1103	1.413	Si
	R	1.776	SLV 13	0.362	1.483	1618	1.653	Si
158	PF	0.89	SLV 10	0.22	0.902	360	0.893	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.892	SLV 10	0.221	0.903	362	0.895	No
	R	1.428	SLV 7	0.341	1.395	1323	1.522	Si
159	PF	0.792	SLV 10	0.198	0.811	273	0.797	No
	V	3.179	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.022	SLV 5	0.249	1.02	504	1.025	Si
	R	1.824	SLV 12	0.362	1.483	1618	1.653	Si
160	PF	2.339	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.446	SLV 6	0.345	1.412	1375	1.546	Si
	PFFP	2.596	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.89	SLV 16	0.362	1.483	1618	1.653	Si
161	PF	3.87	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.896	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	2.623	SLV 14	0.362	1.483	1618	1.653	Si
	R	3.113	SLV 3	0.362	1.483	1618	1.653	Si
162	PF	0.839	SLV 5	0.209	0.855	313	0.843	No
	V	3.76	SLV 5	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.623	SLV 10	0.362	1.483	1618	1.653	Si
	R	3.059	SLV 1	0.362	1.483	1618	1.653	Si
163	PF	1.121	SLV 5	0.272	1.112	652	1.139	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.146	SLV 5	0.277	1.135	694	1.168	Si
	R	1.963	SLV 8	0.362	1.483	1618	1.653	Si
164	PF	1.024	SLV 8	0.25	1.022	506	1.026	Si
	V	3.378	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.809	SLV 15	0.362	1.483	1618	1.653	Si
	R	2.47	SLV 4	0.362	1.483	1618	1.653	Si
165	PF	1.531	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.294	SLV 12	0.311	1.272	975	1.343	Si
	R	2.394	SLV 5	0.362	1.483	1618	1.653	Si
166	PF	0.717	SLV 13	0.173	0.706	190	0.687	No
	V	3.645	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.362	SLV 15	0.326	1.335	1144	1.434	Si
	R	2.341	SLV 2	0.362	1.483	1618	1.653	Si
167	PF	1.889	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.384	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.335	SLV 10	0.32	1.31	1073	1.397	Si
	R	2.061	SLV 3	0.362	1.483	1618	1.653	Si
168	PF	0.499	SLV 10	0.125	0.513	90	0.506	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.898	SLV 10	0.222	0.908	368	0.901	No
	R	1.75	SLV 1	0.362	1.483	1618	1.653	Si
169	PF	0.656	SLV 13	0.156	0.639	151	0.625	No
	V	3.046	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.983	SLV 15	0.24	0.982	453	0.981	No
	R	2.149	SLV 9	0.362	1.483	1618	1.653	Si
170	PF	1.013	SLV 12	0.247	1.012	492	1.015	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.833	SLV 12	0.208	0.85	308	0.837	No
	R	2.678	SLV 1	0.362	1.483	1618	1.653	Si
173	PF	0.764	SLV 15	0.185	0.755	225	0.736	No
	V	3.341	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.082	SLV 8	0.263	1.076	591	1.094	Si
	R	2.384	SLV 2	0.362	1.483	1618	1.653	Si
177	PF	0.767	SLV 5	0.193	0.788	252	0.771	No
	V	3.814	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.681	SLV 5	0.171	0.699	186	0.681	No
	R	2.334	SLV 12	0.362	1.483	1618	1.653	Si
178	PF	0.905	SLV 13	0.22	0.901	360	0.893	No
	V	2.543	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.849	SLV 11	0.362	1.483	1618	1.653	Si
	R	2.298	SLV 2	0.362	1.483	1618	1.653	Si
179	PF	1.594	SLV 13	0.362	1.483	1618	1.653	Si
	V	3.396	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	2.308	SLV 11	0.362	1.483	1618	1.653	Si
	R	3.281	SLV 2	0.362	1.483	1618	1.653	Si
181	PF	1.314	SLV 11	0.315	1.29	1022	1.369	Si
	V	1.87	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.223	SLV 11	0.295	1.206	831	1.258	Si
	R	2.228	SLV 6	0.362	1.483	1618	1.653	Si
182	PF	0.232	SLV 7	0.062	0.256	17	0.255	No
	V	0.761	SLV 10	0.191	0.783	248	0.766	No
	PFFP	0.393	SLV 7	0.101	0.414	53	0.407	No
	R	1.844	SLV 3	0.362	1.483	1618	1.653	Si
184	PF	1.669	SLV 14	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.786	SLV 14	0.362	1.483	1618	1.653	Si
	R	2.02	SLV 11	0.362	1.483	1618	1.653	Si
185	PF	2.363	SLV 14	0.362	1.483	1618	1.653	Si
	V	2.814	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.323	SLV 10	0.362	1.483	1618	1.653	Si
	R	2.095	SLV 7	0.362	1.483	1618	1.653	Si
186	PF	1.99	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.991	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	2.671	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.237	SLV 16	0.362	1.483	1618	1.653	Si
187	PF	1.378	SLV 1	0.33	1.35	1186	1.455	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.693	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.416	SLV 12	0.362	1.483	1618	1.653	Si
188	PF	3.627	SLV 15	0.362	1.483	1618	1.653	Si
	V	3.597	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	2.953	SLV 15	0.362	1.483	1618	1.653	Si
	R	1.813	SLV 2	0.362	1.483	1618	1.653	Si
189	PF	0.889	SLV 2	0.216	0.885	343	0.875	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.484	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.978	SLV 15	0.362	1.483	1618	1.653	Si
190	PF	1.371	SLV 3	0.328	1.343	1167	1.446	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.557	SLV 15	0.362	1.483	1618	1.653	Si
191	PF	1.433	SLV 1	0.342	1.4	1339	1.529	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.594	SLV 4	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	R	1.805	SLV 15	0.362	1.483	1618	1.653	Si
192	PF	2.37	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.964	SLV 3	0.362	1.483	1618	1.653	Si
	R	2.074	SLV 15	0.362	1.483	1618	1.653	Si
193	PF	1.932	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.878	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.444	SLV 9	0.362	1.483	1618	1.653	Si
194	PF	2.1	SLV 11	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.24	SLV 7	0.362	1.483	1618	1.653	Si
	R	3.219	SLV 13	0.362	1.483	1618	1.653	Si
195	PF	1.034	SLV 7	0.252	1.032	521	1.039	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.072	SLV 8	0.261	1.067	576	1.082	Si
	R	2.016	SLV 10	0.362	1.483	1618	1.653	Si
196	PF	0.587	SLV 9	0.146	0.598	129	0.586	No
	V	2.228	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.373	SLV 9	0.362	1.483	1618	1.653	Si
	R	2.332	SLV 14	0.362	1.483	1618	1.653	Si
198	PF	0.824	SLV 10	0.205	0.841	300	0.828	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.878	SLV 10	0.218	0.89	349	0.881	No
	R	2.359	SLV 11	0.362	1.483	1618	1.653	Si
202	PF	0.795	SLV 2	0.193	0.788	252	0.771	No
	V	2.508	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.977	SLV 11	0.239	0.979	448	0.976	No
	R	2.361	SLV 13	0.362	1.483	1618	1.653	Si
204	PF	2.124	SLV 7	0.362	1.483	1618	1.653	Si
	V	3.257	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.415	SLV 4	0.338	1.384	1287	1.505	Si
	R	2.288	SLV 13	0.362	1.483	1618	1.653	Si
205	PF	0.493	SLV 2	0.116	0.474	74	0.467	No
	V	2.185	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.112	SLV 4	0.27	1.104	638	1.129	Si
	R	1.989	SLV 6	0.362	1.483	1618	1.653	Si
206	PF	1.652	SLV 5	0.362	1.483	1618	1.653	Si
	V	3.942	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.37	SLV 5	0.328	1.342	1163	1.444	Si
	R	1.974	SLV 16	0.362	1.483	1618	1.653	Si
208	PF	0.589	SLV 2	0.14	0.571	117	0.563	No
	V	2.746	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.207	SLV 4	0.291	1.191	802	1.24	Si
	R	2.151	SLV 15	0.362	1.483	1618	1.653	Si
209	PF	1.05	SLV 11	0.256	1.046	543	1.056	Si
	V	3.579	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.22	SLV 7	0.294	1.203	825	1.254	Si
	R	2.264	SLV 10	0.362	1.483	1618	1.653	Si
210	PF	1.042	SLV 11	0.254	1.039	532	1.048	Si
	V	3.315	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.791	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.673	SLV 15	0.362	1.483	1618	1.653	Si
211	PF	1.247	SLV 10	0.3	1.228	878	1.286	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.343	SLV 10	0.322	1.317	1094	1.408	Si
	R	2.016	SLV 11	0.362	1.483	1618	1.653	Si
212	PF	0.951	SLV 10	0.234	0.956	422	0.953	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.595	SLV 5	0.362	1.483	1618	1.653	Si
	R	3.132	SLV 16	0.362	1.483	1618	1.653	Si
213	PF	4.045	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.894	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	2.793	SLV 1	0.362	1.483	1618	1.653	Si
	R	3.15	SLV 15	0.362	1.483	1618	1.653	Si
214	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.647	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.6	SLV 2	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
215	PF	0.768	SLV 5	0.193	0.789	253	0.772	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.353	SLV 5	0.324	1.326	1119	1.421	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
216	PF	0.333	SLV 16	0.078	0.318	28	0.313	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.779	SLV 14	0.188	0.771	238	0.753	No
	R	3.527	SLV 3	0.362	1.483	1618	1.653	Si
217	PF	0.706	SLV 8	0.178	0.73	206	0.71	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.265	SLV 11	0.304	1.245	914	1.308	Si
	R	3.966	SLV 14	0.362	1.483	1618	1.653	Si
218	PF	1.183	SLV 8	0.286	1.169	758	1.211	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.206	SLV 15	0.291	1.191	800	1.238	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
219	PF	0.289	SLV 9	0.077	0.313	27	0.309	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.649	SLV 8	0.162	0.663	165	0.648	No
	R	2.815	SLV 8	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
220	PF	1.704	SLV 10	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.126	SLV 10	0.273	1.117	660	1.144	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
222	PF	0.247	SLV 13	0.057	0.234	13	0.229	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.456	SLV 13	0.107	0.439	62	0.434	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
223	PF	1.128	SLV 11	0.273	1.119	664	1.147	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.665	SLV 12	0.167	0.682	175	0.664	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
225	PF	0.378	SLV 15	0.089	0.364	39	0.359	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.802	SLV 8	0.2	0.82	280	0.805	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
227	PF	0.758	SLV 5	0.191	0.78	246	0.764	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.673	SLV 5	0.169	0.691	181	0.673	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
228	PF	0.584	SLV 7	0.146	0.596	128	0.584	No
	V	2.967	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	0.576	SLV 11	0.143	0.587	124	0.577	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
230	PF	0.307	SLV 5	0.081	0.332	31	0.327	No
	V	3.453	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.266	SLV 5	0.071	0.292	23	0.289	No
	R	2.837	SLV 12	0.362	1.483	1618	1.653	Si
231	PF	2.856	SLV 16	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.048	SLV 10	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
232	PF	2.095	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.978	SLV 1	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
233	PF	0.469	SLV 10	0.118	0.482	78	0.477	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.352	SLV 10	0.092	0.376	42	0.37	No
	R	2.385	SLV 7	0.362	1.483	1618	1.653	Si
234	PF	2.158	SLV 15	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.896	SLV 15	0.362	1.483	1618	1.653	Si
	R	2.846	SLV 2	0.362	1.483	1618	1.653	Si
235	PF	0.731	SLV 15	0.176	0.72	199	0.7	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.241	SLV 14	0.362	1.483	1618	1.653	Si
	R	2.499	SLV 7	0.362	1.483	1618	1.653	Si
236	PF	0.833	SLV 2	0.202	0.827	287	0.813	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.62	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.995	SLV 15	0.362	1.483	1618	1.653	Si
237	PF	1.203	SLV 1	0.29	1.188	795	1.235	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.655	SLV 4	0.362	1.483	1618	1.653	Si
	R	2.015	SLV 14	0.362	1.483	1618	1.653	Si
238	PF	2.719	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.283	SLV 1	0.308	1.262	952	1.33	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
239	PF	0.367	SLV 8	0.096	0.392	46	0.384	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.634	SLV 8	0.158	0.646	155	0.632	No
	R	4.045	SLV 13	0.362	1.483	1618	1.653	Si
240	PF	0.115	SLV 9	0.031	0.127	3	0.125	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.449	SLV 15	0.346	1.415	1385	1.551	Si
	R	3.498	SLV 9	0.362	1.483	1618	1.653	Si
242	PF	1.045	SLV 6	0.254	1.042	536	1.051	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.833	SLV 6	0.208	0.85	308	0.837	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
244	PF	0.302	SLV 2	0.071	0.292	23	0.289	No
	V	3.443	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.636	SLV 11	0.159	0.65	157	0.635	No
	R	3.904	SLV 10	0.362	1.483	1618	1.653	Si
245	PF	1.43	SLV 5	0.341	1.397	1328	1.524	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.948	SLV 3	0.231	0.946	409	0.941	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
246	PF	0.136	SLV 6	0.038	0.157	5	0.155	No
	V	2.537	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	0.332	SLV 2	0.078	0.318	28	0.313	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
247	PF	2.7	SLV 14	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.247	SLV 1	0.3	1.228	878	1.286	Si
	R	4.04	SLV 3	0.362	1.483	1618	1.653	Si
249	PF	0.227	SLV 6	0.062	0.256	17	0.255	No

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	3.591	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	0.424	SLV 11	0.108	0.442	63	0.437	No
	R	2.467	SLV 11	0.362	1.483	1618	1.653	Si
250	PF	1.174	SLV 11	0.284	1.161	742	1.201	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.089	SLV 4	0.265	1.083	602	1.102	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
251	PF	0.743	SLV 11	0.187	0.766	234	0.748	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.018	SLV 11	0.248	1.016	498	1.02	Si
	R	3.746	SLV 1	0.362	1.483	1618	1.653	Si
252	PF	0.88	SLV 1	0.214	0.876	334	0.866	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.018	SLV 1	0.248	1.017	499	1.02	Si
	R	2.919	SLV 16	0.362	1.483	1618	1.653	Si
253	PF	0.96	SLV 10	0.236	0.964	431	0.961	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.11	SLV 10	0.269	1.102	634	1.126	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
254	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.494	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.625	SLV 14	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
257	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.668	SLV 12	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
258	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.708	SLV 3	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
263	PF	0.61	SLV 8	0.152	0.621	141	0.608	No
	V	1.863	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.77	SLV 8	0.193	0.792	255	0.775	No
	R	1.236	SLV 6	0.298	1.218	856	1.273	Si
264	PF	0.464	SLV 15	0.11	0.448	65	0.442	No
	V	1.694	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.771	SLV 11	0.193	0.792	255	0.775	No
	R	1.21	SLV 9	0.292	1.194	807	1.243	Si
267	PF	0.646	SLV 15	0.154	0.629	145	0.615	No
	V	1.685	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.107	SLV 7	0.269	1.099	630	1.123	Si
	R	1.369	SLV 2	0.328	1.341	1162	1.443	Si
268	PF	0.705	SLV 15	0.169	0.692	182	0.675	No
	V	1.609	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.145	SLV 11	0.277	1.134	692	1.167	Si
	R	1.266	SLV 13	0.304	1.246	917	1.31	Si
273	PF	0.677	SLV 15	0.162	0.661	164	0.647	No
	V	1.855	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.47	SLV 8	0.35	1.434	1447	1.579	Si
	R	1.684	SLV 9	0.362	1.483	1618	1.653	Si
274	PF	0.614	SLV 15	0.146	0.596	128	0.584	No
	V	1.686	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.368	SLV 11	0.327	1.34	1158	1.441	Si
	R	1.43	SLV 13	0.341	1.398	1330	1.525	Si
278	PF	0.642	SLV 11	0.16	0.656	160	0.64	No
	V	2.242	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.712	SLV 11	0.18	0.736	211	0.717	No
	R	2.166	SLV 6	0.362	1.483	1618	1.653	Si
280	PF	0.219	SLV 13	0.051	0.21	10	0.205	No
	V	2.484	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.118	SLV 8	0.271	1.109	647	1.135	Si
	R	3.519	SLV 13	0.362	1.483	1618	1.653	Si
281	PF	0.454	SLV 13	0.107	0.439	62	0.434	No
	V	2.654	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.288	SLV 8	0.309	1.266	961	1.335	Si
	R	3.963	SLV 4	0.362	1.483	1618	1.653	Si
285	PFFP	1.453	SLV 7	0.346	1.418	1396	1.556	Si
	R	0.616	SLV 13	0.146	0.598	129	0.586	No

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
1	F	1.928	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.302	SLV 5	0.313	1.279	993	1.353	Si
2	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.567	SLV 12	0.362	1.483	1618	1.653	Si
4	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.44	SLV 8	0.344	1.406	1358	1.538	Si
5	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.586	SLV 5	0.362	1.483	1618	1.653	Si
6	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.194	SLV 9	0.288	1.179	777	1.224	Si
8	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.989	SLV 4	0.242	0.988	460	0.987	No
10	F	1.84	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.012	SLV 6	0.362	1.483	1618	1.653	Si
11	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.667	SLV 16	0.362	1.483	1618	1.653	Si
12	F	1.456	SLV 16	0.347	1.421	1406	1.56	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	2.826	SLV 16	0.362	1.483	1618	1.653	Si
13	F	1.708	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.247	SLV 12	0.3	1.228	878	1.286	Si
14	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.768	SLV 16	0.362	1.483	1618	1.653	Si
16	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.247	SLV 9	0.3	1.228	878	1.286	Si
17	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
18	F	2.505	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.531	SLV 15	0.362	1.483	1618	1.653	Si
19	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.583	SLV 1	0.138	0.565	113	0.555	No
20	F	3.276	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.481	SLV 14	0.353	1.444	1482	1.594	Si
22	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.564	SLV 16	0.362	1.483	1618	1.653	Si
23	F	1.142	SLV 16	0.276	1.132	687	1.163	Si
	V	2.154	SLV 16	0.362	1.483	1618	1.653	Si
24	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.274	SLV 3	0.362	1.483	1618	1.653	Si
25	F	1.683	SLV 3	0.362	1.483	1618	1.653	Si
	V	3.175	SLV 7	0.362	1.483	1618	1.653	Si
26	F	2.575	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.734	SLV 7	0.185	0.758	228	0.74	No
27	F	2.311	SLV 13	0.362	1.483	1618	1.653	Si
	V	2.256	SLV 13	0.362	1.483	1618	1.653	Si
28	F	3.515	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.283	SLV 11	0.308	1.261	951	1.329	Si
29	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.975	SLV 15	0.238	0.973	441	0.97	No
31	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.605	SLV 6	0.362	1.483	1618	1.653	Si
32	F	1.135	SLV 6	0.275	1.125	675	1.155	Si
	V	2.105	SLV 6	0.362	1.483	1618	1.653	Si
33	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.032	SLV 7	0.252	1.029	518	1.036	Si
35	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.013	SLV 12	0.362	1.483	1618	1.653	Si
36	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.863	SLV 12	0.214	0.877	335	0.867	No
37	F	4.013	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.679	SLV 4	0.362	1.483	1618	1.653	Si
38	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.141	SLV 9	0.276	1.13	685	1.162	Si
40	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.594	SLV 9	0.362	1.483	1618	1.653	Si
41	F	3.466	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.624	SLV 4	0.362	1.483	1618	1.653	Si
42	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.674	SLV 9	0.362	1.483	1618	1.653	Si
43	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.25	SLV 8	0.362	1.483	1618	1.653	Si
45	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.814	SLV 4	0.362	1.483	1618	1.653	Si
47	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.36	SLV 12	0.326	1.333	1137	1.43	Si
48	F	0.942	SLV 8	0.231	0.947	411	0.942	No
	V	0.635	SLV 8	0.158	0.648	156	0.633	No
49	F	3.465	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.412	SLV 16	0.337	1.381	1279	1.501	Si
50	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.947	SLV 16	0.231	0.945	408	0.94	No
51	F	3.776	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.264	SLV 3	0.304	1.244	913	1.307	Si
52	F	3.615	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.017	SLV 3	0.248	1.016	497	1.019	Si
53	F	3.817	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.604	SLV 3	0.362	1.483	1618	1.653	Si
54	F	3.912	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.366	SLV 3	0.327	1.339	1154	1.439	Si
55	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.678	SLV 15	0.362	1.483	1618	1.653	Si
56	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.648	SLV 10	0.362	1.483	1618	1.653	Si
57	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.051	SLV 4	0.362	1.483	1618	1.653	Si
58	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.928	SLV 4	0.362	1.483	1618	1.653	Si
60	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.07	SLV 2	0.26	1.065	574	1.081	Si
62	F	3.896	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.186	SLV 15	0.286	1.172	763	1.214	Si
63	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.988	SLV 6	0.242	0.989	461	0.988	No
64	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.227	SLV 14	0.053	0.218	11	0.214	No
65	F	2.98	SLV 14	0.362	1.483	1618	1.653	Si
	V	0.851	SLV 14	0.207	0.845	304	0.833	No

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
67	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.756	SLV 6	0.362	1.483	1618	1.653	Si
68	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.726	SLV 15	0.362	1.483	1618	1.653	Si
69	F	4.092	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.43	SLV 2	0.341	1.398	1330	1.525	Si
70	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.12	SLV 7	0.362	1.483	1618	1.653	Si
71	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.043	SLV 7	0.254	1.04	534	1.049	Si
72	F	3.578	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.871	SLV 12	0.216	0.884	342	0.874	No
73	F	4.003	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.798	SLV 12	0.199	0.816	277	0.802	No
74	F	2.303	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.294	SLV 9	0.311	1.272	975	1.343	Si
75	F	2.068	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.199	SLV 4	0.289	1.184	787	1.23	Si
76	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.353	SLV 13	0.324	1.327	1120	1.421	Si
77	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.233	SLV 2	0.362	1.483	1618	1.653	Si
78	F	2.375	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.815	SLV 9	0.203	0.833	292	0.819	No
79	F	3.496	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.268	SLV 4	0.305	1.248	921	1.312	Si
80	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.35	SLV 12	0.323	1.323	1111	1.417	Si
82	F	2.189	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.035	SLV 13	0.252	1.033	522	1.039	Si
84	F	3.704	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.837	SLV 12	0.208	0.853	311	0.841	No
85	F	1.303	SLV 8	0.313	1.28	996	1.355	Si
	V	0.742	SLV 7	0.187	0.765	233	0.747	No
86	F	1.756	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.055	SLV 16	0.257	1.051	551	1.063	Si
87	F	2.855	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.758	SLV 16	0.183	0.75	221	0.731	No
88	F	1.738	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.773	SLV 3	0.187	0.766	234	0.748	No
89	F	1.85	SLV 14	0.362	1.483	1618	1.653	Si
	V	0.722	SLV 3	0.174	0.711	193	0.691	No
90	F	2.027	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.16	SLV 14	0.281	1.148	718	1.185	Si
91	F	1.928	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.155	SLV 3	0.279	1.144	709	1.178	Si
92	F	3.488	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.327	SLV 15	0.318	1.303	1055	1.387	Si
93	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.3	SLV 6	0.312	1.277	988	1.35	Si
94	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.628	SLV 3	0.362	1.483	1618	1.653	Si
95	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.234	SLV 3	0.362	1.483	1618	1.653	Si
97	F	1.712	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.774	SLV 2	0.187	0.767	235	0.749	No
99	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.018	SLV 7	0.248	1.016	498	1.02	Si
100	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.057	SLV 12	0.362	1.483	1618	1.653	Si
101	F	1.579	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.492	SLV 6	0.124	0.506	87	0.499	No
102	F	1.999	SLV 6	0.362	1.483	1618	1.653	Si
	V	0.947	SLV 15	0.231	0.945	408	0.94	No
103	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.083	SLV 2	0.263	1.077	593	1.095	Si
104	F	2.807	SLV 2	0.362	1.483	1618	1.653	Si
	V	3.218	SLV 4	0.362	1.483	1618	1.653	Si
105	F	2.299	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.18	SLV 15	0.285	1.167	753	1.208	Si
106	F	1.982	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.95	SLV 6	0.233	0.956	421	0.952	No
107	F	3.922	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.044	SLV 7	0.254	1.04	534	1.049	Si
108	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.868	SLV 7	0.215	0.881	340	0.872	No
109	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.524	SLV 12	0.362	1.483	1618	1.653	Si
110	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.692	SLV 12	0.362	1.483	1618	1.653	Si
111	F	2.802	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.571	SLV 9	0.362	1.483	1618	1.653	Si
112	F	2.525	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.554	SLV 8	0.362	1.483	1618	1.653	Si
113	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.068	SLV 13	0.362	1.483	1618	1.653	Si
114	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.628	SLV 4	0.362	1.483	1618	1.653	Si
115	F	2.757	SLV 13	0.362	1.483	1618	1.653	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	1.152	SLV 9	0.279	1.141	704	1.175	Si
116	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.803	SLV 4	0.362	1.483	1618	1.653	Si
117	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.93	SLV 11	0.362	1.483	1618	1.653	Si
119	F	3.928	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.341	SLV 13	0.321	1.316	1090	1.406	Si
121	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.117	SLV 12	0.271	1.108	646	1.134	Si
122	F	1.622	SLV 10	0.362	1.483	1618	1.653	Si
	V	0.846	SLV 10	0.21	0.861	319	0.849	No
123	F	4.087	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.241	SLV 1	0.299	1.223	867	1.28	Si
124	F	2.559	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.474	SLV 16	0.351	1.438	1460	1.585	Si
125	F	2.407	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.139	SLV 3	0.276	1.129	682	1.16	Si
126	F	2.536	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.201	SLV 3	0.29	1.186	791	1.233	Si
127	F	2.881	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.793	SLV 14	0.362	1.483	1618	1.653	Si
128	F	3.303	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.742	SLV 3	0.362	1.483	1618	1.653	Si
129	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.818	SLV 15	0.362	1.483	1618	1.653	Si
130	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.549	SLV 3	0.362	1.483	1618	1.653	Si
131	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.158	SLV 3	0.362	1.483	1618	1.653	Si
132	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.386	SLV 3	0.362	1.483	1618	1.653	Si
134	F	1.997	SLV 6	0.362	1.483	1618	1.653	Si
	V	0.936	SLV 6	0.23	0.943	406	0.938	No
136	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
137	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
138	F	1.595	SLV 6	0.362	1.483	1618	1.653	Si
	V	0.7	SLV 6	0.177	0.723	201	0.703	No
139	F	2.281	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.149	SLV 6	0.278	1.138	699	1.172	Si
140	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.764	SLV 2	0.362	1.483	1618	1.653	Si
141	F	3.844	SLV 2	0.362	1.483	1618	1.653	Si
	V	3.118	SLV 13	0.362	1.483	1618	1.653	Si
142	F	2.617	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.514	SLV 15	0.36	1.475	1590	1.641	Si
143	F	2.54	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.52	SLV 6	0.362	1.48	1607	1.648	Si
144	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.722	SLV 7	0.362	1.483	1618	1.653	Si
145	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.894	SLV 7	0.362	1.483	1618	1.653	Si
146	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.724	SLV 12	0.362	1.483	1618	1.653	Si
147	F	1.767	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.933	SLV 9	0.362	1.483	1618	1.653	Si
148	F	2.887	SLV 8	0.362	1.483	1618	1.653	Si
	V	2.034	SLV 8	0.362	1.483	1618	1.653	Si
149	F	1.465	SLV 8	0.349	1.429	1432	1.572	Si
	V	1.944	SLV 8	0.362	1.483	1618	1.653	Si
150	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.704	SLV 9	0.362	1.483	1618	1.653	Si
151	F	1.203	SLV 5	0.29	1.187	794	1.234	Si
	V	2.002	SLV 5	0.362	1.483	1618	1.653	Si
152	F	3.556	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.881	SLV 9	0.362	1.483	1618	1.653	Si
153	F	2.936	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.192	SLV 8	0.362	1.483	1618	1.653	Si
154	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.01	SLV 11	0.362	1.483	1618	1.653	Si
155	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.423	SLV 13	0.362	1.483	1618	1.653	Si
156	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.741	SLV 12	0.362	1.483	1618	1.653	Si
157	F	1.925	SLV 10	0.362	1.483	1618	1.653	Si
	V	1.178	SLV 10	0.285	1.165	749	1.205	Si
158	F	2.991	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.102	SLV 1	0.362	1.483	1618	1.653	Si
159	F	2.571	SLV 16	0.362	1.483	1618	1.653	Si
	V	3.231	SLV 1	0.362	1.483	1618	1.653	Si
160	F	3.859	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.056	SLV 3	0.362	1.483	1618	1.653	Si
161	F	1.837	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.306	SLV 3	0.362	1.483	1618	1.653	Si
162	F	3.961	SLV 14	0.362	1.483	1618	1.653	Si
	V	2.876	SLV 14	0.362	1.483	1618	1.653	Si
163	F	3.943	SLV 3	0.362	1.483	1618	1.653	Si
	V	4.068	SLV 3	0.362	1.483	1618	1.653	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
164	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.839	SLV 2	0.362	1.483	1618	1.653	Si
165	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.546	SLV 3	0.362	1.483	1618	1.653	Si
166	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.85	SLV 14	0.362	1.483	1618	1.653	Si
167	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
168	F	3.585	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.269	SLV 6	0.305	1.249	922	1.312	Si
169	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
170	F	0.592	SLV 10	0.148	0.604	133	0.593	No
	V	0.416	SLV 10	0.107	0.436	61	0.431	No
171	F	1.97	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.021	SLV 6	0.249	1.019	502	1.023	Si
172	F	1.71	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.34	SLV 11	0.321	1.314	1086	1.404	Si
173	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.196	SLV 2	0.362	1.483	1618	1.653	Si
174	F	1.369	SLV 6	0.328	1.341	1161	1.443	Si
	V	2.427	SLV 6	0.362	1.483	1618	1.653	Si
175	F	3.151	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.094	SLV 11	0.362	1.483	1618	1.653	Si
176	F	1.767	SLV 10	0.362	1.483	1618	1.653	Si
	V	1.682	SLV 6	0.362	1.483	1618	1.653	Si
177	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.089	SLV 10	0.362	1.483	1618	1.653	Si
178	F	2.038	SLV 6	0.362	1.483	1618	1.653	Si
	V	3.045	SLV 6	0.362	1.483	1618	1.653	Si
184	F	2.266	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.872	SLV 13	0.212	0.867	325	0.856	No
185	F	0.999	SLV 13	0.244	0.999	474	0.999	No
	V	0.766	SLV 13	0.185	0.758	228	0.74	No
186	F	2.221	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.087	SLV 13	0.264	1.081	599	1.1	Si
187	F	1.469	SLV 13	0.35	1.433	1445	1.578	Si
	V	0.947	SLV 13	0.231	0.944	408	0.94	No
188	F	2.807	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.375	SLV 13	0.329	1.347	1177	1.451	Si
189	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.212	SLV 13	0.362	1.483	1618	1.653	Si

Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	3	0.031	475	0.244	pressoflessione maschio muratura

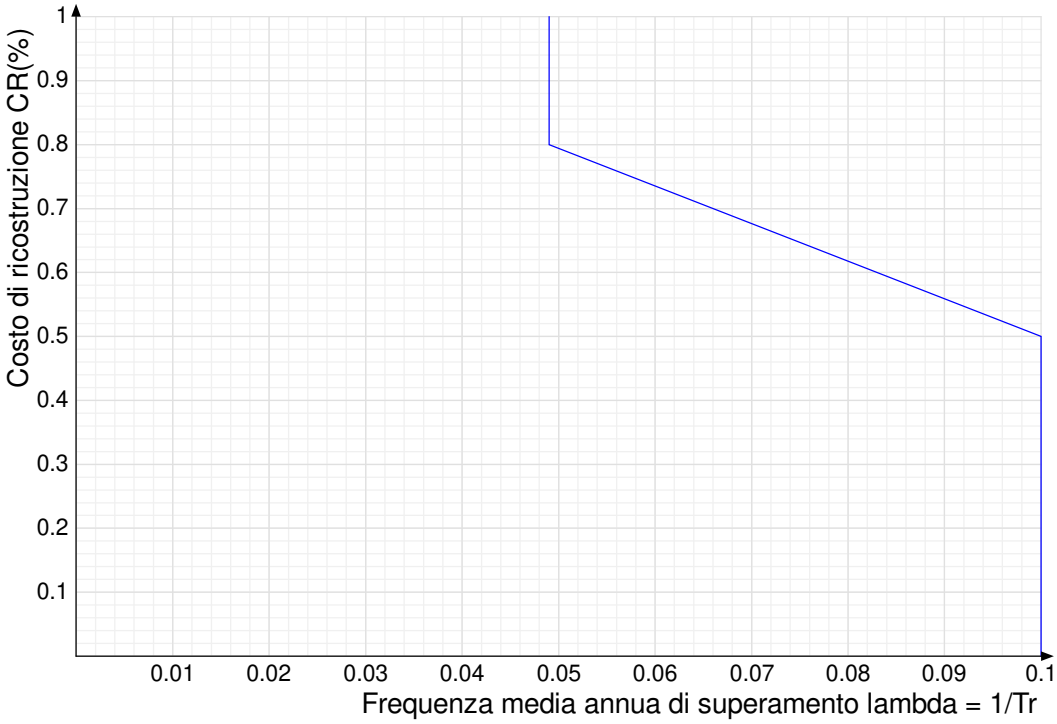
Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
3	475	8.215	G	12.659	F	pressoflessione maschio muratura

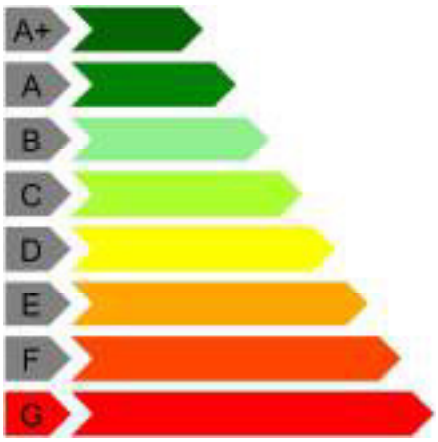
Coefficienti λ relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

λ,SLR	λ,SLC	λ,SLV	λ,SLD	λ,SLO	λ,SLID
0.049	0.049	0.1	0.1	0.1	0.1

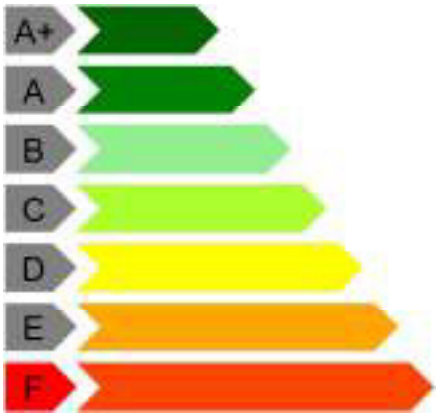
Andamento della curva che individua il PAM (Perdita Annuale Media Attesa)



Classe PAM



Classe IS-V



1.6 Verifiche maschi in muratura

Le unità di misura elencate nel capitolo sono in [m, daN, s] ove non espressamente specificato.

X ini.: *coordinate del punto iniziale del maschio. [m]*
Y ini.: *coordinate del punto iniziale del maschio. [m]*
X fin.: *coordinate del punto finale del maschio. [m]*
Y fin.: *coordinate del punto finale del maschio. [m]*
Quota i.: *livello o falda inferiore.*
Quota.s: *livello o falda superiore.*
l: *lunghezza del maschio. [m]*
Sp.: *spessore. [m]*
h netta: *altezza netta (a filo solai). [m]*
h ini.: *altezza nel modello al punto iniziale. [m]*
h fin.: *altezza nel modello al punto finale. [m]*
a: *distanza tra irrigidimenti laterali. [m]*
a.s.,sx: *lunghezza di appoggio del solaio di sinistra. [m]*
a.s.,dx: *lunghezza di appoggio del solaio di destra. [m]*
fb: *resistenza normalizzata a compressione verticale dei blocchi. [daN/m²]*
fk: *resistenza caratteristica a compressione della muratura utilizzata. [daN/m²]*
fvk0: *resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]*
fmedio: *resistenza media a compressione della muratura utilizzata. [daN/m²]*
τ0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]*
fv0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]*
μ: *coefficiente di attrito [C8.7.1.17].*
φ: *coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.*
fv,lim: *valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/m²]*
E: *modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]*
G: *modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]*
FC: *fattore di confidenza della muratura.*
Materiale: *descrizione del materiale.*
Fu Verticale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
Fu Orizzontale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
tfv: *spessore di calcolo equivalente verticale di uno strato di rinforzo.*
tfo: *spessore di calcolo equivalente orizzontale di uno strato di rinforzo.*
E: *modulo di elasticità longitudinale. [daN/m²]*
εu: *dilatazione a rottura.*
Tipo fibra: *natura della fibra.*
materiale: *materiale fibra del rinforzo.*
lato applicazione: *lato di applicazione del rinforzo.*
esposizione: *condizione di esposizione secondo CNR-DT 215 §3.2.*
ancoraggio verticale iniziale: *grado di ancoraggio iniziale dei rinforzi verticali.*
ancoraggio verticale finale: *grado di ancoraggio finale dei rinforzi verticali.*
ancoraggio orizzontale iniziale: *grado di ancoraggio iniziale dei rinforzi orizzontali.*
ancoraggio orizzontale finale: *grado di ancoraggio finale dei rinforzi orizzontali.*
strati: *numero strati del rinforzo.*
verifica taglio: *tipo di verifica a taglio.*
εlim,conv / ε,CNR DT-200: *dati relativi ai parametri per il calcolo della deformazione di progetto.*
αt: *coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.*
α: *coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.*
εlim,conv: *deformazione limite convenzionale del rinforzo FRCM.*
ε,fd: *deformazione di progetto del rinforzo FRCM ovvero CRM.*
γF,d: *fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.*
connettori: *presenza di connettori per la prevenzione del distacco del rinforzo.*
tipo di muratura: *tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.*
CRM / Fibrenet?: *dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.*
CRM: *stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.*
intonaco: *materiale intonaco FRCM ovvero CRM.*
spessore intonaco: *spessore intonaco. [m]*
tipo blocco fibrenet: *tipo blocco muratura per verifica a tglio tipo Fibrenet.*
Comb.: *combinazione.*
Quota: *quota della sezione di verifica. [m]*
M: *momento flettente nel piano. [daN*m]*
N: *sforzo normale. [daN]*
εm: *deformazione della muratura.*
εm_: *deformazione elastica della muratura.*
εmu: *deformazione ultima della muratura.*
df: *distanza tra il lembo compresso e la fibra tesa più lontana. [m]*
M0d: *momento resistente della sezione non rinforzata. [daN*m]*
M1d: *momento resistente della sezione rinforzata. [daN*m]*
MRd: *momento resistente della sezione. [daN*m]*
c.s.: *coefficiente di sicurezza.*
incremento > 50%: *incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.*
Verifica: *stato di verifica.*
Nmur: *aliquota di sforzo normale recepito dalla sola muratura. [daN]*

V: taglio nel piano. [daN]
df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]
l': lunghezza della parte compressa della parete. [m]
σN: tensione media nella zona compressa. [daN/m²]
fvd: resistenza a taglio di calcolo. [daN/m²]
Vt: resistenza a taglio della muratura non rinforzata. [daN]
Vt,f: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]
Vt,c: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]
Vt,c int.: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]
Vt,R: resistenza a taglio della sezione rinforzata. [daN]
res. > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
fd: resistenza a compressione di calcolo. [daN/m²]
Sa: accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.
σ0: tensione media di compressione. [daN/m²]
*M: momento flettente fuori piano. [daN*m]*
*Mc: momento di collasso per azioni perpendicolari al piano. [daN*m]*
Coeff.s.: coefficiente di sicurezza.
N top: sforzo normale in sommità. [daN]
N base: sforzo normale al piede. [daN]
V orto: taglio fuori piano. [daN]
α0: moltiplicatore secondo [C8.7.1.1].
M: massa partecipante al cinematismo. [daN/(m/s²)]*
e: frazione di massa partecipante della muratura [C8.7.1.5].*
a0: accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [m/s²]*
aLim: accelerazione limite [C7.2.11]. [m/s²]
Stato limite: pF_SLU=Presso flessione per azioni non sismiche; V_SLU=Taglio per azioni non sismiche; PF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche; PFFP_SLV=Presso flessione fuori piano per azioni sismiche; R_SLV=Ribaltamento per azioni sismiche.
Sa: accelerazione massima adimensionalizzata rispetto a quella di gravità.

Maschio 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.603	1.574	-24.603	-3.284	L2	L4	4.857	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	-1.95	-7401.96	-62236	-0.0000529	0.0003743	0.0035	4.8573	108877.69	126200.03	126200.03	17.05	No	Si
SLU 75	0.15	-19163.37	-86427	-0.0000851	0.0003743	0.0035	4.8573	128380.55	154071.34	154071.34	8.04	No	Si
SLU 80	-1.95	-7509.42	-62488	-0.0000532	0.0003743	0.0035	4.8573	109145.95	126550.37	126550.37	16.85	No	Si
SLU 80	0.15	-19380.63	-86848	-0.0000857	0.0003743	0.0035	4.8573	128606.53	154543.71	154543.71	7.97	No	Si
SLU 74	-1.95	-7828.31	-61982	-0.0000531	0.0003743	0.0035	4.8573	108604.92	125844.16	125844.16	16.08	No	Si
SLU 74	0.15	-19109.64	-86184	-0.0000849	0.0003743	0.0035	4.8573	128247.88	153798.29	153798.29	8.05	No	Si
SLU 83	-1.95	-8047.97	-63912	-0.0000549	0.0003743	0.0035	4.8573	110640.71	128508.84	128508.84	15.97	No	Si
SLU 83	0.15	-19552.78	-88874	-0.0000877	0.0003743	0.0035	4.8573	129641.73	156836.21	156836.21	8.02	No	Si
SLU 77	-1.95	-8006.37	-62564	-0.0000537	0.0003743	0.0035	4.8573	109227.67	126657.16	126657.16	15.82	No	Si
SLU 77	0.15	-19431.44	-87173	-0.0000861	0.0003743	0.0035	4.8573	128779.03	154910.75	154910.75	7.97	No	Si
SLU 78	-1.95	-7580.02	-62819	-0.0000535	0.0003743	0.0035	4.8573	109497.21	127009.6	127009.6	16.76	No	Si
SLU 78	0.15	-19485.17	-87417	-0.0000864	0.0003743	0.0035	4.8573	128906.45	155185.59	155185.59	7.96	No	Si
SLU 70	-1.95	-6902.75	-57542	-0.0000486	0.0003743	0.0035	4.8573	103613.77	119244.89	119244.89	17.27	No	Si
SLU 70	0.15	-18207.21	-79812	-0.0000783	0.0003743	0.0035	4.8573	124316.03	146792.14	146792.14	8.06	No	Si
SLU 84	-1.95	-7621.62	-64166	-0.0000546	0.0003743	0.0035	4.8573	110902.77	128855.5	128855.5	16.91	No	Si
SLU 84	0.15	-19606.52	-89117	-0.000088	0.0003743	0.0035	4.8573	129760.11	157092.69	157092.69	8.01	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	-1.95	-7935.77	-62233	-0.0000534	0.0003743	0.0035	4.8573	108874.58	126195.97	126195.97	15.9	No	Si
SLU 79	0.15	-19326.89	-86604	-0.0000855	0.0003743	0.0035	4.8573	128476.09	154269.91	154269.91	7.98	No	Si
SLU 76	-1.95	-7047.12	-62075	-0.0000524	0.0003743	0.0035	4.8573	108704.51	125974.05	125974.05	17.88	No	Si
SLU 76	0.15	-19094.64	-86020	-0.0000847	0.0003743	0.0035	4.8573	128158.08	153615.24	153615.24	8.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	-33713.48	-16737	-0.000094	0.0005615	0.0035	3.8858		45496.54	45496.54	1.35		Si
SLV 12	0.15	-38953.57	-16104	-0.0003234	0.0005615	0.0035	3.8858		44114.4	44114.4	1.13		Si
SLD 7	-1.95	-22506.43	-35382	-0.0000449	0.0005615	0.0035	4.8573		85136.86	85136.86	3.78		Si
SLD 7	0.15	-30270.53	-43935	-0.0000583	0.0005615	0.0035	4.8573		102083.19	102083.19	3.37		Si
SLV 11	-1.95	-32264.47	-17192	-0.0000724	0.0005615	0.0035	3.8858		46492.35	46492.35	1.44		Si
SLV 11	0.15	-40154.4	-17144	-0.0002726	0.0005615	0.0035	3.8858		46386.75	46386.75	1.16		Si
SLV 15	-1.95	-8921.48	-17046	-0.0000196	0.0005615	0.0035	4.8573		46172.83	46172.83	5.18		Si
SLV 15	0.15	-18987.01	-24345	-0.0000336	0.0005615	0.0035	4.8573		62173.96	62173.96	3.27		Si
SLV 7	-1.95	-34616.62	-29392	-0.0000543	0.0005615	0.0035	4.8573		72827.28	72827.28	2.1		Si
SLV 7	0.15	-42178.05	-32288	-0.0000672	0.0005615	0.0035	4.8573		78894.75	78894.75	1.87		Si
SLD 12	-1.95	-21876.73	-27285	-0.0000383	0.0005615	0.0035	4.8573		68360.18	68360.18	3.12		Si
SLD 12	0.15	-28246.69	-33615	-0.0000487	0.0005615	0.0035	4.8573		81569.43	81569.43	2.89		Si
SLD 8	-1.95	-23385.76	-35106	-0.0000455	0.0005615	0.0035	4.8573		84578.09	84578.09	3.62		Si
SLD 8	0.15	-29541.8	-43304	-0.0000572	0.0005615	0.0035	4.8573		100864.86	100864.86	3.41		Si
SLD 11	-1.95	-20997.4	-27562	-0.0000377	0.0005615	0.0035	4.8573		68944.47	68944.47	3.28		Si
SLD 11	0.15	-28975.42	-34246	-0.0000499	0.0005615	0.0035	4.8573		82840.49	82840.49	2.86		Si
SLV 8	-1.95	-36065.63	-28937	-0.0000567	0.0005615	0.0035	4.8573		71860.16	71860.16	1.99		Si
SLV 8	0.15	-40977.22	-31248	-0.0000652	0.0005615	0.0035	4.8573		76762.31	76762.31	1.87		Si
SLV 16	-1.95	-11074.05	-16370	-0.0000209	0.0005615	0.0035	4.8573		44694.49	44694.49	4.04		Si
SLV 16	0.15	-17203.12	-22801	-0.0000309	0.0005615	0.0035	4.8573		58850.73	58850.73	3.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 31	-1.95	-5866.37	-51751	-46001	997	4.8573	4.8573	-21046	9751	28922	28547	65452	12386	57468	No	57.62	Si
SLU 31	0.15	-15815.7	-71879	-63893	355	4.8573	4.8573	-29231	10833	36078	28547	65452	12386	64625	No	182.13	Si
SLU 55	-1.95	-5853.68	-55737	-49544	974	4.8573	4.8573	-22667	9967	30339	28547	65452	12386	58886	No	60.46	Si
SLU 55	0.15	-16952.15	-76672	-68153	282	4.8573	4.8573	-31180	10833	37782	28547	65452	12386	66329	No	235.12	Si
SLU 73	-1.95	-6869.06	-61492	-54660	1048	4.8573	4.8573	-25007	10279	32385	28547	65452	12386	60932	No	58.14	Si
SLU 73	0.15	-18772.84	-85031	-75583	284	4.8573	4.8573	-34579	10833	40754	28547	65452	12386	69301	No	243.63	Si
SLU 26	-1.95	-5367.16	-47057	-41829	927	4.8573	4.8573	-19137	9496	27253	28547	65452	12386	55800	No	60.19	Si
SLU 26	0.15	-14859.54	-65264	-58012	344	4.8573	4.8573	-26541	10483	33726	28547	65452	12386	62273	No	180.95	Si
SLU 76	-1.95	-7047.12	-62075	-55178	1095	4.8573	4.8573	-25244	10310	32592	28547	65452	12386	61139	No	55.85	Si
SLU 76	0.15	-19094.64	-86020	-76462	324	4.8573	4.8573	-34982	10833	41106	28547	65452	12386	69653	No	215.16	Si
SLU 68	-1.95	-6369.85	-56798	-50488	978	4.8573	4.8573	-23098	10024	30716	28547	65452	12386	59263	No	60.61	Si
SLU 68	0.15	-17816.68	-78415	-69702	274	4.8573	4.8573	-31889	10833	38402	28547	65452	12386	66949	No	244.56	Si
SLU 13	-1.95	-4850.99	-45996	-40885	923	4.8573	4.8573	-18705	9438	26876	28547	65452	12386	55422	No	60.03	Si
SLU 13	0.15	-13995.01	-63521	-56463	352	4.8573	4.8573	-25832	10389	33107	28547	65452	12386	61653	No	174.91	Si
SLU 10	-1.95	-4672.92	-45414	-40368	877	4.8573	4.8573	-18468	9407	26669	28547	65452	12386	55215	No	62.98	Si
SLU 10	0.15	-13673.2	-62531	-55584	313	4.8573	4.8573	-25430	10335	32755	28547	65452	12386	61301	No	195.71	Si
SLU 36	-1.95	-6577.33	-53077	-47180	922	4.8573	4.8573	-21585	9822	29393	28547	65452	12386	57940	No	62.83	Si
SLU 36	0.15	-16528.03	-74266	-66014	262	4.8573	4.8573	-30202	10833	36927	28547	65452	12386	65473	No	250.25	Si
SLU 34	-1.95	-6044.43	-52333	-46519	1044	4.8573	4.8573	-21282	9782	29129	28547	65452	12386	57675	No	55.25	Si
SLU 34	0.15	-16137.5	-72869	-64773	394	4.8573	4.8573	-29634	10833	36430	28547	65452	12386	64977	No	164.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	21783.02	-68872	-61220	18274	4.8573	4.8573	-28008	16018	40270	28547	98178	12386	68817		3.77	Si
SLV 6	0.15	13588.48	-101585	-90298	17484	4.8573	4.8573	-41312	16250	51901	28547	98178	12386	80448		4.6	Si
SLV 9	-1.95	25584.18	-57127	-50779	21011	4.8573	4.8573	-23232	15063	36094	28547	98178	12386	64641		3.08	Si
SLV 9	0.15	14411.29	-87480	-77760	19856	4.8573	4.8573	-35576	16250	46886	28547	98178	12386	75433		3.8	Si
SLD 8	-1.95	-23385.76	-35106	-31205	-11743	4.8573	4.8573	-14277	13272	29010	28547	98178	12386	57556		4.9	Si
SLD 8	0.15	-29541.8	-43304	-38493	-11911	4.8573	4.8573	-17611	13939	31180	28547	98178	12386	59726		5.01	Si
SLV 12	-1.95	-33713.48	-16737	-14877	-20240	3.8858	1.2429	0	0	0	28547	78542	9909	28547		1.41	Si
SLV 12	0.15	-38953.57	-16104	-14315	-20515	3.8858	0.0293	0	0	0	28547	78542	9909	28547		1.39	Si
SLV 11	-1.95	-32264.47	-17192	-15282	-17524	3.8858	1.6557	0	0	0	28547	78542	9909	28547		1.63	Si
SLV 11	0.15	-40154.4	-17144	-15239	-17806	3.8858	0.2592	0	0	0	28547	78542	9909	28547		1.6	Si
SLV 7	-1.95	-34616.62	-29392	-26126	-17546	4.8573	3.7527	-15583	13533	26234	28547	98178	12386	54780		3.12	Si
SLV 7	0.15	-42178.05	-32288	-28700	-17469	4.8573	3.367	-19121	14241	27263	28547	98178	12386	55810		3.19	Si
SLV 8	-1.95	-36065.63	-28937	-25722	-20262	4.8573	3.5469	-16244	13666	26072	28547	98178	12386	54618		2.7	Si
SLV 8	0.15	-40977.22	-31248	-27776	-20178	4.8573	3.3519	-18583	14134	26894	28547	98178	12386	55440		2.75	Si
SLV 10	-1.95	24135.17	-56672	-50375	18296	4.8573	4.8573	-23047	15026	35933	28547	98178	12386	64479		3.52	Si
SLV 10	0.15	15612.13	-86441	-76836	17147	4.8573	4.8573	-35153	16250	46517	28547	98178	12386	75063		4.38	Si
SLD 12	-1.95	-21876.73	-27285	-24254	-11724	4.8573	4.8573	-11096	12636	27619	28547	98178	12386	56166		4.79	Si
SLD 12	0.15	-28246.69	-33615	-29880	-12119	4.8573	4.765	-14030	13223	28353	28547	98178	12386	56899		4.7	Si
SLV 5	-1.95	23232.03	-69327	-61624	20989	4.8573	4.8573	-28193	16055	40432	28547	98178	12386	68979		3.29	Si
SLV 5	0.15	12387.64	-102625	-91222	20193	4.8573	4.8573	-41734	16250	52271	28547	98178	12386	80817		4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	8562	-18714	281.45	3974.58	14.12	Si
SLV 11	179667	0.24	8858	-19362	281.45	4103.77	14.58	Si
SLV 16	179667	0.24	9701	-21203	281.45	4467.69	15.87	Si
SLV 15	179667	0.24	10141	-22166	281.45	4656.17	16.54	Si
SLV 8	179667	0.24	14966	-32711	281.45	6638.79	23.59	Si
SLV 7	179667	0.24	15262	-33359	281.45	6755.75	24	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.24	17142	-37469	281.45	7484.22	26.59	Si
SLV 13	179667	0.24	17583	-38432	281.45	7651.59	27.19	Si
SLV 4	179667	0.24	31047	-67861	281.45	12164.65	43.22	Si
SLV 3	179667	0.24	31487	-68824	281.45	12292.57	43.68	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-94586	-69694	1381	0.35	10436.8	0.976	5.21149	2.70061	Si
SLV 5	-102591	-69327	916	0.335	11252.3	0.978	4.97523	2.57112	Si
SLV 6	-101853	-68872	915	0.336	11177.1	0.978	5.0016	2.57112	Si
SLV 2	-93490	-69018	1380	0.353	10325.2	0.976	5.25672	2.70061	Si
SLV 9	-87547	-57127	390	0.381	9719.8	0.974	5.67908	2.57112	Si
SLV 10	-86809	-56672	389	0.383	9644.7	0.974	5.71563	2.57112	Si
SLV 3	-72527	-57714	1254	0.427	8190.3	0.97	6.39275	2.70061	Si
SLV 4	-71432	-57038	1252	0.432	8078.8	0.97	6.46868	2.70061	Si
SLV 13	-44439	-29026	-372	0.637	5332.5	0.956	9.69543	2.70061	Si
SLV 14	-43344	-28350	-374	0.65	5221.2	0.955	9.89321	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.964	SLU 78	Si
V_SLU	55.247	SLU 34	Si
PF_SLV	1.132	SLV 12	Si
V_SLV	1.391	SLV 12	Si
PFFP_SLV	14.122	SLV 12	Si
R_SLV	1.93	SLV 1	Si

Maschio 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.603	5.876	-24.603	2.374	L2	L4	3.503	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	-1.95	-9602.83	-39572	-0.0000575	0.0003743	0.0035	3.5027	52214.87	60025.39	60025.39	6.25	No	Si
SLU 70	0.15	-16128.81	-36628	-0.0000662	0.0003743	0.0035	3.5027	49507.51	56670.33	56670.33	3.51	No	Si
SLU 65	-1.95	-9062.59	-38035	-0.0000548	0.0003743	0.0035	3.5027	50824.67	58263.76	58263.76	6.43	No	Si
SLU 65	0.15	-15513.74	-34668	-0.0000628	0.0003743	0.0035	3.5027	47599.77	54373.06	54373.06	3.5	No	Si
SLU 44	-1.95	-7700.58	-33347	-0.0000471	0.0003743	0.0035	3.5027	46266.58	52760.14	52760.14	6.85	No	Si
SLU 44	0.15	-13797.07	-29534	-0.0000539	0.0003743	0.0035	3.5027	42205.63	48040.26	48040.26	3.48	No	Si
SLU 46	-1.95	-8080.48	-34340	-0.0000489	0.0003743	0.0035	3.5027	47272.16	53970.88	53970.88	6.68	No	Si
SLU 46	0.15	-14154	-30824	-0.000056	0.0003743	0.0035	3.5027	43614.91	49717.52	49717.52	3.51	No	Si
SLU 51	-1.95	-8165.06	-34618	-0.0000494	0.0003743	0.0035	3.5027	47549.61	54311.23	54311.23	6.65	No	Si
SLU 51	0.15	-14297.21	-31165	-0.0000566	0.0003743	0.0035	3.5027	43981.16	50132.18	50132.18	3.51	No	Si
SLU 49	-1.95	-8240.83	-34884	-0.0000498	0.0003743	0.0035	3.5027	47814.06	54638.27	54638.27	6.63	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	0.15	-14412.14	-31494	-0.0000572	0.0003743	0.0035	3.5027	44333.03	50526.24	50526.24	3.51	No	Si
SLU 72	-1.95	-9527.06	-39305	-0.0000571	0.0003743	0.0035	3.5027	51977.67	59718.63	59718.63	6.27	No	Si
SLU 72	0.15	-16013.88	-36299	-0.0000656	0.0003743	0.0035	3.5027	49192.59	56299.45	56299.45	3.52	No	Si
SLU 76	-1.95	-10189.26	-42036	-0.0000614	0.0003743	0.0035	3.5027	54336.25	62696.02	62696.02	6.15	No	Si
SLU 76	0.15	-16886.22	-38994	-0.0000704	0.0003743	0.0035	3.5027	51698.52	59360.96	59360.96	3.52	No	Si
SLU 47	-1.95	-7860.92	-33891	-0.000048	0.0003743	0.0035	3.5027	46820.27	53422.43	53422.43	6.8	No	Si
SLU 47	0.15	-14055.22	-30205	-0.0000551	0.0003743	0.0035	3.5027	42942.62	48911.02	48911.02	3.48	No	Si
SLU 68	-1.95	-9222.93	-38579	-0.0000557	0.0003743	0.0035	3.5027	51322.68	58884.96	58884.96	6.38	No	Si
SLU 68	0.15	-15771.89	-35338	-0.0000641	0.0003743	0.0035	3.5027	48261.64	55197.29	55197.29	3.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	-1.95	942.35	-15368	-0.0000164	0.0005615	0.0035	3.5027		26117.7	26117.7	27.72		Si
SLD 10	0.15	-6309.94	-6972	-0.0000185	0.0005615	0.0035	3.5027		15478.87	15478.87	2.45		Si
SLV 15	-1.95	-6519.2	-21732	-0.0000322	0.0005615	0.0035	3.5027		38797.68	38797.68	5.95		Si
SLV 15	0.15	-12796.54	-20498	-0.0000416	0.0005615	0.0035	3.5027		36913.23	36913.23	2.88		Si
SLV 5	-1.95	5004.17	-13388	-0.0000212	0.0005615	0.0035	3.5027		22973.86	22973.86	4.59		Si
SLV 5	0.15	-5063.11	-593	-0.0004191	0.0005615	0.0035	2.8022		4725.02	4725.02	0.93		No
SLD 9	-1.95	1434.08	-15104	-0.000017	0.0005615	0.0035	3.5027		25700.32	25700.32	17.92		Si
SLD 9	0.15	-7029.57	-6149	-0.0000228	0.0005615	0.0035	2.8022		14113.44	14113.44	2.01		Si
SLV 14	-1.95	93.25	-10370	-0.0000101	0.0005615	0.0035	3.5027		18101.03	18101.03	194.11		Si
SLV 14	0.15	-6187.5	-4343	-0.0000296	0.0005615	0.0035	2.8022		11093.4	11093.4	1.79		Si
SLV 10	-1.95	6600.79	-5714	-0.0000216	0.0005615	0.0035	3.5027		10397.5	10397.5	1.58		Si
SLV 10	0.15	-2466.25	6882	0	0.0005615	0.0035	2.8022		0	0	0		No
SLD 13	-1.95	-1976.2	-17180	-0.0000199	0.0005615	0.0035	3.5027		31886.1	31886.1	16.14		Si
SLD 13	0.15	-9485.42	-11750	-0.0000282	0.0005615	0.0035	3.5027		23275.76	23275.76	2.45		Si
SLV 6	-1.95	4193.87	-13823	-0.0000203	0.0005615	0.0035	3.5027		23669.42	23669.42	5.64		Si
SLV 6	0.15	-3877.25	-1950	-0.0000907	0.0005615	0.0035	2.8022		7047.67	7047.67	1.82		Si
SLV 13	-1.95	1296.99	-9723	-0.0000115	0.0005615	0.0035	3.5027		17045.43	17045.43	13.14		Si
SLV 13	0.15	-7949.14	-2327	-0.0004323	0.0005615	0.0035	2.8022		7686.39	7686.39	0.97		No
SLV 9	-1.95	7411.09	-5279	-0.0000346	0.0005615	0.0035	3.5027		9661.05	9661.05	1.3		Si
SLV 9	0.15	-3652.11	8239	0	0.0005615	0.0035	2.8022		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	-1.95	-9818.52	-39846	-35418	-1449	3.5027	3.5027	-22470	9940	21755	28547	47199	8932	50301	No	34.72	Si
SLU 69	0.15	-16104.59	-37063	-32945	-1139	3.5027	3.5027	-20901	9731	20765	28547	47199	8932	49312	No	43.3	Si
SLU 37	-1.95	-9208.28	-36472	-32420	-1396	3.5027	3.5027	-20568	9687	20555	28547	47199	8932	49102	No	35.18	Si
SLU 37	0.15	-14382.12	-34760	-30898	-1111	3.5027	3.5027	-19603	9558	19947	28547	47199	8932	48493	No	43.67	Si
SLU 41	-1.95	-9462.09	-37410	-33253	-1386	3.5027	3.5027	-21097	9757	20889	28547	47199	8932	49435	No	35.67	Si
SLU 41	0.15	-14601.54	-35657	-31695	-1091	3.5027	3.5027	-20108	9626	20265	28547	47199	8932	48812	No	44.72	Si
SLU 79	-1.95	-10709.09	-43037	-38255	-1536	3.5027	3.5027	-24270	10180	22889	28547	47199	8932	51436	No	33.48	Si
SLU 79	0.15	-17103.99	-40389	-35901	-1199	3.5027	3.5027	-22777	9981	21948	28547	47199	8932	50494	No	42.11	Si
SLU 83	-1.95	-10962.89	-43975	-39088	-1527	3.5027	3.5027	-24799	10251	23223	28547	47199	8932	51769	No	33.91	Si
SLU 83	0.15	-17323.42	-41285	-36698	-1180	3.5027	3.5027	-23282	10049	22267	28547	47199	8932	50813	No	43.06	Si
SLU 35	-1.95	-9284.05	-36739	-32657	-1432	3.5027	3.5027	-20718	9707	20650	28547	47199	8932	49197	No	34.35	Si
SLU 35	0.15	-14497.05	-35090	-31191	-1145	3.5027	3.5027	-19788	9583	20064	28547	47199	8932	48610	No	42.45	Si
SLU 77	-1.95	-10784.86	-43303	-38492	-1573	3.5027	3.5027	-24420	10200	22984	28547	47199	8932	51531	No	32.77	Si
SLU 77	0.15	-17218.92	-40719	-36194	-1234	3.5027	3.5027	-22963	10006	22065	28547	47199	8932	50612	No	41.02	Si
SLU 81	-1.95	-10802.55	-43430	-38605	-1464	3.5027	3.5027	-24492	10210	23029	28547	47199	8932	51576	No	35.24	Si
SLU 81	0.15	-17065.28	-40615	-36102	-1120	3.5027	3.5027	-22904	9998	22028	28547	47199	8932	50575	No	45.15	Si
SLU 74	-1.95	-10624.52	-42759	-38008	-1510	3.5027	3.5027	-24113	10160	22791	28547	47199	8932	51337	No	34.01	Si
SLU 74	0.15	-16960.78	-40048	-35599	-1174	3.5027	3.5027	-22585	9956	21827	28547	47199	8932	50373	No	42.91	Si
SLU 71	-1.95	-9742.75	-39579	-35182	-1412	3.5027	3.5027	-22320	9920	21660	28547	47199	8932	50207	No	35.55	Si
SLU 71	0.15	-15989.66	-36733	-32652	-1104	3.5027	3.5027	-20715	9706	20648	28547	47199	8932	49195	No	44.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-1.95	-18642.88	-45309	-40274	-10936	3.5027	3.5027	-25551	15527	27491	28547	70799	8932	56038		5.12	Si
SLV 11	0.15	-19810.12	-52332	-46518	-10280	3.5027	3.5027	-29512	16250	29988	28547	70799	8932	58535		5.69	Si
SLV 9	-1.95	7411.09	-5279	-4692	11472	3.5027	1.0424	-10052	12427	13259	28547	70799	8932	41805		3.64	Si
SLV 9	0.15	-3652.11	8239	7324	11736	2.8022	3.5027	0	0	0	28547	56639	7146	28547		2.43	Si
SLD 9	-1.95	1434.08	-15104	-13425	6375	3.5027	3.5027	-8517	12120	19104	28547	70799	8932	47651		7.47	Si
SLD 9	0.15	-7029.57	-6149	-5466	6635	2.8022	1.8244	0	0	0	28547	56639	7146	28547		4.3	Si
SLV 8	-1.95	-21860.1	-53853	-47869	-13383	3.5027	3.5027	-30370	16250	30529	28547	70799	8932	59075		4.41	Si
SLV 8	0.15	-20035.26	-62522	-55575	-13182	3.5027	3.5027	-35258	16250	33611	28547	70799	8932	62157		4.72	Si
SLV 12	-1.95	-19453.18	-45744	-40661	-12657	3.5027	3.5027	-25797	15576	27646	28547	70799	8932	56192		4.44	Si
SLV 12	0.15	-18624.26	-53689	-47724	-12001	3.5027	3.5027	-30277	16250	30471	28547	70799	8932	59017		4.92	Si
SLV 10	-1.95	6600.79	-5714	-5079	9751	3.5027	1.7886	-3222	11061	13414	28547	70799	8932	41960		4.3	Si
SLV 10	0.15	-2466.25	6882	6117	10014	2.8022	3.5027	0	0	0	28547	56639	7146	28547		2.85	Si
SLV 13	-1.95	1296.99	-9723	-8643	4895	3.5027	3.5027	-5483	11513	18148	28547	70799	8932	46694		9.54	Si
SLV 13	0.15	-7949.14	-2327	-2068	5825	2.8022	0	0	0	0	28547	56639	7146	28547		4.9	Si
SLV 6	-1.95	4193.87	-13823	-12287	9025	3.5027	3.5027	-7795	11976	18876	28547	70799	8932	47423		5.25	Si
SLV 6	0.15	-3877.25	-1950	-1734	8834	2.8022	0	0	0	0	28547	56639	7146	28547		3.23	Si
SLV 5	-1.95	5004.17	-13388	-11900	10746	3.5027	3.5027	-7550	11927	18799	28547	70799	8932	47346		4.41	Si
SLV 5	0.15	-5063.11	-593	-527	10555	2.8022	0	0	0	0	28547	56639	7146	28547		2.7	Si
SLV 7	-1.95	-21049.8	-53418	-47483	-11662	3.5027	3.5027	-30124	16250	30374	28547	70799	8932	58921		5.05	Si
SLV 7	0.15	-21221.12	-61165	-54369	-11460	3.5027	3.5027	-34493	16250	33128	28547	70799	8932	61675		5.38	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.24	0	1379	202.96	0	0	No, Trazione

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	0	2325	202.96	0	0	No, Trazione
SLV 13	179667	0.24	3473	-5474	202.96	1203.64	5.93	Si
SLV 5	179667	0.24	3821	-6022	202.96	1321.09	6.51	Si
SLV 14	179667	0.24	4364	-6879	202.96	1503.47	7.41	Si
SLV 6	179667	0.24	4420	-6968	202.96	1522.35	7.5	Si
SLV 15	179667	0.24	13134	-20702	202.96	4257.41	20.98	Si
SLV 16	179667	0.24	14025	-22107	202.96	4517.25	22.26	Si
SLV 1	179667	0.24	21124	-33297	202.96	6455.52	31.81	Si
SLV 2	179667	0.24	22016	-34702	202.96	6682.28	32.92	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-63353	-53853	904	0.371	7031.8	0.974	5.5256	2.57112	Si
SLV 7	-62235	-53418	895	0.375	6917.9	0.974	5.60175	2.57112	Si
SLV 4	-51996	-49409	1240	0.422	5875.2	0.97	6.33142	2.70061	Si
SLV 3	-50335	-48762	1227	0.433	5706.1	0.969	6.49549	2.70061	Si
SLV 12	-54910	-45744	403	0.42	6171.8	0.971	6.28596	2.57112	Si
SLV 11	-53792	-45309	394	0.427	6058	0.971	6.38872	2.57112	Si
SLV 2	-33585	-37400	1025	0.594	4001.8	0.957	9.02621	2.70061	Si
SLV 1	-31924	-36753	1013	0.618	3833	0.955	9.40802	2.70061	Si
SLV 16	-23850	-22379	-431	0.796	3013.2	0.945	12.23635	2.70061	Si
SLV 15	-22189	-21732	-443	0.841	2844.8	0.942	12.9667	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.48	SLU 47	Si
V_SLU	32.769	SLU 77	Si
PF_SLV	0	SLV 9	No
V_SLV	2.432	SLV 9	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.149	SLV 8	Si

Maschio 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.863	5.876	-24.603	5.876	L2	L4	1.74	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 7	0.05	-567.67	-14501	-0.0000331	0.0003743	0.0035	1.74	10321.04	11699.83	11699.83	20.61	No	Si
SLU 7	0.45	795.28	-12515	-0.0000305	0.0003743	0.0035	1.74	9178.71	9507.07	9507.07	11.95	No	Si
SLU 48	0.05	-709.24	-17858	-0.0000413	0.0003743	0.0035	1.74	12056.21	13737.76	13737.76	19.37	No	Si
SLU 48	0.45	1019.59	-15329	-0.0000381	0.0003743	0.0035	1.74	10772.02	11380.63	11380.63	11.16	No	Si
SLU 47	0.05	-677.77	-17080	-0.0000394	0.0003743	0.0035	1.74	11675.87	13282.21	13282.21	19.6	No	Si
SLU 47	0.45	934.72	-14692	-0.0000361	0.0003743	0.0035	1.74	10426.21	10951.3	10951.3	11.72	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	0.05	-688	-17514	-0.0000404	0.0003743	0.0035	1.74	11889.6	13540.61	13540.61	19.68	No	Si
SLU 51	0.45	984.39	-15052	-0.0000372	0.0003743	0.0035	1.74	10622.56	11193.35	11193.35	11.37	No	Si
SLU 50	0.05	-709.92	-17713	-0.000041	0.0003743	0.0035	1.74	11985.98	13654.92	13654.92	19.23	No	Si
SLU 50	0.45	1001.74	-15205	-0.0000377	0.0003743	0.0035	1.74	10705.47	11296.91	11296.91	11.28	No	Si
SLU 6	0.05	-589.6	-14700	-0.0000337	0.0003743	0.0035	1.74	10430.48	11826.64	11826.64	20.06	No	Si
SLU 6	0.45	812.64	-12669	-0.000031	0.0003743	0.0035	1.74	9270.12	9607.84	9607.84	11.82	No	Si
SLU 45	0.05	-713.63	-17557	-0.0000407	0.0003743	0.0035	1.74	11910.36	13565.82	13565.82	19.01	No	Si
SLU 45	0.45	981.5	-15072	-0.0000372	0.0003743	0.0035	1.74	10633.36	11206.79	11206.79	11.42	No	Si
SLU 43	0.05	-718.71	-17109	-0.0000397	0.0003743	0.0035	1.74	11690.38	13299.69	13299.69	18.51	No	Si
SLU 43	0.45	925.55	-14690	-0.000036	0.0003743	0.0035	1.74	10425.3	10950.2	10950.2	11.83	No	Si
SLU 49	0.05	-687.32	-17660	-0.0000407	0.0003743	0.0035	1.74	11960.45	13624.98	13624.98	19.82	No	Si
SLU 49	0.45	1002.24	-15176	-0.0000376	0.0003743	0.0035	1.74	10689.53	11276.94	11276.94	11.25	No	Si
SLU 46	0.05	-691.71	-17358	-0.0000401	0.0003743	0.0035	1.74	11813.3	13448.13	13448.13	19.44	No	Si
SLU 46	0.45	964.14	-14918	-0.0000368	0.0003743	0.0035	1.74	10550	11103.39	11103.39	11.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	0.05	-1450.12	-9926	-0.0000293	0.0005615	0.0035	1.74		8863.91	8863.91	6.11		Si
SLD 14	0.45	-287.72	-8571	-0.0000187	0.0005615	0.0035	1.74		7829.76	7829.76	27.21		Si
SLV 16	0.05	-2112	-15513	-0.0000454	0.0005615	0.0035	1.74		12919.87	12919.87	6.12		Si
SLV 16	0.45	466.97	-12829	-0.0000284	0.0005615	0.0035	1.74		10337.88	10337.88	22.14		Si
SLV 6	0.05	-75.18	-2035	-0.0000044	0.0005615	0.0035	1.74		2578.12	2578.12	34.29		Si
SLV 6	0.45	-1325.75	-2781	-0.0000159	0.0005615	0.0035	1.74		3199.07	3199.07	2.41		Si
SLV 8	0.05	-974.23	-32448	-0.0000737	0.0005615	0.0035	1.74		23150.76	23150.76	23.76		Si
SLV 8	0.45	3263.08	-27203	-0.0000789	0.0005615	0.0035	1.74		19512.76	19512.76	5.98		Si
SLV 13	0.05	-1423.2	-5552	-0.0000203	0.0005615	0.0035	1.74		5463.79	5463.79	3.84		Si
SLV 13	0.45	-883.9	-5000	-0.0000156	0.0005615	0.0035	1.74		5019.09	5019.09	5.68		Si
SLV 14	0.05	-1842.29	-6389	-0.0000248	0.0005615	0.0035	1.74		6121.93	6121.93	3.32		Si
SLV 14	0.45	-909.68	-5502	-0.0000168	0.0005615	0.0035	1.74		5423.38	5423.38	5.96		Si
SLV 7	0.05	-692.12	-31885	-0.0000703	0.0005615	0.0035	1.74		22854.78	22854.78	33.02		Si
SLV 7	0.45	3280.43	-26865	-0.0000783	0.0005615	0.0035	1.74		19341.66	19341.66	5.9		Si
SLV 10	0.05	-713.93	931	0.1350491	0.0005615	0.0035	1.392		0	0	0		No
SLV 10	0.45	-1873.05	-54	-0.0011922	0.0005615	0.0035	1.392		900.84	900.84	0.48		No
SLV 5	0.05	206.93	-1472	-0.0000042	0.0005615	0.0035	1.74		1425.27	1425.27	6.89		Si
SLV 5	0.45	-1308.4	-2443	-0.0000164	0.0005615	0.0035	1.392		2917.96	2917.96	2.23		Si
SLV 9	0.05	-431.82	1494	0.2141543	0.0005615	0.0035	1.392		0	0	0		No
SLV 9	0.45	-1855.69	284	0.0438533	0.0005615	0.0035	1.392		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	-1141.51	-23260	-20675	-9446	1.74	1.74	-26405	10465	8194	28547	23447	4437	27884	No	2.95	Si
SLU 82	0.45	822.91	-20502	-18224	-9281	1.74	1.74	-23275	10048	7867	28547	23447	4437	27884	No	3	Si
SLU 79	0.05	-1073.8	-23055	-20493	-9782	1.74	1.74	-26173	10434	8170	28547	23447	4437	27884	No	2.85	Si
SLU 79	0.45	949.59	-20211	-17965	-9616	1.74	1.74	-22944	10004	7833	28547	23447	4437	27884	No	2.9	Si
SLU 83	0.05	-1159.04	-23760	-21120	-9823	1.74	1.74	-26973	10541	8253	28547	23447	4437	27884	No	2.84	Si
SLU 83	0.45	878.36	-20914	-18590	-9654	1.74	1.74	-23742	10110	7916	28547	23447	4437	27884	No	2.89	Si
SLU 77	0.05	-1073.12	-23201	-20623	-9873	1.74	1.74	-26338	10456	8187	28547	23447	4437	27884	No	2.82	Si
SLU 77	0.45	967.44	-20335	-18075	-9705	1.74	1.74	-23085	10022	7848	28547	23447	4437	27884	No	2.87	Si
SLU 75	0.05	-1055.59	-22700	-20178	-9496	1.74	1.74	-25770	10380	8128	28547	23447	4437	27884	No	2.94	Si
SLU 75	0.45	911.99	-19924	-17710	-9332	1.74	1.74	-22618	9960	7799	28547	23447	4437	27884	No	2.99	Si
SLU 84	0.05	-1137.12	-23561	-20943	-9627	1.74	1.74	-26747	10511	8230	28547	23447	4437	27884	No	2.9	Si
SLU 84	0.45	861	-20760	-18453	-9459	1.74	1.74	-23567	10087	7898	28547	23447	4437	27884	No	2.95	Si
SLU 81	0.05	-1163.44	-23458	-20852	-9642	1.74	1.74	-26630	10495	8218	28547	23447	4437	27884	No	2.89	Si
SLU 81	0.45	840.26	-20656	-18361	-9476	1.74	1.74	-23449	10071	7886	28547	23447	4437	27884	No	2.94	Si
SLU 78	0.05	-1051.19	-23002	-20446	-9677	1.74	1.74	-26113	10426	8164	28547	23447	4437	27884	No	2.88	Si
SLU 78	0.45	950.08	-20181	-17939	-9510	1.74	1.74	-22911	9999	7829	28547	23447	4437	27884	No	2.93	Si
SLU 80	0.05	-1051.87	-22856	-20317	-9586	1.74	1.74	-25947	10404	8146	28547	23447	4437	27884	No	2.91	Si
SLU 80	0.45	932.23	-20057	-17829	-9421	1.74	1.74	-22770	9980	7815	28547	23447	4437	27884	No	2.96	Si
SLU 74	0.05	-1077.51	-22899	-20355	-9692	1.74	1.74	-25996	10411	8151	28547	23447	4437	27884	No	2.88	Si
SLU 74	0.45	929.34	-20077	-17846	-9527	1.74	1.74	-22792	9983	7817	28547	23447	4437	27884	No	2.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.05	-2112	-15513	-13789	-11560	1.74	1.74	-17611	13939	10914	28547	35170	4437	39461		3.41	Si
SLV 16	0.45	466.97	-12829	-11403	-11620	1.74	1.74	-14564	13329	10437	28547	35170	4437	38983		3.35	Si
SLD 12	0.05	-1266.98	-23634	-21008	-15157	1.74	1.74	-26830	15783	12358	28547	35170	4437	39607		2.61	Si
SLD 12	0.45	1853.93	-19869	-17661	-15009	1.74	1.74	-22556	14928	11688	28547	35170	4437	39607		2.64	Si
SLV 4	0.05	17.15	-25401	-22579	-11950	1.74	1.74	-28837	16184	12672	28547	35170	4437	39607		3.31	Si
SLV 4	0.45	2291.29	-21919	-19483	-11588	1.74	1.74	-24883	15393	12053	28547	35170	4437	39607		3.42	Si
SLD 11	0.05	-1095.78	-23292	-20704	-14458	1.74	1.74	-26442	15705	12297	28547	35170	4437	39607		2.74	Si
SLD 11	0.45	1864.46	-19664	-17479	-14311	1.74	1.74	-22323	14881	11652	28547	35170	4437	39607		2.77	Si
SLV 11	0.05	-1330.87	-28918	-25705	-19883	1.74	1.74	-32829	16250	12724	28547	35170	4437	39607		1.99	Si
SLV 11	0.45	2733.14	-24138	-21456	-19711	1.74	1.74	-27402	15897	12447	28547	35170	4437	39607		2.01	Si
SLD 7	0.05	-678.72	-25175	-22378	-14518	1.74	1.74	-28579	16133	12632	28547	35170	4437	39607		2.73	Si
SLD 7	0.45	2214.87	-21401	-19023	-14295	1.74	1.74	-24295	15276	11961	28547	35170	4437	39607		2.77	Si
SLD 8	0.05	-849.92	-25517	-22682	-15217	1.74	1.74	-28967	16210	12693	28547	35170	4437	39607		2.6	Si
SLD 8	0.45	2204.34	-21606	-19205	-14993	1.74	1.74	-24528	15322	11997	28547	35170	4437	39607		2.64	Si
SLV 8	0.05	-974.23	-32448	-28843	-21152	1.74	1.74	-36836	16250	12724	28547	35170	4437	39607		1.87	Si
SLV 8	0.45	3263.08	-27203	-24180	-20851	1.74	1.74	-30882	16250	12724	28547	35170	4437	39607		1.9	Si
SLV 12	0.05	-1612.98	-29482	-26206	-21035	1.74	1.74	-33469	16250	12724	28547	35170	4437	39607		1.88	Si
SLV 12	0.45	2715.78	-24476	-21756	-20861	1.74	1.74	-27786	15974	12508	28547	35170	4437	39607		1.9	Si
SLV 7	0.05	-692.12	-31885	-28342	-20000	1.74	1.74	-36197	16250	12724	28547	35170	4437	39607		1.98	Si
SLV 7	0.45	3280.43	-26865	-23880	-19701	1.74	1.74	-30498	16250	12724	28547	35170	4437	39607		2.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	0	1841	100.82	0	0	No, Trazione
SLV 10	179667	0.24	0	1312	100.82	0	0	No, Trazione
SLV 5	179667	0.24	1744	-1366	100.82	303.82	3.01	Si
SLV 6	179667	0.24	2420	-1895	100.82	419.53	4.16	Si
SLV 13	179667	0.24	6277	-4915	100.82	1060.35	10.52	Si
SLV 14	179667	0.24	7280	-5700	100.82	1221.37	12.11	Si
SLV 15	179667	0.24	17907	-14022	100.82	2784.9	27.62	Si
SLV 16	179667	0.24	18910	-14807	100.82	2919.01	28.95	Si
SLV 1	179667	0.24	19927	-15603	100.82	3052.61	30.28	Si
SLV 2	179667	0.24	20930	-16389	100.82	3182.04	31.56	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-26161	-32315	1203	0.398	2952.3	0.97	5.95579	2.57112	Si
SLV 7	-25769	-31900	1183	0.403	2912.4	0.97	6.03494	2.57112	Si
SLV 12	-23638	-28388	1082	0.433	2695.4	0.967	6.50656	2.57112	Si
SLV 11	-23246	-27973	1063	0.439	2655.5	0.967	6.60272	2.57112	Si
SLV 4	-20531	-26731	909	0.489	2379.2	0.964	7.37761	2.70061	Si
SLV 3	-19949	-26114	880	0.501	2320	0.963	7.56666	2.70061	Si
SLV 2	-13100	-17930	532	0.715	1623.9	0.949	10.95041	2.70061	Si
SLV 1	-12518	-17313	503	0.742	1564.9	0.947	11.39162	2.70061	Si
SLV 16	-12120	-13639	508	0.761	1524.4	0.946	11.68949	2.70061	Si
SLV 15	-11538	-13022	479	0.792	1465.5	0.944	12.19754	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.162	SLU 48	Si
V_SLU	2.824	SLU 77	Si
PF_SLV	0	SLV 9	No
V_SLV	1.872	SLV 8	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.316	SLV 8	Si

Maschio 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.876	-21.863	5.876	L2	L4	2.245	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	0.05	-5007.63	-22440	-0.0000571	0.0003743	0.0035	2.245	19693.54	22366.57	22366.57	4.47	No	Si
SLU 48	0.45	-4200.23	-22651	-0.0000539	0.0003743	0.0035	2.245	19826.63	22522.51	22522.51	5.36	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	0.05	-5454.57	-26040	-0.0000655	0.0003743	0.0035	2.245	21829.81	24992.05	24992.05	4.58	No	Si
SLU 66	0.45	-4621.23	-26370	-0.0000624	0.0003743	0.0035	2.245	22011.4	25222.16	25222.16	5.46	No	Si
SLU 49	0.05	-4926.3	-22225	-0.0000564	0.0003743	0.0035	2.245	19557.05	22204.87	22204.87	4.51	No	Si
SLU 49	0.45	-4121.32	-22424	-0.0000532	0.0003743	0.0035	2.245	19683.4	22354.74	22354.74	5.42	No	Si
SLU 51	0.05	-4876.45	-22037	-0.0000558	0.0003743	0.0035	2.245	19436.85	22060.62	22060.62	4.52	No	Si
SLU 51	0.45	-4064.51	-22228	-0.0000526	0.0003743	0.0035	2.245	19558.62	22206.76	22206.76	5.46	No	Si
SLU 43	0.05	-4759.42	-21470	-0.0000543	0.0003743	0.0035	2.245	19069.29	21620.76	21620.76	4.54	No	Si
SLU 43	0.45	-3909.62	-21638	-0.0000509	0.0003743	0.0035	2.245	19179.2	21752.1	21752.1	5.56	No	Si
SLU 46	0.05	-4827.12	-21834	-0.0000553	0.0003743	0.0035	2.245	19306.01	21903.84	21903.84	4.54	No	Si
SLU 46	0.45	-4004.42	-22016	-0.0000519	0.0003743	0.0035	2.245	19423.13	22044.17	22044.17	5.5	No	Si
SLU 69	0.05	-5553.75	-26431	-0.0000667	0.0003743	0.0035	2.245	22044.92	25265.07	25265.07	4.55	No	Si
SLU 69	0.45	-4738.13	-26778	-0.0000636	0.0003743	0.0035	2.245	22232.87	25508.22	25508.22	5.38	No	Si
SLU 45	0.05	-4908.45	-22049	-0.000056	0.0003743	0.0035	2.245	19444.35	22069.61	22069.61	4.5	No	Si
SLU 45	0.45	-4083.33	-22243	-0.0000527	0.0003743	0.0035	2.245	19568.38	22218.48	22218.48	5.44	No	Si
SLU 50	0.05	-4957.78	-22252	-0.0000566	0.0003743	0.0035	2.245	19574.23	22225.5	22225.5	4.48	No	Si
SLU 50	0.45	-4143.42	-22455	-0.0000533	0.0003743	0.0035	2.245	19702.83	22377.39	22377.39	5.4	No	Si
SLU 71	0.05	-5503.9	-26243	-0.0000661	0.0003743	0.0035	2.245	21941.99	25133.73	25133.73	4.57	No	Si
SLU 71	0.45	-4681.32	-26582	-0.000063	0.0003743	0.0035	2.245	22126.77	25370.41	25370.41	5.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0.05	-7877.46	-19128	-0.0000626	0.0005615	0.0035	2.245		20654.07	20654.07	2.62		Si
SLV 16	0.45	-5338.34	-20500	-0.0000539	0.0005615	0.0035	2.245		21890.58	21890.58	4.1		Si
SLV 11	0.05	-10660.7	-33145	-0.0000988	0.0005615	0.0035	2.245		32322.67	32322.67	3.03		Si
SLV 11	0.45	-9668.6	-34724	-0.0000972	0.0005615	0.0035	2.245		33487.47	33487.47	3.46		Si
SLV 15	0.05	-7207.89	-18918	-0.0000592	0.0005615	0.0035	2.245		20464.53	20464.53	2.84		Si
SLV 15	0.45	-5041.36	-20103	-0.000052	0.0005615	0.0035	2.245		21531.11	21531.11	4.27		Si
SLV 12	0.05	-11111.42	-33287	-0.0001011	0.0005615	0.0035	2.245		32433.37	32433.37	2.92		Si
SLV 12	0.45	-9868.51	-34992	-0.0000986	0.0005615	0.0035	2.245		33681.79	33681.79	3.41		Si
SLD 16	0.05	-6373.56	-19063	-0.0000559	0.0005615	0.0035	2.245		20594.94	20594.94	3.23		Si
SLD 16	0.45	-4521.03	-20014	-0.0000496	0.0005615	0.0035	2.245		21451	21451	4.74		Si
SLV 9	0.05	2069.01	-2878	-0.000016	0.0005615	0.0035	2.245		3455.81	3455.81	1.67		Si
SLV 9	0.45	3182.84	-2053	-0.0035771	0.0005615	0.0035	1.796		2558.91	2558.91	0.8		No
SLV 5	0.05	3022.17	-5963	-0.0000218	0.0005615	0.0035	2.245		6753.26	6753.26	2.23		Si
SLV 5	0.45	3113.67	-4728	-0.000023	0.0005615	0.0035	2.245		5446.9	5446.9	1.75		Si
SLV 6	0.05	2571.45	-6105	-0.0000196	0.0005615	0.0035	2.245		6902.51	6902.51	2.68		Si
SLV 6	0.45	2913.76	-4996	-0.0000209	0.0005615	0.0035	2.245		5732.73	5732.73	1.97		Si
SLV 14	0.05	-4058.54	-10049	-0.0000318	0.0005615	0.0035	2.245		11976.74	11976.74	2.95		Si
SLV 14	0.45	-1482.9	-10699	-0.0000222	0.0005615	0.0035	2.245		12624.67	12624.67	8.51		Si
SLV 10	0.05	1618.29	-3020	-0.0000115	0.0005615	0.0035	2.245		3609.97	3609.97	2.23		Si
SLV 10	0.45	2982.93	-2320	-0.0012277	0.0005615	0.0035	1.796		2850.43	2850.43	0.96		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.05	-5740.71	-30220	-26862	-5556	2.245	2.245	-26590	10490	13374	28547	30251	5725	35976	No	6.47	Si
SLU 84	0.45	-4857.86	-30684	-27274	-6214	2.245	2.245	-26998	10544	13515	28547	30251	5725	35976	No	5.79	Si
SLU 78	0.05	-5764.54	-29425	-26155	-5407	2.245	2.245	-25890	10396	13131	28547	30251	5725	35976	No	6.65	Si
SLU 78	0.45	-4919.86	-29867	-26549	-6058	2.245	2.245	-26279	10448	13266	28547	30251	5725	35976	No	5.94	Si
SLU 82	0.05	-5641.53	-29829	-26515	-5560	2.245	2.245	-26246	10444	13255	28547	30251	5725	35976	No	6.47	Si
SLU 82	0.45	-4740.96	-30276	-26912	-6208	2.245	2.245	-26639	10496	13391	28547	30251	5725	35976	No	5.8	Si
SLU 83	0.05	-5822.05	-30435	-27053	-5591	2.245	2.245	-26779	10515	13439	28547	30251	5725	35976	No	6.43	Si
SLU 83	0.45	-4936.77	-30911	-27476	-6253	2.245	2.245	-27198	10571	13584	28547	30251	5725	35976	No	5.75	Si
SLU 81	0.05	-5722.87	-30044	-26706	-5595	2.245	2.245	-26435	10469	13320	28547	30251	5725	35976	No	6.43	Si
SLU 81	0.45	-4819.87	-30503	-27113	-6246	2.245	2.245	-26838	10523	13460	28547	30251	5725	35976	No	5.76	Si
SLU 80	0.05	-5714.7	-29237	-25988	-5405	2.245	2.245	-25724	10374	13074	28547	30251	5725	35976	No	6.66	Si
SLU 80	0.45	-4863.05	-29671	-26374	-6050	2.245	2.245	-26106	10425	13207	28547	30251	5725	35976	No	5.95	Si
SLU 77	0.05	-5845.88	-29639	-26346	-5442	2.245	2.245	-26079	10422	13197	28547	30251	5725	35976	No	6.61	Si
SLU 77	0.45	-4998.77	-30094	-26751	-6096	2.245	2.245	-26479	10475	13336	28547	30251	5725	35976	No	5.9	Si
SLU 74	0.05	-5746.7	-29248	-25998	-5446	2.245	2.245	-25735	10376	13078	28547	30251	5725	35976	No	6.61	Si
SLU 74	0.45	-4881.87	-29686	-26388	-6090	2.245	2.245	-26120	10427	13211	28547	30251	5725	35976	No	5.91	Si
SLU 79	0.05	-5796.03	-29452	-26179	-5439	2.245	2.245	-25914	10400	13140	28547	30251	5725	35976	No	6.61	Si
SLU 79	0.45	-4941.96	-29898	-26576	-6088	2.245	2.245	-26306	10452	13276	28547	30251	5725	35976	No	5.91	Si
SLU 75	0.05	-5665.36	-29033	-25807	-5411	2.245	2.245	-25546	10351	13012	28547	30251	5725	35976	No	6.65	Si
SLU 75	0.45	-4802.96	-29459	-26186	-6051	2.245	2.245	-25920	10400	13142	28547	30251	5725	35976	No	5.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	0.05	-3706.79	-13605	-12094	-6982	2.245	2.245	-11971	12811	12942	28547	45377	5725	41489		5.94	Si
SLD 13	0.45	-2085.35	-13998	-12443	-7256	2.245	2.245	-12317	12880	13012	28547	45377	5725	41559		5.73	Si
SLV 16	0.05	-7877.46	-19128	-17003	-10973	2.245	2.132	-17875	13992	13424	28547	45377	5725	41971		3.82	Si
SLV 16	0.45	-5338.34	-20500	-18223	-11315	2.245	2.245	-18038	14024	14168	28547	45377	5725	42715		3.78	Si
SLD 16	0.05	-6373.56	-19063	-16945	-8395	2.245	2.245	-16773	13771	13912	28547	45377	5725	42459		5.06	Si
SLD 16	0.45	-4521.03	-20014	-17790	-8769	2.245	2.245	-17610	13939	14081	28547	45377	5725	42628		4.86	Si
SLD 14	0.05	-4131.57	-13739	-12212	-7875	2.245	2.245	-12089	12834	12966	28547	45377	5725	41512		5.27	Si
SLD 14	0.45	-2273.76	-14251	-12667	-8152	2.245	2.245	-12539	12924	13057	28547	45377	5725	41603		5.1	Si
SLD 15	0.05	-5948.78	-18929	-16826	-7502	2.245	2.245	-16655	13748	13889	28547	45377	5725	42435		5.66	Si
SLD 15	0.45	-4332.62	-19762	-17566	-7873	2.245	2.245	-17388	13894	14037	28547	45377	5725	42583		5.41	Si
SLV 14	0.05	-4058.54	-10049	-8932	-10096	2.245	2.1558	-8841	12185	11821	28547	45377	5725	40367		4	Si
SLV 14	0.45	-1482.9	-10699	-9510	-10269	2.245	2.245	-9414	12299	12425	28547	45377	5725	40972		3.99	Si
SLV 12	0.05	-11111.42	-33287	-29588	-7644	2.245	2.245	-29288	16250	16417	28547	45377	5725	44963		5.88	Si
SLV 12	0.45	-9868.51	-34992	-31104	-8310	2.245	2.245	-30788	16250	16911	28547	45377	5725	45458		5.47	Si
SLV 15	0.05	-7207.89	-18918	-16816	-9565	2.245	2.2245	-16645	13746	13759	28547	45377	5725	42306		4.42	Si
SLV 15	0.45	-5041.36	-20103	-17869	-9902	2.245	2.245	-17688	13954	14097	28547	45377	5725	42644		4.31	Si
SLV 13	0.05	-3388.98	-9838	-8745	-8688	2.245	2.245	-8656	12148	12272	28547	45377	5725	40819		4.7	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.45	-1185.93	-10301	-9157	-8857	2.245	2.245	-9064	12229	12355	28547	45377	5725	40901		4.62	Si
SLV 10	0.05	1618.29	-3020	-2684	-4720	2.245	1.7599	-2657	10948	8670	28547	45377	5725	37217		7.89	Si
SLV 10	0.45	2982.93	-2320	-2063	-4824	1.796	0	0	0	0	28547	36302	4580	28547		5.92	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	2789	-2817	130.08	622.31	4.78	Si
SLV 10	179667	0.24	2981	-3011	130.08	664.3	5.11	Si
SLV 5	179667	0.24	6375	-6440	130.08	1388.59	10.67	Si
SLV 6	179667	0.24	6567	-6634	130.08	1428.53	10.98	Si
SLV 13	179667	0.24	11134	-11248	130.08	2346.28	18.04	Si
SLV 14	179667	0.24	11419	-11536	130.08	2401.53	18.46	Si
SLV 15	179667	0.24	21913	-22138	130.08	4266.26	32.8	Si
SLV 16	179667	0.24	22198	-22426	130.08	4312.36	33.15	Si
SLV 1	179667	0.24	23088	-23325	130.08	4454.67	34.25	Si
SLV 2	179667	0.24	23373	-23613	130.08	4499.78	34.59	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-34576	-48775	1873	0.382	3892.9	0.971	5.71809	2.57112	Si
SLV 7	-34390	-48615	1867	0.384	3873.9	0.971	5.74376	2.57112	Si
SLV 12	-31982	-44383	1722	0.409	3628.7	0.969	6.13117	2.57112	Si
SLV 11	-31795	-44223	1716	0.411	3609.7	0.969	6.16115	2.57112	Si
SLV 4	-26872	-40522	1444	0.475	3108.7	0.964	7.15475	2.70061	Si
SLV 3	-26595	-40285	1436	0.479	3080.4	0.964	7.2176	2.70061	Si
SLV 16	-18224	-25881	940	0.662	2229.4	0.951	10.11511	2.70061	Si
SLV 15	-17947	-25644	931	0.67	2201.2	0.951	10.24762	2.70061	Si
SLV 2	-17635	-29023	924	0.68	2169.6	0.95	10.39884	2.70061	Si
SLV 1	-17358	-28786	916	0.689	2141.4	0.95	10.53958	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.466	SLU 48	Si
V_SLU	5.753	SLU 83	Si
PF_SLV	0.804	SLV 9	No
V_SLV	3.775	SLV 16	Si
PFFP_SLV	4.784	SLV 9	Si
R_SLV	2.224	SLV 8	Si

Maschio 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	2.071	-19.618	4.851	L2	L4	2.78	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	-1.95	1701.8	-79361	-0.0001629	0.0004492	0.0035	2.78	24403.5	65033.84	65033.84	38.21	No	Si
SLU 76	0.05	7563.96	-75073	-0.0001826	0.0004492	0.0035	2.78	27475.58	63736.9	63736.9	8.43	No	Si
SLU 80	-1.95	2226.88	-80553	-0.0001686	0.0004492	0.0035	2.78	23459.68	65394.65	65394.65	29.37	No	Si
SLU 80	0.05	7572.15	-76266	-0.0001857	0.0004492	0.0035	2.78	26671.27	64097.71	64097.71	8.46	No	Si
SLU 82	-1.95	2119.01	-81687	-0.0001708	0.0004492	0.0035	2.78	22526.71	65737.56	65737.56	31.02	No	Si
SLU 82	0.05	7580.83	-77400	-0.0001887	0.0004492	0.0035	2.78	25870.9	64440.62	64440.62	8.5	No	Si
SLU 73	-1.95	1562.43	-78389	-0.0001598	0.0004492	0.0035	2.78	25143.37	64740.04	64740.04	41.44	No	Si
SLU 73	0.05	7475.72	-74102	-0.0001796	0.0004492	0.0035	2.78	28101.84	63443.09	63443.09	8.49	No	Si
SLU 79	-1.95	2805.42	-80886	-0.0001724	0.0004492	0.0035	2.78	23189.85	65495.16	65495.16	23.35	No	Si
SLU 79	0.05	7452.07	-76598	-0.0001859	0.0004492	0.0035	2.78	26440.3	64198.22	64198.22	8.61	No	Si
SLU 83	-1.95	2836.93	-82991	-0.0001779	0.0004492	0.0035	2.78	21410.55	66131.88	66131.88	23.31	No	Si
SLU 83	0.05	7549	-78703	-0.000192	0.0004492	0.0035	2.78	24907.21	64834.94	64834.94	8.59	No	Si
SLU 78	-1.95	2283.77	-81039	-0.0001701	0.0004492	0.0035	2.78	23064.14	65541.61	65541.61	28.7	No	Si
SLU 78	0.05	7613.05	-76752	-0.0001872	0.0004492	0.0035	2.78	26332.55	64244.67	64244.67	8.44	No	Si
SLU 75	-1.95	2144.39	-80068	-0.0001669	0.0004492	0.0035	2.78	23848.48	65247.81	65247.81	30.43	No	Si
SLU 75	0.05	7524.82	-75781	-0.0001842	0.0004492	0.0035	2.78	27003.29	63950.87	63950.87	8.5	No	Si
SLU 84	-1.95	2258.38	-82658	-0.000174	0.0004492	0.0035	2.78	21699.47	66031.37	66031.37	29.24	No	Si
SLU 84	0.05	7669.07	-78371	-0.0001917	0.0004492	0.0035	2.78	25157.26	64734.42	64734.42	8.44	No	Si
SLU 77	-1.95	2862.31	-81372	-0.000174	0.0004492	0.0035	2.78	22789.9	65642.12	65642.12	22.93	No	Si
SLU 77	0.05	7492.98	-77084	-0.0001874	0.0004492	0.0035	2.78	26097.18	64345.18	64345.18	8.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	-1.95	-19377.45	-38709	-0.0001441	0.0006738	0.0035	2.78		49073.32	49073.32	2.53		Si
SLD 9	0.05	7211.01	-35378	-0.0000886	0.0006738	0.0035	2.78		41949.04	41949.04	5.82		Si
SLV 10	-1.95	-32478.08	-27720	-0.0004869	0.0006738	0.0035	2.224		38033.18	38033.18	1.17		Si
SLV 10	0.05	7945.61	-24341	-0.0000711	0.0006738	0.0035	2.78		30639.23	30639.23	3.86		Si
SLV 11	-1.95	35567.94	-76410	-0.0003031	0.0006738	0.0035	2.78		73722.03	73722.03	2.07		Si
SLV 11	0.05	1628.76	-73294	-0.0001392	0.0006738	0.0035	2.78		71968.81	71968.81	44.19		Si
SLV 6	-1.95	-32446.72	-34025	-0.00028	0.0006738	0.0035	2.224		44529.3	44529.3	1.37		Si
SLV 6	0.05	8878.97	-30593	-0.0000862	0.0006738	0.0035	2.78		37046.34	37046.34	4.17		Si
SLV 8	-1.95	37237.63	-83084	-0.0003293	0.0006738	0.0035	2.78		77477.6	77477.6	2.08		Si
SLV 8	0.05	1909.61	-79916	-0.000154	0.0006738	0.0035	2.78		75694.78	75694.78	39.64		Si
SLV 5	-1.95	-34085.05	-33657	-0.0003294	0.0006738	0.0035	2.224		44159.9	44159.9	1.3		Si
SLV 5	0.05	9531.47	-30224	-0.000088	0.0006738	0.0035	2.78		36668.24	36668.24	3.85		Si
SLV 7	-1.95	35599.3	-82715	-0.0003197	0.0006738	0.0035	2.78		77269.97	77269.97	2.17		Si
SLV 7	0.05	2562.11	-79547	-0.0001562	0.0006738	0.0035	2.78		75487.16	75487.16	29.46		Si
SLV 9	-1.95	-34116.41	-27351	-0.0007539	0.0006738	0.0035	2.224		37642.36	37642.36	1.1		Si
SLV 9	0.05	8598.11	-23972	-0.0000729	0.0006738	0.0035	2.78		30261.14	30261.14	3.52		Si
SLD 10	-1.95	-18383.23	-38932	-0.0001401	0.0006738	0.0035	2.78		49284.49	49284.49	2.68		Si
SLD 10	0.05	6815.05	-35602	-0.0000874	0.0006738	0.0035	2.78		42178.48	42178.48	6.19		Si
SLV 12	-1.95	37206.28	-76779	-0.0003131	0.0006738	0.0035	2.78		73929.65	73929.65	1.99		Si
SLV 12	0.05	976.26	-73663	-0.0001371	0.0006738	0.0035	2.78		72176.44	72176.44	73.93		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	-1.95	437.66	-62913	-45755	-2998	2.78	2.78	-54862	10833	23119	81562	29972	14178	44150	No	14.73	Si
SLU 47	0.05	6522.88	-58735	-42717	-2998	2.78	2.78	-51219	10833	21904	81562	29972	14178	44150	No	14.73	Si
SLU 68	-1.95	1303.1	-72183	-52497	-2869	2.78	2.78	-62946	10833	25816	81562	29972	14178	44150	No	15.39	Si
SLU 68	0.05	7131.91	-67895	-49379	-2869	2.78	2.78	-59207	10833	24568	81562	29972	14178	44150	No	15.39	Si
SLU 76	-1.95	1701.8	-79361	-57717	-2886	2.78	2.78	-69205	10833	27904	81562	29972	14178	44150	No	15.3	Si
SLU 76	0.05	7563.96	-75073	-54599	-2886	2.78	2.78	-65466	10833	26656	81562	29972	14178	44150	No	15.3	Si
SLU 63	-1.95	1392.95	-73388	-53373	-2789	2.78	2.78	-63997	10833	26166	81562	29972	14178	44150	No	15.83	Si
SLU 63	0.05	7060.04	-69211	-50335	-2789	2.78	2.78	-60354	10833	24951	81562	29972	14178	44150	No	15.83	Si
SLU 65	-1.95	1163.72	-71212	-51790	-2895	2.78	2.78	-62099	10833	25533	81562	29972	14178	44150	No	15.25	Si
SLU 65	0.05	7043.68	-66924	-48672	-2895	2.78	2.78	-58360	10833	24286	81562	29972	14178	44150	No	15.25	Si
SLU 52	-1.95	697	-69119	-50269	-3040	2.78	2.78	-60274	10833	24924	81562	29972	14178	44150	No	14.52	Si
SLU 52	0.05	6866.69	-64942	-47230	-3040	2.78	2.78	-56631	10833	23709	81562	29972	14178	44150	No	14.52	Si
SLU 44	-1.95	298.29	-61942	-45049	-3024	2.78	2.78	-54015	10833	22836	81562	29972	14178	44150	No	14.6	Si
SLU 44	0.05	6434.65	-57764	-42010	-3024	2.78	2.78	-50372	10833	21621	81562	29972	14178	44150	No	14.6	Si
SLU 55	-1.95	836.37	-70091	-50975	-3015	2.78	2.78	-61121	10833	25207	81562	29972	14178	44150	No	14.64	Si
SLU 55	0.05	6954.93	-65913	-47937	-3015	2.78	2.78	-57478	10833	23992	81562	29972	14178	44150	No	14.64	Si
SLU 73	-1.95	1562.43	-78389	-57010	-2912	2.78	2.78	-68358	10833	27621	81562	29972	14178	44150	No	15.16	Si
SLU 73	0.05	7475.72	-74102	-53892	-2912	2.78	2.78	-64619	10833	26374	81562	29972	14178	44150	No	15.16	Si
SLU 61	-1.95	1253.57	-72417	-52667	-2815	2.78	2.78	-63150	10833	25884	81562	29972	14178	44150	No	15.69	Si
SLU 61	0.05	6971.8	-68240	-49629	-2815	2.78	2.78	-59507	10833	24669	81562	29972	14178	44150	No	15.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	-1.95	-19377.45	-38709	-28152	-13471	2.78	2.6682	-35785	16250	18487	81562	44958	14178	59136		4.39	Si
SLD 9	0.05	7211.01	-35378	-25729	-13488	2.78	2.78	-30851	16250	17518	81562	44958	14178	59136		4.38	Si
SLV 10	-1.95	-32478.08	-27720	-20160	-20548	2.224	0.6551	0	0	0	81562	35966	11342	47309		2.3	Si
SLV 10	0.05	7945.61	-24341	-17702	-20580	2.78	2.78	-21226	16250	14307	81562	44958	14178	59136		2.87	Si
SLV 6	-1.95	-32446.72	-34025	-24746	-20975	2.224	1.3092	0	0	0	81562	35966	11342	47309		2.26	Si
SLV 6	0.05	8878.97	-30593	-22250	-21020	2.78	2.78	-26678	16250	16126	81562	44958	14178	59136		2.81	Si
SLV 9	-1.95	-34116.41	-27351	-19892	-21694	2.224	0.428	0	0	0	81562	35966	11342	47309		2.18	Si
SLV 9	0.05	8598.11	-23972	-17434	-21726	2.78	2.78	-20904	16250	14200	81562	44958	14178	59136		2.72	Si
SLV 11	-1.95	35567.94	-76410	-55571	17351	2.78	2.7735	-66632	16250	29454	81562	44958	14178	59136		3.41	Si
SLV 11	0.05	1628.76	-73294	-53305	17396	2.78	2.78	-63915	16250	28548	81562	44958	14178	59136		3.4	Si
SLV 7	-1.95	35599.3	-82715	-60156	16924	2.78	2.78	-72130	16250	31288	81562	44958	14178	59136		3.49	Si
SLV 7	0.05	2562.11	-79547	-57852	16956	2.78	2.78	-69367	16250	30367	81562	44958	14178	59136		3.49	Si
SLV 12	-1.95	37206.28	-76779	-55839	18496	2.78	2.7162	-66953	16250	29561	81562	44958	14178	59136		3.2	Si
SLV 12	0.05	976.26	-73663	-53573	18541	2.78	2.78	-64236	16250	28655	81562	44958	14178	59136		3.19	Si
SLV 8	-1.95	37237.63	-83084	-60425	18070	2.78	2.78	-72452	16250	31396	81562	44958	14178	59136		3.27	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	0.05	1909.61	-79916	-58121	18102	2.78	2.78	-69689	16250	30474	81562	44958	14178	59136		3.27	Si
SLV 5	-1.95	-34085.05	-33657	-24477	-22120	2.224	1.1318	0	0	0	81562	35966	11342	47309		2.14	Si
SLV 5	0.05	9531.47	-30224	-21981	-22165	2.78	2.78	-26357	16250	16019	81562	44958	14178	59136		2.67	Si
SLD 5	-1.95	-19356.56	-42749	-31090	-13743	2.78	2.78	-37278	16250	19662	81562	44958	14178	59136		4.3	Si
SLD 5	0.05	7809.09	-39385	-28644	-13769	2.78	2.78	-34345	16250	18684	81562	44958	14178	59136		4.29	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-25094	0.24	111.25	3146.13	4413.01	3779.57	33.97	Si
SLV 10	-25463	0.24	111.25	3183.18	4470.34	3826.76	34.4	Si
SLV 5	-31347	0.24	111.25	3737.75	5372.29	4555.02	40.94	Si
SLV 6	-31716	0.24	111.25	3770.26	5428.7	4599.48	41.34	Si
SLV 13	-35004	0.24	111.25	4048.19	5931.53	4989.86	44.85	Si
SLV 14	-35552	0.24	111.25	4092.46	6015.39	5053.92	45.43	Si
SLV 15	-49828	0.24	111.25	5037.75	8009.57	6523.66	58.64	Si
SLV 16	-50376	0.24	111.25	5066.07	8079.07	6572.57	59.08	Si
SLV 1	-55847	0.24	111.25	5316.44	8744.4	7030.42	63.19	Si
SLV 2	-56395	0.24	111.25	5338.28	8808.49	7073.39	63.58	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-59222	-83084	-32	0.314	6339.3	0.985	4.6311	2.71881	Si
SLV 7	-58928	-82715	-32	0.315	6309.3	0.985	4.64972	2.71881	Si
SLV 4	-51796	-73359	-126	0.347	5582.5	0.983	5.13853	2.93197	Si
SLV 3	-51359	-72811	-126	0.35	5538	0.983	5.1744	2.93197	Si
SLV 12	-54653	-76779	45	0.334	5873.6	0.984	4.93892	2.71881	Si
SLV 11	-54358	-76410	45	0.336	5843.6	0.983	4.96073	2.71881	Si
SLV 2	-40800	-58642	-130	0.422	4462.1	0.979	6.2671	2.93197	Si
SLV 1	-40363	-58094	-130	0.426	4417.5	0.978	6.32436	2.93197	Si
SLV 16	-36564	-52342	131	0.462	4030.5	0.976	6.87778	2.93197	Si
SLV 15	-36127	-51793	131	0.467	3986	0.976	6.94874	2.93197	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.426	SLU 76	Si
V_SLU	14.522	SLU 52	Si
PF_SLV	1.103	SLV 9	Si
V_SLV	2.139	SLV 5	Si
PFFP_SLV	33.973	SLV 9	Si
R_SLV	1.703	SLV 8	Si

Maschio 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.573	-3.284	-24.603	-3.284	L2	L4	2.03	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	0.05	-522.56	-18530	-0.0000347	0.0003743	0.0035	2.03	15060.78	17036.4	17036.4	32.6	No	Si
SLU 38	0.45	-760.61	-12784	-0.0000256	0.0003743	0.0035	2.03	11192.55	12670.91	12670.91	16.66	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 10	0.05	-482.34	-15837	-0.0000296	0.0003743	0.0035	2.03	13337.46	15053.06	15053.06	31.21	No	Si
SLU 10	0.45	-681.07	-10841	-0.0000218	0.0003743	0.0035	2.03	9720.98	11073.09	11073.09	16.26	No	Si
SLU 73	0.05	-608.3	-21402	-0.0000404	0.0003743	0.0035	2.03	16724.21	19026.44	19026.44	31.28	No	Si
SLU 73	0.45	-874.64	-14654	-0.0000295	0.0003743	0.0035	2.03	12530.59	14153.08	14153.08	16.18	No	Si
SLU 13	0.05	-473.51	-16003	-0.0000299	0.0003743	0.0035	2.03	13448.21	15178.69	15178.69	32.06	No	Si
SLU 13	0.45	-676.71	-10932	-0.0000219	0.0003743	0.0035	2.03	9791.79	11149.13	11149.13	16.48	No	Si
SLU 40	0.05	-610.02	-19222	-0.0000364	0.0003743	0.0035	2.03	15478.12	17535.54	17535.54	28.75	No	Si
SLU 40	0.45	-855.37	-13425	-0.0000272	0.0003743	0.0035	2.03	11659.47	13180.36	13180.36	15.41	No	Si
SLU 76	0.05	-599.47	-21568	-0.0000407	0.0003743	0.0035	2.03	16814.81	19139.2	19139.2	31.93	No	Si
SLU 76	0.45	-870.28	-14746	-0.0000297	0.0003743	0.0035	2.03	12593.82	14223.7	14223.7	16.34	No	Si
SLU 33	0.05	-525.11	-18472	-0.0000346	0.0003743	0.0035	2.03	15025.1	16994.49	16994.49	32.36	No	Si
SLU 33	0.45	-761.39	-12754	-0.0000256	0.0003743	0.0035	2.03	11169.77	12646.32	12646.32	16.61	No	Si
SLU 31	0.05	-625.57	-18425	-0.000035	0.0003743	0.0035	2.03	14996.72	16961.26	16961.26	27.11	No	Si
SLU 31	0.45	-861.01	-12822	-0.0000262	0.0003743	0.0035	2.03	11220.02	12700.57	12700.57	14.75	No	Si
SLU 34	0.05	-616.74	-18591	-0.0000353	0.0003743	0.0035	2.03	15098.1	17080.34	17080.34	27.69	No	Si
SLU 34	0.45	-856.65	-12913	-0.0000263	0.0003743	0.0035	2.03	11286.89	12772.78	12772.78	14.91	No	Si
SLU 42	0.05	-601.19	-19388	-0.0000367	0.0003743	0.0035	2.03	15576.62	17655.87	17655.87	29.37	No	Si
SLU 42	0.45	-851.01	-13516	-0.0000274	0.0003743	0.0035	2.03	11725.14	13253.15	13253.15	15.57	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	0.05	-1586.44	-9832	-0.0000243	0.0005615	0.0035	2.03		10453.08	10453.08	6.59		Si
SLD 15	0.45	-768.3	-6622	-0.0000148	0.0005615	0.0035	2.03		7510.61	7510.61	9.78		Si
SLV 15	0.05	-2401.13	-6934	-0.0000234	0.0005615	0.0035	2.03		7797.35	7797.35	3.25		Si
SLV 15	0.45	-1013.14	-4779	-0.0000129	0.0005615	0.0035	2.03		5773.36	5773.36	5.7		Si
SLD 16	0.05	-1411.1	-9349	-0.0000226	0.0005615	0.0035	2.03		10017.65	10017.65	7.1		Si
SLD 16	0.45	-697.35	-6457	-0.0000142	0.0005615	0.0035	2.03		7358.73	7358.73	10.55		Si
SLV 11	0.05	-1249	1168	0.1512221	0.0005615	0.0035	1.624		0	0	0		No
SLV 11	0.45	-1033.79	-1274	-0.0000139	0.0005615	0.0035	1.624		2372.66	2372.66	2.3		Si
SLV 16	0.05	-2124.75	-6173	-0.0000207	0.0005615	0.0035	2.03		7093.22	7093.22	3.34		Si
SLV 16	0.45	-901.31	-4518	-0.0000119	0.0005615	0.0035	2.03		5523.79	5523.79	6.13		Si
SLV 4	0.05	1788.76	-12833	-0.0000306	0.0005615	0.0035	2.03		12289.22	12289.22	6.87		Si
SLV 4	0.45	-7.92	-9679	-0.0000162	0.0005615	0.0035	2.03		10315.11	10315.11	1302.23		Si
SLV 13	0.05	-2175.89	-15771	-0.0000377	0.0005615	0.0035	2.03		15621.18	15621.18	7.18		Si
SLV 13	0.45	-711.76	-9295	-0.0000191	0.0005615	0.0035	2.03		9969.05	9969.05	14.01		Si
SLV 7	0.05	-74.95	-830	-0.0000017	0.0005615	0.0035	2.03		1933.2	1933.2	25.79		Si
SLV 7	0.45	-765.77	-2822	-0.0000084	0.0005615	0.0035	2.03		3887.48	3887.48	5.08		Si
SLV 12	0.05	-1062.96	1681	0.2160356	0.0005615	0.0035	1.624		0	0	0		No
SLV 12	0.45	-958.51	-1099	-0.0000167	0.0005615	0.0035	1.624		2199.43	2199.43	2.29		Si
SLV 8	0.05	111.1	-317	-0.0000011	0.0005615	0.0035	2.03		544.51	544.51	4.9		Si
SLV 8	0.45	-690.49	-2647	-0.0000077	0.0005615	0.0035	2.03		3716.35	3716.35	5.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	-592.75	-22199	-19732	-15129	2.03	2.03	-21601	9825	9523	28547	27354	5177	32531	No	2.15	Si
SLU 82	0.45	-868.99	-15258	-13562	-15101	2.03	2.03	-14847	8924	8152	28547	27354	5177	32531	No	2.15	Si
SLU 79	0.05	-377.26	-21166	-18814	-15013	2.03	2.03	-20596	9691	9238	28547	27354	5177	32531	No	2.17	Si
SLU 79	0.45	-636.69	-14288	-12700	-14983	2.03	2.03	-13903	8798	8037	28547	27354	5177	32531	No	2.17	Si
SLU 75	0.05	-507.84	-21448	-19065	-14951	2.03	2.03	-20871	9727	9316	28547	27354	5177	32531	No	2.18	Si
SLU 75	0.45	-775.01	-14586	-12965	-14925	2.03	2.03	-14193	8837	8072	28547	27354	5177	32531	No	2.18	Si
SLU 83	0.05	-455.89	-22024	-19577	-15304	2.03	2.03	-21431	9802	9474	28547	27354	5177	32531	No	2.13	Si
SLU 83	0.45	-727.1	-15019	-13351	-15273	2.03	2.03	-14615	8893	8124	28547	27354	5177	32531	No	2.13	Si
SLU 80	0.05	-505.29	-21507	-19117	-15017	2.03	2.03	-20927	9735	9332	28547	27354	5177	32531	No	2.17	Si
SLU 80	0.45	-774.23	-14617	-12993	-14990	2.03	2.03	-14223	8841	8076	28547	27354	5177	32531	No	2.17	Si
SLU 78	0.05	-499.01	-21614	-19213	-15130	2.03	2.03	-21032	9749	9362	28547	27354	5177	32531	No	2.15	Si
SLU 78	0.45	-770.66	-14677	-13046	-15103	2.03	2.03	-14282	8849	8083	28547	27354	5177	32531	No	2.15	Si
SLU 74	0.05	-379.81	-21108	-18762	-14948	2.03	2.03	-20539	9683	9222	28547	27354	5177	32531	No	2.18	Si
SLU 74	0.45	-637.48	-14257	-12673	-14918	2.03	2.03	-13873	8794	8033	28547	27354	5177	32531	No	2.18	Si
SLU 81	0.05	-464.72	-21858	-19430	-15125	2.03	2.03	-21269	9780	9429	28547	27354	5177	32531	No	2.15	Si
SLU 81	0.45	-731.46	-14928	-13270	-15095	2.03	2.03	-14526	8881	8113	28547	27354	5177	32531	No	2.16	Si
SLU 77	0.05	-370.98	-21274	-18910	-15126	2.03	2.03	-20700	9705	9268	28547	27354	5177	32531	No	2.15	Si
SLU 77	0.45	-633.12	-14348	-12754	-15096	2.03	2.03	-13961	8806	8044	28547	27354	5177	32531	No	2.15	Si
SLU 84	0.05	-583.92	-22365	-19880	-15307	2.03	2.03	-21762	9846	9568	28547	27354	5177	32531	No	2.13	Si
SLU 84	0.45	-864.64	-15349	-13643	-15279	2.03	2.03	-14935	8936	8163	28547	27354	5177	32531	No	2.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.05	-312.18	-27775	-24689	-26787	2.03	2.03	-27026	15822	14453	28547	41031	5177	43000		1.61	Si
SLV 10	0.45	46.09	-16151	-14357	-26652	2.03	2.03	-15716	13560	12387	28547	41031	5177	40934		1.54	Si
SLV 5	0.05	675.83	-30286	-26921	-27479	2.03	2.03	-29470	16250	14844	28547	41031	5177	43391		1.58	Si
SLV 5	0.45	238.83	-17875	-15889	-27525	2.03	2.03	-17394	13895	12693	28547	41031	5177	41240		1.5	Si
SLV 1	0.05	1737.62	-22432	-19939	-15554	2.03	2.03	-21828	14782	13504	28547	41031	5177	42050		2.7	Si
SLV 1	0.45	181.63	-14456	-12850	-15827	2.03	2.03	-14066	13230	12086	28547	41031	5177	40632		2.57	Si
SLV 6	0.05	861.87	-29773	-26465	-26350	2.03	2.03	-28971	16211	14809	28547	41031	5177	43355		1.65	Si
SLV 6	0.45	314.11	-17700	-15733	-26393	2.03	2.03	-17223	13861	12662	28547	41031	5177	41209		1.56	Si
SLD 10	0.05	-303.97	-22147	-19686	-20016	2.03	2.03	-21550	14727	13453	28547	41031	5177	41999		2.1	Si
SLD 10	0.45	-112.98	-13340	-11858	-19926	2.03	2.03	-12981	13013	11887	28547	41031	5177	40434		2.03	Si
SLV 9	0.05	-498.23	-28287	-25144	-27916	2.03	2.03	-27525	15922	14544	28547	41031	5177	43091		1.54	Si
SLV 9	0.45	-29.19	-16327	-14513	-27784	2.03	2.03	-15887	13594	12418	28547	41031	5177	40965		1.47	Si
SLV 13	0.05	-2175.89	-15771	-14019	-17011	2.03	2.03	-15346	13486	12319	28547	41031	5177	40866		2.4	Si
SLV 13	0.45	-711.76	-9295	-8262	-16689	2.03	2.03	-9045	12226	11168	28547	41031	5177	39715		2.38	Si
SLD 5	0.05	329.15	-23730	-21094	-20416	2.03	2.03	-23091	15035	13734	28547	41031	5177	42281		2.07	Si
SLD 5	0.45	9.66	-14424	-12822	-20438	2.03	2.03	-14036	13224	12080	28547	41031	5177	40627		1.99	Si
SLD 6	0.05	442.05	-23419	-20817	-19731	2.03	2.03	-22788	14974	13679	28547	41031	5177	42226		2.14	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.45	55.34	-14318	-12727	-19751	2.03	2.03	-13932	13203	12061	28547	41031	5177	40608		2.06	Si
SLD 9	0.05	-416.87	-22458	-19962	-20701	2.03	2.03	-21853	14787	13508	28547	41031	5177	42055		2.03	Si
SLD 9	0.45	-158.66	-13447	-11953	-20612	2.03	2.03	-13085	13034	11906	28547	41031	5177	40453		1.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	0	2042	117.62	0	0	No, Trazione
SLV 11	179667	0.24	0	1608	117.62	0	0	No, Trazione
SLV 8	179667	0.24	1016	-928	117.62	207.51	1.76	Si
SLV 7	179667	0.24	1492	-1363	117.62	303.61	2.58	Si
SLV 16	179667	0.24	5047	-4610	117.62	1002.98	8.53	Si
SLV 15	179667	0.24	5753	-5255	117.62	1137.87	9.67	Si
SLV 14	179667	0.24	14639	-13373	117.62	2720.47	23.13	Si
SLV 13	179667	0.24	15345	-14018	117.62	2837.12	24.12	Si
SLV 4	179667	0.24	15886	-14512	117.62	2925.54	24.87	Si
SLV 3	179667	0.24	16592	-15157	117.62	3039.82	25.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-17217	-34341	1323	0.616	2090.9	0.953	9.39155	2.57112	Si
SLV 6	-16989	-33882	1303	0.623	2067.7	0.952	9.50816	2.57112	Si
SLV 9	-15588	-30265	1233	0.669	1925.4	0.949	10.24887	2.57112	Si
SLV 10	-15360	-29806	1213	0.678	1902.3	0.949	10.38828	2.57112	Si
SLV 1	-13754	-28271	948	0.755	1739.4	0.945	11.60989	2.70061	Si
SLV 2	-13416	-27588	919	0.771	1705.1	0.944	11.87458	2.70061	Si
SLV 3	-9109	-18895	534	1.067	1269.5	0.928	16.71091	2.70061	Si
SLV 4	-8771	-18213	504	1.1	1235.4	0.927	17.25803	2.70061	Si
SLV 13	-8324	-14683	649	1.13	1190.5	0.925	17.76073	2.70061	Si
SLV 14	-7986	-14001	620	1.168	1156.4	0.923	18.38792	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.751	SLU 31	Si
V_SLU	2.125	SLU 84	Si
PF_SLV	0	SLV 11	No
V_SLV	1.474	SLV 9	Si
PFFP_SLV	0	SLV 12	No
R_SLV	3.653	SLV 5	Si

Maschio 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.273	-3.284	-21.573	-3.284	L2	L4	3.3	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.05	-23709.07	-38993	-0.0000925	0.0003743	0.0035	3.3	47745.2	54789.46	54789.46	2.31	No	Si
SLU 77	0.45	-17546.03	-37836	-0.0000771	0.0003743	0.0035	3.3	46805.8	53614.65	53614.65	3.06	No	Si
SLU 48	0.05	-19220.59	-29625	-0.0000713	0.0003743	0.0035	3.3	39303.19	44524.86	44524.86	2.32	No	Si
SLU 48	0.45	-14255.14	-28489	-0.0000588	0.0003743	0.0035	3.3	38149.73	43209.88	43209.88	3.03	No	Si
SLU 50	0.05	-19065.17	-29422	-0.0000707	0.0003743	0.0035	3.3	39098.51	44290.58	44290.58	2.32	No	Si
SLU 50	0.45	-14128.87	-28286	-0.0000583	0.0003743	0.0035	3.3	37940	42968.93	42968.93	3.04	No	Si
SLU 69	0.05	-21691.67	-34498	-0.0000825	0.0003743	0.0035	3.3	43933.69	50033.85	50033.85	2.31	No	Si
SLU 69	0.45	-16062.55	-33341	-0.0000684	0.0003743	0.0035	3.3	42880.72	48779.01	48779.01	3.04	No	Si
SLU 45	0.05	-19020.88	-29352	-0.0000705	0.0003743	0.0035	3.3	39027.9	44210.09	44210.09	2.32	No	Si
SLU 45	0.45	-14084.6	-28216	-0.0000581	0.0003743	0.0035	3.3	37867.66	42885.77	42885.77	3.04	No	Si
SLU 71	0.05	-21536.24	-34295	-0.0000819	0.0003743	0.0035	3.3	43750.66	49812.34	49812.34	2.31	No	Si
SLU 71	0.45	-15936.28	-33137	-0.0000679	0.0003743	0.0035	3.3	42692.55	48558.43	48558.43	3.05	No	Si
SLU 74	0.05	-23509.37	-38720	-0.0000917	0.0003743	0.0035	3.3	47525.84	54510.82	54510.82	2.32	No	Si
SLU 74	0.45	-17375.49	-37562	-0.0000764	0.0003743	0.0035	3.3	46579.54	53338.66	53338.66	3.07	No	Si
SLU 79	0.05	-23553.65	-38790	-0.0000919	0.0003743	0.0035	3.3	47582.14	54582.07	54582.07	2.32	No	Si
SLU 79	0.45	-17419.76	-37632	-0.0000766	0.0003743	0.0035	3.3	46637.6	53409.23	53409.23	3.07	No	Si
SLU 66	0.05	-21491.96	-34225	-0.0000817	0.0003743	0.0035	3.3	43687.49	49736.24	49736.24	2.31	No	Si
SLU 66	0.45	-15892.01	-33067	-0.0000677	0.0003743	0.0035	3.3	42627.61	48480.98	48480.98	3.05	No	Si
SLU 83	0.05	-24218.55	-40443	-0.0000955	0.0003743	0.0035	3.3	48880.13	56274.67	56274.67	2.32	No	Si
SLU 83	0.45	-17885	-39285	-0.0000797	0.0003743	0.0035	3.3	47977.35	55087.32	55087.32	3.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	0.05	-32647.83	-44832	-0.0001182	0.0005615	0.0035	3.3		65482.44	65482.44	2.01		Si
SLV 10	0.45	-23381.11	-44026	-0.0000938	0.0005615	0.0035	3.3		64578.56	64578.56	2.76		Si
SLV 9	0.05	-33616.86	-45365	-0.0001217	0.0005615	0.0035	3.3		66081.19	66081.19	1.97		Si
SLV 9	0.45	-23827.74	-44559	-0.0000954	0.0005615	0.0035	3.3		65175.51	65175.51	2.74		Si
SLV 16	0.05	-15458.83	-17597	-0.0000527	0.0005615	0.0035	3.3		30050.98	30050.98	1.94		Si
SLV 16	0.45	-8390.44	-16153	-0.0000325	0.0005615	0.0035	3.3		27980.48	27980.48	3.33		Si
SLV 15	0.05	-16898.37	-18389	-0.0000583	0.0005615	0.0035	3.3		31190.29	31190.29	1.85		Si
SLV 15	0.45	-9053.93	-16945	-0.0000346	0.0005615	0.0035	3.3		29113.61	29113.61	3.22		Si
SLD 14	0.05	-21452.93	-27889	-0.0000743	0.0005615	0.0035	3.3		44391.48	44391.48	2.07		Si
SLD 14	0.45	-13925.8	-26752	-0.0000548	0.0005615	0.0035	3.3		42882.81	42882.81	3.08		Si
SLD 15	0.05	-16919.09	-21483	-0.0000577	0.0005615	0.0035	3.3		35625.11	35625.11	2.11		Si
SLD 15	0.45	-10312.47	-20253	-0.0000406	0.0005615	0.0035	3.3		33887.01	33887.01	3.29		Si
SLV 13	0.05	-26186.85	-30157	-0.0000918	0.0005615	0.0035	3.3		47382.3	47382.3	1.81		Si
SLV 13	0.45	-15974.14	-28849	-0.0000612	0.0005615	0.0035	3.3		45653.42	45653.42	2.86		Si
SLV 14	0.05	-24747.31	-29366	-0.0000862	0.0005615	0.0035	3.3		46335.09	46335.09	1.87		Si
SLV 14	0.45	-15310.65	-28058	-0.0000589	0.0005615	0.0035	3.3		44612.87	44612.87	2.91		Si
SLD 9	0.05	-26533.01	-37402	-0.0000949	0.0005615	0.0035	3.3		56630.04	56630.04	2.13		Si
SLD 9	0.45	-18911.07	-36583	-0.0000759	0.0005615	0.0035	3.3		55599.01	55599.01	2.94		Si
SLD 13	0.05	-22366.19	-28391	-0.0000775	0.0005615	0.0035	3.3		45050.85	45050.85	2.01		Si
SLD 13	0.45	-14346.73	-27254	-0.0000562	0.0005615	0.0035	3.3		43553.88	43553.88	3.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.05	-24124.58	-41028	-36470	-16180	3.3	3.186	-25993	10410	21736	28547	44467	8415	50283	No	3.11	Si
SLU 84	0.45	-17631.36	-39871	-35441	-16180	3.3	3.3	-23866	10127	21324	28547	44467	8415	49871	No	3.08	Si
SLU 82	0.05	-23924.87	-40755	-36226	-16107	3.3	3.1889	-25791	10383	21639	28547	44467	8415	50185	No	3.12	Si
SLU 82	0.45	-17460.81	-39597	-35197	-16107	3.3	3.3	-23702	10105	21227	28547	44467	8415	49774	No	3.09	Si
SLU 78	0.05	-23615.1	-39579	-35181	-15754	3.3	3.16	-25263	10313	21221	28547	44467	8415	49767	No	3.16	Si
SLU 78	0.45	-17292.39	-38421	-34152	-15754	3.3	3.3	-22998	10011	20809	28547	44467	8415	49356	No	3.13	Si
SLU 76	0.05	-23197.33	-39492	-35104	-15874	3.3	3.1878	-24981	10275	21190	28547	44467	8415	49736	No	3.13	Si
SLU 76	0.45	-16826.48	-38335	-34075	-15874	3.3	3.3	-22946	10004	20778	28547	44467	8415	49325	No	3.11	Si
SLU 73	0.05	-22997.62	-39219	-34861	-15801	3.3	3.1908	-24779	10248	21093	28547	44467	8415	49639	No	3.14	Si
SLU 73	0.45	-16655.94	-38061	-33832	-15801	3.3	3.3	-22783	9982	20681	28547	44467	8415	49228	No	3.12	Si
SLU 75	0.05	-23415.4	-39305	-34938	-15681	3.3	3.1628	-25061	10286	21123	28547	44467	8415	49670	No	3.17	Si
SLU 75	0.45	-17121.85	-38148	-33909	-15681	3.3	3.3	-22834	9989	20712	28547	44467	8415	49258	No	3.14	Si
SLU 83	0.05	-24218.55	-40443	-35949	-15781	3.3	3.1535	-25883	10396	21528	28547	44467	8415	50074	No	3.17	Si
SLU 83	0.45	-17885	-39285	-34920	-15781	3.3	3.3	-23515	10080	21116	28547	44467	8415	49663	No	3.15	Si
SLU 81	0.05	-24018.84	-40169	-35706	-15708	3.3	3.1562	-25681	10369	21430	28547	44467	8415	49977	No	3.18	Si
SLU 81	0.45	-17714.46	-39011	-34677	-15708	3.3	3.3	-23351	10058	21019	28547	44467	8415	49565	No	3.16	Si
SLU 80	0.05	-23459.68	-39375	-35000	-15681	3.3	3.1626	-25108	10292	21148	28547	44467	8415	49695	No	3.17	Si
SLU 80	0.45	-17166.12	-38218	-33971	-15681	3.3	3.3	-22876	9995	20737	28547	44467	8415	49283	No	3.14	Si
SLU 77	0.05	-23709.07	-38993	-34661	-15354	3.3	3.1259	-25158	10299	21012	28547	44467	8415	49559	No	3.23	Si
SLU 77	0.45	-17546.03	-37836	-33632	-15354	3.3	3.3	-22648	9964	20601	28547	44467	8415	49147	No	3.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	0.05	-26533.01	-37402	-33247	-18705	3.3	2.8218	-26548	15726	24021	28547	66701	8415	52568		2.81	Si
SLD 9	0.45	-18911.07	-36583	-32519	-18600	3.3	3.3	-21898	14796	23730	28547	66701	8415	52277		2.81	Si
SLV 9	0.05	-33616.86	-45365	-40324	-24007	3.3	2.7269	-33457	16250	26852	28547	66701	8415	55399		2.31	Si
SLV 9	0.45	-23827.74	-44559	-39608	-23838	3.3	3.3	-26672	15751	26566	28547	66701	8415	55112		2.31	Si
SLV 15	0.05	-16898.37	-18389	-16346	-21418	3.3	2.1931	-16695	13756	17261	28547	66701	8415	45808		2.14	Si
SLV 15	0.45	-9053.93	-16945	-15062	-21259	3.3	3.3	-10143	12445	18481	28547	66701	8415	47028		2.21	Si
SLD 14	0.05	-21452.93	-27889	-24790	-19582	3.3	2.6423	-21069	14631	20639	28547	66701	8415	49185		2.51	Si
SLD 14	0.45	-13925.8	-26752	-23780	-19443	3.3	3.3	-16013	13619	20235	28547	66701	8415	48781		2.51	Si
SLV 13	0.05	-26186.85	-30157	-26806	-26800	3.3	2.345	-25743	15566	21445	28547	66701	8415	49992		1.87	Si
SLV 13	0.45	-15974.14	-28849	-25644	-26574	3.3	3.2889	-17268	13870	20980	28547	66701	8415	49527		1.86	Si
SLD 15	0.05	-16919.09	-21483	-19096	-17643	3.3	2.5873	-16531	13723	18361	28547	66701	8415	46908		2.66	Si
SLD 15	0.45	-10312.47	-20253	-18002	-17547	3.3	3.3	-12123	12841	19069	28547	66701	8415	47616		2.71	Si
SLV 14	0.05	-24747.31	-29366	-26103	-24860	3.3	2.4218	-24252	15267	21164	28547	66701	8415	49710		2	Si
SLV 14	0.45	-15310.65	-28058	-24940	-24634	3.3	3.3	-16795	13776	20699	28547	66701	8415	49245		2	Si
SLV 16	0.05	-15458.83	-17597	-15642	-19478	3.3	2.3146	-15128	13442	16980	28547	66701	8415	45526		2.34	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.45	-8390.44	-16153	-14358	-19319	3.3	3.3	-9669	12350	18340	28547	66701	8415	46887		2.43	Si
SLV 10	0.05	-32647.83	-44832	-39851	-22701	3.3	2.7653	-32589	16250	26663	28547	66701	8415	55209		2.43	Si
SLV 10	0.45	-23381.11	-44026	-39134	-22532	3.3	3.3	-26353	15687	26376	28547	66701	8415	54923		2.44	Si
SLD 13	0.05	-22366.19	-28391	-25237	-20813	3.3	2.5866	-21917	14800	20817	28547	66701	8415	49364		2.37	Si
SLD 13	0.45	-14346.73	-27254	-24226	-20674	3.3	3.3	-16314	13679	20413	28547	66701	8415	48960		2.37	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	883	-1311	191.21	293.18	1.53	Si
SLV 11	179667	0.24	1183	-1757	191.21	392.24	2.05	Si
SLV 8	179667	0.24	2442	-3627	191.21	802.96	4.2	Si
SLV 7	179667	0.24	2743	-4073	191.21	899.97	4.71	Si
SLV 16	179667	0.24	7661	-11376	191.21	2431.24	12.71	Si
SLV 15	179667	0.24	8107	-12039	191.21	2565.01	13.41	Si
SLV 4	179667	0.24	12860	-19097	191.21	3934.92	20.58	Si
SLV 3	179667	0.24	13306	-19760	191.21	4058.54	21.23	Si
SLV 14	179667	0.24	15093	-22413	191.21	4544.5	23.77	Si
SLV 13	179667	0.24	15539	-23076	191.21	4663.76	24.39	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-39588	-44593	5344	0.399	4578.5	0.964	6.01526	2.57112	Si
SLV 6	-39148	-44114	5272	0.404	4533.7	0.964	6.09152	2.57112	Si
SLV 9	-38511	-41389	5194	0.411	4468.9	0.963	6.19545	2.57112	Si
SLV 10	-38071	-40910	5122	0.416	4424.1	0.963	6.27571	2.57112	Si
SLV 1	-29316	-34085	3907	0.541	3533.9	0.955	8.23433	2.70061	Si
SLV 2	-28663	-33373	3800	0.553	3467.5	0.954	8.43267	2.70061	Si
SLV 13	-25725	-23405	3406	0.614	3169.1	0.95	9.3917	2.70061	Si
SLV 14	-25072	-22692	3299	0.63	3102.8	0.949	9.64337	2.70061	Si
SLV 3	-19343	-21774	2510	0.801	2522	0.939	12.39043	2.70061	Si
SLV 4	-18689	-21062	2402	0.826	2455.8	0.938	12.80965	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.307	SLU 69	Si
V_SLU	3.082	SLU 84	Si
PF_SLV	1.809	SLV 13	Si
V_SLV	1.864	SLV 13	Si
PFFP_SLV	1.533	SLV 12	Si
R_SLV	2.34	SLV 5	Si

Maschio 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.448	1.141	-18.448	-3.284	L2	L4	4.425	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.95	26507.43	-103198	-0.0001714	0.0004492	0.0035	4.425	83059.52	151624.97	151624.97	5.72	No	Si
SLU 78	0.67	19433.02	-44011	-0.000078	0.0004492	0.0035	4.425	70953.51	82782.22	82782.22	4.26	No	Si
SLU 77	-1.95	25831.4	-102640	-0.0001692	0.0004492	0.0035	4.425	83391.47	151151.96	151151.96	5.85	No	Si
SLU 77	0.67	19471.69	-43912	-0.000078	0.0004492	0.0035	4.425	70853.05	82624.25	82624.25	4.24	No	Si
SLU 81	-1.95	26569.38	-104324	-0.0001733	0.0004492	0.0035	4.425	82363.15	152580.36	152580.36	5.74	No	Si
SLU 81	0.67	19761.32	-44507	-0.0000792	0.0004492	0.0035	4.425	71452.54	83573.25	83573.25	4.23	No	Si
SLU 75	-1.95	26389.57	-102349	-0.0001698	0.0004492	0.0035	4.425	83561.54	150904.8	150904.8	5.72	No	Si
SLU 75	0.67	19288.41	-43583	-0.0000773	0.0004492	0.0035	4.425	70517.78	82100.09	82100.09	4.26	No	Si
SLU 84	-1.95	27363.27	-105731	-0.000177	0.0004492	0.0035	4.425	81444.86	153773.54	153773.54	5.62	No	Si
SLU 84	0.67	19867.25	-45035	-0.00008	0.0004492	0.0035	4.425	71975.17	84413.35	84413.35	4.25	No	Si
SLU 83	-1.95	26687.24	-105173	-0.0001748	0.0004492	0.0035	4.425	81815.36	153300.53	153300.53	5.74	No	Si
SLU 83	0.67	19905.92	-44936	-0.0000799	0.0004492	0.0035	4.425	71877.47	84255.38	84255.38	4.23	No	Si
SLU 80	-1.95	26402.02	-102689	-0.0001704	0.0004492	0.0035	4.425	83362.7	151193.43	151193.43	5.73	No	Si
SLU 80	0.67	19293.39	-43726	-0.0000775	0.0004492	0.0035	4.425	70663.71	82327.66	82327.66	4.27	No	Si
SLU 79	-1.95	25725.99	-102131	-0.0001682	0.0004492	0.0035	4.425	83686.91	150720.41	150720.41	5.86	No	Si
SLU 79	0.67	19332.06	-43626	-0.0000774	0.0004492	0.0035	4.425	70562.47	82169.69	82169.69	4.25	No	Si
SLU 82	-1.95	27245.41	-104882	-0.0001755	0.0004492	0.0035	4.425	82005.57	153053.37	153053.37	5.62	No	Si
SLU 82	0.67	19722.65	-44607	-0.0000792	0.0004492	0.0035	4.425	71551.39	83731.22	83731.22	4.25	No	Si
SLU 74	-1.95	25713.54	-101791	-0.0001677	0.0004492	0.0035	4.425	83880.57	150431.79	150431.79	5.85	No	Si
SLU 74	0.67	19327.09	-43484	-0.0000772	0.0004492	0.0035	4.425	70416.16	81942.12	81942.12	4.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	-1.95	-28139.19	-34723	-0.0000788	0.0006738	0.0035	4.425		80138.21	80138.21	2.85		Si
SLV 8	0.67	3929.64	-14380	-0.0000206	0.0006738	0.0035	4.425		32281.8	32281.8	8.21		Si
SLV 6	-1.95	63114.2	-112876	-0.0002379	0.0006738	0.0035	4.425		179133.43	179133.43	2.84		Si
SLV 6	0.67	23219.83	-46423	-0.0000846	0.0006738	0.0035	4.425		90265.81	90265.81	3.89		Si
SLV 11	-1.95	-27386.67	-28290	-0.0000721	0.0006738	0.0035	4.425		68338.96	68338.96	2.5		Si
SLV 11	0.67	3581.82	-13333	-0.000019	0.0006738	0.0035	4.425		30154.15	30154.15	8.42		Si
SLV 5	-1.95	64449.67	-113819	-0.0002418	0.0006738	0.0035	4.425		179959.47	179959.47	2.79		Si
SLV 5	0.67	23442.76	-46987	-0.0000856	0.0006738	0.0035	4.425		91173.32	91173.32	3.89		Si
SLV 9	-1.95	63866.73	-106444	-0.0002298	0.0006738	0.0035	4.425		173493.59	173493.59	2.72		Si
SLV 9	0.67	22872.01	-45376	-0.0000829	0.0006738	0.0035	4.425		88580.07	88580.07	3.87		Si
SLV 12	-1.95	-28722.14	-27348	-0.0000747	0.0006738	0.0035	4.425		66578.8	66578.8	2.32		Si
SLV 12	0.67	3358.88	-12769	-0.0000181	0.0006738	0.0035	4.425		28996.1	28996.1	8.63		Si
SLD 9	-1.95	44827.1	-91407	-0.0001755	0.0006738	0.0035	4.425		155164.87	155164.87	3.46		Si
SLD 9	0.67	18937.19	-38923	-0.0000695	0.0006738	0.0035	4.425		78190.77	78190.77	4.13		Si
SLV 10	-1.95	62531.25	-105502	-0.000226	0.0006738	0.0035	4.425		172667.56	172667.56	2.76		Si
SLV 10	0.67	22649.08	-44812	-0.0000819	0.0006738	0.0035	4.425		87672.57	87672.57	3.87		Si
SLV 7	-1.95	-26803.72	-35665	-0.0000777	0.0006738	0.0035	4.425		81810.66	81810.66	3.05		Si
SLV 7	0.67	4152.57	-14943	-0.0000215	0.0006738	0.0035	4.425		33421.56	33421.56	8.05		Si
SLD 10	-1.95	44016.67	-90835	-0.0001733	0.0006738	0.0035	4.425		154450.3	154450.3	3.51		Si
SLD 10	0.67	18801.91	-38580	-0.0000689	0.0006738	0.0035	4.425		77640.05	77640.05	4.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 34	-1.95	22618.57	-86266	-62739	4396	4.425	4.425	-47261	10833	32763	81562	47707	22567	70275	No	15.99	Si
SLU 34	0.67	16098.49	-36819	-26778	-309	4.425	4.425	-20172	10833	18379	81562	47707	22567	70275	No	227.77	Si
SLU 76	-1.95	26734.85	-102212	-74336	4779	4.425	4.425	-55997	10833	37402	81562	47707	22567	70275	No	14.7	Si
SLU 76	0.67	19123	-43364	-31537	-783	4.425	4.425	-23757	10833	20283	81562	47707	22567	70275	No	89.79	Si
SLU 84	-1.95	27363.27	-105731	-76895	4594	4.425	4.425	-57925	10833	38426	81562	47707	22567	70275	No	15.3	Si
SLU 84	0.67	19867.25	-45035	-32753	-1181	4.425	4.425	-24672	10833	20769	81562	47707	22567	70275	No	59.53	Si
SLU 55	-1.95	24338.45	-91826	-66783	4213	4.425	4.425	-50307	10833	34381	81562	47707	22567	70275	No	16.68	Si
SLU 55	0.67	17134.91	-38530	-28022	-750	4.425	4.425	-21109	10833	18877	81562	47707	22567	70275	No	93.71	Si
SLU 75	-1.95	26389.57	-102349	-74435	4331	4.425	4.425	-56072	10833	37442	81562	47707	22567	70275	No	16.23	Si
SLU 75	0.67	19288.41	-43583	-31697	-1267	4.425	4.425	-23877	10833	20347	81562	47707	22567	70275	No	55.48	Si
SLU 78	-1.95	26507.43	-103198	-75053	4385	4.425	4.425	-56537	10833	37689	81562	47707	22567	70275	No	16.03	Si
SLU 78	0.67	19433.02	-44011	-32008	-1266	4.425	4.425	-24111	10833	20471	81562	47707	22567	70275	No	55.52	Si
SLU 82	-1.95	27245.41	-104882	-76278	4540	4.425	4.425	-57460	10833	38179	81562	47707	22567	70275	No	15.48	Si
SLU 82	0.67	19722.65	-44607	-32441	-1181	4.425	4.425	-24438	10833	20645	81562	47707	22567	70275	No	59.48	Si
SLU 73	-1.95	26616.99	-101362	-73718	4725	4.425	4.425	-55532	10833	37155	81562	47707	22567	70275	No	14.87	Si
SLU 73	0.67	18978.4	-42935	-31226	-784	4.425	4.425	-23522	10833	20158	81562	47707	22567	70275	No	89.69	Si
SLU 80	-1.95	26402.02	-102689	-74683	4361	4.425	4.425	-56258	10833	37541	81562	47707	22567	70275	No	16.11	Si
SLU 80	0.67	19293.39	-43726	-31800	-1251	4.425	4.425	-23955	10833	20388	81562	47707	22567	70275	No	56.16	Si
SLU 31	-1.95	22500.71	-85417	-62121	4342	4.425	4.425	-46796	10833	32516	81562	47707	22567	70275	No	16.19	Si
SLU 31	0.67	15953.88	-36391	-26466	-309	4.425	4.425	-19937	10833	18255	81562	47707	22567	70275	No	227.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	-1.95	-26803.72	-35665	-25938	-43718	4.425	4.3829	-19539	16250	21878	81562	71561	22567	94128		2.15	Si
SLV 7	0.67	4152.57	-14943	-10868	-44837	4.425	4.425	-8187	14137	18767	81562	71561	22567	94128		2.1	Si
SLD 5	-1.95	45200.27	-96132	-69914	31100	4.425	4.425	-52666	16250	39468	81562	71561	22567	94128		3.03	Si
SLD 5	0.67	19285.15	-39945	-29051	25361	4.425	4.425	-21884	16250	23123	81562	71561	22567	94128		3.71	Si
SLD 9	-1.95	44827.1	-91407	-66478	30452	4.425	4.425	-50077	16250	38093	81562	71561	22567	94128		3.09	Si
SLD 9	0.67	18937.19	-38923	-28307	24959	4.425	4.425	-21324	16250	22825	81562	71561	22567	94128		3.77	Si
SLV 5	-1.95	64449.67	-113819	-82777	51371	4.425	4.425	-62356	16250	44612	81562	71561	22567	94128		1.83	Si
SLV 5	0.67	23442.76	-46987	-34172	44302	4.425	4.425	-25742	16250	25171	81562	71561	22567	94128		2.12	Si
SLV 12	-1.95	-28722.14	-27348	-19889	-46817	4.425	3.4868	-19171	16250	19458	81562	71561	22567	94128		2.01	Si
SLV 12	0.67	3358.88	-12769	-9286	-47460	4.425	4.425	-6995	13899	18451	81562	71561	22567	94128		1.98	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	-1.95	62531.25	-105502	-76729	48272	4.425	4.425	-57799	16250	42193	81562	71561	22567	94128		1.95	Si
SLV 10	0.67	22649.08	-44812	-32591	41678	4.425	4.425	-24550	16250	24539	81562	71561	22567	94128		2.26	Si
SLV 8	-1.95	-28139.19	-34723	-25253	-45794	4.425	4.2063	-20190	16250	21604	81562	71561	22567	94128		2.06	Si
SLV 8	0.67	3929.64	-14380	-10458	-46835	4.425	4.425	-7878	14076	18685	81562	71561	22567	94128		2.01	Si
SLV 9	-1.95	63866.73	-106444	-77414	50348	4.425	4.425	-58315	16250	42467	81562	71561	22567	94128		1.87	Si
SLV 9	0.67	22872.01	-45376	-33001	43676	4.425	4.425	-24859	16250	24703	81562	71561	22567	94128		2.16	Si
SLV 11	-1.95	-27386.67	-28290	-20575	-44741	4.425	3.7333	-18523	16205	19733	81562	71561	22567	94128		2.1	Si
SLV 11	0.67	3581.82	-13333	-9696	-45462	4.425	4.425	-7304	13961	18533	81562	71561	22567	94128		2.07	Si
SLV 6	-1.95	63114.2	-112876	-82092	49295	4.425	4.425	-61840	16250	44338	81562	71561	22567	94128		1.91	Si
SLV 6	0.67	23219.83	-46423	-33762	42303	4.425	4.425	-25433	16250	25007	81562	71561	22567	94128		2.23	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-23596	0.24	177.09	3196.09	4440.77	3818.43	21.56	Si
SLV 11	-24275	0.24	177.09	3277.97	4549.11	3913.54	22.1	Si
SLV 8	-27812	0.24	177.09	3694.88	5112.4	4403.64	24.87	Si
SLV 7	-28491	0.24	177.09	3773.23	5220.66	4496.95	25.39	Si
SLV 16	-35414	0.24	177.09	4538.87	6306.87	5422.87	30.62	Si
SLV 15	-36423	0.24	177.09	4645.59	6464.6	5555.1	31.37	Si
SLV 4	-49467	0.24	177.09	5911.49	8476.28	7193.89	40.62	Si
SLV 14	-49901	0.24	177.09	5949.98	8542.71	7246.35	40.92	Si
SLV 3	-50477	0.24	177.09	6000.72	8630.91	7315.81	41.31	Si
SLV 13	-50911	0.24	177.09	6038.67	8697.34	7368.01	41.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-46987	-113819	2268	0.512	5273.4	0.972	7.65171	2.71881	Si
SLV 6	-46423	-112876	2240	0.517	5216	0.971	7.73991	2.71881	Si
SLV 9	-45376	-106444	2151	0.529	5109.4	0.971	7.92042	2.71881	Si
SLV 10	-44812	-105502	2123	0.535	5052	0.97	8.01491	2.71881	Si
SLV 1	-37788	-95297	1827	0.624	4336.9	0.966	9.39556	2.93197	Si
SLV 2	-36950	-93898	1785	0.637	4251.7	0.965	9.59596	2.93197	Si
SLV 13	-32418	-70715	1437	0.721	3790.6	0.961	10.90029	2.93197	Si
SLV 14	-31581	-69315	1395	0.738	3705.4	0.961	11.17012	2.93197	Si
SLV 3	-28175	-71851	1326	0.815	3359.1	0.957	12.37157	2.93197	Si
SLV 4	-27337	-70452	1284	0.837	3273.9	0.956	12.72205	2.93197	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.229	SLU 81	Si
V_SLU	14.705	SLU 76	Si
PF_SLV	2.318	SLV 12	Si
V_SLV	1.832	SLV 5	Si
PFFP_SLV	21.563	SLV 12	Si
R_SLV	2.814	SLV 5	Si

Maschio 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.693	6.576	-17.813	6.576	L2	L4	1.88	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	0.05	-2822.22	-22236	-0.00006	0.0003743	0.0035	1.88	15505.59	17737.43	17737.43	6.28	No	Si
SLU 82	0.45	-6320.19	-22483	-0.0000834	0.0003743	0.0035	1.88	15617.54	17885.86	17885.86	2.83	No	Si
SLU 79	0.05	-2798.65	-22276	-0.0000599	0.0003743	0.0035	1.88	15524.07	17761.77	17761.77	6.35	No	Si
SLU 79	0.45	-6332.78	-22538	-0.0000836	0.0003743	0.0035	1.88	15642.02	17918.62	17918.62	2.83	No	Si
SLU 78	0.05	-2822.08	-22260	-0.00006	0.0003743	0.0035	1.88	15516.65	17751.99	17751.99	6.29	No	Si
SLU 78	0.45	-6337.31	-22534	-0.0000836	0.0003743	0.0035	1.88	15640.44	17916.51	17916.51	2.83	No	Si
SLU 83	0.05	-2871.19	-22777	-0.0000615	0.0003743	0.0035	1.88	15748.77	18059.54	18059.54	6.29	No	Si
SLU 83	0.45	-6473.45	-23040	-0.0000856	0.0003743	0.0035	1.88	15864.27	18206.44	18206.44	2.81	No	Si
SLU 81	0.05	-2822.17	-22422	-0.0000604	0.0003743	0.0035	1.88	15590.02	17849.16	17849.16	6.32	No	Si
SLU 81	0.45	-6366.12	-22666	-0.0000841	0.0003743	0.0035	1.88	15699.28	17995.7	17995.7	2.83	No	Si
SLU 75	0.05	-2773.05	-21905	-0.000059	0.0003743	0.0035	1.88	15353.88	17539.87	17539.87	6.33	No	Si
SLU 75	0.45	-6229.97	-22160	-0.000082	0.0003743	0.0035	1.88	15471.33	17692.46	17692.46	2.84	No	Si
SLU 74	0.05	-2773	-22091	-0.0000594	0.0003743	0.0035	1.88	15439.67	17651.09	17651.09	6.37	No	Si
SLU 74	0.45	-6275.9	-22343	-0.0000827	0.0003743	0.0035	1.88	15554.36	17801.81	17801.81	2.84	No	Si
SLU 77	0.05	-2822.02	-22446	-0.0000604	0.0003743	0.0035	1.88	15600.99	17863.77	17863.77	6.33	No	Si
SLU 77	0.45	-6383.23	-22717	-0.0000843	0.0003743	0.0035	1.88	15721.98	18025.57	18025.57	2.82	No	Si
SLU 80	0.05	-2798.71	-22090	-0.0000595	0.0003743	0.0035	1.88	15439.04	17650.26	17650.26	6.31	No	Si
SLU 80	0.45	-6286.85	-22355	-0.0000828	0.0003743	0.0035	1.88	15559.77	17808.98	17808.98	2.83	No	Si
SLU 84	0.05	-2871.25	-22591	-0.0000611	0.0003743	0.0035	1.88	15665.78	17950.53	17950.53	6.25	No	Si
SLU 84	0.45	-6427.52	-22857	-0.0000849	0.0003743	0.0035	1.88	15784.02	18104.29	18104.29	2.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.05	-1906.33	-609	-0.0005704	0.0005615	0.0035	1.504		1468.05	1468.05	0.77		No
SLV 6	0.45	-544.64	-1158	-0.0000055	0.0005615	0.0035	1.88		1970.98	1970.98	3.62		Si
SLV 7	0.05	-3700.68	-29950	-0.0000794	0.0005615	0.0035	1.88		23975.92	23975.92	6.48		Si
SLV 7	0.45	-8774.08	-30762	-0.0001138	0.0005615	0.0035	1.88		24476.6	24476.6	2.79		Si
SLV 10	0.05	-16.61	-90	-0.0000003	0.0005615	0.0035	1.88		987.27	987.27	59.45		Si
SLV 10	0.45	271.09	454	0.0636294	0.0005615	0.0035	1.504		0	0	0		No
SLV 9	0.05	-371.41	189	0.0278702	0.0005615	0.0035	1.504		0	0	0		No
SLV 9	0.45	213.88	542	0.0765106	0.0005615	0.0035	1.504		0	0	0		No
SLV 2	0.05	-4528.71	-11650	-0.0000486	0.0005615	0.0035	1.88		11028.01	11028.01	2.44		Si
SLV 2	0.45	-4342.71	-13453	-0.0000502	0.0005615	0.0035	1.88		12451.19	12451.19	2.87		Si
SLV 4	0.05	-4960.57	-20536	-0.000068	0.0005615	0.0035	1.88		17763.78	17763.78	3.58		Si
SLV 4	0.45	-6794.38	-22360	-0.0000831	0.0005615	0.0035	1.88		19038.73	19038.73	2.8		Si
SLV 5	0.05	-2261.14	-331	-0.0009907	0.0005615	0.0035	1.504		1211.34	1211.34	0.54		No
SLV 5	0.45	-601.86	-1070	-0.0000063	0.0005615	0.0035	1.504		1890.98	1890.98	3.14		Si
SLV 1	0.05	-5055.79	-11236	-0.0000529	0.0005615	0.0035	1.88		10686.83	10686.83	2.11		Si
SLV 1	0.45	-4427.71	-13322	-0.0000505	0.0005615	0.0035	1.88		12347.72	12347.72	2.79		Si
SLV 8	0.05	-3345.87	-30228	-0.0000778	0.0005615	0.0035	1.88		24148.85	24148.85	7.22		Si
SLV 8	0.45	-8716.87	-30850	-0.0001136	0.0005615	0.0035	1.88		24528.18	24528.18	2.81		Si
SLV 3	0.05	-5487.65	-20122	-0.0000704	0.0005615	0.0035	1.88		17468.23	17468.23	3.18		Si
SLV 3	0.45	-6879.38	-22230	-0.0000834	0.0005615	0.0035	1.88		18949.08	18949.08	2.75		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	-2822.22	-22236	-19765	6258	1.88	1.88	-23363	10059	8595	28547	25333	4794	30127	No	4.81	Si
SLU 82	0.45	-6320.19	-22483	-19985	6589	1.88	1.88	-23623	10094	8658	28547	25333	4794	30127	No	4.57	Si
SLU 84	0.05	-2871.25	-22591	-20081	6358	1.88	1.88	-23736	10109	8686	28547	25333	4794	30127	No	4.74	Si
SLU 84	0.45	-6427.52	-22857	-20318	6695	1.88	1.88	-24016	10147	8754	28547	25333	4794	30127	No	4.5	Si
SLU 74	0.05	-2773	-22091	-19636	6260	1.88	1.88	-23211	10039	8558	28547	25333	4794	30127	No	4.81	Si
SLU 74	0.45	-6275.9	-22343	-19861	6592	1.88	1.88	-23476	10075	8623	28547	25333	4794	30127	No	4.57	Si
SLU 79	0.05	-2798.65	-22276	-19801	6315	1.88	1.88	-23406	10065	8605	28547	25333	4794	30127	No	4.77	Si
SLU 79	0.45	-6332.78	-22538	-20034	6650	1.88	1.88	-23680	10102	8672	28547	25333	4794	30127	No	4.53	Si
SLU 81	0.05	-2822.17	-22422	-19931	6380	1.88	1.88	-23559	10086	8643	28547	25333	4794	30127	No	4.72	Si
SLU 81	0.45	-6366.12	-22666	-20148	6716	1.88	1.88	-23815	10120	8705	28547	25333	4794	30127	No	4.49	Si
SLU 83	0.05	-2871.19	-22777	-20247	6480	1.88	1.88	-23932	10135	8733	28547	25333	4794	30127	No	4.65	Si
SLU 83	0.45	-6473.45	-23040	-20480	6821	1.88	1.88	-24208	10172	8800	28547	25333	4794	30127	No	4.42	Si
SLU 75	0.05	-2773.05	-21905	-19471	6138	1.88	1.88	-23015	10013	8511	28547	25333	4794	30127	No	4.91	Si
SLU 75	0.45	-6229.97	-22160	-19698	6466	1.88	1.88	-23284	10049	8576	28547	25333	4794	30127	No	4.66	Si
SLU 77	0.05	-2822.02	-22446	-19952	6360	1.88	1.88	-23584	10089	8649	28547	25333	4794	30127	No	4.74	Si
SLU 77	0.45	-6383.23	-22717	-20193	6698	1.88	1.88	-23869	10127	8718	28547	25333	4794	30127	No	4.5	Si
SLU 78	0.05	-2822.08	-22260	-19787	6238	1.88	1.88	-23388	10063	8601	28547	25333	4794	30127	No	4.83	Si
SLU 78	0.45	-6337.31	-22534	-20030	6572	1.88	1.88	-23677	10101	8671	28547	25333	4794	30127	No	4.58	Si
SLU 80	0.05	-2798.71	-22090	-19635	6192	1.88	1.88	-23210	10039	8558	28547	25333	4794	30127	No	4.87	Si
SLU 80	0.45	-6286.85	-22355	-19871	6524	1.88	1.88	-23488	10076	8626	28547	25333	4794	30127	No	4.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	0.05	-2261.14	-331	-294	-7631	1.504	0	0	0	0	28547	30400	3835	28547		3.74	Si
SLV 5	0.45	-601.86	-1070	-951	-7632	1.504	1.1331	0	0	0	28547	30400	3835	28547		3.74	Si
SLD 15	0.05	-132.2	-16919	-15039	10568	1.88	1.88	-17777	13972	11820	28547	38000	4794	40367		3.82	Si
SLD 15	0.45	-4131.1	-16009	-14231	10763	1.88	1.88	-16821	13781	11659	28547	38000	4794	40205		3.74	Si
SLV 16	0.05	1338.5	-18803	-16714	16121	1.88	1.88	-19756	14368	12155	28547	38000	4794	40702		2.52	Si
SLV 16	0.45	-4075.28	-16985	-15098	16314	1.88	1.88	-17847	13986	11832	28547	38000	4794	40379		2.48	Si
SLV 14	0.05	1770.37	-9917	-8816	10880	1.88	1.88	-10420	12501	10576	28547	38000	4794	39122		3.6	Si
SLV 14	0.45	-1623.61	-8078	-7180	10920	1.88	1.88	-8488	12114	10249	28547	38000	4794	38795		3.55	Si
SLD 16	0.05	202.19	-17182	-15273	11689	1.88	1.88	-18053	14027	11867	28547	38000	4794	40414		3.46	Si
SLD 16	0.45	-4077.18	-16092	-14304	11889	1.88	1.88	-16908	13798	11673	28547	38000	4794	40220		3.38	Si
SLD 12	0.05	-1568.82	-23613	-20989	11330	1.88	1.88	-24810	15379	13010	28547	38000	4794	41557		3.67	Si
SLD 12	0.45	-6368.49	-23376	-20779	11682	1.88	1.88	-24561	15329	12968	28547	38000	4794	41515		3.55	Si
SLV 12	0.05	-1456.15	-29708	-26408	16067	1.88	1.88	-31215	16250	13748	28547	38000	4794	42294		2.63	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.45	-7901.13	-29237	-25989	16517	1.88	1.88	-30720	16250	13748	28547	38000	4794	42294		2.56	Si
SLV 11	0.05	-1810.96	-29430	-26160	14877	1.88	1.88	-30922	16250	13748	28547	38000	4794	42294		2.84	Si
SLV 11	0.45	-7958.35	-29150	-25911	15323	1.88	1.88	-30627	16250	13748	28547	38000	4794	42294		2.76	Si
SLV 15	0.05	811.42	-18389	-16346	14353	1.88	1.88	-19322	14281	12082	28547	38000	4794	40628		2.83	Si
SLV 15	0.45	-4160.28	-16855	-14982	14540	1.88	1.88	-17710	13959	11809	28547	38000	4794	40356		2.78	Si
SLV 8	0.05	-3345.87	-30228	-26870	11028	1.88	1.88	-31761	16250	13748	28547	38000	4794	42294		3.84	Si
SLV 8	0.45	-8716.87	-30850	-27422	11545	1.88	1.88	-32414	16250	13748	28547	38000	4794	42294		3.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	0	870	108.93	0	0	No, Trazione
SLV 10	179667	0.24	0	1181	108.93	0	0	No, Trazione
SLV 6	179667	0.24	0	591	108.93	0	0	No, Trazione
SLV 9	179667	0.24	0	1460	108.93	0	0	No, Trazione
SLV 13	179667	0.24	8453	-7152	108.93	1520.03	13.95	Si
SLV 14	179667	0.24	8943	-7566	108.93	1602.64	14.71	Si
SLV 1	179667	0.24	10777	-9118	108.93	1906.7	17.5	Si
SLV 2	179667	0.24	11267	-9532	108.93	1986.47	18.24	Si
SLV 15	179667	0.24	17944	-15181	108.93	3014.31	27.67	Si
SLV 16	179667	0.24	18434	-15595	108.93	3085.33	28.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-29552	-20063	-1863	0.367	3320.7	0.971	5.49186	2.57112	Si
SLV 7	-29391	-19814	-1855	0.369	3304.4	0.971	5.51745	2.57112	Si
SLV 12	-28400	-19214	-1782	0.38	3203.5	0.97	5.69675	2.57112	Si
SLV 11	-28240	-18965	-1775	0.382	3187.2	0.97	5.72445	2.57112	Si
SLV 4	-20751	-12972	-1307	0.5	2425	0.962	7.56071	2.70061	Si
SLV 3	-20513	-12603	-1296	0.505	2400.8	0.961	7.63676	2.70061	Si
SLV 16	-16914	-10144	-1037	0.599	2034.8	0.955	9.10942	2.70061	Si
SLV 15	-16676	-9774	-1027	0.606	2010.7	0.954	9.22206	2.70061	Si
SLV 2	-12023	-5994	-748	0.798	1538.4	0.942	12.30632	2.70061	Si
SLV 1	-11785	-5625	-737	0.811	1514.3	0.942	12.51797	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.812	SLU 83	Si
V_SLU	4.417	SLU 83	Si
PF_SLV	0	SLV 9	No
V_SLV	2.475	SLV 16	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.136	SLV 8	Si

Maschio 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-16.928	-4.709	L2	L4	3.165	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	-1.95	-2944.61	-18129	-0.0000259	0.0003743	0.0035	3.165	25102.31	28724.83	28724.83	9.76	No	Si
SLU 73	0.67	-17785.66	-27409	-0.0000707	0.0003743	0.0035	3.165	35176.25	39982.51	39982.51	2.25	No	Si
SLU 76	-1.95	-2940.64	-18235	-0.000026	0.0003743	0.0035	3.165	25228.49	28862.9	28862.9	9.82	No	Si
SLU 76	0.67	-17897.18	-27674	-0.0000712	0.0003743	0.0035	3.165	35436.25	40284.83	40284.83	2.25	No	Si
SLU 81	-1.95	-2954.36	-18353	-0.0000261	0.0003743	0.0035	3.165	25368.18	29016.22	29016.22	9.82	No	Si
SLU 81	0.67	-18179.2	-28156	-0.0000725	0.0003743	0.0035	3.165	35905.04	40827.97	40827.97	2.25	No	Si
SLU 83	-1.95	-2950.38	-18460	-0.0000263	0.0003743	0.0035	3.165	25493.83	29154.59	29154.59	9.88	No	Si
SLU 83	0.67	-18290.72	-28421	-0.0000731	0.0003743	0.0035	3.165	36160.73	41116.34	41116.34	2.25	No	Si
SLU 84	-1.95	-2995.53	-18770	-0.0000267	0.0003743	0.0035	3.165	25858.69	29558.7	29558.7	9.87	No	Si
SLU 84	0.67	-18584.77	-28785	-0.0000743	0.0003743	0.0035	3.165	36509.17	41513.21	41513.21	2.23	No	Si
SLU 61	-1.95	-2701.69	-17014	-0.0000241	0.0003743	0.0035	3.165	23766.01	27286.36	27286.36	10.1	No	Si
SLU 61	0.67	-16638.9	-25437	-0.0000654	0.0003743	0.0035	3.165	33192.4	37679.83	37679.83	2.26	No	Si
SLU 80	-1.95	-2906.56	-18135	-0.0000258	0.0003743	0.0035	3.165	25109.49	28732.67	28732.67	9.89	No	Si
SLU 80	0.67	-17812.66	-27697	-0.000071	0.0003743	0.0035	3.165	35458.28	40310.43	40310.43	2.26	No	Si
SLU 78	-1.95	-2915.76	-18208	-0.0000259	0.0003743	0.0035	3.165	25195.79	28827.08	28827.08	9.89	No	Si
SLU 78	0.67	-17953.55	-27839	-0.0000716	0.0003743	0.0035	3.165	35597.18	40471.81	40471.81	2.25	No	Si
SLU 75	-1.95	-2919.73	-18101	-0.0000258	0.0003743	0.0035	3.165	25069.55	28689.04	28689.04	9.83	No	Si
SLU 75	0.67	-17842.03	-27574	-0.000071	0.0003743	0.0035	3.165	35338.13	40170.77	40170.77	2.25	No	Si
SLU 82	-1.95	-2999.5	-18664	-0.0000266	0.0003743	0.0035	3.165	25733.75	29420.43	29420.43	9.81	No	Si
SLU 82	0.67	-18473.25	-28520	-0.0000737	0.0003743	0.0035	3.165	36255.58	41223.93	41223.93	2.23	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-1.95	-850.13	8818	0.6671182	0.0005615	0.0035	2.532		0	0	0		No
SLV 11	0.67	8712.03	4499	0.3170493	0.0005615	0.0035	2.532		0	0	0		No
SLD 12	-1.95	-1296.84	140	0.0112367	0.0005615	0.0035	2.532		0	0	0		No
SLD 12	0.67	-195.19	-5366	-0.0000061	0.0005615	0.0035	3.165		11144.35	11144.35	57.09		Si
SLV 9	-1.95	-5550.55	-32540	-0.0000473	0.0005615	0.0035	3.165		48218.21	48218.21	8.69		Si
SLV 9	0.67	-28491.61	-37278	-0.00011	0.0005615	0.0035	3.165		53896.51	53896.51	1.89		Si
SLV 7	-1.95	1282.84	7750	0.5828907	0.0005615	0.0035	2.532		0	0	0		No
SLV 7	0.67	5440.13	1219	0.0643221	0.0005615	0.0035	2.532		0	0	0		No
SLV 6	-1.95	-3241.62	-33515	-0.0000435	0.0005615	0.0035	3.165		49381.97	49381.97	15.23		Si
SLV 6	0.67	-32520.48	-41327	-0.0001272	0.0005615	0.0035	3.165		58492.27	58492.27	1.8		Si
SLV 5	-1.95	-3417.59	-33607	-0.000044	0.0005615	0.0035	3.165		49492.09	49492.09	14.48		Si
SLV 5	0.67	-31763.51	-40557	-0.0001239	0.0005615	0.0035	3.165		57613.91	57613.91	1.81		Si
SLD 11	-1.95	-1403.63	84	0.0063525	0.0005615	0.0035	2.532		2335.45	2335.45	1.66		Si
SLD 11	0.67	264.17	-4899	-0.0000057	0.0005615	0.0035	3.165		8085.01	8085.01	30.6		Si
SLV 12	-1.95	-674.16	8910	0.673792	0.0005615	0.0035	2.532		0	0	0		No
SLV 12	0.67	7955.06	3729	0.2598501	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	-1.95	1458.81	7842	0.5895335	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	0.67	4683.16	449	-0.0086163	0.0005615	0.0035	2.532		0	0	0		No
SLV 10	-1.95	-5374.59	-32447	-0.0000468	0.0005615	0.0035	3.165		48108.56	48108.56	8.95		Si
SLV 10	0.67	-29248.58	-38047	-0.0001132	0.0005615	0.0035	3.165		54766.96	54766.96	1.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	-1.95	-2874.59	-17791	-15814	15091	3.165	3.165	-11104	8425	13182	28547	42648	8071	41728	No	2.77	Si
SLU 74	0.67	-17547.98	-27210	-24187	11810	3.165	2.8128	-19404	9532	16531	28547	42648	8071	45077	No	3.82	Si
SLU 75	-1.95	-2919.73	-18101	-16090	15172	3.165	3.165	-11297	8451	13292	28547	42648	8071	41839	No	2.76	Si
SLU 75	0.67	-17842.03	-27574	-24510	11783	3.165	2.8063	-19714	9573	16660	28547	42648	8071	45207	No	3.84	Si
SLU 77	-1.95	-2870.61	-17898	-15909	15236	3.165	3.165	-11170	8434	13220	28547	42648	8071	41766	No	2.74	Si
SLU 77	0.67	-17659.49	-27475	-24423	11931	3.165	2.8193	-19551	9551	16625	28547	42648	8071	45171	No	3.79	Si
SLU 82	-1.95	-2999.5	-18664	-16590	15673	3.165	3.165	-11648	8498	13492	28547	42648	8071	42039	No	2.68	Si
SLU 82	0.67	-18473.25	-28520	-25351	12269	3.165	2.8043	-20418	9667	16996	28547	42648	8071	45543	No	3.71	Si
SLU 84	-1.95	-2995.53	-18770	-16685	15818	3.165	3.165	-11715	8506	13530	28547	42648	8071	42076	No	2.66	Si
SLU 84	0.67	-18584.77	-28785	-25586	12390	3.165	2.8105	-20565	9686	17090	28547	42648	8071	45637	No	3.68	Si
SLU 80	-1.95	-2906.56	-18135	-16120	15220	3.165	3.165	-11318	8454	13304	28547	42648	8071	41851	No	2.75	Si
SLU 80	0.67	-17812.66	-27697	-24619	11832	3.165	2.8181	-19720	9574	16704	28547	42648	8071	45250	No	3.82	Si
SLU 81	-1.95	-2954.36	-18353	-16314	15592	3.165	3.165	-11455	8472	13382	28547	42648	8071	41928	No	2.69	Si
SLU 81	0.67	-18179.2	-28156	-25027	12295	3.165	2.8105	-20108	9625	16867	28547	42648	8071	45413	No	3.69	Si
SLU 78	-1.95	-2915.76	-18208	-16185	15317	3.165	3.165	-11364	8460	13330	28547	42648	8071	41876	No	2.73	Si
SLU 78	0.67	-17953.55	-27839	-24746	11904	3.165	2.8128	-19861	9593	16754	28547	42648	8071	45301	No	3.81	Si
SLU 79	-1.95	-2861.42	-17825	-15844	15138	3.165	3.165	-11125	8428	13194	28547	42648	8071	41740	No	2.76	Si
SLU 79	0.67	-17518.6	-27333	-24296	11858	3.165	2.8247	-19410	9532	16574	28547	42648	8071	45121	No	3.8	Si
SLU 83	-1.95	-2950.38	-18460	-16409	15737	3.165	3.165	-11521	8481	13420	28547	42648	8071	41966	No	2.67	Si
SLU 83	0.67	-18290.72	-28421	-25263	12416	3.165	2.8168	-20254	9645	16961	28547	42648	8071	45508	No	3.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.95	-3417.59	-33607	-29873	22662	3.165	3.165	-20975	14612	22233	28547	63973	8071	50780		2.24	Si
SLV 5	0.67	-31763.51	-40557	-36051	16528	3.165	2.398	-34029	16250	24704	28547	63973	8071	53251		3.22	Si
SLV 4	-1.95	2344.84	-7857	-6984	21011	3.165	3.165	-4903	11397	16233	28547	63973	8071	44779		2.13	Si
SLV 4	0.67	-12339.1	-18186	-16165	22866	3.165	2.712	-13332	13083	16750	28547	63973	8071	45297		1.98	Si
SLV 3	-1.95	2083.43	-7993	-7105	18876	3.165	3.165	-4989	11414	16257	28547	63973	8071	44804		2.37	Si
SLV 3	0.67	-11214.59	-17042	-15149	19994	3.165	2.7734	-12210	12859	16344	28547	63973	8071	44890		2.25	Si
SLD 6	-1.95	-2688.12	-24782	-22028	18591	3.165	3.165	-15467	13510	19242	28547	63973	8071	47788		2.57	Si
SLD 6	0.67	-24072.63	-31929	-28382	14368	3.165	2.4857	-25704	15558	21637	28547	63973	8071	50183		3.49	Si
SLV 2	-1.95	934.71	-20264	-18012	26627	3.165	3.165	-12647	12946	18438	28547	63973	8071	46985		1.76	Si
SLV 2	0.67	-23500.2	-30718	-27305	25888	3.165	2.4524	-25051	15427	21206	28547	63973	8071	49753		1.92	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-1.95	673.3	-20401	-18134	24491	3.165	3.165	-12732	12963	18463	28547	63973	8071	47009		1.92	Si
SLV 1	0.67	-22375.68	-29575	-26289	23017	3.165	2.4778	-23859	15189	20800	28547	63973	8071	49346		2.14	Si
SLV 6	-1.95	-3241.62	-33515	-29791	24099	3.165	3.165	-20917	14600	22201	28547	63973	8071	50747		2.11	Si
SLV 6	0.67	-32520.48	-41327	-36735	18461	3.165	2.3868	-34855	16250	24978	28547	63973	8071	53524		2.9	Si
SLD 1	-1.95	-267.13	-17170	-15262	19227	3.165	3.165	-10716	12560	17888	28547	63973	8071	46435		2.42	Si
SLD 1	0.67	-18298.17	-25216	-22414	17525	3.165	2.5705	-19566	14330	19250	28547	63973	8071	47796		2.73	Si
SLD 2	-1.95	-101.29	-17083	-15185	20582	3.165	3.165	-10662	12549	17873	28547	63973	8071	46420		2.26	Si
SLD 2	0.67	-19011.58	-25941	-23059	19346	3.165	2.5489	-20307	14478	19508	28547	63973	8071	48054		2.48	Si
SLD 4	-1.95	725.61	-9812	-8722	17294	3.165	3.165	-6124	11641	16580	28547	63973	8071	45127		2.61	Si
SLD 4	0.67	-12475.19	-18601	-16534	17582	3.165	2.7355	-13521	13121	16898	28547	63973	8071	45444		2.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	0	6833	183.39	0	0	No, Trazione
SLV 8	179667	0.24	0	5405	183.39	0	0	No, Trazione
SLV 7	179667	0.24	0	5644	183.39	0	0	No, Trazione
SLV 11	179667	0.24	0	7072	183.39	0	0	No, Trazione
SLV 15	179667	0.24	3728	-5310	183.39	1165.65	6.36	Si
SLV 16	179667	0.24	3978	-5666	183.39	1241.57	6.77	Si
SLV 3	179667	0.24	7069	-10068	183.39	2160.49	11.78	Si
SLV 4	179667	0.24	7319	-10424	183.39	2232.91	12.18	Si
SLV 13	179667	0.24	12217	-17401	183.39	3601.93	19.64	Si
SLV 14	179667	0.24	12467	-17756	183.39	3668.96	20.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-41327	-33515	661	0.475	4732.9	0.966	7.14914	2.57112	Si
SLV 5	-40557	-33607	649	0.482	4654.6	0.966	7.25968	2.57112	Si
SLV 10	-38047	-32447	604	0.508	4399.2	0.964	7.65231	2.57112	Si
SLV 9	-37278	-32540	592	0.516	4320.9	0.963	7.78182	2.57112	Si
SLV 2	-30718	-20264	476	0.602	3653.7	0.957	9.13859	2.70061	Si
SLV 1	-29575	-20401	459	0.62	3537.5	0.956	9.43083	2.70061	Si
SLV 14	-19786	-16704	287	0.854	2543.8	0.942	13.18237	2.70061	Si
SLV 13	-18643	-16841	270	0.895	2428	0.939	13.84496	2.70061	Si
SLV 4	-18186	-7857	259	0.912	2381.8	0.938	14.13297	2.70061	Si
SLV 3	-17042	-7993	242	0.96	2266.1	0.936	14.90485	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.232	SLU 82	Si
V_SLU	2.66	SLU 84	Si
PF_SLV	0	SLD 12	No
V_SLV	1.765	SLV 2	Si
PFFP_SLV	0	SLV 12	No
R_SLV	2.781	SLV 6	Si

Maschio 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.071	-15.058	6.351	L2	L4	4.28	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	-1.95	-678.11	-82562	-0.0000988	0.0004492	0.0035	4.28	83704.26	133378.9	133378.9	196.69	No	Si
SLU 81	0.05	-13259.77	-88669	-0.0001312	0.0004492	0.0035	4.28	82509.38	138188.04	138188.04	10.42	No	Si
SLU 78	-1.95	-1083.97	-81534	-0.0000982	0.0004492	0.0035	4.28	83805.26	132569.94	132569.94	122.3	No	Si
SLU 78	0.05	-12955.61	-87507	-0.000129	0.0004492	0.0035	4.28	82815.14	137272.98	137272.98	10.6	No	Si
SLU 73	-1.95	-2250.52	-79045	-0.0000971	0.0004492	0.0035	4.28	83930.56	130609.85	130609.85	58.04	No	Si
SLU 73	0.05	-12862.99	-84423	-0.0001244	0.0004492	0.0035	4.28	83447.98	134844.25	134844.25	10.48	No	Si
SLU 82	-1.95	-1618.65	-82336	-0.0001003	0.0004492	0.0035	4.28	83728.96	133200.87	133200.87	82.29	No	Si
SLU 82	0.05	-13342.03	-88282	-0.0001308	0.0004492	0.0035	4.28	82615.36	137883.13	137883.13	10.33	No	Si
SLU 75	-1.95	-1313.43	-80603	-0.0000974	0.0004492	0.0035	4.28	83871.91	131836.87	131836.87	100.38	No	Si
SLU 75	0.05	-12902.46	-86381	-0.0001272	0.0004492	0.0035	4.28	83076.37	136385.88	136385.88	10.57	No	Si
SLU 74	-1.95	-372.89	-80829	-0.000096	0.0004492	0.0035	4.28	83857.9	132014.9	132014.9	354.03	No	Si
SLU 74	0.05	-12820.21	-86768	-0.0001276	0.0004492	0.0035	4.28	82990.49	136690.78	136690.78	10.66	No	Si
SLU 84	-1.95	-1389.19	-83267	-0.0001011	0.0004492	0.0035	4.28	83618.3	133933.94	133933.94	96.41	No	Si
SLU 84	0.05	-13395.18	-89409	-0.0001326	0.0004492	0.0035	4.28	82295.67	138770.23	138770.23	10.36	No	Si
SLU 83	-1.95	-448.65	-83493	-0.0000997	0.0004492	0.0035	4.28	83587.86	134111.97	134111.97	298.92	No	Si
SLU 83	0.05	-13312.92	-89796	-0.000133	0.0004492	0.0035	4.28	82177.8	139075.13	139075.13	10.45	No	Si
SLU 80	-1.95	-1164.57	-81058	-0.0000977	0.0004492	0.0035	4.28	83842.33	132194.69	132194.69	113.51	No	Si
SLU 80	0.05	-12914.45	-86934	-0.0001281	0.0004492	0.0035	4.28	82952.36	136821.71	136821.71	10.59	No	Si
SLU 76	-1.95	-2021.06	-79976	-0.0000979	0.0004492	0.0035	4.28	83903.49	131342.93	131342.93	64.99	No	Si
SLU 76	0.05	-12916.14	-85549	-0.0001261	0.0004492	0.0035	4.28	83246.92	135731.34	135731.34	10.51	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	-1.95	-62228.73	-38856	-0.0002523	0.0006738	0.0035	3.424		83852.46	83852.46	1.35		Si
SLV 6	0.05	-17030.34	-30708	-0.0000603	0.0006738	0.0035	4.28		69801.62	69801.62	4.1		Si
SLV 12	-1.95	61947.02	-71960	-0.0001919	0.0006738	0.0035	4.28		125206.43	125206.43	2.02		Si
SLV 12	0.05	-942.21	-87430	-0.0001016	0.0006738	0.0035	4.28		152628.92	152628.92	161.99		Si
SLV 7	-1.95	57450.73	-75870	-0.0001865	0.0006738	0.0035	4.28		129953.47	129953.47	2.26		Si
SLV 7	0.05	975.21	-87510	-0.0001018	0.0006738	0.0035	4.28		144082.08	144082.08	147.75		Si
SLD 6	-1.95	-36839.31	-45845	-0.0001113	0.0006738	0.0035	4.28		95292.07	95292.07	2.59		Si
SLD 6	0.05	-13619.57	-42436	-0.0000686	0.0006738	0.0035	4.28		89732.81	89732.81	6.59		Si
SLV 11	-1.95	60907.59	-72131	-0.0001896	0.0006738	0.0035	4.28		125414.21	125414.21	2.06		Si
SLV 11	0.05	-754.76	-87332	-0.0001012	0.0006738	0.0035	4.28		152512.21	152512.21	202.07		Si
SLV 10	-1.95	-58771.87	-35116	-0.0002622	0.0006738	0.0035	3.424		77419.65	77419.65	1.32		Si
SLV 10	0.05	-18760.3	-30530	-0.0000629	0.0006738	0.0035	4.28		69479.21	69479.21	3.7		Si
SLV 5	-1.95	-63268.15	-39027	-0.0002644	0.0006738	0.0035	3.424		84146.93	84146.93	1.33		Si
SLV 5	0.05	-16842.89	-30610	-0.0000599	0.0006738	0.0035	4.28		69623.24	69623.24	4.13		Si
SLV 9	-1.95	-59811.3	-35288	-0.0002775	0.0006738	0.0035	3.424		77714.11	77714.11	1.3		Si
SLV 9	0.05	-18572.85	-30432	-0.0000625	0.0006738	0.0035	4.28		69300.83	69300.83	3.73		Si
SLV 8	-1.95	58490.16	-75699	-0.0001884	0.0006738	0.0035	4.28		129745.68	129745.68	2.22		Si
SLV 8	0.05	787.75	-87608	-0.0001016	0.0006738	0.0035	4.28		144201.74	144201.74	183.05		Si
SLD 5	-1.95	-37470.08	-45949	-0.0001127	0.0006738	0.0035	4.28		95461.48	95461.48	2.55		Si
SLD 5	0.05	-13505.82	-42377	-0.0000683	0.0006738	0.0035	4.28		89635.25	89635.25	6.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	-678.11	-82562	-60045	-16897	4.28	4.28	-46764	10833	31434	81562	46144	21828	67972	No	4.02	Si
SLU 81	0.05	-13259.77	-88669	-64487	-16906	4.28	4.28	-50223	10833	33211	81562	46144	21828	67972	No	4.02	Si
SLU 73	-1.95	-2250.52	-79045	-57487	-17250	4.28	4.28	-44772	10833	30411	81562	46144	21828	67972	No	3.94	Si
SLU 73	0.05	-12862.99	-84423	-61398	-17262	4.28	4.28	-47818	10833	31976	81562	46144	21828	67972	No	3.94	Si
SLU 75	-1.95	-1313.43	-80603	-58620	-17128	4.28	4.28	-45655	10833	30865	81562	46144	21828	67972	No	3.97	Si
SLU 75	0.05	-12902.46	-86381	-62822	-17134	4.28	4.28	-48927	10833	32545	81562	46144	21828	67972	No	3.97	Si
SLU 77	-1.95	-143.43	-81760	-59462	-16757	4.28	4.28	-46310	10833	31201	81562	46144	21828	67972	No	4.06	Si
SLU 77	0.05	-12873.35	-87894	-63923	-16759	4.28	4.28	-49784	10833	32986	81562	46144	21828	67972	No	4.06	Si
SLU 82	-1.95	-1618.65	-82336	-59880	-17392	4.28	4.28	-46636	10833	31369	81562	46144	21828	67972	No	3.91	Si
SLU 82	0.05	-13342.03	-88282	-64205	-17402	4.28	4.28	-50004	10833	33098	81562	46144	21828	67972	No	3.91	Si
SLU 84	-1.95	-1389.19	-83267	-60557	-17516	4.28	4.28	-47163	10833	31639	81562	46144	21828	67972	No	3.88	Si
SLU 84	0.05	-13395.18	-89409	-65025	-17522	4.28	4.28	-50642	10833	33426	81562	46144	21828	67972	No	3.88	Si
SLU 78	-1.95	-1083.97	-81534	-59298	-17252	4.28	4.28	-46182	10833	31135	81562	46144	21828	67972	No	3.94	Si
SLU 78	0.05	-12955.61	-87507	-63642	-17254	4.28	4.28	-49565	10833	32873	81562	46144	21828	67972	No	3.94	Si
SLU 80	-1.95	-1164.57	-81058	-58951	-17168	4.28	4.28	-45912	10833	30997	81562	46144	21828	67972	No	3.96	Si
SLU 80	0.05	-12914.45	-86934	-63225	-17172	4.28	4.28	-49240	10833	32706	81562	46144	21828	67972	No	3.96	Si
SLU 76	-1.95	-2021.06	-79976	-58164	-17374	4.28	4.28	-45299	10833	30682	81562	46144	21828	67972	No	3.91	Si
SLU 76	0.05	-12916.14	-85549	-62218	-17382	4.28	4.28	-48456	10833	32303	81562	46144	21828	67972	No	3.91	Si
SLU 83	-1.95	-448.65	-83493	-60722	-17021	4.28	4.28	-47291	10833	31705	81562	46144	21828	67972	No	3.99	Si
SLU 83	0.05	-13312.92	-89796	-65306	-17026	4.28	4.28	-50862	10833	33539	81562	46144	21828	67972	No	3.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	-62228.73	-38856	-28259	-40625	3.424	1.6154	0	0	0	81562	55372	17462	72835		1.79	Si
SLV 6	0.05	-17030.34	-30708	-22333	-40731	4.28	4.28	-17394	15979	20517	81562	69216	21828	91044		2.24	Si
SLD 9	-1.95	-35256.73	-43554	-31676	-27961	4.28	3.9915	-26762	16250	23796	81562	69216	21828	91044		3.26	Si
SLD 9	0.05	-14611.4	-42262	-30736	-27984	4.28	4.28	-23938	16250	23420	81562	69216	21828	91044		3.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	-1.95	-23757.77	-56072	-40780	-23019	4.28	4.28	-31760	16250	27437	81562	69216	21828	91044		3.96	Si
SLV 2	0.05	-8821.23	-50855	-36986	-23168	4.28	4.28	-28805	16250	25920	81562	69216	21828	91044		3.93	Si
SLD 5	-1.95	-37470.08	-45949	-33418	-29235	4.28	3.9736	-28411	16250	24493	81562	69216	21828	91044		3.11	Si
SLD 5	0.05	-13505.82	-42377	-30819	-29297	4.28	4.28	-24003	16250	23453	81562	69216	21828	91044		3.11	Si
SLV 9	-1.95	-59811.3	-35288	-25664	-39417	3.424	1.3351	0	0	0	81562	55372	17462	72835		1.85	Si
SLV 9	0.05	-18572.85	-30432	-22132	-39446	4.28	4.28	-17237	15947	20476	81562	69216	21828	91044		2.31	Si
SLD 10	-1.95	-34625.96	-43450	-31600	-27488	4.28	4.0293	-26448	16250	23766	81562	69216	21828	91044		3.31	Si
SLD 10	0.05	-14725.15	-42322	-30780	-27518	4.28	4.28	-23972	16250	23437	81562	69216	21828	91044		3.31	Si
SLV 5	-1.95	-63268.15	-39027	-28383	-41405	3.424	1.5566	0	0	0	81562	55372	17462	72835		1.76	Si
SLV 5	0.05	-16842.89	-30610	-22262	-41499	4.28	4.28	-17338	15968	20502	81562	69216	21828	91044		2.19	Si
SLV 10	-1.95	-58771.87	-35116	-25539	-38638	3.424	1.3991	0	0	0	81562	55372	17462	72835		1.89	Si
SLV 10	0.05	-18760.3	-30530	-22204	-38678	4.28	4.28	-17293	15959	20491	81562	69216	21828	91044		2.35	Si
SLD 6	-1.95	-36839.31	-45845	-33342	-28762	4.28	4.0093	-28089	16250	24462	81562	69216	21828	91044		3.17	Si
SLD 6	0.05	-13619.57	-42436	-30863	-28831	4.28	4.28	-24036	16250	23471	81562	69216	21828	91044		3.16	Si
SLV 1	-1.95	-25301.88	-56327	-40965	-24177	4.28	4.28	-31904	16250	27511	81562	69216	21828	91044		3.77	Si
SLV 1	0.05	-8542.76	-50709	-36879	-24309	4.28	4.28	-28722	16250	25877	81562	69216	21828	91044		3.75	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-34631	0.24	171.28	4430.24	6153.67	5291.95	30.9	Si
SLV 9	-34641	0.24	171.28	4431.31	6155.25	5293.28	30.9	Si
SLV 6	-35876	0.24	171.28	4561	6347.49	5454.24	31.84	Si
SLV 5	-35886	0.24	171.28	4562.05	6349.05	5455.55	31.85	Si
SLV 14	-50538	0.24	171.28	5952.73	8605.37	7279.05	42.5	Si
SLV 13	-50553	0.24	171.28	5954.01	8607.67	7280.84	42.51	Si
SLV 2	-54687	0.24	171.28	6296.79	9241.21	7769	45.36	Si
SLV 1	-54702	0.24	171.28	6297.99	9243.51	7770.75	45.37	Si
SLV 16	-65419	0.24	171.28	7085.03	10801.9	8943.46	52.21	Si
SLV 15	-65434	0.24	171.28	7086.02	10803.96	8944.99	52.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-75410	-75699	-111	0.365	8153.1	0.982	5.39636	2.71881	Si
SLV 7	-75371	-75870	-109	0.365	8149.1	0.982	5.3989	2.71881	Si
SLV 12	-74865	-71960	83	0.367	8097.5	0.982	5.43408	2.71881	Si
SLV 11	-74826	-72131	84	0.367	8093.5	0.982	5.4362	2.71881	Si
SLV 4	-60273	-67125	-322	0.435	6610.8	0.978	6.46134	2.93197	Si
SLV 3	-60215	-67380	-320	0.435	6604.9	0.978	6.46705	2.93197	Si
SLV 16	-58455	-54660	324	0.446	6425.6	0.977	6.6309	2.93197	Si
SLV 15	-58397	-54915	326	0.446	6419.6	0.977	6.63606	2.93197	Si
SLV 2	-46745	-56072	-309	0.538	5232.8	0.972	8.03537	2.93197	Si
SLV 1	-46687	-56327	-307	0.538	5226.9	0.972	8.04455	2.93197	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.334	SLU 82	Si
V_SLU	3.879	SLU 84	Si
PF_SLV	1.299	SLV 9	Si
V_SLV	1.759	SLV 5	Si
PFFP_SLV	30.896	SLV 10	Si
R_SLV	1.985	SLV 8	Si

Maschio 17

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-13.763	-3.034	L2	L3	1.675	0.3	1.95	1.95	1.95			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	-1.95	8523.04	-32967	-0.0002573	0.0003743	0.0035	1.675	9818.26	15321.27	15321.27	1.8	No	Si
SLU 79	0	2673.47	-31713	-0.0001501	0.0003743	0.0035	1.675	10095.97	15101.1	15101.1	5.65	No	Si
SLU 81	-1.95	8716.6	-33876	-0.000268	0.0003743	0.0035	1.675	9584.99	15465.91	15465.91	1.77	No	Si
SLU 81	0	2781.59	-32603	-0.0001561	0.0003743	0.0035	1.675	9904.17	15256.67	15256.67	5.48	No	Si
SLU 82	-1.95	8734.99	-34147	-0.0002703	0.0003743	0.0035	1.675	9510.05	15483.25	15483.25	1.77	No	Si
SLU 82	0	2792.29	-32871	-0.0001576	0.0003743	0.0035	1.675	9841.49	15304.07	15304.07	5.48	No	Si
SLU 84	-1.95	8802.53	-34389	-0.0002737	0.0003743	0.0035	1.675	9441.47	15479.92	15479.92	1.76	No	Si
SLU 84	0	2812.37	-33149	-0.0001594	0.0003743	0.0035	1.675	9773.81	15353.69	15353.69	5.46	No	Si
SLU 83	-1.95	8784.14	-34117	-0.0002712	0.0003743	0.0035	1.675	9518.56	15481.51	15481.51	1.76	No	Si
SLU 83	0	2801.67	-32881	-0.0001578	0.0003743	0.0035	1.675	9838.93	15305.97	15305.97	5.46	No	Si
SLU 78	-1.95	8581.25	-33389	-0.0002615	0.0003743	0.0035	1.675	9713.33	15396.82	15396.82	1.79	No	Si
SLU 78	0	2693.88	-32155	-0.0001526	0.0003743	0.0035	1.675	10003.96	15177.93	15177.93	5.63	No	Si
SLU 74	-1.95	8495.32	-32877	-0.0002561	0.0003743	0.0035	1.675	9840.08	15305.12	15305.12	1.8	No	Si
SLU 74	0	2663.1	-31609	-0.0001494	0.0003743	0.0035	1.675	10116.56	15083.25	15083.25	5.66	No	Si
SLU 77	-1.95	8562.86	-33118	-0.0002592	0.0003743	0.0035	1.675	9781.53	15348.11	15348.11	1.79	No	Si
SLU 77	0	2683.18	-31887	-0.0001511	0.0003743	0.0035	1.675	10060.37	15131.36	15131.36	5.64	No	Si
SLU 80	-1.95	8541.43	-33239	-0.0002596	0.0003743	0.0035	1.675	9751.4	15369.8	15369.8	1.8	No	Si
SLU 80	0	2684.18	-31980	-0.0001515	0.0003743	0.0035	1.675	10041.09	15147.47	15147.47	5.64	No	Si
SLU 75	-1.95	8513.71	-33148	-0.0002584	0.0003743	0.0035	1.675	9774.02	15353.54	15353.54	1.8	No	Si
SLU 75	0	2673.81	-31877	-0.0001509	0.0003743	0.0035	1.675	10062.59	15129.5	15129.5	5.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	-1.95	4845.47	-11314	-0.0000971	0.0005615	0.0035	1.675		8375.83	8375.83	1.73		Si
SLD 11	0	1440.13	-9469	-0.0000444	0.0005615	0.0035	1.675		7224.29	7224.29	5.02		Si
SLV 12	-1.95	4164.28	-2973	-0.0165294	0.0005615	0.0035	1.34		2576.53	2576.53	0.62		No
SLV 12	0	1148.09	-552	-0.0056479	0.0005615	0.0035	1.34		629.52	629.52	0.55		No
SLV 7	-1.95	4578.93	-1983	-0.0273374	0.0005615	0.0035	1.34		1791.66	1791.66	0.39		No
SLV 7	0	1332.62	-76	-0.0118017	0.0005615	0.0035	1.34		236.5	236.5	0.18		No
SLV 11	-1.95	4124.1	-3203	-0.0146103	0.0005615	0.0035	1.34		2756.31	2756.31	0.67		No
SLV 11	0	1194.06	-849	-0.0034705	0.0005615	0.0035	1.34		872.87	872.87	0.73		No
SLD 8	-1.95	5161.35	-10393	-0.000108	0.0005615	0.0035	1.675		7797.86	7797.86	1.51		Si
SLD 8	0	1500.66	-8792	-0.0000429	0.0005615	0.0035	1.675		6807.04	6807.04	4.54		Si
SLD 12	-1.95	4869.85	-11174	-0.0000978	0.0005615	0.0035	1.675		8288.14	8288.14	1.7		Si
SLD 12	0	1412.23	-9289	-0.0000435	0.0005615	0.0035	1.675		7113.11	7113.11	5.04		Si
SLV 4	-1.95	6226.61	-14435	-0.000128	0.0005615	0.0035	1.675		10376.31	10376.31	1.67		Si
SLV 4	0	1828.5	-13709	-0.0000625	0.0005615	0.0035	1.675		9905.4	9905.4	5.42		Si
SLV 3	-1.95	6166.93	-14776	-0.0001265	0.0005615	0.0035	1.675		10598.54	10598.54	1.72		Si
SLV 3	0	1896.79	-14150	-0.0000648	0.0005615	0.0035	1.675		10191	10191	5.37		Si
SLV 8	-1.95	4619.11	-1754	-0.0294642	0.0005615	0.0035	1.34		1607.65	1607.65	0.35		No
SLV 8	0	1286.65	221	-0.0130738	0.0005615	0.0035	1.34		0	0	0		No
SLD 7	-1.95	5136.97	-10532	-0.0001066	0.0005615	0.0035	1.675		7884.81	7884.81	1.53		Si
SLD 7	0	1528.56	-8972	-0.0000438	0.0005615	0.0035	1.675		6917.69	6917.69	4.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	-1.95	7746.9	-29903	-25181	2291	1.675	1.675	-50112	10833	10730	21410	15047	4271	19318	No	8.43	Si
SLU 67	0	2327.84	-28500	-24000	2987	1.675	1.675	-47762	10833	10324	21410	15047	4271	19318	No	6.47	Si
SLU 69	-1.95	7796.05	-29873	-25156	2381	1.675	1.675	-50061	10833	10721	21410	15047	4271	19318	No	8.11	Si
SLU 69	0	2337.21	-28511	-24009	2988	1.675	1.675	-47780	10833	10327	21410	15047	4271	19318	No	6.47	Si
SLU 76	-1.95	8486.15	-33179	-27940	2145	1.675	1.675	-55602	10833	11677	21410	15047	4271	19318	No	9.01	Si
SLU 76	0	2671.24	-31880	-26847	2991	1.675	1.675	-53426	10833	11302	21410	15047	4271	19318	No	6.46	Si
SLU 68	-1.95	7719.34	-29934	-25207	2218	1.675	1.675	-50164	10833	10738	21410	15047	4271	19318	No	8.71	Si
SLU 68	0	2325.28	-28504	-24003	2984	1.675	1.675	-47768	10833	10325	21410	15047	4271	19318	No	6.47	Si
SLU 72	-1.95	7774.62	-29994	-25258	2276	1.675	1.675	-50264	10833	10756	21410	15047	4271	19318	No	8.49	Si
SLU 72	0	2338.22	-28604	-24087	2992	1.675	1.675	-47935	10833	10354	21410	15047	4271	19318	No	6.46	Si
SLU 75	-1.95	8513.71	-33148	-27914	2218	1.675	1.675	-55551	10833	11669	21410	15047	4271	19318	No	8.71	Si
SLU 75	0	2673.81	-31877	-26844	2994	1.675	1.675	-53420	10833	11301	21410	15047	4271	19318	No	6.45	Si
SLU 80	-1.95	8541.43	-33239	-27991	2203	1.675	1.675	-55703	10833	11695	21410	15047	4271	19318	No	8.77	Si
SLU 80	0	2684.18	-31980	-26931	2999	1.675	1.675	-53593	10833	11331	21410	15047	4271	19318	No	6.44	Si
SLU 78	-1.95	8581.25	-33389	-28117	2213	1.675	1.675	-55955	10833	11738	21410	15047	4271	19318	No	8.73	Si
SLU 78	0	2693.88	-32155	-27078	3015	1.675	1.675	-53886	10833	11381	21410	15047	4271	19318	No	6.41	Si
SLU 77	-1.95	8562.86	-33118	-27889	2309	1.675	1.675	-55500	10833	11660	21410	15047	4271	19318	No	8.37	Si
SLU 77	0	2683.18	-31887	-26853	2995	1.675	1.675	-53438	10833	11304	21410	15047	4271	19318	No	6.45	Si
SLU 70	-1.95	7814.44	-30144	-25384	2285	1.675	1.675	-50516	10833	10799	21410	15047	4271	19318	No	8.45	Si
SLU 70	0	2347.92	-28779	-24235	3008	1.675	1.675	-48228	10833	10404	21410	15047	4271	19318	No	6.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	-1.95	5161.35	-10393	-8752	6017	1.675	1.0226	-17416	13900	6124	21410	22571	4271	26842		4.46	Si
SLD 8	0	1500.66	-8792	-7403	2151	1.675	1.675	-14733	13363	6715	21410	22571	4271	26842		12.48	Si
SLV 4	-1.95	6226.61	-14435	-12156	8359	1.675	1.2184	-24191	15255	7293	21410	22571	4271	26842		3.21	Si
SLV 4	0	1828.5	-13709	-11545	4245	1.675	1.675	-22974	15012	7543	21410	22571	4271	26842		6.32	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-1.95	4124.1	-3203	-2697	5636	1.34	0	0	0	0	21410	18057	3417	21410		3.8	Si
SLV 11	0	1194.06	-849	-715	528	1.34	0	0	0	0	21410	18057	3417	21410		40.51	Si
SLD 7	-1.95	5136.97	-10532	-8869	5733	1.675	1.0492	-17649	13947	6164	21410	22571	4271	26842		4.68	Si
SLD 7	0	1528.56	-8972	-7555	2013	1.675	1.675	-15035	13424	6745	21410	22571	4271	26842		13.33	Si
SLV 3	-1.95	6166.93	-14776	-12443	7665	1.675	1.2604	-24762	15369	7392	21410	22571	4271	26842		3.5	Si
SLV 3	0	1896.79	-14150	-11916	3908	1.675	1.675	-23713	15159	7618	21410	22571	4271	26842		6.87	Si
SLV 12	-1.95	4164.28	-2973	-2504	6102	1.34	0	0	0	0	21410	18057	3417	21410		3.51	Si
SLV 12	0	1148.09	-552	-465	755	1.34	0	0	0	0	21410	18057	3417	21410		28.35	Si
SLD 3	-1.95	6095.16	-17955	-15120	5471	1.675	1.4941	-30090	16250	8312	21410	22571	4271	26842		4.91	Si
SLD 3	0	1869.76	-17174	-14463	3315	1.675	1.675	-28781	16173	8127	21410	22571	4271	26842		8.1	Si
SLD 4	-1.95	6133.03	-17739	-14938	5911	1.675	1.4753	-29727	16250	8249	21410	22571	4271	26842		4.54	Si
SLD 4	0	1826.44	-16895	-14227	3529	1.675	1.675	-28313	16079	8080	21410	22571	4271	26842		7.61	Si
SLV 8	-1.95	4619.11	-1754	-1477	8852	1.34	0	0	0	0	21410	18057	3417	21410		2.42	Si
SLV 8	0	1286.65	221	186	2043	1.34	0	0	0	0	21410	18057	3417	21410		10.48	Si
SLV 7	-1.95	4578.93	-1983	-1670	8386	1.34	0	0	0	0	21410	18057	3417	21410		2.55	Si
SLV 7	0	1332.62	-76	-64	1816	1.34	0	0	0	0	21410	18057	3417	21410		11.79	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.975 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	2860	-1437	37.13	211.54	5.7	Si
SLV 7	179667	0.24	3499	-1758	37.13	257.72	6.94	Si
SLV 12	179667	0.24	5041	-2533	37.13	367.39	9.89	Si
SLV 11	179667	0.24	5680	-2854	37.13	412.19	11.1	Si
SLV 4	179667	0.24	31213	-15684	37.13	1871.81	50.41	Si
SLV 3	179667	0.24	32162	-16162	37.13	1913.69	51.54	Si
SLV 16	179667	0.24	38481	-19337	37.13	2169.65	58.43	Si
SLV 15	179667	0.24	39431	-19814	37.13	2204.71	59.37	Si
SLV 2	179667	0.24	57828	-29059	37.13	2708.29	72.94	Si
SLV 9	179667	0.24	94399	-47436	37.13	2717.12	73.17	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.975 Wa = 0.05 Ta = 0.0212

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-43434	-43659	51	0.29	4562.8	0.99	4.24999	2.47217	Si
SLV 10	-43137	-43429	48	0.291	4532.6	0.99	4.27238	2.47217	Si
SLV 5	-42661	-42439	41	0.294	4484	0.99	4.3096	2.47217	Si
SLV 6	-42364	-42210	38	0.295	4453.8	0.99	4.33281	2.47217	Si
SLV 13	-29504	-30977	52	0.387	3143	0.986	5.70489	2.57435	Si
SLV 14	-29063	-30637	47	0.392	3098.1	0.986	5.77569	2.57435	Si
SLV 1	-26926	-26913	18	0.417	2880.3	0.985	6.15437	2.57435	Si
SLV 2	-26485	-26572	13	0.423	2835.4	0.985	6.23928	2.57435	Si
SLV 15	-16728	-18840	42	0.613	1841.2	0.977	9.11598	2.57435	Si
SLV 16	-16287	-18500	37	0.627	1796.3	0.976	9.33009	2.57435	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.759	SLU 84	Si
V_SLU	6.408	SLU 78	Si
PF_SLV	0	SLV 8	No
V_SLV	2.419	SLV 8	Si
PFFP_SLV	5.697	SLV 8	Si
R_SLV	1.719	SLV 9	Si

Maschio 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-13.763	-3.034	L3	L4	1.675	0.3	0.67	0.67	0.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	0	4732.16	-33833	-0.000194	0.0003743	0.0035	1.675	9596.66	15462.8	15462.8	3.27	No	Si
SLU 79	0.67	2238.82	-33531	-0.0001524	0.0003743	0.0035	1.675	9676.65	15422.45	15422.45	6.89	No	Si
SLU 75	0	4698.98	-33971	-0.0001943	0.0003743	0.0035	1.675	9559.01	15472.44	15472.44	3.29	No	Si
SLU 75	0.67	2241.91	-33645	-0.000153	0.0003743	0.0035	1.675	9646.77	15443.06	15443.06	6.89	No	Si
SLU 81	0	4798.84	-34671	-0.0002	0.0003743	0.0035	1.675	9358.74	15472.09	15472.09	3.22	No	Si
SLU 81	0.67	2279.41	-34383	-0.0001573	0.0003743	0.0035	1.675	9443.22	15480.09	15480.09	6.79	No	Si
SLU 83	0	4847.18	-34990	-0.0002027	0.0003743	0.0035	1.675	9262.06	15463.37	15463.37	3.19	No	Si
SLU 83	0.67	2307.4	-34710	-0.0001594	0.0003743	0.0035	1.675	9347.21	15471.03	15471.03	6.7	No	Si
SLU 82	0	4787.9	-34929	-0.0002014	0.0003743	0.0035	1.675	9280.69	15465.02	15465.02	3.23	No	Si
SLU 82	0.67	2294.95	-34619	-0.0001587	0.0003743	0.0035	1.675	9374.1	15473.52	15473.52	6.74	No	Si
SLU 77	0	4758.26	-34032	-0.0001956	0.0003743	0.0035	1.675	9542.28	15476.35	15476.35	3.25	No	Si
SLU 77	0.67	2254.35	-33736	-0.0001536	0.0003743	0.0035	1.675	9622.76	15455.4	15455.4	6.86	No	Si
SLU 84	0	4836.24	-35249	-0.0002041	0.0003743	0.0035	1.675	9181.31	15456.4	15456.4	3.2	No	Si
SLU 84	0.67	2322.94	-34946	-0.0001609	0.0003743	0.0035	1.675	9275.55	15464.56	15464.56	6.66	No	Si
SLU 80	0	4721.21	-34092	-0.0001953	0.0003743	0.0035	1.675	9525.7	15480	15480	3.28	No	Si
SLU 80	0.67	2254.37	-33768	-0.0001538	0.0003743	0.0035	1.675	9614.12	15457.91	15457.91	6.86	No	Si
SLU 74	0	4709.92	-33713	-0.000193	0.0003743	0.0035	1.675	9628.95	15453.56	15453.56	3.28	No	Si
SLU 74	0.67	2226.36	-33409	-0.0001516	0.0003743	0.0035	1.675	9708.35	15400.32	15400.32	6.92	No	Si
SLU 78	0	4747.32	-34290	-0.0001969	0.0003743	0.0035	1.675	9469.64	15482.67	15482.67	3.26	No	Si
SLU 78	0.67	2269.89	-33972	-0.0001551	0.0003743	0.0035	1.675	9558.65	15472.52	15472.52	6.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0	3974.35	-436	-0.0342923	0.0005615	0.0035	1.34		534.26	534.26	0.13		No
SLV 8	0.67	1091.2	-888	-0.0020753	0.0005615	0.0035	1.34		904.69	904.69	0.83		No
SLV 11	0	3782.76	-2175	-0.0186313	0.0005615	0.0035	1.34		1945.05	1945.05	0.51		No
SLV 11	0.67	1869.95	-1884	-0.0023156	0.0005615	0.0035	1.34		1712.66	1712.66	0.92		No
SLV 7	0	3993.65	-788	-0.0313956	0.0005615	0.0035	1.34		822.88	822.88	0.21		No
SLV 7	0.67	1249.93	-1132	-0.0018558	0.0005615	0.0035	1.34		1103.78	1103.78	0.88		No
SLD 11	0	3569.22	-10879	-0.0000736	0.0005615	0.0035	1.675		8102.6	8102.6	2.27		Si
SLD 11	0.67	1738.2	-10579	-0.0000513	0.0005615	0.0035	1.675		7914.45	7914.45	4.55		Si
SLD 7	0	3704.67	-9990	-0.0000738	0.0005615	0.0035	1.675		7547.38	7547.38	2.04		Si
SLD 7	0.67	1341.19	-10097	-0.0000453	0.0005615	0.0035	1.675		7613.41	7613.41	5.68		Si
SLV 4	0	3794.56	-13979	-0.000086	0.0005615	0.0035	1.675		10080.21	10080.21	2.66		Si
SLV 4	0.67	350.19	-14952	-0.0000499	0.0005615	0.0035	1.675		10713.61	10713.61	30.59		Si
SLV 3	0	3823.23	-14502	-0.0000881	0.0005615	0.0035	1.675		10419.96	10419.96	2.73		Si
SLV 3	0.67	585.98	-15314	-0.0000537	0.0005615	0.0035	1.675		10951.36	10951.36	18.69		Si
SLD 8	0	3692.96	-9777	-0.0000733	0.0005615	0.0035	1.675		7414.81	7414.81	2.01		Si
SLD 8	0.67	1244.87	-9949	-0.0000438	0.0005615	0.0035	1.675		7521.36	7521.36	6.04		Si
SLD 12	0	3557.5	-10666	-0.0000729	0.0005615	0.0035	1.675		7968.71	7968.71	2.24		Si
SLD 12	0.67	1641.88	-10431	-0.0000497	0.0005615	0.0035	1.675		7821.91	7821.91	4.76		Si
SLV 12	0	3763.46	-1823	-0.0209794	0.0005615	0.0035	1.34		1664.04	1664.04	0.44		No
SLV 12	0.67	1711.23	-1640	-0.0025634	0.0005615	0.0035	1.34		1515.62	1515.62	0.89		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	0	4254.27	-29749	-25052	5679	1.675	1.675	-49855	10833	12439	4758	15047	4271	17197	No	3.03	Si
SLU 64	0.67	1957.55	-29365	-24728	5976	1.675	1.675	-49211	10833	12310	4758	15047	4271	17068	No	2.86	Si
SLU 81	0	4798.84	-34671	-29197	6226	1.675	1.675	-58103	10833	14097	4758	15047	4271	18855	No	3.03	Si
SLU 81	0.67	2279.41	-34383	-28954	6617	1.675	1.675	-57619	10833	14000	4758	15047	4271	18758	No	2.83	Si
SLU 69	0	4377.07	-30587	-25757	5797	1.675	1.675	-51258	10833	12722	4758	15047	4271	17479	No	3.02	Si
SLU 69	0.67	2029.05	-30224	-25451	6108	1.675	1.675	-50650	10833	12599	4758	15047	4271	17357	No	2.84	Si
SLU 78	0	4747.32	-34290	-28876	6107	1.675	1.675	-57465	10833	13969	4758	15047	4271	18727	No	3.07	Si
SLU 78	0.67	2269.89	-33972	-28608	6497	1.675	1.675	-56932	10833	13862	4758	15047	4271	18620	No	2.87	Si
SLU 83	0	4847.18	-34990	-29465	6271	1.675	1.675	-58638	10833	14205	4758	15047	4271	18962	No	3.02	Si
SLU 83	0.67	2307.4	-34710	-29229	6667	1.675	1.675	-58167	10833	14110	4758	15047	4271	18868	No	2.83	Si
SLU 66	0	4328.73	-30268	-25488	5752	1.675	1.675	-50723	10833	12614	4758	15047	4271	17372	No	3.02	Si
SLU 66	0.67	2001.06	-29896	-25176	6057	1.675	1.675	-50101	10833	12489	4758	15047	4271	17247	No	2.85	Si
SLU 77	0	4758.26	-34032	-28658	6180	1.675	1.675	-57032	10833	13882	4758	15047	4271	18640	No	3.02	Si
SLU 77	0.67	2254.35	-33736	-28409	6556	1.675	1.675	-56535	10833	13782	4758	15047	4271	18540	No	2.83	Si
SLU 74	0	4709.92	-33713	-28390	6135	1.675	1.675	-56497	10833	13774	4758	15047	4271	18532	No	3.02	Si
SLU 74	0.67	2226.36	-33409	-28134	6506	1.675	1.675	-55987	10833	13672	4758	15047	4271	18430	No	2.83	Si
SLU 79	0	4732.16	-33833	-28491	6152	1.675	1.675	-56698	10833	13815	4758	15047	4271	18573	No	3.02	Si
SLU 79	0.67	2238.82	-33531	-28237	6525	1.675	1.675	-56193	10833	13713	4758	15047	4271	18471	No	2.83	Si
SLU 71	0	4350.96	-30388	-25590	5769	1.675	1.675	-50925	10833	12655	4758	15047	4271	17412	No	3.02	Si
SLU 71	0.67	2013.52	-30019	-25279	6077	1.675	1.675	-50307	10833	12530	4758	15047	4271	17288	No	2.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	0	3692.96	-9777	-8233	6928	1.675	1.3793	-16384	13694	6922	4758	22571	4271	11679		1.69	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	0.67	1244.87	-9949	-8378	6557	1.675	1.675	-16672	13751	6979	4758	22571	4271	11737		1.79	Si
SLV 8	0	3974.35	-436	-367	8648	1.34	0	0	0	0	4758	18057	3417	4758		0.55	No
SLV 8	0.67	1091.2	-888	-748	7846	1.34	0	0	0	0	4758	18057	3417	4758		0.61	No
SLV 12	0	3763.46	-1823	-1536	7089	1.34	0	0	0	0	4758	18057	3417	4758		0.67	No
SLV 12	0.67	1711.23	-1640	-1381	6245	1.34	0	0	0	0	4758	18057	3417	4758		0.76	No
SLV 4	0	3794.56	-13979	-11772	8162	1.675	1.675	-23427	15102	8337	4758	22571	4271	13095		1.6	Si
SLV 4	0.67	350.19	-14952	-12591	8161	1.675	1.675	-25057	15428	8665	4758	22571	4271	13422		1.64	Si
SLD 12	0	3557.5	-10666	-8982	5929	1.675	1.5119	-17874	13991	7221	4758	22571	4271	11979		2.02	Si
SLD 12	0.67	1641.88	-10431	-8784	5531	1.675	1.675	-17481	13913	7142	4758	22571	4271	11900		2.15	Si
SLD 11	0	3569.22	-10879	-9162	5781	1.675	1.5283	-18232	14063	7293	4758	22571	4271	12051		2.08	Si
SLD 11	0.67	1738.2	-10579	-8909	5374	1.675	1.675	-17729	13962	7192	4758	22571	4271	11950		2.22	Si
SLV 3	0	3823.23	-14502	-12212	7799	1.675	1.675	-24303	15277	8513	4758	22571	4271	13271		1.7	Si
SLV 3	0.67	585.98	-15314	-12896	7777	1.675	1.675	-25664	15549	8787	4758	22571	4271	13545		1.74	Si
SLD 7	0	3704.67	-9990	-8413	6780	1.675	1.4	-16742	13765	6994	4758	22571	4271	11751		1.73	Si
SLD 7	0.67	1341.19	-10097	-8502	6400	1.675	1.675	-16920	13801	7029	4758	22571	4271	11787		1.84	Si
SLV 11	0	3782.76	-2175	-1832	6844	1.34	0	0	0	0	4758	18057	3417	4758		0.7	No
SLV 11	0.67	1869.95	-1884	-1587	5987	1.34	0	0	0	0	4758	18057	3417	4758		0.79	No
SLV 7	0	3993.65	-788	-663	8403	1.34	0	0	0	0	4758	18057	3417	4758		0.57	No
SLV 7	0.67	1249.93	-1132	-953	7588	1.34	0	0	0	0	4758	18057	3417	4758		0.63	No

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.335 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.25	0	153	4.51	0	0	No, Trazione
SLV 7	179667	0.25	83	-42	4.51	6.24	1.38	Si
SLV 12	179667	0.25	777	-391	4.51	58.28	12.91	Si
SLV 11	179667	0.25	1165	-586	4.51	87.17	19.32	Si
SLV 4	179667	0.25	28479	-14311	4.51	1746.31	386.98	Si
SLV 3	179667	0.25	29056	-14601	4.51	1773.41	392.98	Si
SLV 16	179667	0.25	32088	-16124	4.51	1910.43	423.35	Si
SLV 15	179667	0.25	32664	-16414	4.51	1935.47	428.9	Si
SLV 2	179667	0.25	54315	-27293	4.51	2637.93	584.56	Si
SLV 1	179667	0.25	54892	-27583	4.51	2650.32	587.31	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.335 Wa = 0.05 Ta = 0.0025

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-44745	-45740	407	0.425	4607.5	0.997	6.20018	2.46945	Si
SLV 10	-44501	-45388	407	0.426	4582.7	0.997	6.21634	2.46945	Si
SLV 5	-43992	-44353	367	0.43	4530.8	0.997	6.26376	2.46945	Si
SLV 6	-43748	-44001	367	0.431	4506	0.997	6.28055	2.46945	Si
SLV 13	-30681	-32197	323	0.519	3173.9	0.995	7.58356	2.48087	Si
SLV 14	-30319	-31674	323	0.523	3137	0.995	7.6352	2.48087	Si
SLV 1	-28172	-27572	188	0.55	2918.2	0.995	8.03633	2.48087	Si
SLV 2	-27810	-27049	188	0.554	2881.3	0.995	8.09846	2.48087	Si
SLV 15	-17823	-19127	211	0.735	1863.3	0.992	10.77074	2.48087	Si
SLV 16	-17460	-18605	210	0.746	1826.3	0.992	10.9256	2.48087	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.19	SLU 83	Si
V_SLU	2.828	SLU 77	Si
PF_SLV	0.134	SLV 8	No
V_SLV	0.55	SLV 8	No
PFFP_SLV	0	SLV 8	No
R_SLV	2.511	SLV 9	Si

Maschio 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-3.034	-13.763	1.141	L2	L4	4.175	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	-1.95	50775.48	-40008	-0.0002054	0.0003743	0.0035	4.175	57313.85	64739.78	64739.78	1.28	No	Si
SLU 74	0.67	-18451.49	-54164	-0.0001095	0.0003743	0.0035	4.175	65041.64	82705.44	82705.44	4.48	No	Si
SLU 82	-1.95	51547.1	-40787	-0.0002091	0.0003743	0.0035	4.175	57909.89	65744.83	65744.83	1.28	No	Si
SLU 82	0.67	-19205.03	-55524	-0.0001134	0.0003743	0.0035	4.175	65438.4	83565.52	83565.52	4.35	No	Si
SLU 79	-1.95	51049.06	-40214	-0.000207	0.0003743	0.0035	4.175	57473.14	65004.51	65004.51	1.27	No	Si
SLU 79	0.67	-18517.52	-54477	-0.0001102	0.0003743	0.0035	4.175	65138.18	82944.9	82944.9	4.48	No	Si
SLU 77	-1.95	51350.62	-40452	-0.0002087	0.0003743	0.0035	4.175	57656	65311.83	65311.83	1.27	No	Si
SLU 77	0.67	-18637.45	-54823	-0.000111	0.0003743	0.0035	4.175	65241.51	83148.96	83148.96	4.46	No	Si
SLU 80	-1.95	50737.44	-40149	-0.0002045	0.0003743	0.0035	4.175	57422.9	64920.72	64920.72	1.28	No	Si
SLU 80	0.67	-18731.15	-54491	-0.0001107	0.0003743	0.0035	4.175	65142.58	82953.41	82953.41	4.43	No	Si
SLU 83	-1.95	52433.85	-41296	-0.000215	0.0003743	0.0035	4.175	58288.65	66405.04	66405.04	1.27	No	Si
SLU 83	0.67	-19177.36	-56168	-0.0001144	0.0003743	0.0035	4.175	65605.35	83953.5	83953.5	4.38	No	Si
SLU 81	-1.95	51858.72	-40852	-0.0002116	0.0003743	0.0035	4.175	57958.77	65829.06	65829.06	1.27	No	Si
SLU 81	0.67	-18991.4	-55509	-0.0001129	0.0003743	0.0035	4.175	65434.49	83556.85	83556.85	4.4	No	Si
SLU 75	-1.95	50463.86	-39943	-0.000203	0.0003743	0.0035	4.175	57263.17	64656.14	64656.14	1.28	No	Si
SLU 75	0.67	-18665.12	-54179	-0.00011	0.0003743	0.0035	4.175	65046.19	82717.72	82717.72	4.43	No	Si
SLU 78	-1.95	51039	-40387	-0.0002062	0.0003743	0.0035	4.175	57606.27	65227.88	65227.88	1.28	No	Si
SLU 78	0.67	-18851.09	-54838	-0.0001115	0.0003743	0.0035	4.175	65245.75	83157.52	83157.52	4.41	No	Si
SLU 84	-1.95	52122.23	-41231	-0.0002124	0.0003743	0.0035	4.175	58240.71	66320.51	66320.51	1.27	No	Si
SLU 84	0.67	-19391	-56183	-0.0001149	0.0003743	0.0035	4.175	65608.95	83962.28	83962.28	4.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	54062.97	-30951	-0.0004273	0.0005615	0.0035	4.175		56295.9	56295.9	1.04		Si
SLV 12	0.67	4935.66	-34061	-0.0000507	0.0005615	0.0035	4.175		61244.14	61244.14	12.41		Si
SLD 11	-1.95	46054.68	-29587	-0.0002158	0.0005615	0.0035	4.175		54146.35	54146.35	1.18		Si
SLD 11	0.67	-2456.4	-35400	-0.000048	0.0005615	0.0035	4.175		68499.59	68499.59	27.89		Si
SLV 4	-1.95	38772.07	-26671	-0.0001549	0.0005615	0.0035	4.175		49589.54	49589.54	1.28		Si
SLV 4	0.67	-5889.12	-35502	-0.0000543	0.0005615	0.0035	4.175		68655.44	68655.44	11.66		Si
SLD 12	-1.95	46205.28	-29591	-0.0002183	0.0005615	0.0035	4.175		54152.73	54152.73	1.17		Si
SLD 12	0.67	-2331.41	-35259	-0.0000475	0.0005615	0.0035	4.175		68286.12	68286.12	29.29		Si
SLD 7	-1.95	45317.54	-28904	-0.0002153	0.0005615	0.0035	4.175		53074.1	53074.1	1.17		Si
SLD 7	0.67	-1996.11	-35240	-0.0000469	0.0005615	0.0035	4.175		68257.09	68257.09	34.2		Si
SLV 3	-1.95	38403.38	-26661	-0.0001512	0.0005615	0.0035	4.175		49574.12	49574.12	1.29		Si
SLV 3	0.67	-6195.08	-35847	-0.0000553	0.0005615	0.0035	4.175		69179.07	69179.07	11.17		Si
SLD 8	-1.95	45468.15	-28908	-0.0002179	0.0005615	0.0035	4.175		53080.46	53080.46	1.17		Si
SLD 8	0.67	-1871.12	-35099	-0.0000465	0.0005615	0.0035	4.175		68043.81	68043.81	36.37		Si
SLV 8	-1.95	52912.53	-29885	-0.0004566	0.0005615	0.0035	4.175		54614.37	54614.37	1.03		Si
SLV 8	0.67	5654.07	-33812	-0.0000517	0.0005615	0.0035	4.175		60845.26	60845.26	10.76		Si
SLV 11	-1.95	53814.79	-30944	-0.0004113	0.0005615	0.0035	4.175		56285.34	56285.34	1.05		Si
SLV 11	0.67	4729.7	-34293	-0.0000506	0.0005615	0.0035	4.175		61615.8	61615.8	13.03		Si
SLV 7	-1.95	52664.35	-29878	-0.0004366	0.0005615	0.0035	4.175		54603.86	54603.86	1.04		Si
SLV 7	0.67	5448.1	-34044	-0.0000516	0.0005615	0.0035	4.175		61216.53	61216.53	11.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.95	51547.1	-40787	-34347	9739	4.175	2.4711	-27423	10601	19768	28547	37505	10646	48152	No	4.94	Si
SLU 82	0.67	-19205.03	-55524	-46757	13751	4.175	4.175	-37331	10833	24731	28547	37505	10646	48152	No	3.5	Si
SLU 75	-1.95	50463.86	-39943	-33636	9591	4.175	2.4723	-26855	10525	19483	28547	37505	10646	48030	No	5.01	Si
SLU 75	0.67	-18665.12	-54179	-45624	13467	4.175	4.175	-36427	10833	24279	28547	37505	10646	48152	No	3.58	Si
SLU 83	-1.95	52433.85	-41296	-34776	10108	4.175	2.4534	-27765	10646	19939	28547	37505	10646	48152	No	4.76	Si
SLU 83	0.67	-19177.36	-56168	-47299	14262	4.175	4.175	-37764	10833	24949	28547	37505	10646	48152	No	3.38	Si
SLU 78	-1.95	51039	-40387	-34010	9717	4.175	2.4713	-27154	10565	19633	28547	37505	10646	48152	No	4.96	Si
SLU 78	0.67	-18851.09	-54838	-46179	13600	4.175	4.175	-36870	10833	24500	28547	37505	10646	48152	No	3.54	Si
SLU 84	-1.95	52122.23	-41231	-34721	9865	4.175	2.4701	-27721	10641	19917	28547	37505	10646	48152	No	4.88	Si
SLU 84	0.67	-19391	-56183	-47312	13885	4.175	4.175	-37774	10833	24953	28547	37505	10646	48152	No	3.47	Si
SLU 81	-1.95	51858.72	-40852	-34402	9982	4.175	2.4542	-27467	10607	19790	28547	37505	10646	48152	No	4.82	Si
SLU 81	0.67	-18991.4	-55509	-46745	14129	4.175	4.175	-37321	10833	24727	28547	37505	10646	48152	No	3.41	Si
SLU 74	-1.95	50775.48	-40008	-33691	9834	4.175	2.4551	-26899	10531	19505	28547	37505	10646	48052	No	4.89	Si
SLU 74	0.67	-18451.49	-54164	-45612	13845	4.175	4.175	-36417	10833	24274	28547	37505	10646	48152	No	3.48	Si
SLU 80	-1.95	50737.44	-40149	-33809	9649	4.175	2.4713	-26993	10544	19553	28547	37505	10646	48099	No	4.98	Si
SLU 80	0.67	-18731.15	-54491	-45887	13517	4.175	4.175	-36637	10833	24384	28547	37505	10646	48152	No	3.56	Si
SLU 79	-1.95	51049.06	-40214	-33864	9892	4.175	2.4542	-27037	10549	19575	28547	37505	10646	48121	No	4.86	Si
SLU 79	0.67	-18517.52	-54477	-45875	13895	4.175	4.175	-36627	10833	24379	28547	37505	10646	48152	No	3.47	Si
SLU 77	-1.95	51350.62	-40452	-34065	9960	4.175	2.4542	-27198	10571	19655	28547	37505	10646	48152	No	4.83	Si
SLU 77	0.67	-18637.45	-54823	-46167	13978	4.175	4.175	-36860	10833	24496	28547	37505	10646	48152	No	3.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	-1.95	54062.97	-30951	-26064	20605	4.175	1.0223	-91312	16250	19469	28547	56258	10646	48016		2.33	Si
SLV 12	0.67	4935.66	-34061	-28683	29813	4.175	4.175	-22901	14997	20517	28547	56258	10646	49064		1.65	Si
SLV 4	-1.95	38772.07	-26671	-22460	12046	4.175	1.9014	-17932	14003	18028	28547	56258	10646	46574		3.87	Si
SLV 4	0.67	-5889.12	-35502	-29897	19970	4.175	4.175	-23870	15191	21002	28547	56258	10646	49549		2.48	Si
SLD 8	-1.95	45468.15	-28908	-24344	15236	4.175	1.544	-19436	14304	18781	28547	56258	10646	47328		3.11	Si
SLD 8	0.67	-1871.12	-35099	-29557	22839	4.175	4.175	-23598	15136	20867	28547	56258	10646	49413		2.16	Si
SLD 12	-1.95	46205.28	-29591	-24919	14885	4.175	1.5782	-19895	14396	19011	28547	56258	10646	47558		3.2	Si
SLD 12	0.67	-2331.41	-35259	-29692	21406	4.175	4.175	-23706	15158	20920	28547	56258	10646	49467		2.31	Si
SLV 11	-1.95	53814.79	-30944	-26058	20435	4.175	1.0452	-89005	16250	19467	28547	56258	10646	48014		2.35	Si
SLV 11	0.67	4729.7	-34293	-28878	29436	4.175	4.175	-23057	15028	20595	28547	56258	10646	49142		1.67	Si
SLV 7	-1.95	52664.35	-29878	-25161	20982	4.175	0.9746	-92619	16250	19108	28547	56258	10646	47655		2.27	Si
SLV 7	0.67	5448.1	-34044	-28668	31670	4.175	4.175	-22889	14994	20511	28547	56258	10646	49058		1.55	Si
SLD 11	-1.95	46054.68	-29587	-24916	14781	4.175	1.5928	-19893	14395	19010	28547	56258	10646	47557		3.22	Si
SLD 11	0.67	-2456.4	-35400	-29810	21177	4.175	4.175	-23801	15177	20968	28547	56258	10646	49514		2.34	Si
SLD 7	-1.95	45317.54	-28904	-24340	15132	4.175	1.559	-19434	14303	18780	28547	56258	10646	47327		3.13	Si
SLD 7	0.67	-1996.11	-35240	-29676	22610	4.175	4.175	-23693	15155	20914	28547	56258	10646	49461		2.19	Si
SLV 8	-1.95	52912.53	-29885	-25166	21153	4.175	0.9509	-95339	16250	19110	28547	56258	10646	47657		2.25	Si
SLV 8	0.67	5654.07	-33812	-28473	32047	4.175	4.175	-22733	14963	20433	28547	56258	10646	48980		1.53	Si
SLV 3	-1.95	38403.38	-26661	-22452	11793	4.175	1.9412	-17925	14002	18025	28547	56258	10646	46571		3.95	Si
SLV 3	0.67	-6195.08	-35847	-30187	19409	4.175	4.175	-24101	15237	21119	28547	56258	10646	49665		2.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	25900	-32440	167.08	4040.7	24.18	Si
SLV 7	179667	0.24	26018	-32588	167.08	4055.39	24.27	Si
SLV 12	179667	0.24	26264	-32895	167.08	4085.7	24.45	Si
SLV 11	179667	0.24	26382	-33044	167.08	4100.29	24.54	Si
SLV 4	179667	0.24	26763	-33520	167.08	4146.91	24.82	Si
SLV 3	179667	0.24	26939	-33741	167.08	4168.35	24.95	Si
SLV 2	179667	0.24	27891	-34933	167.08	4283	25.63	Si
SLV 16	179667	0.24	27975	-35039	167.08	4293.08	25.69	Si
SLV 1	179667	0.24	28067	-35154	167.08	4303.95	25.76	Si
SLV 15	179667	0.24	28151	-35260	167.08	4314	25.82	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-38425	-28525	433	0.618	4374.1	0.968	9.27346	2.93197	Si
SLV 14	-38080	-28535	432	0.622	4339	0.968	9.34701	2.93197	Si
SLV 1	-37594	-24971	-20	0.639	4289.5	0.967	9.60455	2.93197	Si
SLV 9	-40116	-25311	327	0.598	4546.2	0.969	8.96989	2.71881	Si
SLV 15	-36678	-30215	388	0.643	4196.3	0.967	9.67387	2.93197	Si
SLV 2	-37249	-24981	-22	0.644	4254.4	0.967	9.68145	2.93197	Si
SLV 10	-39884	-25318	326	0.601	4522.6	0.969	9.01558	2.71881	Si
SLV 16	-36333	-30225	387	0.649	4161.2	0.966	9.75439	2.93197	Si
SLV 5	-39866	-24245	190	0.604	4520.8	0.969	9.0663	2.71881	Si
SLV 6	-39634	-24252	189	0.607	4497.2	0.969	9.1128	2.71881	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.266	SLU 83	Si
V_SLU	3.376	SLU 83	Si
PF_SLV	1.032	SLV 8	Si
V_SLV	1.528	SLV 8	Si
PFFP_SLV	24.184	SLV 8	Si
R_SLV	3.163	SLV 13	Si

Maschio 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.778	3.316	-13.858	3.316	L2	L4	4.08	0.2	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.95	-7787.02	-50989	-0.0001099	0.0004492	0.0035	4.08	50823.11	87311.92	87311.92	11.21	No	Si
SLU 78	0.05	2868.24	-32340	-0.0000613	0.0004492	0.0035	4.08	44574.66	56188.31	56188.31	19.59	No	Si
SLU 49	-1.95	-6652.88	-39637	-0.0000848	0.0004492	0.0035	4.08	48714.39	73969.53	73969.53	11.12	No	Si
SLU 49	0.05	1907.22	-23731	-0.0000437	0.0004492	0.0035	4.08	36888.86	43488.76	43488.76	22.8	No	Si
SLU 69	-1.95	-7351.62	-45904	-0.0000987	0.0004492	0.0035	4.08	50530.62	81640.52	81640.52	11.11	No	Si
SLU 69	0.05	2352	-28292	-0.0000528	0.0004492	0.0035	4.08	41338.73	50217.27	50217.27	21.35	No	Si
SLU 72	-1.95	-7272.33	-45547	-0.0000978	0.0004492	0.0035	4.08	50470.23	81208.49	81208.49	11.17	No	Si
SLU 72	0.05	2369.9	-28097	-0.0000525	0.0004492	0.0035	4.08	41165.37	49928.71	49928.71	21.07	No	Si
SLU 48	-1.95	-6657.21	-39756	-0.000085	0.0004492	0.0035	4.08	48763.75	74124.11	74124.11	11.13	No	Si
SLU 48	0.05	1891.84	-23792	-0.0000438	0.0004492	0.0035	4.08	36953.54	43578.12	43578.12	23.03	No	Si
SLU 50	-1.95	-6582.26	-39517	-0.0000843	0.0004492	0.0035	4.08	48663.9	73813.29	73813.29	11.21	No	Si
SLU 50	0.05	1894.36	-23657	-0.0000436	0.0004492	0.0035	4.08	36809.16	43378.92	43378.92	22.9	No	Si
SLU 70	-1.95	-7347.28	-45786	-0.0000984	0.0004492	0.0035	4.08	50511.14	81497.02	81497.02	11.09	No	Si
SLU 70	0.05	2367.38	-28232	-0.0000527	0.0004492	0.0035	4.08	41285.21	50127.91	50127.91	21.17	No	Si
SLU 51	-1.95	-6577.93	-39398	-0.0000841	0.0004492	0.0035	4.08	48613.37	73658.71	73658.71	11.2	No	Si
SLU 51	0.05	1909.74	-23596	-0.0000435	0.0004492	0.0035	4.08	36744.15	43289.56	43289.56	22.67	No	Si
SLU 71	-1.95	-7276.67	-45666	-0.000098	0.0004492	0.0035	4.08	50490.87	81351.99	81351.99	11.18	No	Si
SLU 71	0.05	2354.52	-28157	-0.0000526	0.0004492	0.0035	4.08	41219.22	50018.07	50018.07	21.24	No	Si
SLU 67	-1.95	-7217.54	-45328	-0.0000972	0.0004492	0.0035	4.08	50430.63	80943.78	80943.78	11.21	No	Si
SLU 67	0.05	2373.22	-27974	-0.0000523	0.0004492	0.0035	4.08	41055.45	49747.11	49747.11	20.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	-1.95	11272.9	-35355	-0.0000866	0.0006738	0.0035	4.08		62690.24	62690.24	5.56		Si
SLV 1	0.05	258.21	-18652	-0.0000307	0.0006738	0.0035	4.08		36769.73	36769.73	142.4		Si
SLV 13	-1.95	-21228.78	-28607	-0.0001001	0.0006738	0.0035	4.08		60609.2	60609.2	2.86		Si
SLV 13	0.05	4032.63	-21461	-0.0000445	0.0006738	0.0035	4.08		41619.68	41619.68	10.32		Si
SLD 16	-1.95	-16020.99	-33916	-0.0000961	0.0006738	0.0035	4.08		68858.8	68858.8	4.3		Si
SLD 16	0.05	2899.52	-23165	-0.0000446	0.0006738	0.0035	4.08		44510.93	44510.93	15.35		Si
SLV 10	-1.95	-9715.64	-24696	-0.000064	0.0006738	0.0035	4.08		54253.98	54253.98	5.58		Si
SLV 10	0.05	3486.59	-17296	-0.0000362	0.0006738	0.0035	4.08		34389.14	34389.14	9.86		Si
SLV 15	-1.95	-21625.61	-33890	-0.0001105	0.0006738	0.0035	4.08		68819.34	68819.34	3.18		Si
SLV 15	0.05	3409.13	-24211	-0.0000476	0.0006738	0.0035	4.08		46076.87	46076.87	13.52		Si
SLD 13	-1.95	-15543.55	-30900	-0.0000895	0.0006738	0.0035	4.08		64172.45	64172.45	4.13		Si
SLD 13	0.05	3229.31	-21534	-0.0000427	0.0006738	0.0035	4.08		41743.43	41743.43	12.93		Si
SLD 15	-1.95	-15774.21	-33997	-0.0000956	0.0006738	0.0035	4.08		68983.23	68983.23	4.37		Si
SLD 15	0.05	2863.42	-23146	-0.0000445	0.0006738	0.0035	4.08		44478.23	44478.23	15.53		Si
SLV 14	-1.95	-21617.77	-28478	-0.000101	0.0006738	0.0035	4.08		60409.42	60409.42	2.79		Si
SLV 14	0.05	4089.53	-21492	-0.0000447	0.0006738	0.0035	4.08		41671.24	41671.24	10.19		Si
SLV 16	-1.95	-22014.6	-33762	-0.0001112	0.0006738	0.0035	4.08		68619.56	68619.56	3.12		Si
SLV 16	0.05	3466.03	-24241	-0.0000478	0.0006738	0.0035	4.08		46122.15	46122.15	13.31		Si
SLD 14	-1.95	-15790.33	-30818	-0.00009	0.0006738	0.0035	4.08		64045.7	64045.7	4.06		Si
SLD 14	0.05	3265.4	-21554	-0.0000428	0.0006738	0.0035	4.08		41776.13	41776.13	12.79		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	-7657.27	-50531	-32340	9426	4.08	4.08	-39632	10833	17649	81562	29325	20808	50133	No	5.32	Si
SLU 75	0.05	2874.08	-32082	-20532	9218	4.08	4.08	-25162	10833	12926	81562	29325	20808	50133	No	5.44	Si
SLU 79	-1.95	-7716.4	-50869	-32556	9563	4.08	4.08	-39897	10833	17736	81562	29325	20808	50133	No	5.24	Si
SLU 79	0.05	2855.37	-32266	-20650	9352	4.08	4.08	-25306	10833	12974	81562	29325	20808	50133	No	5.36	Si
SLU 74	-1.95	-7661.6	-50650	-32416	9491	4.08	4.08	-39726	10833	17680	81562	29325	20808	50133	No	5.28	Si
SLU 74	0.05	2858.69	-32143	-20571	9281	4.08	4.08	-25210	10833	12942	81562	29325	20808	50133	No	5.4	Si
SLU 82	-1.95	-7641.03	-52065	-33321	9492	4.08	4.08	-40835	10833	18042	81562	29325	20808	50133	No	5.28	Si
SLU 82	0.05	3097.09	-33449	-21408	9281	4.08	4.08	-26235	10833	13277	81562	29325	20808	50133	No	5.4	Si
SLU 80	-1.95	-7712.07	-50750	-32480	9498	4.08	4.08	-39804	10833	17705	81562	29325	20808	50133	No	5.28	Si
SLU 80	0.05	2870.76	-32205	-20611	9288	4.08	4.08	-25259	10833	12958	81562	29325	20808	50133	No	5.4	Si
SLU 78	-1.95	-7787.02	-50989	-32633	9568	4.08	4.08	-39992	10833	17767	81562	29325	20808	50133	No	5.24	Si
SLU 78	0.05	2868.24	-32340	-20698	9356	4.08	4.08	-25365	10833	12993	81562	29325	20808	50133	No	5.36	Si
SLU 84	-1.95	-7770.78	-52523	-33614	9634	4.08	4.08	-41194	10833	18159	81562	29325	20808	50133	No	5.2	Si
SLU 84	0.05	3091.25	-33708	-21573	9420	4.08	4.08	-26437	10833	13343	81562	29325	20808	50133	No	5.32	Si
SLU 81	-1.95	-7645.37	-52183	-33397	9557	4.08	4.08	-40928	10833	18072	81562	29325	20808	50133	No	5.25	Si
SLU 81	0.05	3081.71	-33510	-21446	9344	4.08	4.08	-26282	10833	13292	81562	29325	20808	50133	No	5.36	Si
SLU 77	-1.95	-7791.35	-51108	-32709	9633	4.08	4.08	-40085	10833	17797	81562	29325	20808	50133	No	5.2	Si
SLU 77	0.05	2852.85	-32401	-20736	9420	4.08	4.08	-25412	10833	13008	81562	29325	20808	50133	No	5.32	Si
SLU 83	-1.95	-7775.11	-52641	-33690	9699	4.08	4.08	-41287	10833	18189	81562	29325	20808	50133	No	5.17	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.05	3075.87	-33768	-21612	9483	4.08	4.08	-26485	10833	13358	81562	29325	20808	50133	No	5.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	-1.95	5279.3	-35201	-22528	14878	4.08	4.08	-27608	16250	16082	81562	43988	20808	64796		4.36	Si
SLD 1	0.05	824.72	-19729	-12627	14755	4.08	4.08	-15474	15595	12725	81562	43988	20808	64796		4.39	Si
SLD 3	-1.95	5048.63	-38298	-24511	16449	4.08	4.08	-30038	16250	16875	81562	43988	20808	64796		3.94	Si
SLD 3	0.05	458.84	-21340	-13658	16285	4.08	4.08	-16738	15848	12932	81562	43988	20808	64796		3.98	Si
SLD 4	-1.95	4801.86	-38217	-24459	16205	4.08	4.08	-29974	16250	16854	81562	43988	20808	64796		4	Si
SLD 4	0.05	494.94	-21360	-13670	16041	4.08	4.08	-16753	15851	12934	81562	43988	20808	64796		4.04	Si
SLV 8	-1.95	-1287.9	-44333	-28373	15136	4.08	4.08	-34771	16250	18420	81562	43988	20808	64796		4.28	Si
SLV 8	0.05	275.96	-25619	-16396	14876	4.08	4.08	-20093	16250	13629	81562	43988	20808	64796		4.36	Si
SLV 1	-1.95	11272.9	-35355	-22627	19418	4.08	4.08	-27729	16250	16121	81562	43988	20808	64796		3.34	Si
SLV 1	0.05	258.21	-18652	-11938	19311	4.08	4.08	-14629	15426	12588	81562	43988	20808	64796		3.36	Si
SLV 2	-1.95	10883.92	-35226	-22545	19033	4.08	4.08	-27628	16250	16088	81562	43988	20808	64796		3.4	Si
SLV 2	0.05	315.11	-18683	-11957	18926	4.08	4.08	-14653	15431	12591	81562	43988	20808	64796		3.42	Si
SLV 3	-1.95	10876.07	-40638	-26008	22095	4.08	4.08	-31873	16250	17474	81562	43988	20808	64796		2.93	Si
SLV 3	0.05	-365.28	-21402	-13697	21918	4.08	4.08	-16786	15857	12939	81562	43988	20808	64796		2.96	Si
SLV 7	-1.95	-1026.06	-44420	-28429	15396	4.08	4.08	-34839	16250	18442	81562	43988	20808	64796		4.21	Si
SLV 7	0.05	237.66	-25598	-16383	15135	4.08	4.08	-20077	16250	13624	81562	43988	20808	64796		4.28	Si
SLD 2	-1.95	5032.52	-35119	-22476	14633	4.08	4.08	-27544	16250	16061	81562	43988	20808	64796		4.43	Si
SLD 2	0.05	860.82	-19748	-12639	14511	4.08	4.08	-15489	15598	12728	81562	43988	20808	64796		4.47	Si
SLV 4	-1.95	10487.09	-40510	-25926	21710	4.08	4.08	-31772	16250	17441	81562	43988	20808	64796		2.98	Si
SLV 4	0.05	-308.38	-21433	-13717	21533	4.08	4.08	-16810	15862	12943	81562	43988	20808	64796		3.01	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.06 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-21030	0.24	111.96	1807.28	2758.94	2283.11	20.39	Si
SLV 9	-21048	0.24	111.96	1808.59	2760.96	2284.78	20.41	Si
SLV 6	-21302	0.24	111.96	1826.76	2788.96	2307.86	20.61	Si
SLV 5	-21320	0.24	111.96	1828.07	2790.98	2309.52	20.63	Si
SLV 14	-25260	0.24	111.96	2099.37	3223.23	2661.3	23.77	Si
SLV 13	-25287	0.24	111.96	2101.17	3226.21	2663.69	23.79	Si
SLV 2	-26166	0.24	111.96	2158.8	3322.48	2740.64	24.48	Si
SLV 1	-26193	0.24	111.96	2160.56	3325.46	2743.01	24.5	Si
SLV 16	-29162	0.24	111.96	2347.55	3643.48	2995.51	26.76	Si
SLV 15	-29189	0.24	111.96	2349.2	3646.38	2997.79	26.78	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.04 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-13098	-33890	19	1.567	1636.1	0.947	24.05107	3.33092	Si
SLV 16	-13091	-33762	19	1.568	1635.4	0.947	24.0621	3.33092	Si
SLV 3	-13080	-40638	6	1.57	1634.3	0.947	24.09268	3.33092	Si
SLV 4	-13074	-40510	6	1.571	1633.6	0.947	24.10374	3.33092	Si
SLV 11	-14771	-42395	53	1.412	1805.9	0.951	21.56948	2.96251	Si
SLV 12	-14766	-42309	53	1.413	1805.4	0.951	21.57543	2.96251	Si
SLV 7	-14765	-44420	49	1.413	1805.4	0.951	21.57985	2.96251	Si
SLV 8	-14761	-44333	49	1.413	1804.9	0.951	21.58581	2.96251	Si
SLV 13	-11658	-28607	-14	1.73	1490.1	0.943	26.66968	3.33092	Si
SLV 14	-11651	-28478	-14	1.731	1489.4	0.943	26.68335	3.33092	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.092	SLU 70	Si
V_SLU	5.169	SLU 83	Si
PF_SLV	2.794	SLV 14	Si
V_SLV	2.933	SLV 3	Si
PFFP_SLV	20.392	SLV 10	Si
R_SLV	7.221	SLV 15	Si

Maschio 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.813	6.576	-12.888	6.576	L2	L4	3.925	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	0.05	250.13	-47517	-0.0000434	0.0003743	0.0035	3.925	68610.9	74359.13	74359.13	297.28	No	Si
SLU 43	0.45	-1943.93	-49752	-0.0000481	0.0003743	0.0035	3.925	70624.25	81871.13	81871.13	42.12	No	Si
SLU 46	0.05	175.21	-48492	-0.0000443	0.0003743	0.0035	3.925	69503.27	75496.02	75496.02	430.89	No	Si
SLU 46	0.45	-2054.9	-50831	-0.0000493	0.0003743	0.0035	3.925	71557.77	83121.79	83121.79	40.45	No	Si
SLU 45	0.05	161.11	-48983	-0.0000447	0.0003743	0.0035	3.925	69943.98	76067.98	76067.98	472.14	No	Si
SLU 45	0.45	-2099.93	-51322	-0.0000499	0.0003743	0.0035	3.925	71973.57	83678.93	83678.93	39.85	No	Si
SLU 6	0.05	116.71	-41199	-0.0000372	0.0003743	0.0035	3.925	62329.24	67105.44	67105.44	575	No	Si
SLU 6	0.45	-1729.84	-43228	-0.0000414	0.0003743	0.0035	3.925	64441.85	73923.09	73923.09	42.73	No	Si
SLU 51	0.05	141.9	-48978	-0.0000447	0.0003743	0.0035	3.925	69940.07	76062.86	76062.86	536.04	No	Si
SLU 51	0.45	-2114.78	-51349	-0.0000499	0.0003743	0.0035	3.925	71996.87	83710.19	83710.19	39.58	No	Si
SLU 44	0.05	273.62	-46700	-0.0000427	0.0003743	0.0035	3.925	67847.32	73409.37	73409.37	268.29	No	Si
SLU 44	0.45	-1868.88	-48934	-0.0000472	0.0003743	0.0035	3.925	69900.31	80887.73	80887.73	43.28	No	Si
SLU 47	0.05	212.46	-47676	-0.0000435	0.0003743	0.0035	3.925	68757.46	74543.91	74543.91	350.86	No	Si
SLU 47	0.45	-1976.82	-49978	-0.0000484	0.0003743	0.0035	3.925	70822.27	82140	82140	41.55	No	Si
SLU 48	0.05	99.95	-49959	-0.0000456	0.0003743	0.0035	3.925	70805.48	77209.98	77209.98	772.48	No	Si
SLU 48	0.45	-2207.87	-52366	-0.0000511	0.0003743	0.0035	3.925	72841.13	84832.02	84832.02	38.42	No	Si
SLU 50	0.05	127.8	-49469	-0.0000452	0.0003743	0.0035	3.925	70375.58	76636.04	76636.04	599.64	No	Si
SLU 50	0.45	-2159.8	-51840	-0.0000505	0.0003743	0.0035	3.925	72407.13	84258.67	84258.67	39.01	No	Si
SLU 49	0.05	114.05	-49468	-0.0000451	0.0003743	0.0035	3.925	70375.22	76635.57	76635.57	671.97	No	Si
SLU 49	0.45	-2162.84	-51875	-0.0000505	0.0003743	0.0035	3.925	72436.51	84297.16	84297.16	38.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0.05	13095.94	-51913	-0.0000647	0.0005615	0.0035	3.925		86559.32	86559.32	6.61		Si
SLV 16	0.45	1975.69	-53499	-0.0000505	0.0005615	0.0035	3.925		88975.13	88975.13	45.04		Si
SLD 14	0.05	8846.99	-34751	-0.0000426	0.0005615	0.0035	3.925		60947.04	60947.04	6.89		Si
SLD 14	0.45	1821.28	-36195	-0.0000342	0.0005615	0.0035	3.925		63065.35	63065.35	34.63		Si
SLV 10	0.05	5432.45	-4380	-0.0000136	0.0005615	0.0035	3.925		9239.94	9239.94	1.7		Si
SLV 10	0.45	2823.08	-5329	-0.0000082	0.0005615	0.0035	3.925		11041.46	11041.46	3.91		Si
SLV 14	0.05	13570.38	-29203	-0.0000439	0.0005615	0.0035	3.925		52870.25	52870.25	3.9		Si
SLV 14	0.45	3659.51	-30238	-0.0000314	0.0005615	0.0035	3.925		54369.42	54369.42	14.86		Si
SLV 15	0.05	11450.33	-52010	-0.0000624	0.0005615	0.0035	3.925		86707.94	86707.94	7.57		Si
SLV 15	0.45	1462.87	-53668	-0.0000499	0.0005615	0.0035	3.925		89232.81	89232.81	61		Si
SLV 1	0.05	-12139.59	-34028	-0.0000464	0.0005615	0.0035	3.925		64491.4	64491.4	5.31		Si
SLV 1	0.45	-4616.38	-36693	-0.0000385	0.0005615	0.0035	3.925		68632.53	68632.53	14.87		Si
SLV 2	0.05	-10493.99	-33931	-0.0000441	0.0005615	0.0035	3.925		64340.17	64340.17	6.13		Si
SLV 2	0.45	-4103.57	-36524	-0.0000377	0.0005615	0.0035	3.925		68369.06	68369.06	16.66		Si
SLV 5	0.05	-2894.61	-5864	-0.0000088	0.0005615	0.0035	3.925		15783.51	15783.51	5.45		Si
SLV 5	0.45	148.95	-7328	-0.0000065	0.0005615	0.0035	3.925		14810.21	14810.21	99.43		Si
SLV 13	0.05	11924.78	-29301	-0.0000417	0.0005615	0.0035	3.925		53011.68	53011.68	4.45		Si
SLV 13	0.45	3146.69	-30407	-0.0000308	0.0005615	0.0035	3.925		54614.36	54614.36	17.36		Si
SLV 9	0.05	4324.7	-4445	-0.00001	0.0005615	0.0035	3.925		9365.2	9365.2	2.17		Si
SLV 9	0.45	2477.87	-5442	-0.0000079	0.0005615	0.0035	3.925		11256.75	11256.75	4.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	0.05	443.5	-57347	-50975	3781	3.925	3.925	-28860	10793	28892	28547	52889	10009	57438	No	15.19	Si
SLU 66	0.45	-1988.33	-60209	-53519	3787	3.925	3.925	-30301	10833	29909	28547	52889	10009	58456	No	15.44	Si
SLU 49	0.05	114.05	-49468	-43972	3638	3.925	3.925	-24896	10264	26091	28547	52889	10009	54637	No	15.02	Si
SLU 49	0.45	-2162.84	-51875	-46111	3643	3.925	3.925	-26107	10425	26946	28547	52889	10009	55493	No	15.23	Si
SLU 70	0.05	396.44	-57832	-51406	3786	3.925	3.925	-29105	10825	29064	28547	52889	10009	57611	No	15.22	Si
SLU 70	0.45	-2051.24	-60762	-54011	3792	3.925	3.925	-30580	10833	30106	28547	52889	10009	58653	No	15.47	Si
SLU 50	0.05	127.8	-49469	-43972	3683	3.925	3.925	-24896	10264	26091	28547	52889	10009	54637	No	14.83	Si
SLU 50	0.45	-2159.8	-51840	-46080	3688	3.925	3.925	-26089	10423	26934	28547	52889	10009	55480	No	15.04	Si
SLU 45	0.05	161.11	-48983	-43540	3633	3.925	3.925	-24651	10231	25918	28547	52889	10009	54465	No	14.99	Si
SLU 45	0.45	-2099.93	-51322	-45619	3638	3.925	3.925	-25828	10388	26750	28547	52889	10009	55296	No	15.2	Si
SLU 46	0.05	175.21	-48492	-43104	3556	3.925	3.925	-24404	10198	25744	28547	52889	10009	54290	No	15.27	Si
SLU 46	0.45	-2054.9	-50831	-45183	3561	3.925	3.925	-25581	10355	26575	28547	52889	10009	55122	No	15.48	Si
SLU 51	0.05	141.9	-48978	-43536	3606	3.925	3.925	-24649	10231	25917	28547	52889	10009	54463	No	15.1	Si
SLU 51	0.45	-2114.78	-51349	-45644	3611	3.925	3.925	-25842	10390	26759	28547	52889	10009	55306	No	15.32	Si
SLU 69	0.05	382.34	-58323	-51842	3863	3.925	3.925	-29352	10833	29239	28547	52889	10009	57785	No	14.96	Si
SLU 69	0.45	-2096.27	-61253	-54447	3869	3.925	3.925	-30826	10833	30281	28547	52889	10009	58827	No	15.21	Si
SLU 48	0.05	99.95	-49959	-44408	3715	3.925	3.925	-25142	10297	26265	28547	52889	10009	54812	No	14.75	Si
SLU 48	0.45	-2207.87	-52366	-46547	3720	3.925	3.925	-26354	10458	27121	28547	52889	10009	55667	No	14.96	Si
SLU 71	0.05	410.19	-57833	-51407	3831	3.925	3.925	-29105	10825	29065	28547	52889	10009	57611	No	15.04	Si
SLU 71	0.45	-2048.2	-60727	-53980	3837	3.925	3.925	-30562	10833	30094	28547	52889	10009	58640	No	15.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	0.05	13570.38	-29203	-25959	24435	3.925	3.925	-14697	13356	23590	28547	79334	10009	52137		2.13	Si
SLV 14	0.45	3659.51	-30238	-26878	24364	3.925	3.925	-15218	13460	23774	28547	79334	10009	52321		2.15	Si
SLV 16	0.05	13095.94	-51913	-46145	27591	3.925	3.925	-26126	15642	31211	28547	79334	10009	59758		2.17	Si
SLV 16	0.45	1975.69	-53499	-47555	27381	3.925	3.925	-26924	15801	31775	28547	79334	10009	60322		2.2	Si
SLV 15	0.05	11450.33	-52010	-46232	24723	3.925	3.925	-26175	15652	31246	28547	79334	10009	59792		2.42	Si
SLV 15	0.45	1462.87	-53668	-47705	24514	3.925	3.925	-27009	15818	31835	28547	79334	10009	60382		2.46	Si
SLV 1	0.05	-12139.59	-34028	-30248	-22052	3.925	3.925	-17125	13842	24853	28547	79334	10009	53399		2.42	Si
SLV 1	0.45	-4616.38	-36693	-32616	-21833	3.925	3.925	-18466	14110	25800	28547	79334	10009	54346		2.49	Si
SLD 14	0.05	8846.99	-34751	-30890	16706	3.925	3.925	-17489	13914	25110	28547	79334	10009	53656		3.21	Si
SLD 14	0.45	1821.28	-36195	-32174	16663	3.925	3.925	-18216	14060	25623	28547	79334	10009	54169		3.25	Si
SLV 13	0.05	11924.78	-29301	-26045	21567	3.925	3.925	-14746	13366	23608	28547	79334	10009	52154		2.42	Si
SLV 13	0.45	3146.69	-30407	-27029	21497	3.925	3.925	-15303	13477	23804	28547	79334	10009	52351		2.44	Si
SLD 15	0.05	7527.77	-48139	-42790	16740	3.925	3.925	-24227	15262	29869	28547	79334	10009	58416		3.49	Si
SLD 15	0.45	516.37	-49963	-44411	16612	3.925	3.925	-25144	15446	30518	28547	79334	10009	59064		3.56	Si
SLD 16	0.05	8571.76	-48077	-42735	18560	3.925	3.925	-24195	15256	29847	28547	79334	10009	58394		3.15	Si
SLD 16	0.45	841.71	-49856	-44316	18431	3.925	3.925	-25091	15435	30480	28547	79334	10009	59026		3.2	Si
SLV 3	0.05	-12614.03	-56738	-50434	-18896	3.925	3.925	-28554	16127	32927	28547	79334	10009	61473		3.25	Si
SLV 3	0.45	-6300.2	-59954	-53292	-18816	3.925	3.925	-30172	16250	34070	28547	79334	10009	62617		3.33	Si
SLV 2	0.05	-10493.99	-33931	-30161	-19183	3.925	3.925	-17076	13832	24818	28547	79334	10009	53364		2.78	Si
SLV 2	0.45	-4103.57	-36524	-32466	-18966	3.925	3.925	-18381	14093	25740	28547	79334	10009	54286		2.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	1417	-2502	227.43	557.71	2.45	Si
SLV 10	179667	0.24	1456	-2572	227.43	573.24	2.52	Si
SLV 5	179667	0.24	2273	-4014	227.43	889.67	3.91	Si
SLV 6	179667	0.24	2312	-4084	227.43	905.03	3.98	Si
SLV 13	179667	0.24	15398	-27197	227.43	5502.33	24.19	Si
SLV 14	179667	0.24	15457	-27302	227.43	5521.09	24.28	Si
SLV 1	179667	0.24	18252	-32237	227.43	6386.41	28.08	Si
SLV 2	179667	0.24	18311	-32341	227.43	6404.3	28.16	Si
SLV 15	179667	0.24	28247	-49891	227.43	9149.15	40.23	Si
SLV 16	179667	0.24	28306	-49995	227.43	9163.96	40.29	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-80646	-77387	-4145	0.301	8863	0.977	4.4793	2.57112	Si
SLV 8	-80513	-77629	-4131	0.302	8849.4	0.977	4.48692	2.57112	Si
SLV 11	-79188	-75765	-4038	0.306	8714.5	0.977	4.55603	2.57112	Si
SLV 12	-79055	-76007	-4024	0.307	8700.9	0.977	4.56391	2.57112	Si
SLV 3	-55970	-52687	-3033	0.408	6349.9	0.969	6.12078	2.70061	Si
SLV 4	-55773	-53046	-3013	0.409	6329.8	0.969	6.14244	2.70061	Si
SLV 15	-51110	-47281	-2678	0.443	5855.2	0.966	6.65873	2.70061	Si
SLV 16	-50913	-47640	-2658	0.444	5835.1	0.966	6.68434	2.70061	Si
SLV 1	-33334	-29944	-1971	0.631	4047.3	0.953	9.61982	2.70061	Si
SLV 2	-33137	-30303	-1951	0.634	4027.2	0.953	9.67433	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	38.423	SLU 48	Si
V_SLU	14.754	SLU 48	Si
PF_SLV	1.701	SLV 10	Si
V_SLV	2.134	SLV 14	Si
PFFP_SLV	2.452	SLV 9	Si
R_SLV	1.742	SLV 7	Si

Maschio 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.638	1.141	-24.603	1.141	L2	L4	4.965	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	-1.95	-11609.14	-179438	-0.0001455	0.0004492	0.0035	4.965	152662.9	273408.36	273408.36	23.55	No	Si
SLU 79	0.15	-17424.92	-146166	-0.0001221	0.0004492	0.0035	4.965	168579.1	252183.73	252183.73	14.47	No	Si
SLU 83	-1.95	-12160.05	-184412	-0.0001507	0.0004492	0.0035	4.965	148553.1	275613.11	275613.11	22.67	No	Si
SLU 83	0.15	-18193.96	-150783	-0.0001269	0.0004492	0.0035	4.965	167573.65	256036.62	256036.62	14.07	No	Si
SLU 77	-1.95	-11682.07	-180444	-0.0001465	0.0004492	0.0035	4.965	151867.98	274018.32	274018.32	23.46	No	Si
SLU 77	0.15	-17535.53	-147039	-0.000123	0.0004492	0.0035	4.965	168418.77	252981.86	252981.86	14.43	No	Si
SLU 78	-1.95	-11770.83	-180461	-0.0001466	0.0004492	0.0035	4.965	151854.36	274028.65	274028.65	23.28	No	Si
SLU 78	0.15	-17482.25	-147076	-0.000123	0.0004492	0.0035	4.965	168411.66	253015.74	253015.74	14.47	No	Si
SLU 75	-1.95	-11662.15	-178576	-0.0001448	0.0004492	0.0035	4.965	153329.32	272885.77	272885.77	23.4	No	Si
SLU 75	0.15	-17248.65	-145427	-0.0001213	0.0004492	0.0035	4.965	168704.14	251507.27	251507.27	14.58	No	Si
SLU 80	-1.95	-11697.91	-179455	-0.0001456	0.0004492	0.0035	4.965	152649.59	273418.69	273418.69	23.37	No	Si
SLU 80	0.15	-17371.64	-146203	-0.0001221	0.0004492	0.0035	4.965	168572.57	252217.61	252217.61	14.52	No	Si
SLU 81	-1.95	-12051.36	-182527	-0.0001488	0.0004492	0.0035	4.965	150163.54	275083.4	275083.4	22.83	No	Si
SLU 81	0.15	-17960.36	-149134	-0.0001252	0.0004492	0.0035	4.965	167977.3	254898.25	254898.25	14.19	No	Si
SLU 82	-1.95	-12140.13	-182544	-0.0001489	0.0004492	0.0035	4.965	150149.27	275088.19	275088.19	22.66	No	Si
SLU 82	0.15	-17907.08	-149171	-0.0001252	0.0004492	0.0035	4.965	167968.77	254932.12	254932.12	14.24	No	Si
SLU 84	-1.95	-12248.82	-184429	-0.0001508	0.0004492	0.0035	4.965	148538.24	275617.89	275617.89	22.5	No	Si
SLU 84	0.15	-18140.68	-150820	-0.0001269	0.0004492	0.0035	4.965	167564.02	256059.07	256059.07	14.12	No	Si
SLU 74	-1.95	-11573.38	-178559	-0.0001447	0.0004492	0.0035	4.965	153342.36	272875.44	272875.44	23.58	No	Si
SLU 74	0.15	-17301.92	-145390	-0.0001214	0.0004492	0.0035	4.965	168710.14	251473.4	251473.4	14.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	-1.95	-37952.75	-86735	-0.0000899	0.0006738	0.0035	4.965		196593.43	196593.43	5.18		Si
SLV 13	0.15	-3917.83	-65815	-0.0000466	0.0006738	0.0035	4.965		158216.84	158216.84	40.38		Si
SLV 15	-1.95	-33816.32	-83724	-0.0000842	0.0006738	0.0035	4.965		191238.68	191238.68	5.66		Si
SLV 15	0.15	-4915.81	-62766	-0.0000453	0.0006738	0.0035	4.965		152358.2	152358.2	30.99		Si
SLD 13	-1.95	-26969.02	-99721	-0.00009	0.0006738	0.0035	4.965		218668.53	218668.53	8.11		Si
SLD 13	0.15	-6615.04	-77676	-0.000057	0.0006738	0.0035	4.965		180483.93	180483.93	27.28		Si
SLV 9	-1.95	-23051.9	-116732	-0.0000991	0.0006738	0.0035	4.965		245645.19	245645.19	10.66		Si
SLV 9	0.15	-7547.12	-93748	-0.000069	0.0006738	0.0035	4.965		208675.15	208675.15	27.65		Si
SLV 10	-1.95	-22922.61	-116728	-0.000099	0.0006738	0.0035	4.965		245640.58	245640.58	10.72		Si
SLV 10	0.15	-7780.36	-93391	-0.000069	0.0006738	0.0035	4.965		208078.39	208078.39	26.74		Si
SLD 14	-1.95	-26847.17	-99718	-0.0000899	0.0006738	0.0035	4.965		218663.55	218663.55	8.14		Si
SLD 14	0.15	-6834.86	-77340	-0.000057	0.0006738	0.0035	4.965		179886.09	179886.09	26.32		Si
SLD 16	-1.95	-24432.08	-97952	-0.0000865	0.0006738	0.0035	4.965		215708.68	215708.68	8.83		Si
SLD 16	0.15	-7418.27	-75556	-0.0000562	0.0006738	0.0035	4.965		176566.09	176566.09	23.8		Si
SLD 15	-1.95	-24553.93	-97955	-0.0000866	0.0006738	0.0035	4.965		215713.66	215713.66	8.79		Si
SLD 15	0.15	-7198.45	-75892	-0.0000562	0.0006738	0.0035	4.965		177199.36	177199.36	24.62		Si
SLV 16	-1.95	-33624.25	-83719	-0.000084	0.0006738	0.0035	4.965		191230.34	191230.34	5.69		Si
SLV 16	0.15	-5262.3	-62236	-0.0000453	0.0006738	0.0035	4.965		151304.16	151304.16	28.75		Si
SLV 14	-1.95	-37760.68	-86730	-0.0000897	0.0006738	0.0035	4.965		196585.1	196585.1	5.21		Si
SLV 14	0.15	-4264.32	-65285	-0.0000465	0.0006738	0.0035	4.965		157218.64	157218.64	36.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-1.95	-11609.14	-179438	-143550	-22591	4.965	4.965	-64250	10833	70324	81562	80293	25322	105615	No	4.67	Si
SLU 79	0.15	-17424.92	-146166	-116933	-22790	4.965	4.965	-52337	10833	59678	81562	80293	25322	105615	No	4.63	Si
SLU 81	-1.95	-12051.36	-182527	-146022	-22679	4.965	4.965	-65356	10833	71313	81562	80293	25322	105615	No	4.66	Si
SLU 81	0.15	-17960.36	-149134	-119307	-22882	4.965	4.965	-53399	10833	60628	81562	80293	25322	105615	No	4.62	Si
SLU 83	-1.95	-12160.05	-184412	-147530	-22896	4.965	4.965	-66031	10833	71916	81562	80293	25322	105615	No	4.61	Si
SLU 83	0.15	-18193.96	-150783	-120626	-23099	4.965	4.965	-53990	10833	61155	81562	80293	25322	105615	No	4.57	Si
SLU 78	-1.95	-11770.83	-180461	-144369	-22759	4.965	4.965	-64616	10833	70652	81562	80293	25322	105615	No	4.64	Si
SLU 78	0.15	-17482.25	-147076	-117661	-22961	4.965	4.965	-52662	10833	59969	81562	80293	25322	105615	No	4.6	Si
SLU 77	-1.95	-11682.07	-180444	-144355	-22730	4.965	4.965	-64610	10833	70646	81562	80293	25322	105615	No	4.65	Si
SLU 77	0.15	-17535.53	-147039	-117631	-22929	4.965	4.965	-52649	10833	59957	81562	80293	25322	105615	No	4.61	Si
SLU 82	-1.95	-12140.13	-182544	-146035	-22709	4.965	4.965	-65362	10833	71318	81562	80293	25322	105615	No	4.65	Si
SLU 82	0.15	-17907.08	-149171	-119337	-22913	4.965	4.965	-53412	10833	60639	81562	80293	25322	105615	No	4.61	Si
SLU 74	-1.95	-11573.38	-178559	-142847	-22513	4.965	4.965	-63935	10833	70043	81562	80293	25322	105615	No	4.69	Si
SLU 74	0.15	-17301.92	-145390	-116312	-22711	4.965	4.965	-52059	10833	59430	81562	80293	25322	105615	No	4.65	Si
SLU 75	-1.95	-11662.15	-178576	-142860	-22543	4.965	4.965	-63941	10833	70049	81562	80293	25322	105615	No	4.69	Si
SLU 75	0.15	-17248.65	-145427	-116342	-22743	4.965	4.965	-52072	10833	59441	81562	80293	25322	105615	No	4.64	Si
SLU 84	-1.95	-12248.82	-184429	-147543	-22925	4.965	4.965	-66037	10833	71922	81562	80293	25322	105615	No	4.61	Si
SLU 84	0.15	-18140.68	-150820	-120656	-23131	4.965	4.965	-54003	10833	61167	81562	80293	25322	105615	No	4.57	Si
SLU 80	-1.95	-11697.91	-179455	-143564	-22621	4.965	4.965	-64256	10833	70330	81562	80293	25322	105615	No	4.67	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.15	-17371.64	-146203	-116963	-22822	4.965	4.965	-52350	10833	59690	81562	80293	25322	105615	No	4.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	-1.95	-33624.25	-83719	-66975	-30286	4.965	4.965	-29977	16250	46149	81562	120440	25322	127711		4.22	Si
SLV 16	0.15	-5262.3	-62236	-49789	-29524	4.965	4.965	-22284	16250	39275	81562	120440	25322	120836		4.09	Si
SLV 10	-1.95	-22922.61	-116728	-93383	-23783	4.965	4.965	-41796	16250	56712	81562	120440	25322	138273		5.81	Si
SLV 10	0.15	-7780.36	-93391	-74713	-23815	4.965	4.965	-33440	16250	49244	81562	120440	25322	130806		5.49	Si
SLV 15	-1.95	-33816.32	-83724	-66979	-29862	4.965	4.965	-29978	16250	46151	81562	120440	25322	127712		4.28	Si
SLV 15	0.15	-4915.81	-62766	-50213	-29105	4.965	4.965	-22474	16250	39444	81562	120440	25322	121006		4.16	Si
SLV 14	-1.95	-37760.68	-86730	-69384	-32144	4.965	4.965	-31055	16250	47113	81562	120440	25322	128674		4	Si
SLV 14	0.15	-4264.32	-65285	-52228	-31472	4.965	4.965	-23376	16250	40250	81562	120440	25322	121812		3.87	Si
SLD 16	-1.95	-24432.08	-97952	-78362	-25133	4.965	4.965	-35073	16250	50704	81562	120440	25322	132265		5.26	Si
SLD 16	0.15	-7418.27	-75556	-60445	-24776	4.965	4.965	-27054	16250	43537	81562	120440	25322	125099		5.05	Si
SLD 14	-1.95	-26847.17	-99718	-79775	-26222	4.965	4.965	-35705	16250	51269	81562	120440	25322	132830		5.07	Si
SLD 14	0.15	-6834.86	-77340	-61872	-25917	4.965	4.965	-27692	16250	44108	81562	120440	25322	125669		4.85	Si
SLV 9	-1.95	-23051.9	-116732	-93385	-23498	4.965	4.965	-41797	16250	56713	81562	120440	25322	138274		5.88	Si
SLV 9	0.15	-7547.12	-93748	-74998	-23533	4.965	4.965	-33567	16250	49358	81562	120440	25322	130920		5.56	Si
SLV 13	-1.95	-37952.75	-86735	-69388	-31720	4.965	4.965	-31057	16250	47114	81562	120440	25322	128676		4.06	Si
SLV 13	0.15	-3917.83	-65815	-52652	-31053	4.965	4.965	-23566	16250	40420	81562	120440	25322	121982		3.93	Si
SLD 13	-1.95	-26969.02	-99721	-79777	-25953	4.965	4.965	-35706	16250	51270	81562	120440	25322	132831		5.12	Si
SLD 13	0.15	-6615.04	-77676	-62141	-25651	4.965	4.965	-27813	16250	44215	81562	120440	25322	125777		4.9	Si
SLD 15	-1.95	-24553.93	-97955	-78364	-24864	4.965	4.965	-35074	16250	50704	81562	120440	25322	132266		5.32	Si
SLD 15	0.15	-7198.45	-75892	-60714	-24510	4.965	4.965	-27174	16250	43645	81562	120440	25322	125206		5.11	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-69981	0.24	292.37	13054.79	17217.14	15135.97	51.77	Si
SLV 15	-70421	0.24	292.37	13119.84	17314.36	15217.1	52.05	Si
SLV 14	-73256	0.24	292.37	13533.94	17940.99	15737.46	53.83	Si
SLV 13	-73696	0.24	292.37	13597.4	18038.24	15817.82	54.1	Si
SLV 12	-91091	0.24	292.37	15936.33	21692.12	18814.23	64.35	Si
SLV 11	-91387	0.24	292.37	15973.27	21750.69	18861.98	64.51	Si
SLV 10	-102008	0.24	292.37	17234.38	23821.19	20527.78	70.21	Si
SLV 9	-102304	0.24	292.37	17267.76	23876.55	20572.16	70.36	Si
SLV 8	-112399	0.24	292.37	18348.23	25747.01	22047.62	75.41	Si
SLV 7	-112695	0.24	292.37	18378.23	25799.46	22088.84	75.55	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-120952	-162404	-48	0.31	13140.8	0.98	4.59593	2.70061	Si
SLV 2	-120320	-162399	-50	0.311	13076.4	0.98	4.6128	2.70061	Si
SLV 3	-117267	-159393	86	0.316	12765.3	0.98	4.69394	2.70061	Si
SLV 4	-116634	-159388	83	0.318	12700.8	0.98	4.71246	2.70061	Si
SLV 5	-103930	-139432	-215	0.343	11406.5	0.978	5.10603	2.57112	Si
SLV 6	-103505	-139429	-216	0.344	11363.1	0.977	5.12121	2.57112	Si
SLV 7	-91644	-129395	230	0.376	10155	0.975	5.60415	2.57112	Si
SLV 8	-91219	-129391	228	0.377	10111.6	0.975	5.62408	2.57112	Si
SLV 9	-85743	-116732	-224	0.395	9553.9	0.973	5.89446	2.57112	Si
SLV 10	-85317	-116728	-226	0.396	9510.5	0.973	5.91655	2.57112	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.073	SLU 83	Si
V_SLU	4.566	SLU 84	Si
PF_SLV	5.18	SLV 13	Si
V_SLV	3.87	SLV 14	Si
PFFP_SLV	51.77	SLV 16	Si
R_SLV	1.702	SLV 1	Si

Maschio 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-14.963	1.141	-18.838	1.141	L2	L4	3.875	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	-1.95	-15891.46	-132535	-0.0001522	0.0004492	0.0035	3.875	97054.37	162788.03	162788.03	10.24	No	Si
SLU 73	0.15	-2218.96	-140046	-0.0001369	0.0004492	0.0035	3.875	92989.61	166480.82	166480.82	75.03	No	Si
SLU 83	-1.95	-16111.51	-139955	-0.0001616	0.0004492	0.0035	3.875	93045.1	166436	166436	10.33	No	Si
SLU 83	0.15	-3010.86	-147763	-0.0001473	0.0004492	0.0035	3.875	87744.71	168439.91	168439.91	55.94	No	Si
SLU 80	-1.95	-15923.81	-135758	-0.0001561	0.0004492	0.0035	3.875	95435.73	164372.7	164372.7	10.32	No	Si
SLU 80	0.15	-2544.58	-143337	-0.0001413	0.0004492	0.0035	3.875	90884.86	167398.33	167398.33	65.79	No	Si
SLU 76	-1.95	-16017.54	-134057	-0.0001542	0.0004492	0.0035	3.875	96313.87	163536.04	163536.04	10.21	No	Si
SLU 76	0.15	-2288.08	-141722	-0.000139	0.0004492	0.0035	3.875	91942.61	167018.03	167018.03	72.99	No	Si
SLU 75	-1.95	-15888.76	-135029	-0.0001552	0.0004492	0.0035	3.875	95818.64	164014.02	164014.02	10.32	No	Si
SLU 75	0.15	-2481.16	-142535	-0.0001403	0.0004492	0.0035	3.875	91415.93	167209.52	167209.52	67.39	No	Si
SLU 78	-1.95	-16014.83	-136550	-0.0001572	0.0004492	0.0035	3.875	95009.16	164762.02	164762.02	10.29	No	Si
SLU 78	0.15	-2550.28	-144211	-0.0001423	0.0004492	0.0035	3.875	90293.05	167603.99	167603.99	65.72	No	Si
SLU 81	-1.95	-15985.44	-138433	-0.0001595	0.0004492	0.0035	3.875	93948.78	165687.99	165687.99	10.36	No	Si
SLU 81	0.15	-2941.73	-146087	-0.0001452	0.0004492	0.0035	3.875	88975.83	168045.45	168045.45	57.12	No	Si
SLU 82	-1.95	-16315.13	-138163	-0.0001597	0.0004492	0.0035	3.875	94105.05	165555	165555	10.15	No	Si
SLU 82	0.15	-2660.65	-146177	-0.0001448	0.0004492	0.0035	3.875	88910.79	168066.7	168066.7	63.17	No	Si
SLU 84	-1.95	-16441.2	-139684	-0.0001618	0.0004492	0.0035	3.875	93208.85	166303	166303	10.12	No	Si
SLU 84	0.15	-2729.78	-147853	-0.0001469	0.0004492	0.0035	3.875	87676.91	168461.17	168461.17	61.71	No	Si
SLU 77	-1.95	-15685.14	-136821	-0.000157	0.0004492	0.0035	3.875	94860.83	164895.02	164895.02	10.51	No	Si
SLU 77	0.15	-2831.36	-144121	-0.0001427	0.0004492	0.0035	3.875	90354.87	167582.73	167582.73	59.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.95	-38929.97	-76319	-0.0001206	0.0006738	0.0035	3.875		130873.65	130873.65	3.36		Si
SLV 10	0.15	20214.96	-101856	-0.0001184	0.0006738	0.0035	3.875		153904.69	153904.69	7.61		Si
SLD 14	-1.95	-31936.77	-87420	-0.0001214	0.0006738	0.0035	3.875		144825.81	144825.81	4.53		Si
SLD 14	0.15	9528.31	-92693	-0.0000941	0.0006738	0.0035	3.875		143898.07	143898.07	15.1		Si
SLV 13	-1.95	-45352.96	-83541	-0.0001371	0.0006738	0.0035	3.875		140026.73	140026.73	3.09		Si
SLV 13	0.15	17017.79	-91335	-0.0001036	0.0006738	0.0035	3.875		142415.29	142415.29	8.37		Si
SLD 13	-1.95	-32541.73	-87092	-0.000122	0.0006738	0.0035	3.875		144420.08	144420.08	4.44		Si
SLD 13	0.15	9927.78	-93188	-0.0000951	0.0006738	0.0035	3.875		144439.31	144439.31	14.55		Si
SLD 10	-1.95	-27683.4	-83052	-0.000111	0.0006738	0.0035	3.875		139421.06	139421.06	5.04		Si
SLD 10	0.15	11322.34	-99654	-0.0001033	0.0006738	0.0035	3.875		151500.33	151500.33	13.38		Si
SLV 15	-1.95	-33266.45	-92734	-0.0001286	0.0006738	0.0035	3.875		151102.03	151102.03	4.54		Si
SLV 15	0.15	6047.94	-86713	-0.0000835	0.0006738	0.0035	3.875		137367.89	137367.89	22.71		Si
SLD 9	-1.95	-28072.93	-82841	-0.0001114	0.0006738	0.0035	3.875		139159.81	139159.81	4.96		Si
SLD 9	0.15	11579.57	-99973	-0.000104	0.0006738	0.0035	3.875		151848.84	151848.84	13.11		Si
SLV 9	-1.95	-39571.87	-75971	-0.0001212	0.0006738	0.0035	3.875		130415.08	130415.08	3.3		Si
SLV 9	0.15	20638.83	-102382	-0.0001196	0.0006738	0.0035	3.875		154478.98	154478.98	7.48		Si
SLV 16	-1.95	-32312.87	-93251	-0.0001277	0.0006738	0.0035	3.875		151699.86	151699.86	4.69		Si
SLV 16	0.15	5418.27	-85931	-0.0000819	0.0006738	0.0035	3.875		136514.75	136514.75	25.2		Si
SLV 14	-1.95	-44399.38	-84058	-0.0001363	0.0006738	0.0035	3.875		140666.26	140666.26	3.17		Si
SLV 14	0.15	16388.12	-90553	-0.0001019	0.0006738	0.0035	3.875		141562.15	141562.15	8.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	-1.95	-16014.83	-136550	-109240	5549	3.875	3.875	-62647	10833	53768	81562	62666	19763	82429	No	14.85	Si
SLU 78	0.15	-2550.28	-144211	-115369	5668	3.875	3.875	-66161	10833	56219	81562	62666	19763	82429	No	14.54	Si
SLU 75	-1.95	-15888.76	-135029	-108023	5471	3.875	3.875	-61949	10833	53281	81562	62666	19763	82429	No	15.07	Si
SLU 75	0.15	-2481.16	-142535	-114028	5588	3.875	3.875	-65393	10833	55683	81562	62666	19763	82429	No	14.75	Si
SLU 80	-1.95	-15923.81	-135758	-108607	5533	3.875	3.875	-62283	10833	53514	81562	62666	19763	82429	No	14.9	Si
SLU 80	0.15	-2544.58	-143337	-114670	5651	3.875	3.875	-65761	10833	55939	81562	62666	19763	82429	No	14.59	Si
SLU 84	-1.95	-16441.2	-139684	-111747	5811	3.875	3.875	-64085	10833	54770	81562	62666	19763	82429	No	14.18	Si
SLU 84	0.15	-2729.78	-147853	-118282	5931	3.875	3.875	-67832	10833	57384	81562	62666	19763	82429	No	13.9	Si
SLU 81	-1.95	-15985.44	-138433	-110747	5738	3.875	3.875	-63511	10833	54370	81562	62666	19763	82429	No	14.37	Si
SLU 81	0.15	-2941.73	-146087	-116869	5856	3.875	3.875	-67022	10833	56819	81562	62666	19763	82429	No	14.08	Si
SLU 77	-1.95	-15685.14	-136821	-109457	5553	3.875	3.875	-62771	10833	53854	81562	62666	19763	82429	No	14.84	Si
SLU 77	0.15	-2831.36	-144121	-115297	5672	3.875	3.875	-66120	10833	56190	81562	62666	19763	82429	No	14.53	Si
SLU 74	-1.95	-15559.07	-135299	-108239	5476	3.875	3.875	-62073	10833	53367	81562	62666	19763	82429	No	15.05	Si
SLU 74	0.15	-2762.24	-142445	-113956	5593	3.875	3.875	-65351	10833	55654	81562	62666	19763	82429	No	14.74	Si
SLU 79	-1.95	-15594.13	-136029	-108823	5538	3.875	3.875	-62407	10833	53601	81562	62666	19763	82429	No	14.88	Si
SLU 79	0.15	-2825.67	-143247	-114598	5655	3.875	3.875	-65719	10833	55910	81562	62666	19763	82429	No	14.57	Si
SLU 83	-1.95	-16111.51	-139955	-111964	5815	3.875	3.875	-64209	10833	54857	81562	62666	19763	82429	No	14.17	Si
SLU 83	0.15	-3010.86	-147763	-118210	5935	3.875	3.875	-67791	10833	57355	81562	62666	19763	82429	No	13.89	Si
SLU 82	-1.95	-16315.13	-138163	-110530	5733	3.875	3.875	-63387	10833	54284	81562	62666	19763	82429	No	14.38	Si
SLU 82	0.15	-2660.65	-146177	-116942	5851	3.875	3.875	-67063	10833	56848	81562	62666	19763	82429	No	14.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	-1.95	10631.44	-98143	-78515	18193	3.875	3.875	-45026	16250	46514	81562	93999	19763	113762		6.25	Si
SLD 3	0.15	-13018.57	-101095	-80876	18258	3.875	3.875	-46380	16250	47459	81562	93999	19763	113762		6.23	Si
SLV 2	-1.95	11961.12	-92829	-74264	26148	3.875	3.875	-42588	16250	44814	81562	93999	19763	113762		4.35	Si
SLV 2	0.15	-9538.2	-107074	-85659	26189	3.875	3.875	-49124	16250	49372	81562	93999	19763	113762		4.34	Si
SLD 1	-1.95	3543.84	-92751	-74201	18183	3.875	3.875	-42552	16250	44789	81562	93999	19763	113762		6.26	Si
SLD 1	0.15	-6587.27	-103802	-83041	18241	3.875	3.875	-47622	16250	48325	81562	93999	19763	113762		6.24	Si
SLV 16	-1.95	-32312.87	-93251	-74601	-19113	3.875	3.875	-42782	16250	44949	81562	93999	19763	113762		5.95	Si
SLV 16	0.15	5418.27	-85931	-68745	-18995	3.875	3.875	-39424	16250	42607	81562	93999	19763	113762		5.99	Si
SLV 3	-1.95	23094.05	-101505	-81204	26404	3.875	3.875	-46569	16250	47590	81562	93999	19763	113762		4.31	Si
SLV 3	0.15	-19878.37	-103234	-82587	26463	3.875	3.875	-47362	16250	48143	81562	93999	19763	113762		4.3	Si
SLV 4	-1.95	24047.63	-102022	-81618	26163	3.875	3.875	-46806	16250	47756	81562	93999	19763	113762		4.35	Si
SLV 4	0.15	-20508.05	-102452	-81962	26218	3.875	3.875	-47003	16250	47893	81562	93999	19763	113762		4.34	Si
SLV 13	-1.95	-45352.96	-83541	-66833	-18888	3.875	3.875	-38327	16250	41842	81562	93999	19763	113762		6.02	Si
SLV 13	0.15	17017.79	-91335	-73068	-18780	3.875	3.875	-41903	16250	44336	81562	93999	19763	113762		6.06	Si
SLV 1	-1.95	11007.54	-92312	-73850	26389	3.875	3.875	-42351	16250	44649	81562	93999	19763	113762		4.31	Si
SLV 1	0.15	-8908.53	-107856	-86284	26434	3.875	3.875	-49482	16250	49622	81562	93999	19763	113762		4.3	Si
SLV 14	-1.95	-44399.38	-84058	-67247	-19128	3.875	3.875	-38564	16250	42007	81562	93999	19763	113762		5.95	Si
SLV 14	0.15	16388.12	-90553	-72443	-19024	3.875	3.875	-41544	16250	44086	81562	93999	19763	113762		5.98	Si
SLV 15	-1.95	-33266.45	-92734	-74187	-18873	3.875	3.875	-42545	16250	44784	81562	93999	19763	113762		6.03	Si
SLV 15	0.15	6047.94	-86713	-69370	-18751	3.875	3.875	-39782	16250	42857	81562	93999	19763	113762		6.07	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-86901	0.24	228.19	14236.17	19944.92	17090.54	74.9	Si
SLV 14	-87201	0.24	228.19	14266.89	19998	17132.44	75.08	Si
SLV 15	-87273	0.24	228.19	14274.23	20010.7	17142.46	75.13	Si
SLV 13	-87573	0.24	228.19	14304.8	20063.78	17184.29	75.31	Si
SLV 12	-91588	0.24	228.19	14701.78	20774.21	17737.99	77.74	Si
SLV 11	-91838	0.24	228.19	14725.77	20818.49	17772.13	77.88	Si
SLV 10	-92588	0.24	228.19	14797.11	20951.15	17874.13	78.33	Si
SLV 9	-92838	0.24	228.19	14820.75	20995.43	17908.09	78.48	Si
SLV 8	-95853	0.24	228.19	15098.62	21519.79	18309.21	80.24	Si
SLV 7	-96103	0.24	228.19	15121.11	21561.6	18341.36	80.38	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-98569	-92312	245	0.299	10680.8	0.981	4.42765	2.70061	Si
SLV 2	-97725	-92829	211	0.301	10594.8	0.981	4.45945	2.70061	Si
SLV 5	-99008	-78602	783	0.293	10725.5	0.981	4.33662	2.57112	Si
SLV 6	-98440	-78950	760	0.294	10667.6	0.981	4.35736	2.57112	Si
SLV 3	-93182	-101505	-356	0.31	10131.9	0.98	4.58995	2.70061	Si
SLV 4	-92337	-102022	-391	0.311	10045.9	0.98	4.61448	2.70061	Si
SLV 9	-94115	-75971	647	0.304	10227	0.98	4.51373	2.57112	Si
SLV 10	-93547	-76319	624	0.306	10169.1	0.98	4.53658	2.57112	Si
SLV 13	-82260	-83541	-207	0.34	9019.1	0.978	5.04703	2.70061	Si
SLV 14	-81416	-84058	-241	0.342	8933.1	0.978	5.07936	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.115	SLU 84	Si
V_SLU	13.888	SLU 83	Si
PF_SLV	3.087	SLV 13	Si
V_SLV	4.299	SLV 3	Si
PFFP_SLV	74.898	SLV 16	Si
R_SLV	1.639	SLV 1	Si

Maschio 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.238	1.141	-12.613	1.141	L2	L4	0.375	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.95	-114.25	-7189	-0.0000833	0.0004492	0.0035	0.375	877.98	1099.11	1099.11	9.62	No	Si
SLU 78	0.21	317.79	-9084	-0.0001377	0.0004492	0.0035	0.375	952.86	1244.12	1244.12	3.91	No	Si
SLU 82	-1.95	-115.84	-7306	-0.0000847	0.0004492	0.0035	0.375	884.49	1109.78	1109.78	9.58	No	Si
SLU 82	0.21	323.55	-9260	-0.0001407	0.0004492	0.0035	0.375	956.5	1258.19	1258.19	3.89	No	Si
SLU 80	-1.95	-113.12	-7147	-0.0000827	0.0004492	0.0035	0.375	875.6	1095.3	1095.3	9.68	No	Si
SLU 80	0.21	315.62	-9024	-0.0001366	0.0004492	0.0035	0.375	951.49	1239.34	1239.34	3.93	No	Si
SLU 83	-1.95	-116.49	-7385	-0.0000856	0.0004492	0.0035	0.375	888.72	1116.95	1116.95	9.59	No	Si
SLU 83	0.21	325.85	-9338	-0.000142	0.0004492	0.0035	0.375	957.93	1264.44	1264.44	3.88	No	Si
SLU 79	-1.95	-111.7	-7146	-0.0000824	0.0004492	0.0035	0.375	875.48	1095.13	1095.13	9.8	No	Si
SLU 79	0.21	313.89	-8989	-0.0001359	0.0004492	0.0035	0.375	950.67	1236.53	1236.53	3.94	No	Si
SLU 77	-1.95	-112.83	-7187	-0.000083	0.0004492	0.0035	0.375	877.87	1098.94	1098.94	9.74	No	Si
SLU 77	0.21	316.06	-9049	-0.0001369	0.0004492	0.0035	0.375	952.07	1241.32	1241.32	3.93	No	Si
SLU 81	-1.95	-114.42	-7304	-0.0000845	0.0004492	0.0035	0.375	884.38	1109.6	1109.6	9.7	No	Si
SLU 81	0.21	321.81	-9224	-0.00014	0.0004492	0.0035	0.375	955.82	1255.38	1255.38	3.9	No	Si
SLU 75	-1.95	-112.18	-7109	-0.0000821	0.0004492	0.0035	0.375	873.36	1091.77	1091.77	9.73	No	Si
SLU 75	0.21	313.76	-8971	-0.0001356	0.0004492	0.0035	0.375	950.22	1235.07	1235.07	3.94	No	Si
SLU 76	-1.95	-112	-7068	-0.0000817	0.0004492	0.0035	0.375	870.99	1088.07	1088.07	9.72	No	Si
SLU 76	0.21	312.74	-8934	-0.000135	0.0004492	0.0035	0.375	949.32	1232.15	1232.15	3.94	No	Si
SLU 84	-1.95	-117.91	-7387	-0.0000859	0.0004492	0.0035	0.375	888.83	1117.13	1117.13	9.47	No	Si
SLU 84	0.21	327.58	-9373	-0.0001428	0.0004492	0.0035	0.375	958.54	1267.24	1267.24	3.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	-1.95	-659.71	-6269	-0.0001799	0.0006738	0.0035	0.3		1058.64	1058.64	1.6		Si
SLV 13	0.21	410.67	-9792	-0.0001529	0.0006738	0.0035	0.375		1435.43	1435.43	3.5		Si
SLV 2	-1.95	468.2	-3474	-0.0001529	0.0006738	0.0035	0.375		601.37	601.37	1.28		Si
SLV 2	0.21	70.71	-3456	-0.0000399	0.0006738	0.0035	0.375		598.77	598.77	8.47		Si
SLV 14	-1.95	-654.97	-6237	-0.0001784	0.0006738	0.0035	0.3		1054.35	1054.35	1.61		Si
SLV 14	0.21	409.43	-9753	-0.0001523	0.0006738	0.0035	0.375		1430.9	1430.9	3.49		Si
SLD 13	-1.95	-448	-5745	-0.0001189	0.0006738	0.0035	0.375		986.23	986.23	2.2		Si
SLD 13	0.21	336.06	-8383	-0.0001264	0.0006738	0.0035	0.375		1273.22	1273.22	3.79		Si
SLV 4	-1.95	518.23	-3395	-0.000239	0.0006738	0.0035	0.375		589.82	589.82	1.14		Si
SLV 4	0.21	5.47	-2140	-0.0000191	0.0006738	0.0035	0.375		395.37	395.37	72.28		Si
SLD 4	-1.95	306.52	-3920	-0.0000795	0.0006738	0.0035	0.375		666.58	666.58	2.17		Si
SLD 4	0.21	80.08	-3550	-0.0000421	0.0006738	0.0035	0.375		612.46	612.46	7.65		Si
SLV 1	-1.95	463.46	-3506	-0.0001465	0.0006738	0.0035	0.375		606.06	606.06	1.31		Si
SLV 1	0.21	71.95	-3496	-0.0000404	0.0006738	0.0035	0.375		604.53	604.53	8.4		Si
SLV 16	-1.95	-604.95	-6158	-0.0001609	0.0006738	0.0035	0.3		1043.79	1043.79	1.73		Si
SLV 16	0.21	344.19	-8437	-0.0001282	0.0006738	0.0035	0.375		1279.45	1279.45	3.72		Si
SLV 15	-1.95	-609.69	-6190	-0.0001624	0.0006738	0.0035	0.3		1048.07	1048.07	1.72		Si
SLV 15	0.21	345.43	-8476	-0.0001288	0.0006738	0.0035	0.375		1283.98	1283.98	3.72		Si
SLV 3	-1.95	513.49	-3427	-0.0002206	0.0006738	0.0035	0.375		594.51	594.51	1.16		Si
SLV 3	0.21	6.71	-2180	-0.0000196	0.0006738	0.0035	0.375		402.03	402.03	59.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	-1.95	-110.75	-7107	-5685	-72	0.375	0.375	-33691	10833	2166	81562	6064	1912	7977	No	111.34	Si
SLU 74	0.21	312.02	-8936	-7149	302	0.375	0.375	-42362	10833	2556	81562	6064	1912	7977	No	26.43	Si
SLU 81	-1.95	-114.42	-7304	-5843	-72	0.375	0.375	-34627	10833	2208	81562	6064	1912	7977	No	110.28	Si
SLU 81	0.21	321.81	-9224	-7380	320	0.375	0.375	-43731	10833	2618	81562	6064	1912	7977	No	24.92	Si
SLU 79	-1.95	-111.7	-7146	-5716	-72	0.375	0.375	-33875	10833	2174	81562	6064	1912	7977	No	110.04	Si
SLU 79	0.21	313.89	-8989	-7191	304	0.375	0.375	-42615	10833	2567	81562	6064	1912	7977	No	26.28	Si
SLU 77	-1.95	-112.83	-7187	-5750	-73	0.375	0.375	-34073	10833	2183	81562	6064	1912	7977	No	108.69	Si
SLU 77	0.21	316.06	-9049	-7239	305	0.375	0.375	-42898	10833	2580	81562	6064	1912	7977	No	26.13	Si
SLU 84	-1.95	-117.91	-7387	-5909	-74	0.375	0.375	-35018	10833	2226	81562	6064	1912	7977	No	107.32	Si
SLU 84	0.21	327.58	-9373	-7498	323	0.375	0.375	-44433	10833	2649	81562	6064	1912	7977	No	24.72	Si
SLU 80	-1.95	-113.12	-7147	-5718	-73	0.375	0.375	-33884	10833	2175	81562	6064	1912	7977	No	109.66	Si
SLU 80	0.21	315.62	-9024	-7219	303	0.375	0.375	-42781	10833	2575	81562	6064	1912	7977	No	26.36	Si
SLU 82	-1.95	-115.84	-7306	-5845	-73	0.375	0.375	-34636	10833	2208	81562	6064	1912	7977	No	109.91	Si
SLU 82	0.21	323.55	-9260	-7408	319	0.375	0.375	-43897	10833	2625	81562	6064	1912	7977	No	24.99	Si
SLU 83	-1.95	-116.49	-7385	-5908	-74	0.375	0.375	-35008	10833	2225	81562	6064	1912	7977	No	107.68	Si
SLU 83	0.21	325.85	-9338	-7470	324	0.375	0.375	-44267	10833	2642	81562	6064	1912	7977	No	24.65	Si
SLU 78	-1.95	-114.25	-7189	-5751	-74	0.375	0.375	-34082	10833	2184	81562	6064	1912	7977	No	108.32	Si
SLU 78	0.21	317.79	-9084	-7267	304	0.375	0.375	-43064	10833	2588	81562	6064	1912	7977	No	26.2	Si
SLU 75	-1.95	-112.18	-7109	-5687	-72	0.375	0.375	-33701	10833	2166	81562	6064	1912	7977	No	110.96	Si
SLU 75	0.21	313.76	-8971	-7177	301	0.375	0.375	-42528	10833	2564	81562	6064	1912	7977	No	26.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	-1.95	-418.54	-5698	-4558	-396	0.375	0.3421	-27012	16250	2502	81562	9097	1912	11009		27.83	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	0.21	297.79	-7611	-6089	626	0.375	0.375	-36081	16250	2742	81562	9097	1912	11009		17.6	Si
SLV 4	-1.95	518.23	-3395	-2716	502	0.375	0.1046	-16097	15719	1699	81562	9097	1912	11009		21.93	Si
SLV 4	0.21	5.47	-2140	-1712	-443	0.375	0.375	-10147	14529	2452	81562	9097	1912	11009		24.87	Si
SLV 14	-1.95	-654.97	-6237	-4989	-589	0.3	0.2474	0	0	0	81562	7277	1530	8807		14.95	Si
SLV 14	0.21	409.43	-9753	-7802	814	0.375	0.375	-46237	16250	3055	81562	9097	1912	11009		13.53	Si
SLV 16	-1.95	-604.95	-6158	-4926	-586	0.3	0.2678	0	0	0	81562	7277	1530	8807		15.03	Si
SLV 16	0.21	344.19	-8437	-6750	857	0.375	0.375	-39998	16250	2775	81562	9097	1912	11009		12.85	Si
SLV 15	-1.95	-609.69	-6190	-4952	-591	0.3	0.267	0	0	0	81562	7277	1530	8807		14.89	Si
SLV 15	0.21	345.43	-8476	-6781	870	0.375	0.375	-40184	16250	2783	81562	9097	1912	11009		12.65	Si
SLV 13	-1.95	-659.71	-6269	-5015	-595	0.3	0.2468	0	0	0	81562	7277	1530	8807		14.81	Si
SLV 13	0.21	410.67	-9792	-7834	827	0.375	0.375	-46423	16250	3064	81562	9097	1912	11009		13.31	Si
SLD 14	-1.95	-445	-5724	-4579	-394	0.375	0.3293	-27137	16250	2408	81562	9097	1912	11009		27.94	Si
SLD 14	0.21	335.27	-8358	-6686	592	0.375	0.375	-39623	16250	2758	81562	9097	1912	11009		18.6	Si
SLD 16	-1.95	-415.54	-5678	-4542	-392	0.375	0.3429	-26916	16250	2508	81562	9097	1912	11009		28.08	Si
SLD 16	0.21	297.01	-7586	-6069	617	0.375	0.375	-35963	16250	2742	81562	9097	1912	11009		17.84	Si
SLD 13	-1.95	-448	-5745	-4596	-397	0.375	0.3285	-27233	16250	2402	81562	9097	1912	11009		27.7	Si
SLD 13	0.21	336.06	-8383	-6706	600	0.375	0.375	-39741	16250	2763	81562	9097	1912	11009		18.34	Si
SLV 2	-1.95	468.2	-3474	-2779	499	0.375	0.1582	-16470	15794	1716	81562	9097	1912	11009		22.07	Si
SLV 2	0.21	70.71	-3456	-2765	-486	0.375	0.375	-16386	15777	2662	81562	9097	1912	11009		22.66	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-3302	0.24	22.08	663.68	822.54	743.11	33.65	Si
SLV 3	-3335	0.24	22.08	669.48	830.16	749.82	33.96	Si
SLV 8	-3409	0.24	22.08	682.55	847.41	764.98	34.64	Si
SLV 7	-3431	0.24	22.08	686.42	852.54	769.48	34.85	Si
SLV 2	-4792	0.24	22.08	911.19	1164.76	1037.98	47	Si
SLV 1	-4825	0.24	22.08	916.28	1172.06	1044.17	47.29	Si
SLV 12	-4987	0.24	22.08	941.08	1207.96	1074.52	48.66	Si
SLV 11	-5009	0.24	22.08	944.45	1212.87	1078.66	48.85	Si
SLV 6	-8376	0.24	22.08	1374.22	1903.61	1638.92	74.22	Si
SLV 5	-8398	0.24	22.08	1376.5	1907.74	1642.12	74.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-12793	-6269	4	0.248	1365.2	0.986	3.65444	2.70061	Si
SLV 14	-12694	-6237	4	0.249	1355.1	0.985	3.6728	2.70061	Si
SLV 15	-11942	-6190	36	0.256	1278.5	0.985	3.7855	2.70061	Si
SLV 16	-11842	-6158	36	0.258	1268.4	0.985	3.80624	2.70061	Si
SLV 9	-9788	-5389	-40	0.292	1059	0.982	4.32515	2.57112	Si
SLV 10	-9721	-5367	-40	0.293	1052.2	0.981	4.3459	2.57112	Si
SLV 11	-6950	-5126	64	0.368	769.8	0.975	5.49175	2.57112	Si
SLV 12	-6883	-5104	64	0.371	763	0.975	5.53142	2.57112	Si
SLV 5	-6375	-4560	-46	0.395	711.3	0.973	5.90091	2.57112	Si
SLV 6	-6308	-4538	-46	0.398	704.5	0.973	5.94853	2.57112	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.868	SLU 84	Si
V_SLU	24.646	SLU 83	Si
PF_SLV	1.138	SLV 4	Si
V_SLV	12.651	SLV 15	Si
PFFP_SLV	33.652	SLV 4	Si
R_SLV	1.353	SLV 13	Si

Maschio 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.778	1.141	-11.238	1.141	L2	L4	1.46	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	-1.95	3685.91	-49922	-0.0001701	0.0004492	0.0035	1.46	13780.19	22754.15	22754.15	6.17	No	Si
SLU 77	0.21	3237.3	-32383	-0.0001113	0.0004492	0.0035	1.46	14103.69	17777.22	17777.22	5.49	No	Si
SLU 80	-1.95	3718.19	-49491	-0.000169	0.0004492	0.0035	1.46	13855.18	22690.38	22690.38	6.1	No	Si
SLU 80	0.21	3204.64	-32225	-0.0001105	0.0004492	0.0035	1.46	14081.18	17714.29	17714.29	5.53	No	Si
SLU 82	-1.95	3785.31	-50290	-0.0001725	0.0004492	0.0035	1.46	13713.55	22808.53	22808.53	6.03	No	Si
SLU 82	0.21	3300.71	-32921	-0.0001135	0.0004492	0.0035	1.46	14176.87	17991.28	17991.28	5.45	No	Si
SLU 84	-1.95	3807.33	-50862	-0.0001747	0.0004492	0.0035	1.46	13604.98	22893.16	22893.16	6.01	No	Si
SLU 84	0.21	3341.52	-33317	-0.0001151	0.0004492	0.0035	1.46	14227.44	18149.05	18149.05	5.43	No	Si
SLU 83	-1.95	3757.81	-50995	-0.0001746	0.0004492	0.0035	1.46	13578.78	22912.91	22912.91	6.1	No	Si
SLU 83	0.21	3354.8	-33273	-0.0001151	0.0004492	0.0035	1.46	14222.01	18131.65	18131.65	5.4	No	Si
SLU 81	-1.95	3735.79	-50423	-0.0001724	0.0004492	0.0035	1.46	13688.74	22828.29	22828.29	6.11	No	Si
SLU 81	0.21	3313.98	-32877	-0.0001136	0.0004492	0.0035	1.46	14171.12	17973.88	17973.88	5.42	No	Si
SLU 75	-1.95	3713.41	-49217	-0.0001681	0.0004492	0.0035	1.46	13901.19	22649.77	22649.77	6.1	No	Si
SLU 75	0.21	3183.2	-32031	-0.0001098	0.0004492	0.0035	1.46	14052.85	17636.85	17636.85	5.54	No	Si
SLU 74	-1.95	3663.89	-49350	-0.0001679	0.0004492	0.0035	1.46	13878.99	22669.52	22669.52	6.19	No	Si
SLU 74	0.21	3196.48	-31987	-0.0001098	0.0004492	0.0035	1.46	14046.39	17619.45	17619.45	5.51	No	Si
SLU 78	-1.95	3735.43	-49789	-0.0001702	0.0004492	0.0035	1.46	13803.78	22734.39	22734.39	6.09	No	Si
SLU 78	0.21	3224.02	-32427	-0.0001113	0.0004492	0.0035	1.46	14109.83	17794.62	17794.62	5.52	No	Si
SLU 79	-1.95	3668.67	-49625	-0.0001689	0.0004492	0.0035	1.46	13832.31	22710.14	22710.14	6.19	No	Si
SLU 79	0.21	3217.91	-32182	-0.0001106	0.0004492	0.0035	1.46	14074.87	17696.89	17696.89	5.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	-1.95	7064.37	-27129	-0.0001324	0.0006738	0.0035	1.46		16681.08	16681.08	2.36		Si
SLV 6	0.21	631.41	-22580	-0.000057	0.0006738	0.0035	1.46		14296.73	14296.73	22.64		Si
SLV 2	-1.95	7826.52	-36059	-0.0001642	0.0006738	0.0035	1.46		20923.77	20923.77	2.67		Si
SLV 2	0.21	-42.63	-16156	-0.0000364	0.0006738	0.0035	1.46		11618.33	11618.33	272.52		Si
SLD 5	-1.95	5242.32	-30002	-0.000121	0.0006738	0.0035	1.46		18186.64	18186.64	3.47		Si
SLD 5	0.21	1234.23	-22044	-0.0000615	0.0006738	0.0035	1.46		14015.63	14015.63	11.36		Si
SLV 10	-1.95	4512.06	-24357	-0.0000992	0.0006738	0.0035	1.46		15228.27	15228.27	3.38		Si
SLV 10	0.21	1757.45	-26386	-0.000077	0.0006738	0.0035	1.46		16291.67	16291.67	9.27		Si
SLV 1	-1.95	7745.86	-36071	-0.0001633	0.0006738	0.0035	1.46		20928.65	20928.65	2.7		Si
SLV 1	0.21	-8.01	-16079	-0.0000359	0.0006738	0.0035	1.46		11572.17	11572.17	1444.52		Si
SLD 6	-1.95	5275.27	-29997	-0.0001213	0.0006738	0.0035	1.46		18184.06	18184.06	3.45		Si
SLD 6	0.21	1220.09	-22075	-0.0000614	0.0006738	0.0035	1.46		14032.22	14032.22	11.5		Si
SLV 9	-1.95	4457.77	-24365	-0.0000987	0.0006738	0.0035	1.46		15232.51	15232.51	3.42		Si
SLV 9	0.21	1780.76	-26334	-0.0000771	0.0006738	0.0035	1.46		16264.34	16264.34	9.13		Si
SLD 2	-1.95	5887.42	-35409	-0.000142	0.0006738	0.0035	1.46		20660.24	20660.24	3.51		Si
SLD 2	0.21	752.91	-18067	-0.0000475	0.0006738	0.0035	1.46		11931.65	11931.65	15.85		Si
SLD 1	-1.95	5836.25	-35416	-0.0001415	0.0006738	0.0035	1.46		20663.33	20663.33	3.54		Si
SLD 1	0.21	774.87	-18018	-0.0000476	0.0006738	0.0035	1.46		11905.89	11905.89	15.36		Si
SLV 5	-1.95	7010.07	-27137	-0.0001318	0.0006738	0.0035	1.46		16685.33	16685.33	2.38		Si
SLV 5	0.21	654.72	-22528	-0.0000571	0.0006738	0.0035	1.46		14269.4	14269.4	21.79		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	-1.95	3707.16	-48258	-38607	6986	1.46	1.46	-58762	10833	12825	81562	23611	7446	31057	No	4.45	Si
SLU 73	0.21	3114.15	-31462	-25170	-3713	1.46	1.46	-38310	10833	9242	81562	23611	7446	31057	No	8.36	Si
SLU 84	-1.95	3807.33	-50862	-40689	7181	1.46	1.46	-61932	10833	13380	81562	23611	7446	31057	No	4.33	Si
SLU 84	0.21	3341.52	-33317	-26654	-4044	1.46	1.46	-40569	10833	9638	81562	23611	7446	31057	No	7.68	Si
SLU 78	-1.95	3735.43	-49789	-39831	7098	1.46	1.46	-60625	10833	13151	81562	23611	7446	31057	No	4.38	Si
SLU 78	0.21	3224.02	-32427	-25942	-3892	1.46	1.46	-39485	10833	9448	81562	23611	7446	31057	No	7.98	Si
SLU 81	-1.95	3735.79	-50423	-40339	7046	1.46	1.46	-61398	10833	13287	81562	23611	7446	31057	No	4.41	Si
SLU 81	0.21	3313.98	-32877	-26302	-4087	1.46	1.46	-40033	10833	9544	81562	23611	7446	31057	No	7.6	Si
SLU 82	-1.95	3785.31	-50290	-40232	7121	1.46	1.46	-61236	10833	13258	81562	23611	7446	31057	No	4.36	Si
SLU 82	0.21	3300.71	-32921	-26337	-3995	1.46	1.46	-40086	10833	9553	81562	23611	7446	31057	No	7.77	Si
SLU 76	-1.95	3729.18	-48830	-39064	7046	1.46	1.46	-59458	10833	12947	81562	23611	7446	31057	No	4.41	Si
SLU 76	0.21	3154.97	-31858	-25487	-3762	1.46	1.46	-38793	10833	9326	81562	23611	7446	31057	No	8.26	Si
SLU 80	-1.95	3718.19	-49491	-39593	7056	1.46	1.46	-60263	10833	13088	81562	23611	7446	31057	No	4.4	Si
SLU 80	0.21	3204.64	-32225	-25780	-3872	1.46	1.46	-39240	10833	9405	81562	23611	7446	31057	No	8.02	Si
SLU 83	-1.95	3757.81	-50995	-40796	7106	1.46	1.46	-62095	10833	13409	81562	23611	7446	31057	No	4.37	Si
SLU 83	0.21	3354.8	-33273	-26619	-4136	1.46	1.46	-40516	10833	9628	81562	23611	7446	31057	No	7.51	Si
SLU 77	-1.95	3685.91	-49922	-39938	7023	1.46	1.46	-60788	10833	13180	81562	23611	7446	31057	No	4.42	Si
SLU 77	0.21	3237.3	-32383	-25907	-3983	1.46	1.46	-39432	10833	9438	81562	23611	7446	31057	No	7.8	Si
SLU 75	-1.95	3713.41	-49217	-39373	7038	1.46	1.46	-59929	10833	13029	81562	23611	7446	31057	No	4.41	Si
SLU 75	0.21	3183.2	-32031	-25625	-3843	1.46	1.46	-39003	10833	9363	81562	23611	7446	31057	No	8.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	-1.95	7826.52	-36059	-28847	14860	1.46	1.46	-43907	16250	11488	81562	35416	7446	42862		2.88	Si
SLV 2	0.21	-42.63	-16156	-12925	4641	1.46	1.46	-19673	16250	10676	81562	35416	7446	42862		9.23	Si
SLV 5	-1.95	7010.07	-27137	-21710	12438	1.46	1.415	-33044	16250	10348	81562	35416	7446	42862		3.45	Si
SLV 5	0.21	654.72	-22528	-18022	4877	1.46	1.46	-27431	16250	10676	81562	35416	7446	42862		8.79	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	-1.95	5887.42	-35409	-28327	11194	1.46	1.46	-43115	16250	11349	81562	35416	7446	42862		3.83	Si
SLD 2	0.21	752.91	-18067	-14454	1927	1.46	1.46	-22000	16250	10676	81562	35416	7446	42862		22.24	Si
SLV 6	-1.95	7064.37	-27129	-21703	12453	1.46	1.4088	-33034	16250	10302	81562	35416	7446	42862		3.44	Si
SLV 6	0.21	631.41	-22580	-18064	4887	1.46	1.46	-27495	16250	10676	81562	35416	7446	42862		8.77	Si
SLV 3	-1.95	5835.53	-40954	-32763	11826	1.46	1.46	-49868	16250	12532	81562	35416	7446	42862		3.62	Si
SLV 3	0.21	545.13	-14368	-11495	1103	1.46	1.46	-17496	15999	10511	81562	35416	7446	42862		38.85	Si
SLV 4	-1.95	5916.19	-40942	-32754	11848	1.46	1.46	-49853	16250	12529	81562	35416	7446	42862		3.62	Si
SLV 4	0.21	510.5	-14446	-11557	1118	1.46	1.46	-17590	16018	10524	81562	35416	7446	42862		38.33	Si
SLD 1	-1.95	5836.25	-35416	-28333	11180	1.46	1.46	-43125	16250	11350	81562	35416	7446	42862		3.83	Si
SLD 1	0.21	774.87	-18018	-14414	1918	1.46	1.46	-21940	16250	10676	81562	35416	7446	42862		22.35	Si
SLV 11	-1.95	-1909.99	-40643	-32515	-2673	1.46	1.46	-49489	16250	12466	81562	35416	7446	42862		16.03	Si
SLV 11	0.21	3624.55	-20633	-16506	-10178	1.46	1.46	-25124	16250	10676	81562	35416	7446	42862		4.21	Si
SLV 1	-1.95	7745.86	-36071	-28856	14838	1.46	1.46	-43922	16250	11490	81562	35416	7446	42862		2.89	Si
SLV 1	0.21	-8.01	-16079	-12863	4627	1.46	1.46	-19578	16250	10676	81562	35416	7446	42862		9.26	Si
SLV 12	-1.95	-1855.69	-40635	-32508	-2658	1.46	1.46	-49480	16250	12464	81562	35416	7446	42862		16.12	Si
SLV 12	0.21	3601.24	-20685	-16548	-10168	1.46	1.46	-25187	16250	10676	81562	35416	7446	42862		4.22	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-25301	0.24	85.97	4496.67	6056.59	5276.63	61.37	Si
SLV 2	-25352	0.24	85.97	4503.23	6067.1	5285.17	61.47	Si
SLV 5	-25610	0.24	85.97	4536.76	6121.03	5328.9	61.98	Si
SLV 6	-25644	0.24	85.97	4541.14	6128.11	5334.62	62.05	Si
SLV 3	-26206	0.24	85.97	4613.16	6245.47	5429.32	63.15	Si
SLV 4	-26257	0.24	85.97	4619.56	6255.99	5437.77	63.25	Si
SLV 9	-26773	0.24	85.97	4684.52	6358.25	5521.38	64.22	Si
SLV 10	-26806	0.24	85.97	4688.75	6364.96	5526.86	64.28	Si
SLV 7	-28626	0.24	85.97	4909.71	6725.3	5817.51	67.67	Si
SLV 8	-28660	0.24	85.97	4913.71	6732.02	5822.86	67.73	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-24412	-26819	430	0.39	2727.8	0.973	5.83165	2.70061	Si
SLV 13	-24376	-26831	419	0.391	2724.1	0.973	5.84453	2.70061	Si
SLV 16	-23208	-31702	172	0.416	2605.1	0.972	6.21655	2.70061	Si
SLV 15	-23171	-31714	161	0.416	2601.5	0.971	6.23065	2.70061	Si
SLV 10	-21197	-24357	654	0.424	2400.4	0.969	6.35061	2.57112	Si
SLV 9	-21172	-24365	646	0.424	2397.9	0.969	6.3611	2.57112	Si
SLV 6	-17241	-27129	588	0.498	1997.8	0.964	7.51263	2.57112	Si
SLV 5	-17217	-27137	581	0.499	1995.3	0.964	7.52695	2.57112	Si
SLV 12	-17182	-40635	-207	0.52	1991.8	0.963	7.83988	2.57112	Si
SLV 11	-17158	-40643	-215	0.52	1989.3	0.963	7.84275	2.57112	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.405	SLU 83	Si
V_SLU	4.325	SLU 84	Si
PF_SLV	2.361	SLV 6	Si
V_SLV	2.884	SLV 2	Si
PFFP_SLV	61.374	SLV 1	Si
R_SLV	2.159	SLV 14	Si

Maschio 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.428	1.141	-9.463	1.141	L2	L4	2.035	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	-1.95	-8650.26	-66342	-0.000172	0.0004492	0.0035	2.035	27480.09	43966.97	43966.97	5.08	No	Si
SLU 75	0.15	-1789.94	-60469	-0.0001165	0.0004492	0.0035	2.035	28276.83	42383.24	42383.24	23.68	No	Si
SLU 81	-1.95	-8823.96	-67944	-0.000177	0.0004492	0.0035	2.035	27153.94	44398.87	44398.87	5.03	No	Si
SLU 81	0.15	-1936.31	-61900	-0.0001204	0.0004492	0.0035	2.035	28140.55	42768.99	42768.99	22.09	No	Si
SLU 78	-1.95	-8701.64	-67040	-0.000174	0.0004492	0.0035	2.035	27343.66	44155.23	44155.23	5.07	No	Si
SLU 78	0.15	-1800.61	-61197	-0.0001181	0.0004492	0.0035	2.035	28212.18	42579.42	42579.42	23.65	No	Si
SLU 83	-1.95	-8875.35	-68642	-0.000179	0.0004492	0.0035	2.035	26997.18	44587.13	44587.13	5.02	No	Si
SLU 83	0.15	-1946.98	-62627	-0.0001219	0.0004492	0.0035	2.035	28056.97	42965.18	42965.18	22.07	No	Si
SLU 82	-1.95	-8915.57	-67879	-0.0001774	0.0004492	0.0035	2.035	27168.12	44381.3	44381.3	4.98	No	Si
SLU 82	0.15	-1887.27	-61977	-0.0001202	0.0004492	0.0035	2.035	28132.17	42789.73	42789.73	22.67	No	Si
SLU 73	-1.95	-8621.71	-65222	-0.0001691	0.0004492	0.0035	2.035	27680.49	43664.87	43664.87	5.06	No	Si
SLU 73	0.15	-1740.13	-59412	-0.0001141	0.0004492	0.0035	2.035	28353.61	42081.62	42081.62	24.18	No	Si
SLU 84	-1.95	-8966.96	-68577	-0.0001794	0.0004492	0.0035	2.035	27012.18	44569.57	44569.57	4.97	No	Si
SLU 84	0.15	-1897.94	-62704	-0.0001218	0.0004492	0.0035	2.035	28047.58	42985.91	42985.91	22.65	No	Si
SLU 77	-1.95	-8610.04	-67106	-0.0001735	0.0004492	0.0035	2.035	27330.48	44172.8	44172.8	5.13	No	Si
SLU 77	0.15	-1849.65	-61120	-0.0001182	0.0004492	0.0035	2.035	28219.46	42558.68	42558.68	23.01	No	Si
SLU 80	-1.95	-8663.41	-66662	-0.0001728	0.0004492	0.0035	2.035	27418.77	44053.11	44053.11	5.08	No	Si
SLU 80	0.15	-1794.16	-60816	-0.0001173	0.0004492	0.0035	2.035	28247.21	42476.75	42476.75	23.67	No	Si
SLU 76	-1.95	-8673.09	-65920	-0.0001711	0.0004492	0.0035	2.035	27558.28	43853.13	43853.13	5.06	No	Si
SLU 76	0.15	-1750.8	-60140	-0.0001156	0.0004492	0.0035	2.035	28302.94	42294.4	42294.4	24.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.95	-15370.92	-45762	-0.0001562	0.0006738	0.0035	2.035		39749.31	39749.31	2.59		Si
SLV 10	0.15	2049.21	-45904	-0.0000861	0.0006738	0.0035	2.035		38132.98	38132.98	18.61		Si
SLV 9	-1.95	-15211.54	-45756	-0.0001553	0.0006738	0.0035	2.035		39745.91	39745.91	2.61		Si
SLV 9	0.15	1912.63	-45795	-0.0000852	0.0006738	0.0035	2.035		38070.99	38070.99	19.91		Si
SLV 16	-1.95	-15897.5	-57556	-0.0001828	0.0006738	0.0035	2.035		46683.28	46683.28	2.94		Si
SLV 16	0.15	-1387.27	-34531	-0.000063	0.0006738	0.0035	2.035		32072.02	32072.02	23.12		Si
SLD 13	-1.95	-14327.14	-52115	-0.0001631	0.0006738	0.0035	2.035		43616.21	43616.21	3.04		Si
SLD 13	0.15	-353.42	-39038	-0.0000655	0.0006738	0.0035	2.035		35262.39	35262.39	99.77		Si
SLV 15	-1.95	-15660.74	-57548	-0.0001815	0.0006738	0.0035	2.035		46678.9	46678.9	2.98		Si
SLV 15	0.15	-1590.17	-34370	-0.0000637	0.0006738	0.0035	2.035		31952.29	31952.29	20.09		Si
SLD 10	-1.95	-11663.46	-45920	-0.0001366	0.0006738	0.0035	2.035		39846.93	39846.93	3.42		Si
SLD 10	0.15	708.36	-43786	-0.0000755	0.0006738	0.0035	2.035		36803.73	36803.73	51.96		Si
SLV 13	-1.95	-19179.81	-55619	-0.0001975	0.0006738	0.0035	2.035		45633.05	45633.05	2.38		Si
SLV 13	0.15	213.14	-38129	-0.0000632	0.0006738	0.0035	2.035		32637.37	32637.37	153.13		Si
SLD 14	-1.95	-14477.34	-52120	-0.0001639	0.0006738	0.0035	2.035		43619.2	43619.2	3.01		Si
SLD 14	0.15	-224.7	-39141	-0.000065	0.0006738	0.0035	2.035		35334.11	35334.11	157.25		Si
SLV 14	-1.95	-19416.57	-55627	-0.000199	0.0006738	0.0035	2.035		45637.77	45637.77	2.35		Si
SLV 14	0.15	416.04	-38291	-0.0000645	0.0006738	0.0035	2.035		32756.35	32756.35	78.73		Si
SLD 9	-1.95	-11566.75	-45917	-0.000136	0.0006738	0.0035	2.035		39844.87	39844.87	3.44		Si
SLD 9	0.15	625.48	-43720	-0.000075	0.0006738	0.0035	2.035		36755.12	36755.12	58.76		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	-8650.26	-66342	-53074	-10674	2.035	2.035	-57957	10833	20598	81562	32910	10379	43288	No	4.06	Si
SLU 75	0.15	-1789.94	-60469	-48375	3382	2.035	2.035	-52826	10833	19138	81562	32910	10379	43288	No	12.8	Si
SLU 81	-1.95	-8823.96	-67944	-54355	-10942	2.035	2.035	-59356	10833	20996	81562	32910	10379	43288	No	3.96	Si
SLU 81	0.15	-1936.31	-61900	-49520	3507	2.035	2.035	-54076	10833	19493	81562	32910	10379	43288	No	12.34	Si
SLU 78	-1.95	-8701.64	-67040	-53632	-10749	2.035	2.035	-58567	10833	20771	81562	32910	10379	43288	No	4.03	Si
SLU 78	0.15	-1800.61	-61197	-48957	3453	2.035	2.035	-53462	10833	19319	81562	32910	10379	43288	No	12.54	Si
SLU 84	-1.95	-8966.96	-68577	-54862	-11013	2.035	2.035	-59909	10833	21153	81562	32910	10379	43288	No	3.93	Si
SLU 84	0.15	-1897.94	-62704	-50163	3584	2.035	2.035	-54778	10833	19693	81562	32910	10379	43288	No	12.08	Si
SLU 82	-1.95	-8915.57	-67879	-54303	-10938	2.035	2.035	-59299	10833	20979	81562	32910	10379	43288	No	3.96	Si
SLU 82	0.15	-1887.27	-61977	-49581	3513	2.035	2.035	-54143	10833	19513	81562	32910	10379	43288	No	12.32	Si
SLU 79	-1.95	-8571.81	-66727	-53382	-10700	2.035	2.035	-58293	10833	20693	81562	32910	10379	43288	No	4.05	Si
SLU 79	0.15	-1843.21	-60739	-48591	3418	2.035	2.035	-53062	10833	19205	81562	32910	10379	43288	No	12.66	Si
SLU 80	-1.95	-8663.41	-66662	-53329	-10695	2.035	2.035	-58236	10833	20677	81562	32910	10379	43288	No	4.05	Si
SLU 80	0.15	-1794.16	-60816	-48653	3425	2.035	2.035	-53129	10833	19224	81562	32910	10379	43288	No	12.64	Si
SLU 77	-1.95	-8610.04	-67106	-53685	-10753	2.035	2.035	-58624	10833	20787	81562	32910	10379	43288	No	4.03	Si
SLU 77	0.15	-1849.65	-61120	-48896	3446	2.035	2.035	-53394	10833	19300	81562	32910	10379	43288	No	12.56	Si
SLU 83	-1.95	-8875.35	-68642	-54914	-11017	2.035	2.035	-59966	10833	21169	81562	32910	10379	43288	No	3.93	Si
SLU 83	0.15	-1946.98	-62627	-50102	3577	2.035	2.035	-54711	10833	19674	81562	32910	10379	43288	No	12.1	Si
SLU 74	-1.95	-8558.65	-66407	-53126	-10678	2.035	2.035	-58014	10833	20614	81562	32910	10379	43288	No	4.05	Si
SLU 74	0.15	-1838.98	-60392	-48314	3375	2.035	2.035	-52759	10833	19119	81562	32910	10379	43288	No	12.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-1.95	-15660.74	-57548	-46038	-22200	2.035	2.035	-50274	16250	20466	81562	49365	10379	59743		2.69	Si
SLV 15	0.15	-1590.17	-34370	-27496	-9582	2.035	2.035	-30025	16250	14881	81562	49365	10379	59743		6.23	Si
SLD 13	-1.95	-14327.14	-52115	-41692	-16750	2.035	2.035	-45527	16250	19116	81562	49365	10379	59743		3.57	Si
SLD 13	0.15	-353.42	-39038	-31231	-5116	2.035	2.035	-34104	16250	15866	81562	49365	10379	59743		11.68	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-1.95	3998.86	-33865	-27092	7306	2.035	2.035	-29585	16250	14881	81562	49365	10379	59743		8.18	Si
SLV 1	0.15	-1036.94	-47426	-37940	13889	2.035	2.035	-41431	16250	17950	81562	49365	10379	59743		4.3	Si
SLV 2	-1.95	3762.1	-33873	-27099	7188	2.035	2.035	-29592	16250	14881	81562	49365	10379	59743		8.31	Si
SLV 2	0.15	-834.04	-47587	-38070	13732	2.035	2.035	-41572	16250	17991	81562	49365	10379	59743		4.35	Si
SLV 13	-1.95	-19179.81	-55619	-44495	-21932	2.035	2.018	-48589	16250	19987	81562	49365	10379	59743		2.72	Si
SLV 13	0.15	213.14	-38129	-30503	-9146	2.035	2.035	-33309	16250	15640	81562	49365	10379	59743		6.53	Si
SLD 14	-1.95	-14477.34	-52120	-41696	-16826	2.035	2.035	-45532	16250	19117	81562	49365	10379	59743		3.55	Si
SLD 14	0.15	-224.7	-39141	-31313	-5216	2.035	2.035	-34193	16250	15891	81562	49365	10379	59743		11.45	Si
SLD 16	-1.95	-12413.67	-53250	-42600	-16982	2.035	2.035	-46519	16250	19398	81562	49365	10379	59743		3.52	Si
SLD 16	0.15	-1281.04	-36938	-29550	-5472	2.035	2.035	-32269	16250	15344	81562	49365	10379	59743		10.92	Si
SLV 14	-1.95	-19416.57	-55627	-44502	-22051	2.035	2.0054	-48596	16250	19989	81562	49365	10379	59743		2.71	Si
SLV 14	0.15	416.04	-38291	-30632	-9304	2.035	2.035	-33451	16250	15680	81562	49365	10379	59743		6.42	Si
SLD 15	-1.95	-12263.46	-53245	-42596	-16906	2.035	2.035	-46515	16250	19397	81562	49365	10379	59743		3.53	Si
SLD 15	0.15	-1409.76	-36835	-29468	-5372	2.035	2.035	-32179	16250	15318	81562	49365	10379	59743		11.12	Si
SLV 16	-1.95	-15897.5	-57556	-46045	-22318	2.035	2.035	-50281	16250	20468	81562	49365	10379	59743		2.68	Si
SLV 16	0.15	-1387.27	-34531	-27625	-9740	2.035	2.035	-30166	16250	14881	81562	49365	10379	59743		6.13	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-35394	0.24	119.83	6284.3	8487.63	7385.96	61.63	Si
SLV 8	-35455	0.24	119.83	6292.19	8500.29	7396.24	61.72	Si
SLV 3	-35766	0.24	119.83	6332.51	8565.21	7448.86	62.16	Si
SLV 4	-35856	0.24	119.83	6344.14	8584.02	7464.08	62.29	Si
SLV 11	-36577	0.24	119.83	6436.26	8733.99	7585.12	63.3	Si
SLV 12	-36637	0.24	119.83	6443.96	8745.99	7594.97	63.38	Si
SLV 1	-37280	0.24	119.83	6524.89	8873.12	7699	64.25	Si
SLV 2	-37370	0.24	119.83	6536.15	8890.95	7713.55	64.37	Si
SLV 15	-39707	0.24	119.83	6820.52	9353.2	8086.86	67.48	Si
SLV 16	-39798	0.24	119.83	6831.2	9371.03	8101.12	67.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-47989	-39236	-56	0.316	5224.4	0.98	4.69308	2.57112	Si
SLV 5	-47786	-39230	-59	0.317	5203.7	0.98	4.70649	2.57112	Si
SLV 2	-44284	-33873	-62	0.335	4847	0.978	4.97156	2.70061	Si
SLV 1	-43983	-33865	-66	0.336	4816.3	0.978	4.995	2.70061	Si
SLV 10	-45803	-45762	-25	0.328	5001.8	0.979	4.86252	2.57112	Si
SLV 9	-45600	-45756	-28	0.329	4981.1	0.979	4.87728	2.57112	Si
SLV 4	-38881	-35802	-37	0.368	4296.6	0.976	5.48181	2.70061	Si
SLV 3	-38580	-35794	-41	0.37	4265.9	0.976	5.51228	2.70061	Si
SLV 14	-37000	-55627	39	0.382	4104.9	0.975	5.68902	2.70061	Si
SLV 13	-36698	-55619	35	0.384	4074.2	0.974	5.72598	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.97	SLU 84	Si
V_SLU	3.929	SLU 83	Si
PF_SLV	2.35	SLV 14	Si
V_SLV	2.677	SLV 16	Si
PFFP_SLV	61.635	SLV 7	Si
R_SLV	1.825	SLV 6	Si

Maschio 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.988	1.141	-6.528	1.141	L2	L4	0.54	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.95	696.19	-18434	-0.0001877	0.0004492	0.0035	0.54	1887.1	3105.25	3105.25	4.46	No	Si
SLU 78	0.15	-838.2	-25658	-0.0002828	0.0004492	0.0035	0.54	941.07	3347.56	3347.56	3.99	No	Si
SLU 75	-1.95	689.65	-18247	-0.0001853	0.0004492	0.0035	0.54	1899	3094.15	3094.15	4.49	No	Si
SLU 75	0.15	-829.12	-25393	-0.0002782	0.0004492	0.0035	0.54	992.57	3346.11	3346.11	4.04	No	Si
SLU 84	-1.95	711.58	-18834	-0.000193	0.0004492	0.0035	0.54	1859.57	3128.92	3128.92	4.4	No	Si
SLU 84	0.15	-856.47	-26312	-0.000294	0.0004492	0.0035	0.54	808.7	3334.68	3334.68	3.89	No	Si
SLU 77	-1.95	705.11	-18508	-0.0001893	0.0004492	0.0035	0.54	1882.24	3109.61	3109.61	4.41	No	Si
SLU 77	0.15	-837.61	-25583	-0.0002817	0.0004492	0.0035	0.54	955.72	3347.15	3347.15	4	No	Si
SLU 82	-1.95	705.03	-18646	-0.0001906	0.0004492	0.0035	0.54	1872.84	3117.82	3117.82	4.42	No	Si
SLU 82	0.15	-847.39	-26046	-0.0002892	0.0004492	0.0035	0.54	863.35	3343.43	3343.43	3.95	No	Si
SLU 83	-1.95	720.5	-18907	-0.0001945	0.0004492	0.0035	0.54	1854.18	3133.29	3133.29	4.35	No	Si
SLU 83	0.15	-855.88	-26237	-0.0002929	0.0004492	0.0035	0.54	824.24	3337.14	3337.14	3.9	No	Si
SLU 79	-1.95	700.61	-18401	-0.0001878	0.0004492	0.0035	0.54	1889.25	3103.28	3103.28	4.43	No	Si
SLU 79	0.15	-832.44	-25434	-0.0002791	0.0004492	0.0035	0.54	984.7	3346.33	3346.33	4.02	No	Si
SLU 74	-1.95	698.57	-18320	-0.0001869	0.0004492	0.0035	0.54	1894.39	3098.52	3098.52	4.44	No	Si
SLU 74	0.15	-828.53	-25318	-0.0002771	0.0004492	0.0035	0.54	1006.85	3345.7	3345.7	4.04	No	Si
SLU 80	-1.95	691.69	-18327	-0.0001863	0.0004492	0.0035	0.54	1893.97	3098.92	3098.92	4.48	No	Si
SLU 80	0.15	-833.03	-25509	-0.0002802	0.0004492	0.0035	0.54	970.26	3346.74	3346.74	4.02	No	Si
SLU 81	-1.95	713.95	-18720	-0.0001921	0.0004492	0.0035	0.54	1867.69	3122.19	3122.19	4.37	No	Si
SLU 81	0.15	-846.8	-25972	-0.0002881	0.0004492	0.0035	0.54	878.53	3345.9	3345.9	3.95	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	2280.67	-13999	-0.0003454	0.0006738	0.0035	0.54		2958.05	2958.05	1.3		Si
SLV 3	0.15	-1960.14	-14082	-0.0002698	0.0006738	0.0035	0.54		3097.76	3097.76	1.58		Si
SLV 1	-1.95	2009.61	-11548	-0.0003101	0.0006738	0.0035	0.54		2576.41	2576.41	1.28		Si
SLV 1	0.15	-2004.75	-17075	-0.000283	0.0006738	0.0035	0.54		3488.23	3488.23	1.74		Si
SLV 13	-1.95	-1289.88	-11512	-0.0001712	0.0006738	0.0035	0.54		2675.6	2675.6	2.07		Si
SLV 13	0.15	826.08	-20205	-0.000198	0.0006738	0.0035	0.54		3775.93	3775.93	4.57		Si
SLV 2	-1.95	1971.88	-11297	-0.0003036	0.0006738	0.0035	0.54		2537.44	2537.44	1.29		Si
SLV 2	0.15	-2001.12	-17390	-0.0002841	0.0006738	0.0035	0.54		3526.3	3526.3	1.76		Si
SLD 1	-1.95	1464.29	-11998	-0.0001932	0.0006738	0.0035	0.54		2646.55	2646.55	1.81		Si
SLD 1	0.15	-1484.99	-17074	-0.0002272	0.0006738	0.0035	0.54		3488.02	3488.02	2.35		Si
SLD 4	-1.95	1599.41	-13277	-0.0002145	0.0006738	0.0035	0.54		2845.68	2845.68	1.78		Si
SLD 4	0.15	-1456.62	-15518	-0.0002125	0.0006738	0.0035	0.54		3299.54	3299.54	2.27		Si
SLV 14	-1.95	-1327.61	-11262	-0.0001742	0.0006738	0.0035	0.54		2632.54	2632.54	1.98		Si
SLV 14	0.15	829.71	-20519	-0.0002009	0.0006738	0.0035	0.54		3810.44	3810.44	4.59		Si
SLD 3	-1.95	1623.35	-13436	-0.0002181	0.0006738	0.0035	0.54		2870.4	2870.4	1.77		Si
SLD 3	0.15	-1458.92	-15319	-0.0002113	0.0006738	0.0035	0.54		3275.39	3275.39	2.25		Si
SLV 4	-1.95	2242.94	-13749	-0.0003382	0.0006738	0.0035	0.54		2919.08	2919.08	1.3		Si
SLV 4	0.15	-1956.51	-14396	-0.0002689	0.0006738	0.0035	0.54		3145.42	3145.42	1.61		Si
SLD 2	-1.95	1440.36	-11839	-0.0001897	0.0006738	0.0035	0.54		2621.82	2621.82	1.82		Si
SLD 2	0.15	-1482.69	-17273	-0.0002287	0.0006738	0.0035	0.54		3512.18	3512.18	2.37		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	-1.95	705.11	-18508	-14806	787	0.54	0.54	-60931	10833	4884	81562	8733	2754	11487	No	14.59	Si
SLU 77	0.15	-837.61	-25583	-20467	664	0.54	0.54	-84225	10833	6393	81562	8733	2754	11487	No	17.29	Si
SLU 82	-1.95	705.03	-18646	-14917	793	0.54	0.54	-61387	10833	4914	81562	8733	2754	11487	No	14.49	Si
SLU 82	0.15	-847.39	-26046	-20837	668	0.54	0.54	-85750	10833	6492	81562	8733	2754	11487	No	17.2	Si
SLU 79	-1.95	700.61	-18401	-14721	782	0.54	0.54	-60579	10833	4861	81562	8733	2754	11487	No	14.68	Si
SLU 79	0.15	-832.44	-25434	-20347	660	0.54	0.54	-83733	10833	6362	81562	8733	2754	11487	No	17.4	Si
SLU 78	-1.95	696.19	-18434	-14747	783	0.54	0.54	-60688	10833	4868	81562	8733	2754	11487	No	14.66	Si
SLU 78	0.15	-838.2	-25658	-20527	660	0.54	0.54	-84472	10833	6409	81562	8733	2754	11487	No	17.4	Si
SLU 81	-1.95	713.95	-18720	-14976	797	0.54	0.54	-61630	10833	4929	81562	8733	2754	11487	No	14.42	Si
SLU 81	0.15	-846.8	-25972	-20777	672	0.54	0.54	-85504	10833	6476	81562	8733	2754	11487	No	17.1	Si
SLU 84	-1.95	711.58	-18834	-15067	801	0.54	0.54	-62003	10833	4953	81562	8733	2754	11487	No	14.35	Si
SLU 84	0.15	-856.47	-26312	-21049	675	0.54	0.54	-86623	10833	6549	81562	8733	2754	11487	No	17.03	Si
SLU 75	-1.95	689.65	-18247	-14597	775	0.54	0.54	-60072	10833	4828	81562	8733	2754	11487	No	14.81	Si
SLU 75	0.15	-829.12	-25393	-20314	654	0.54	0.54	-83599	10833	6353	81562	8733	2754	11487	No	17.58	Si
SLU 80	-1.95	691.69	-18327	-14662	778	0.54	0.54	-60336	10833	4845	81562	8733	2754	11487	No	14.76	Si
SLU 80	0.15	-833.03	-25509	-20407	656	0.54	0.54	-83979	10833	6377	81562	8733	2754	11487	No	17.51	Si
SLU 74	-1.95	698.57	-18320	-14656	779	0.54	0.54	-60314	10833	4844	81562	8733	2754	11487	No	14.74	Si
SLU 74	0.15	-828.53	-25318	-20255	658	0.54	0.54	-83353	10833	6337	81562	8733	2754	11487	No	17.47	Si
SLU 83	-1.95	720.5	-18907	-15126	805	0.54	0.54	-62246	10833	4969	81562	8733	2754	11487	No	14.28	Si
SLU 83	0.15	-855.88	-26237	-20989	679	0.54	0.54	-86377	10833	6533	81562	8733	2754	11487	No	16.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	-1.95	1971.88	-11297	-9038	1943	0.54	0.2864	-37193	16250	3814	81562	13099	2754	15853		8.16	Si
SLV 2	0.15	-2001.12	-17390	-13912	1820	0.54	0.4648	-69037	16250	5113	81562	13099	2754	15853		8.71	Si
SLD 1	-1.95	1464.29	-11998	-9599	1447	0.54	0.4439	-39500	16250	3963	81562	13099	2754	15853		10.96	Si
SLD 1	0.15	-1484.99	-17074	-13659	1344	0.54	0.54	-56210	16250	5046	81562	13099	2754	15853		11.8	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	-1.95	1440.36	-11839	-9471	1435	0.54	0.445	-38977	16250	3929	81562	13099	2754	15853		11.05	Si
SLD 2	0.15	-1482.69	-17273	-13818	1331	0.54	0.54	-56866	16250	5089	81562	13099	2754	15853		11.91	Si
SLD 3	-1.95	1623.35	-13436	-10749	1505	0.54	0.4475	-44235	16250	4270	81562	13099	2754	15853		10.53	Si
SLD 3	0.15	-1458.92	-15319	-12255	1411	0.54	0.5243	-50433	16250	4672	81562	13099	2754	15853		11.24	Si
SLV 8	-1.95	1410.52	-16638	-13310	1134	0.54	0.54	-54774	16250	4953	81562	13099	2754	15853		13.98	Si
SLV 8	0.15	-914.27	-11948	-9559	1062	0.54	0.54	-39335	16250	3953	81562	13099	2754	15853		14.92	Si
SLV 1	-1.95	2009.61	-11548	-9238	1962	0.54	0.2879	-38017	16250	3867	81562	13099	2754	15853		8.08	Si
SLV 1	0.15	-2004.75	-17075	-13660	1840	0.54	0.4578	-68808	16250	5046	81562	13099	2754	15853		8.62	Si
SLD 4	-1.95	1599.41	-13277	-10622	1493	0.54	0.4486	-43712	16250	4236	81562	13099	2754	15853		10.62	Si
SLD 4	0.15	-1456.62	-15518	-12415	1398	0.54	0.5284	-51089	16250	4714	81562	13099	2754	15853		11.34	Si
SLV 4	-1.95	2242.94	-13749	-10999	2043	0.54	0.3206	-45264	16250	4337	81562	13099	2754	15853		7.76	Si
SLV 4	0.15	-1956.51	-14396	-11517	1934	0.54	0.4023	-65886	16250	4475	81562	13099	2754	15853		8.2	Si
SLV 7	-1.95	1435.92	-16806	-13445	1146	0.54	0.54	-55329	16250	4989	81562	13099	2754	15853		13.83	Si
SLV 7	0.15	-916.71	-11737	-9389	1076	0.54	0.54	-38639	16250	3949	81562	13099	2754	15853		14.74	Si
SLV 3	-1.95	2280.67	-13999	-11199	2062	0.54	0.3213	-46088	16250	4390	81562	13099	2754	15853		7.69	Si
SLV 3	0.15	-1960.14	-14082	-11266	1953	0.54	0.3924	-66075	16250	4408	81562	13099	2754	15853		8.12	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-13305	0.24	31.8	2099.34	2982.58	2540.96	79.91	Si
SLV 8	-13361	0.24	31.8	2104.39	2992.01	2548.2	80.14	Si
SLV 3	-13459	0.24	31.8	2113.16	3008.52	2560.84	80.53	Si
SLV 4	-13542	0.24	31.8	2120.51	3022.43	2571.47	80.87	Si
SLV 11	-13821	0.24	31.8	2144.66	3069.01	2606.83	81.98	Si
SLV 12	-13876	0.24	31.8	2149.42	3078.36	2613.89	82.2	Si
SLV 1	-14118	0.24	31.8	2169.6	3118.77	2644.18	83.15	Si
SLV 2	-14201	0.24	31.8	2176.4	3132.66	2654.53	83.48	Si
SLV 15	-15177	0.24	31.8	2251.12	3288.87	2770	87.11	Si
SLV 16	-15260	0.24	31.8	2257.04	3301.92	2779.48	87.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-14136	-11297	5	0.295	1529.1	0.982	4.36953	2.70061	Si
SLV 1	-13910	-11548	4	0.298	1506.1	0.981	4.41921	2.70061	Si
SLV 6	-14798	-8465	-18	0.285	1596.6	0.982	4.22019	2.57112	Si
SLV 5	-14646	-8634	-18	0.287	1581.1	0.982	4.25021	2.57112	Si
SLV 10	-13828	-8455	-24	0.298	1497.8	0.981	4.41789	2.57112	Si
SLV 9	-13676	-8623	-24	0.301	1482.3	0.981	4.45213	2.57112	Si
SLV 4	-12567	-13749	18	0.319	1369.3	0.98	4.73446	2.70061	Si
SLV 3	-12341	-13999	18	0.323	1346.3	0.979	4.79678	2.70061	Si
SLV 14	-10902	-11262	-15	0.353	1199.7	0.977	5.25471	2.70061	Si
SLV 13	-10677	-11512	-15	0.359	1176.7	0.976	5.33654	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.894	SLU 84	Si
V_SLU	14.278	SLU 83	Si
PF_SLV	1.282	SLV 1	Si
V_SLV	7.688	SLV 3	Si
PFFP_SLV	79.908	SLV 7	Si
R_SLV	1.618	SLV 2	Si

Maschio 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-5.088	1.141	L2	L4	4.965	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.95	-3845.37	-192634	-0.0001492	0.0004492	0.0035	4.965	140773.43	277923.41	277923.41	72.27	No	Si
SLU 82	0.15	23398.38	-147179	-0.000129	0.0004492	0.0035	4.965	168391.81	245517.86	245517.86	10.49	No	Si
SLU 80	-1.95	-4008.14	-189027	-0.000146	0.0004492	0.0035	4.965	144337.95	276909.82	276909.82	69.09	No	Si
SLU 80	0.15	22918.47	-143881	-0.0001257	0.0004492	0.0035	4.965	168933.48	242369.79	242369.79	10.58	No	Si
SLU 84	-1.95	-3899.35	-194430	-0.0001509	0.0004492	0.0035	4.965	138911.25	278427.85	278427.85	71.4	No	Si
SLU 84	0.15	23688.75	-148637	-0.0001306	0.0004492	0.0035	4.965	168089.25	246909.75	246909.75	10.42	No	Si
SLU 76	-1.95	-3944.11	-187213	-0.0001443	0.0004492	0.0035	4.965	146040.96	276400.13	276400.13	70.08	No	Si
SLU 76	0.15	22666.11	-142420	-0.0001242	0.0004492	0.0035	4.965	169110.15	240975.86	240975.86	10.63	No	Si
SLU 83	-1.95	-3914.43	-194458	-0.0001509	0.0004492	0.0035	4.965	138881.71	278435.72	278435.72	71.13	No	Si
SLU 83	0.15	23631.72	-148640	-0.0001305	0.0004492	0.0035	4.965	168088.54	246912.81	246912.81	10.45	No	Si
SLU 79	-1.95	-4023.22	-189055	-0.0001461	0.0004492	0.0035	4.965	144311.17	276917.7	276917.7	68.83	No	Si
SLU 79	0.15	22861.44	-143884	-0.0001256	0.0004492	0.0035	4.965	168933.05	242372.85	242372.85	10.6	No	Si
SLU 81	-1.95	-3860.45	-192662	-0.0001492	0.0004492	0.0035	4.965	140744.8	277931.29	277931.29	71.99	No	Si
SLU 81	0.15	23341.35	-147182	-0.000129	0.0004492	0.0035	4.965	168391.19	245520.92	245520.92	10.52	No	Si
SLU 77	-1.95	-4072.55	-190137	-0.0001471	0.0004492	0.0035	4.965	143266.69	277221.6	277221.6	68.07	No	Si
SLU 77	0.15	22971.6	-144754	-0.0001265	0.0004492	0.0035	4.965	168809.33	243203.21	243203.21	10.59	No	Si
SLU 75	-1.95	-4003.49	-188313	-0.0001454	0.0004492	0.0035	4.965	145015.12	276709.29	276709.29	69.12	No	Si
SLU 75	0.15	22738.26	-143292	-0.000125	0.0004492	0.0035	4.965	169009.32	241808.25	241808.25	10.63	No	Si
SLU 78	-1.95	-4057.47	-190109	-0.0001471	0.0004492	0.0035	4.965	143294.03	277213.73	277213.73	68.32	No	Si
SLU 78	0.15	23028.63	-144751	-0.0001266	0.0004492	0.0035	4.965	168809.82	243200.14	243200.14	10.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	33759.28	-96666	-0.0000936	0.0006738	0.0035	4.965		200935.12	200935.12	5.95		Si
SLV 3	0.15	7461.49	-68506	-0.0000514	0.0006738	0.0035	4.965		149815.03	149815.03	20.08		Si
SLV 14	-1.95	-39848.26	-163404	-0.0001504	0.0006738	0.0035	4.965		305853.9	305853.9	7.68		Si
SLV 14	0.15	23131.76	-126736	-0.0001066	0.0006738	0.0035	4.965		247318.7	247318.7	10.69		Si
SLD 2	-1.95	21493.65	-108789	-0.0000918	0.0006738	0.0035	4.965		222079.77	222079.77	10.33		Si
SLD 2	0.15	12102.64	-79865	-0.0000631	0.0006738	0.0035	4.965		170435.88	170435.88	14.08		Si
SLV 1	-1.95	35458.09	-96973	-0.0000953	0.0006738	0.0035	4.965		201491.63	201491.63	5.68		Si
SLV 1	0.15	10065.85	-69807	-0.0000544	0.0006738	0.0035	4.965		152176.46	152176.46	15.12		Si
SLV 2	-1.95	35454.21	-96933	-0.0000952	0.0006738	0.0035	4.965		201418.99	201418.99	5.68		Si
SLV 2	0.15	10450.8	-69910	-0.0000548	0.0006738	0.0035	4.965		152364.16	152364.16	14.58		Si
SLV 4	-1.95	33755.4	-96626	-0.0000935	0.0006738	0.0035	4.965		200862.48	200862.48	5.95		Si
SLV 4	0.15	7846.44	-68609	-0.0000518	0.0006738	0.0035	4.965		150002.72	150002.72	19.12		Si
SLV 13	-1.95	-39844.38	-163444	-0.0001504	0.0006738	0.0035	4.965		305892.53	305892.53	7.68		Si
SLV 13	0.15	22746.81	-126632	-0.0001062	0.0006738	0.0035	4.965		247173.29	247173.29	10.87		Si
SLV 16	-1.95	-41547.07	-163097	-0.0001517	0.0006738	0.0035	4.965		305557.91	305557.91	7.35		Si
SLV 16	0.15	20527.41	-125435	-0.0001033	0.0006738	0.0035	4.965		245489.23	245489.23	11.96		Si
SLV 15	-1.95	-41543.19	-163137	-0.0001518	0.0006738	0.0035	4.965		305596.54	305596.54	7.36		Si
SLV 15	0.15	20142.45	-125331	-0.0001029	0.0006738	0.0035	4.965		245343.82	245343.82	12.18		Si
SLV 10	-1.95	-11509.81	-140503	-0.0001066	0.0006738	0.0035	4.965		279227.59	279227.59	24.26		Si
SLV 10	0.15	21668.93	-108347	-0.0000917	0.0006738	0.0035	4.965		221458.01	221458.01	10.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	-3860.45	-192662	-154130	26620	4.965	4.965	-68985	10833	74556	81562	80293	25322	105615	No	3.97	Si
SLU 81	0.15	23341.35	-147182	-117745	27101	4.965	4.965	-52700	10833	60003	81562	80293	25322	105615	No	3.9	Si
SLU 79	-1.95	-4023.22	-189055	-151244	26410	4.965	4.965	-67693	10833	73402	81562	80293	25322	105615	No	4	Si
SLU 79	0.15	22861.44	-143884	-115107	26884	4.965	4.965	-51519	10833	58948	81562	80293	25322	105615	No	3.93	Si
SLU 80	-1.95	-4008.14	-189027	-151222	26360	4.965	4.965	-67683	10833	73393	81562	80293	25322	105615	No	4.01	Si
SLU 80	0.15	22918.47	-143881	-115105	26835	4.965	4.965	-51518	10833	58947	81562	80293	25322	105615	No	3.94	Si
SLU 78	-1.95	-4057.47	-190109	-152087	26533	4.965	4.965	-68071	10833	73739	81562	80293	25322	105615	No	3.98	Si
SLU 78	0.15	23028.63	-144751	-115800	27010	4.965	4.965	-51830	10833	59225	81562	80293	25322	105615	No	3.91	Si
SLU 74	-1.95	-4018.57	-188341	-150673	26351	4.965	4.965	-67438	10833	73174	81562	80293	25322	105615	No	4.01	Si
SLU 74	0.15	22681.23	-143296	-114637	26823	4.965	4.965	-51309	10833	58759	81562	80293	25322	105615	No	3.94	Si
SLU 83	-1.95	-3914.43	-194458	-155566	26851	4.965	4.965	-69628	10833	75131	81562	80293	25322	105615	No	3.93	Si
SLU 83	0.15	23631.72	-148640	-118912	27337	4.965	4.965	-53222	10833	60470	81562	80293	25322	105615	No	3.86	Si
SLU 75	-1.95	-4003.49	-188313	-150651	26302	4.965	4.965	-67428	10833	73165	81562	80293	25322	105615	No	4.02	Si
SLU 75	0.15	22738.26	-143292	-114634	26774	4.965	4.965	-51308	10833	58758	81562	80293	25322	105615	No	3.94	Si
SLU 84	-1.95	-3899.35	-194430	-155544	26802	4.965	4.965	-69618	10833	75122	81562	80293	25322	105615	No	3.94	Si
SLU 84	0.15	23688.75	-148637	-118909	27288	4.965	4.965	-53221	10833	60469	81562	80293	25322	105615	No	3.87	Si
SLU 82	-1.95	-3845.37	-192634	-154108	26571	4.965	4.965	-68975	10833	74547	81562	80293	25322	105615	No	3.97	Si
SLU 82	0.15	23398.38	-147179	-117743	27052	4.965	4.965	-52699	10833	60002	81562	80293	25322	105615	No	3.9	Si
SLU 77	-1.95	-4072.55	-190137	-152109	26582	4.965	4.965	-68081	10833	73748	81562	80293	25322	105615	No	3.97	Si
SLU 77	0.15	22971.6	-144754	-115803	27059	4.965	4.965	-51831	10833	59226	81562	80293	25322	105615	No	3.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	-1.95	33759.28	-96666	-77333	34399	4.965	4.965	-34612	16250	50292	81562	120440	25322	131854		3.83	Si
SLV 3	0.15	7461.49	-68506	-54805	34265	4.965	4.965	-24529	16250	41281	81562	120440	25322	122843		3.59	Si
SLV 2	-1.95	35454.21	-96933	-77546	32608	4.965	4.965	-34708	16250	50377	81562	120440	25322	131939		4.05	Si
SLV 2	0.15	10450.8	-69910	-55928	32462	4.965	4.965	-25032	16250	41730	81562	120440	25322	123292		3.8	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-1.95	35458.09	-96973	-77578	32962	4.965	4.965	-34722	16250	50390	81562	120440	25322	131952		4	Si
SLV 1	0.15	10065.85	-69807	-55845	32816	4.965	4.965	-24995	16250	41697	81562	120440	25322	123259		3.76	Si
SLD 1	-1.95	21496.11	-108815	-87052	27835	4.965	4.965	-38962	16250	54179	81562	120440	25322	135741		4.88	Si
SLD 1	0.15	11858.42	-79800	-63840	27910	4.965	4.965	-28573	16250	44895	81562	120440	25322	126457		4.53	Si
SLV 7	-1.95	5420.83	-119567	-95653	25692	4.965	4.965	-42812	16250	57620	81562	120440	25322	139182		5.42	Si
SLV 7	0.15	8924.32	-86894	-69515	25901	4.965	4.965	-31113	16250	47165	81562	120440	25322	128727		4.97	Si
SLD 4	-1.95	20501.05	-108608	-86886	28453	4.965	4.965	-38888	16250	54113	81562	120440	25322	135675		4.77	Si
SLD 4	0.15	10572.74	-79099	-63279	28534	4.965	4.965	-28322	16250	44671	81562	120440	25322	126232		4.42	Si
SLD 2	-1.95	21493.65	-108789	-87032	27611	4.965	4.965	-38953	16250	54171	81562	120440	25322	135733		4.92	Si
SLD 2	0.15	12102.64	-79865	-63892	27684	4.965	4.965	-28597	16250	44916	81562	120440	25322	126478		4.57	Si
SLV 8	-1.95	5418.22	-119540	-95632	25454	4.965	4.965	-42803	16250	57611	81562	120440	25322	139173		5.47	Si
SLV 8	0.15	9183.46	-86964	-69571	25662	4.965	4.965	-31138	16250	47187	81562	120440	25322	128749		5.02	Si
SLV 4	-1.95	33755.4	-96626	-77301	34045	4.965	4.965	-34598	16250	50279	81562	120440	25322	131841		3.87	Si
SLV 4	0.15	7846.44	-68609	-54887	33911	4.965	4.965	-24566	16250	41314	81562	120440	25322	122876		3.62	Si
SLD 3	-1.95	20503.51	-108633	-86906	28677	4.965	4.965	-38897	16250	54121	81562	120440	25322	135683		4.73	Si
SLD 3	0.15	10328.52	-79033	-63227	28759	4.965	4.965	-28299	16250	44650	81562	120440	25322	126211		4.39	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-78080	0.24	292.37	14218.22	19000.67	16609.45	56.81	Si
SLV 4	-78126	0.24	292.37	14224.62	19010.27	16617.45	56.84	Si
SLV 1	-78943	0.24	292.37	14337.96	19180.69	16759.32	57.32	Si
SLV 2	-78989	0.24	292.37	14344.33	19190.29	16767.31	57.35	Si
SLV 7	-97922	0.24	292.37	16763.91	23038.54	19901.23	68.07	Si
SLV 8	-97953	0.24	292.37	16767.55	23044.64	19906.09	68.08	Si
SLV 5	-100800	0.24	292.37	17097.13	23595.31	20346.22	69.59	Si
SLV 6	-100831	0.24	292.37	17100.67	23601.11	20350.89	69.61	Si
SLV 11	-115787	0.24	292.37	18685.72	26346.99	22516.36	77.01	Si
SLV 12	-115818	0.24	292.37	18688.75	26352.48	22520.62	77.03	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-110172	-163404	-18	0.331	12042.4	0.979	4.91863	2.70061	Si
SLV 13	-110054	-163444	-21	0.331	12030.4	0.979	4.92204	2.70061	Si
SLV 16	-108537	-163097	126	0.334	11875.9	0.978	4.95828	2.70061	Si
SLV 15	-108419	-163137	123	0.334	11863.9	0.978	4.96264	2.70061	Si
SLV 10	-96016	-140503	-203	0.364	10600.3	0.976	5.41599	2.57112	Si
SLV 9	-95936	-140530	-205	0.364	10592.2	0.976	5.41901	2.57112	Si
SLV 12	-90567	-139481	278	0.379	10045.3	0.975	5.64683	2.57112	Si
SLV 11	-90488	-139508	275	0.379	10037.2	0.975	5.6509	2.57112	Si
SLV 6	-82264	-120562	-216	0.407	9199.6	0.972	6.08508	2.57112	Si
SLV 5	-82184	-120589	-219	0.407	9191.5	0.972	6.08922	2.57112	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.423	SLU 84	Si
V_SLU	3.863	SLU 83	Si
PF_SLV	5.681	SLV 2	Si
V_SLV	3.585	SLV 3	Si
PFFP_SLV	56.809	SLV 3	Si
R_SLV	1.821	SLV 14	Si

Maschio 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.709	-11.013	-3.381	L2	Z medio 0 cm	1.328	0.3	1.948	1.95	1.947			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.95	7549.61	-38406	-0.001063	0.0003743	0.0035	1.3279	1353.46	8772	8772	1.16	No	Si
SLU 78	0	1091.07	-25771	-0.0001398	0.0003743	0.0035	1.3279	6238.49	9567.92	9567.92	8.77	No	Si
SLU 84	-1.95	7755.46	-39520	-0.0016019	0.0003743	0.0035	1.3279	672	8524.92	8524.92	1.1	No	Si
SLU 84	0	1124.76	-26534	-0.0001452	0.0003743	0.0035	1.3279	6091.91	9668.59	9668.59	8.6	No	Si
SLU 76	-1.95	7478.77	-38201	-0.0009736	0.0003743	0.0035	1.3279	1474.66	8817.48	8817.48	1.18	No	Si
SLU 76	0	1083.25	-25577	-0.0001384	0.0003743	0.0035	1.3279	6272.88	9542.6	9542.6	8.81	No	Si
SLU 75	-1.95	7491.77	-38154	-0.0009737	0.0003743	0.0035	1.3279	1502.23	8827.9	8827.9	1.18	No	Si
SLU 75	0	1085.15	-25582	-0.0001385	0.0003743	0.0035	1.3279	6271.95	9543.3	9543.3	8.79	No	Si
SLU 81	-1.95	7664.98	-38945	-0.0012984	0.0003743	0.0035	1.3279	1028.59	8652.45	8652.45	1.13	No	Si
SLU 81	0	1115.29	-26158	-0.0001427	0.0003743	0.0035	1.3279	6166.57	9618.63	9618.63	8.62	No	Si
SLU 82	-1.95	7697.62	-39268	-0.0014343	0.0003743	0.0035	1.3279	829.98	8580.96	8580.96	1.11	No	Si
SLU 82	0	1118.85	-26344	-0.0001439	0.0003743	0.0035	1.3279	6130.09	9643.35	9643.35	8.62	No	Si
SLU 77	-1.95	7516.97	-38084	-0.0009779	0.0003743	0.0035	1.3279	1542.99	8843.35	8843.35	1.18	No	Si
SLU 77	0	1087.5	-25585	-0.0001386	0.0003743	0.0035	1.3279	6271.47	9543.66	9543.66	8.78	No	Si
SLU 79	-1.95	7482.21	-37916	-0.0009273	0.0003743	0.0035	1.3279	1640.31	8880.48	8880.48	1.19	No	Si
SLU 79	0	1083.22	-25455	-0.0001377	0.0003743	0.0035	1.3279	6293.72	9526.88	9526.88	8.79	No	Si
SLU 83	-1.95	7722.82	-39198	-0.001442	0.0003743	0.0035	1.3279	873.28	8596.45	8596.45	1.11	No	Si
SLU 83	0	1121.2	-26347	-0.000144	0.0003743	0.0035	1.3279	6129.54	9643.72	9643.72	8.6	No	Si
SLU 80	-1.95	7514.85	-38238	-0.0010047	0.0003743	0.0035	1.3279	1452.56	8809.15	8809.15	1.17	No	Si
SLU 80	0	1086.79	-25642	-0.0001389	0.0003743	0.0035	1.3279	6261.54	9551.03	9551.03	8.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.95	7916.82	-49846	-0.0004998	0.0005615	0.0035	1.3279		13599.85	13599.85	1.72		Si
SLV 9	0	924.17	-33492	-0.000164	0.0005615	0.0035	1.3279		13333.81	13333.81	14.43		Si
SLV 12	-1.95	2678.85	-1814	-0.0224003	0.0005615	0.0035	1.0623		1266.81	1266.81	0.47		No
SLV 12	0	491.8	-670	-0.0004246	0.0005615	0.0035	1.0623		534.02	534.02	1.09		Si
SLV 6	-1.95	7644.96	-50951	-0.0005036	0.0005615	0.0035	1.3279		13426.37	13426.37	1.76		Si
SLV 6	0	1057.42	-34673	-0.0001733	0.0005615	0.0035	1.3279		13504.53	13504.53	12.77		Si
SLV 8	-1.95	2422.08	-2681	-0.0110995	0.0005615	0.0035	1.0623		1807.99	1807.99	0.75		No
SLV 8	0	582.14	-1545	-0.0000178	0.0005615	0.0035	1.3279		1096.95	1096.95	1.88		Si
SLV 5	-1.95	7660.04	-50713	-0.0005008	0.0005615	0.0035	1.3279		13464.34	13464.34	1.76		Si
SLV 5	0	1014.51	-34368	-0.0001707	0.0005615	0.0035	1.3279		13460.16	13460.16	13.27		Si
SLD 12	-1.95	3716.81	-11914	-0.0001212	0.0005615	0.0035	1.3279		6742.88	6742.88	1.81		Si
SLD 12	0	597.44	-7627	-0.0000395	0.0005615	0.0035	1.3279		4621.59	4621.59	7.74		Si
SLD 11	-1.95	3725.96	-11769	-0.0001213	0.0005615	0.0035	1.3279		6669.2	6669.2	1.79		Si
SLD 11	0	571.4	-7441	-0.0000383	0.0005615	0.0035	1.3279		4532.53	4532.53	7.93		Si
SLV 11	-1.95	2693.93	-1575	-0.0248287	0.0005615	0.0035	1.0623		1116.06	1116.06	0.41		No
SLV 11	0	448.89	-364	-0.0017455	0.0005615	0.0035	1.0623		335.36	335.36	0.75		No
SLV 7	-1.95	2437.16	-2442	-0.0133639	0.0005615	0.0035	1.0623		1660.32	1660.32	0.68		No
SLV 7	0	539.24	-1240	-0.0000179	0.0005615	0.0035	1.3279		901.25	901.25	1.67		Si
SLV 10	-1.95	7901.73	-50085	-0.0005026	0.0005615	0.0035	1.3279		13563.68	13563.68	1.72		Si
SLV 10	0	967.07	-33797	-0.0001666	0.0005615	0.0035	1.3279		13377.76	13377.76	13.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	-1.95	7516.97	-38084	-32071	7497	1.3279	1.3279	-80504	10833	10050	21410	11929	3386	15315	No	2.04	Si
SLU 77	0	1087.5	-25585	-21545	6296	1.3279	1.3279	-54083	10833	7180	21410	11929	3386	15315	No	2.43	Si
SLU 84	-1.95	7755.46	-39520	-33280	7716	1.3279	1.3279	-83540	10833	10379	21410	11929	3386	15315	No	1.98	Si
SLU 84	0	1124.76	-26534	-22344	6470	1.3279	1.3279	-56089	10833	7398	21410	11929	3386	15315	No	2.37	Si
SLU 80	-1.95	7514.85	-38238	-32201	7472	1.3279	1.3279	-80830	10833	10085	21410	11929	3386	15315	No	2.05	Si
SLU 80	0	1086.79	-25642	-21593	6275	1.3279	1.3279	-54203	10833	7193	21410	11929	3386	15315	No	2.44	Si
SLU 75	-1.95	7491.77	-38154	-32129	7447	1.3279	1.3279	-80651	10833	10066	21410	11929	3386	15315	No	2.06	Si
SLU 75	0	1085.15	-25582	-21543	6249	1.3279	1.3279	-54077	10833	7180	21410	11929	3386	15315	No	2.45	Si
SLU 78	-1.95	7549.61	-38406	-32342	7506	1.3279	1.3279	-81185	10833	10124	21410	11929	3386	15315	No	2.04	Si
SLU 78	0	1091.07	-25771	-21702	6309	1.3279	1.3279	-54477	10833	7223	21410	11929	3386	15315	No	2.43	Si
SLU 79	-1.95	7482.21	-37916	-31929	7463	1.3279	1.3279	-80149	10833	10011	21410	11929	3386	15315	No	2.05	Si
SLU 79	0	1083.22	-25455	-21436	6262	1.3279	1.3279	-53809	10833	7151	21410	11929	3386	15315	No	2.45	Si
SLU 81	-1.95	7664.98	-38945	-32796	7649	1.3279	1.3279	-82325	10833	10247	21410	11929	3386	15315	No	2	Si
SLU 81	0	1115.29	-26158	-22028	6397	1.3279	1.3279	-55294	10833	7312	21410	11929	3386	15315	No	2.39	Si
SLU 74	-1.95	7459.13	-37831	-31858	7439	1.3279	1.3279	-79970	10833	9992	21410	11929	3386	15315	No	2.06	Si
SLU 74	0	1081.59	-25396	-21386	6236	1.3279	1.3279	-53683	10833	7137	21410	11929	3386	15315	No	2.46	Si
SLU 82	-1.95	7697.62	-39268	-33067	7657	1.3279	1.3279	-83006	10833	10321	21410	11929	3386	15315	No	2	Si
SLU 82	0	1118.85	-26344	-22185	6410	1.3279	1.3279	-55689	10833	7355	21410	11929	3386	15315	No	2.39	Si
SLU 83	-1.95	7722.82	-39198	-33009	7707	1.3279	1.3279	-82859	10833	10305	21410	11929	3386	15315	No	1.99	Si
SLU 83	0	1121.2	-26347	-22187	6457	1.3279	1.3279	-55694	10833	7355	21410	11929	3386	15315	No	2.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	7916.82	-49846	-41975	7622	1.3279	1.3279	-105367	16250	13403	21410	17894	3386	21280		2.79	Si
SLV 9	0	924.17	-33492	-28204	6348	1.3279	1.3279	-70797	16250	9649	21410	17894	3386	21280		3.35	Si
SLD 15	-1.95	4990.9	-20980	-17667	6557	1.3279	1.2782	-44349	16250	6777	21410	17894	3386	21280		3.25	Si
SLD 15	0	594.36	-13528	-11392	5321	1.3279	1.3279	-28596	16136	6428	21410	17894	3386	21280		4	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	-1.95	4802.76	-17756	-14952	6897	1.3279	1.1804	-37533	16250	6037	21410	17894	3386	21280		3.09	Si
SLV 16	0	563.16	-11317	-9530	5601	1.3279	1.3279	-23922	15201	6056	21410	17894	3386	21280		3.8	Si
SLD 14	-1.95	5894.73	-29691	-25003	6861	1.3279	1.3279	-62764	16250	8777	21410	17894	3386	21280		3.1	Si
SLD 14	0	718.64	-19638	-16537	5650	1.3279	1.3279	-41512	16250	6474	21410	17894	3386	21280		3.77	Si
SLV 13	-1.95	6392.03	-31882	-26848	8266	1.3279	1.3279	-67394	16250	9279	21410	17894	3386	21280		2.57	Si
SLV 13	0	642	-20801	-17517	6704	1.3279	1.3279	-43971	16250	6736	21410	17894	3386	21280		3.17	Si
SLD 13	-1.95	5908.94	-29466	-24814	7119	1.3279	1.3279	-62288	16250	8725	21410	17894	3386	21280		2.99	Si
SLD 13	0	678.2	-19350	-16295	5814	1.3279	1.3279	-40904	16250	6474	21410	17894	3386	21280		3.66	Si
SLV 10	-1.95	7901.73	-50085	-42177	7349	1.3279	1.3279	-105872	16250	13458	21410	17894	3386	21280		2.9	Si
SLV 10	0	967.07	-33797	-28461	6174	1.3279	1.3279	-71443	16250	9719	21410	17894	3386	21280		3.45	Si
SLV 15	-1.95	4825.17	-17401	-14653	7303	1.3279	1.16	-36783	16250	5955	21410	17894	3386	21280		2.91	Si
SLV 15	0	499.42	-10863	-9148	5859	1.3279	1.3279	-22963	15009	5979	21410	17894	3386	21280		3.63	Si
SLD 9	-1.95	6786.11	-40056	-33732	6639	1.3279	1.3279	-84674	16250	11156	21410	17894	3386	21280		3.21	Si
SLD 9	0	850.88	-26849	-22610	5528	1.3279	1.3279	-56755	16250	8124	21410	17894	3386	21280		3.85	Si
SLV 14	-1.95	6369.63	-32237	-27147	7860	1.3279	1.3279	-68144	16250	9361	21410	17894	3386	21280		2.71	Si
SLV 14	0	705.74	-21255	-17899	6445	1.3279	1.3279	-44931	16250	6840	21410	17894	3386	21280		3.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.977 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	2654	-1057	29.39	155.83	5.3	Si
SLV 12	179667	0.24	3360	-1338	29.39	196.35	6.68	Si
SLV 7	179667	0.24	4845	-1930	29.39	280.3	9.54	Si
SLV 8	179667	0.24	5550	-2211	29.39	319.62	10.88	Si
SLV 15	179667	0.24	32276	-12858	29.39	1521.05	51.76	Si
SLV 16	179667	0.24	33324	-13276	29.39	1556.8	52.97	Si
SLV 3	179667	0.24	39578	-15767	29.39	1752.09	59.62	Si
SLV 4	179667	0.24	40627	-16184	29.39	1781.85	60.63	Si
SLV 6	179667	0.24	97976	-39031	29.39	2098.57	71.41	Si
SLV 5	179667	0.24	97270	-38750	29.39	2110.32	71.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.977 Wa = 0.05 Ta = 0.0211

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-34673	-50951	-87	0.287	3641.6	0.99	4.2101	2.47155	Si
SLV 5	-34368	-50713	-86	0.289	3610.5	0.99	4.23804	2.47155	Si
SLV 10	-33797	-50085	-82	0.292	3552.4	0.99	4.29153	2.47155	Si
SLV 9	-33492	-49846	-80	0.294	3521.2	0.99	4.32094	2.47155	Si
SLV 2	-24174	-35126	-68	0.376	2571.6	0.987	5.54341	2.57352	Si
SLV 1	-23720	-34771	-65	0.382	2525.3	0.986	5.62837	2.57352	Si
SLV 14	-21255	-32237	-51	0.417	2274.1	0.985	6.15195	2.57352	Si
SLV 13	-20801	-31882	-48	0.424	2227.8	0.985	6.26164	2.57352	Si
SLV 4	-14236	-20645	-46	0.577	1558.8	0.978	8.57188	2.57352	Si
SLV 3	-13782	-20290	-43	0.593	1512.6	0.978	8.81322	2.57352	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.099	SLU 84	Si
V_SLU	1.985	SLU 84	Si
PF_SLV	0.414	SLV 11	No
V_SLV	2.574	SLV 13	Si
PFFP_SLV	5.302	SLV 11	Si
R_SLV	1.703	SLV 6	Si

Maschio 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.709	-11.013	-3.381	Z medio 0 cm	L4	1.328	0.3	0.672	0.67	0.673			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

											εlim,conv / ε,CNR DT-200					CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0	2656.87	-26126	-0.0001808	0.0003743	0.0035	1.3279	6172.59	9614.49	9614.49	3.62	No	Si
SLU 84	0.67	-433.43	-26256	-0.0001271	0.0003743	0.0035	1.3279	6147.56	9775.33	9775.33	22.55	No	Si
SLU 77	0	2576.03	-25225	-0.0001727	0.0003743	0.0035	1.3279	6331.81	9497.34	9497.34	3.69	No	Si
SLU 77	0.67	-416.58	-25357	-0.0001216	0.0003743	0.0035	1.3279	6310.27	9668.94	9668.94	23.21	No	Si
SLU 75	0	2557.42	-25203	-0.000172	0.0003743	0.0035	1.3279	6335.44	9494.46	9494.46	3.71	No	Si
SLU 75	0.67	-410.83	-25300	-0.0001211	0.0003743	0.0035	1.3279	6319.6	9662.19	9662.19	23.52	No	Si
SLU 82	0	2639	-25935	-0.000179	0.0003743	0.0035	1.3279	6208.56	9589.36	9589.36	3.63	No	Si
SLU 82	0.67	-433.16	-26054	-0.0001259	0.0003743	0.0035	1.3279	6186.39	9751.41	9751.41	22.51	No	Si
SLU 79	0	2565.57	-25095	-0.0001715	0.0003743	0.0035	1.3279	6352.7	9480.13	9480.13	3.7	No	Si
SLU 79	0.67	-416.17	-25220	-0.0001208	0.0003743	0.0035	1.3279	6332.67	9652.65	9652.65	23.19	No	Si
SLU 81	0	2639.74	-25767	-0.0001779	0.0003743	0.0035	1.3279	6239.31	9567.32	9567.32	3.62	No	Si
SLU 81	0.67	-438.65	-25909	-0.0001252	0.0003743	0.0035	1.3279	6213.53	9734.37	9734.37	22.19	No	Si
SLU 83	0	2657.61	-25958	-0.0001797	0.0003743	0.0035	1.3279	6204.39	9592.31	9592.31	3.61	No	Si
SLU 83	0.67	-438.92	-26110	-0.0001264	0.0003743	0.0035	1.3279	6175.66	9758.07	9758.07	22.23	No	Si
SLU 78	0	2575.29	-25394	-0.0001738	0.0003743	0.0035	1.3279	6304.05	9518.98	9518.98	3.7	No	Si
SLU 78	0.67	-411.1	-25502	-0.0001222	0.0003743	0.0035	1.3279	6285.76	9686.44	9686.44	23.56	No	Si
SLU 80	0	2564.83	-25263	-0.0001726	0.0003743	0.0035	1.3279	6325.66	9502.18	9502.18	3.7	No	Si
SLU 80	0.67	-410.68	-25365	-0.0001215	0.0003743	0.0035	1.3279	6308.8	9670	9670	23.55	No	Si
SLU 74	0	2558.16	-25034	-0.0001709	0.0003743	0.0035	1.3279	6362.14	9471.91	9471.91	3.7	No	Si
SLU 74	0.67	-416.32	-25155	-0.0001204	0.0003743	0.0035	1.3279	6343.15	9644.92	9644.92	23.17	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	0	2033.25	-396	-0.026823	0.0005615	0.0035	1.0623		356.28	356.28	0.18		No
SLV 11	0.67	50.68	-678	-0.0000034	0.0005615	0.0035	1.3279		539.36	539.36	10.64		Si
SLV 16	0	2601.87	-11213	-0.0000907	0.0005615	0.0035	1.3279		6388.14	6388.14	2.46		Si
SLV 16	0.67	-794.87	-12180	-0.0000616	0.0005615	0.0035	1.3279		7337.15	7337.15	9.23		Si
SLV 12	0	1978.4	-698	-0.0227132	0.0005615	0.0035	1.0623		552.55	552.55	0.28		No
SLV 12	0.67	144.72	-873	-0.0000057	0.0005615	0.0035	1.3279		665.64	665.64	4.6		Si
SLV 15	0	2683.35	-10765	-0.0000907	0.0005615	0.0035	1.3279		6162.68	6162.68	2.3		Si
SLV 15	0.67	-934.57	-11890	-0.0000629	0.0005615	0.0035	1.3279		7202.68	7202.68	7.71		Si
SLD 8	0	1569.07	-8084	-0.0000585	0.0005615	0.0035	1.3279		4842.14	4842.14	3.09		Si
SLD 8	0.67	245.24	-7808	-0.000034	0.0005615	0.0035	1.3279		4708.88	4708.88	19.2		Si
SLV 7	0	1505.23	-1234	-0.0103989	0.0005615	0.0035	1.0623		897.78	897.78	0.6		No
SLV 7	0.67	507.05	-884	-0.0000327	0.0005615	0.0035	1.3279		672.8	672.8	1.33		Si
SLD 7	0	1602.35	-7901	-0.0000583	0.0005615	0.0035	1.3279		4753.57	4753.57	2.97		Si
SLD 7	0.67	188.17	-7690	-0.0000326	0.0005615	0.0035	1.3279		4651.95	4651.95	24.72		Si
SLD 12	0	1907.06	-7546	-0.0000627	0.0005615	0.0035	1.3279		4582.65	4582.65	2.4		Si
SLD 12	0.67	-47.07	-7676	-0.0000301	0.0005615	0.0035	1.3279		5066.36	5066.36	107.63		Si
SLV 8	0	1450.38	-1536	-0.0068112	0.0005615	0.0035	1.0623		1091.18	1091.18	0.75		No
SLV 8	0.67	601.08	-1078	-0.0000338	0.0005615	0.0035	1.3279		797.86	797.86	1.33		Si
SLD 11	0	1940.35	-7363	-0.0000629	0.0005615	0.0035	1.3279		4494.73	4494.73	2.32		Si
SLD 11	0.67	-104.14	-7558	-0.0000306	0.0005615	0.0035	1.3279		5003.23	5003.23	48.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0	2639.74	-25767	-21698	6181	1.3279	1.3279	-54468	10833	10597	4758	11929	3386	15315	No	2.48	Si
SLU 81	0.67	-438.65	-25909	-21818	7263	1.3279	1.3279	-54767	10833	10644	4758	11929	3386	15315	No	2.11	Si
SLU 75	0	2557.42	-25203	-21223	5963	1.3279	1.3279	-53276	10833	10407	4758	11929	3386	15165	No	2.54	Si
SLU 75	0.67	-410.83	-25300	-21305	7020	1.3279	1.3279	-53481	10833	10440	4758	11929	3386	15197	No	2.16	Si
SLU 79	0	2565.57	-25095	-21132	5993	1.3279	1.3279	-53047	10833	10370	4758	11929	3386	15128	No	2.52	Si
SLU 79	0.67	-416.17	-25220	-21238	7053	1.3279	1.3279	-53312	10833	10413	4758	11929	3386	15170	No	2.15	Si
SLU 80	0	2564.83	-25263	-21274	5978	1.3279	1.3279	-53403	10833	10427	4758	11929	3386	15185	No	2.54	Si
SLU 80	0.67	-410.68	-25365	-21360	7040	1.3279	1.3279	-53619	10833	10462	4758	11929	3386	15219	No	2.16	Si
SLU 82	0	2639	-25935	-21840	6166	1.3279	1.3279	-54824	10833	10654	4758	11929	3386	15315	No	2.48	Si
SLU 82	0.67	-433.16	-26054	-21940	7249	1.3279	1.3279	-55075	10833	10693	4758	11929	3386	15315	No	2.11	Si
SLU 77	0	2576.03	-25225	-21242	6012	1.3279	1.3279	-53323	10833	10414	4758	11929	3386	15172	No	2.52	Si
SLU 77	0.67	-416.58	-25357	-21353	7079	1.3279	1.3279	-53601	10833	10459	4758	11929	3386	15216	No	2.15	Si
SLU 74	0	2558.16	-25034	-21082	5978	1.3279	1.3279	-52919	10833	10350	4758	11929	3386	15108	No	2.53	Si
SLU 74	0.67	-416.32	-25155	-21183	7033	1.3279	1.3279	-53174	10833	10391	4758	11929	3386	15148	No	2.15	Si
SLU 78	0	2575.29	-25394	-21384	5996	1.3279	1.3279	-53679	10833	10471	4758	11929	3386	15229	No	2.54	Si
SLU 78	0.67	-411.1	-25502	-21475	7065	1.3279	1.3279	-53908	10833	10508	4758	11929	3386	15265	No	2.16	Si
SLU 83	0	2657.61	-25958	-21859	6215	1.3279	1.3279	-54872	10833	10661	4758	11929	3386	15315	No	2.46	Si
SLU 83	0.67	-438.92	-26110	-21988	7308	1.3279	1.3279	-55194	10833	10712	4758	11929	3386	15315	No	2.1	Si
SLU 84	0	2656.87	-26126	-22001	6199	1.3279	1.3279	-55228	10833	10718	4758	11929	3386	15315	No	2.47	Si
SLU 84	0.67	-433.43	-26256	-22110	7294	1.3279	1.3279	-55501	10833	10761	4758	11929	3386	15315	No	2.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0	1505.23	-1234	-1039	3061	1.0623	0	0	0	0	4758	14315	2709	4758		1.55	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.67	507.05	-884	-744	3390	1.3279	0.2705	-9197	12257	3174	4758	17894	3386	7932		2.34	Si
SLV 12	0	1978.4	-698	-588	4837	1.0623	0	0	0	0	4758	14315	2709	4758		0.98	No
SLV 12	0.67	144.72	-873	-735	5110	1.3279	1.3279	-1845	10786	4297	4758	17894	3386	9054		1.77	Si
SLV 14	0	2619.66	-21002	-17686	7492	1.3279	1.3279	-44395	16250	9951	4758	17894	3386	14708		1.96	Si
SLV 14	0.67	-1163.42	-22037	-18557	8233	1.3279	1.3279	-46582	16250	10299	4758	17894	3386	15057		1.83	Si
SLV 13	0	2701.14	-20553	-17308	7975	1.3279	1.3279	-43446	16250	9799	4758	17894	3386	14557		1.83	Si
SLV 13	0.67	-1303.12	-21747	-18313	8698	1.3279	1.3279	-45971	16250	10202	4758	17894	3386	14959		1.72	Si
SLV 15	0	2683.35	-10765	-9065	7844	1.3279	1.244	-22755	14968	6502	4758	17894	3386	11260		1.44	Si
SLV 15	0.67	-934.57	-11890	-10013	8316	1.3279	1.3279	-25134	15444	6882	4758	17894	3386	11639		1.4	Si
SLD 15	0	2355.61	-13374	-11262	6526	1.3279	1.3279	-28271	16071	7381	4758	17894	3386	12139		1.86	Si
SLD 15	0.67	-712.19	-14108	-11880	7094	1.3279	1.3279	-29822	16250	7628	4758	17894	3386	12386		1.75	Si
SLV 16	0	2601.87	-11213	-9443	7361	1.3279	1.2958	-23703	15157	6654	4758	17894	3386	11411		1.55	Si
SLV 16	0.67	-794.87	-12180	-10256	7851	1.3279	1.3279	-25746	15566	6979	4758	17894	3386	11737		1.49	Si
SLV 8	0	1450.38	-1536	-1294	2736	1.0623	0	0	0	0	4758	14315	2709	4758		1.74	Si
SLV 8	0.67	601.08	-1078	-908	3077	1.3279	0.3197	-9505	12318	3240	4758	17894	3386	7998		2.6	Si
SLD 16	0	2303.91	-13658	-11502	6220	1.3279	1.3279	-28872	16191	7477	4758	17894	3386	12235		1.97	Si
SLD 16	0.67	-623.56	-14291	-12035	6799	1.3279	1.3279	-30210	16250	7690	4758	17894	3386	12448		1.83	Si
SLV 11	0	2033.25	-396	-334	5162	1.0623	0	0	0	0	4758	14315	2709	4758		0.92	No
SLV 11	0.67	50.68	-678	-571	5423	1.3279	1.3279	-1433	10703	4264	4758	17894	3386	9022		1.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.335 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.25	2235	-890	3.59	131.59	36.61	Si
SLV 12	179667	0.25	2719	-1083	3.59	159.58	44.39	Si
SLV 7	179667	0.25	2735	-1090	3.59	160.5	44.65	Si
SLV 8	179667	0.25	3219	-1282	3.59	188.3	52.38	Si
SLV 15	179667	0.25	30261	-12055	3.59	1449.97	403.35	Si
SLV 16	179667	0.25	30981	-12342	3.59	1475.71	410.51	Si
SLV 3	179667	0.25	31928	-12719	3.59	1509.01	419.77	Si
SLV 4	179667	0.25	32647	-13006	3.59	1533.81	426.67	Si
SLV 13	179667	0.25	54885	-21865	3.59	2101	584.45	Si
SLV 14	179667	0.25	55604	-22151	3.59	2112.88	587.75	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.335 Wa = 0.05 Ta = 0.0025

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-33935	-34164	152	0.439	3496.1	0.997	6.39831	2.46957	Si
SLV 10	-33729	-33326	158	0.44	3475.1	0.996	6.41497	2.46957	Si
SLV 5	-33740	-33862	152	0.44	3476.2	0.996	6.41636	2.46957	Si
SLV 9	-33534	-33024	158	0.441	3455.3	0.996	6.43324	2.46957	Si
SLV 2	-22723	-23796	97	0.546	2353.1	0.995	7.98015	2.48105	Si
SLV 1	-22433	-23347	98	0.55	2323.7	0.995	8.0407	2.48105	Si
SLV 14	-22037	-21002	117	0.555	2283.2	0.995	8.11397	2.48105	Si
SLV 13	-21747	-20553	117	0.56	2253.7	0.995	8.17819	2.48105	Si
SLV 4	-12866	-14007	56	0.792	1348.4	0.991	11.6178	2.48105	Si
SLV 3	-12576	-13559	57	0.805	1318.9	0.991	11.80815	2.48105	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.609	SLU 83	Si
V_SLU	2.096	SLU 83	Si
PF_SLV	0.175	SLV 11	No
V_SLV	0.922	SLV 11	No
PFFP_SLV	36.606	SLV 11	Si
R_SLV	2.591	SLV 6	Si

Maschio 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-3.381	-11.013	-0.354	L2	Z medio 33 cm	3.027	0.3	2.283	1.947	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	-1.95	-5363.47	-46836	-0.0001091	0.0003743	0.0035	3.0271	34978.55	46982.39	46982.39	8.76	No	Si
SLU 52	0	-1830.26	-55243	-0.0001139	0.0003743	0.0035	3.0271	33654.28	49570.49	49570.49	27.08	No	Si
SLU 80	-1.95	-5547.4	-52632	-0.0001237	0.0003743	0.0035	3.0271	34313.4	48968.99	48968.99	8.83	No	Si
SLU 80	0	-1776.79	-62434	-0.0001315	0.0003743	0.0035	3.0271	30685.57	51155.28	51155.28	28.79	No	Si
SLU 82	-1.95	-5779.04	-53893	-0.0001278	0.0003743	0.0035	3.0271	34022.91	49253.04	49253.04	8.52	No	Si
SLU 82	0	-1941.45	-63893	-0.000136	0.0003743	0.0035	3.0271	29876.7	51143.2	51143.2	26.34	No	Si
SLU 73	-1.95	-5712.13	-51957	-0.0001228	0.0003743	0.0035	3.0271	34447.49	48821.93	48821.93	8.55	No	Si
SLU 73	0	-1968.56	-61344	-0.0001296	0.0003743	0.0035	3.0271	31244.56	51116.84	51116.84	25.97	No	Si
SLU 78	-1.95	-5556.49	-52882	-0.0001244	0.0003743	0.0035	3.0271	34259.92	49024.37	49024.37	8.82	No	Si
SLU 78	0	-1780.19	-62756	-0.0001323	0.0003743	0.0035	3.0271	30513.08	51159.93	51159.93	28.74	No	Si
SLU 76	-1.95	-5702.02	-52375	-0.0001237	0.0003743	0.0035	3.0271	34366.22	48912.58	48912.58	8.58	No	Si
SLU 76	0	-1925.88	-61912	-0.0001308	0.0003743	0.0035	3.0271	30958.04	51141.25	51141.25	26.55	No	Si
SLU 75	-1.95	-5566.6	-52464	-0.0001234	0.0003743	0.0035	3.0271	34348.14	48932.1	48932.1	8.79	No	Si
SLU 75	0	-1822.87	-62188	-0.0001311	0.0003743	0.0035	3.0271	30815.3	51149.65	51149.65	28.06	No	Si
SLU 61	-1.95	-5430.39	-48772	-0.0001139	0.0003743	0.0035	3.0271	34878.66	48011.35	48011.35	8.84	No	Si
SLU 61	0	-1803.14	-57792	-0.0001199	0.0003743	0.0035	3.0271	32795.55	50207.71	50207.71	27.84	No	Si
SLU 55	-1.95	-5353.36	-47254	-0.00011	0.0003743	0.0035	3.0271	34967.38	47201.06	47201.06	8.82	No	Si
SLU 55	0	-1787.58	-55812	-0.000115	0.0003743	0.0035	3.0271	33481.27	49708.27	49708.27	27.81	No	Si
SLU 84	-1.95	-5768.94	-54311	-0.0001288	0.0003743	0.0035	3.0271	33915.13	49349.87	49349.87	8.55	No	Si
SLU 84	0	-1898.77	-64461	-0.0001373	0.0003743	0.0035	3.0271	29542.76	51121.81	51121.81	26.92	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.95	-18256.4	-54009	-0.0001681	0.0005615	0.0035	3.0271		60163.12	60163.12	3.3		Si
SLV 9	0	-13934.85	-50403	-0.0001428	0.0005615	0.0035	3.0271		57613.67	57613.67	4.13		Si
SLD 10	-1.95	-12409.94	-46694	-0.000129	0.0005615	0.0035	3.0271		55081.91	55081.91	4.44		Si
SLD 10	0	-8763.56	-47445	-0.0001167	0.0005615	0.0035	3.0271		55587.5	55587.5	6.34		Si
SLV 8	-1.95	10654.69	-18321	-0.0000675	0.0005615	0.0035	3.0271		24953.21	24953.21	2.34		Si
SLV 8	0	11555.3	-35256	-0.0001024	0.0005615	0.0035	3.0271		43157.95	43157.95	3.73		Si
SLV 6	-1.95	-17910.47	-55106	-0.0001692	0.0005615	0.0035	3.0271		60949.66	60949.66	3.4		Si
SLV 6	0	-14742.28	-50929	-0.0001472	0.0005615	0.0035	3.0271		57980.14	57980.14	3.93		Si
SLV 7	-1.95	10853.55	-18160	-0.0000681	0.0005615	0.0035	3.0271		24773.48	24773.48	2.28		Si
SLV 7	0	11760.6	-34945	-0.0001026	0.0005615	0.0035	3.0271		42880.65	42880.65	3.65		Si
SLD 9	-1.95	-12289.27	-46596	-0.0001283	0.0005615	0.0035	3.0271		55016.39	55016.39	4.48		Si
SLD 9	0	-8638.97	-47256	-0.0001158	0.0005615	0.0035	3.0271		55460.19	55460.19	6.42		Si
SLV 5	-1.95	-17711.62	-54945	-0.000168	0.0005615	0.0035	3.0271		60837.45	60837.45	3.43		Si
SLV 5	0	-14536.97	-50618	-0.0001457	0.0005615	0.0035	3.0271		57763.14	57763.14	3.97		Si
SLV 12	-1.95	10109.91	-17385	-0.0000638	0.0005615	0.0035	3.0271		23910.35	23910.35	2.37		Si
SLV 12	0	12157.43	-35041	-0.0001042	0.0005615	0.0035	3.0271		42966.41	42966.41	3.53		Si
SLV 11	-1.95	10308.76	-17224	-0.0000644	0.0005615	0.0035	3.0271		23731.63	23731.63	2.3		Si
SLV 11	0	12362.73	-34730	-0.0001043	0.0005615	0.0035	3.0271		42689.42	42689.42	3.45		Si
SLV 10	-1.95	-18455.25	-54170	-0.0001692	0.0005615	0.0035	3.0271		60278.94	60278.94	3.27		Si
SLV 10	0	-14140.15	-50714	-0.0001443	0.0005615	0.0035	3.0271		57830.21	57830.21	4.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	-5562.27	-53652	-45180	-2424	3.0271	3.0271	-49751	10833	22443	23789	27193	7719	34912	No	14.4	Si
SLU 81	0	-1781.83	-63823	-53746	2924	3.0271	3.0271	-59183	10833	25869	23789	27193	7719	34912	No	11.94	Si
SLU 79	-1.95	-5330.62	-52390	-44118	-2298	3.0271	3.0271	-48582	10833	22018	23789	27193	7719	34912	No	15.2	Si
SLU 79	0	-1617.16	-62365	-52518	2903	3.0271	3.0271	-57831	10833	25378	23789	27193	7719	34912	No	12.03	Si
SLU 76	-1.95	-5702.02	-52375	-44105	-2931	3.0271	3.0271	-48567	10833	22013	23789	27193	7719	34912	No	11.91	Si
SLU 76	0	-1925.88	-61912	-52136	2279	3.0271	3.0271	-57411	10833	25225	23789	27193	7719	34912	No	15.32	Si
SLU 82	-1.95	-5779.04	-53893	-45384	-2796	3.0271	3.0271	-49975	10833	22524	23789	27193	7719	34912	No	12.49	Si
SLU 82	0	-1941.45	-63893	-53805	2580	3.0271	3.0271	-59248	10833	25893	23789	27193	7719	34912	No	13.53	Si
SLU 73	-1.95	-5712.13	-51957	-43753	-2945	3.0271	3.0271	-48179	10833	21872	23789	27193	7719	34912	No	11.85	Si
SLU 73	0	-1968.56	-61344	-51658	2228	3.0271	3.0271	-56884	10833	25034	23789	27193	7719	34912	No	15.67	Si
SLU 55	-1.95	-5353.36	-47254	-39793	-2810	3.0271	3.0271	-43819	10833	20288	23789	27193	7719	34912	No	12.42	Si
SLU 55	0	-1787.58	-55812	-46999	1852	3.0271	3.0271	-51754	10833	23171	23789	27193	7719	34912	No	18.85	Si
SLU 83	-1.95	-5552.16	-54070	-45533	-2410	3.0271	3.0271	-50139	10833	22584	23789	27193	7719	34912	No	14.49	Si
SLU 83	0	-1739.14	-64392	-54225	2974	3.0271	3.0271	-59710	10833	26061	23789	27193	7719	34912	No	11.74	Si
SLU 52	-1.95	-5363.47	-46836	-39441	-2824	3.0271	3.0271	-43431	10833	20147	23789	27193	7719	34912	No	12.36	Si
SLU 52	0	-1830.26	-55243	-46521	1801	3.0271	3.0271	-51227	10833	22979	23789	27193	7719	34912	No	19.38	Si
SLU 77	-1.95	-5339.72	-52641	-44329	-2293	3.0271	3.0271	-48814	10833	22103	23789	27193	7719	34912	No	15.22	Si
SLU 77	0	-1620.57	-62686	-52789	2930	3.0271	3.0271	-58129	10833	25486	23789	27193	7719	34912	No	11.92	Si
SLU 74	-1.95	-5349.82	-52222	-43977	-2307	3.0271	3.0271	-48426	10833	21962	23789	27193	7719	34912	No	15.13	Si
SLU 74	0	-1663.25	-62118	-52310	2880	3.0271	3.0271	-57602	10833	25295	23789	27193	7719	34912	No	12.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	-1.95	10853.55	-18160	-15293	20205	3.0271	2.7477	-16840	13785	12674	23789	40790	7719	36463		1.8	Si
SLV 7	0	11760.6	-34945	-29427	20946	3.0271	3.0271	-32404	16250	18328	23789	40790	7719	42117		2.01	Si
SLV 10	-1.95	-18455.25	-54170	-45617	-23507	3.0271	3.0271	-50232	16250	24803	23789	40790	7719	48509		2.06	Si
SLV 10	0	-14140.15	-50714	-42707	-17097	3.0271	3.0271	-47027	16250	23640	23789	40790	7719	47428		2.77	Si
SLD 10	-1.95	-12409.94	-46694	-39321	-14469	3.0271	3.0271	-43299	16250	22285	23789	40790	7719	46074		3.18	Si
SLD 10	0	-8763.56	-47445	-39954	-9212	3.0271	3.0271	-43996	16250	22538	23789	40790	7719	46327		5.03	Si
SLV 11	-1.95	10308.76	-17224	-14504	19900	3.0271	2.7451	-15972	13611	12359	23789	40790	7719	36148		1.82	Si
SLV 11	0	12362.73	-34730	-29246	21481	3.0271	3.0271	-32205	16250	18256	23789	40790	7719	42044		1.96	Si
SLV 5	-1.95	-17711.62	-54945	-46270	-23069	3.0271	3.0271	-50951	16250	25065	23789	40790	7719	48509		2.1	Si
SLV 5	0	-14536.97	-50618	-42626	-17386	3.0271	3.0271	-46938	16250	23607	23789	40790	7719	47396		2.73	Si
SLV 12	-1.95	10109.91	-17385	-14640	19767	3.0271	2.796	-16121	13641	12413	23789	40790	7719	36202		1.83	Si
SLV 12	0	12157.43	-35041	-29508	21235	3.0271	3.0271	-32493	16250	18360	23789	40790	7719	42149		1.98	Si
SLV 9	-1.95	-18256.4	-54009	-45481	-23375	3.0271	3.0271	-50082	16250	24749	23789	40790	7719	48509		2.08	Si
SLV 9	0	-13934.85	-50403	-42445	-16851	3.0271	3.0271	-46739	16250	23535	23789	40790	7719	47324		2.81	Si
SLV 8	-1.95	10654.69	-18321	-15429	20072	3.0271	2.796	-16989	13815	12729	23789	40790	7719	36518		1.82	Si
SLV 8	0	11555.3	-35256	-29689	20700	3.0271	3.0271	-32693	16250	18433	23789	40790	7719	42222		2.04	Si
SLV 6	-1.95	-17910.47	-55106	-46405	-23202	3.0271	3.0271	-51100	16250	25119	23789	40790	7719	48509		2.09	Si
SLV 6	0	-14742.28	-50929	-42888	-17631	3.0271	3.0271	-47227	16250	23712	23789	40790	7719	47501		2.69	Si
SLD 9	-1.95	-12289.27	-46596	-39239	-14389	3.0271	3.0271	-43208	16250	22252	23789	40790	7719	46041		3.2	Si
SLD 9	0	-8638.97	-47256	-39795	-9063	3.0271	3.0271	-43821	16250	22475	23789	40790	7719	46264		5.1	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.977 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	27306	-24797	92.01	3054.5	33.2	Si
SLV 12	179667	0.24	27603	-25067	92.01	3080.48	33.48	Si
SLV 7	179667	0.24	27997	-25425	92.01	3114.55	33.85	Si
SLV 8	179667	0.24	28295	-25695	92.01	3140.16	34.13	Si
SLV 15	179667	0.24	38178	-34671	92.01	3900.49	42.39	Si
SLV 16	179667	0.24	38621	-35072	92.01	3930.44	42.72	Si
SLV 3	179667	0.24	40482	-36763	92.01	4052.67	44.04	Si
SLV 4	179667	0.24	40924	-37165	92.01	4080.8	44.35	Si
SLV 13	179667	0.24	48251	-43818	92.01	4496.04	48.86	Si
SLV 14	179667	0.24	48693	-44219	92.01	4518.04	49.1	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.977 Wa = 0.05 Ta = 0.029

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-50929	-55106	-33	0.389	5478.6	0.983	5.75654	2.55765	Si
SLV 10	-50714	-54170	15	0.391	5456.7	0.983	5.78154	2.55765	Si
SLV 5	-50618	-54945	-32	0.391	5446.9	0.983	5.78557	2.55765	Si
SLV 9	-50403	-54009	15	0.393	5425	0.983	5.81064	2.55765	Si
SLV 2	-45770	-43363	-70	0.424	4952.9	0.982	6.27421	2.70593	Si
SLV 1	-45308	-43124	-69	0.427	4905.8	0.981	6.32742	2.70593	Si
SLV 14	-45054	-40241	88	0.429	4879.9	0.981	6.35121	2.70593	Si
SLV 13	-44591	-40002	88	0.432	4832.8	0.981	6.4057	2.70593	Si
SLV 4	-41068	-32328	-54	0.463	4473.8	0.98	6.8734	2.70593	Si
SLV 3	-40606	-32089	-54	0.468	4426.7	0.979	6.93924	2.70593	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.523	SLU 82	Si
V_SLU	11.738	SLU 83	Si
PF_SLV	2.283	SLV 7	Si
V_SLV	1.805	SLV 7	Si
PFFP_SLV	33.196	SLV 11	Si
R_SLV	2.251	SLV 6	Si

Maschio 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-0.354	-11.013	1.141	L2	L4	1.495	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 53	-1.95	-431.52	-31167	-0.0001332	0.0003743	0.0035	1.495	7395.62	12405.85	12405.85	28.75	No	Si
SLU 53	0.67	-838.48	-26817	-0.0001186	0.0003743	0.0035	1.495	8273.07	11989.69	11989.69	14.3	No	Si
SLU 60	-1.95	-483.55	-32016	-0.0001387	0.0003743	0.0035	1.495	7152.28	12395.24	12395.24	25.63	No	Si
SLU 60	0.67	-835.23	-27587	-0.0001223	0.0003743	0.0035	1.495	8162.97	12098.89	12098.89	14.49	No	Si
SLU 58	-1.95	-426.46	-31335	-0.000134	0.0003743	0.0035	1.495	7349.26	12403.5	12403.5	29.08	No	Si
SLU 58	0.67	-840.28	-27000	-0.0001195	0.0003743	0.0035	1.495	8248.65	12015.24	12015.24	14.3	No	Si
SLU 48	-1.95	-323.62	-28253	-0.0001164	0.0003743	0.0035	1.495	8051.99	12197.05	12197.05	37.69	No	Si
SLU 48	0.67	-857.19	-24117	-0.000106	0.0003743	0.0035	1.495	8506.13	11630.1	11630.1	13.57	No	Si
SLU 62	-1.95	-476.64	-32378	-0.0001405	0.0003743	0.0035	1.495	7041.3	12391.69	12391.69	26	No	Si
SLU 62	0.67	-833.34	-27950	-0.0001241	0.0003743	0.0035	1.495	8104.25	12152.01	12152.01	14.58	No	Si
SLU 43	-1.95	-339.27	-27335	-0.0001122	0.0003743	0.0035	1.495	8201.09	12062.71	12062.71	35.55	No	Si
SLU 43	0.67	-864.65	-23210	-0.0001019	0.0003743	0.0035	1.495	8530.84	11458.5	11458.5	13.25	No	Si
SLU 46	-1.95	-412.38	-27831	-0.0001159	0.0003743	0.0035	1.495	8124	12134.46	12134.46	29.43	No	Si
SLU 46	0.67	-746.15	-23806	-0.0001026	0.0003743	0.0035	1.495	8517.62	11585.45	11585.45	15.53	No	Si
SLU 56	-1.95	-424.62	-31529	-0.000135	0.0003743	0.0035	1.495	7294.7	12400.94	12400.94	29.21	No	Si
SLU 56	0.67	-836.59	-27181	-0.0001203	0.0003743	0.0035	1.495	8223.5	12040.69	12040.69	14.39	No	Si
SLU 50	-1.95	-325.46	-28059	-0.0001155	0.0003743	0.0035	1.495	8085.77	12168.15	12168.15	37.39	No	Si
SLU 50	0.67	-860.87	-23937	-0.0001052	0.0003743	0.0035	1.495	8513.19	11607.51	11607.51	13.48	No	Si
SLU 45	-1.95	-330.53	-27891	-0.0001147	0.0003743	0.0035	1.495	8114.09	12143.31	12143.31	36.74	No	Si
SLU 45	0.67	-859.08	-23754	-0.0001043	0.0003743	0.0035	1.495	8519.26	11575.13	11575.13	13.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	-1.95	5110.22	-27485	-0.0001829	0.0005615	0.0035	1.495		14485.22	14485.22	2.83		Si
SLV 7	0.67	-8382.47	-16245	-0.0002888	0.0005615	0.0035	1.196		10517.08	10517.08	1.25		Si
SLV 6	-1.95	-5705.07	-21000	-0.0001636	0.0005615	0.0035	1.495		12572.62	12572.62	2.2		Si
SLV 6	0.67	6713.63	-23508	-0.0001934	0.0005615	0.0035	1.495		13244.66	13244.66	1.97		Si
SLD 7	-1.95	2862.41	-26049	-0.0001393	0.0005615	0.0035	1.495		14055	14055	4.91		Si
SLD 7	0.67	-5167.85	-17987	-0.0001424	0.0005615	0.0035	1.495		11348.5	11348.5	2.2		Si
SLV 8	-1.95	5103.34	-27577	-0.0001832	0.0005615	0.0035	1.495		14513.15	14513.15	2.84		Si
SLV 8	0.67	-8366.69	-16297	-0.0002858	0.0005615	0.0035	1.196		10542.87	10542.87	1.26		Si
SLV 10	-1.95	-5762.27	-20467	-0.0001627	0.0005615	0.0035	1.495		12387.05	12387.05	2.15		Si
SLV 10	0.67	7226.24	-24835	-0.0002096	0.0005615	0.0035	1.495		13693.95	13693.95	1.9		Si
SLV 5	-1.95	-5698.19	-20907	-0.0001631	0.0005615	0.0035	1.495		12540.22	12540.22	2.2		Si
SLV 5	0.67	6697.85	-23456	-0.0001928	0.0005615	0.0035	1.495		13220.99	13220.99	1.97		Si
SLD 8	-1.95	2858.23	-26105	-0.0001395	0.0005615	0.0035	1.495		14071.84	14071.84	4.92		Si
SLD 8	0.67	-5158.28	-18019	-0.0001423	0.0005615	0.0035	1.495		11362.7	11362.7	2.2		Si
SLV 11	-1.95	5053.03	-26951	-0.0001794	0.0005615	0.0035	1.495		14325.05	14325.05	2.83		Si
SLV 11	0.67	-7869.86	-17572	-0.0002297	0.0005615	0.0035	1.196		11152.29	11152.29	1.42		Si
SLV 12	-1.95	5046.15	-27044	-0.0001797	0.0005615	0.0035	1.495		14352.83	14352.83	2.84		Si
SLV 12	0.67	-7854.08	-17624	-0.0002284	0.0005615	0.0035	1.196		11177.54	11177.54	1.42		Si
SLV 9	-1.95	-5755.39	-20374	-0.0001622	0.0005615	0.0035	1.495		12354.99	12354.99	2.15		Si
SLV 9	0.67	7210.46	-24783	-0.000209	0.0005615	0.0035	1.495		13678.5	13678.5	1.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	-1.95	-624.36	-35980	-30299	5868	1.495	1.495	-67556	10833	9519	28547	13430	3812	17242	No	2.94	Si
SLU 84	0.67	-572.78	-31298	-26357	371	1.495	1.495	-58766	10833	8468	28547	13430	3812	17242	No	46.44	Si
SLU 82	-1.95	-631.27	-35618	-29994	5802	1.495	1.495	-66876	10833	9438	28547	13430	3812	17242	No	2.97	Si
SLU 82	0.67	-574.67	-30935	-26051	360	1.495	1.495	-58084	10833	8386	28547	13430	3812	17242	No	47.89	Si
SLU 80	-1.95	-574.17	-34938	-29421	5760	1.495	1.495	-65599	10833	9285	28547	13430	3812	17242	No	2.99	Si
SLU 80	0.67	-579.72	-30349	-25557	443	1.495	1.495	-56983	10833	8254	28547	13430	3812	17242	No	38.96	Si
SLU 75	-1.95	-579.24	-34770	-29280	5731	1.495	1.495	-65283	10833	9247	28547	13430	3812	17242	No	3.01	Si
SLU 75	0.67	-577.92	-30166	-25403	436	1.495	1.495	-56639	10833	8213	28547	13430	3812	17242	No	39.53	Si
SLU 74	-1.95	-497.38	-34830	-29330	5947	1.495	1.495	-65396	10833	9261	28547	13430	3812	17242	No	2.9	Si
SLU 74	0.67	-690.85	-30113	-25358	699	1.495	1.495	-56540	10833	8201	28547	13430	3812	17242	No	24.67	Si
SLU 77	-1.95	-490.48	-35192	-29635	6013	1.495	1.495	-66076	10833	9342	28547	13430	3812	17242	No	2.87	Si
SLU 77	0.67	-688.96	-30476	-25664	710	1.495	1.495	-57222	10833	8283	28547	13430	3812	17242	No	24.28	Si
SLU 79	-1.95	-492.32	-34998	-29472	5976	1.495	1.495	-65712	10833	9298	28547	13430	3812	17242	No	2.89	Si
SLU 79	0.67	-692.64	-30296	-25512	705	1.495	1.495	-56884	10833	8242	28547	13430	3812	17242	No	24.45	Si
SLU 83	-1.95	-542.51	-36040	-30350	6084	1.495	1.495	-67669	10833	9532	28547	13430	3812	17242	No	2.83	Si
SLU 83	0.67	-685.7	-31246	-26312	634	1.495	1.495	-58667	10833	8456	28547	13430	3812	17242	No	27.2	Si
SLU 78	-1.95	-572.33	-35132	-29584	5797	1.495	1.495	-65963	10833	9328	28547	13430	3812	17242	No	2.97	Si
SLU 78	0.67	-576.03	-30529	-25709	447	1.495	1.495	-57321	10833	8295	28547	13430	3812	17242	No	38.54	Si
SLU 81	-1.95	-549.41	-35678	-30045	6018	1.495	1.495	-66989	10833	9451	28547	13430	3812	17242	No	2.86	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.67	-687.59	-30882	-26006	623	1.495	1.495	-57985	10833	8374	28547	13430	3812	17242	No	27.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	-5705.07	-21000	-17684	-9222	1.495	1.4275	-39429	16250	6959	28547	20145	3812	23957		2.6	Si
SLV 6	0.67	6713.63	-23508	-19796	-16064	1.495	1.3857	-44139	16250	7438	28547	20145	3812	23957		1.49	Si
SLV 9	-1.95	-5755.39	-20374	-17157	-9499	1.495	1.395	-41984	16250	6801	28547	20145	3812	23957		2.52	Si
SLV 9	0.67	7210.46	-24783	-20870	-16658	1.495	1.3697	-46532	16250	7724	28547	20145	3812	23957		1.44	Si
SLV 12	-1.95	5046.15	-27044	-22774	17600	1.495	1.495	-50778	16250	8232	28547	20145	3812	23957		1.36	Si
SLV 12	0.67	-7854.08	-17624	-14841	17304	1.196	0.9056	0	0	0	28547	16116	3050	19166		1.11	Si
SLV 10	-1.95	-5762.27	-20467	-17235	-9523	1.495	1.3979	-38428	16250	6815	28547	20145	3812	23957		2.52	Si
SLV 10	0.67	7226.24	-24835	-20914	-16675	1.495	1.3696	-46630	16250	7736	28547	20145	3812	23957		1.44	Si
SLV 5	-1.95	-5698.19	-20907	-17606	-9198	1.495	1.4249	-39255	16250	6946	28547	20145	3812	23957		2.6	Si
SLV 5	0.67	6697.85	-23456	-19752	-16047	1.495	1.3859	-44041	16250	7426	28547	20145	3812	23957		1.49	Si
SLV 11	-1.95	5053.03	-26951	-22696	17623	1.495	1.495	-50604	16250	8211	28547	20145	3812	23957		1.36	Si
SLV 11	0.67	-7869.86	-17572	-14797	17321	1.196	0.8989	0	0	0	28547	16116	3050	19166		1.11	Si
SLD 7	-1.95	2862.41	-26049	-21936	12256	1.495	1.495	-48909	16250	8008	28547	20145	3812	23957		1.95	Si
SLD 7	0.67	-5167.85	-17987	-15147	10790	1.495	1.3806	-37336	16250	6730	28547	20145	3812	23957		2.22	Si
SLV 7	-1.95	5110.22	-27485	-23145	17924	1.495	1.495	-51605	16250	8331	28547	20145	3812	23957		1.34	Si
SLV 7	0.67	-8382.47	-16245	-13680	17931	1.196	0.6945	0	0	0	28547	16116	3050	19166		1.07	Si
SLD 8	-1.95	2858.23	-26105	-21983	12241	1.495	1.495	-49015	16250	8021	28547	20145	3812	23957		1.96	Si
SLD 8	0.67	-5158.28	-18019	-15174	10780	1.495	1.3837	-37317	16250	6745	28547	20145	3812	23957		2.22	Si
SLV 8	-1.95	5103.34	-27577	-23223	17901	1.495	1.495	-51779	16250	8352	28547	20145	3812	23957		1.34	Si
SLV 8	0.67	-8366.69	-16297	-13724	17914	1.196	0.7024	0	0	0	28547	16116	3050	19166		1.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	45920	-20595	59.83	2160.38	36.11	Si
SLV 6	179667	0.24	46017	-20639	59.83	2162.96	36.15	Si
SLV 9	179667	0.24	46907	-21038	59.83	2186.41	36.54	Si
SLV 10	179667	0.24	47004	-21081	59.83	2188.91	36.59	Si
SLV 1	179667	0.24	47514	-21310	59.83	2202	36.8	Si
SLV 2	179667	0.24	47657	-21374	59.83	2205.64	36.87	Si
SLV 3	179667	0.24	49887	-22375	59.83	2259.83	37.77	Si
SLV 4	179667	0.24	50031	-22439	59.83	2263.17	37.83	Si
SLV 13	179667	0.24	50804	-22786	59.83	2280.83	38.12	Si
SLV 14	179667	0.24	50947	-22850	59.83	2284.05	38.18	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-23872	-22169	444	0.379	2596.3	0.98	5.61591	2.93197	Si
SLV 13	-23794	-22032	444	0.38	2588.4	0.98	5.63099	2.93197	Si
SLV 10	-24835	-20467	206	0.376	2694.4	0.981	5.57112	2.71881	Si
SLV 9	-24783	-20374	206	0.377	2689.1	0.981	5.58078	2.71881	Si
SLV 16	-21708	-24143	467	0.408	2375.9	0.978	6.06446	2.93197	Si
SLV 15	-21631	-24005	468	0.409	2368	0.978	6.08258	2.93197	Si
SLV 6	-23508	-21000	25	0.401	2559.3	0.98	5.94114	2.71881	Si
SLV 5	-23456	-20907	25	0.401	2553.9	0.98	5.95214	2.71881	Si
SLV 2	-19449	-23946	-159	0.462	2145.7	0.976	6.87798	2.93197	Si
SLV 1	-19371	-23809	-159	0.464	2137.8	0.976	6.90166	2.93197	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.252	SLU 43	Si
V_SLU	2.834	SLU 83	Si
PF_SLV	1.255	SLV 7	Si
V_SLV	1.069	SLV 7	Si
PFFP_SLV	36.109	SLV 5	Si
R_SLV	1.915	SLV 14	Si

Maschio 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.888	6.576	-7.963	6.576	L2	L4	3.925	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	0.05	1731.19	-58263	-0.0000563	0.0003743	0.0035	3.925	77294.27	87114.03	87114.03	50.32	No	Si
SLU 51	0.45	2904.91	-64034	-0.000064	0.0003743	0.0035	3.925	80917.93	92765.45	92765.45	31.93	No	Si
SLU 48	0.05	1836.69	-59507	-0.0000577	0.0003743	0.0035	3.925	78137.29	88624.73	88624.73	48.25	No	Si
SLU 48	0.45	3037.78	-65394	-0.0000656	0.0003743	0.0035	3.925	81665.59	93837.79	93837.79	30.89	No	Si
SLU 45	0.05	1760.01	-58391	-0.0000565	0.0003743	0.0035	3.925	77382.67	87269.28	87269.28	49.58	No	Si
SLU 45	0.45	2931.58	-64148	-0.0000641	0.0003743	0.0035	3.925	80982.12	92855.06	92855.06	31.67	No	Si
SLU 71	0.05	1818.93	-68747	-0.0000672	0.0003743	0.0035	3.925	83337.41	96487.69	96487.69	53.05	No	Si
SLU 71	0.45	3015.72	-75586	-0.0000764	0.0003743	0.0035	3.925	85986.42	101993.57	101993.57	33.82	No	Si
SLU 47	0.05	1621.19	-56722	-0.0000546	0.0003743	0.0035	3.925	76204.23	85255.68	85255.68	52.59	No	Si
SLU 47	0.45	2751.93	-62336	-0.000062	0.0003743	0.0035	3.925	79926.87	91434.09	91434.09	33.23	No	Si
SLU 43	0.05	1627.81	-56665	-0.0000545	0.0003743	0.0035	3.925	76162.87	85187.1	85187.1	52.33	No	Si
SLU 43	0.45	2762.67	-62223	-0.0000619	0.0003743	0.0035	3.925	79859.23	91346.55	91346.55	33.06	No	Si
SLU 49	0.05	1786.71	-58872	-0.000057	0.0003743	0.0035	3.925	77710.98	87852.22	87852.22	49.17	No	Si
SLU 49	0.45	2967.62	-64714	-0.0000648	0.0003743	0.0035	3.925	81296.63	93300.6	93300.6	31.44	No	Si
SLU 69	0.05	1874.45	-69356	-0.0000679	0.0003743	0.0035	3.925	83614.74	96971.62	96971.62	51.73	No	Si
SLU 69	0.45	3078.42	-76266	-0.0000772	0.0003743	0.0035	3.925	86193.82	102549.14	102549.14	33.31	No	Si
SLU 46	0.05	1710.03	-57755	-0.0000557	0.0003743	0.0035	3.925	76940.86	86500.43	86500.43	50.58	No	Si
SLU 46	0.45	2861.41	-63468	-0.0000633	0.0003743	0.0035	3.925	80594.67	92320.72	92320.72	32.26	No	Si
SLU 50	0.05	1781.17	-58898	-0.000057	0.0003743	0.0035	3.925	77729.03	87884.55	87884.55	49.34	No	Si
SLU 50	0.45	2975.08	-64714	-0.0000648	0.0003743	0.0035	3.925	81296.98	93301.09	93301.09	31.36	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0.05	14427.6	-69029	-0.0000834	0.0005615	0.0035	3.925		108068.67	108068.67	7.49		Si
SLV 16	0.45	7088.56	-76084	-0.0000797	0.0005615	0.0035	3.925		116327.08	116327.08	16.41		Si
SLV 5	0.05	-5853.45	-1939	-0.0001908	0.0005615	0.0035	3.14		8359.79	8359.79	1.43		Si
SLV 5	0.45	-3449.47	-2690	-0.0000088	0.0005615	0.0035	3.14		9791.43	9791.43	2.84		Si
SLV 6	0.05	-4863.93	-1899	-0.0001241	0.0005615	0.0035	3.14		8283.19	8283.19	1.7		Si
SLV 6	0.45	-3146.51	-2680	-0.0000076	0.0005615	0.0035	3.14		9772.59	9772.59	3.11		Si
SLV 9	0.05	1068.89	-4019	-0.0000048	0.0005615	0.0035	3.925		8553.36	8553.36	8		Si
SLV 9	0.45	-1354.59	-5222	-0.0000062	0.0005615	0.0035	3.925		14581.65	14581.65	10.76		Si
SLV 15	0.05	12957.63	-69088	-0.0000813	0.0005615	0.0035	3.925		108137.9	108137.9	8.35		Si
SLV 15	0.45	6638.5	-76099	-0.000079	0.0005615	0.0035	3.925		116344.44	116344.44	17.53		Si
SLV 14	0.05	12557.04	-40122	-0.0000527	0.0005615	0.0035	3.925		68860.15	68860.15	5.48		Si
SLV 14	0.45	4493.5	-44737	-0.0000458	0.0005615	0.0035	3.925		75733.69	75733.69	16.85		Si
SLV 13	0.05	11087.06	-40181	-0.0000507	0.0005615	0.0035	3.925		68948.31	68948.31	6.22		Si
SLV 13	0.45	4043.45	-44751	-0.0000452	0.0005615	0.0035	3.925		75755.77	75755.77	18.74		Si
SLV 2	0.05	-10517.44	-33187	-0.0000434	0.0005615	0.0035	3.925		63190.66	63190.66	6.01		Si
SLV 2	0.45	-2489.41	-36295	-0.0000353	0.0005615	0.0035	3.925		68012.27	68012.27	27.32		Si
SLV 10	0.05	2058.41	-3979	-0.0000061	0.0005615	0.0035	3.925		8477.03	8477.03	4.12		Si
SLV 10	0.45	-1051.63	-5212	-0.0000058	0.0005615	0.0035	3.925		14563.04	14563.04	13.85		Si
SLV 1	0.05	-11987.41	-33246	-0.0000455	0.0005615	0.0035	3.925		63282.49	63282.49	5.28		Si
SLV 1	0.45	-2939.47	-36310	-0.0000359	0.0005615	0.0035	3.925		68035.26	68035.26	23.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	1351.53	-76567	-68059	757	3.925	3.925	-38533	10833	35725	28547	52889	10009	62898	No	83.08	Si
SLU 82	0.45	2368.57	-84213	-74856	985	3.925	3.925	-42381	10833	38444	28547	52889	10009	62898	No	63.83	Si
SLU 42	0.05	1062.53	-67204	-59737	893	3.925	3.925	-33821	10833	32397	28547	52889	10009	60943	No	68.27	Si
SLU 42	0.45	1847.95	-73966	-65748	1091	3.925	3.925	-37225	10833	34801	28547	52889	10009	62898	No	57.65	Si
SLU 83	0.05	1478.19	-78319	-69617	695	3.925	3.925	-39415	10833	36348	28547	52889	10009	62898	No	90.56	Si
SLU 83	0.45	2544.94	-86138	-76567	928	3.925	3.925	-43350	10833	39128	28547	52889	10009	62898	No	67.77	Si
SLU 84	0.05	1428.21	-77683	-69052	729	3.925	3.925	-39095	10833	36122	28547	52889	10009	62898	No	86.23	Si
SLU 84	0.45	2474.77	-85458	-75963	961	3.925	3.925	-43008	10833	38887	28547	52889	10009	62898	No	65.43	Si
SLU 40	0.05	985.84	-66088	-58744	920	3.925	3.925	-33259	10833	32000	28547	52889	10009	60546	No	65.78	Si
SLU 40	0.45	1741.75	-72721	-64641	1115	3.925	3.925	-36598	10833	34358	28547	52889	10009	62898	No	56.4	Si
SLU 41	0.05	1112.51	-67840	-60302	858	3.925	3.925	-34141	10833	32623	28547	52889	10009	61169	No	71.3	Si
SLU 41	0.45	1918.12	-74646	-66352	1058	3.925	3.925	-37567	10833	35043	28547	52889	10009	62898	No	59.46	Si
SLU 81	0.05	1401.51	-77202	-68624	722	3.925	3.925	-38853	10833	35951	28547	52889	10009	62898	No	87.08	Si
SLU 81	0.45	2438.74	-84893	-75460	952	3.925	3.925	-42723	10833	38686	28547	52889	10009	62898	No	66.05	Si
SLU 39	0.05	1035.82	-66723	-59310	886	3.925	3.925	-33579	10833	32226	28547	52889	10009	60772	No	68.62	Si
SLU 39	0.45	1811.91	-73401	-65245	1082	3.925	3.925	-36940	10833	34600	28547	52889	10009	62898	No	58.13	Si
SLU 31	0.05	1031.74	-62457	-55517	749	3.925	3.925	-31432	10833	30709	28547	52889	10009	59255	No	79.13	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 31	0.45	1804.34	-68728	-61092	934	3.925	3.925	-34588	10833	32938	28547	52889	10009	61485	No	65.81	Si
SLU 34	0.05	1108.42	-63574	-56510	721	3.925	3.925	-31994	10833	31106	28547	52889	10009	59652	No	82.72	Si
SLU 34	0.45	1910.54	-69974	-62199	910	3.925	3.925	-35215	10833	33381	28547	52889	10009	61928	No	68.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.05	12957.63	-69088	-61412	18861	3.925	3.925	-34770	16250	37318	28547	79334	10009	65864		3.49	Si
SLV 15	0.45	6638.5	-76099	-67644	19109	3.925	3.925	-38298	16250	39810	28547	79334	10009	68357		3.58	Si
SLV 14	0.05	12557.04	-40122	-35664	22921	3.925	3.925	-20192	14455	27019	28547	79334	10009	55566		2.42	Si
SLV 14	0.45	4493.5	-44737	-39766	22729	3.925	3.925	-22514	14920	28660	28547	79334	10009	57206		2.52	Si
SLD 14	0.05	8543.21	-44879	-39892	14661	3.925	3.925	-22586	14934	28710	28547	79334	10009	57257		3.91	Si
SLD 14	0.45	3689.13	-49697	-44175	14599	3.925	3.925	-25011	15419	30423	28547	79334	10009	58970		4.04	Si
SLV 16	0.05	14427.6	-69029	-61359	21427	3.925	3.925	-34740	16250	37297	28547	79334	10009	65843		3.07	Si
SLV 16	0.45	7088.56	-76084	-67631	21675	3.925	3.925	-38291	16250	39805	28547	79334	10009	68352		3.15	Si
SLV 3	0.05	-10116.85	-62154	-55248	-22709	3.925	3.925	-31280	16250	34852	28547	79334	10009	63399		2.79	Si
SLV 3	0.45	-344.42	-67658	-60140	-22206	3.925	3.925	-34050	16250	36809	28547	79334	10009	65356		2.94	Si
SLV 1	0.05	-11987.41	-33246	-29552	-21215	3.925	3.925	-16732	13763	24574	28547	79334	10009	53121		2.5	Si
SLV 1	0.45	-2939.47	-36310	-32276	-21152	3.925	3.925	-18274	14071	25664	28547	79334	10009	54210		2.56	Si
SLV 2	0.05	-10517.44	-33187	-29499	-18649	3.925	3.925	-16702	13757	24553	28547	79334	10009	53100		2.85	Si
SLV 2	0.45	-2489.41	-36295	-32263	-18586	3.925	3.925	-18266	14070	25659	28547	79334	10009	54205		2.92	Si
SLV 4	0.05	-8646.87	-62094	-55195	-20143	3.925	3.925	-31250	16250	34831	28547	79334	10009	63378		3.15	Si
SLV 4	0.45	105.64	-67643	-60127	-19641	3.925	3.925	-34042	16250	36804	28547	79334	10009	65351		3.33	Si
SLV 13	0.05	11087.06	-40181	-35717	20355	3.925	3.925	-20222	14461	27040	28547	79334	10009	55587		2.73	Si
SLV 13	0.45	4043.45	-44751	-39779	20164	3.925	3.925	-22522	14921	28665	28547	79334	10009	57212		2.84	Si
SLD 1	0.05	-7194.43	-40443	-35950	-13565	3.925	3.925	-20354	14487	27133	28547	79334	10009	55680		4.1	Si
SLD 1	0.45	-1049.94	-44299	-39377	-13467	3.925	3.925	-22294	14876	28504	28547	79334	10009	57051		4.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	0	-649	227.43	0	0	No, e>t/2
SLV 5	179667	0.24	0	-730	227.43	0	0	No, e>t/2
SLV 10	179667	0.24	1536	-2713	227.43	604.38	2.66	Si
SLV 9	179667	0.24	1582	-2794	227.43	622.17	2.74	Si
SLV 2	179667	0.24	15888	-28062	227.43	5657.09	24.87	Si
SLV 1	179667	0.24	15956	-28182	227.43	5678.46	24.97	Si
SLV 14	179667	0.24	19783	-34942	227.43	6843.48	30.09	Si
SLV 13	179667	0.24	19851	-35062	227.43	6863.47	30.18	Si
SLV 4	179667	0.24	30369	-53639	227.43	9668.86	42.51	Si
SLV 3	179667	0.24	30437	-53759	227.43	9685.1	42.59	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-104575	-76945	-6490	0.232	11301	0.982	3.43731	2.57112	Si
SLV 11	-104588	-77025	-6483	0.232	11302.3	0.982	3.43794	2.57112	Si
SLV 8	-101843	-74488	-6293	0.238	11022.7	0.981	3.52217	2.57112	Si
SLV 7	-101857	-74568	-6286	0.238	11024	0.981	3.5228	2.57112	Si
SLV 16	-72452	-53576	-4665	0.317	8028.3	0.975	4.73156	2.70061	Si
SLV 15	-72472	-53694	-4655	0.317	8030.3	0.975	4.73256	2.70061	Si
SLV 4	-63349	-45386	-4009	0.358	7101.1	0.972	5.35869	2.70061	Si
SLV 3	-63368	-45505	-3999	0.358	7103.1	0.972	5.35964	2.70061	Si
SLV 14	-42191	-31104	-2903	0.507	4947.6	0.961	7.66308	2.70061	Si
SLV 13	-42210	-31223	-2893	0.507	4949.6	0.961	7.66348	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	30.89	SLU 48	Si
V_SLU	56.404	SLU 40	Si
PF_SLV	1.428	SLV 5	Si
V_SLV	2.424	SLV 14	Si
PFFP_SLV	0	SLV 5	No
R_SLV	1.337	SLV 12	Si

Maschio 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.963	6.576	-5.308	6.576	L2	L4	1.655	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	0.05	-1995.37	-14247	-0.0000459	0.0003743	0.0035	1.655	9573.96	10785.04	10785.04	5.41	No	Si
SLU 71	0.45	-302.8	-13583	-0.000031	0.0003743	0.0035	1.655	9226.42	10385.8	10385.8	34.3	No	Si
SLU 83	0.05	-2185.04	-16038	-0.0000516	0.0003743	0.0035	1.655	10464.49	11833.27	11833.27	5.42	No	Si
SLU 83	0.45	-329.33	-15375	-0.0000352	0.0003743	0.0035	1.655	10142.91	11451.6	11451.6	34.77	No	Si
SLU 78	0.05	-2140.6	-15644	-0.0000503	0.0003743	0.0035	1.655	10274.55	11612.3	11612.3	5.42	No	Si
SLU 78	0.45	-328.86	-14981	-0.0000343	0.0003743	0.0035	1.655	9947.26	11217.32	11217.32	34.11	No	Si
SLU 77	0.05	-2165.64	-15782	-0.0000508	0.0003743	0.0035	1.655	10341.54	11692.64	11692.64	5.4	No	Si
SLU 77	0.45	-328.29	-15119	-0.0000346	0.0003743	0.0035	1.655	10016.25	11299.31	11299.31	34.42	No	Si
SLU 74	0.05	-2130.56	-15554	-0.00005	0.0003743	0.0035	1.655	10230.76	11558.63	11558.63	5.43	No	Si
SLU 74	0.45	-325.2	-14891	-0.000034	0.0003743	0.0035	1.655	9902.16	11164.1	11164.1	34.33	No	Si
SLU 70	0.05	-1983.27	-14230	-0.0000457	0.0003743	0.0035	1.655	9565.46	10775.41	10775.41	5.43	No	Si
SLU 70	0.45	-308.13	-13567	-0.000031	0.0003743	0.0035	1.655	9217.68	10375.77	10375.77	33.67	No	Si
SLU 79	0.05	-2152.69	-15661	-0.0000504	0.0003743	0.0035	1.655	10282.54	11621.99	11621.99	5.4	No	Si
SLU 79	0.45	-323.53	-14997	-0.0000343	0.0003743	0.0035	1.655	9955.49	11227.07	11227.07	34.7	No	Si
SLU 80	0.05	-2127.65	-15522	-0.0000499	0.0003743	0.0035	1.655	10215.18	11539.57	11539.57	5.42	No	Si
SLU 80	0.45	-324.11	-14859	-0.000034	0.0003743	0.0035	1.655	9886.12	11145.24	11145.24	34.39	No	Si
SLU 72	0.05	-1970.32	-14108	-0.0000453	0.0003743	0.0035	1.655	9502.33	10703.94	10703.94	5.43	No	Si
SLU 72	0.45	-303.38	-13445	-0.0000307	0.0003743	0.0035	1.655	9152.79	10301.41	10301.41	33.96	No	Si
SLU 69	0.05	-2008.31	-14368	-0.0000462	0.0003743	0.0035	1.655	9636.72	10856.42	10856.42	5.41	No	Si
SLU 69	0.45	-307.56	-13705	-0.0000313	0.0003743	0.0035	1.655	9290.95	10459.92	10459.92	34.01	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	0.05	-2286.92	-8258	-0.0000341	0.0005615	0.0035	1.655		7089.85	7089.85	3.1		Si
SLD 2	0.45	-128.57	-7734	-0.0000168	0.0005615	0.0035	1.655		6702.97	6702.97	52.13		Si
SLV 6	0.05	-276.8	-19	-0.0001556	0.0005615	0.0035	1.324		710.94	710.94	2.57		Si
SLV 6	0.45	-311.3	520	0.0861669	0.0005615	0.0035	1.324		0	0	0		No
SLD 1	0.05	-2500.53	-8409	-0.0000362	0.0005615	0.0035	1.655		7201	7201	2.88		Si
SLD 1	0.45	-110.7	-7885	-0.000017	0.0005615	0.0035	1.655		6814.96	6814.96	61.56		Si
SLV 3	0.05	-4032.53	-13097	-0.0000584	0.0005615	0.0035	1.655		10511.81	10511.81	2.61		Si
SLV 3	0.45	33.64	-12576	-0.0000263	0.0005615	0.0035	1.655		9574.29	9574.29	284.58		Si
SLV 10	0.05	859.32	-437	-0.0030206	0.0005615	0.0035	1.324		526.69	526.69	0.61		No
SLV 10	0.45	-434.47	90	0.015517	0.0005615	0.0035	1.324		0	0	0		No
SLV 5	0.05	-503.46	-180	-0.0001757	0.0005615	0.0035	1.324		843.64	843.64	1.68		Si
SLV 5	0.45	-292.33	359	0.0597623	0.0005615	0.0035	1.324		0	0	0		No
SLV 9	0.05	632.66	-597	-0.0005172	0.0005615	0.0035	1.324		657.51	657.51	1.04		Si
SLV 9	0.45	-415.51	-70	-0.0001902	0.0005615	0.0035	1.324		754	754	1.81		Si
SLV 4	0.05	-3695.82	-12859	-0.0000551	0.0005615	0.0035	1.655		10347.58	10347.58	2.8		Si
SLV 4	0.45	5.47	-12337	-0.0000256	0.0005615	0.0035	1.655		9428.62	9428.62	1722.96		Si
SLV 2	0.05	-2704.17	-6690	-0.000036	0.0005615	0.0035	1.655		5927.96	5927.96	2.19		Si
SLV 2	0.45	-76.53	-6154	-0.0000131	0.0005615	0.0035	1.655		5523.12	5523.12	72.17		Si
SLV 1	0.05	-3040.88	-6929	-0.0000408	0.0005615	0.0035	1.655		6105.69	6105.69	2.01		Si
SLV 1	0.45	-48.36	-6393	-0.0000134	0.0005615	0.0035	1.655		5703.48	5703.48	117.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	-2124.92	-15672	-13931	-4492	1.655	1.655	-18705	9438	7029	28547	22301	4220	26521	No	5.9	Si
SLU 82	0.45	-326.82	-15008	-13341	-4492	1.655	1.655	-17913	9333	6951	28547	22301	4220	26521	No	5.9	Si
SLU 83	0.05	-2185.04	-16038	-14256	-4636	1.655	1.655	-19142	9497	7073	28547	22301	4220	26521	No	5.72	Si
SLU 83	0.45	-329.33	-15375	-13667	-4636	1.655	1.655	-18351	9391	6994	28547	22301	4220	26521	No	5.72	Si
SLU 80	0.05	-2127.65	-15522	-13798	-4505	1.655	1.655	-18526	9415	7012	28547	22301	4220	26521	No	5.89	Si
SLU 80	0.45	-324.11	-14859	-13208	-4505	1.655	1.655	-17735	9309	6933	28547	22301	4220	26521	No	5.89	Si
SLU 75	0.05	-2105.52	-15416	-13703	-4446	1.655	1.655	-18399	9398	6999	28547	22301	4220	26521	No	5.97	Si
SLU 75	0.45	-325.78	-14752	-13113	-4446	1.655	1.655	-17608	9292	6920	28547	22301	4220	26521	No	5.97	Si
SLU 78	0.05	-2140.6	-15644	-13906	-4526	1.655	1.655	-18672	9434	7026	28547	22301	4220	26521	No	5.86	Si
SLU 78	0.45	-328.86	-14981	-13316	-4526	1.655	1.655	-17880	9328	6947	28547	22301	4220	26521	No	5.86	Si
SLU 79	0.05	-2152.69	-15661	-13920	-4569	1.655	1.655	-18691	9437	7028	28547	22301	4220	26521	No	5.8	Si
SLU 79	0.45	-323.53	-14997	-13331	-4569	1.655	1.655	-17900	9331	6949	28547	22301	4220	26521	No	5.8	Si
SLU 81	0.05	-2149.97	-15810	-14054	-4556	1.655	1.655	-18870	9460	7046	28547	22301	4220	26521	No	5.82	Si
SLU 81	0.45	-326.25	-15147	-13464	-4556	1.655	1.655	-18078	9355	6967	28547	22301	4220	26521	No	5.82	Si
SLU 77	0.05	-2165.64	-15782	-14029	-4590	1.655	1.655	-18837	9456	7042	28547	22301	4220	26521	No	5.78	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.45	-328.29	-15119	-13439	-4590	1.655	1.655	-18045	9350	6964	28547	22301	4220	26521	No	5.78	Si
SLU 74	0.05	-2130.56	-15554	-13826	-4510	1.655	1.655	-18565	9420	7015	28547	22301	4220	26521	No	5.88	Si
SLU 74	0.45	-325.2	-14891	-13236	-4510	1.655	1.655	-17773	9314	6937	28547	22301	4220	26521	No	5.88	Si
SLU 84	0.05	-2160	-15900	-14133	-4572	1.655	1.655	-18977	9475	7056	28547	22301	4220	26521	No	5.8	Si
SLU 84	0.45	-329.91	-15237	-13544	-4572	1.655	1.655	-18185	9369	6978	28547	22301	4220	26521	No	5.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.05	-3695.82	-12859	-11430	-9222	1.655	1.6203	-15347	13486	9833	28547	33452	4220	37672		4.08	Si
SLV 4	0.45	5.47	-12337	-10966	-9165	1.655	1.655	-14725	13362	9951	28547	33452	4220	37672		4.11	Si
SLV 3	0.05	-4032.53	-13097	-11642	-10134	1.655	1.5588	-15632	13543	9500	28547	33452	4220	37672		3.72	Si
SLV 3	0.45	33.64	-12576	-11179	-10077	1.655	1.655	-15010	13419	9994	28547	33452	4220	37672		3.74	Si
SLV 2	0.05	-2704.17	-6690	-5946	-6458	1.655	1.2698	-10453	12507	7147	28547	33452	4220	35694		5.53	Si
SLV 2	0.45	-76.53	-6154	-5470	-6406	1.655	1.655	-7345	11886	8852	28547	33452	4220	37398		5.84	Si
SLD 7	0.05	-2873.52	-16524	-14688	-7006	1.655	1.655	-19722	14361	10695	28547	33452	4220	37672		5.38	Si
SLD 7	0.45	-102.04	-16029	-14248	-6991	1.655	1.655	-19131	14243	10607	28547	33452	4220	37672		5.39	Si
SLV 8	0.05	-3582.29	-20582	-18295	-8971	1.655	1.655	-24566	15330	11417	28547	33452	4220	37672		4.2	Si
SLV 8	0.45	-37.96	-20092	-17859	-8947	1.655	1.655	-23980	15213	11330	28547	33452	4220	37672		4.21	Si
SLD 4	0.05	-2867.24	-11870	-10551	-6955	1.655	1.655	-14167	13250	9868	28547	33452	4220	37672		5.42	Si
SLD 4	0.45	-80.79	-11356	-10094	-6919	1.655	1.655	-13554	13127	9777	28547	33452	4220	37672		5.44	Si
SLV 1	0.05	-3040.88	-6929	-6159	-7370	1.655	1.1658	-11805	12778	6703	28547	33452	4220	35250		4.78	Si
SLV 1	0.45	-48.36	-6393	-5682	-7318	1.655	1.655	-7630	11943	8894	28547	33452	4220	37441		5.12	Si
SLD 8	0.05	-2735.97	-16427	-14602	-6633	1.655	1.655	-19606	14338	10678	28547	33452	4220	37672		5.68	Si
SLD 8	0.45	-113.55	-15931	-14161	-6618	1.655	1.655	-19015	14220	10590	28547	33452	4220	37672		5.69	Si
SLD 3	0.05	-3080.86	-12022	-10686	-7534	1.655	1.655	-14348	13286	9895	28547	33452	4220	37672		5	Si
SLD 3	0.45	-62.92	-11507	-10229	-7498	1.655	1.655	-13735	13164	9804	28547	33452	4220	37672		5.02	Si
SLV 7	0.05	-3808.95	-20743	-18438	-9585	1.655	1.655	-24758	15368	11445	28547	33452	4220	37672		3.93	Si
SLV 7	0.45	-18.99	-20252	-18002	-9561	1.655	1.655	-24172	15251	11358	28547	33452	4220	37672		3.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	908	-676	95.9	151.25	1.58	Si
SLV 6	179667	0.24	1137	-847	95.9	189.05	1.97	Si
SLV 9	179667	0.24	3628	-2702	95.9	593.57	6.19	Si
SLV 10	179667	0.24	3857	-2873	95.9	630	6.57	Si
SLV 1	179667	0.24	4522	-3368	95.9	735.29	7.67	Si
SLV 2	179667	0.24	4862	-3621	95.9	788.71	8.22	Si
SLV 3	179667	0.24	10387	-7736	95.9	1622.23	16.92	Si
SLV 4	179667	0.24	10727	-7989	95.9	1671.27	17.43	Si
SLV 13	179667	0.24	13590	-10121	95.9	2074.6	21.63	Si
SLV 14	179667	0.24	13930	-10374	95.9	2121.26	22.12	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-19184	-13123	-618	0.508	2227.9	0.963	7.65915	2.57112	Si
SLV 11	-19195	-17665	-564	0.51	2229.1	0.963	7.69472	2.57112	Si
SLV 8	-18966	-13746	-607	0.512	2205.8	0.963	7.73654	2.57112	Si
SLV 12	-18978	-18288	-553	0.515	2207	0.963	7.77245	2.57112	Si
SLV 3	-12268	-3411	-464	0.726	1525.1	0.948	11.13534	2.70061	Si
SLV 15	-12307	-18550	-282	0.738	1529	0.948	11.30494	2.70061	Si
SLV 4	-11945	-4337	-448	0.743	1492.3	0.947	11.39672	2.70061	Si
SLV 16	-11984	-19476	-266	0.754	1496.2	0.947	11.56973	2.70061	Si
SLV 1	-6307	242	-275	1.223	922.4	0.922	19.29406	2.70061	Si, Trazione
SLV 13	-6346	-14897	-94	1.24	926.3	0.922	19.55697	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.399	SLU 79	Si
V_SLU	5.721	SLU 83	Si
PF_SLV	0	SLV 5	No
V_SLV	3.717	SLV 3	Si
PFFP_SLV	1.577	SLV 5	Si
R_SLV	2.979	SLV 7	Si

Maschio 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.778	2.071	-9.778	6.351	L2	L4	4.28	0.2	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.95	17656.15	-79115	-0.0001891	0.0004492	0.0035	4.28	41241.17	112632.96	112632.96	6.38	No	Si
SLU 82	0.05	-31060.57	-62300	-0.0001895	0.0004492	0.0035	4.28	53909.48	104640.04	104640.04	3.37	No	Si
SLU 78	-1.95	17995.02	-78174	-0.0001879	0.0004492	0.0035	4.28	42255.05	111857.27	111857.27	6.22	No	Si
SLU 78	0.05	-30909.31	-61446	-0.0001871	0.0004492	0.0035	4.28	54244.18	103986.79	103986.79	3.36	No	Si
SLU 77	-1.95	18886.54	-78476	-0.0001913	0.0004492	0.0035	4.28	41934.38	112105.62	112105.62	5.94	No	Si
SLU 77	0.05	-30976.79	-61731	-0.000188	0.0004492	0.0035	4.28	54135.87	104204.66	104204.66	3.36	No	Si
SLU 74	-1.95	18488.53	-77616	-0.0001881	0.0004492	0.0035	4.28	42839.89	111396.72	111396.72	6.03	No	Si
SLU 74	0.05	-30579.02	-61014	-0.0001852	0.0004492	0.0035	4.28	54402.14	103656.29	103656.29	3.39	No	Si
SLU 83	-1.95	18945.68	-80275	-0.0001958	0.0004492	0.0035	4.28	39940.1	113590.21	113590.21	6	No	Si
SLU 83	0.05	-31525.83	-63302	-0.0001932	0.0004492	0.0035	4.28	53478.84	105406.29	105406.29	3.34	No	Si
SLU 75	-1.95	17597.01	-77315	-0.0001847	0.0004492	0.0035	4.28	43149.98	111148.37	111148.37	6.32	No	Si
SLU 75	0.05	-30511.53	-60729	-0.0001844	0.0004492	0.0035	4.28	54502.1	103438.41	103438.41	3.39	No	Si
SLU 84	-1.95	18054.16	-79974	-0.0001923	0.0004492	0.0035	4.28	40282.95	113341.86	113341.86	6.28	No	Si
SLU 84	0.05	-31458.35	-63017	-0.0001923	0.0004492	0.0035	4.28	53605.46	105188.42	105188.42	3.34	No	Si
SLU 81	-1.95	18547.67	-79416	-0.0001925	0.0004492	0.0035	4.28	40908.91	112881.31	112881.31	6.09	No	Si
SLU 81	0.05	-31128.06	-62585	-0.0001904	0.0004492	0.0035	4.28	53791.21	104857.92	104857.92	3.37	No	Si
SLU 80	-1.95	17829.17	-77721	-0.0001864	0.0004492	0.0035	4.28	42731.24	111483.05	111483.05	6.25	No	Si
SLU 80	0.05	-30699.18	-61075	-0.0001857	0.0004492	0.0035	4.28	54380.09	103703.39	103703.39	3.38	No	Si
SLU 79	-1.95	18720.69	-78022	-0.0001898	0.0004492	0.0035	4.28	42416.16	111731.4	111731.4	5.97	No	Si
SLU 79	0.05	-30766.66	-61360	-0.0001865	0.0004492	0.0035	4.28	54276.1	103921.27	103921.27	3.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	-1.95	46683.78	-65196	-0.0002239	0.0006738	0.0035	4.28		108125.65	108125.65	2.32		Si
SLD 8	0.05	-23418.09	-53266	-0.0001414	0.0006738	0.0035	4.28		101601.89	101601.89	4.34		Si
SLV 5	-1.95	-43545.83	-27081	-0.0002476	0.0006738	0.0035	3.424		61761.45	61761.45	1.42		Si
SLV 5	0.05	-17171.61	-20549	-0.0000703	0.0006738	0.0035	4.28		50306.85	50306.85	2.93		Si
SLV 12	-1.95	68640.35	-79263	-0.0003242	0.0006738	0.0035	4.28		124563.54	124563.54	1.81		Si
SLV 12	0.05	-24802.61	-62307	-0.0001617	0.0006738	0.0035	4.28		113086.72	113086.72	4.56		Si
SLV 7	-1.95	71539.55	-73714	-0.0003297	0.0006738	0.0035	4.28		118458.48	118458.48	1.66		Si
SLV 7	0.05	-25145.61	-61695	-0.0001614	0.0006738	0.0035	4.28		112364.26	112364.26	4.47		Si
SLD 7	-1.95	47194.68	-65076	-0.0002251	0.0006738	0.0035	4.28		107980.1	107980.1	2.29		Si
SLD 7	0.05	-23426.12	-53297	-0.0001414	0.0006738	0.0035	4.28		101643.99	101643.99	4.34		Si
SLV 11	-1.95	69482.25	-79065	-0.0003274	0.0006738	0.0035	4.28		124394.98	124394.98	1.79		Si
SLV 11	0.05	-24815.85	-62357	-0.0001618	0.0006738	0.0035	4.28		113146.96	113146.96	4.56		Si
SLV 9	-1.95	-45603.13	-32432	-0.0002138	0.0006738	0.0035	3.424		70686.74	70686.74	1.55		Si
SLV 9	0.05	-16841.85	-21211	-0.0000704	0.0006738	0.0035	4.28		51503.94	51503.94	3.06		Si
SLV 6	-1.95	-44387.73	-27279	-0.0002599	0.0006738	0.0035	3.424		62101.24	62101.24	1.4		Si
SLV 6	0.05	-17158.37	-20498	-0.0000702	0.0006738	0.0035	4.28		50214.7	50214.7	2.93		Si
SLV 8	-1.95	70697.65	-73911	-0.0003258	0.0006738	0.0035	4.28		118698.33	118698.33	1.68		Si
SLV 8	0.05	-25132.37	-61644	-0.0001613	0.0006738	0.0035	4.28		112304.02	112304.02	4.47		Si
SLV 10	-1.95	-46445.03	-32630	-0.0002211	0.0006738	0.0035	3.424		71008.85	71008.85	1.53		Si
SLV 10	0.05	-16828.61	-21160	-0.0000703	0.0006738	0.0035	4.28		51411.8	51411.8	3.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	-1.95	16438.81	-75801	-48513	-13508	4.28	4.28	-56674	10833	24349	81562	30762	21828	52590	No	3.89	Si
SLU 73	0.05	-29858.64	-59451	-38049	-12624	4.28	4.28	-44450	10833	20164	81562	30762	21828	52590	No	4.17	Si
SLU 77	-1.95	18886.54	-78476	-50224	-13147	4.28	4.28	-58673	10833	25034	81562	30762	21828	52590	No	4	Si
SLU 77	0.05	-30976.79	-61731	-39508	-12208	4.28	4.28	-46154	10833	20747	81562	30762	21828	52590	No	4.31	Si
SLU 81	-1.95	18547.67	-79416	-50826	-13285	4.28	4.28	-59376	10833	25275	81562	30762	21828	52590	No	3.96	Si
SLU 81	0.05	-31128.06	-62585	-40054	-12349	4.28	4.28	-46792	10833	20966	81562	30762	21828	52590	No	4.26	Si
SLU 82	-1.95	17656.15	-79115	-50633	-13652	4.28	4.28	-59151	10833	25197	81562	30762	21828	52590	No	3.85	Si
SLU 82	0.05	-31060.57	-62300	-39872	-12724	4.28	4.28	-46579	10833	20893	81562	30762	21828	52590	No	4.13	Si
SLU 84	-1.95	18054.16	-79974	-51183	-13740	4.28	4.28	-59794	10833	25417	81562	30762	21828	52590	No	3.83	Si
SLU 84	0.05	-31458.35	-63017	-40331	-12796	4.28	4.28	-47115	10833	21077	81562	30762	21828	52590	No	4.11	Si
SLU 83	-1.95	18945.68	-80275	-51376	-13373	4.28	4.28	-60019	10833	25495	81562	30762	21828	52590	No	3.93	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.05	-31525.83	-63302	-40513	-12420	4.28	4.28	-47328	10833	21149	81562	30762	21828	52590	No	4.23	Si
SLU 75	-1.95	17597.01	-77315	-49482	-13426	4.28	4.28	-57806	10833	24737	81562	30762	21828	52590	No	3.92	Si
SLU 75	0.05	-30511.53	-60729	-38866	-12511	4.28	4.28	-45405	10833	20491	81562	30762	21828	52590	No	4.2	Si
SLU 80	-1.95	17829.17	-77721	-49741	-13439	4.28	4.28	-58109	10833	24841	81562	30762	21828	52590	No	3.91	Si
SLU 80	0.05	-30699.18	-61075	-39088	-12517	4.28	4.28	-45664	10833	20580	81562	30762	21828	52590	No	4.2	Si
SLU 78	-1.95	17995.02	-78174	-50032	-13515	4.28	4.28	-58448	10833	24957	81562	30762	21828	52590	No	3.89	Si
SLU 78	0.05	-30909.31	-61446	-39325	-12583	4.28	4.28	-45941	10833	20674	81562	30762	21828	52590	No	4.18	Si
SLU 76	-1.95	16836.82	-76661	-49063	-13596	4.28	4.28	-57316	10833	24569	81562	30762	21828	52590	No	3.87	Si
SLU 76	0.05	-30256.42	-60168	-38508	-12696	4.28	4.28	-44986	10833	20347	81562	30762	21828	52590	No	4.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.95	-43545.83	-27081	-17332	-29245	3.424	1.596	0	0	0	81562	36915	17462	54377		1.86	Si
SLV 5	0.05	-17171.61	-20549	-13151	-29390	4.28	3.913	-16922	15884	12678	81562	46144	21828	67972		2.31	Si
SLV 14	-1.95	-8769.72	-55243	-35355	-18236	4.28	4.28	-41303	16250	21559	81562	46144	21828	67972		3.73	Si
SLV 14	0.05	-19231.58	-36321	-23246	-17879	4.28	4.28	-27156	16250	16715	81562	46144	21828	67972		3.8	Si
SLV 6	-1.95	-44387.73	-27279	-17458	-29789	3.424	1.5384	0	0	0	81562	36915	17462	54377		1.83	Si
SLV 6	0.05	-17158.37	-20498	-13118	-29933	4.28	3.9087	-16898	15880	12665	81562	46144	21828	67972		2.27	Si
SLD 10	-1.95	-22100.16	-41267	-26411	-22143	4.28	4.28	-30854	16250	17981	81562	46144	21828	67972		3.07	Si
SLD 10	0.05	-18548.1	-29558	-18917	-21982	4.28	4.28	-22100	16250	14984	81562	46144	21828	67972		3.09	Si
SLD 9	-1.95	-21589.26	-41148	-26334	-21813	4.28	4.28	-30764	16250	17951	81562	46144	21828	67972		3.12	Si
SLD 9	0.05	-18556.13	-29589	-18937	-21652	4.28	4.28	-22123	16250	14992	81562	46144	21828	67972		3.14	Si
SLD 6	-1.95	-20785.17	-37858	-24229	-21283	4.28	4.28	-28305	16250	17109	81562	46144	21828	67972		3.19	Si
SLD 6	0.05	-18748.92	-29118	-18635	-21113	4.28	4.28	-21770	16250	14871	81562	46144	21828	67972		3.22	Si
SLD 5	-1.95	-20274.26	-37738	-24152	-20953	4.28	4.28	-28215	16250	17078	81562	46144	21828	67972		3.24	Si
SLD 5	0.05	-18756.95	-29149	-18655	-20784	4.28	4.28	-21793	16250	14879	81562	46144	21828	67972		3.27	Si
SLV 9	-1.95	-45603.13	-32432	-20757	-30617	3.424	2.2017	0	0	0	81562	36915	17462	54377		1.78	Si
SLV 9	0.05	-16841.85	-21211	-13575	-30780	4.28	4.0379	-16936	15887	12847	81562	46144	21828	67972		2.21	Si
SLV 13	-1.95	-7519.04	-54949	-35167	-17428	4.28	4.28	-41083	16250	21484	81562	46144	21828	67972		3.9	Si
SLV 13	0.05	-19251.25	-36397	-23294	-17071	4.28	4.28	-27213	16250	16735	81562	46144	21828	67972		3.98	Si
SLV 10	-1.95	-46445.03	-32630	-20883	-31161	3.424	2.1498	0	0	0	81562	36915	17462	54377		1.75	Si
SLV 10	0.05	-16828.61	-21160	-13542	-31324	4.28	4.0341	-16911	15882	12834	81562	46144	21828	67972		2.17	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.06 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-21902	0.24	117.45	1884.45	2876.31	2380.38	20.27	Si
SLV 6	-21953	0.24	117.45	1888.08	2881.89	2384.99	20.31	Si
SLV 9	-25109	0.24	117.45	2109.04	3228.72	2668.88	22.72	Si
SLV 10	-25159	0.24	117.45	2112.47	3234.25	2673.36	22.76	Si
SLV 1	-33502	0.24	117.45	2634.81	4132.82	3383.81	28.81	Si
SLV 2	-33577	0.24	117.45	2639.11	4140.84	3389.97	28.86	Si
SLV 13	-44192	0.24	117.45	3174.4	5262.64	4218.52	35.92	Si
SLV 14	-44267	0.24	117.45	3177.67	5270.35	4224.01	35.96	Si
SLV 3	-46663	0.24	117.45	3278.4	5516.44	4397.42	37.44	Si
SLV 4	-46738	0.24	117.45	3281.44	5524.15	4402.79	37.49	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.04 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-44589	-79065	1545	0.522	4856.2	0.98	7.75067	2.96251	Si
SLV 12	-44549	-79263	1543	0.523	4852.1	0.98	7.75774	2.96251	Si
SLV 7	-44564	-73714	1429	0.525	4853.7	0.98	7.79164	2.96251	Si
SLV 8	-44524	-73911	1426	0.526	4849.6	0.98	7.79875	2.96251	Si
SLV 15	-35063	-68939	1290	0.654	3885.7	0.975	9.74615	3.33092	Si
SLV 16	-35003	-69232	1287	0.655	3879.6	0.975	9.7627	3.33092	Si
SLV 3	-34980	-51101	902	0.666	3877.3	0.975	9.92349	3.33092	Si
SLV 4	-34921	-51395	899	0.667	3871.2	0.975	9.94037	3.33092	Si
SLV 13	-26864	-54949	955	0.84	3050.8	0.969	12.60698	3.33092	Si
SLV 14	-26804	-55243	951	0.842	3044.7	0.968	12.63443	3.33092	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.343	SLU 83	Si
V_SLU	3.828	SLU 84	Si
PF_SLV	1.399	SLV 6	Si
V_SLV	1.745	SLV 10	Si
PFFP_SLV	20.267	SLV 5	Si
R_SLV	2.616	SLV 11	Si

Maschio 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.848	-4.709	-11.013	-4.709	L2	L4	3.165	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 54	-1.95	12052.39	-23157	-0.0000513	0.0003743	0.0035	3.165	30794.09	31927.11	31927.11	2.65	No	Si
SLU 54	0.67	16632.43	-26937	-0.0000669	0.0003743	0.0035	3.165	34709.08	36446.78	36446.78	2.19	No	Si
SLU 52	-1.95	12028.67	-23156	-0.0000512	0.0003743	0.0035	3.165	30792.08	31924.91	31924.91	2.65	No	Si
SLU 52	0.67	16599.36	-26774	-0.0000667	0.0003743	0.0035	3.165	34547.03	36250.26	36250.26	2.18	No	Si
SLU 63	-1.95	12526.73	-24086	-0.0000535	0.0003743	0.0035	3.165	31784.46	33027.49	33027.49	2.64	No	Si
SLU 63	0.67	17393.59	-28245	-0.0000703	0.0003743	0.0035	3.165	35991.65	38034.74	38034.74	2.19	No	Si
SLU 84	-1.95	13809.57	-26383	-0.0000592	0.0003743	0.0035	3.165	34154.96	35778.44	35778.44	2.59	No	Si
SLU 84	0.67	19168.15	-31460	-0.0000786	0.0003743	0.0035	3.165	38983.9	41983.2	41983.2	2.19	No	Si
SLU 61	-1.95	12459.11	-23941	-0.0000531	0.0003743	0.0035	3.165	31631.19	32855.4	32855.4	2.64	No	Si
SLU 61	0.67	17283.08	-27966	-0.0000697	0.0003743	0.0035	3.165	35721.05	37694.76	37694.76	2.18	No	Si
SLU 73	-1.95	13311.51	-25453	-0.0000569	0.0003743	0.0035	3.165	33209.22	34660.12	34660.12	2.6	No	Si
SLU 73	0.67	18373.92	-29989	-0.0000748	0.0003743	0.0035	3.165	37642.49	40170.22	40170.22	2.19	No	Si
SLU 82	-1.95	13741.96	-26238	-0.0000588	0.0003743	0.0035	3.165	34008.95	35603.9	35603.9	2.59	No	Si
SLU 82	0.67	19057.65	-31181	-0.000078	0.0003743	0.0035	3.165	38732.89	41642.32	41642.32	2.19	No	Si
SLU 76	-1.95	13379.13	-25598	-0.0000572	0.0003743	0.0035	3.165	33357.71	34833.82	34833.82	2.6	No	Si
SLU 76	0.67	18484.43	-30268	-0.0000754	0.0003743	0.0035	3.165	37900.76	40514.37	40514.37	2.19	No	Si
SLU 60	-1.95	12313.17	-23572	-0.0000524	0.0003743	0.0035	3.165	31238.27	32417.27	32417.27	2.63	No	Si
SLU 60	0.67	16975.33	-27582	-0.0000685	0.0003743	0.0035	3.165	35345.96	37227.95	37227.95	2.19	No	Si
SLU 55	-1.95	12096.28	-23300	-0.0000516	0.0003743	0.0035	3.165	30947.83	32096.16	32096.16	2.65	No	Si
SLU 55	0.67	16709.86	-27054	-0.0000672	0.0003743	0.0035	3.165	34824.89	36587.78	36587.78	2.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	9476.67	-7317	-0.0000591	0.0005615	0.0035	3.165		11731.74	11731.74	1.24		Si
SLV 3	0.67	1635.82	-8154	-0.000012	0.0005615	0.0035	3.165		12983.34	12983.34	7.94		Si
SLV 11	-1.95	-1837.96	6447	0.4896032	0.0005615	0.0035	2.532		0	0	0		No
SLV 11	0.67	-2937.78	-1695	-0.0000766	0.0005615	0.0035	2.532		5555.78	5555.78	1.89		Si
SLV 4	-1.95	9776.37	-7514	-0.0000621	0.0005615	0.0035	3.165		12027.71	12027.71	1.23		Si
SLV 4	0.67	586.28	-7092	-0.0000087	0.0005615	0.0035	3.165		11395.82	11395.82	19.44		Si
SLV 8	-1.95	414.26	7897	0.5955238	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	0.67	-7246.54	2841	0.2222029	0.0005615	0.0035	2.532		0	0	0		No
SLD 7	-1.95	3975.84	-2464	-0.0002611	0.0005615	0.0035	3.165		4349.86	4349.86	1.09		Si
SLD 7	0.67	1189.26	-7036	-0.0000099	0.0005615	0.0035	3.165		11310.89	11310.89	9.51		Si
SLV 10	-1.95	18137.82	-42905	-0.0000871	0.0005615	0.0035	3.165		57429.06	57429.06	3.17		Si
SLV 10	0.67	31232.76	-42598	-0.0001224	0.0005615	0.0035	3.165		57058.02	57058.02	1.83		Si
SLV 12	-1.95	-1636.22	6314	0.4792578	0.0005615	0.0035	2.532		0	0	0		No
SLV 12	0.67	-3644.28	-980	-0.0002662	0.0005615	0.0035	2.532		4452.43	4452.43	1.22		Si
SLV 9	-1.95	17936.07	-42772	-0.0000865	0.0005615	0.0035	3.165		57268.04	57268.04	3.19		Si
SLV 9	0.67	31939.26	-43313	-0.0001253	0.0005615	0.0035	3.165		57923.71	57923.71	1.81		Si
SLD 8	-1.95	4098.27	-2544	-0.0002634	0.0005615	0.0035	3.165		4474.62	4474.62	1.09		Si
SLD 8	0.67	760.52	-6602	-0.0000085	0.0005615	0.0035	3.165		10660.46	10660.46	14.02		Si
SLV 7	-1.95	212.52	8030	0.6059059	0.0005615	0.0035	2.532		0	0	0		No
SLV 7	0.67	-6540.04	2127	0.1669698	0.0005615	0.0035	2.532		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.95	13741.96	-26238	-23323	-8543	3.165	3.165	-16376	9128	16185	28547	42648	8071	44732	No	5.24	Si
SLU 82	0.67	19057.65	-31181	-27716	-11916	3.165	2.9139	-19460	9539	17942	28547	42648	8071	46489	No	3.9	Si
SLU 80	-1.95	13349.44	-25497	-22664	-8288	3.165	3.165	-15913	9066	15921	28547	42648	8071	44468	No	5.37	Si
SLU 80	0.67	18389.76	-30291	-26925	-11558	3.165	2.9262	-18905	9465	17626	28547	42648	8071	46173	No	3.99	Si
SLU 77	-1.95	13256.9	-25231	-22427	-8361	3.165	3.165	-15747	9044	15827	28547	42648	8071	44373	No	5.31	Si
SLU 77	0.67	18209.73	-30046	-26708	-11650	3.165	2.9293	-18752	9445	17539	28547	42648	8071	46086	No	3.96	Si
SLU 79	-1.95	13203.49	-25127	-22335	-8299	3.165	3.165	-15682	9035	15790	28547	42648	8071	44337	No	5.34	Si
SLU 79	0.67	18082	-29907	-26584	-11567	3.165	2.9337	-18665	9433	17489	28547	42648	8071	46036	No	3.98	Si
SLU 84	-1.95	13809.57	-26383	-23452	-8641	3.165	3.165	-16466	9140	16237	28547	42648	8071	44783	No	5.18	Si
SLU 84	0.67	19168.15	-31460	-27964	-12059	3.165	2.9196	-19634	9562	18042	28547	42648	8071	46588	No	3.86	Si
SLU 78	-1.95	13402.85	-25600	-22755	-8350	3.165	3.165	-15977	9075	15958	28547	42648	8071	44505	No	5.33	Si
SLU 78	0.67	18517.49	-30431	-27050	-11640	3.165	2.922	-18992	9477	17676	28547	42648	8071	46222	No	3.97	Si
SLU 81	-1.95	13596.01	-25869	-22995	-8554	3.165	3.165	-16145	9097	16054	28547	42648	8071	44600	No	5.21	Si
SLU 81	0.67	18749.89	-30796	-27375	-11926	3.165	2.921	-19220	9507	17806	28547	42648	8071	46352	No	3.89	Si
SLU 75	-1.95	13335.24	-25455	-22627	-8252	3.165	3.165	-15887	9063	15907	28547	42648	8071	44453	No	5.39	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.67	18406.99	-30151	-26801	-11497	3.165	2.916	-18818	9453	17576	28547	42648	8071	46123	No	4.01	Si
SLU 74	-1.95	13189.29	-25086	-22298	-8263	3.165	3.165	-15656	9032	15775	28547	42648	8071	44322	No	5.36	Si
SLU 74	0.67	18099.23	-29767	-26460	-11507	3.165	2.9234	-18578	9422	17440	28547	42648	8071	45986	No	4	Si
SLU 83	-1.95	13663.62	-26014	-23124	-8653	3.165	3.165	-16236	9109	16105	28547	42648	8071	44652	No	5.16	Si
SLU 83	0.67	18860.39	-31076	-27623	-12069	3.165	2.9267	-19395	9530	17905	28547	42648	8071	46452	No	3.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	17936.07	-42772	-38019	-11658	3.165	3.165	-26694	15756	25492	28547	63973	8071	54038		4.64	Si
SLV 9	0.67	31939.26	-43313	-38500	-18170	3.165	2.5353	-27032	15823	25684	28547	63973	8071	54231		2.98	Si
SLD 16	-1.95	5345.82	-14869	-13217	-11624	3.165	3.165	-9280	12273	17479	28547	63973	8071	46026		3.96	Si
SLD 16	0.67	12781.92	-20309	-18052	-15868	3.165	2.8594	-12675	12952	17505	28547	63973	8071	46052		2.9	Si
SLV 10	-1.95	18137.82	-42905	-38137	-10463	3.165	3.165	-26777	15772	25539	28547	63973	8071	54085		5.17	Si
SLV 10	0.67	31232.76	-42598	-37865	-16392	3.165	2.5479	-26586	15734	25430	28547	63973	8071	53976		3.29	Si
SLV 16	-1.95	2941.45	-12792	-11371	-14963	3.165	3.165	-7984	12013	17110	28547	63973	8071	45657		3.05	Si
SLV 16	0.67	12593.79	-19832	-17628	-20297	3.165	2.8424	-12377	12892	17336	28547	63973	8071	45882		2.26	Si
SLD 14	-1.95	8822.2	-23524	-20910	-12398	3.165	3.165	-14681	13353	19018	28547	63973	8071	47564		3.84	Si
SLD 14	0.67	18914.54	-27626	-24557	-17608	3.165	2.6935	-17242	13865	20107	28547	63973	8071	48653		2.76	Si
SLV 13	-1.95	8573.96	-27360	-24320	-18061	3.165	3.165	-17076	13832	20012	28547	63973	8071	48559		2.69	Si
SLV 13	0.67	24106.44	-33379	-29670	-25902	3.165	2.5809	-20832	14583	22152	28547	63973	8071	50699		1.96	Si
SLV 14	-1.95	8873.66	-27558	-24496	-16285	3.165	3.165	-17199	13856	20082	28547	63973	8071	48629		2.99	Si
SLV 14	0.67	23056.9	-32317	-28726	-23260	3.165	2.6071	-20170	14451	21775	28547	63973	8071	50321		2.16	Si
SLD 13	-1.95	8632.07	-23398	-20798	-13524	3.165	3.165	-14603	13337	18996	28547	63973	8071	47542		3.52	Si
SLD 13	0.67	19580.38	-28300	-25156	-19283	3.165	2.6718	-17662	13949	20346	28547	63973	8071	48893		2.54	Si
SLV 15	-1.95	2641.75	-12595	-11195	-16739	3.165	3.165	-7861	11989	17075	28547	63973	8071	45622		2.73	Si
SLV 15	0.67	13643.33	-20894	-18572	-22938	3.165	2.7885	-13040	13025	17713	28547	63973	8071	46260		2.02	Si
SLD 15	-1.95	5155.69	-14744	-13105	-12751	3.165	3.165	-9202	12257	17457	28547	63973	8071	46004		3.61	Si
SLD 15	0.67	13447.76	-20982	-18651	-17544	3.165	2.8248	-13095	13036	17745	28547	63973	8071	46291		2.64	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	0	2217	183.39	0	0	No, Trazione
SLV 7	179667	0.24	0	4571	183.39	0	0	No, Trazione
SLV 12	179667	0.24	0	2534	183.39	0	0	No, Trazione
SLV 8	179667	0.24	0	4889	183.39	0	0	No, Trazione
SLV 4	179667	0.24	5122	-7296	183.39	1586.48	8.65	Si
SLV 3	179667	0.24	5454	-7767	183.39	1685.22	9.19	Si
SLV 16	179667	0.24	10632	-15143	183.39	3169.91	17.29	Si
SLV 15	179667	0.24	10963	-15614	183.39	3261	17.78	Si
SLV 2	179667	0.24	14154	-20160	183.39	4115.49	22.44	Si
SLV 1	179667	0.24	14486	-20631	183.39	4201.68	22.91	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-43313	-42772	541	0.461	4935.1	0.968	6.9293	2.57112	Si
SLV 10	-42598	-42905	530	0.467	4862.3	0.967	7.02373	2.57112	Si
SLV 5	-39491	-41188	477	0.496	4546.1	0.965	7.47438	2.57112	Si
SLV 6	-38776	-41321	466	0.504	4473.3	0.965	7.58712	2.57112	Si
SLV 13	-33379	-27360	431	0.566	3924.3	0.96	8.56604	2.70061	Si
SLV 14	-32317	-27558	415	0.581	3816.3	0.959	8.79834	2.70061	Si
SLV 15	-20894	-12595	271	0.82	2656.1	0.944	12.62255	2.70061	Si
SLV 1	-20640	-22082	218	0.83	2630.3	0.943	12.78256	2.70061	Si
SLV 16	-19832	-12792	255	0.854	2548.5	0.942	13.17862	2.70061	Si
SLV 2	-19578	-22280	202	0.865	2522.7	0.941	13.35273	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.181	SLU 61	Si
V_SLU	3.849	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	1.957	SLV 13	Si
PFFP_SLV	0	SLV 12	No
R_SLV	2.695	SLV 9	Si

Maschio 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.863	-3.284	-10.553	-3.284	L2	L4	0.31	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	-1.95	75.64	-21315	-0.0009206	0.0003743	0.0035	0.31	0	494.35	494.35	6.54	No	Si
SLU 80	0.1	-10.24	-9059	-0.0001097	0.0003743	0.0035	0.31	508.54	908	908	88.68	No	Si
SLU 77	-1.95	73.61	-21260	-0.0009014	0.0003743	0.0035	0.31	0	499.97	499.97	6.79	No	Si
SLU 77	0.1	-9.68	-9057	-0.0001095	0.0003743	0.0035	0.31	508.61	907.92	907.92	93.84	No	Si
SLU 83	-1.95	72.98	-21864	-0.0010339	0.0003743	0.0035	0.31	0	438.65	438.65	6.01	No	Si
SLU 83	0.1	-13.04	-9362	-0.0001147	0.0003743	0.0035	0.31	494.58	919.98	919.98	70.58	No	Si
SLU 75	-1.95	75.34	-21262	-0.0009083	0.0003743	0.0035	0.31	0	499.73	499.73	6.63	No	Si
SLU 75	0.1	-11.04	-9041	-0.0001096	0.0003743	0.0035	0.31	509.31	907.12	907.12	82.17	No	Si
SLU 76	-1.95	76.48	-21266	-0.0009135	0.0003743	0.0035	0.31	0	499.32	499.32	6.53	No	Si
SLU 76	0.1	-11.56	-9028	-0.0001096	0.0003743	0.0035	0.31	509.85	906.5	906.5	78.41	No	Si
SLU 84	-1.95	75.66	-22018	-0.0010823	0.0003743	0.0035	0.31	0	420.84	420.84	5.56	No	Si
SLU 84	0.1	-13.16	-9405	-0.0001154	0.0003743	0.0035	0.31	492.43	921.14	921.14	69.98	No	Si
SLU 81	-1.95	72.03	-21713	-0.0009948	0.0003743	0.0035	0.31	0	454.03	454.03	6.3	No	Si
SLU 81	0.1	-14.27	-9302	-0.0001142	0.0003743	0.0035	0.31	497.48	918.38	918.38	64.34	No	Si
SLU 78	-1.95	76.29	-21414	-0.0009444	0.0003743	0.0035	0.31	0	484.35	484.35	6.35	No	Si
SLU 78	0.1	-9.8	-9100	-0.0001101	0.0003743	0.0035	0.31	506.75	910.01	910.01	92.84	No	Si
SLU 73	-1.95	75.53	-21115	-0.000878	0.0003743	0.0035	0.31	0	514.7	514.7	6.81	No	Si
SLU 73	0.1	-12.8	-8968	-0.0001091	0.0003743	0.0035	0.31	512.32	903.6	903.6	70.6	No	Si
SLU 82	-1.95	74.71	-21866	-0.0010415	0.0003743	0.0035	0.31	0	438.41	438.41	5.87	No	Si
SLU 82	0.1	-14.4	-9346	-0.0001149	0.0003743	0.0035	0.31	495.39	919.54	919.54	63.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	-1.95	181.01	-25739	-0.0005094	0.0005615	0.0035	0.31		918.17	918.17	5.07		Si
SLV 5	0.1	-32.77	-10083	-0.0001221	0.0005615	0.0035	0.31		1105.39	1105.39	33.73		Si
SLV 16	-1.95	164.04	-12624	-0.0001912	0.0005615	0.0035	0.31		1208.75	1208.75	7.37		Si
SLV 16	0.1	110.16	-4299	-0.0000695	0.0005615	0.0035	0.31		577.8	577.8	5.24		Si
SLV 10	-1.95	279.04	-26672	-0.0007263	0.0005615	0.0035	0.31		827.68	827.68	2.97		Si
SLV 10	0.1	32.97	-9686	-0.0001171	0.0005615	0.0035	0.31		1057.49	1057.49	32.07		Si
SLV 8	-1.95	-171.1	-2726	-0.0000654	0.0005615	0.0035	0.31		429	429	2.51		Si
SLV 8	0.1	-56.01	-2764	-0.0000407	0.0005615	0.0035	0.31		433.88	433.88	7.75		Si
SLV 6	-1.95	181.33	-25851	-0.0005158	0.0005615	0.0035	0.31		907.22	907.22	5		Si
SLV 6	0.1	-42.68	-10188	-0.0001259	0.0005615	0.0035	0.31		1110.76	1110.76	26.02		Si
SLV 15	-1.95	163.58	-12457	-0.0001886	0.0005615	0.0035	0.31		1201.6	1201.6	7.35		Si
SLV 15	0.1	124.88	-4142	-0.0000709	0.0005615	0.0035	0.31		558.24	558.24	4.47		Si
SLV 13	-1.95	269.31	-19394	-0.0003482	0.0005615	0.0035	0.31		1259.47	1259.47	4.68		Si
SLV 13	0.1	128.88	-6370	-0.0000983	0.0005615	0.0035	0.31		789.07	789.07	6.12		Si
SLV 7	-1.95	-171.42	-2613	-0.0000647	0.0005615	0.0035	0.31		414.24	414.24	2.42		Si
SLV 7	0.1	-46.1	-2658	-0.0000375	0.0005615	0.0035	0.31		420.12	420.12	9.11		Si
SLV 14	-1.95	269.77	-19562	-0.0003523	0.0005615	0.0035	0.31		1257.25	1257.25	4.66		Si
SLV 14	0.1	114.16	-6526	-0.0000969	0.0005615	0.0035	0.31		804.48	804.48	7.05		Si
SLV 9	-1.95	278.73	-26559	-0.000708	0.0005615	0.0035	0.31		838.63	838.63	3.01		Si
SLV 9	0.1	42.88	-9580	-0.0001181	0.0005615	0.0035	0.31		1050.06	1050.06	24.49		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 54	-1.95	76.49	-19265	-15412	1006	0.31	0.31	-110483	10833	4557	81562	4177	1581	5758	No	5.73	Si
SLU 54	0.1	-5.51	-8070	-6456	1143	0.31	0.31	-46280	10833	2169	81562	4177	1581	5758	No	5.04	Si
SLU 56	-1.95	74.75	-19263	-15410	999	0.31	0.31	-110469	10833	4557	81562	4177	1581	5758	No	5.76	Si
SLU 56	0.1	-4.15	-8087	-6469	1165	0.31	0.31	-46375	10833	2173	81562	4177	1581	5758	No	4.94	Si
SLU 59	-1.95	76.79	-19318	-15455	1009	0.31	0.31	-110786	10833	4569	81562	4177	1581	5758	No	5.71	Si
SLU 59	0.1	-4.71	-8088	-6471	1161	0.31	0.31	-46385	10833	2173	81562	4177	1581	5758	No	4.96	Si
SLU 58	-1.95	74.1	-19165	-15332	993	0.31	0.31	-109904	10833	4536	81562	4177	1581	5758	No	5.8	Si
SLU 58	0.1	-4.58	-8045	-6436	1149	0.31	0.31	-46137	10833	2164	81562	4177	1581	5758	No	5.01	Si
SLU 51	-1.95	74.51	-17325	-13860	931	0.31	0.31	-99357	10833	4144	81562	4177	1581	5758	No	6.18	Si
SLU 51	0.1	-0.78	-7141	-5713	1141	0.31	0.31	-40952	10833	1971	81562	4177	1581	5758	No	5.05	Si
SLU 49	-1.95	75.16	-17424	-13939	937	0.31	0.31	-99923	10833	4165	81562	4177	1581	5758	No	6.15	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	0.1	-0.34	-7182	-5746	1157	0.31	0.31	-41189	10833	1980	81562	4177	1581	5758	No	4.98	Si
SLU 57	-1.95	77.44	-19417	-15534	1015	0.31	0.31	-111351	10833	4590	81562	4177	1581	5758	No	5.67	Si
SLU 57	0.1	-4.27	-8130	-6504	1177	0.31	0.31	-46622	10833	2182	81562	4177	1581	5758	No	4.89	Si
SLU 78	-1.95	76.29	-21414	-17131	1084	0.31	0.31	-122804	10833	5016	81562	4177	1581	5758	No	5.31	Si
SLU 78	0.1	-9.8	-9100	-7280	1155	0.31	0.31	-52188	10833	2389	81562	4177	1581	5758	No	4.99	Si
SLU 48	-1.95	72.48	-17270	-13816	921	0.31	0.31	-99040	10833	4132	81562	4177	1581	5758	No	6.25	Si
SLU 48	0.1	-0.21	-7139	-5711	1146	0.31	0.31	-40942	10833	1971	81562	4177	1581	5758	No	5.03	Si
SLU 77	-1.95	73.61	-21260	-17008	1068	0.31	0.31	-121921	10833	4983	81562	4177	1581	5758	No	5.39	Si
SLU 77	0.1	-9.68	-9057	-7246	1143	0.31	0.31	-51940	10833	2380	81562	4177	1581	5758	No	5.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	-1.95	126.94	-13431	-10745	899	0.31	0.31	-77022	16250	3537	81562	6266	1581	7847		8.73	Si
SLD 15	0.1	77.64	-4933	-3947	2335	0.31	0.31	-28290	16075	2242	81562	6266	1581	7847		3.36	Si
SLD 13	-1.95	188.89	-17496	-13997	1275	0.31	0.31	-100338	16250	4404	81562	6266	1581	7847		6.15	Si
SLD 13	0.1	80.06	-6238	-4991	2719	0.31	0.31	-35775	16250	2267	81562	6266	1581	7847		2.89	Si
SLV 10	-1.95	279.04	-26672	-21337	1981	0.31	0.31	-152955	16250	6361	81562	6266	1581	7847		3.96	Si
SLV 10	0.1	32.97	-9686	-7748	2592	0.31	0.31	-55544	16250	2738	81562	6266	1581	7847		3.03	Si
SLV 9	-1.95	278.73	-26559	-21247	1979	0.31	0.31	-152307	16250	6337	81562	6266	1581	7847		3.97	Si
SLV 9	0.1	42.88	-9580	-7664	2749	0.31	0.31	-54940	16250	2715	81562	6266	1581	7847		2.85	Si
SLV 13	-1.95	269.31	-19394	-15515	1598	0.31	0.31	-111221	16250	4809	81562	6266	1581	7847		4.91	Si
SLV 13	0.1	128.88	-6370	-5096	3818	0.31	0.31	-36528	16250	2267	81562	6266	1581	7847		2.06	Si
SLV 15	-1.95	163.58	-12457	-9965	955	0.31	0.31	-71435	16250	3329	81562	6266	1581	7847		8.21	Si
SLV 15	0.1	124.88	-4142	-3314	3163	0.31	0.31	-23755	15168	2116	81562	6266	1581	7847		2.48	Si
SLD 14	-1.95	189.19	-17603	-14082	1277	0.31	0.31	-100948	16250	4427	81562	6266	1581	7847		6.14	Si
SLD 14	0.1	70.72	-6338	-5070	2570	0.31	0.31	-36344	16250	2267	81562	6266	1581	7847		3.05	Si
SLV 16	-1.95	164.04	-12624	-10099	958	0.31	0.31	-72397	16250	3365	81562	6266	1581	7847		8.19	Si
SLV 16	0.1	110.16	-4299	-3439	2930	0.31	0.31	-24652	15347	2141	81562	6266	1581	7847		2.68	Si
SLV 14	-1.95	269.77	-19562	-15649	1601	0.31	0.31	-112182	16250	4845	81562	6266	1581	7847		4.9	Si
SLV 14	0.1	114.16	-6526	-5221	3584	0.31	0.31	-37426	16250	2267	81562	6266	1581	7847		2.19	Si
SLV 4	-1.95	-161.68	-9891	-7913	-99	0.31	0.31	-56722	16250	2782	81562	6266	1581	7847		79.11	Si
SLV 4	0.1	-142.01	-5974	-4779	-2199	0.31	0.31	-34261	16250	2267	81562	6266	1581	7847		3.57	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-3460	0.24	17.96	652	856.87	754.44	42	Si
SLV 12	-3570	0.24	17.96	668.62	881.89	775.25	43.16	Si
SLV 7	-3883	0.24	17.96	714.38	952.43	833.4	46.4	Si
SLV 8	-3993	0.24	17.96	730.01	977.29	853.65	47.52	Si
SLV 15	-7790	0.24	17.96	1111.82	1713.15	1412.49	78.64	Si
SLV 16	-7953	0.24	17.96	1121.44	1739	1430.22	79.62	Si
SLV 6	-17851	0.24	17.96	651	2387.16	1519.08	84.57	Si
SLV 5	-17741	0.24	17.96	667.63	2390.82	1529.23	85.14	Si
SLV 3	-9200	0.24	17.96	1176.07	1920.03	1548.05	86.18	Si
SLV 10	-17428	0.24	17.96	713.43	2396.66	1555.05	86.57	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-10982	-25851	-80	0.235	1170	0.986	3.4676	2.57112	Si
SLV 5	-10841	-25739	-75	0.238	1155.7	0.986	3.50194	2.57112	Si
SLV 10	-10538	-26672	-56	0.244	1124.8	0.986	3.59107	2.57112	Si
SLV 9	-10397	-26559	-52	0.246	1110.4	0.985	3.6285	2.57112	Si
SLV 2	-8602	-16828	-91	0.274	927.5	0.983	4.05013	2.70061	Si
SLV 1	-8393	-16661	-84	0.279	906.2	0.982	4.1299	2.70061	Si
SLV 14	-7122	-19562	-13	0.322	776.7	0.979	4.77181	2.70061	Si
SLV 13	-6913	-19394	-7	0.329	755.4	0.979	4.88943	2.70061	Si
SLV 4	-6089	-9891	-76	0.35	671.5	0.976	5.20556	2.70061	Si
SLV 3	-5880	-9723	-70	0.36	650.2	0.976	5.35808	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.562	SLU 84	Si
V_SLU	4.893	SLU 57	Si
PF_SLV	2.417	SLV 7	Si
V_SLV	2.055	SLV 13	Si
PFFP_SLV	42.001	SLV 11	Si
R_SLV	1.349	SLV 6	Si

Maschio 43

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.498	-3.284	L2	Z medio 5 cm	0.755	0.45	2	2	2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	-1.95	-2795.44	-27200	-0.0003543	0.0003743	0.0035	0.755	2193.84	4419.79	4419.79	1.58	No	Si
SLU 73	0.05	-139.44	-16628	-0.0000896	0.0003743	0.0035	0.755	3259.61	4124.78	4124.78	29.58	No	Si
SLU 76	-1.95	-2810.76	-27380	-0.0003596	0.0003743	0.0035	0.755	2154.43	4405.81	4405.81	1.57	No	Si
SLU 76	0.05	-140.3	-16728	-0.0000903	0.0003743	0.0035	0.755	3260.95	4138.41	4138.41	29.5	No	Si
SLU 82	-1.95	-2880.11	-28201	-0.000387	0.0003743	0.0035	0.755	1966.39	4342.3	4342.3	1.51	No	Si
SLU 82	0.05	-144.03	-17385	-0.0000944	0.0003743	0.0035	0.755	3264.37	4218.38	4218.38	29.29	No	Si
SLU 83	-1.95	-2863.24	-28231	-0.0003851	0.0003743	0.0035	0.755	1959.29	4340	4340	1.52	No	Si
SLU 83	0.05	-141.77	-17392	-0.0000943	0.0003743	0.0035	0.755	3264.36	4218.8	4218.8	29.76	No	Si
SLU 75	-1.95	-2803.15	-27400	-0.0003591	0.0003743	0.0035	0.755	2150.03	4404.26	4404.26	1.57	No	Si
SLU 75	0.05	-138.83	-16754	-0.0000904	0.0003743	0.0035	0.755	3261.27	4142.06	4142.06	29.83	No	Si
SLU 81	-1.95	-2847.92	-28050	-0.0003787	0.0003743	0.0035	0.755	2002.05	4353.97	4353.97	1.53	No	Si
SLU 81	0.05	-140.91	-17293	-0.0000937	0.0003743	0.0035	0.755	3264.46	4212.68	4212.68	29.9	No	Si
SLU 78	-1.95	-2818.47	-27581	-0.0003646	0.0003743	0.0035	0.755	2109.83	4390.28	4390.28	1.56	No	Si
SLU 78	0.05	-139.7	-16854	-0.000091	0.0003743	0.0035	0.755	3262.34	4155.75	4155.75	29.75	No	Si
SLU 84	-1.95	-2895.42	-28382	-0.0003939	0.0003743	0.0035	0.755	1923.04	4328.33	4328.33	1.49	No	Si
SLU 84	0.05	-144.9	-17485	-0.000095	0.0003743	0.0035	0.755	3264.07	4224.54	4224.54	29.16	No	Si
SLU 77	-1.95	-2786.29	-27430	-0.0003578	0.0003743	0.0035	0.755	2143.45	4401.96	4401.96	1.58	No	Si
SLU 77	0.05	-136.57	-16761	-0.0000903	0.0003743	0.0035	0.755	3261.35	4143.01	4143.01	30.34	No	Si
SLU 80	-1.95	-2804.62	-27460	-0.0003605	0.0003743	0.0035	0.755	2136.74	4399.61	4399.61	1.57	No	Si
SLU 80	0.05	-139.08	-16765	-0.0000904	0.0003743	0.0035	0.755	3261.4	4143.59	4143.59	29.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	-1.95	-3477.87	-23123	-0.0002855	0.0005615	0.0035	0.755		5821.15	5821.15	1.67		Si
SLV 2	0.05	-105.73	-13248	-0.0000664	0.0005615	0.0035	0.755		4147.34	4147.34	39.23		Si
SLD 5	-1.95	-3241.55	-25601	-0.0002864	0.0005615	0.0035	0.755		6109.66	6109.66	1.88		Si
SLD 5	0.05	-193.66	-16000	-0.0000841	0.0005615	0.0035	0.755		4704.72	4704.72	24.29		Si
SLV 1	-1.95	-3379.06	-23072	-0.0002781	0.0005615	0.0035	0.755		5814.51	5814.51	1.72		Si
SLV 1	0.05	-94.66	-12937	-0.0000644	0.0005615	0.0035	0.755		4075.46	4075.46	43.05		Si
SLV 6	-1.95	-4215.06	-30361	-0.0003959	0.0005615	0.0035	0.755		6452.88	6452.88	1.53		Si
SLV 6	0.05	-272.98	-19547	-0.0001064	0.0005615	0.0035	0.755		5352.88	5352.88	19.61		Si
SLD 1	-1.95	-2822.56	-21378	-0.0002331	0.0005615	0.0035	0.755		5595.42	5595.42	1.98		Si
SLD 1	0.05	-91.78	-12215	-0.0000607	0.0005615	0.0035	0.755		3901.14	3901.14	42.51		Si
SLV 5	-1.95	-4148.54	-30327	-0.0003897	0.0005615	0.0035	0.755		6450.34	6450.34	1.55		Si
SLV 5	0.05	-265.53	-19338	-0.0001049	0.0005615	0.0035	0.755		5317.95	5317.95	20.03		Si
SLD 2	-1.95	-2885.24	-21410	-0.0002369	0.0005615	0.0035	0.755		5599.5	5599.5	1.94		Si
SLD 2	0.05	-98.8	-12412	-0.0000619	0.0005615	0.0035	0.755		3949.19	3949.19	39.97		Si
SLV 9	-1.95	-3603.2	-29816	-0.0003437	0.0005615	0.0035	0.755		6412.44	6412.44	1.78		Si
SLV 9	0.05	-295.76	-19771	-0.0001086	0.0005615	0.0035	0.755		5385.16	5385.16	18.21		Si
SLD 6	-1.95	-3281.92	-25622	-0.000289	0.0005615	0.0035	0.755		6111.1	6111.1	1.86		Si
SLD 6	0.05	-198.18	-16127	-0.0000849	0.0005615	0.0035	0.755		4727.36	4727.36	23.85		Si
SLV 10	-1.95	-3669.72	-29850	-0.0003485	0.0005615	0.0035	0.755		6414.94	6414.94	1.75		Si
SLV 10	0.05	-303.2	-19980	-0.0001101	0.0005615	0.0035	0.755		5414.65	5414.65	17.86		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	-2847.92	-28050	-24934	-5701	0.755	0.755	-73388	10833	7739	21410	10174	1925	12099	No	2.12	Si
SLU 81	0.05	-140.91	-17293	-15371	2113	0.755	0.755	-45243	10833	5189	21410	10174	1925	12099	No	5.73	Si
SLU 83	-1.95	-2863.24	-28231	-25094	-5727	0.755	0.755	-73861	10833	7782	21410	10174	1925	12099	No	2.11	Si
SLU 83	0.05	-141.77	-17392	-15460	2129	0.755	0.755	-45503	10833	5213	21410	10174	1925	12099	No	5.68	Si
SLU 75	-1.95	-2803.15	-27400	-24356	-5650	0.755	0.755	-71688	10833	7585	21410	10174	1925	12099	No	2.14	Si
SLU 75	0.05	-138.83	-16754	-14893	2034	0.755	0.755	-43834	10833	5062	21410	10174	1925	12099	No	5.95	Si
SLU 78	-1.95	-2818.47	-27581	-24516	-5676	0.755	0.755	-72160	10833	7628	21410	10174	1925	12099	No	2.13	Si
SLU 78	0.05	-139.7	-16854	-14981	2050	0.755	0.755	-44095	10833	5085	21410	10174	1925	12099	No	5.9	Si
SLU 80	-1.95	-2804.62	-27460	-24409	-5644	0.755	0.755	-71845	10833	7599	21410	10174	1925	12099	No	2.14	Si
SLU 80	0.05	-139.08	-16765	-14903	2042	0.755	0.755	-43864	10833	5064	21410	10174	1925	12099	No	5.92	Si
SLU 76	-1.95	-2810.76	-27380	-24338	-5684	0.755	0.755	-71635	10833	7580	21410	10174	1925	12099	No	2.13	Si
SLU 76	0.05	-140.3	-16728	-14869	2020	0.755	0.755	-43765	10833	5055	21410	10174	1925	12099	No	5.99	Si
SLU 84	-1.95	-2895.42	-28382	-25228	-5826	0.755	0.755	-74256	10833	7818	21410	10174	1925	12099	No	2.08	Si
SLU 84	0.05	-144.9	-17485	-15542	2120	0.755	0.755	-45746	10833	5235	21410	10174	1925	12099	No	5.71	Si
SLU 77	-1.95	-2786.29	-27430	-24382	-5578	0.755	0.755	-71766	10833	7592	21410	10174	1925	12099	No	2.17	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.05	-136.57	-16761	-14899	2059	0.755	0.755	-43852	10833	5063	21410	10174	1925	12099	No	5.88	Si
SLU 82	-1.95	-2880.11	-28201	-25068	-5799	0.755	0.755	-73783	10833	7775	21410	10174	1925	12099	No	2.09	Si
SLU 82	0.05	-144.03	-17385	-15454	2104	0.755	0.755	-45485	10833	5211	21410	10174	1925	12099	No	5.75	Si
SLU 73	-1.95	-2795.44	-27200	-24178	-5658	0.755	0.755	-71163	10833	7537	21410	10174	1925	12099	No	2.14	Si
SLU 73	0.05	-139.44	-16628	-14781	2003	0.755	0.755	-43504	10833	5032	21410	10174	1925	12099	No	6.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	-1.95	-3669.72	-29850	-26533	-8719	0.755	0.755	-78097	16250	8711	21410	15260	1925	17186		1.97	Si
SLV 10	0.05	-303.2	-19980	-17760	1595	0.755	0.755	-52275	16250	6371	21410	15260	1925	17186		10.77	Si
SLD 5	-1.95	-3241.55	-25601	-22757	-7478	0.755	0.7527	-66981	16250	7704	21410	15260	1925	17186		2.3	Si
SLD 5	0.05	-193.66	-16000	-14222	1137	0.755	0.755	-41861	16250	5521	21410	15260	1925	17186		15.11	Si
SLD 2	-1.95	-2885.24	-21410	-19031	-6554	0.755	0.7282	-56016	16250	6710	21410	15260	1925	17186		2.62	Si
SLD 2	0.05	-98.8	-12412	-11033	587	0.755	0.755	-32474	16250	5521	21410	15260	1925	17186		29.29	Si
SLD 10	-1.95	-2933.42	-25298	-22487	-6670	0.755	0.755	-66188	16250	7632	21410	15260	1925	17186		2.58	Si
SLD 10	0.05	-217.13	-16405	-14582	1533	0.755	0.755	-42920	16250	5524	21410	15260	1925	17186		11.21	Si
SLV 1	-1.95	-3379.06	-23072	-20509	-7830	0.755	0.6931	-68782	16250	7104	21410	15260	1925	17186		2.19	Si
SLV 1	0.05	-94.66	-12937	-11499	260	0.755	0.755	-33847	16250	5521	21410	15260	1925	17186		66.08	Si
SLV 2	-1.95	-3477.87	-23123	-20554	-8217	0.755	0.6813	-70224	16250	7116	21410	15260	1925	17186		2.09	Si
SLV 2	0.05	-105.73	-13248	-11776	126	0.755	0.755	-34660	16250	5521	21410	15260	1925	17186		136.09	Si
SLV 5	-1.95	-4148.54	-30327	-26957	-9971	0.755	0.7221	-88739	16250	8824	21410	15260	1925	17186		1.72	Si
SLV 5	0.05	-265.53	-19338	-17190	981	0.755	0.755	-50595	16250	6219	21410	15260	1925	17186		17.52	Si
SLV 6	-1.95	-4215.06	-30361	-26988	-10231	0.755	0.716	-89714	16250	8832	21410	15260	1925	17186		1.68	Si
SLV 6	0.05	-272.98	-19547	-17376	891	0.755	0.755	-51142	16250	6269	21410	15260	1925	17186		19.29	Si
SLD 6	-1.95	-3281.92	-25622	-22775	-7636	0.755	0.7482	-67035	16250	7709	21410	15260	1925	17186		2.25	Si
SLD 6	0.05	-198.18	-16127	-14335	1083	0.755	0.755	-42193	16250	5521	21410	15260	1925	17186		15.87	Si
SLV 9	-1.95	-3603.2	-29816	-26503	-8459	0.755	0.755	-78008	16250	8703	21410	15260	1925	17186		2.03	Si
SLV 9	0.05	-295.76	-19771	-17574	1685	0.755	0.755	-51727	16250	6322	21410	15260	1925	17186		10.2	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.95 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	15960	-5422	25.49	1092.53	42.86	Si
SLV 7	179667	0.24	15977	-5428	25.49	1093.58	42.9	Si
SLV 12	179667	0.24	18210	-6187	25.49	1226.06	48.1	Si
SLV 11	179667	0.24	18228	-6193	25.49	1227.07	48.14	Si
SLV 4	179667	0.24	30135	-10238	25.49	1849.07	72.53	Si
SLV 3	179667	0.24	30161	-10247	25.49	1850.26	72.58	Si
SLV 16	179667	0.24	37636	-12787	25.49	2168.01	85.05	Si
SLV 15	179667	0.24	37662	-12796	25.49	2169.01	85.09	Si
SLV 2	179667	0.24	44539	-15132	25.49	2411.76	94.61	Si
SLV 1	179667	0.24	44565	-15141	25.49	2412.58	94.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.95 Wa = 0.08 Ta = 0.0148

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-19980	-29850	-108	0.317	2130.7	0.986	4.66683	2.40972	Si
SLV 9	-19771	-29816	-102	0.319	2109.4	0.986	4.70272	2.40972	Si
SLV 6	-19547	-30361	-124	0.32	2086.6	0.986	4.72099	2.40972	Si
SLV 5	-19338	-30327	-118	0.323	2065.3	0.985	4.75824	2.40972	Si
SLV 14	-14690	-21419	-38	0.392	1591.6	0.981	5.80087	2.4783	Si
SLV 13	-14380	-21369	-29	0.398	1560	0.981	5.8976	2.4783	Si
SLV 2	-13248	-23123	-92	0.417	1444.6	0.979	6.18521	2.4783	Si
SLV 1	-12937	-23072	-83	0.424	1413	0.979	6.3014	2.4783	Si
SLV 16	-9680	-14697	6	0.531	1081.2	0.973	7.92799	2.4783	Si
SLV 15	-9369	-14647	15	0.543	1049.5	0.972	8.1155	2.4783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.495	SLU 84	Si
V_SLU	2.077	SLU 84	Si
PF_SLV	1.531	SLV 6	Si
V_SLV	1.68	SLV 6	Si
PFFP_SLV	42.858	SLV 8	Si
R_SLV	1.937	SLV 10	Si

Maschio 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.503	-3.284	Z medio 5 cm	Z medio 45 cm	0.75	0.45	0.4	0.4	0.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.05	1759	-21651	-0.0002098	0.0003743	0.0035	0.75	3003.31	4414.87	4414.87	2.51	No	Si
SLU 78	0.45	1021.61	-19142	-0.0001491	0.0003743	0.0035	0.75	3179.36	4234.96	4234.96	4.15	No	Si
SLU 82	0.05	1798.94	-22294	-0.0002182	0.0003743	0.0035	0.75	2936.05	4425.07	4425.07	2.46	No	Si
SLU 82	0.45	1069.52	-19733	-0.0001559	0.0003743	0.0035	0.75	3150.27	4277.22	4277.22	4	No	Si
SLU 79	0.05	1757.37	-21457	-0.0002079	0.0003743	0.0035	0.75	3021.79	4401	4401	2.5	No	Si
SLU 79	0.45	1006.42	-18921	-0.0001467	0.0003743	0.0035	0.75	3188.31	4219.27	4219.27	4.19	No	Si
SLU 84	0.05	1813.42	-22432	-0.0002204	0.0003743	0.0035	0.75	2920.39	4423.25	4423.25	2.44	No	Si
SLU 84	0.45	1073.08	-19849	-0.000157	0.0003743	0.0035	0.75	3143.67	4285.58	4285.58	3.99	No	Si
SLU 83	0.05	1819.74	-22348	-0.00022	0.0003743	0.0035	0.75	2929.93	4424.35	4424.35	2.43	No	Si
SLU 83	0.45	1063.08	-19736	-0.0001556	0.0003743	0.0035	0.75	3150.08	4277.46	4277.46	4.02	No	Si
SLU 81	0.05	1805.25	-22210	-0.0002178	0.0003743	0.0035	0.75	2945.34	4426.17	4426.17	2.45	No	Si
SLU 81	0.45	1059.51	-19621	-0.0001546	0.0003743	0.0035	0.75	3156.4	4269.12	4269.12	4.03	No	Si
SLU 75	0.05	1744.52	-21512	-0.0002077	0.0003743	0.0035	0.75	3016.61	4404.95	4404.95	2.53	No	Si
SLU 75	0.45	1018.04	-19027	-0.0001481	0.0003743	0.0035	0.75	3184.18	4226.74	4226.74	4.15	No	Si
SLU 77	0.05	1765.32	-21567	-0.0002094	0.0003743	0.0035	0.75	3011.41	4408.86	4408.86	2.5	No	Si
SLU 77	0.45	1011.6	-19030	-0.0001478	0.0003743	0.0035	0.75	3184.04	4226.98	4226.98	4.18	No	Si
SLU 74	0.05	1750.83	-21428	-0.0002073	0.0003743	0.0035	0.75	3024.46	4398.95	4398.95	2.51	No	Si
SLU 74	0.45	1008.04	-18914	-0.0001468	0.0003743	0.0035	0.75	3188.57	4218.79	4218.79	4.19	No	Si
SLU 80	0.05	1751.06	-21541	-0.0002083	0.0003743	0.0035	0.75	3013.88	4407	4407	2.52	No	Si
SLU 80	0.45	1016.43	-19033	-0.000148	0.0003743	0.0035	0.75	3183.9	4227.23	4227.23	4.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	0.05	1089.18	-8911	-0.0000834	0.0005615	0.0035	0.75		2871.16	2871.16	2.64		Si
SLD 7	0.45	274.67	-6630	-0.0000407	0.0005615	0.0035	0.75		2247.81	2247.81	8.18		Si
SLV 7	0.05	1026.74	-4978	-0.000069	0.0005615	0.0035	0.75		1757.93	1757.93	1.71		Si
SLV 7	0.45	-9.38	-2279	-0.0000106	0.0005615	0.0035	0.75		951.11	951.11	101.35		Si
SLV 15	0.05	1957.76	-14581	-0.0001513	0.0005615	0.0035	0.75		4256.55	4256.55	2.17		Si
SLV 15	0.45	139.32	-9967	-0.0000518	0.0005615	0.0035	0.75		3165.13	3165.13	22.72		Si
SLD 12	0.05	1316.66	-9961	-0.0000982	0.0005615	0.0035	0.75		3163.55	3163.55	2.4		Si
SLD 12	0.45	194.26	-6998	-0.0000394	0.0005615	0.0035	0.75		2347.92	2347.92	12.09		Si
SLD 11	0.05	1359.32	-9935	-0.0000999	0.0005615	0.0035	0.75		3156.04	3156.04	2.32		Si
SLD 11	0.45	169.3	-6807	-0.0000376	0.0005615	0.0035	0.75		2296.07	2296.07	13.56		Si
SLV 11	0.05	1448.4	-6577	-0.000102	0.0005615	0.0035	0.75		2233.11	2233.11	1.54		Si
SLV 11	0.45	-174.88	-2553	-0.0000178	0.0005615	0.0035	0.75		1044.47	1044.47	5.97		Si
SLV 12	0.05	1378.11	-6622	-0.0000947	0.0005615	0.0035	0.75		2245.35	2245.35	1.63		Si
SLV 12	0.45	-133.75	-2869	-0.0000178	0.0005615	0.0035	0.75		1151.88	1151.88	8.61		Si
SLD 15	0.05	1686.28	-14725	-0.0001398	0.0005615	0.0035	0.75		4287.73	4287.73	2.54		Si
SLD 15	0.45	342.51	-11161	-0.0000656	0.0005615	0.0035	0.75		3501.83	3501.83	10.22		Si
SLV 16	0.05	1853.34	-14646	-0.0001467	0.0005615	0.0035	0.75		4270.73	4270.73	2.3		Si
SLV 16	0.45	200.42	-10436	-0.0000565	0.0005615	0.0035	0.75		3296.91	3296.91	16.45		Si
SLV 8	0.05	956.45	-5023	-0.0000634	0.0005615	0.0035	0.75		1772.07	1772.07	1.85		Si
SLV 8	0.45	31.75	-2595	-0.0000128	0.0005615	0.0035	0.75		966.27	966.27	30.44		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	1798.94	-22294	-19817	5260	0.75	0.75	-58716	10833	9551	2379	10106	1912	11930	No	2.27	Si
SLU 82	0.45	1069.52	-19733	-17540	1544	0.75	0.75	-51972	10833	8641	2379	10106	1912	11019	No	7.14	Si
SLU 77	0.05	1765.32	-21567	-19170	5178	0.75	0.75	-56801	10833	9293	2379	10106	1912	11671	No	2.25	Si
SLU 77	0.45	1011.6	-19030	-16916	1567	0.75	0.75	-50120	10833	8391	2379	10106	1912	10770	No	6.87	Si
SLU 79	0.05	1757.37	-21457	-19073	5159	0.75	0.75	-56512	10833	9254	2379	10106	1912	11632	No	2.25	Si
SLU 79	0.45	1006.42	-18921	-16819	1566	0.75	0.75	-49833	10833	8352	2379	10106	1912	10731	No	6.85	Si
SLU 62	0.05	1638.15	-19860	-17653	4863	0.75	0.75	-52306	10833	8686	2379	10106	1912	11065	No	2.28	Si
SLU 62	0.45	911.3	-17419	-15484	1490	0.75	0.75	-45877	10833	7818	2379	10106	1912	10197	No	6.84	Si
SLU 83	0.05	1819.74	-22348	-19865	5342	0.75	0.75	-58860	10833	9570	2379	10106	1912	11949	No	2.24	Si
SLU 83	0.45	1063.08	-19736	-17543	1606	0.75	0.75	-51981	10833	8642	2379	10106	1912	11021	No	6.86	Si
SLU 81	0.05	1805.25	-22210	-19742	5295	0.75	0.75	-58495	10833	9521	2379	10106	1912	11900	No	2.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.45	1059.51	-19621	-17440	1588	0.75	0.75	-51675	10833	8601	2379	10106	1912	10979	No	6.91	Si
SLU 74	0.05	1750.83	-21428	-19047	5131	0.75	0.75	-56437	10833	9243	2379	10106	1912	11622	No	2.27	Si
SLU 74	0.45	1008.04	-18914	-16813	1549	0.75	0.75	-49815	10833	8349	2379	10106	1912	10728	No	6.92	Si
SLU 78	0.05	1759	-21651	-19245	5143	0.75	0.75	-57022	10833	9322	2379	10106	1912	11701	No	2.28	Si
SLU 78	0.45	1021.61	-19142	-17016	1522	0.75	0.75	-50416	10833	8431	2379	10106	1912	10810	No	7.1	Si
SLU 80	0.05	1751.06	-21541	-19147	5125	0.75	0.75	-56733	10833	9283	2379	10106	1912	11662	No	2.28	Si
SLU 80	0.45	1016.43	-19033	-16919	1521	0.75	0.75	-50129	10833	8392	2379	10106	1912	10771	No	7.08	Si
SLU 84	0.05	1813.42	-22432	-19940	5308	0.75	0.75	-59081	10833	9600	2379	10106	1912	11979	No	2.26	Si
SLU 84	0.45	1073.08	-19849	-17643	1561	0.75	0.75	-52277	10833	8682	2379	10106	1912	11061	No	7.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.05	1853.34	-14646	-13019	7574	0.75	0.7454	-38575	16250	7644	2379	15159	1912	10023		1.32	Si
SLV 16	0.45	200.42	-10436	-9277	3370	0.75	0.75	-27486	15914	6148	2379	15159	1912	8526		2.53	Si
SLV 14	0.05	1853.64	-19916	-17704	6918	0.75	0.75	-52455	16250	9518	2379	15159	1912	11897		1.72	Si
SLV 14	0.45	643.79	-16582	-14739	2002	0.75	0.75	-43672	16250	8333	2379	15159	1912	10711		5.35	Si
SLV 15	0.05	1957.76	-14581	-12961	8075	0.75	0.7222	-38402	16250	7621	2379	15159	1912	10000		1.24	Si
SLV 15	0.45	139.32	-9967	-8860	3734	0.75	0.75	-26251	15667	5981	2379	15159	1912	8360		2.24	Si
SLV 12	0.05	1378.11	-6622	-5886	5646	0.75	0.5006	-17439	13905	4791	2379	15159	1912	7170		1.27	Si
SLV 12	0.45	-133.75	-2869	-2550	3778	0.75	0.75	-7557	11928	4026	2379	15159	1912	6405		1.7	Si
SLV 11	0.05	1448.4	-6577	-5846	5983	0.75	0.4644	-17323	13881	4776	2379	15159	1912	7154		1.2	Si
SLV 11	0.45	-174.88	-2553	-2270	4023	0.75	0.75	-6725	11762	3970	2379	15159	1912	6348		1.58	Si
SLD 15	0.05	1686.28	-14725	-13089	6421	0.75	0.75	-38782	16250	7672	2379	15159	1912	10051		1.57	Si
SLD 15	0.45	342.51	-11161	-9921	2743	0.75	0.75	-29395	16250	6405	2379	15159	1912	8784		3.2	Si
SLV 13	0.05	1958.06	-19851	-17645	7419	0.75	0.75	-52282	16250	9495	2379	15159	1912	11874		1.6	Si
SLV 13	0.45	582.69	-16113	-14322	2366	0.75	0.75	-42437	16250	8166	2379	15159	1912	10545		4.46	Si
SLD 11	0.05	1359.32	-9935	-8831	5036	0.75	0.7145	-26165	15650	5969	2379	15159	1912	8348		1.66	Si
SLD 11	0.45	169.3	-6807	-6050	2838	0.75	0.75	-17927	14002	4857	2379	15159	1912	7236		2.55	Si
SLD 12	0.05	1316.66	-9961	-8855	4831	0.75	0.7285	-26236	15664	5979	2379	15159	1912	8358		1.73	Si
SLD 12	0.45	194.26	-6998	-6221	2689	0.75	0.75	-18432	14103	4925	2379	15159	1912	7304		2.72	Si
SLD 16	0.05	1620.04	-14767	-13126	6103	0.75	0.75	-38891	16250	7687	2379	15159	1912	10066		1.65	Si
SLD 16	0.45	381.27	-11458	-10185	2513	0.75	0.75	-30178	16250	6511	2379	15159	1912	8890		3.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.25 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.25	14207	-4795	1.04	978.49	945.23	Si
SLV 8	179667	0.25	14340	-4840	1.04	986.7	953.16	Si
SLV 11	179667	0.25	19008	-6415	1.04	1263.79	1220.83	Si
SLV 12	179667	0.25	19141	-6460	1.04	1271.37	1228.15	Si
SLV 3	179667	0.25	26985	-9107	1.04	1687.07	1629.72	Si
SLV 4	179667	0.25	27182	-9174	1.04	1696.75	1639.08	Si
SLV 1	179667	0.25	42766	-14433	1.04	2338.12	2258.64	Si
SLV 2	179667	0.25	42964	-14500	1.04	2344.7	2265	Si
SLV 15	179667	0.25	42989	-14509	1.04	2345.55	2265.82	Si
SLV 16	179667	0.25	43187	-14576	1.04	2352.08	2272.13	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.25 Wa = 0.08 Ta = 0.0006

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-23355	-24189	-2970	0.618	2399.3	0.997	9.00976	2.43788	Si
SLV 6	-23080	-22590	-2931	0.621	2371.3	0.997	9.04435	2.43788	Si
SLV 9	-23039	-24145	-2919	0.621	2367.1	0.997	9.0535	2.43788	Si
SLV 5	-22764	-22546	-2879	0.624	2339.1	0.997	9.0891	2.43788	Si
SLV 14	-16582	-19916	-2024	0.698	1708.9	0.996	10.17548	2.44054	Si
SLV 13	-16113	-19851	-1948	0.706	1661.1	0.996	10.30211	2.44054	Si
SLV 2	-15666	-14587	-1893	0.714	1615.6	0.996	10.41299	2.44054	Si
SLV 1	-15197	-14521	-1817	0.723	1567.7	0.996	10.55451	2.44054	Si
SLV 16	-10436	-14646	-1163	0.858	1082.4	0.994	12.53806	2.44054	Si
SLV 15	-9967	-14581	-1087	0.879	1034.6	0.994	12.85277	2.44054	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.431	SLU 83	Si
V_SLU	2.237	SLU 83	Si
PF_SLV	1.542	SLV 11	Si
V_SLV	1.196	SLV 11	Si
PFFP_SLV	945.227	SLV 7	Si
R_SLV	3.696	SLV 10	Si

Maschio 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.498	-3.284	Z medio 45 cm	L4	0.755	0.45	0.22	0.22	0.22			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	0.45	465.61	-18230	-0.0001057	0.0003743	0.0035	0.755	3254.92	4796.17	4796.17	10.3	No	Si
SLU 82	0.67	-181.17	-18146	-0.000093	0.0003743	0.0035	0.755	3256.57	4916.21	4916.21	27.14	No	Si
SLU 78	0.45	445.61	-17712	-0.0001019	0.0003743	0.0035	0.755	3262.57	4724.1	4724.1	10.6	No	Si
SLU 78	0.67	-178.8	-17620	-0.00009	0.0003743	0.0035	0.755	3263.31	4834.83	4834.83	27.04	No	Si
SLU 84	0.45	467.23	-18342	-0.0001064	0.0003743	0.0035	0.755	3252.51	4811.67	4811.67	10.3	No	Si
SLU 84	0.67	-183.28	-18258	-0.0000937	0.0003743	0.0035	0.755	3254.35	4933.61	4933.61	26.92	No	Si
SLU 73	0.45	442.43	-17450	-0.0001003	0.0003743	0.0035	0.755	3264.2	4687.77	4687.77	10.6	No	Si
SLU 73	0.67	-171.32	-17357	-0.0000883	0.0003743	0.0035	0.755	3264.42	4794.04	4794.04	27.98	No	Si
SLU 81	0.45	462.04	-18135	-0.000105	0.0003743	0.0035	0.755	3256.76	4782.97	4782.97	10.35	No	Si
SLU 81	0.67	-185.83	-18050	-0.0000927	0.0003743	0.0035	0.755	3258.25	4901.37	4901.37	26.38	No	Si
SLU 75	0.45	443.99	-17600	-0.0001012	0.0003743	0.0035	0.755	3263.45	4708.61	4708.61	10.61	No	Si
SLU 75	0.67	-176.7	-17508	-0.0000893	0.0003743	0.0035	0.755	3263.97	4817.43	4817.43	27.26	No	Si
SLU 77	0.45	442.04	-17617	-0.0001012	0.0003743	0.0035	0.755	3263.33	4710.9	4710.9	10.66	No	Si
SLU 77	0.67	-183.45	-17524	-0.0000897	0.0003743	0.0035	0.755	3263.89	4819.99	4819.99	26.27	No	Si
SLU 83	0.45	463.67	-18247	-0.0001057	0.0003743	0.0035	0.755	3254.58	4798.46	4798.46	10.35	No	Si
SLU 83	0.67	-187.93	-18162	-0.0000934	0.0003743	0.0035	0.755	3256.26	4918.77	4918.77	26.17	No	Si
SLU 80	0.45	443.3	-17610	-0.0001012	0.0003743	0.0035	0.755	3263.38	4709.95	4709.95	10.62	No	Si
SLU 80	0.67	-178.63	-17518	-0.0000895	0.0003743	0.0035	0.755	3263.92	4818.94	4818.94	26.98	No	Si
SLU 76	0.45	444.05	-17562	-0.000101	0.0003743	0.0035	0.755	3263.69	4703.26	4703.26	10.59	No	Si
SLU 76	0.67	-173.42	-17469	-0.000089	0.0003743	0.0035	0.755	3264.13	4811.43	4811.43	27.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	0.45	43.39	-9818	-0.0000443	0.0005615	0.0035	0.755		3245.5	3245.5	74.8		Si
SLV 15	0.67	-457.24	-9745	-0.000059	0.0005615	0.0035	0.755		3456.24	3456.24	7.56		Si
SLV 8	0.45	41.85	-2669	-0.0000127	0.0005615	0.0035	0.755		1036.75	1036.75	24.77		Si
SLV 8	0.67	-283.18	-2487	-0.0000202	0.0005615	0.0035	0.755		1163.67	1163.67	4.11		Si
SLV 7	0.45	26.23	-2424	-0.0000112	0.0005615	0.0035	0.755		950.92	950.92	36.25		Si
SLV 7	0.67	-306.35	-2240	-0.00002	0.0005615	0.0035	0.755		1077.36	1077.36	3.52		Si
SLD 11	0.45	82.62	-6648	-0.0000315	0.0005615	0.0035	0.755		2353.83	2353.83	28.49		Si
SLD 11	0.67	-320.52	-6516	-0.0000393	0.0005615	0.0035	0.755		2495.43	2495.43	7.79		Si
SLV 2	0.45	541.3	-13958	-0.0000821	0.0005615	0.0035	0.755		4355.88	4355.88	8.05		Si
SLV 2	0.67	202.2	-13856	-0.0000689	0.0005615	0.0035	0.755		4328.52	4328.52	21.41		Si
SLD 12	0.45	92.1	-6796	-0.0000325	0.0005615	0.0035	0.755		2400.34	2400.34	26.06		Si
SLD 12	0.67	-306.46	-6666	-0.0000395	0.0005615	0.0035	0.755		2542.25	2542.25	8.3		Si
SLV 4	0.45	359.92	-8504	-0.0000497	0.0005615	0.0035	0.755		2893.34	2893.34	8.04		Si
SLV 4	0.67	58.54	-8352	-0.0000383	0.0005615	0.0035	0.755		2852.61	2852.61	48.73		Si
SLV 12	0.45	-46.14	-3172	-0.0000151	0.0005615	0.0035	0.755		1398.56	1398.56	30.31		Si
SLV 12	0.67	-427.58	-3014	-0.0000276	0.0005615	0.0035	0.755		1344.62	1344.62	3.14		Si
SLV 1	0.45	518.09	-13595	-0.0000795	0.0005615	0.0035	0.755		4258.3	4258.3	8.22		Si
SLV 1	0.67	167.78	-13489	-0.0000659	0.0005615	0.0035	0.755		4230.11	4230.11	25.21		Si
SLV 11	0.45	-61.77	-2927	-0.0000145	0.0005615	0.0035	0.755		1314.57	1314.57	21.28		Si
SLV 11	0.67	-450.75	-2767	-0.0000278	0.0005615	0.0035	0.755		1259.91	1259.91	2.8		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.45	445.61	-17712	-14169	2406	0.755	0.755	-41705	10833	7303	0	10174	3851	7303	No	3.04	Si
SLU 78	0.67	-178.8	-17620	-14096	2556	0.755	0.755	-41490	10833	7274	0	10174	3851	7274	No	2.85	Si
SLU 74	0.45	440.42	-17505	-14004	2398	0.755	0.755	-41219	10833	7237	0	10174	3851	7237	No	3.02	Si
SLU 74	0.67	-181.35	-17412	-13930	2548	0.755	0.755	-41000	10833	7207	0	10174	3851	7207	No	2.83	Si
SLU 82	0.45	465.61	-18230	-14584	2487	0.755	0.755	-42926	10833	7469	0	10174	3851	7469	No	3	Si
SLU 82	0.67	-181.17	-18146	-14516	2644	0.755	0.755	-42727	10833	7442	0	10174	3851	7442	No	2.81	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.45	467.23	-18342	-14673	2502	0.755	0.755	-43189	10833	7505	0	10174	3851	7505	No	3	Si
SLU 84	0.67	-183.28	-18258	-14606	2659	0.755	0.755	-42991	10833	7478	0	10174	3851	7478	No	2.81	Si
SLU 77	0.45	442.04	-17617	-14093	2413	0.755	0.755	-41481	10833	7273	0	10174	3851	7273	No	3.01	Si
SLU 77	0.67	-183.45	-17524	-14020	2563	0.755	0.755	-41264	10833	7243	0	10174	3851	7243	No	2.83	Si
SLU 80	0.45	443.3	-17610	-14088	2397	0.755	0.755	-41465	10833	7270	0	10174	3851	7270	No	3.03	Si
SLU 80	0.67	-178.63	-17518	-14014	2547	0.755	0.755	-41248	10833	7241	0	10174	3851	7241	No	2.84	Si
SLU 83	0.45	463.67	-18247	-14597	2508	0.755	0.755	-42965	10833	7474	0	10174	3851	7474	No	2.98	Si
SLU 83	0.67	-187.93	-18162	-14530	2666	0.755	0.755	-42766	10833	7447	0	10174	3851	7447	No	2.79	Si
SLU 79	0.45	439.73	-17515	-14012	2404	0.755	0.755	-41241	10833	7240	0	10174	3851	7240	No	3.01	Si
SLU 79	0.67	-183.28	-17422	-13938	2553	0.755	0.755	-41023	10833	7210	0	10174	3851	7210	No	2.82	Si
SLU 75	0.45	443.99	-17600	-14080	2392	0.755	0.755	-41442	10833	7267	0	10174	3851	7267	No	3.04	Si
SLU 75	0.67	-176.7	-17508	-14006	2541	0.755	0.755	-41225	10833	7238	0	10174	3851	7238	No	2.85	Si
SLU 81	0.45	462.04	-18135	-14508	2494	0.755	0.755	-42702	10833	7439	0	10174	3851	7439	No	2.98	Si
SLU 81	0.67	-185.83	-18050	-14440	2651	0.755	0.755	-42501	10833	7411	0	10174	3851	7411	No	2.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	0.45	138.62	-6326	-5061	1511	0.755	0.755	-14895	13396	4551	0	15260	3851	4551		3.01	Si
SLD 7	0.67	-227.86	-6180	-4944	1589	0.755	0.755	-14552	13327	4528	0	15260	3851	4528		2.85	Si
SLV 7	0.45	26.23	-2424	-1939	1442	0.755	0.755	-5707	11558	3927	0	15260	3851	3927		2.72	Si
SLV 7	0.67	-306.35	-2240	-1792	1504	0.755	0.7221	-5274	11471	3728	0	15260	3851	3728		2.48	Si
SLD 12	0.45	92.1	-6796	-5437	1640	0.755	0.755	-16003	13617	4628	0	15260	3851	4628		2.82	Si
SLD 12	0.67	-306.46	-6666	-5333	1736	0.755	0.755	-15696	13556	4606	0	15260	3851	4606		2.65	Si
SLD 8	0.45	148.1	-6475	-5180	1488	0.755	0.755	-15246	13466	4575	0	15260	3851	4575		3.07	Si
SLD 8	0.67	-213.8	-6330	-5064	1565	0.755	0.755	-14905	13398	4552	0	15260	3851	4552		2.91	Si
SLV 11	0.45	-61.77	-2927	-2341	1679	0.755	0.755	-6892	11795	4007	0	15260	3851	4007		2.39	Si
SLV 11	0.67	-450.75	-2767	-2214	1770	0.755	0.6439	-7671	11951	3463	0	15260	3851	3463		1.96	Si
SLV 15	0.45	43.39	-9818	-7854	2025	0.755	0.755	-23117	15040	5595	0	15260	3851	5595		2.76	Si
SLV 15	0.67	-457.24	-9745	-7796	2168	0.755	0.755	-22945	15006	5571	0	15260	3851	5571		2.57	Si
SLV 8	0.45	41.85	-2669	-2135	1404	0.755	0.755	-6284	11673	3966	0	15260	3851	3966		2.83	Si
SLV 8	0.67	-283.18	-2487	-1989	1464	0.755	0.755	-5855	11588	3937	0	15260	3851	3937		2.69	Si
SLV 16	0.45	66.6	-10181	-8145	1969	0.755	0.755	-23974	15211	5711	0	15260	3851	5711		2.9	Si
SLV 16	0.67	-422.82	-10112	-8089	2109	0.755	0.755	-23809	15179	5689	0	15260	3851	5689		2.7	Si
SLV 12	0.45	-46.14	-3172	-2537	1641	0.755	0.755	-7468	11910	4047	0	15260	3851	4047		2.47	Si
SLV 12	0.67	-427.58	-3014	-2412	1730	0.755	0.707	-7098	11836	3766	0	15260	3851	3766		2.18	Si
SLD 11	0.45	82.62	-6648	-5318	1663	0.755	0.755	-15653	13547	4603	0	15260	3851	4603		2.77	Si
SLD 11	0.67	-320.52	-6516	-5213	1760	0.755	0.755	-15343	13485	4582	0	15260	3851	4582		2.6	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 0.56 Ta 0 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-2224	0.26	0.32	478.89	660.33	569.61	1760.04	Si
SLV 8	-2470	0.26	0.32	529.23	718.91	624.07	1928.31	Si
SLV 11	-2748	0.26	0.32	585.61	785.03	685.32	2117.58	Si
SLV 12	-2994	0.26	0.32	634.83	843.23	739.03	2283.53	Si
SLV 3	-7949	0.26	0.32	1514.52	1999.47	1757	5428.93	Si
SLV 4	-8314	0.26	0.32	1570.97	2083.69	1827.33	5646.26	Si
SLV 15	-9698	0.26	0.32	1774.15	2395.84	2085	6442.42	Si
SLV 16	-10063	0.26	0.32	1825.06	2478.1	2151.58	6648.16	Si
SLV 1	-13432	0.26	0.32	2239.84	3196.8	2718.32	8399.33	Si
SLV 2	-13798	0.26	0.32	2278.91	3269.81	2774.36	8572.48	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.56 Wa = 0.08 Ta = 0.0002

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-21361	-21352	-2209	1.121	2187.8	0.998	16.31409	2.47723	Si
SLV 6	-20834	-20849	-2198	1.124	2134	0.998	16.35826	2.47723	Si
SLV 9	-21114	-21107	-2167	1.124	2162.6	0.998	16.35942	2.47723	Si
SLV 5	-20587	-20604	-2157	1.127	2108.8	0.998	16.40528	2.47723	Si
SLV 14	-15616	-15636	-1485	1.203	1602.1	0.998	17.5185	2.47805	Si
SLV 13	-15249	-15272	-1424	1.211	1564.7	0.998	17.64061	2.47805	Si
SLV 2	-13856	-13958	-1449	1.228	1422.8	0.998	17.89221	2.47805	Si
SLV 1	-13489	-13595	-1388	1.238	1385.4	0.998	18.04034	2.47805	Si
SLV 16	-10112	-10181	-846	1.363	1041	0.997	19.87472	2.47805	Si
SLV 15	-9745	-9818	-784	1.382	1003.6	0.997	20.15398	2.47805	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.298	SLU 84	Si
V_SLU	2.794	SLU 83	Si
PF_SLV	2.795	SLV 11	Si
V_SLV	1.956	SLV 11	Si
PFFP_SLV	1760.035	SLV 7	Si
R_SLV	6.586	SLV 10	Si

Maschio 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	1.141	-6.268	-3.284	L2	L4	4.425	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	-1.95	19271.46	-102813	-0.0001568	0.0004492	0.0035	4.425	83289.27	151298.88	151298.88	7.85	No	Si
SLU 76	0.67	12368.51	-60857	-0.0000875	0.0004492	0.0035	4.425	84128.41	107536.97	107536.97	8.69	No	Si
SLU 73	-1.95	19303.84	-102011	-0.0001557	0.0004492	0.0035	4.425	83755.6	150618.59	150618.59	7.8	No	Si
SLU 73	0.67	12356.6	-60306	-0.0000868	0.0004492	0.0035	4.425	83820.12	106860.29	106860.29	8.65	No	Si
SLU 61	-1.95	18114.44	-95113	-0.0001433	0.0004492	0.0035	4.425	87041.21	144768.6	144768.6	7.99	No	Si
SLU 61	0.67	11632.86	-55794	-0.00008	0.0004492	0.0035	4.425	80982.78	101316.37	101316.37	8.71	No	Si
SLU 63	-1.95	18082.06	-95915	-0.0001444	0.0004492	0.0035	4.425	86725.82	145448.89	145448.89	8.04	No	Si
SLU 63	0.67	11644.77	-56345	-0.0000807	0.0004492	0.0035	4.425	81358.86	101993.06	101993.06	8.76	No	Si
SLU 75	-1.95	18827.39	-103073	-0.0001564	0.0004492	0.0035	4.425	83134.81	151518.73	151518.73	8.05	No	Si
SLU 75	0.67	12530.46	-61106	-0.000088	0.0004492	0.0035	4.425	84265.36	107843.54	107843.54	8.61	No	Si
SLU 78	-1.95	18795.01	-103875	-0.0001575	0.0004492	0.0035	4.425	82645.26	152199.02	152199.02	8.1	No	Si
SLU 78	0.67	12542.37	-61657	-0.0000887	0.0004492	0.0035	4.425	84561.63	108520.22	108520.22	8.65	No	Si
SLU 82	-1.95	19570.69	-105616	-0.0001616	0.0004492	0.0035	4.425	81522.09	153675.83	153675.83	7.85	No	Si
SLU 82	0.67	12848.38	-62597	-0.0000904	0.0004492	0.0035	4.425	85048.16	109675.12	109675.12	8.54	No	Si
SLU 52	-1.95	17847.6	-91508	-0.0001377	0.0004492	0.0035	4.425	88241.86	141711.36	141711.36	7.94	No	Si
SLU 52	0.67	11141.08	-53503	-0.0000764	0.0004492	0.0035	4.425	79329.6	97905.83	97905.83	8.79	No	Si
SLU 84	-1.95	19538.31	-106418	-0.0001628	0.0004492	0.0035	4.425	80976.87	154356.12	154356.12	7.9	No	Si
SLU 84	0.67	12860.29	-63148	-0.0000911	0.0004492	0.0035	4.425	85322.04	110351.81	110351.81	8.58	No	Si
SLU 55	-1.95	17815.22	-92311	-0.0001388	0.0004492	0.0035	4.425	88005.36	142391.65	142391.65	7.99	No	Si
SLU 55	0.67	11152.99	-54054	-0.0000771	0.0004492	0.0035	4.425	79740.09	98783.23	98783.23	8.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-1.95	-39354.27	-42664	-0.0001069	0.0006738	0.0035	4.425		94074.9	94074.9	2.39		Si
SLV 11	0.67	-4793.68	-12693	-0.00002	0.0006738	0.0035	4.425		38006.37	38006.37	7.93		Si
SLV 10	-1.95	67348.3	-105495	-0.0002346	0.0006738	0.0035	4.425		172661.26	172661.26	2.56		Si
SLV 10	0.67	23383.96	-72692	-0.0001162	0.0006738	0.0035	4.425		131774.33	131774.33	5.64		Si
SLV 7	-1.95	-41983.48	-36996	-0.0001114	0.0006738	0.0035	4.425		84174.01	84174.01	2		Si
SLV 7	0.67	-5792.23	-10980	-0.0000196	0.0006738	0.0035	4.425		34502.99	34502.99	5.96		Si
SLV 12	-1.95	-37779.94	-43303	-0.0001044	0.0006738	0.0035	4.425		95150.11	95150.11	2.52		Si
SLV 12	0.67	-4629.73	-13583	-0.0000207	0.0006738	0.0035	4.425		39808.08	39808.08	8.6		Si
SLD 6	-1.95	43128.56	-87846	-0.0001678	0.0006738	0.0035	4.425		150713.84	150713.84	3.49		Si
SLD 6	0.67	16731.87	-58883	-0.0000892	0.0006738	0.0035	4.425		110324.94	110324.94	6.59		Si
SLV 5	-1.95	63144.76	-99187	-0.0002179	0.0006738	0.0035	4.425		164889.02	164889.02	2.61		Si
SLV 5	0.67	22221.46	-70088	-0.0001112	0.0006738	0.0035	4.425		128364.76	128364.76	5.78		Si
SLV 8	-1.95	-40409.15	-37635	-0.0001069	0.0006738	0.0035	4.425		85308.73	85308.73	2.11		Si
SLV 8	0.67	-5628.28	-11871	-0.0000204	0.0006738	0.0035	4.425		36328.46	36328.46	6.45		Si
SLD 10	-1.95	44808.66	-91473	-0.0001755	0.0006738	0.0035	4.425		155247.11	155247.11	3.46		Si
SLD 10	0.67	17347.3	-59946	-0.0000914	0.0006738	0.0035	4.425		112037.67	112037.67	6.46		Si
SLV 6	-1.95	64719.09	-99826	-0.0002216	0.0006738	0.0035	4.425		165687.94	165687.94	2.56		Si
SLV 6	0.67	22385.41	-70979	-0.0001125	0.0006738	0.0035	4.425		129633.41	129633.41	5.79		Si
SLV 9	-1.95	65773.97	-104855	-0.0002308	0.0006738	0.0035	4.425		171973.08	171973.08	2.61		Si
SLV 9	0.67	23220.01	-71801	-0.0001148	0.0006738	0.0035	4.425		130660.96	130660.96	5.63		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	-1.95	18067.58	-102655	-74658	-718	4.425	4.425	-56240	10833	37531	81562	47707	22567	70275	No	97.94	Si
SLU 74	0.67	12585.89	-60873	-44272	-4921	4.425	4.425	-33350	10833	25377	81562	47707	22567	70275	No	14.28	Si
SLU 79	-1.95	17972.74	-102919	-74851	-707	4.425	4.425	-56385	10833	37608	81562	47707	22567	70275	No	99.41	Si
SLU 79	0.67	12472.8	-61019	-44378	-4912	4.425	4.425	-33429	10833	25419	81562	47707	22567	70275	No	14.31	Si
SLU 83	-1.95	18778.51	-106001	-77091	-672	4.425	4.425	-58073	10833	38504	81562	47707	22567	70275	No	104.52	Si
SLU 83	0.67	12915.72	-62915	-45756	-5006	4.425	4.425	-34468	10833	25970	81562	47707	22567	70275	No	14.04	Si
SLU 66	-1.95	16263.02	-93594	-68068	-814	4.425	4.425	-51276	10833	34895	81562	47707	22567	70275	No	86.29	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	0.67	11524.64	-55166	-40120	-4641	4.425	4.425	-30223	10833	23716	81562	47707	22567	70275	No	15.14	Si
SLU 81	-1.95	18810.89	-105198	-76508	-679	4.425	4.425	-57633	10833	38271	81562	47707	22567	70275	No	103.44	Si
SLU 81	0.67	12903.81	-62364	-45356	-4980	4.425	4.425	-34166	10833	25810	81562	47707	22567	70275	No	14.11	Si
SLU 64	-1.95	16232.94	-92254	-67094	-818	4.425	4.425	-50542	10833	34505	81562	47707	22567	70275	No	85.93	Si
SLU 64	0.67	11387.74	-54210	-39425	-4580	4.425	4.425	-29699	10833	23438	81562	47707	22567	70275	No	15.34	Si
SLU 69	-1.95	16230.64	-94396	-68652	-807	4.425	4.425	-51715	10833	35128	81562	47707	22567	70275	No	87.04	Si
SLU 69	0.67	11536.55	-55716	-40521	-4668	4.425	4.425	-30524	10833	23876	81562	47707	22567	70275	No	15.06	Si
SLU 62	-1.95	17322.26	-95498	-69453	-665	4.425	4.425	-52319	10833	35449	81562	47707	22567	70275	No	105.68	Si
SLU 62	0.67	11700.2	-56112	-40809	-4554	4.425	4.425	-30741	10833	23991	81562	47707	22567	70275	No	15.43	Si
SLU 71	-1.95	16168.18	-93859	-68261	-804	4.425	4.425	-51421	10833	34972	81562	47707	22567	70275	No	87.43	Si
SLU 71	0.67	11411.55	-55311	-40227	-4633	4.425	4.425	-30302	10833	23759	81562	47707	22567	70275	No	15.17	Si
SLU 77	-1.95	18035.2	-103457	-75242	-711	4.425	4.425	-56679	10833	37764	81562	47707	22567	70275	No	98.91	Si
SLU 77	0.67	12597.8	-61424	-44672	-4947	4.425	4.425	-33651	10833	25537	81562	47707	22567	70275	No	14.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.95	63144.76	-99187	-72136	36094	4.425	4.425	-54340	16250	40356	81562	71561	22567	94128		2.61	Si
SLV 5	0.67	22221.46	-70088	-50973	30916	4.425	4.425	-38398	16250	31891	81562	71561	22567	94128		3.04	Si
SLV 9	-1.95	65773.97	-104855	-76258	36770	4.425	4.425	-57445	16250	42005	81562	71561	22567	94128		2.56	Si
SLV 9	0.67	23220.01	-71801	-52219	31252	4.425	4.425	-39336	16250	32390	81562	71561	22567	94128		3.01	Si
SLV 7	-1.95	-41983.48	-36996	-26906	-39711	4.425	3.2331	-28097	16250	22265	81562	71561	22567	94128		2.37	Si
SLV 7	0.67	-5792.23	-10980	-7985	-39938	4.425	4.425	-6015	13703	18191	81562	71561	22567	94128		2.36	Si
SLD 7	-1.95	-19443.85	-51018	-37104	-23555	4.425	4.425	-27950	16250	26344	81562	71561	22567	94128		4	Si
SLD 7	0.67	244.42	-23725	-17255	-24888	4.425	4.425	-12998	15100	20045	81562	71561	22567	94128		3.78	Si
SLV 12	-1.95	-37779.94	-43303	-31493	-37294	4.425	4.0202	-26397	16250	24100	81562	71561	22567	94128		2.52	Si
SLV 12	0.67	-4629.73	-13583	-9879	-37923	4.425	4.425	-7442	13988	18570	81562	71561	22567	94128		2.48	Si
SLV 6	-1.95	64719.09	-99826	-72601	37836	4.425	4.425	-54690	16250	40542	81562	71561	22567	94128		2.49	Si
SLV 6	0.67	22385.41	-70979	-51621	32594	4.425	4.425	-38886	16250	32151	81562	71561	22567	94128		2.89	Si
SLV 10	-1.95	67348.3	-105495	-76723	38512	4.425	4.425	-57795	16250	42191	81562	71561	22567	94128		2.44	Si
SLV 10	0.67	23383.96	-72692	-52867	32930	4.425	4.425	-39824	16250	32649	81562	71561	22567	94128		2.86	Si
SLV 11	-1.95	-39354.27	-42664	-31029	-39036	4.425	3.8702	-26977	16250	23914	81562	71561	22567	94128		2.41	Si
SLV 11	0.67	-4793.68	-12693	-9231	-39601	4.425	4.425	-6954	13891	18440	81562	71561	22567	94128		2.38	Si
SLV 8	-1.95	-40409.15	-37635	-27371	-37970	4.425	3.4164	-27024	16250	22451	81562	71561	22567	94128		2.48	Si
SLV 8	0.67	-5628.28	-11871	-8633	-38260	4.425	4.425	-6503	13801	18320	81562	71561	22567	94128		2.46	Si
SLD 11	-1.95	-17763.74	-54645	-39742	-23133	4.425	4.425	-29937	16250	27399	81562	71561	22567	94128		4.07	Si
SLD 11	0.67	859.86	-24789	-18028	-24672	4.425	4.425	-13581	15216	20199	81562	71561	22567	94128		3.82	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-25740	0.24	177.09	3452.59	4782.56	4117.58	23.25	Si
SLV 8	-26436	0.24	177.09	3534.53	4893.28	4213.91	23.8	Si
SLV 11	-29944	0.24	177.09	3938.81	5449.84	4694.32	26.51	Si
SLV 12	-30639	0.24	177.09	4017.14	5558.67	4787.91	27.04	Si
SLV 3	-39938	0.24	177.09	5007.38	7011.47	6009.43	33.94	Si
SLV 4	-40971	0.24	177.09	5110.81	7172.28	6141.55	34.68	Si
SLV 15	-53950	0.24	177.09	6298.09	9163.02	7730.55	43.65	Si
SLV 16	-54983	0.24	177.09	6383.66	9321.34	7852.5	44.34	Si
SLV 1	-56456	0.24	177.09	6503.44	9547.15	8025.29	45.32	Si
SLV 2	-57489	0.24	177.09	6585.82	9701.2	8143.51	45.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-72692	-105495	-2125	0.359	7892	0.981	5.32667	2.71881	Si
SLV 9	-71801	-104855	-2095	0.363	7801.2	0.98	5.387	2.71881	Si
SLV 6	-70979	-99826	-2069	0.367	7717.4	0.98	5.44359	2.71881	Si
SLV 5	-70088	-99187	-2040	0.371	7626.7	0.98	5.50681	2.71881	Si
SLV 14	-54219	-90496	-1606	0.466	6010	0.975	6.94408	2.93197	Si
SLV 13	-52895	-89546	-1561	0.476	5875.2	0.974	7.1037	2.93197	Si
SLV 2	-48509	-71602	-1421	0.515	5428.4	0.972	7.69083	2.93197	Si
SLV 1	-47185	-70652	-1376	0.527	5293.7	0.972	7.88913	2.93197	Si
SLV 16	-36486	-71838	-1099	0.661	4204.5	0.965	9.96269	2.93197	Si
SLV 15	-35163	-70889	-1054	0.683	4069.8	0.964	10.306	2.93197	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.803	SLU 73	Si
V_SLU	14.038	SLU 83	Si
PF_SLV	2.005	SLV 7	Si
V_SLV	2.357	SLV 7	Si
PFFP_SLV	23.252	SLV 7	Si
R_SLV	1.959	SLV 10	Si

Maschio 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	2.071	-5.158	6.101	L2	L4	4.03	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 63	-1.95	-15974.06	-99439	-0.0001665	0.0004492	0.0035	4.03	65493.32	132462.36	132462.36	8.29	No	Si
SLU 63	0.15	10899.46	-93435	-0.0001449	0.0004492	0.0035	4.03	69190.64	125410.73	125410.73	11.51	No	Si
SLU 76	-1.95	-16802.83	-107582	-0.0001826	0.0004492	0.0035	4.03	58906.83	136474.17	136474.17	8.12	No	Si
SLU 76	0.15	11803.78	-101401	-0.0001599	0.0004492	0.0035	4.03	64071.5	130728.55	130728.55	11.08	No	Si
SLU 55	-1.95	-16006.65	-94908	-0.000159	0.0004492	0.0035	4.03	68375.07	130229.9	130229.9	8.14	No	Si
SLU 55	0.15	10581.57	-88904	-0.000137	0.0004492	0.0035	4.03	71330.21	121853.66	121853.66	11.52	No	Si
SLU 44	-1.95	-14831.84	-83846	-0.0001385	0.0004492	0.0035	4.03	73056.82	122862.17	122862.17	8.28	No	Si
SLU 44	0.15	9552.41	-77842	-0.0001179	0.0004492	0.0035	4.03	74200.27	113170.61	113170.61	11.85	No	Si
SLU 84	-1.95	-16770.24	-112114	-0.0001906	0.0004492	0.0035	4.03	54458.19	138681.36	138681.36	8.27	No	Si
SLU 84	0.15	12121.67	-105933	-0.0001683	0.0004492	0.0035	4.03	60386.94	132696.04	132696.04	10.95	No	Si
SLU 82	-1.95	-16809.45	-110720	-0.0001882	0.0004492	0.0035	4.03	55886.59	138019.76	138019.76	8.21	No	Si
SLU 82	0.15	11863.05	-104539	-0.0001653	0.0004492	0.0035	4.03	61580.25	132090.69	132090.69	11.13	No	Si
SLU 61	-1.95	-16013.27	-98045	-0.0001642	0.0004492	0.0035	4.03	66439.62	131775.49	131775.49	8.23	No	Si
SLU 61	0.15	10640.84	-92041	-0.0001421	0.0004492	0.0035	4.03	69908.59	124316.31	124316.31	11.68	No	Si
SLU 73	-1.95	-16842.04	-106188	-0.0001802	0.0004492	0.0035	4.03	60162.88	135787.3	135787.3	8.06	No	Si
SLU 73	0.15	11545.16	-100007	-0.000157	0.0004492	0.0035	4.03	65092.45	130123.21	130123.21	11.27	No	Si
SLU 47	-1.95	-14792.64	-85240	-0.0001406	0.0004492	0.0035	4.03	72650.58	123888.84	123888.84	8.38	No	Si
SLU 47	0.15	9811.02	-79236	-0.0001206	0.0004492	0.0035	4.03	74022.38	114265.03	114265.03	11.65	No	Si
SLU 52	-1.95	-16045.86	-93513	-0.0001568	0.0004492	0.0035	4.03	69149.02	129543.03	129543.03	8.07	No	Si
SLU 52	0.15	10322.95	-87510	-0.0001343	0.0004492	0.0035	4.03	71875.81	120759.24	120759.24	11.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	-1.95	-59535.32	-28421	-0.0011143	0.0006738	0.0035	3.224		61140.54	61140.54	1.03		Si
SLV 5	0.15	573.61	-23232	-0.0000278	0.0006738	0.0035	4.03		45041.32	45041.32	78.52		Si
SLD 5	-1.95	-39339.03	-47489	-0.0001312	0.0006738	0.0035	4.03		90987.81	90987.81	2.31		Si
SLD 5	0.15	3694.1	-42506	-0.0000565	0.0006738	0.0035	4.03		75128.96	75128.96	20.34		Si
SLV 7	-1.95	45362.99	-114785	-0.0002422	0.0006738	0.0035	4.03		158183.47	158183.47	3.49		Si
SLV 7	0.15	13484.33	-110375	-0.0001661	0.0006738	0.0035	4.03		154608.43	154608.43	11.47		Si
SLV 14	-1.95	-38057.92	-74020	-0.0001638	0.0006738	0.0035	4.03		125998.16	125998.16	3.31		Si
SLV 14	0.15	9561.78	-69466	-0.0001016	0.0006738	0.0035	4.03		112863.24	112863.24	11.8		Si
SLD 10	-1.95	-44427.91	-51838	-0.0001481	0.0006738	0.0035	4.03		97288.4	97288.4	2.19		Si
SLD 10	0.15	5188.91	-46954	-0.0000647	0.0006738	0.0035	4.03		81712.12	81712.12	15.75		Si
SLD 6	-1.95	-40841.32	-46976	-0.0001345	0.0006738	0.0035	4.03		90243.96	90243.96	2.21		Si
SLD 6	0.15	4136.94	-41992	-0.0000567	0.0006738	0.0035	4.03		74369.11	74369.11	17.98		Si
SLV 9	-1.95	-65147.83	-36001	-0.000627	0.0006738	0.0035	3.224		73487.16	73487.16	1.13		Si
SLV 9	0.15	2217.84	-30979	-0.0000399	0.0006738	0.0035	4.03		58067.87	58067.87	26.18		Si
SLV 10	-1.95	-67623.4	-35155	-0.0009758	0.0006738	0.0035	3.224		72118.41	72118.41	1.07		Si
SLV 10	0.15	2947.59	-30133	-0.0000402	0.0006738	0.0035	4.03		56804.92	56804.92	19.27		Si
SLV 6	-1.95	-62010.89	-27575	-0.0015098	0.0006738	0.0035	3.224		59700.28	59700.28	0.96		No
SLV 6	0.15	1303.35	-22386	-0.0000281	0.0006738	0.0035	4.03		43572.35	43572.35	33.43		Si
SLD 9	-1.95	-42925.62	-52351	-0.0001451	0.0006738	0.0035	4.03		98032.25	98032.25	2.28		Si
SLD 9	0.15	4746.07	-47467	-0.0000645	0.0006738	0.0035	4.03		82471.97	82471.97	17.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	-16210.74	-109365	-79538	-13469	4.03	4.03	-65788	10833	38798	81562	43448	20553	64001	No	4.75	Si
SLU 80	0.15	12050.05	-103184	-75043	-13469	4.03	4.03	-62070	10833	37000	81562	43448	20553	64001	No	4.75	Si
SLU 77	-1.95	-15400.67	-110618	-80449	-13126	4.03	4.03	-66542	10833	39163	81562	43448	20553	64001	No	4.88	Si
SLU 77	0.15	12141.55	-104437	-75954	-13126	4.03	4.03	-62824	10833	37365	81562	43448	20553	64001	No	4.88	Si
SLU 81	-1.95	-15980.13	-111302	-80947	-13261	4.03	4.03	-66954	10833	39362	81562	43448	20553	64001	No	4.83	Si
SLU 81	0.15	11844.53	-105121	-76452	-13261	4.03	4.03	-63236	10833	37564	81562	43448	20553	64001	No	4.83	Si
SLU 82	-1.95	-16809.45	-110720	-80523	-13665	4.03	4.03	-66603	10833	39192	81562	43448	20553	64001	No	4.68	Si
SLU 82	0.15	11863.05	-104539	-76028	-13665	4.03	4.03	-62885	10833	37394	81562	43448	20553	64001	No	4.68	Si
SLU 78	-1.95	-16229.98	-110035	-80026	-13530	4.03	4.03	-66192	10833	38993	81562	43448	20553	64001	No	4.73	Si
SLU 78	0.15	12160.07	-103855	-75531	-13530	4.03	4.03	-62474	10833	37195	81562	43448	20553	64001	No	4.73	Si
SLU 73	-1.95	-16842.04	-106188	-77228	-13529	4.03	4.03	-63877	10833	37874	81562	43448	20553	64001	No	4.73	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	0.15	11545.16	-100007	-72733	-13529	4.03	4.03	-60159	10833	36076	81562	43448	20553	64001	No	4.73	Si
SLU 76	-1.95	-16802.83	-107582	-78242	-13633	4.03	4.03	-64716	10833	38280	81562	43448	20553	64001	No	4.69	Si
SLU 76	0.15	11803.78	-101401	-73747	-13633	4.03	4.03	-60998	10833	36482	81562	43448	20553	64001	No	4.69	Si
SLU 84	-1.95	-16770.24	-112114	-81537	-13769	4.03	4.03	-67442	10833	39598	81562	43448	20553	64001	No	4.65	Si
SLU 84	0.15	12121.67	-105933	-77042	-13769	4.03	4.03	-63724	10833	37800	81562	43448	20553	64001	No	4.65	Si
SLU 75	-1.95	-16269.19	-108641	-79012	-13426	4.03	4.03	-65353	10833	38588	81562	43448	20553	64001	No	4.77	Si
SLU 75	0.15	11901.45	-102460	-74517	-13426	4.03	4.03	-61635	10833	36790	81562	43448	20553	64001	No	4.77	Si
SLU 83	-1.95	-15940.93	-112696	-81961	-13365	4.03	4.03	-67792	10833	39767	81562	43448	20553	64001	No	4.79	Si
SLU 83	0.15	12103.15	-106515	-77466	-13365	4.03	4.03	-64074	10833	37969	81562	43448	20553	64001	No	4.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	-62010.89	-27575	-20055	-30392	3.224	0	0	0	0	81562	52138	16442	68581		2.26	Si
SLV 6	0.15	1303.35	-22386	-16281	-30427	4.03	4.03	-13466	15193	18369	81562	65173	20553	85726		2.82	Si
SLD 9	-1.95	-42925.62	-52351	-38074	-22828	4.03	3.5851	-36022	16250	25705	81562	65173	20553	85726		3.76	Si
SLD 9	0.15	4746.07	-47467	-34521	-22790	4.03	4.03	-28554	16250	24284	81562	65173	20553	85726		3.76	Si
SLV 5	-1.95	-59535.32	-28421	-20670	-28866	3.224	0	0	0	0	81562	52138	16442	68581		2.38	Si
SLV 5	0.15	573.61	-23232	-16896	-28900	4.03	4.03	-13975	15295	18492	81562	65173	20553	85726		2.97	Si
SLD 10	-1.95	-44427.91	-51838	-37700	-23754	4.03	3.4738	-36637	16250	25556	81562	65173	20553	85726		3.61	Si
SLD 10	0.15	5188.91	-46954	-34148	-23716	4.03	4.03	-28245	16250	24135	81562	65173	20553	85726		3.61	Si
SLV 13	-1.95	-34380.36	-75277	-54747	-20446	4.03	4.03	-45283	16250	32374	81562	65173	20553	85726		4.19	Si
SLV 13	0.15	8477.71	-70723	-51435	-20279	4.03	4.03	-42543	16250	31049	81562	65173	20553	85726		4.23	Si
SLD 5	-1.95	-39339.03	-47489	-34538	-20630	4.03	3.5599	-32747	16250	24291	81562	65173	20553	85726		4.16	Si
SLD 5	0.15	3694.1	-42506	-30913	-20652	4.03	4.03	-25569	16250	22841	81562	65173	20553	85726		4.15	Si
SLV 10	-1.95	-67623.4	-35155	-25567	-33825	3.224	0.2743	0	0	0	81562	52138	16442	68581		2.03	Si
SLV 10	0.15	2947.59	-30133	-21915	-33762	4.03	4.03	-18127	16125	19496	81562	65173	20553	85726		2.54	Si
SLV 14	-1.95	-38057.92	-74020	-53833	-22713	4.03	4.03	-44527	16250	32008	81562	65173	20553	85726		3.77	Si
SLV 14	0.15	9561.78	-69466	-50521	-22546	4.03	4.03	-41787	16250	30684	81562	65173	20553	85726		3.8	Si
SLD 6	-1.95	-40841.32	-46976	-34164	-21557	4.03	3.4368	-33486	16250	24141	81562	65173	20553	85726		3.98	Si
SLD 6	0.15	4136.94	-41992	-30540	-21579	4.03	4.03	-25261	16250	22692	81562	65173	20553	85726		3.97	Si
SLV 9	-1.95	-65147.83	-36001	-26183	-32299	3.224	0.6162	0	0	0	81562	52138	16442	68581		2.12	Si
SLV 9	0.15	2217.84	-30979	-22530	-32236	4.03	4.03	-18635	16227	19619	81562	65173	20553	85726		2.66	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-24026	0.24	161.28	3213.1	4447.97	3830.53	23.75	Si
SLV 5	-24872	0.24	161.28	3311.99	4582.67	3947.33	24.48	Si
SLV 10	-31789	0.24	161.28	4084.28	5671.77	4878.02	30.25	Si
SLV 9	-32635	0.24	161.28	4174.28	5804.45	4989.37	30.94	Si
SLV 2	-45344	0.24	161.28	5409.76	7764.73	6587.24	40.84	Si
SLV 1	-46601	0.24	161.28	5520.05	7957.19	6738.62	41.78	Si
SLV 14	-71222	0.24	161.28	7249.48	11468.05	9358.76	58.03	Si
SLV 4	-71556	0.24	161.28	7267.32	11511.7	9389.51	58.22	Si
SLV 13	-72478	0.24	161.28	7315.74	11632.08	9473.91	58.74	Si
SLV 3	-72813	0.24	161.28	7333.01	11674.3	9503.65	58.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-108189	-122364	-11	0.262	11466.2	0.988	3.86243	2.71881	Si
SLV 12	-107552	-121518	-11	0.264	11401.3	0.988	3.88011	2.71881	Si
SLV 7	-100753	-114785	-27	0.277	10708.4	0.987	4.08043	2.71881	Si
SLV 8	-100116	-113939	-27	0.278	10643.4	0.987	4.10077	2.71881	Si
SLV 15	-89803	-101186	22	0.303	9592.4	0.985	4.47056	2.93197	Si
SLV 16	-88856	-99929	22	0.306	9495.9	0.985	4.5087	2.93197	Si
SLV 13	-66475	-75277	35	0.386	7215.2	0.981	5.71501	2.93197	Si
SLV 14	-65528	-74020	34	0.39	7118.7	0.98	5.78392	2.93197	Si
SLV 3	-65016	-75920	-31	0.393	7066.6	0.98	5.82269	2.93197	Si
SLV 4	-64070	-74663	-31	0.397	6970.1	0.98	5.89458	2.93197	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.062	SLU 73	Si
V_SLU	4.648	SLU 84	Si
PF_SLV	0.963	SLV 6	No
V_SLV	2.027	SLV 10	Si
PFFP_SLV	23.751	SLV 6	Si
R_SLV	1.421	SLV 11	Si

Maschio 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.503	-3.284	-3.403	-3.284	L2	L4	3.1	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	0.05	-16394.76	-30377	-0.0000726	0.0003743	0.0035	3.1	37014.06	42246.31	42246.31	2.58	No	Si
SLU 69	0.45	-12171.56	-29241	-0.000061	0.0003743	0.0035	3.1	35992.48	41020.71	41020.71	3.37	No	Si
SLU 74	0.05	-17839.8	-34233	-0.0000811	0.0003743	0.0035	3.1	40271.75	46201.64	46201.64	2.59	No	Si
SLU 74	0.45	-13175.17	-33097	-0.0000684	0.0003743	0.0035	3.1	39345.77	45055.4	45055.4	3.42	No	Si
SLU 79	0.05	-17827.69	-34240	-0.0000811	0.0003743	0.0035	3.1	40277.54	46208.96	46208.96	2.59	No	Si
SLU 79	0.45	-13180.16	-33104	-0.0000684	0.0003743	0.0035	3.1	39351.74	45062.64	45062.64	3.42	No	Si
SLU 64	0.05	-16034.98	-29805	-0.0000709	0.0003743	0.0035	3.1	36502.62	41626.55	41626.55	2.6	No	Si
SLU 64	0.45	-11858.81	-28669	-0.0000595	0.0003743	0.0035	3.1	35466.85	40407.95	40407.95	3.41	No	Si
SLU 45	0.05	-14363.03	-25831	-0.0000619	0.0003743	0.0035	3.1	32756.54	37263.39	37263.39	2.59	No	Si
SLU 45	0.45	-10704.9	-24712	-0.0000519	0.0003743	0.0035	3.1	31639.06	35989.62	35989.62	3.36	No	Si
SLU 50	0.05	-14350.92	-25839	-0.0000619	0.0003743	0.0035	3.1	32763.65	37271.64	37271.64	2.6	No	Si
SLU 50	0.45	-10709.9	-24719	-0.0000519	0.0003743	0.0035	3.1	31646.35	35997.79	35997.79	3.36	No	Si
SLU 48	0.05	-14478.92	-26025	-0.0000624	0.0003743	0.0035	3.1	32946.73	37485.06	37485.06	2.59	No	Si
SLU 48	0.45	-10810.82	-24905	-0.0000524	0.0003743	0.0035	3.1	31833.97	36208.67	36208.67	3.35	No	Si
SLU 66	0.05	-16278.87	-30184	-0.000072	0.0003743	0.0035	3.1	36842.23	42036.59	42036.59	2.58	No	Si
SLU 66	0.45	-12065.65	-29048	-0.0000605	0.0003743	0.0035	3.1	35815.86	40813.54	40813.54	3.38	No	Si
SLU 77	0.05	-17955.69	-34426	-0.0000817	0.0003743	0.0035	3.1	40426.49	46397.81	46397.81	2.58	No	Si
SLU 77	0.45	-13281.08	-33290	-0.0000689	0.0003743	0.0035	3.1	39505.31	45249.62	45249.62	3.41	No	Si
SLU 71	0.05	-16266.75	-30191	-0.000072	0.0003743	0.0035	3.1	36848.66	42044.42	42044.42	2.58	No	Si
SLU 71	0.45	-12070.64	-29055	-0.0000605	0.0003743	0.0035	3.1	35822.47	40821.26	40821.26	3.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	0.05	-17788.51	-25022	-0.0000698	0.0005615	0.0035	3.1		37906.37	37906.37	2.13		Si
SLD 1	0.45	-11173.1	-23981	-0.0000509	0.0005615	0.0035	3.1		36557.66	36557.66	3.27		Si
SLV 2	0.05	-22451.94	-27251	-0.0000891	0.0005615	0.0035	3.1		40685.46	40685.46	1.81		Si
SLV 2	0.45	-13216.32	-26096	-0.000058	0.0005615	0.0035	3.1		39261.56	39261.56	2.97		Si
SLV 1	0.05	-21184.56	-26562	-0.0000835	0.0005615	0.0035	3.1		39843.45	39843.45	1.88		Si
SLV 1	0.45	-12606.71	-25407	-0.0000558	0.0005615	0.0035	3.1		38393.98	38393.98	3.05		Si
SLD 4	0.05	-13707.68	-18937	-0.0000529	0.0005615	0.0035	3.1		29975.49	29975.49	2.19		Si
SLD 4	0.45	-7959.7	-17632	-0.0000365	0.0005615	0.0035	3.1		28213.35	28213.35	3.54		Si
SLD 2	0.05	-18592.55	-25459	-0.0000728	0.0005615	0.0035	3.1		38460.28	38460.28	2.07		Si
SLD 2	0.45	-11559.84	-24418	-0.0000523	0.0005615	0.0035	3.1		37124.26	37124.26	3.21		Si
SLV 3	0.05	-12862.98	-15439	-0.0000496	0.0005615	0.0035	3.1		25270.64	25270.64	1.96		Si
SLV 3	0.45	-6404.26	-13884	-0.0000289	0.0005615	0.0035	3.1		23102.98	23102.98	3.61		Si
SLV 5	0.05	-27391.64	-40899	-0.000112	0.0005615	0.0035	3.1		56642.22	56642.22	2.07		Si
SLV 5	0.45	-19473.41	-40549	-0.0000901	0.0005615	0.0035	3.1		56252.79	56252.79	2.89		Si
SLD 6	0.05	-21776.4	-33795	-0.0000884	0.0005615	0.0035	3.1		48576.6	48576.6	2.23		Si
SLD 6	0.45	-15392.75	-33272	-0.0000716	0.0005615	0.0035	3.1		47965.76	47965.76	3.12		Si
SLV 4	0.05	-14130.35	-16128	-0.0000553	0.0005615	0.0035	2.48		26193.6	26193.6	1.85		Si
SLV 4	0.45	-7013.86	-14573	-0.0000309	0.0005615	0.0035	3.1		24076.75	24076.75	3.43		Si
SLV 6	0.05	-28244.78	-41363	-0.0001157	0.0005615	0.0035	3.1		57159.96	57159.96	2.02		Si
SLV 6	0.45	-19883.77	-41013	-0.0000916	0.0005615	0.0035	3.1		56769.81	56769.81	2.86		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.05	-18285.22	-36336	-32299	-12468	3.1	3.1	-23153	10032	19635	28547	41773	7905	48181	No	3.86	Si
SLU 84	0.45	-13309.54	-35200	-31289	-12468	3.1	3.1	-22430	9935	19231	28547	41773	7905	47777	No	3.83	Si
SLU 83	0.05	-18380.77	-35782	-31807	-12106	3.1	3.1	-23168	10033	19438	28547	41773	7905	47984	No	3.96	Si
SLU 83	0.45	-13549.76	-34646	-30797	-12106	3.1	3.1	-22077	9888	19034	28547	41773	7905	47580	No	3.93	Si
SLU 80	0.05	-17732.13	-34794	-30928	-12009	3.1	3.1	-22424	9934	19086	28547	41773	7905	47633	No	3.97	Si
SLU 80	0.45	-12939.94	-33658	-29918	-12009	3.1	3.1	-21447	9804	18682	28547	41773	7905	47229	No	3.93	Si
SLU 77	0.05	-17955.69	-34426	-30601	-11715	3.1	3.0853	-22445	9937	18955	28547	41773	7905	47502	No	4.05	Si
SLU 77	0.45	-13281.08	-33290	-29592	-11715	3.1	3.1	-21213	9773	18552	28547	41773	7905	47098	No	4.02	Si
SLU 78	0.05	-17860.14	-34980	-31094	-12077	3.1	3.1	-22568	9953	19152	28547	41773	7905	47699	No	3.95	Si
SLU 78	0.45	-13040.86	-33844	-30084	-12077	3.1	3.1	-21565	9820	18749	28547	41773	7905	47295	No	3.92	Si
SLU 75	0.05	-17744.25	-34787	-30922	-12052	3.1	3.1	-22430	9935	19084	28547	41773	7905	47630	No	3.95	Si
SLU 75	0.45	-12934.95	-33651	-29912	-12052	3.1	3.1	-21442	9803	18680	28547	41773	7905	47226	No	3.92	Si
SLU 73	0.05	-17436.66	-34777	-30913	-12200	3.1	3.1	-22160	9899	19080	28547	41773	7905	47627	No	3.9	Si
SLU 73	0.45	-12567.97	-33641	-29903	-12200	3.1	3.1	-21436	9803	18676	28547	41773	7905	47223	No	3.87	Si
SLU 76	0.05	-17552.54	-34970	-31085	-12225	3.1	3.1	-22283	9915	19149	28547	41773	7905	47695	No	3.9	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	0.45	-12673.88	-33834	-30075	-12225	3.1	3.1	-21559	9819	18745	28547	41773	7905	47292	No	3.87	Si
SLU 82	0.05	-18169.33	-36143	-32127	-12443	3.1	3.1	-23030	10015	19566	28547	41773	7905	48112	No	3.87	Si
SLU 82	0.45	-13203.63	-35007	-31117	-12443	3.1	3.1	-22306	9919	19162	28547	41773	7905	47709	No	3.83	Si
SLU 81	0.05	-18264.88	-35589	-31635	-12081	3.1	3.1	-23029	10015	19369	28547	41773	7905	47915	No	3.97	Si
SLU 81	0.45	-13443.84	-34453	-30625	-12081	3.1	3.1	-21953	9872	18965	28547	41773	7905	47512	No	3.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	0.05	-12903.64	-18500	-16444	-14814	3.1	2.5575	-14389	13294	16651	28547	62659	7905	45197		3.05	Si
SLD 3	0.45	-7572.95	-17195	-15284	-14709	3.1	3.1	-10957	12608	17588	28547	62659	7905	46135		3.14	Si
SLV 5	0.05	-27391.64	-40899	-36355	-17855	3.1	2.6408	-30923	16250	24614	28547	62659	7905	53161		2.98	Si
SLV 5	0.45	-19473.41	-40549	-36044	-17871	3.1	3.1	-25838	15584	24490	28547	62659	7905	53037		2.97	Si
SLV 3	0.05	-12862.98	-15439	-13724	-18465	3.1	2.1506	-14277	13272	15562	28547	62659	7905	44109		2.39	Si
SLV 3	0.45	-6404.26	-13884	-12342	-18293	3.1	3.1	-8847	12186	17000	28547	62659	7905	45546		2.49	Si
SLV 4	0.05	-14130.35	-16128	-14336	-20109	2.48	2.0216	0	0	0	28547	50127	6324	28547		1.42	Si
SLV 4	0.45	-7013.86	-14573	-12954	-19937	3.1	3.1	-9286	12274	17122	28547	62659	7905	45669		2.29	Si
SLD 1	0.05	-17788.51	-25022	-22242	-17075	3.1	2.5173	-19830	14383	18970	28547	62659	7905	47516		2.78	Si
SLD 1	0.45	-11173.1	-23981	-21316	-16991	3.1	3.1	-15280	13473	18794	28547	62659	7905	47341		2.79	Si
SLV 6	0.05	-28244.78	-41363	-36767	-18962	3.1	2.6014	-31948	16250	24779	28547	62659	7905	53326		2.81	Si
SLV 6	0.45	-19883.77	-41013	-36456	-18978	3.1	3.1	-26133	15643	24655	28547	62659	7905	53202		2.8	Si
SLV 1	0.05	-21184.56	-26562	-23611	-22304	3.1	2.2574	-23523	15122	19517	28547	62659	7905	48064		2.15	Si
SLV 1	0.45	-12606.71	-25407	-22584	-22169	3.1	3.1	-16189	13655	19106	28547	62659	7905	47653		2.15	Si
SLV 2	0.05	-22451.94	-27251	-24223	-23949	3.1	2.1783	-25029	15423	19762	28547	62659	7905	48309		2.02	Si
SLV 2	0.45	-13216.32	-26096	-23197	-23813	3.1	3.1	-16628	13742	19351	28547	62659	7905	47898		2.01	Si
SLD 4	0.05	-13707.68	-18937	-16833	-15858	3.1	2.4784	-15203	13457	16806	28547	62659	7905	45353		2.86	Si
SLD 4	0.45	-7959.7	-17632	-15673	-15752	3.1	3.1	-11235	12664	17666	28547	62659	7905	46212		2.93	Si
SLD 2	0.05	-18592.55	-25459	-22631	-18119	3.1	2.4592	-20659	14549	19125	28547	62659	7905	47672		2.63	Si
SLD 2	0.45	-11559.84	-24418	-21705	-18034	3.1	3.1	-15559	13528	18872	28547	62659	7905	47419		2.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	0	444	179.62	0	0	No, Trazione
SLV 8	179667	0.24	0	48	179.62	0	0	No, Trazione
SLV 11	179667	0.24	1318	-1839	179.62	410.1	2.28	Si
SLV 12	179667	0.24	1602	-2234	179.62	497.42	2.77	Si
SLV 3	179667	0.24	6727	-9384	179.62	2018.39	11.24	Si
SLV 4	179667	0.24	7148	-9972	179.62	2138.62	11.91	Si
SLV 15	179667	0.24	12181	-16993	179.62	3518.41	19.59	Si
SLV 16	179667	0.24	12603	-17581	179.62	3629.19	20.2	Si
SLV 1	179667	0.24	14461	-20173	179.62	4109.13	22.88	Si
SLV 2	179667	0.24	14882	-20761	179.62	4215.96	23.47	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-32491	-41662	-4667	0.45	3823	0.96	6.81278	2.57112	Si
SLV 9	-32165	-41225	-4605	0.455	3790	0.96	6.89222	2.57112	Si
SLV 6	-31575	-38735	-4550	0.463	3729.9	0.959	7.01525	2.57112	Si
SLV 5	-31249	-38298	-4488	0.468	3696.8	0.959	7.09884	2.57112	Si
SLV 14	-23748	-31658	-3263	0.62	2934.6	0.949	9.48664	2.70061	Si
SLV 13	-23265	-31008	-3171	0.633	2885.6	0.949	9.69638	2.70061	Si
SLV 2	-20694	-21901	-2872	0.704	2624.8	0.944	10.83579	2.70061	Si
SLV 1	-20211	-21251	-2779	0.721	2575.8	0.943	11.1027	2.70061	Si
SLV 16	-15271	-20065	-1930	0.935	2075.9	0.932	14.58415	2.70061	Si
SLV 15	-14787	-19415	-1837	0.963	2027.1	0.931	15.0393	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.577	SLU 69	Si
V_SLU	3.832	SLU 84	Si
PF_SLV	1.812	SLV 2	Si
V_SLV	1.42	SLV 4	Si
PFFP_SLV	0	SLV 8	No
R_SLV	2.65	SLV 10	Si

Maschio 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.403	-3.284	0.102	-3.284	L2	L4	2.505	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	0.05	-3675.45	-19311	-0.0000394	0.0003743	0.0035	2.505	20117.46	22876.43	22876.43	6.22	No	Si
SLU 40	0.45	-3505.56	-14187	-0.0000312	0.0003743	0.0035	2.505	15572.7	17852.03	17852.03	5.09	No	Si
SLU 75	0.05	-3948.59	-21398	-0.0000434	0.0003743	0.0035	2.505	21804.2	24798.03	24798.03	6.28	No	Si
SLU 75	0.45	-3678.83	-15363	-0.0000335	0.0003743	0.0035	2.505	16666.58	19052.81	19052.81	5.18	No	Si
SLU 82	0.05	-4141.63	-22244	-0.0000454	0.0003743	0.0035	2.505	22460.39	25567.64	25567.64	6.17	No	Si
SLU 82	0.45	-3895.09	-16108	-0.0000354	0.0003743	0.0035	2.505	17343.24	19792.26	19792.26	5.08	No	Si
SLU 42	0.05	-3690.08	-19422	-0.0000396	0.0003743	0.0035	2.505	20209.11	22977.14	22977.14	6.23	No	Si
SLU 42	0.45	-3515.77	-14254	-0.0000314	0.0003743	0.0035	2.505	15635.5	17920.38	17920.38	5.1	No	Si
SLU 73	0.05	-4039.4	-21429	-0.0000438	0.0003743	0.0035	2.505	21828.27	24826.24	24826.24	6.15	No	Si
SLU 73	0.45	-3785.06	-15481	-0.0000341	0.0003743	0.0035	2.505	16774.01	19170.29	19170.29	5.06	No	Si
SLU 31	0.05	-3573.22	-18497	-0.0000378	0.0003743	0.0035	2.505	19433.19	22108.73	22108.73	6.19	No	Si
SLU 31	0.45	-3395.53	-13560	-0.0000299	0.0003743	0.0035	2.505	14977.18	17212.89	17212.89	5.07	No	Si
SLU 78	0.05	-3963.21	-21509	-0.0000437	0.0003743	0.0035	2.505	21890.82	24899.56	24899.56	6.28	No	Si
SLU 78	0.45	-3689.03	-15430	-0.0000337	0.0003743	0.0035	2.505	16727.66	19119.61	19119.61	5.18	No	Si
SLU 34	0.05	-3587.85	-18607	-0.000038	0.0003743	0.0035	2.505	19526.81	22214.4	22214.4	6.19	No	Si
SLU 34	0.45	-3405.73	-13627	-0.0000301	0.0003743	0.0035	2.505	15040.89	17280.53	17280.53	5.07	No	Si
SLU 84	0.05	-4156.25	-22354	-0.0000456	0.0003743	0.0035	2.505	22544.97	25662.85	25662.85	6.17	No	Si
SLU 84	0.45	-3905.3	-16174	-0.0000355	0.0003743	0.0035	2.505	17403.25	19856.66	19856.66	5.08	No	Si
SLU 76	0.05	-4054.03	-21539	-0.000044	0.0003743	0.0035	2.505	21914.82	24927.69	24927.69	6.15	No	Si
SLU 76	0.45	-3795.26	-15547	-0.0000342	0.0003743	0.0035	2.505	16834.93	19236.89	19236.89	5.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.05	-607.96	-504	-0.0000133	0.0005615	0.0035	2.004		2481.85	2481.85	4.08		Si
SLV 7	0.45	-859.61	-1122	-0.0000051	0.0005615	0.0035	2.004		3238.1	3238.1	3.77		Si
SLV 3	0.05	-3680.46	-7491	-0.0000222	0.0005615	0.0035	2.505		10824.57	10824.57	2.94		Si
SLV 3	0.45	-1623.6	-5239	-0.0000123	0.0005615	0.0035	2.505		8184.56	8184.56	5.04		Si
SLV 1	0.05	-5102.11	-15127	-0.0000374	0.0005615	0.0035	2.505		19361.24	19361.24	3.79		Si
SLV 1	0.45	-2415.68	-10094	-0.0000215	0.0005615	0.0035	2.505		13783.73	13783.73	5.71		Si
SLD 4	0.05	-3564.05	-10536	-0.0000259	0.0005615	0.0035	2.505		14287.06	14287.06	4.01		Si
SLD 4	0.45	-1906.79	-7329	-0.000016	0.0005615	0.0035	2.505		10636.82	10636.82	5.58		Si
SLV 8	0.05	-915.37	-931	-0.0000076	0.0005615	0.0035	2.004		3005.84	3005.84	3.28		Si
SLV 8	0.45	-904.17	-1373	-0.0000051	0.0005615	0.0035	2.505		3544.47	3544.47	3.92		Si
SLV 11	0.05	667.93	-2064	-0.0000049	0.0005615	0.0035	2.505		2862.53	2862.53	4.29		Si
SLV 11	0.45	-987.57	-2395	-0.0000064	0.0005615	0.0035	2.505		4783.93	4783.93	4.84		Si
SLD 2	0.05	-4405.35	-15017	-0.000035	0.0005615	0.0035	2.505		19240.05	19240.05	4.37		Si
SLD 2	0.45	-2385.49	-10187	-0.0000215	0.0005615	0.0035	2.505		13889.46	13889.46	5.82		Si
SLV 4	0.05	-4137.13	-8125	-0.0000247	0.0005615	0.0035	2.505		11558.36	11558.36	2.79		Si
SLV 4	0.45	-1689.79	-5613	-0.000013	0.0005615	0.0035	2.505		8625.62	8625.62	5.1		Si
SLV 2	0.05	-5558.77	-15762	-0.0000399	0.0005615	0.0035	2.505		20050.29	20050.29	3.61		Si
SLV 2	0.45	-2481.87	-10467	-0.0000222	0.0005615	0.0035	2.505		14208.13	14208.13	5.72		Si
SLD 3	0.05	-3274.34	-10134	-0.0000244	0.0005615	0.0035	2.505		13829.38	13829.38	4.22		Si
SLD 3	0.45	-1864.79	-7092	-0.0000156	0.0005615	0.0035	2.505		10361.5	10361.5	5.56		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.05	-3777.66	-21133	-18785	-13829	2.505	2.505	-16665	9166	12372	28547	33755	6388	40143	No	2.9	Si
SLU 77	0.45	-3493.76	-15053	-13381	-13854	2.505	2.505	-11870	8527	10306	28547	33755	6388	38852	No	2.8	Si
SLU 84	0.05	-4156.25	-22354	-19870	-14004	2.505	2.505	-17627	9295	12787	28547	33755	6388	40143	No	2.87	Si
SLU 84	0.45	-3905.3	-16174	-14377	-14031	2.505	2.505	-12754	8645	10687	28547	33755	6388	39233	No	2.8	Si
SLU 81	0.05	-3956.08	-21868	-19438	-13907	2.505	2.505	-17244	9244	12622	28547	33755	6388	40143	No	2.89	Si
SLU 81	0.45	-3699.82	-15731	-13983	-13933	2.505	2.505	-12405	8598	10536	28547	33755	6388	39082	No	2.81	Si
SLU 74	0.05	-3763.04	-21023	-18687	-13705	2.505	2.505	-16577	9155	12335	28547	33755	6388	40143	No	2.93	Si
SLU 74	0.45	-3483.56	-14987	-13321	-13729	2.505	2.505	-11818	8520	10283	28547	33755	6388	38829	No	2.83	Si
SLU 78	0.05	-3963.21	-21509	-19119	-13801	2.505	2.505	-16961	9206	12500	28547	33755	6388	40143	No	2.91	Si
SLU 78	0.45	-3689.03	-15430	-13715	-13828	2.505	2.505	-12167	8567	10434	28547	33755	6388	38980	No	2.82	Si
SLU 80	0.05	-3944.95	-21399	-19022	-13681	2.505	2.505	-16874	9194	12463	28547	33755	6388	40143	No	2.93	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.45	-3675.28	-15363	-13656	-13707	2.505	2.505	-12114	8560	10411	28547	33755	6388	38957	No	2.84	Si
SLU 75	0.05	-3948.59	-21398	-19021	-13677	2.505	2.505	-16874	9194	12462	28547	33755	6388	40143	No	2.94	Si
SLU 75	0.45	-3678.83	-15363	-13656	-13703	2.505	2.505	-12115	8560	10411	28547	33755	6388	38957	No	2.84	Si
SLU 79	0.05	-3759.4	-21024	-18688	-13709	2.505	2.505	-16578	9155	12335	28547	33755	6388	40143	No	2.93	Si
SLU 79	0.45	-3480.01	-14986	-13321	-13733	2.505	2.505	-11817	8520	10283	28547	33755	6388	38829	No	2.83	Si
SLU 82	0.05	-4141.63	-22244	-19772	-13880	2.505	2.505	-17540	9283	12750	28547	33755	6388	40143	No	2.89	Si
SLU 82	0.45	-3895.09	-16108	-14318	-13907	2.505	2.505	-12702	8638	10664	28547	33755	6388	39210	No	2.82	Si
SLU 83	0.05	-3970.7	-21979	-19537	-14032	2.505	2.505	-17331	9255	12660	28547	33755	6388	40143	No	2.86	Si
SLU 83	0.45	-3710.02	-15798	-14042	-14057	2.505	2.505	-12457	8605	10559	28547	33755	6388	39105	No	2.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.05	-4392.57	-21327	-18958	-19276	2.505	2.505	-16817	13780	15534	28547	50632	6388	44080		2.29	Si
SLD 6	0.45	-3035.11	-14414	-12812	-19316	2.505	2.505	-11366	12690	14305	28547	50632	6388	42851		2.22	Si
SLD 9	0.05	-3398	-22058	-19607	-17675	2.505	2.505	-17394	13895	15664	28547	50632	6388	44210		2.5	Si
SLD 9	0.45	-3092.58	-15063	-13389	-17703	2.505	2.505	-11878	12792	14420	28547	50632	6388	42967		2.43	Si
SLV 10	0.05	-4378.31	-27946	-24841	-24600	2.505	2.505	-22037	14824	17282	28547	50632	6388	45829		1.86	Si
SLV 10	0.45	-3672.39	-18828	-16736	-24638	2.505	2.505	-14847	13386	15089	28547	50632	6388	43636		1.77	Si
SLV 6	0.05	-5654.2	-26387	-23455	-26069	2.505	2.505	-20807	14578	16752	28547	50632	6388	45299		1.74	Si
SLV 6	0.45	-3544.43	-17555	-15604	-26122	2.505	2.505	-13843	13185	14863	28547	50632	6388	43410		1.66	Si
SLV 1	0.05	-5102.11	-15127	-13447	-15751	2.505	2.505	-11929	12802	14432	28547	50632	6388	42978		2.73	Si
SLV 1	0.45	-2415.68	-10094	-8972	-15799	2.505	2.505	-7959	12009	13537	28547	50632	6388	42083		2.66	Si
SLV 2	0.05	-5558.77	-15762	-14011	-17402	2.505	2.505	-12429	12902	14544	28547	50632	6388	43091		2.48	Si
SLV 2	0.45	-2481.87	-10467	-9304	-17451	2.505	2.505	-8254	12067	13603	28547	50632	6388	42150		2.42	Si
SLV 9	0.05	-4070.9	-27519	-24461	-23488	2.505	2.505	-21700	14757	17137	28547	50632	6388	45684		1.94	Si
SLV 9	0.45	-3627.83	-18576	-16512	-23527	2.505	2.505	-14648	13346	15045	28547	50632	6388	43591		1.85	Si
SLD 10	0.05	-3584.55	-22317	-19837	-18349	2.505	2.505	-17598	13936	15710	28547	50632	6388	44256		2.41	Si
SLD 10	0.45	-3119.62	-15215	-13525	-18378	2.505	2.505	-11998	12816	14447	28547	50632	6388	42994		2.34	Si
SLD 5	0.05	-4206.03	-21068	-18727	-18602	2.505	2.505	-16613	13739	15488	28547	50632	6388	44034		2.37	Si
SLD 5	0.45	-3008.07	-14261	-12677	-18641	2.505	2.505	-11246	12666	14278	28547	50632	6388	42824		2.3	Si
SLV 5	0.05	-5346.79	-25960	-23075	-24958	2.505	2.505	-20470	14511	16607	28547	50632	6388	45154		1.81	Si
SLV 5	0.45	-3499.87	-17303	-15381	-25010	2.505	2.505	-13644	13146	14818	28547	50632	6388	43365		1.73	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	0	475	145.15	0	0	No, Trazione
SLV 8	179667	0.24	0	24	145.15	0	0	No, Trazione
SLV 11	179667	0.24	1929	-2175	145.15	483.2	3.33	Si
SLV 12	179667	0.24	2329	-2626	145.15	581.76	4.01	Si
SLV 3	179667	0.24	5973	-6733	145.15	1455.57	10.03	Si
SLV 4	179667	0.24	6566	-7402	145.15	1593.83	10.98	Si
SLV 15	179667	0.24	13807	-15564	145.15	3185.35	21.95	Si
SLV 1	179667	0.24	13886	-15653	145.15	3201.74	22.06	Si
SLV 16	179667	0.24	14401	-16234	145.15	3308.16	22.79	Si
SLV 2	179667	0.24	14480	-16323	145.15	3324.39	22.9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-17587	-30357	-1033	0.741	2208.7	0.946	11.38544	2.57112	Si
SLV 9	-17292	-30006	-1015	0.752	2178.8	0.945	11.55595	2.57112	Si
SLV 6	-16589	-26797	-952	0.779	2107.5	0.944	12.00028	2.57112	Si
SLV 5	-16294	-26447	-934	0.791	2077.6	0.943	12.19003	2.57112	Si
SLV 14	-13183	-25015	-773	0.94	1762.7	0.935	14.61107	2.70061	Si
SLV 13	-12745	-24495	-746	0.966	1718.4	0.933	15.03792	2.70061	Si
SLV 2	-9856	-13151	-503	1.188	1427.2	0.923	18.71504	2.70061	Si
SLV 1	-9417	-12631	-476	1.231	1383.2	0.921	19.41929	2.70061	Si
SLV 16	-8349	-16805	-465	1.343	1276.1	0.916	21.30162	2.70061	Si
SLV 15	-7910	-16284	-438	1.397	1232.3	0.914	22.22034	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.065	SLU 73	Si
V_SLU	2.782	SLU 83	Si
PF_SLV	2.794	SLV 4	Si
V_SLV	1.662	SLV 6	Si
PFFP_SLV	0	SLV 8	No
R_SLV	4.428	SLV 10	Si

Maschio 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.008	5.876	-2.914	5.876	L2	L4	2.094	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	0.05	-6673.26	-25525	-0.0000781	0.0003743	0.0035	2.0941	19615.31	22503.75	22503.75	3.37	No	Si
SLU 66	0.45	-4012.89	-24684	-0.0000625	0.0003743	0.0035	2.0941	19195.66	21956.69	21956.69	5.47	No	Si
SLU 46	0.05	-5852.92	-21405	-0.0000657	0.0003743	0.0035	2.0941	17411.72	19736.75	19736.75	3.37	No	Si
SLU 46	0.45	-3462.15	-20574	-0.0000519	0.0003743	0.0035	2.0941	16922	19155.87	19155.87	5.53	No	Si
SLU 45	0.05	-5944.39	-21630	-0.0000666	0.0003743	0.0035	2.0941	17541.26	19894.51	19894.51	3.35	No	Si
SLU 45	0.45	-3532.73	-20798	-0.0000527	0.0003743	0.0035	2.0941	17055.61	19311.98	19311.98	5.47	No	Si
SLU 51	0.05	-5928.83	-21638	-0.0000665	0.0003743	0.0035	2.0941	17545.87	19900.16	19900.16	3.36	No	Si
SLU 51	0.45	-3522.01	-20806	-0.0000526	0.0003743	0.0035	2.0941	17060.36	19317.57	19317.57	5.48	No	Si
SLU 48	0.05	-6082.65	-22046	-0.0000681	0.0003743	0.0035	2.0941	17778.73	20188.47	20188.47	3.32	No	Si
SLU 48	0.45	-3648.65	-21214	-0.000054	0.0003743	0.0035	2.0941	17300.64	19602.86	19602.86	5.37	No	Si
SLU 70	0.05	-6720.05	-25717	-0.0000787	0.0003743	0.0035	2.0941	19708.96	22626.24	22626.24	3.37	No	Si
SLU 70	0.45	-4058.21	-24876	-0.0000631	0.0003743	0.0035	2.0941	19292.83	22084.19	22084.19	5.44	No	Si
SLU 50	0.05	-6020.3	-21862	-0.0000675	0.0003743	0.0035	2.0941	17674.27	20058.39	20058.39	3.33	No	Si
SLU 50	0.45	-3592.6	-21030	-0.0000534	0.0003743	0.0035	2.0941	17192.83	19474.14	19474.14	5.42	No	Si
SLU 49	0.05	-5991.18	-21822	-0.0000672	0.0003743	0.0035	2.0941	17651.23	20029.87	20029.87	3.34	No	Si
SLU 49	0.45	-3578.06	-20990	-0.0000533	0.0003743	0.0035	2.0941	17169.07	19445.92	19445.92	5.43	No	Si
SLU 69	0.05	-6811.53	-25942	-0.0000797	0.0003743	0.0035	2.0941	19817.38	22768.55	22768.55	3.34	No	Si
SLU 69	0.45	-4128.8	-25101	-0.0000639	0.0003743	0.0035	2.0941	19405.37	22230.59	22230.59	5.38	No	Si
SLU 71	0.05	-6749.18	-25758	-0.000079	0.0003743	0.0035	2.0941	19728.56	22651.92	22651.92	3.36	No	Si
SLU 71	0.45	-4072.75	-24917	-0.0000632	0.0003743	0.0035	2.0941	19313.17	22111.05	22111.05	5.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	0.05	-8003.87	-18747	-0.0000707	0.0005615	0.0035	2.0941		18681.36	18681.36	2.33		Si
SLV 3	0.45	-3623.97	-18317	-0.0000475	0.0005615	0.0035	2.0941		18318.34	18318.34	5.05		Si
SLV 10	0.05	3050.35	-4625	-0.000027	0.0005615	0.0035	2.0941		4941.24	4941.24	1.62		Si
SLV 10	0.45	3031.37	-3781	-0.0000351	0.0005615	0.0035	2.0941		4102.59	4102.59	1.35		Si
SLV 6	0.05	2736.36	-1389	-0.0064477	0.0005615	0.0035	1.6753		1677.27	1677.27	0.61		No
SLV 6	0.45	3739.91	-647	-0.0174821	0.0005615	0.0035	1.6753		914.34	914.34	0.24		No
SLV 9	0.05	2719.45	-4764	-0.0000226	0.0005615	0.0035	2.0941		5078.4	5078.4	1.87		Si
SLV 9	0.45	3010.4	-3919	-0.0000319	0.0005615	0.0035	2.0941		4241.69	4241.69	1.41		Si
SLV 8	0.05	-12590.85	-33637	-0.0001219	0.0005615	0.0035	2.0941		29941.82	29941.82	2.38		Si
SLV 8	0.45	-8820.78	-33193	-0.0001009	0.0005615	0.0035	2.0941		29636.06	29636.06	3.36		Si
SLV 5	0.05	2405.47	-1528	-0.0032974	0.0005615	0.0035	1.6753		1819.18	1819.18	0.76		No
SLV 5	0.45	3718.94	-785	-0.0163236	0.0005615	0.0035	1.6753		1057.08	1057.08	0.28		No
SLV 11	0.05	-12607.75	-37012	-0.0001284	0.0005615	0.0035	2.0941		32153.72	32153.72	2.55		Si
SLV 11	0.45	-9550.29	-36465	-0.0001111	0.0005615	0.0035	2.0941		31800.57	31800.57	3.33		Si
SLV 7	0.05	-12921.74	-33776	-0.0001242	0.0005615	0.0035	2.0941		30036.36	30036.36	2.32		Si
SLV 7	0.45	-8841.75	-33331	-0.0001012	0.0005615	0.0035	2.0941		29731.44	29731.44	3.36		Si
SLV 12	0.05	-12276.86	-36874	-0.0001264	0.0005615	0.0035	2.0941		32064.19	32064.19	2.61		Si
SLV 12	0.45	-9529.33	-36327	-0.0001107	0.0005615	0.0035	2.0941		31711.32	31711.32	3.33		Si
SLV 4	0.05	-7512.31	-18541	-0.0000674	0.0005615	0.0035	2.0941		18507.44	18507.44	2.46		Si
SLV 4	0.45	-3592.82	-18112	-0.000047	0.0005615	0.0035	2.0941		18144.85	18144.85	5.05		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.05	-7195.55	-29760	-26454	-7397	2.0941	2.0941	-28073	10687	12083	28547	28218	5340	33557	No	4.54	Si
SLU 83	0.45	-4237.68	-28920	-25706	-7397	2.0941	2.0941	-27279	10582	11844	28547	28218	5340	33557	No	4.54	Si
SLU 84	0.05	-7104.07	-29536	-26254	-7345	2.0941	2.0941	-27861	10659	12019	28547	28218	5340	33557	No	4.57	Si
SLU 84	0.45	-4167.09	-28695	-25507	-7345	2.0941	2.0941	-27068	10553	11780	28547	28218	5340	33557	No	4.57	Si
SLU 74	0.05	-7082.51	-28619	-25439	-7185	2.0941	2.0941	-26996	10544	11758	28547	28218	5340	33557	No	4.67	Si
SLU 74	0.45	-4209.48	-27778	-24691	-7185	2.0941	2.0941	-26202	10438	11519	28547	28218	5340	33557	No	4.67	Si
SLU 82	0.05	-6965.81	-29120	-25884	-7289	2.0941	2.0941	-27468	10607	11901	28547	28218	5340	33557	No	4.6	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.45	-4051.17	-28279	-25137	-7289	2.0941	2.0941	-26675	10501	11662	28547	28218	5340	33557	No	4.6	Si
SLU 81	0.05	-7057.28	-29344	-26084	-7341	2.0941	2.0941	-27680	10635	11964	28547	28218	5340	33557	No	4.57	Si
SLU 81	0.45	-4121.76	-28503	-25336	-7341	2.0941	2.0941	-26887	10529	11726	28547	28218	5340	33557	No	4.57	Si
SLU 75	0.05	-6991.04	-28394	-25239	-7133	2.0941	2.0941	-26784	10516	11695	28547	28218	5340	33557	No	4.7	Si
SLU 75	0.45	-4138.89	-27553	-24492	-7133	2.0941	2.0941	-25991	10410	11456	28547	28218	5340	33557	No	4.7	Si
SLU 77	0.05	-7220.77	-29035	-25809	-7241	2.0941	2.0941	-27388	10596	11877	28547	28218	5340	33557	No	4.63	Si
SLU 77	0.45	-4325.39	-28194	-25061	-7241	2.0941	2.0941	-26595	10490	11638	28547	28218	5340	33557	No	4.63	Si
SLU 79	0.05	-7158.42	-28851	-25645	-7225	2.0941	2.0941	-27215	10573	11824	28547	28218	5340	33557	No	4.64	Si
SLU 79	0.45	-4269.34	-28010	-24898	-7225	2.0941	2.0941	-26422	10467	11585	28547	28218	5340	33557	No	4.64	Si
SLU 78	0.05	-7129.3	-28811	-25609	-7188	2.0941	2.0941	-27177	10568	11813	28547	28218	5340	33557	No	4.67	Si
SLU 78	0.45	-4254.8	-27970	-24862	-7188	2.0941	2.0941	-26384	10462	11574	28547	28218	5340	33557	No	4.67	Si
SLU 80	0.05	-7066.95	-28627	-25446	-7173	2.0941	2.0941	-27003	10545	11761	28547	28218	5340	33557	No	4.68	Si
SLU 80	0.45	-4198.75	-27786	-24699	-7173	2.0941	2.0941	-26210	10439	11522	28547	28218	5340	33557	No	4.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	0.05	-4076.77	-12979	-11537	-7841	2.0941	2.0941	-12243	12865	12123	28547	42326	5340	40670		5.19	Si
SLD 1	0.45	-1056.91	-12403	-11025	-7808	2.0941	2.0941	-11699	12757	12021	28547	42326	5340	40567		5.2	Si
SLD 4	0.05	-6459.07	-18523	-16465	-8236	2.0941	2.0941	-17472	13911	13109	28547	42326	5340	41655		5.06	Si
SLD 4	0.45	-3234.77	-18009	-16008	-8184	2.0941	2.0941	-16987	13814	13018	28547	42326	5340	41564		5.08	Si
SLV 2	0.05	-2914.15	-8867	-7882	-8199	2.0941	2.0941	-8364	12089	11392	28547	42326	5340	39939		4.87	Si
SLV 2	0.45	175.39	-8348	-7420	-8145	2.0941	2.0941	-7874	11992	11300	28547	42326	5340	39847		4.89	Si
SLV 1	0.05	-3405.71	-9073	-8065	-9350	2.0941	2.015	-8558	12128	10997	28547	42326	5340	39544		4.23	Si
SLV 1	0.45	144.24	-8554	-7603	-9296	2.0941	2.0941	-8068	12030	11337	28547	42326	5340	39883		4.29	Si
SLV 4	0.05	-7512.31	-18541	-16481	-10109	2.0941	1.9256	-19187	14254	12352	28547	42326	5340	40898		4.05	Si
SLV 4	0.45	-3592.82	-18112	-16099	-10025	2.0941	2.0941	-17084	13834	13036	28547	42326	5340	41582		4.15	Si
SLV 8	0.05	-12590.85	-33637	-29900	-9269	2.0941	2.0182	-31730	16250	14997	28547	42326	5340	43544		4.7	Si
SLV 8	0.45	-8820.78	-33193	-29505	-9199	2.0941	2.0941	-31310	16250	15313	28547	42326	5340	43859		4.77	Si
SLV 7	0.05	-12921.74	-33776	-30023	-10044	2.0941	1.9934	-34097	16250	15037	28547	42326	5340	43583		4.34	Si
SLV 7	0.45	-8841.75	-33331	-29628	-9974	2.0941	2.0941	-31441	16250	15313	28547	42326	5340	43859		4.4	Si
SLD 7	0.05	-9626.01	-27665	-24591	-8077	2.0941	2.0941	-26096	15636	14734	28547	42326	5340	43281		5.36	Si
SLD 7	0.45	-6346.46	-27154	-24137	-8033	2.0941	2.0941	-25614	15539	14643	28547	42326	5340	43190		5.38	Si
SLV 3	0.05	-8003.87	-18747	-16664	-11260	2.0941	1.8603	-20068	14430	12080	28547	42326	5340	40627		3.61	Si
SLV 3	0.45	-3623.97	-18317	-16282	-11176	2.0941	2.0941	-17278	13872	13072	28547	42326	5340	41619		3.72	Si
SLD 3	0.05	-6770.92	-18653	-16581	-8966	2.0941	2.0522	-17596	13936	12869	28547	42326	5340	41416		4.62	Si
SLD 3	0.45	-3254.53	-18139	-16124	-8915	2.0941	2.0941	-17111	13839	13041	28547	42326	5340	41587		4.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	2106	-1984	121.34	440.35	3.63	Si
SLV 5	179667	0.24	2589	-2440	121.34	539.62	4.45	Si
SLV 10	179667	0.24	4301	-4053	121.34	886.31	7.3	Si
SLV 9	179667	0.24	4784	-4509	121.34	982.63	8.1	Si
SLV 2	179667	0.24	12872	-12130	121.34	2499.12	20.6	Si
SLV 1	179667	0.24	13589	-12806	121.34	2624.9	21.63	Si
SLV 14	179667	0.24	20190	-19026	121.34	3714.83	30.62	Si
SLV 13	179667	0.24	20908	-19702	121.34	3826.04	31.53	Si
SLV 4	179667	0.24	24396	-22989	121.34	4346.22	35.82	Si
SLV 3	179667	0.24	25113	-23665	121.34	4449.04	36.67	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-33242	-47699	-513	0.408	3732	0.971	6.11068	2.57112	Si
SLV 12	-33183	-46739	-516	0.409	3726	0.971	6.11785	2.57112	Si
SLV 7	-30135	-47023	-463	0.441	3415.7	0.969	6.61393	2.57112	Si
SLV 8	-30076	-46063	-466	0.442	3409.7	0.969	6.62275	2.57112	Si
SLV 15	-26152	-33605	-411	0.493	3010.2	0.965	7.41838	2.70061	Si
SLV 16	-26064	-32179	-415	0.494	3001.3	0.965	7.43596	2.70061	Si
SLV 13	-16955	-20648	-275	0.695	2075.1	0.951	10.61582	2.70061	Si
SLV 14	-16868	-19223	-279	0.697	2066.2	0.951	10.6574	2.70061	Si
SLV 3	-15795	-31352	-245	0.736	1957.3	0.949	11.2706	2.70061	Si
SLV 4	-15708	-29927	-249	0.739	1948.4	0.949	11.31829	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.319	SLU 48	Si
V_SLU	4.537	SLU 83	Si
PF_SLV	0.244	SLV 6	No
V_SLV	3.608	SLV 3	Si
PFFP_SLV	3.629	SLV 6	Si
R_SLV	2.377	SLV 11	Si

Maschio 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1.914	5.876	-0.123	5.876	L2	L4	1.791	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	0.05	-1435.06	-17142	-0.0000434	0.0003743	0.0035	1.7909	12143.39	13772.01	13772.01	9.6	No	Si
SLU 51	0.45	1518.1	-15256	-0.00004	0.0003743	0.0035	1.7909	11121.1	11692.2	11692.2	7.7	No	Si
SLU 46	0.05	-1428.72	-16968	-0.0000429	0.0003743	0.0035	1.7909	12052	13663.26	13663.26	9.56	No	Si
SLU 46	0.45	1488.04	-15096	-0.0000394	0.0003743	0.0035	1.7909	11031.02	11582.34	11582.34	7.78	No	Si
SLU 43	0.05	-1437.98	-16723	-0.0000425	0.0003743	0.0035	1.7909	11922.55	13508.89	13508.89	9.39	No	Si
SLU 43	0.45	1441.62	-14862	-0.0000386	0.0003743	0.0035	1.7909	10898	11421.69	11421.69	7.92	No	Si
SLU 8	0.05	-1197.47	-14271	-0.0000357	0.0003743	0.0035	1.7909	10556.27	11928.26	11928.26	9.96	No	Si
SLU 8	0.45	1250.27	-12742	-0.0000329	0.0003743	0.0035	1.7909	9637.87	9982.99	9982.99	7.98	No	Si
SLU 48	0.05	-1461.66	-17492	-0.0000443	0.0003743	0.0035	1.7909	12324.06	13987.9	13987.9	9.57	No	Si
SLU 48	0.45	1578.16	-15557	-0.000041	0.0003743	0.0035	1.7909	11289.4	11899.82	11899.82	7.54	No	Si
SLU 6	0.05	-1201.14	-14410	-0.0000361	0.0003743	0.0035	1.7909	10637.76	12022.07	12022.07	10.01	No	Si
SLU 6	0.45	1275.75	-12867	-0.0000334	0.0003743	0.0035	1.7909	9714.93	10066.96	10066.96	7.89	No	Si
SLU 50	0.05	-1457.99	-17352	-0.000044	0.0003743	0.0035	1.7909	12251.98	13901.62	13901.62	9.53	No	Si
SLU 50	0.45	1552.69	-15432	-0.0000406	0.0003743	0.0035	1.7909	11219.69	11813.45	11813.45	7.61	No	Si
SLU 49	0.05	-1438.73	-17282	-0.0000437	0.0003743	0.0035	1.7909	12216.1	13858.76	13858.76	9.63	No	Si
SLU 49	0.45	1543.57	-15381	-0.0000404	0.0003743	0.0035	1.7909	11191.29	11778.42	11778.42	7.63	No	Si
SLU 45	0.05	-1451.66	-17177	-0.0000435	0.0003743	0.0035	1.7909	12161.39	13793.47	13793.47	9.5	No	Si
SLU 45	0.45	1522.63	-15272	-0.00004	0.0003743	0.0035	1.7909	11130.22	11703.38	11703.38	7.69	No	Si
SLU 47	0.05	-1409.76	-16688	-0.0000422	0.0003743	0.0035	1.7909	11904.43	13487.18	13487.18	9.57	No	Si
SLU 47	0.45	1439.51	-14854	-0.0000386	0.0003743	0.0035	1.7909	10893.22	11415.94	11415.94	7.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.05	-1014.61	1291	0.1874119	0.0005615	0.0035	1.4327		0	0	0		No
SLV 5	0.45	-2625.62	873	0.1301081	0.0005615	0.0035	1.4327		0	0	0		No
SLV 9	0.05	-231.46	-994	-0.0000033	0.0005615	0.0035	1.7909		1746.03	1746.03	7.54		Si
SLV 9	0.45	-2109.04	-1651	-0.0003396	0.0005615	0.0035	1.4327		2315.39	2315.39	1.1		Si
SLV 7	0.05	-2682.39	-29917	-0.0000777	0.0005615	0.0035	1.7909		22600.87	22600.87	8.43		Si
SLV 7	0.45	4481.4	-26024	-0.0000818	0.0005615	0.0035	1.7909		19620.12	19620.12	4.38		Si
SLV 2	0.05	-2191.96	-6217	-0.0000259	0.0005615	0.0035	1.7909		6162.18	6162.18	2.81		Si
SLV 2	0.45	-785.44	-5070	-0.0000145	0.0005615	0.0035	1.7909		5221.35	5221.35	6.65		Si
SLV 12	0.05	-1641.71	-31599	-0.0000741	0.0005615	0.0035	1.7909		23524.62	23524.62	14.33		Si
SLV 12	0.45	4962.1	-28123	-0.0000897	0.0005615	0.0035	1.7909		20750.16	20750.16	4.18		Si
SLV 11	0.05	-1899.24	-32202	-0.0000772	0.0005615	0.0035	1.7909		23853.25	23853.25	12.56		Si
SLV 11	0.45	4997.98	-28547	-0.0000909	0.0005615	0.0035	1.7909		20970.15	20970.15	4.2		Si
SLV 10	0.05	26.07	-391	-0.0000009	0.0005615	0.0035	1.7909		526	526	20.18		Si
SLV 10	0.45	-2144.92	-1227	-0.0004946	0.0005615	0.0035	1.4327		1947.87	1947.87	0.91		No
SLV 8	0.05	-2424.86	-29314	-0.0000746	0.0005615	0.0035	1.7909		22254.06	22254.06	9.18		Si
SLV 8	0.45	4445.52	-25599	-0.0000806	0.0005615	0.0035	1.7909		19325.62	19325.62	4.35		Si
SLV 6	0.05	-757.08	1894	0.272594	0.0005615	0.0035	1.4327		0	0	0		No
SLV 6	0.45	-2661.5	1297	0.191558	0.0005615	0.0035	1.4327		0	0	0		No
SLV 1	0.05	-2574.53	-7112	-0.0000302	0.0005615	0.0035	1.7909		6890.39	6890.39	2.68		Si
SLV 1	0.45	-732.14	-5700	-0.0000154	0.0005615	0.0035	1.7909		5743.23	5743.23	7.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.05	-1979.11	-22471	-19974	-12141	1.7909	1.7909	-24785	10249	8260	28547	24133	4567	28700	No	2.36	Si
SLU 74	0.45	1624.23	-20357	-18095	-12264	1.7909	1.7909	-22453	9938	8009	28547	24133	4567	28700	No	2.34	Si
SLU 77	0.05	-1989.12	-22786	-20254	-12371	1.7909	1.7909	-25132	10295	8297	28547	24133	4567	28700	No	2.32	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.45	1679.76	-20642	-18349	-12497	1.7909	1.7909	-22767	9980	8043	28547	24133	4567	28700	No	2.3	Si
SLU 80	0.05	-1962.51	-22437	-19944	-12047	1.7909	1.7909	-24747	10244	8256	28547	24133	4567	28700	No	2.38	Si
SLU 80	0.45	1619.7	-20341	-18081	-12170	1.7909	1.7909	-22435	9936	8007	28547	24133	4567	28700	No	2.36	Si
SLU 84	0.05	-2062.66	-23127	-20557	-12139	1.7909	1.7909	-25508	10346	8338	28547	24133	4567	28700	No	2.36	Si
SLU 84	0.45	1558.52	-21034	-18697	-12264	1.7909	1.7909	-23199	10038	8090	28547	24133	4567	28700	No	2.34	Si
SLU 75	0.05	-1956.17	-22262	-19789	-11922	1.7909	1.7909	-24554	10218	8235	28547	24133	4567	28700	No	2.41	Si
SLU 75	0.45	1589.64	-20181	-17939	-12044	1.7909	1.7909	-22259	9912	7989	28547	24133	4567	28700	No	2.38	Si
SLU 78	0.05	-1966.18	-22577	-20068	-12153	1.7909	1.7909	-24901	10265	8272	28547	24133	4567	28700	No	2.36	Si
SLU 78	0.45	1645.17	-20466	-18192	-12277	1.7909	1.7909	-22573	9954	8022	28547	24133	4567	28700	No	2.34	Si
SLU 82	0.05	-2052.65	-22812	-20278	-11908	1.7909	1.7909	-25161	10299	8300	28547	24133	4567	28700	No	2.41	Si
SLU 82	0.45	1502.99	-20749	-18444	-12030	1.7909	1.7909	-22885	9996	8056	28547	24133	4567	28700	No	2.39	Si
SLU 83	0.05	-2085.59	-23336	-20743	-12357	1.7909	1.7909	-25739	10376	8362	28547	24133	4567	28700	No	2.32	Si
SLU 83	0.45	1593.11	-21210	-18853	-12484	1.7909	1.7909	-23393	10064	8110	28547	24133	4567	28700	No	2.3	Si
SLU 81	0.05	-2075.59	-23022	-20464	-12126	1.7909	1.7909	-25392	10330	8325	28547	24133	4567	28700	No	2.37	Si
SLU 81	0.45	1537.58	-20925	-18600	-12250	1.7909	1.7909	-23079	10022	8077	28547	24133	4567	28700	No	2.34	Si
SLU 79	0.05	-1985.44	-22646	-20130	-12265	1.7909	1.7909	-24977	10275	8281	28547	24133	4567	28700	No	2.34	Si
SLU 79	0.45	1654.29	-20517	-18237	-12390	1.7909	1.7909	-22629	9962	8028	28547	24133	4567	28700	No	2.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.05	-1641.71	-31599	-28088	-23924	1.7909	1.7909	-34852	16250	13096	28547	36199	4567	40766		1.7	Si
SLV 12	0.45	4962.1	-28123	-24998	-24202	1.7909	1.7909	-31018	16250	13096	28547	36199	4567	40766		1.68	Si
SLD 7	0.05	-2155.07	-23759	-21119	-18305	1.7909	1.7909	-26205	15658	12619	28547	36199	4567	40766		2.23	Si
SLD 7	0.45	3076.4	-20850	-18533	-18425	1.7909	1.7909	-22996	15016	12102	28547	36199	4567	40648		2.21	Si
SLV 3	0.05	-3074.86	-16474	-14644	-14437	1.7909	1.7909	-18170	14051	11324	28547	36199	4567	39870		2.76	Si
SLV 3	0.45	1399.97	-13769	-12239	-14341	1.7909	1.7909	-15186	13454	10843	28547	36199	4567	39389		2.75	Si
SLV 8	0.05	-2424.86	-29314	-26057	-24113	1.7909	1.7909	-32332	16250	13096	28547	36199	4567	40766		1.69	Si
SLV 8	0.45	4445.52	-25599	-22755	-24258	1.7909	1.7909	-28235	16064	12946	28547	36199	4567	40766		1.68	Si
SLV 11	0.05	-1899.24	-32202	-28624	-25057	1.7909	1.7909	-35517	16250	13096	28547	36199	4567	40766		1.63	Si
SLV 11	0.45	4997.98	-28547	-25375	-25338	1.7909	1.7909	-31486	16250	13096	28547	36199	4567	40766		1.61	Si
SLD 8	0.05	-1998.79	-23393	-20794	-17617	1.7909	1.7909	-25801	15577	12554	28547	36199	4567	40766		2.31	Si
SLD 8	0.45	3054.62	-20593	-18305	-17735	1.7909	1.7909	-22713	14959	12056	28547	36199	4567	40602		2.29	Si
SLD 11	0.05	-1659.18	-25216	-22415	-18177	1.7909	1.7909	-27812	15979	12878	28547	36199	4567	40766		2.24	Si
SLD 11	0.45	3406.26	-22452	-19957	-18379	1.7909	1.7909	-24763	15369	12386	28547	36199	4567	40766		2.22	Si
SLD 12	0.05	-1502.9	-24851	-22090	-17490	1.7909	1.7909	-27409	15899	12813	28547	36199	4567	40766		2.33	Si
SLD 12	0.45	3384.48	-22195	-19729	-17689	1.7909	1.7909	-24480	15313	12341	28547	36199	4567	40766		2.3	Si
SLV 15	0.05	-464.36	-24091	-21414	-13807	1.7909	1.7909	-26571	15731	12678	28547	36199	4567	40766		2.95	Si
SLV 15	0.45	3121.92	-22180	-19716	-14155	1.7909	1.7909	-24464	15309	12338	28547	36199	4567	40766		2.88	Si
SLV 7	0.05	-2682.39	-29917	-26593	-25246	1.7909	1.7909	-32997	16250	13096	28547	36199	4567	40766		1.61	Si
SLV 7	0.45	4481.4	-26024	-23132	-25394	1.7909	1.7909	-28703	16157	13021	28547	36199	4567	40766		1.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	0	1571	103.77	0	0	No, Trazione
SLV 6	179667	0.24	0	2104	103.77	0	0	No, Trazione
SLV 10	179667	0.24	864	-696	103.77	155.73	1.5	Si
SLV 9	179667	0.24	1524	-1229	103.77	273.67	2.64	Si
SLV 2	179667	0.24	6286	-5066	103.77	1092.91	10.53	Si
SLV 1	179667	0.24	7267	-5857	103.77	1255.11	12.09	Si
SLV 4	179667	0.24	17523	-14122	103.77	2812.91	27.11	Si
SLV 14	179667	0.24	17867	-14399	103.77	2860.79	27.57	Si
SLV 3	179667	0.24	18505	-14913	103.77	2948.91	28.42	Si
SLV 13	179667	0.24	18848	-15190	103.77	2995.99	28.87	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-27878	-36068	-1085	0.393	3135.5	0.971	5.87845	2.57112	Si
SLV 12	-27397	-35665	-1060	0.399	3086.6	0.971	5.96937	2.57112	Si
SLV 7	-25585	-31820	-1022	0.421	2902.1	0.969	6.31011	2.57112	Si
SLV 8	-25105	-31417	-996	0.428	2853.2	0.968	6.41683	2.57112	Si
SLV 15	-20964	-30050	-735	0.501	2431.8	0.963	7.55611	2.70061	Si
SLV 16	-20250	-29451	-698	0.516	2359.2	0.962	7.79182	2.70061	Si
SLV 3	-13323	-15890	-524	0.723	1655.1	0.948	11.08122	2.70061	Si
SLV 4	-12609	-15292	-486	0.757	1582.7	0.946	11.62643	2.70061	Si
SLV 13	-12646	-20560	-367	0.763	1586.4	0.946	11.72552	2.70061	Si
SLV 14	-11932	-19961	-329	0.801	1514	0.944	12.33297	2.70061	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.54	SLU 48	Si
V_SLU	2.296	SLU 77	Si
PF_SLV	0	SLV 5	No
V_SLV	1.605	SLV 7	Si
PFFP_SLV	0	SLV 6	No
R_SLV	2.286	SLV 11	Si

Maschio 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	6.101	-0.123	-3.284	L2	L4	9.385	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.95	62121.1	-109660	-0.0000533	0.0004492	0.0035	9.385	405226.71	443907.88	443907.88	7.15	No	Si
SLU 82	0.67	61696.62	-144385	-0.0000666	0.0004492	0.0035	9.385	487953.45	562620.24	562620.24	9.12	No	Si
SLU 47	-1.95	51063.44	-86645	-0.0000421	0.0004492	0.0035	9.385	338314.2	365229.07	365229.07	7.15	No	Si
SLU 47	0.67	48620.95	-110617	-0.0000505	0.0004492	0.0035	9.385	407800.76	447179.88	447179.88	9.2	No	Si
SLU 55	-1.95	56527.83	-95664	-0.0000467	0.0004492	0.0035	9.385	365683.73	396061.74	396061.74	7.01	No	Si
SLU 55	0.67	54807.68	-123766	-0.0000569	0.0004492	0.0035	9.385	441476.45	492130.72	492130.72	8.98	No	Si
SLU 52	-1.95	56765.83	-94636	-0.0000464	0.0004492	0.0035	9.385	362638.62	392547.18	392547.18	6.92	No	Si
SLU 52	0.67	55568.93	-122011	-0.0000564	0.0004492	0.0035	9.385	437165.6	486133.92	486133.92	8.75	No	Si
SLU 63	-1.95	57465.15	-99524	-0.0000484	0.0004492	0.0035	9.385	376945.77	409258.09	409258.09	7.12	No	Si
SLU 63	0.67	56532.91	-129583	-0.0000596	0.0004492	0.0035	9.385	455371.51	512017.19	512017.19	9.06	No	Si
SLU 10	-1.95	46902.54	-77825	-0.0000379	0.0004492	0.0035	9.385	310118.61	335077.52	335077.52	7.14	No	Si
SLU 10	0.67	45868.49	-101151	-0.0000462	0.0004492	0.0035	9.385	381610.04	414818.55	414818.55	9.04	No	Si
SLU 44	-1.95	51301.44	-85617	-0.0000417	0.0004492	0.0035	9.385	335100.47	361714.51	361714.51	7.05	No	Si
SLU 44	0.67	49382.2	-108863	-0.00005	0.0004492	0.0035	9.385	403070.43	441183.08	441183.08	8.93	No	Si
SLU 73	-1.95	61183.79	-105800	-0.0000516	0.0004492	0.0035	9.385	394676.21	430711.53	430711.53	7.04	No	Si
SLU 73	0.67	59971.39	-138568	-0.0000639	0.0004492	0.0035	9.385	475624.37	542733.77	542733.77	9.05	No	Si
SLU 76	-1.95	60945.79	-106828	-0.0000519	0.0004492	0.0035	9.385	397512.59	434226.09	434226.09	7.12	No	Si
SLU 76	0.67	59210.14	-140322	-0.0000644	0.0004492	0.0035	9.385	479407.04	548730.58	548730.58	9.27	No	Si
SLU 61	-1.95	57703.15	-98496	-0.000048	0.0004492	0.0035	9.385	373972.84	405743.53	405743.53	7.03	No	Si
SLU 61	0.67	57294.16	-127828	-0.0000591	0.0004492	0.0035	9.385	451246.23	506020.39	506020.39	8.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	-1.95	138985.11	-82679	-0.0000602	0.0006738	0.0035	9.385		365947.42	365947.42	2.63		Si
SLD 10	0.67	166590.89	-105310	-0.0000749	0.0006738	0.0035	9.385		451234.36	451234.36	2.71		Si
SLV 8	-1.95	-120410.96	-61660	-0.000049	0.0006738	0.0035	9.385		322285.63	322285.63	2.68		Si
SLV 8	0.67	-173454.44	-83566	-0.0000704	0.0006738	0.0035	9.385		410902.81	410902.81	2.37		Si
SLV 9	-1.95	201911.46	-87460	-0.0000815	0.0006738	0.0035	9.385		384947.28	384947.28	1.91		Si
SLV 9	0.67	254237.79	-110321	-0.000104	0.0006738	0.0035	9.385		468536.1	468536.1	1.84		Si
SLV 2	-1.95	77899.28	-43740	-0.0000324	0.0006738	0.0035	9.385		204475.96	204475.96	2.62		Si
SLV 2	0.67	91284.99	-56257	-0.0000397	0.0006738	0.0035	9.385		257737.04	257737.04	2.82		Si
SLD 6	-1.95	133160.06	-70426	-0.0000549	0.0006738	0.0035	9.385		316440.97	316440.97	2.38		Si
SLD 6	0.67	161493.89	-89641	-0.0000683	0.0006738	0.0035	9.385		393577.98	393577.98	2.44		Si
SLV 6	-1.95	198770.73	-68390	-0.0000852	0.0006738	0.0035	9.385		308078.54	308078.54	1.55		Si
SLV 6	0.67	247629.05	-85601	-0.0001073	0.0006738	0.0035	9.385		377560.46	377560.46	1.52		Si
SLV 10	-1.95	207857.66	-87510	-0.000084	0.0006738	0.0035	9.385		385145.83	385145.83	1.85		Si
SLV 10	0.67	255595.77	-110096	-0.0001046	0.0006738	0.0035	9.385		467757.94	467757.94	1.83		Si
SLD 5	-1.95	129551.62	-70396	-0.0000539	0.0006738	0.0035	9.385		316316.46	316316.46	2.44		Si
SLD 5	0.67	160669.8	-89778	-0.0000681	0.0006738	0.0035	9.385		394112.45	394112.45	2.45		Si
SLV 7	-1.95	-126357.16	-61610	-0.0000508	0.0006738	0.0035	9.385		322078.09	322078.09	2.55		Si
SLV 7	0.67	-174812.43	-83792	-0.0000709	0.0006738	0.0035	9.385		411793.9	411793.9	2.36		Si
SLV 5	-1.95	192824.53	-68340	-0.0000811	0.0006738	0.0035	9.385		307873.36	307873.36	1.6		Si
SLV 5	0.67	246271.06	-85827	-0.0001061	0.0006738	0.0035	9.385		378456.16	378456.16	1.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	-1.95	55719.39	-96781	-77425	2382	9.385	9.385	-18333	10778	55365	81562	151773	47863	136927	No	57.48	Si
SLU 65	0.67	53784.66	-125419	-100335	1405	9.385	9.385	-23758	10833	64529	81562	151773	47863	146091	No	103.98	Si
SLU 76	-1.95	60945.79	-106828	-85462	2544	9.385	9.385	-20236	10833	58580	81562	151773	47863	140142	No	55.1	Si
SLU 76	0.67	59210.14	-140322	-112257	1461	9.385	9.385	-26581	10833	69298	81562	151773	47863	150859	No	103.23	Si
SLU 13	-1.95	46664.54	-78854	-63083	2240	9.385	9.385	-14937	10325	49629	81562	151773	47863	131190	No	58.57	Si
SLU 13	0.67	45107.24	-102905	-82324	1445	9.385	9.385	-19493	10833	57325	81562	151773	47863	138887	No	96.09	Si
SLU 55	-1.95	56527.83	-95664	-76531	2604	9.385	9.385	-18121	10750	55008	81562	151773	47863	136570	No	52.45	Si
SLU 55	0.67	54807.68	-123766	-99012	1640	9.385	9.385	-23445	10833	64000	81562	151773	47863	145562	No	88.76	Si
SLU 73	-1.95	61183.79	-105800	-84640	2477	9.385	9.385	-20041	10833	58251	81562	151773	47863	139813	No	56.44	Si
SLU 73	0.67	59971.39	-138568	-110854	1409	9.385	9.385	-26249	10833	68737	81562	151773	47863	150298	No	106.7	Si
SLU 68	-1.95	55481.39	-97809	-78247	2449	9.385	9.385	-18528	10804	55694	81562	151773	47863	137256	No	56.05	Si
SLU 68	0.67	53023.4	-127173	-101738	1458	9.385	9.385	-24090	10833	65090	81562	151773	47863	146652	No	100.6	Si
SLU 44	-1.95	51301.44	-85617	-68494	2443	9.385	9.385	-16218	10496	51793	81562	151773	47863	133355	No	54.6	Si
SLU 44	0.67	49382.2	-108863	-87090	1584	9.385	9.385	-20622	10833	59231	81562	151773	47863	140793	No	88.91	Si
SLU 47	-1.95	51063.44	-86645	-69316	2509	9.385	9.385	-16413	10522	52122	81562	151773	47863	133684	No	53.28	Si
SLU 47	0.67	48620.95	-110617	-88493	1636	9.385	9.385	-20954	10833	59793	81562	151773	47863	141354	No	86.39	Si
SLU 52	-1.95	56765.83	-94636	-75709	2537	9.385	9.385	-17927	10724	54679	81562	151773	47863	136241	No	53.69	Si
SLU 52	0.67	55568.93	-122011	-97609	1587	9.385	9.385	-23112	10833	63439	81562	151773	47863	145000	No	91.36	Si
SLU 59	-1.95	54885.26	-96687	-77350	2297	9.385	9.385	-18315	10775	55335	81562	151773	47863	136897	No	59.61	Si
SLU 59	0.67	53120.2	-125702	-100561	1315	9.385	9.385	-23811	10833	64620	81562	151773	47863	146181	No	111.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	201911.46	-87460	-69968	31358	9.385	7.1517	-16567	15813	64581	81562	227660	47863	146143		4.66	Si
SLV 9	0.67	254237.79	-110321	-88257	30200	9.385	7.1639	-20898	16250	71897	81562	227660	47863	153458		5.08	Si
SLV 11	-1.95	-117270.23	-80730	-64584	-33748	9.385	9.385	-15293	15559	65707	81562	227660	47863	147269		4.36	Si
SLV 11	0.67	-166845.7	-108286	-86629	-34267	9.385	9.385	-20512	16250	71245	81562	227660	47863	152807		4.46	Si
SLV 8	-1.95	-120410.96	-61660	-49328	-29049	9.385	8.219	-13414	15183	56326	81562	227660	47863	137887		4.75	Si
SLV 8	0.67	-173454.44	-83566	-66853	-29411	9.385	7.8505	-19082	16250	63335	81562	227660	47863	144897		4.93	Si
SLV 10	-1.95	207857.66	-87510	-70008	36241	9.385	6.9518	-16577	15815	64597	81562	227660	47863	146159		4.03	Si
SLV 10	0.67	255595.77	-110096	-88077	35088	9.385	7.1128	-20855	16250	71824	81562	227660	47863	153386		4.37	Si
SLD 10	-1.95	138985.11	-82679	-66143	21760	9.385	9.0344	-15662	15632	63553	81562	227660	47863	145115		6.67	Si
SLD 10	0.67	166590.89	-105310	-84248	20770	9.385	9.3318	-19949	16250	70293	81562	227660	47863	151855		7.31	Si
SLV 12	-1.95	-111324.03	-80780	-64624	-28865	9.385	9.385	-15302	15560	65715	81562	227660	47863	147277		5.1	Si
SLV 12	0.67	-165487.71	-108061	-86449	-29379	9.385	9.385	-20470	16250	71173	81562	227660	47863	152735		5.2	Si
SLV 7	-1.95	-126357.16	-61610	-49288	-33932	9.385	7.9248	-13904	15281	56310	81562	227660	47863	137871		4.06	Si
SLV 7	0.67	-174812.43	-83792	-67033	-34299	9.385	7.8187	-19212	16250	63407	81562	227660	47863	144969		4.23	Si
SLV 6	-1.95	198770.73	-68390	-54712	36057	9.385	5.3582	-12955	15091	58479	81562	227660	47863	140041		3.88	Si
SLV 6	0.67	247629.05	-85601	-68481	35056	9.385	5.399	-16215	15743	63986	81562	227660	47863	145548		4.15	Si
SLV 5	-1.95	192824.53	-68340	-54672	31174	9.385	5.6128	-12945	15089	58463	81562	227660	47863	140025		4.49	Si
SLV 5	0.67	246271.06	-85827	-68661	30168	9.385	5.4693	-16258	15752	64059	81562	227660	47863	145620		4.83	Si
SLD 6	-1.95	133160.06	-70426	-56341	21648	9.385	8.4052	-13341	15168	59131	81562	227660	47863	140692		6.5	Si
SLD 6	0.67	161493.89	-89641	-71713	20753	9.385	8.6728	-16980	15896	65279	81562	227660	47863	146841		7.08	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-47691	0.24	543.8	10069.36	13178.08	11623.72	21.38	Si
SLV 1	-47900	0.24	543.8	10110.5	13226.78	11668.64	21.46	Si
SLV 4	-48625	0.24	543.8	10253.38	13396.19	11824.79	21.74	Si
SLV 3	-48834	0.24	543.8	10294.4	13444.9	11869.65	21.83	Si
SLV 6	-72532	0.24	543.8	14790.38	18941.32	16865.85	31.02	Si
SLV 5	-72672	0.24	543.8	14816.05	18973.55	16894.8	31.07	Si
SLV 8	-75645	0.24	543.8	15356.83	19656.32	17506.58	32.19	Si
SLV 7	-75786	0.24	543.8	15382.24	19688.58	17535.41	32.25	Si
SLV 10	-94728	0.24	543.8	18705.45	24037.93	21371.69	39.3	Si
SLV 9	-94869	0.24	543.8	18729.3	24070.08	21399.69	39.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-138241	-107399	-1150	0.44	15632.2	0.97	6.58898	2.70061	Si
SLV 14	-137906	-107474	-1149	0.44	15598.1	0.97	6.60157	2.70061	Si
SLV 15	-137631	-105380	-1135	0.441	15570	0.969	6.6132	2.70061	Si
SLV 16	-137296	-105455	-1134	0.442	15536	0.969	6.6259	2.70061	Si
SLV 9	-110321	-87460	-348	0.528	12790.4	0.963	7.97052	2.57112	Si
SLV 10	-110096	-87510	-347	0.529	12767.5	0.963	7.98369	2.57112	Si
SLV 11	-108286	-80730	-298	0.536	12583.4	0.963	8.09636	2.57112	Si
SLV 12	-108061	-80780	-297	0.537	12560.5	0.963	8.11001	2.57112	Si
SLV 5	-85827	-68340	354	0.641	10299.4	0.955	9.75678	2.57112	Si
SLV 6	-85601	-68390	355	0.643	10276.5	0.955	9.77744	2.57112	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.915	SLU 52	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	52.449	SLU 55	Si
PF_SLV	1.525	SLV 6	Si
V_SLV	3.884	SLV 6	Si
PFFP_SLV	21.375	SLV 2	Si
R_SLV	2.44	SLV 13	Si

Maschio 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	5.951	-24.614	-3.169	L4	L5	9.121	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 54	0.67	38044.75	-116670	-0.000093	0.0003743	0.0035	9.1207	293310.28	363518	363518	9.56	No	Si
SLU 54	4.35	16914.11	-87909	-0.0000623	0.0003743	0.0035	9.1207	265350.45	306156.29	306156.29	18.1	No	Si
SLU 52	0.67	39606.94	-113665	-0.0000915	0.0003743	0.0035	9.1207	291746.43	357810.14	357810.14	9.03	No	Si
SLU 52	4.35	17405.63	-85164	-0.0000606	0.0003743	0.0035	9.1207	261164.51	298912	298912	17.17	No	Si
SLU 44	0.67	35546.92	-102059	-0.0000808	0.0003743	0.0035	9.1207	282732.13	336467.58	336467.58	9.47	No	Si
SLU 44	4.35	15237.84	-76198	-0.0000535	0.0003743	0.0035	9.1207	245653.37	273919.74	273919.74	17.98	No	Si
SLU 82	0.67	42063.49	-134001	-0.0001088	0.0003743	0.0035	9.1207	296147.32	392386.04	392386.04	9.33	No	Si
SLU 82	4.35	19031.6	-101227	-0.0000727	0.0003743	0.0035	9.1207	281905.03	334981.5	334981.5	17.6	No	Si
SLU 76	0.67	41175.32	-130697	-0.0001057	0.0003743	0.0035	9.1207	296419.29	387989.91	387989.91	9.42	No	Si
SLU 76	4.35	18221.69	-99077	-0.0000708	0.0003743	0.0035	9.1207	279653.36	331164.39	331164.39	18.17	No	Si
SLU 63	0.67	39716.91	-120650	-0.0000969	0.0003743	0.0035	9.1207	294893.56	371191.18	371191.18	9.35	No	Si
SLU 63	4.35	17783.91	-90821	-0.0000648	0.0003743	0.0035	9.1207	269501.48	313724.01	313724.01	17.64	No	Si
SLU 73	0.67	41564.42	-128857	-0.0001044	0.0003743	0.0035	9.1207	296404.72	385459.86	385459.86	9.27	No	Si
SLU 73	4.35	18437.51	-97323	-0.0000697	0.0003743	0.0035	9.1207	277697.22	328080.05	328080.05	17.79	No	Si
SLU 55	0.67	39217.84	-115505	-0.0000927	0.0003743	0.0035	9.1207	292741.64	361296.4	361296.4	9.21	No	Si
SLU 55	4.35	17189.82	-86917	-0.0000618	0.0003743	0.0035	9.1207	263868.6	303551.24	303551.24	17.66	No	Si
SLU 61	0.67	40106.01	-118810	-0.0000957	0.0003743	0.0035	9.1207	294230.43	367626.48	367626.48	9.17	No	Si
SLU 61	4.35	17999.72	-89067	-0.0000636	0.0003743	0.0035	9.1207	267037.51	309181.31	309181.31	17.18	No	Si
SLU 84	0.67	41674.39	-135841	-0.0001101	0.0003743	0.0035	9.1207	295829.81	394752.79	394752.79	9.47	No	Si
SLU 84	4.35	18815.79	-102981	-0.0000739	0.0003743	0.0035	9.1207	283621.05	338122.38	338122.38	17.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.67	252661.52	-104088	-0.0001987	0.0005615	0.0035	9.1207		379772.63	379772.63	1.5		Si
SLV 5	4.35	97655.95	-74910	-0.0000851	0.0005615	0.0035	9.1207		292246.91	292246.91	2.99		Si
SLV 11	0.67	-193531.24	-76415	-0.0001468	0.0005615	0.0035	7.2966		321901.23	321901.23	1.66		Si
SLV 11	4.35	-73098.59	-61071	-0.0000658	0.0005615	0.0035	9.1207		269939.73	269939.73	3.69		Si
SLV 7	0.67	-189018.09	-100602	-0.0001462	0.0005615	0.0035	9.1207		395864.64	395864.64	2.09		Si
SLV 7	4.35	-68423.01	-74938	-0.000073	0.0005615	0.0035	9.1207		316992.5	316992.5	4.63		Si
SLV 12	0.67	-198275.72	-76906	-0.0001518	0.0005615	0.0035	7.2966		323538.66	323538.66	1.63		Si
SLV 12	4.35	-73128.76	-61040	-0.0000658	0.0005615	0.0035	9.1207		269835.17	269835.17	3.69		Si
SLV 6	0.67	247917.05	-104579	-0.0001936	0.0005615	0.0035	9.1207		381106.58	381106.58	1.54		Si
SLV 6	4.35	97625.78	-74880	-0.0000851	0.0005615	0.0035	9.1207		292140	292140	2.99		Si
SLV 10	0.67	243403.89	-80392	-0.0002169	0.0005615	0.0035	9.1207		311738.88	311738.88	1.28		Si
SLV 10	4.35	92950.2	-61013	-0.0000739	0.0005615	0.0035	9.1207		243829.37	243829.37	2.62		Si
SLV 9	0.67	248148.36	-79901	-0.0002296	0.0005615	0.0035	9.1207		309983.13	309983.13	1.25		Si
SLV 9	4.35	92980.37	-61043	-0.0000739	0.0005615	0.0035	9.1207		243933.21	243933.21	2.62		Si
SLD 10	0.67	153674.68	-83910	-0.000117	0.0005615	0.0035	9.1207		324257.5	324257.5	2.11		Si
SLD 10	4.35	59345.1	-63565	-0.0000619	0.0005615	0.0035	9.1207		252617.83	252617.83	4.26		Si
SLV 8	0.67	-193762.56	-101093	-0.0001494	0.0005615	0.0035	9.1207		397292.94	397292.94	2.05		Si
SLV 8	4.35	-68453.18	-74908	-0.000073	0.0005615	0.0035	9.1207		316892.19	316892.19	4.63		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	0.67	156553.86	-83612	-0.0001186	0.0005615	0.0035	9.1207		323223.31	323223.31	2.06		Si
SLD 9	4.35	59363.4	-63584	-0.0000619	0.0005615	0.0035	9.1207		252681.2	252681.2	4.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	0.67	37683.87	-132962	-110720	-6386	9.1207	9.1207	-43355	10833	56580	40441	76472	23258	97021	No	15.19	Si
SLU 79	4.35	17168.48	-100984	-84091	-6053	9.1207	9.1207	-32928	10833	45929	40441	76472	23258	86370	No	14.27	Si
SLU 81	0.67	40202.08	-134256	-111797	-6475	9.1207	9.1207	-43777	10833	57011	40441	76472	23258	97452	No	15.05	Si
SLU 81	4.35	18529.16	-101320	-84370	-6141	9.1207	9.1207	-33037	10833	46041	40441	76472	23258	86482	No	14.08	Si
SLU 66	0.67	34080.8	-120510	-100351	-5753	9.1207	9.1207	-39295	10833	52433	40441	76472	23258	92874	No	16.14	Si
SLU 66	4.35	15275.76	-91196	-75940	-5449	9.1207	9.1207	-29736	10833	42669	40441	76472	23258	83110	No	15.25	Si
SLU 41	0.67	32842.03	-116453	-96972	-5774	9.1207	9.1207	-37972	10833	51081	40441	76472	23258	91522	No	15.85	Si
SLU 41	4.35	15262.31	-88660	-73829	-5485	9.1207	9.1207	-28909	10799	41824	40441	76472	23258	82265	No	15	Si
SLU 35	0.67	30780.78	-114313	-95190	-5688	9.1207	9.1207	-37274	10833	50369	40441	76472	23258	90809	No	15.97	Si
SLU 35	4.35	14176.7	-87502	-72864	-5402	9.1207	9.1207	-28532	10749	41438	40441	76472	23258	81879	No	15.16	Si
SLU 74	0.67	38140.82	-132117	-110016	-6389	9.1207	9.1207	-43079	10833	56298	40441	76472	23258	96739	No	15.14	Si
SLU 74	4.35	17443.55	-100161	-83406	-6058	9.1207	9.1207	-32659	10833	45655	40441	76472	23258	86096	No	14.21	Si
SLU 77	0.67	37751.73	-133957	-111548	-6481	9.1207	9.1207	-43679	10833	56911	40441	76472	23258	97352	No	15.02	Si
SLU 77	4.35	17227.73	-101915	-84866	-6145	9.1207	9.1207	-33231	10833	46239	40441	76472	23258	86680	No	14.11	Si
SLU 69	0.67	33691.7	-122351	-101883	-5845	9.1207	9.1207	-39895	10833	53045	40441	76472	23258	93486	No	16	Si
SLU 69	4.35	15059.94	-92949	-77400	-5536	9.1207	9.1207	-30308	10833	43253	40441	76472	23258	83694	No	15.12	Si
SLU 83	0.67	39812.98	-136096	-113329	-6567	9.1207	9.1207	-44377	10833	57624	40441	76472	23258	98065	No	14.93	Si
SLU 83	4.35	18313.34	-103073	-85830	-6228	9.1207	9.1207	-33609	10833	46625	40441	76472	23258	87066	No	13.98	Si
SLU 39	0.67	33231.13	-114612	-95439	-5682	9.1207	9.1207	-37372	10833	50468	40441	76472	23258	90909	No	16	Si
SLU 39	4.35	15478.12	-86907	-72369	-5398	9.1207	9.1207	-28338	10723	41240	40441	76472	23258	81681	No	15.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	0.67	-102168.05	-97381	-81091	-40095	9.1207	9.1207	-31753	16250	50876	40441	114708	23258	91317		2.28	Si
SLD 8	4.35	-34836.22	-72367	-60261	-38826	9.1207	9.1207	-23597	15136	42544	40441	114708	23258	82985		2.14	Si
SLV 8	0.67	-193762.56	-101093	-84181	-65139	9.1207	7.931	-38732	16250	52112	40441	114708	23258	92553		1.42	Si
SLV 8	4.35	-68453.18	-74908	-62377	-63108	9.1207	9.1207	-24425	15302	43391	40441	114708	23258	83831		1.33	Si
SLV 6	0.67	247917.05	-104579	-87084	48123	9.1207	6.5692	-34100	16250	53273	40441	114708	23258	93714		1.95	Si
SLV 6	4.35	97625.78	-74880	-62353	45821	9.1207	9.1207	-24416	15300	43381	40441	114708	23258	83822		1.83	Si
SLV 10	0.67	243403.89	-80392	-66944	50980	9.1207	4.5979	-26213	15659	45217	40441	114708	23258	85658		1.68	Si
SLV 10	4.35	92950.2	-61013	-50806	49402	9.1207	9.1107	-19894	14396	38762	40441	114708	23258	79203		1.6	Si
SLV 11	0.67	-193531.24	-76415	-63632	-56613	7.2966	6.0831	0	0	0	40441	91766	18606	40441		0.71	No
SLV 11	4.35	-73098.59	-61071	-50854	-53857	9.1207	9.1207	-19913	14399	38782	40441	114708	23258	79223		1.47	Si
SLV 12	0.67	-198275.72	-76906	-64041	-62282	7.2966	5.9466	0	0	0	40441	91766	18606	40441		0.65	No
SLV 12	4.35	-73128.76	-61040	-50829	-59527	9.1207	9.1207	-19903	14397	38772	40441	114708	23258	79213		1.33	Si
SLV 9	0.67	248148.36	-79901	-66535	56649	9.1207	4.3639	-26053	15627	45054	40441	114708	23258	85495		1.51	Si
SLV 9	4.35	92980.37	-61043	-50831	55072	9.1207	9.1114	-19904	14398	38772	40441	114708	23258	79213		1.44	Si
SLV 5	0.67	252661.52	-104088	-86675	53792	9.1207	6.3989	-33940	16250	53110	40441	114708	23258	93551		1.74	Si
SLV 5	4.35	97655.95	-74910	-62379	51491	9.1207	9.1207	-24426	15302	43391	40441	114708	23258	83832		1.63	Si
SLV 7	0.67	-189018.09	-100602	-83772	-59470	9.1207	8.0444	-37982	16250	51948	40441	114708	23258	92389		1.55	Si
SLV 7	4.35	-68423.01	-74938	-62402	-57438	9.1207	9.1207	-24435	15304	43401	40441	114708	23258	83842		1.46	Si
SLD 12	0.67	-105045.7	-81911	-68209	-38257	9.1207	9.1207	-26709	15758	45723	40441	114708	23258	86164		2.25	Si
SLD 12	4.35	-37813.83	-63574	-52939	-36528	9.1207	9.1207	-20730	14563	39616	40441	114708	23258	80057		2.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.3	18630	-47578	802.97	5848.33	7.28	Si
SLV 16	179667	0.3	18737	-47852	802.97	5877.26	7.32	Si
SLV 13	179667	0.3	18740	-47859	802.97	5878.07	7.32	Si
SLV 14	179667	0.3	18848	-48133	802.97	5906.93	7.36	Si
SLV 11	179667	0.3	26518	-67721	802.97	7834.64	9.76	Si
SLV 12	179667	0.3	26590	-67905	802.97	7851.45	9.78	Si
SLV 9	179667	0.3	26885	-68658	802.97	7919.97	9.86	Si
SLV 10	179667	0.3	26957	-68842	802.97	7936.66	9.88	Si
SLV 7	179667	0.3	33373	-85229	802.97	9324.51	11.61	Si
SLV 8	179667	0.3	33446	-85413	802.97	9339.01	11.63	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-91106	-130967	1750	0.538	10599.4	0.963	8.12671	4.67428	Si
SLV 3	-91114	-129921	1740	0.538	10600.3	0.963	8.12756	4.67428	Si
SLV 2	-91061	-131696	1739	0.539	10594.9	0.963	8.13185	4.67428	Si
SLV 4	-91069	-130650	1729	0.539	10595.7	0.963	8.1327	4.67428	Si
SLV 5	-74910	-104088	540	0.65	8952.4	0.956	9.87631	3.93621	Si
SLV 7	-74938	-100602	507	0.65	8955.3	0.956	9.87912	3.93621	Si
SLV 6	-74880	-104579	533	0.65	8949.4	0.956	9.88112	3.93621	Si
SLV 8	-74908	-101093	500	0.65	8952.2	0.956	9.88393	3.93621	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-61071	-76415	-538	0.772	7546.6	0.949	11.8155	3.93621	Si
SLV 12	-61040	-76906	-545	0.772	7543.5	0.949	11.81905	3.93621	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.034	SLU 52	Si
V_SLU	13.98	SLU 83	Si
PF_SLV	1.249	SLV 9	Si
V_SLV	0.649	SLV 12	No
PFFP_SLV	7.283	SLV 15	Si
R_SLV	1.739	SLV 1	Si

Maschio 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.828	5.951	-24.614	5.951	L4	L5	1.786	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	1.57	348.42	-13616	-0.0000464	0.0003743	0.0035	1.7864	8910.33	9816.81	9816.81	28.18	No	Si
SLU 38	3.47	-275.66	-14588	-0.000049	0.0003743	0.0035	1.7864	9297.59	11220.08	11220.08	40.7	No	Si
SLU 35	1.57	328.55	-13927	-0.0000473	0.0003743	0.0035	1.7864	9037.62	9980.67	9980.67	30.38	No	Si
SLU 35	3.47	-243.81	-14819	-0.0000494	0.0003743	0.0035	1.7864	9384.71	11342.48	11342.48	46.52	No	Si
SLU 37	1.57	323.98	-13787	-0.0000468	0.0003743	0.0035	1.7864	8980.72	9906.75	9906.75	30.58	No	Si
SLU 37	3.47	-241.39	-14662	-0.0000488	0.0003743	0.0035	1.7864	9325.78	11259.3	11259.3	46.64	No	Si
SLU 33	1.57	334.4	-13471	-0.0000458	0.0003743	0.0035	1.7864	8849.62	9740.56	9740.56	29.13	No	Si
SLU 33	3.47	-268.21	-14411	-0.0000483	0.0003743	0.0035	1.7864	9229.56	11126.9	11126.9	41.49	No	Si
SLU 41	1.57	341.22	-14061	-0.0000479	0.0003743	0.0035	1.7864	9091.43	10051.63	10051.63	29.46	No	Si
SLU 41	3.47	-300.11	-15082	-0.0000509	0.0003743	0.0035	1.7864	9481.53	11482.35	11482.35	38.26	No	Si
SLU 42	1.57	365.66	-13890	-0.0000476	0.0003743	0.0035	1.7864	9022.68	9961.15	9961.15	27.24	No	Si
SLU 42	3.47	-334.38	-15007	-0.0000511	0.0003743	0.0035	1.7864	9454.43	11443.3	11443.3	34.22	No	Si
SLU 40	1.57	347.07	-13605	-0.0000464	0.0003743	0.0035	1.7864	8905.58	9810.8	9810.8	28.27	No	Si
SLU 40	3.47	-324.52	-14674	-0.0000498	0.0003743	0.0035	1.7864	9330.14	11265.39	11265.39	34.71	No	Si
SLU 34	1.57	346.12	-13218	-0.0000451	0.0003743	0.0035	1.7864	8741.86	9607.48	9607.48	27.76	No	Si
SLU 34	3.47	-288.64	-14205	-0.0000478	0.0003743	0.0035	1.7864	9148.91	11015.71	11015.71	38.16	No	Si
SLU 31	1.57	327.53	-12933	-0.0000439	0.0003743	0.0035	1.7864	8618.04	9458.75	9458.75	28.88	No	Si
SLU 31	3.47	-278.78	-13872	-0.0000466	0.0003743	0.0035	1.7864	9015.23	10832.8	10832.8	38.86	No	Si
SLU 36	1.57	352.99	-13756	-0.000047	0.0003743	0.0035	1.7864	8968.06	9890.45	9890.45	28.02	No	Si
SLU 36	3.47	-278.07	-14745	-0.0000495	0.0003743	0.0035	1.7864	9356.93	11303.06	11303.06	40.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	1.57	1283.33	-2853	-0.0000228	0.0005615	0.0035	1.7864		2639	2639	2.06		Si
SLD 5	3.47	-1913.41	-6933	-0.0000402	0.0005615	0.0035	1.7864		6596.53	6596.53	3.45		Si
SLV 2	1.57	2629.04	-9305	-0.0000552	0.0005615	0.0035	1.7864		7611.32	7611.32	2.9		Si
SLV 2	3.47	-1948.12	-13422	-0.0000616	0.0005615	0.0035	1.7864		11243.61	11243.61	5.77		Si
SLV 1	1.57	3404.03	-8210	-0.0000626	0.0005615	0.0035	1.7864		6900.12	6900.12	2.03		Si
SLV 1	3.47	-2704.65	-13880	-0.0000712	0.0005615	0.0035	1.7864		11544.82	11544.82	4.27		Si
SLV 5	1.57	1997.79	2869	0.2370817	0.0005615	0.0035	1.4291		0	0	0		No
SLV 5	3.47	-3211.85	-3905	-0.0001711	0.0005615	0.0035	1.4291		4180.24	4180.24	1.3		Si
SLV 14	1.57	-2621.67	-5159	-0.0000483	0.0005615	0.0035	1.4291		5201.92	5201.92	1.98		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	3.47	1216.71	-2827	-0.0000216	0.0005615	0.0035	1.7864		2617.35	2617.35	2.15		Si
SLV 13	1.57	-1846.68	-4063	-0.000033	0.0005615	0.0035	1.7864		4308.33	4308.33	2.33		Si
SLV 13	3.47	460.18	-3285	-0.0000143	0.0005615	0.0035	1.7864		2999.55	2999.55	6.52		Si
SLV 16	1.57	-3100.09	-13564	-0.0000744	0.0005615	0.0035	1.7864		11336.91	11336.91	3.66		Si
SLV 16	3.47	2706.88	-8134	-0.0000525	0.0005615	0.0035	1.7864		6847.24	6847.24	2.53		Si
SLV 10	1.57	-99.12	3375	0.3027157	0.0005615	0.0035	1.4291		0	0	0		No
SLV 10	3.47	-1753.14	-418	-0.0007629	0.0005615	0.0035	1.4291		1236.69	1236.69	0.71		No
SLV 6	1.57	1476.09	2131	0.1762284	0.0005615	0.0035	1.4291		0	0	0		No
SLV 6	3.47	-2702.59	-3597	-0.0000906	0.0005615	0.0035	1.4291		3931.08	3931.08	1.45		Si
SLV 9	1.57	422.57	4113	0.3653691	0.0005615	0.0035	1.4291		0	0	0		No
SLV 9	3.47	-2262.4	-726	-0.0009464	0.0005615	0.0035	1.4291		1504.41	1504.41	0.66		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	1.57	359.02	-16205	-13494	1867	1.7864	1.7864	-26977	10541	5273	40441	14978	4555	19533	No	10.46	Si
SLU 84	3.47	-255.23	-17119	-14255	1819	1.7864	1.7864	-28499	10744	5406	40441	14978	4555	19533	No	10.74	Si
SLU 80	1.57	341.78	-15931	-13266	1758	1.7864	1.7864	-26522	10481	5242	40441	14978	4555	19533	No	11.11	Si
SLU 80	3.47	-196.51	-16700	-13906	1711	1.7864	1.7864	-27801	10651	5328	40441	14978	4555	19533	No	11.42	Si
SLU 83	1.57	334.58	-16375	-13636	1791	1.7864	1.7864	-27261	10579	5292	40441	14978	4555	19533	No	10.91	Si
SLU 83	3.47	-220.97	-17193	-14317	1742	1.7864	1.7864	-28622	10761	5423	40441	14978	4555	19533	No	11.21	Si
SLU 78	1.57	346.35	-16071	-13382	1770	1.7864	1.7864	-26754	10512	5258	40441	14978	4555	19533	No	11.04	Si
SLU 78	3.47	-198.92	-16856	-14036	1722	1.7864	1.7864	-28062	10686	5348	40441	14978	4555	19533	No	11.34	Si
SLU 73	1.57	320.89	-15247	-12697	1731	1.7864	1.7864	-25384	10329	5166	40441	14978	4555	19533	No	11.28	Si
SLU 73	3.47	-199.64	-15983	-13309	1686	1.7864	1.7864	-26608	10492	5248	40441	14978	4555	19533	No	11.58	Si
SLU 82	1.57	340.43	-15920	-13257	1828	1.7864	1.7864	-26503	10478	5241	40441	14978	4555	19533	No	10.68	Si
SLU 82	3.47	-245.37	-16785	-13977	1781	1.7864	1.7864	-27944	10670	5337	40441	14978	4555	19533	No	10.97	Si
SLU 42	1.57	365.66	-13890	-11566	1763	1.7864	1.7864	-23124	10028	5016	40441	14978	4555	19533	No	11.08	Si
SLU 42	3.47	-334.38	-15007	-12497	1722	1.7864	1.7864	-24984	10276	5140	40441	14978	4555	19533	No	11.34	Si
SLU 75	1.57	327.76	-15786	-13145	1731	1.7864	1.7864	-26280	10448	5226	40441	14978	4555	19533	No	11.28	Si
SLU 75	3.47	-189.07	-16523	-13759	1685	1.7864	1.7864	-27507	10612	5308	40441	14978	4555	19533	No	11.6	Si
SLU 76	1.57	339.48	-15532	-12934	1770	1.7864	1.7864	-25858	10392	5198	40441	14978	4555	19533	No	11.04	Si
SLU 76	3.47	-209.5	-16317	-13587	1724	1.7864	1.7864	-27163	10566	5285	40441	14978	4555	19533	No	11.33	Si
SLU 81	1.57	315.99	-16090	-13399	1752	1.7864	1.7864	-26787	10516	5260	40441	14978	4555	19533	No	11.15	Si
SLU 81	3.47	-211.11	-16859	-14039	1705	1.7864	1.7864	-28067	10687	5349	40441	14978	4555	19533	No	11.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	1.57	-1693.84	-24642	-20520	-4861	1.7864	1.7864	-41024	16250	8128	40441	22467	4555	27022		5.56	Si
SLV 12	3.47	3214.08	-18109	-15080	-4904	1.7864	1.7864	-30147	16250	8128	40441	22467	4555	27022		5.51	Si
SLV 1	1.57	3404.03	-8210	-6836	6857	1.7864	1.4357	-13667	13150	5286	40441	22467	4555	27022		3.94	Si
SLV 1	3.47	-2704.65	-13880	-11558	6544	1.7864	1.7864	-23107	15038	7522	40441	22467	4555	27022		4.13	Si
SLV 2	1.57	2629.04	-9305	-7749	5322	1.7864	1.7864	-15491	13515	6760	40441	22467	4555	27022		5.08	Si
SLV 2	3.47	-1948.12	-13422	-11176	5008	1.7864	1.7864	-22344	14885	7446	40441	22467	4555	27022		5.4	Si
SLD 5	1.57	1283.33	-2853	-2375	4482	1.7864	1.33	-4749	11366	4233	40441	22467	4555	27022		6.03	Si
SLD 5	3.47	-1913.41	-6933	-5773	4451	1.7864	1.7864	-11542	12725	6365	40441	22467	4555	27022		6.07	Si
SLV 5	1.57	1997.79	2869	2389	6830	1.4291	0.5904	0	0	0	40441	17974	3644	21618		3.17	Si
SLV 5	3.47	-3211.85	-3905	-3252	6809	1.4291	0.212	0	0	0	40441	17974	3644	21618		3.17	Si
SLV 9	1.57	422.57	4113	3425	4518	1.4291	1.7864	0	0	0	40441	17974	3644	21618		4.78	Si
SLV 9	3.47	-2262.4	-726	-605	4685	1.4291	0	0	0	0	40441	17974	3644	21618		4.61	Si
SLV 6	1.57	1476.09	2131	1775	5797	1.4291	0.6017	0	0	0	40441	17974	3644	21618		3.73	Si
SLV 6	3.47	-2702.59	-3597	-2995	5775	1.4291	0.4253	0	0	0	40441	17974	3644	21618		3.74	Si
SLV 16	1.57	-3100.09	-13564	-11295	-4888	1.7864	1.7864	-22581	14933	7469	40441	22467	4555	27022		5.53	Si
SLV 16	3.47	2706.88	-8134	-6773	-4639	1.7864	1.6813	-13542	13125	6179	40441	22467	4555	27022		5.83	Si
SLV 10	1.57	-99.12	3375	2810	3485	1.4291	1.7864	0	0	0	40441	17974	3644	21618		6.2	Si
SLV 10	3.47	-1753.14	-418	-348	3651	1.4291	0	0	0	0	40441	17974	3644	21618		5.92	Si
SLD 1	1.57	2210.51	-9407	-7834	4663	1.7864	1.7864	-15661	13549	6777	40441	22467	4555	27022		5.8	Si
SLD 1	3.47	-1698.01	-12963	-10794	4450	1.7864	1.7864	-21580	14733	7369	40441	22467	4555	27022		6.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	0	836	157.27	0	0	No, Trazione
SLV 9	179667	0.3	0	944	157.27	0	0	No, Trazione
SLV 5	179667	0.3	2342	-1171	157.27	161.46	1.03	Si
SLV 6	179667	0.3	2556	-1279	157.27	176.01	1.12	Si
SLV 13	179667	0.3	8857	-4430	157.27	584.27	3.72	Si
SLV 14	179667	0.3	9176	-4590	157.27	603.96	3.84	Si
SLV 15	179667	0.3	22339	-11174	157.27	1335.53	8.49	Si
SLV 16	179667	0.3	22658	-11333	157.27	1351.27	8.59	Si
SLV 1	179667	0.3	22952	-11480	157.27	1365.69	8.68	Si
SLV 2	179667	0.3	23270	-11640	157.27	1381.26	8.78	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-19547	-19679	349	0.498	2249.3	0.965	7.49498	3.93621	Si
SLV 8	-19519	-20002	349	0.498	2246.5	0.965	7.50455	3.93621	Si
SLV 3	-15673	-14682	69	0.617	1855.2	0.959	9.3508	4.67428	Si
SLV 4	-15632	-15161	68	0.618	1851	0.958	9.37285	4.67428	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-17760	-17684	376	0.539	2067.5	0.962	8.13495	3.93621	Si
SLV 12	-17732	-18006	375	0.539	2064.7	0.962	8.14636	3.93621	Si
SLV 1	-10560	-8470	-145	0.853	1335.9	0.945	13.11836	4.67428	Si
SLV 2	-10519	-8949	-146	0.855	1331.7	0.944	13.16203	4.67428	Si
SLV 15	-9717	-8030	157	0.912	1250.4	0.941	14.07945	4.67428	Si
SLV 16	-9676	-8508	157	0.915	1246.3	0.941	14.1314	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	27.242	SLU 42	Si
V_SLU	10.464	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	3.165	SLV 5	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.904	SLV 7	Si

Maschio 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.828	5.951	L4	L5	2.21	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	1.57	-7511.48	-26151	-0.000129	0.0003743	0.0035	2.21	16902.13	21435.83	21435.83	2.85	No	Si
SLU 81	3.47	1734.1	-29849	-0.0000941	0.0003743	0.0035	2.21	17356.11	22194.57	22194.57	12.8	No	Si
SLU 71	1.57	-7017.52	-23746	-0.0001166	0.0003743	0.0035	2.21	16349.19	20196.32	20196.32	2.88	No	Si
SLU 71	3.47	1550.7	-26984	-0.0000836	0.0003743	0.0035	2.21	17046.15	20831.5	20831.5	13.43	No	Si
SLU 69	1.57	-7076.38	-23979	-0.0001179	0.0003743	0.0035	2.21	16411.78	20318.93	20318.93	2.87	No	Si
SLU 69	3.47	1556.5	-27250	-0.0000845	0.0003743	0.0035	2.21	17087.08	20955.24	20955.24	13.46	No	Si
SLU 83	1.57	-7624.84	-26639	-0.0001317	0.0003743	0.0035	2.21	16989.37	21624.31	21624.31	2.84	No	Si
SLU 83	3.47	1736.53	-30379	-0.0000958	0.0003743	0.0035	2.21	17381.89	22454.26	22454.26	12.93	No	Si
SLU 84	1.57	-7522.87	-26443	-0.0001301	0.0003743	0.0035	2.21	16955.32	21550.69	21550.69	2.86	No	Si
SLU 84	3.47	1699.76	-30123	-0.0000947	0.0003743	0.0035	2.21	17370.66	22328.37	22328.37	13.14	No	Si
SLU 80	1.57	-7420.03	-25916	-0.0001274	0.0003743	0.0035	2.21	16856.98	21338.47	21338.47	2.88	No	Si
SLU 80	3.47	1645.71	-29475	-0.0000922	0.0003743	0.0035	2.21	17332.01	22012.88	22012.88	13.38	No	Si
SLU 74	1.57	-7467.5	-25858	-0.0001276	0.0003743	0.0035	2.21	16845.59	21313.92	21313.92	2.85	No	Si
SLU 74	3.47	1685.85	-29468	-0.0000925	0.0003743	0.0035	2.21	17331.47	22009.2	22009.2	13.06	No	Si
SLU 77	1.57	-7580.85	-26345	-0.0001303	0.0003743	0.0035	2.21	16937.84	21512.93	21512.93	2.84	No	Si
SLU 77	3.47	1688.29	-29998	-0.0000942	0.0003743	0.0035	2.21	17364.34	22267.21	22267.21	13.19	No	Si
SLU 79	1.57	-7521.99	-26112	-0.0001289	0.0003743	0.0035	2.21	16894.64	21419.68	21419.68	2.85	No	Si
SLU 79	3.47	1682.49	-29732	-0.0000933	0.0003743	0.0035	2.21	17349.07	22137.39	22137.39	13.16	No	Si
SLU 78	1.57	-7478.89	-26150	-0.0001287	0.0003743	0.0035	2.21	16901.78	21435.09	21435.09	2.87	No	Si
SLU 78	3.47	1651.52	-29741	-0.0000931	0.0003743	0.0035	2.21	17349.67	22142.13	22142.13	13.41	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	1.57	2112.6	-684	-0.007292	0.0005615	0.0035	1.768		1025.57	1025.57	0.49		No
SLV 10	3.47	-293.89	-67	-0.0000659	0.0005615	0.0035	1.768		1418.65	1418.65	4.83		Si
SLV 11	1.57	-13506.88	-30987	-0.0001866	0.0005615	0.0035	2.21		27093.85	27093.85	2.01		Si
SLV 11	3.47	4006.64	-40006	-0.0001371	0.0005615	0.0035	2.21		30608.32	30608.32	7.64		Si
SLV 12	1.57	-14209.48	-30892	-0.0001942	0.0005615	0.0035	2.21		27047.57	27047.57	1.9		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	3.47	4588.54	-41196	-0.0001455	0.0005615	0.0035	2.21		31178.08	31178.08	6.79		Si
SLV 16	1.57	-9835.29	-16529	-0.000124	0.0005615	0.0035	1.768		17160.76	17160.76	1.74		Si
SLV 16	3.47	4576.38	-27460	-0.0001033	0.0005615	0.0035	2.21		23793.94	23793.94	5.2		Si
SLV 15	1.57	-8791.55	-16669	-0.0001091	0.0005615	0.0035	2.21		17274.13	17274.13	1.96		Si
SLV 15	3.47	3711.94	-25691	-0.0000918	0.0005615	0.0035	2.21		22605.09	22605.09	6.09		Si
SLV 5	1.57	3816.31	-4008	-0.0000982	0.0005615	0.0035	2.21		4542.35	4542.35	1.19		Si
SLV 5	3.47	-2209.01	1441	0.1079829	0.0005615	0.0035	1.768		0	0	0		No
SLV 14	1.57	-4938.67	-7467	-0.0000613	0.0005615	0.0035	1.768		9025.97	9025.97	1.83		Si
SLV 14	3.47	3111.65	-15121	-0.0000585	0.0005615	0.0035	2.21		14610.91	14610.91	4.7		Si
SLV 6	1.57	3113.72	-3914	-0.0000455	0.0005615	0.0035	2.21		4444.9	4444.9	1.43		Si
SLV 6	3.47	-1627.11	250	0.0183875	0.0005615	0.0035	1.768		0	0	0		No
SLD 16	1.57	-8028.12	-16616	-0.0001004	0.0005615	0.0035	2.21		17231.28	17231.28	2.15		Si
SLD 16	3.47	3301.59	-24375	-0.0000851	0.0005615	0.0035	2.21		21729.6	21729.6	6.58		Si
SLV 9	1.57	2815.2	-779	-0.0109828	0.0005615	0.0035	1.768		1127.54	1127.54	0.4		No
SLV 9	3.47	-875.79	1124	0.0829096	0.0005615	0.0035	1.768		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	1.57	-7478.89	-26150	-21775	-8572	2.21	2.21	-35189	10833	7792	40441	18530	5635	24165	No	2.82	Si
SLU 78	3.47	1651.52	-29741	-24766	-8562	2.21	2.21	-40023	10833	8590	40441	18530	5635	24165	No	2.82	Si
SLU 80	1.57	-7420.03	-25916	-21581	-8519	2.21	2.21	-34875	10833	7741	40441	18530	5635	24165	No	2.84	Si
SLU 80	3.47	1645.71	-29475	-24544	-8509	2.21	2.21	-39664	10833	8531	40441	18530	5635	24165	No	2.84	Si
SLU 79	1.57	-7521.99	-26112	-21744	-8627	2.21	2.21	-35138	10833	7784	40441	18530	5635	24165	No	2.8	Si
SLU 79	3.47	1682.49	-29732	-24758	-8617	2.21	2.21	-40009	10833	8588	40441	18530	5635	24165	No	2.8	Si
SLU 77	1.57	-7580.85	-26345	-21938	-8680	2.21	2.21	-35453	10833	7836	40441	18530	5635	24165	No	2.78	Si
SLU 77	3.47	1688.29	-29998	-24979	-8670	2.21	2.21	-40368	10833	8647	40441	18530	5635	24165	No	2.79	Si
SLU 75	1.57	-7365.53	-25662	-21369	-8486	2.21	2.21	-34534	10833	7684	40441	18530	5635	24165	No	2.85	Si
SLU 75	3.47	1649.08	-29211	-24325	-8476	2.21	2.21	-39309	10833	8472	40441	18530	5635	24165	No	2.85	Si
SLU 84	1.57	-7522.87	-26443	-22019	-8671	2.21	2.21	-35584	10833	7858	40441	18530	5635	24165	No	2.79	Si
SLU 84	3.47	1699.76	-30123	-25084	-8661	2.21	2.21	-40536	10833	8675	40441	18530	5635	24165	No	2.79	Si
SLU 74	1.57	-7467.5	-25858	-21532	-8594	2.21	2.21	-34797	10833	7728	40441	18530	5635	24165	No	2.81	Si
SLU 74	3.47	1685.85	-29468	-24538	-8584	2.21	2.21	-39654	10833	8529	40441	18530	5635	24165	No	2.82	Si
SLU 83	1.57	-7624.84	-26639	-22182	-8780	2.21	2.21	-35847	10833	7901	40441	18530	5635	24165	No	2.75	Si
SLU 83	3.47	1736.53	-30379	-25297	-8770	2.21	2.21	-40881	10833	8732	40441	18530	5635	24165	No	2.76	Si
SLU 81	1.57	-7511.48	-26151	-21777	-8694	2.21	2.21	-35192	10833	7793	40441	18530	5635	24165	No	2.78	Si
SLU 81	3.47	1734.1	-29849	-24856	-8684	2.21	2.21	-40167	10833	8614	40441	18530	5635	24165	No	2.78	Si
SLU 82	1.57	-7409.52	-25956	-21614	-8586	2.21	2.21	-34928	10833	7749	40441	18530	5635	24165	No	2.81	Si
SLU 82	3.47	1697.32	-29593	-24642	-8575	2.21	2.21	-39822	10833	8557	40441	18530	5635	24165	No	2.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	1.57	-14209.48	-30892	-25724	-17055	2.21	1.9351	-48860	16250	9838	40441	27794	5635	33430		1.96	Si
SLV 12	3.47	4588.54	-41196	-34305	-17094	2.21	2.21	-55438	16250	12126	40441	27794	5635	33430		1.96	Si
SLD 16	1.57	-8028.12	-16616	-13837	-11804	2.21	1.8656	-26861	15789	8247	40441	27794	5635	33430		2.83	Si
SLD 16	3.47	3301.59	-24375	-20297	-11584	2.21	2.21	-32801	16250	10055	40441	27794	5635	33430		2.89	Si
SLV 14	1.57	-4938.67	-7467	-6218	-10128	1.768	1.3307	0	0	0	40441	22236	4508	26744		2.64	Si
SLV 14	3.47	3111.65	-15121	-12591	-9691	2.21	2.21	-20348	14486	8964	40441	27794	5635	33430		3.45	Si
SLV 15	1.57	-8791.55	-16669	-13881	-13179	2.21	1.7328	-29036	16224	7872	40441	27794	5635	33430		2.54	Si
SLV 15	3.47	3711.94	-25691	-21393	-12838	2.21	2.21	-34572	16250	10055	40441	27794	5635	33430		2.6	Si
SLV 8	1.57	-13208.36	-34121	-28413	-13697	2.21	2.1537	-48481	16250	10555	40441	27794	5635	33430		2.44	Si
SLV 8	3.47	3255.32	-40879	-34041	-13965	2.21	2.21	-55011	16250	12056	40441	27794	5635	33430		2.39	Si
SLD 12	1.57	-10518.11	-25239	-21017	-12599	2.21	2.0648	-37106	16250	9395	40441	27794	5635	33430		2.65	Si
SLD 12	3.47	3217.9	-32387	-26969	-12611	2.21	2.21	-43583	16250	10170	40441	27794	5635	33430		2.65	Si
SLD 11	1.57	-10091.74	-25297	-21065	-11736	2.21	2.1182	-36232	16250	9638	40441	27794	5635	33430		2.85	Si
SLD 11	3.47	2864.77	-31665	-26368	-11747	2.21	2.21	-42611	16250	10055	40441	27794	5635	33430		2.85	Si
SLV 11	1.57	-13506.88	-30987	-25803	-15632	2.21	2.0073	-47191	16250	9859	40441	27794	5635	33430		2.14	Si
SLV 11	3.47	4006.64	-40006	-33313	-15671	2.21	2.21	-53836	16250	11862	40441	27794	5635	33430		2.13	Si
SLV 7	1.57	-12505.76	-34216	-28492	-12274	2.21	2.21	-46044	16250	10576	40441	27794	5635	33430		2.72	Si
SLV 7	3.47	2673.42	-39689	-33050	-12541	2.21	2.21	-53409	16250	11792	40441	27794	5635	33430		2.67	Si
SLV 16	1.57	-9835.29	-16529	-13764	-15293	1.768	1.5299	0	0	0	40441	22236	4508	26744		1.75	Si
SLV 16	3.47	4576.38	-27460	-22866	-14952	2.21	2.21	-36952	16250	10055	40441	27794	5635	33430		2.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	0	-872	194.57	0	0	No, e>t/2
SLV 9	179667	0.3	0	-211	194.57	0	0	No, e>t/2
SLV 5	179667	0.3	0	-1289	194.57	0	0	No, e>t/2
SLV 6	179667	0.3	3151	-1950	194.57	267.34	1.37	Si
SLV 13	179667	0.3	18992	-11752	194.57	1440.7	7.4	Si
SLV 14	179667	0.3	20578	-12734	194.57	1542.51	7.93	Si
SLV 1	179667	0.3	24800	-15346	194.57	1799.56	9.25	Si
SLV 2	179667	0.3	26386	-16328	194.57	1890.91	9.72	Si
SLV 15	179667	0.3	36943	-22860	194.57	2426.24	12.47	Si
SLV 16	179667	0.3	38529	-23842	194.57	2495.75	12.83	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-33519	-30641	450	0.377	3733.3	0.974	5.62148	3.93621	Si
SLV 8	-33292	-33405	479	0.378	3710.1	0.973	5.64291	3.93621	Si
SLV 11	-32603	-30469	451	0.386	3640	0.973	5.75864	3.93621	Si
SLV 7	-32375	-33232	479	0.387	3616.8	0.973	5.78158	3.93621	Si
SLV 16	-22425	-16332	103	0.544	2603.9	0.963	8.21303	4.67428	Si
SLV 4	-21667	-25543	197	0.556	2526.8	0.962	8.40598	4.67428	Si
SLV 15	-21064	-16076	104	0.574	2465.4	0.961	8.67941	4.67428	Si
SLV 3	-20305	-25287	198	0.588	2388.3	0.96	8.90078	4.67428	Si
SLV 14	-12498	-6795	-167	0.885	1595.3	0.943	13.64383	4.67428	Si
SLV 2	-11740	-16006	-72	0.939	1518.5	0.94	14.50525	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.836	SLU 83	Si
V_SLU	2.752	SLU 83	Si
PF_SLV	0	SLV 5	No
V_SLV	1.749	SLV 16	Si
PFFP_SLV	0	SLV 5	No
R_SLV	1.428	SLV 12	Si

Maschio 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.528	-3.169	-24.603	-3.169	L4	L5	2.075	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 62	1.57	4184.53	-13025	-0.0000684	0.0003743	0.0035	2.075	10537.58	11488.57	11488.57	2.75	No	Si
SLU 62	3.47	-810.16	-18284	-0.0000566	0.0003743	0.0035	2.075	13106.03	15853.28	15853.28	19.57	No	Si
SLU 77	1.57	4554.87	-14345	-0.0000756	0.0003743	0.0035	2.075	11273.78	12402.99	12402.99	2.72	No	Si
SLU 77	3.47	-942.35	-20343	-0.000064	0.0003743	0.0035	2.075	13847.25	16796.79	16796.79	17.82	No	Si
SLU 83	1.57	4701.61	-14614	-0.0000777	0.0003743	0.0035	2.075	11416.09	12559.82	12559.82	2.67	No	Si
SLU 83	3.47	-1055.44	-20880	-0.0000666	0.0003743	0.0035	2.075	14016.22	17054.52	17054.52	16.16	No	Si
SLU 79	1.57	4521.16	-14236	-0.000075	0.0003743	0.0035	2.075	11215.16	12339.43	12339.43	2.73	No	Si
SLU 79	3.47	-929.77	-20171	-0.0000633	0.0003743	0.0035	2.075	13791.12	16715.43	16715.43	17.98	No	Si
SLU 74	1.57	4524.88	-14161	-0.0000748	0.0003743	0.0035	2.075	11175.03	12296.26	12296.26	2.72	No	Si
SLU 74	3.47	-952.9	-20088	-0.0000633	0.0003743	0.0035	2.075	13763.58	16676.21	16676.21	17.5	No	Si
SLU 41	1.57	4041.11	-12502	-0.0000656	0.0003743	0.0035	2.075	10229.38	11061.83	11061.83	2.74	No	Si
SLU 41	3.47	-1019.29	-18145	-0.0000579	0.0003743	0.0035	2.075	13050.92	15792.41	15792.41	15.49	No	Si
SLU 18	1.57	3494.05	-10729	-0.0000559	0.0003743	0.0035	2.075	9112.25	9645.22	9645.22	2.76	No	Si
SLU 18	3.47	-784.56	-15295	-0.0000475	0.0003743	0.0035	2.075	11765.19	14029.15	14029.15	17.88	No	Si
SLU 81	1.57	4671.62	-14430	-0.0000768	0.0003743	0.0035	2.075	11319.08	12452.52	12452.52	2.67	No	Si
SLU 81	3.47	-1065.99	-20625	-0.0000659	0.0003743	0.0035	2.075	13937.34	16931.7	16931.7	15.88	No	Si
SLU 60	1.57	4154.55	-12841	-0.0000676	0.0003743	0.0035	2.075	10430.32	11338.19	11338.19	2.73	No	Si
SLU 60	3.47	-820.71	-18029	-0.0000559	0.0003743	0.0035	2.075	13003.96	15738.81	15738.81	19.18	No	Si
SLU 39	1.57	4011.13	-12318	-0.0000648	0.0003743	0.0035	2.075	10118.75	10912.55	10912.55	2.72	No	Si
SLU 39	3.47	-1029.84	-17891	-0.0000572	0.0003743	0.0035	2.075	12947.6	15662.19	15662.19	15.21	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	1.57	3526.12	3353	0.2421018	0.0005615	0.0035	1.66		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	3.47	-4270.61	-6053	-0.0000665	0.0005615	0.0035	1.66		7022.4	7022.4	1.64		Si
SLV 4	1.57	8181.21	-6449	-0.0123212	0.0005615	0.0035	1.66		6539.37	6539.37	0.8		No
SLV 4	3.47	-4931.77	-17889	-0.0000867	0.0005615	0.0035	2.075		16851.36	16851.36	3.42		Si
SLD 11	1.57	1600.31	-1527	-0.0002794	0.0005615	0.0035	1.66		1789.04	1789.04	1.12		Si
SLD 11	3.47	-1657.68	-6616	-0.0000294	0.0005615	0.0035	2.075		7535.9	7535.9	4.55		Si
SLD 12	1.57	2022.07	-1130	-0.0045495	0.0005615	0.0035	1.66		1389.19	1389.19	0.69		No
SLD 12	3.47	-2093.12	-6897	-0.0000334	0.0005615	0.0035	2.075		7791.45	7791.45	3.72		Si
SLD 8	1.57	3852.59	-1660	-0.0131752	0.0005615	0.0035	1.66		1922.42	1922.42	0.5		No
SLD 8	3.47	-3211.19	-9514	-0.0000491	0.0005615	0.0035	2.075		10130.44	10130.44	3.15		Si
SLV 3	1.57	7148.78	-7420	-0.0005404	0.0005615	0.0035	2.075		7428.31	7428.31	1.04		Si
SLV 3	3.47	-3865.84	-17201	-0.000076	0.0005615	0.0035	2.075		16351.33	16351.33	4.23		Si
SLV 8	1.57	4221.11	4007	0.28921	0.0005615	0.0035	1.66		0	0	0		No
SLV 8	3.47	-4988.15	-6516	-0.0000886	0.0005615	0.0035	1.66		7444.99	7444.99	1.49		Si
SLV 11	1.57	660.31	4183	0.3318227	0.0005615	0.0035	1.66		0	0	0		No
SLV 11	3.47	-2538.77	-1943	-0.0003198	0.0005615	0.0035	1.66		3074.67	3074.67	1.21		Si
SLD 7	1.57	3430.84	-2057	-0.0082618	0.0005615	0.0035	1.66		2318.78	2318.78	0.68		No
SLD 7	3.47	-2775.76	-9233	-0.0000449	0.0005615	0.0035	2.075		9882.95	9882.95	3.56		Si
SLV 12	1.57	1355.3	4837	0.3806793	0.0005615	0.0035	1.66		0	0	0		No
SLV 12	3.47	-3256.3	-2406	-0.0004554	0.0005615	0.0035	1.66		3531.98	3531.98	1.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	1.57	4335.68	-14542	-12109	7379	2.075	2.075	-20842	9723	5649	40441	17398	5291	22689	No	3.07	Si
SLU 80	3.47	-909.38	-20294	-16899	7339	2.075	2.075	-29087	10823	6371	40441	17398	5291	22689	No	3.09	Si
SLU 81	1.57	4671.62	-14430	-12016	7873	2.075	2.075	-20682	9702	5637	40441	17398	5291	22689	No	2.88	Si
SLU 81	3.47	-1065.99	-20625	-17175	7846	2.075	2.075	-29561	10833	6444	40441	17398	5291	22689	No	2.89	Si
SLU 78	1.57	4369.39	-14651	-12200	7437	2.075	2.075	-20999	9744	5661	40441	17398	5291	22689	No	3.05	Si
SLU 78	3.47	-921.96	-20466	-17042	7397	2.075	2.075	-29333	10833	6409	40441	17398	5291	22689	No	3.07	Si
SLU 79	1.57	4521.16	-14236	-11854	7580	2.075	2.075	-20403	9665	5615	40441	17398	5291	22689	No	2.99	Si
SLU 79	3.47	-929.77	-20171	-16797	7553	2.075	2.075	-28910	10799	6344	40441	17398	5291	22689	No	3	Si
SLU 75	1.57	4339.4	-14468	-12047	7388	2.075	2.075	-20736	9709	5641	40441	17398	5291	22689	No	3.07	Si
SLU 75	3.47	-932.51	-20211	-16830	7348	2.075	2.075	-28968	10807	6352	40441	17398	5291	22689	No	3.09	Si
SLU 83	1.57	4701.61	-14614	-12169	7923	2.075	2.075	-20945	9737	5657	40441	17398	5291	22689	No	2.86	Si
SLU 83	3.47	-1055.44	-20880	-17387	7895	2.075	2.075	-29926	10833	6501	40441	17398	5291	22689	No	2.87	Si
SLU 82	1.57	4486.15	-14736	-12271	7672	2.075	2.075	-21121	9761	5671	40441	17398	5291	22689	No	2.96	Si
SLU 82	3.47	-1045.59	-20749	-17278	7631	2.075	2.075	-29738	10833	6472	40441	17398	5291	22689	No	2.97	Si
SLU 84	1.57	4516.13	-14920	-12424	7721	2.075	2.075	-21384	9796	5691	40441	17398	5291	22689	No	2.94	Si
SLU 84	3.47	-1035.04	-21003	-17490	7680	2.075	2.075	-30103	10833	6528	40441	17398	5291	22689	No	2.95	Si
SLU 74	1.57	4524.88	-14161	-11792	7590	2.075	2.075	-20297	9651	5607	40441	17398	5291	22689	No	2.99	Si
SLU 74	3.47	-952.9	-20088	-16727	7563	2.075	2.075	-28791	10783	6325	40441	17398	5291	22689	No	3	Si
SLU 77	1.57	4554.87	-14345	-11945	7639	2.075	2.075	-20560	9686	5627	40441	17398	5291	22689	No	2.97	Si
SLU 77	3.47	-942.35	-20343	-16940	7611	2.075	2.075	-29156	10832	6382	40441	17398	5291	22689	No	2.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	1.57	3430.84	-2057	-1713	8107	1.66	0	0	0	0	40441	20877	4233	25110		3.1	Si
SLD 7	3.47	-2775.76	-9233	-7688	8312	2.075	2.075	-13233	13063	7590	40441	26097	5291	31388		3.78	Si
SLV 4	1.57	8181.21	-6449	-5370	14395	1.66	0	0	0	0	40441	20877	4233	25110		1.74	Si
SLV 4	3.47	-4931.77	-17889	-14897	14093	2.075	2.075	-25640	15545	9031	40441	26097	5291	31388		2.23	Si
SLV 1	1.57	7532.73	-15688	-13063	10317	2.075	1.672	-22484	14914	6982	40441	26097	5291	31388		3.04	Si
SLV 1	3.47	-1936.36	-22743	-18939	9723	2.075	2.075	-32597	16250	9441	40441	26097	5291	31388		3.23	Si
SLV 8	1.57	4221.11	4007	3337	11398	1.66	0	0	0	0	40441	20877	4233	25110		2.2	Si
SLV 8	3.47	-4988.15	-6516	-5426	11737	1.66	0.8159	0	0	0	40441	20877	4233	25110		2.14	Si
SLV 7	1.57	3526.12	3353	2792	10044	1.66	0	0	0	0	40441	20877	4233	25110		2.5	Si
SLV 7	3.47	-4270.61	-6053	-5040	10384	1.66	0.9958	0	0	0	40441	20877	4233	25110		2.42	Si
SLD 2	1.57	6565.25	-12687	-10565	9770	2.075	1.5601	-18184	14053	6139	40441	26097	5291	31388		3.21	Si
SLD 2	3.47	-2183.2	-19666	-16376	9388	2.075	2.075	-28186	16054	9327	40441	26097	5291	31388		3.34	Si
SLV 2	1.57	8565.16	-14717	-12255	12327	2.075	1.3665	-21093	14635	6065	40441	26097	5291	31388		2.55	Si
SLV 2	3.47	-3002.29	-23431	-19512	11733	2.075	2.075	-33583	16250	9441	40441	26097	5291	31388		2.68	Si
SLV 3	1.57	7148.78	-7420	-6178	12384	2.075	0.222	-104572	16250	4444	40441	26097	5291	31388		2.53	Si
SLV 3	3.47	-3865.84	-17201	-14324	12083	2.075	2.075	-24654	15347	8917	40441	26097	5291	31388		2.6	Si
SLD 8	1.57	3852.59	-1660	-1382	8928	1.66	0	0	0	0	40441	20877	4233	25110		2.81	Si
SLD 8	3.47	-3211.19	-9514	-7922	9133	2.075	2.075	-13635	13144	7636	40441	26097	5291	31388		3.44	Si
SLD 4	1.57	6352.74	-7832	-6522	10986	2.075	0.6792	-34955	16250	4536	40441	26097	5291	31388		2.86	Si
SLD 4	3.47	-3315.27	-16425	-13677	10787	2.075	2.075	-23541	15125	8788	40441	26097	5291	31388		2.91	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	0	295	182.68	0	0	No, Trazione
SLV 12	179667	0.3	0	276	182.68	0	0	No, Trazione
SLV 7	179667	0.3	4269	-2480	182.68	337.55	1.85	Si
SLV 8	179667	0.3	4301	-2499	182.68	340.01	1.86	Si
SLV 15	179667	0.3	7393	-4295	182.68	572.22	3.13	Si
SLV 16	179667	0.3	7440	-4323	182.68	575.72	3.15	Si
SLV 13	179667	0.3	18948	-11009	182.68	1350	7.39	Si
SLV 14	179667	0.3	18996	-11036	182.68	1352.91	7.41	Si
SLV 3	179667	0.3	23315	-13546	182.68	1606.93	8.8	Si
SLV 4	179667	0.3	23363	-13574	182.68	1609.62	8.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-18171	-11938	158	0.614	2151.5	0.959	9.30701	4.67428	Si
SLV 1	-18119	-12311	159	0.615	2146.2	0.958	9.32964	4.67428	Si
SLV 6	-21628	-17525	-260	0.525	2503	0.964	7.91601	3.93621	Si
SLV 5	-21593	-17777	-259	0.526	2499.5	0.964	7.92777	3.93621	Si
SLV 10	-19355	-16327	-414	0.57	2271.9	0.96	8.62109	3.93621	Si
SLV 9	-19321	-16578	-413	0.571	2268.4	0.96	8.63534	3.93621	Si
SLV 4	-12929	-6003	363	0.803	1619	0.947	12.33133	4.67428	Si
SLV 3	-12878	-6376	364	0.806	1613.7	0.946	12.37328	4.67428	Si
SLV 14	-10598	-7944	-354	0.946	1382.7	0.939	14.64926	4.67428	Si
SLV 13	-10546	-8317	-353	0.95	1377.4	0.939	14.71214	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.666	SLU 81	Si
V_SLU	2.864	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	1.744	SLV 4	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.991	SLV 2	Si

Maschio 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.528	-3.169	L4	L5	2.235	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	2.67	-7882.3	-25132	-0.000126	0.0003743	0.0035	2.235	17006.68	21246.97	21246.97	2.7	No	Si
SLU 84	3.47	-684.66	-23958	-0.0000669	0.0003743	0.0035	2.235	16705.57	20610.42	20610.42	30.1	No	Si
SLU 74	2.67	-7708.76	-23893	-0.0001204	0.0003743	0.0035	2.235	16687.49	20575.84	20575.84	2.67	No	Si
SLU 74	3.47	-670.6	-22719	-0.0000632	0.0003743	0.0035	2.235	16335.36	19963.17	19963.17	29.77	No	Si
SLU 75	2.67	-7659.39	-24275	-0.0001213	0.0003743	0.0035	2.235	16791.78	20780.37	20780.37	2.71	No	Si
SLU 75	3.47	-613.55	-23101	-0.0000639	0.0003743	0.0035	2.235	16455.4	20160.28	20160.28	32.86	No	Si
SLU 82	2.67	-7812.14	-24880	-0.0001246	0.0003743	0.0035	2.235	16946.2	21108.62	21108.62	2.7	No	Si
SLU 82	3.47	-695.9	-23706	-0.0000662	0.0003743	0.0035	2.235	16634.72	20476.89	20476.89	29.43	No	Si
SLU 83	2.67	-7931.68	-24749	-0.0001251	0.0003743	0.0035	2.235	16913.88	21037.09	21037.09	2.65	No	Si
SLU 83	3.47	-741.7	-23575	-0.0000662	0.0003743	0.0035	2.235	16597.01	20407.88	20407.88	27.51	No	Si
SLU 81	2.67	-7861.51	-24497	-0.0001237	0.0003743	0.0035	2.235	16850.02	20900.3	20900.3	2.66	No	Si
SLU 81	3.47	-752.95	-23324	-0.0000655	0.0003743	0.0035	2.235	16522.79	20275.92	20275.92	26.93	No	Si
SLU 80	2.67	-7671.12	-24319	-0.0001216	0.0003743	0.0035	2.235	16803.26	20803.68	20803.68	2.71	No	Si
SLU 80	3.47	-588.34	-23145	-0.0000638	0.0003743	0.0035	2.235	16468.67	20182.74	20182.74	34.3	No	Si
SLU 78	2.67	-7729.55	-24527	-0.0001227	0.0003743	0.0035	2.235	16857.6	20916.25	20916.25	2.71	No	Si
SLU 78	3.47	-602.31	-23353	-0.0000645	0.0003743	0.0035	2.235	16531.59	20291.3	20291.3	33.69	No	Si
SLU 77	2.67	-7778.92	-24144	-0.0001218	0.0003743	0.0035	2.235	16756.68	20710.14	20710.14	2.66	No	Si
SLU 77	3.47	-659.36	-22970	-0.0000638	0.0003743	0.0035	2.235	16414.92	20092.59	20092.59	30.47	No	Si
SLU 79	2.67	-7720.5	-23936	-0.0001207	0.0003743	0.0035	2.235	16699.55	20598.87	20598.87	2.67	No	Si
SLU 79	3.47	-645.39	-22762	-0.0000631	0.0003743	0.0035	2.235	16349.2	19985.36	19985.36	30.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	2.67	-2582.75	-11643	-0.0000451	0.0005615	0.0035	2.235		13103.64	13103.64	5.07		Si
SLV 4	3.47	-6987	-10678	-0.0000855	0.0005615	0.0035	1.788		12213.54	12213.54	1.75		Si
SLV 11	2.67	-2077.11	-3897	-0.0000236	0.0005615	0.0035	2.235		5527.28	5527.28	2.66		Si
SLV 11	3.47	-1067.13	-3152	-0.0000142	0.0005615	0.0035	2.235		4746.37	4746.37	4.45		Si
SLV 12	2.67	-1692.24	-3247	-0.0000192	0.0005615	0.0035	2.235		4845.66	4845.66	2.86		Si
SLV 12	3.47	-2059.68	-2502	-0.00003	0.0005615	0.0035	1.788		4058.09	4058.09	1.97		Si
SLV 7	2.67	-1290.91	-3753	-0.0000171	0.0005615	0.0035	2.235		5377.78	5377.78	4.17		Si
SLV 7	3.47	-4100.69	-2946	-0.0004429	0.0005615	0.0035	1.788		4528.8	4528.8	1.1		Si
SLV 13	2.67	-8078.67	-20691	-0.0001075	0.0005615	0.0035	2.235		20716.1	20716.1	2.56		Si
SLV 13	3.47	6216.21	-19860	-0.0000917	0.0005615	0.0035	2.235		18911.84	18911.84	3.04		Si
SLV 15	2.67	-5775.19	-13090	-0.000071	0.0005615	0.0035	2.235		14413.77	14413.77	2.5		Si
SLV 15	3.47	4599.34	-12333	-0.0000603	0.0005615	0.0035	2.235		12459.96	12459.96	2.71		Si
SLV 16	2.67	-5203.44	-12124	-0.0000643	0.0005615	0.0035	2.235		13535.46	13535.46	2.6		Si
SLV 16	3.47	3124.86	-11367	-0.000048	0.0005615	0.0035	2.235		11662.2	11662.2	3.73		Si
SLV 8	2.67	-906.03	-3103	-0.0000131	0.0005615	0.0035	2.235		4694.24	4694.24	5.18		Si
SLV 8	3.47	-5093.24	-2295	-0.0011215	0.0005615	0.0035	1.788		3838.91	3838.91	0.75		No
SLV 14	2.67	-7506.92	-19724	-0.0001006	0.0005615	0.0035	2.235		19957.39	19957.39	2.66		Si
SLV 14	3.47	4741.73	-18894	-0.0000788	0.0005615	0.0035	2.235		18059.64	18059.64	3.81		Si
SLV 3	2.67	-3154.5	-12610	-0.0000514	0.0005615	0.0035	2.235		13975.89	13975.89	4.43		Si
SLV 3	3.47	-5512.52	-11645	-0.0000661	0.0005615	0.0035	2.235		13104.61	13104.61	2.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	2.67	-7671.12	-24319	-20250	-8707	2.235	2.235	-32359	10833	7408	40441	18739	5699	24438	No	2.81	Si
SLU 80	3.47	-588.34	-23145	-19273	-8707	2.235	2.235	-30797	10833	7148	40441	18739	5699	24438	No	2.81	Si
SLU 83	2.67	-7931.68	-24749	-20609	-8841	2.235	2.235	-32932	10833	7504	40441	18739	5699	24438	No	2.76	Si
SLU 83	3.47	-741.7	-23575	-19631	-8841	2.235	2.235	-31370	10833	7243	40441	18739	5699	24438	No	2.76	Si
SLU 79	2.67	-7720.5	-23936	-19932	-8697	2.235	2.235	-31850	10833	7323	40441	18739	5699	24438	No	2.81	Si
SLU 79	3.47	-645.39	-22762	-18954	-8697	2.235	2.235	-30288	10833	7063	40441	18739	5699	24438	No	2.81	Si
SLU 75	2.67	-7659.39	-24275	-20214	-8661	2.235	2.235	-32302	10833	7399	40441	18739	5699	24438	No	2.82	Si
SLU 75	3.47	-613.55	-23101	-19237	-8661	2.235	2.235	-30739	10833	7138	40441	18739	5699	24438	No	2.82	Si
SLU 81	2.67	-7861.51	-24497	-20399	-8739	2.235	2.235	-32597	10833	7448	40441	18739	5699	24438	No	2.8	Si
SLU 81	3.47	-752.95	-23324	-19422	-8739	2.235	2.235	-31035	10833	7187	40441	18739	5699	24438	No	2.8	Si
SLU 82	2.67	-7812.14	-24880	-20718	-8749	2.235	2.235	-33106	10833	7533	40441	18739	5699	24438	No	2.79	Si
SLU 82	3.47	-695.9	-23706	-19740	-8749	2.235	2.235	-31544	10833	7272	40441	18739	5699	24438	No	2.79	Si
SLU 78	2.67	-7729.55	-24527	-20424	-8762	2.235	2.235	-32636	10833	7455	40441	18739	5699	24438	No	2.79	Si
SLU 78	3.47	-602.31	-23353	-19446	-8762	2.235	2.235	-31074	10833	7194	40441	18739	5699	24438	No	2.79	Si
SLU 74	2.67	-7708.76	-23893	-19896	-8651	2.235	2.235	-31793	10833	7314	40441	18739	5699	24438	No	2.82	Si
SLU 74	3.47	-670.6	-22719	-18918	-8651	2.235	2.235	-30231	10833	7053	40441	18739	5699	24438	No	2.82	Si
SLU 84	2.67	-7882.3	-25132	-20927	-8850	2.235	2.235	-33441	10833	7589	40441	18739	5699	24438	No	2.76	Si
SLU 84	3.47	-684.66	-23958	-19950	-8850	2.235	2.235	-31879	10833	7328	40441	18739	5699	24438	No	2.76	Si
SLU 77	2.67	-7778.92	-24144	-20105	-8753	2.235	2.235	-32127	10833	7370	40441	18739	5699	24438	No	2.79	Si
SLU 77	3.47	-659.36	-22970	-19128	-8753	2.235	2.235	-30565	10833	7109	40441	18739	5699	24438	No	2.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	2.67	-8969.19	-29087	-24222	-12827	2.235	2.235	-38705	16250	10169	40441	28109	5699	33808		2.64	Si
SLV 5	3.47	1288.89	-28037	-23347	-12910	2.235	2.235	-37307	16250	10169	40441	28109	5699	33808		2.62	Si
SLD 13	2.67	-7017.03	-18857	-15702	-13292	2.235	2.235	-25092	15435	9659	40441	28109	5699	33808		2.54	Si
SLD 13	3.47	3783.27	-18003	-14991	-13245	2.235	2.235	-23955	15208	9517	40441	28109	5699	33808		2.55	Si
SLD 10	2.67	-7701.12	-23465	-19540	-11862	2.235	2.235	-31223	16250	10169	40441	28109	5699	33808		2.85	Si
SLD 10	3.47	1869.98	-22506	-18741	-11881	2.235	2.235	-29948	16250	10169	40441	28109	5699	33808		2.85	Si
SLV 14	2.67	-7506.92	-19724	-16425	-15040	2.235	2.2107	-26246	15666	9697	40441	28109	5699	33808		2.25	Si
SLV 14	3.47	4741.73	-18894	-15733	-14964	2.235	2.235	-25141	15445	9665	40441	28109	5699	33808		2.26	Si
SLV 10	2.67	-9370.52	-28581	-23800	-15773	2.235	2.235	-38031	16250	10169	40441	28109	5699	33808		2.14	Si
SLV 10	3.47	3329.9	-27593	-22977	-15801	2.235	2.235	-36716	16250	10169	40441	28109	5699	33808		2.14	Si
SLV 9	2.67	-9755.39	-29232	-24342	-17495	2.235	2.235	-38897	16250	10169	40441	28109	5699	33808		1.93	Si
SLV 9	3.47	4322.45	-28244	-23519	-17523	2.235	2.235	-37582	16250	10169	40441	28109	5699	33808		1.93	Si
SLD 14	2.67	-6654.3	-18244	-15192	-11670	2.235	2.235	-24276	15272	9557	40441	28109	5699	33808		2.9	Si
SLD 14	3.47	2847.84	-17390	-14481	-11622	2.235	2.235	-23139	15045	9415	40441	28109	5699	33808		2.91	Si
SLV 13	2.67	-8078.67	-20691	-17229	-17598	2.235	2.1811	-27532	15923	9725	40441	28109	5699	33808		1.92	Si
SLV 13	3.47	6216.21	-19860	-16538	-17522	2.235	2.235	-26427	15702	9826	40441	28109	5699	33808		1.93	Si
SLV 15	2.67	-5775.19	-13090	-10901	-12659	2.235	2.029	-19349	14286	8116	40441	28109	5699	33808		2.67	Si
SLV 15	3.47	4599.34	-12333	-10270	-12550	2.235	2.2337	-16411	13699	8568	40441	28109	5699	33808		2.69	Si
SLD 9	2.67	-7934.68	-23860	-19868	-12907	2.235	2.235	-31749	16250	10169	40441	28109	5699	33808		2.62	Si
SLD 9	3.47	2472.31	-22901	-19070	-12926	2.235	2.235	-30473	16250	10169	40441	28109	5699	33808		2.62	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	4433	-2774	196.77	377.11	1.92	Si
SLV 11	179667	0.3	4935	-3089	196.77	418.43	2.13	Si
SLV 8	179667	0.3	5153	-3225	196.77	436.21	2.22	Si
SLV 7	179667	0.3	5655	-3539	196.77	477.11	2.42	Si
SLV 16	179667	0.3	14808	-9267	196.77	1171.56	5.95	Si
SLV 15	179667	0.3	15554	-9734	196.77	1223.95	6.22	Si
SLV 4	179667	0.3	17207	-10768	196.77	1337.67	6.8	Si
SLV 3	179667	0.3	17953	-11235	196.77	1388	7.05	Si
SLV 14	179667	0.3	24525	-15348	196.77	1803.62	9.17	Si
SLV 13	179667	0.3	25271	-15815	196.77	1847.7	9.39	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-20262	-13126	-391	0.586	2387.5	0.96	8.87784	3.93621	Si
SLV 6	-20055	-13094	-391	0.591	2366.4	0.959	8.95816	3.93621	Si
SLV 9	-19621	-12248	-445	0.6	2322.3	0.959	9.09461	3.93621	Si
SLV 10	-19414	-12216	-445	0.605	2301.3	0.958	9.17954	3.93621	Si
SLV 1	-15475	-10175	-21	0.757	1901	0.95	11.5709	4.67428	Si
SLV 2	-15168	-10128	-22	0.77	1869.8	0.95	11.77509	4.67428	Si
SLV 13	-13340	-7251	-203	0.845	1684.4	0.945	12.988	4.67428	Si
SLV 14	-13033	-7203	-203	0.861	1653.2	0.944	13.25202	4.67428	Si
SLV 3	-10688	-6762	240	1.009	1415.8	0.936	15.66403	4.67428	Si
SLV 4	-10381	-6715	240	1.033	1384.7	0.935	16.05678	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.652	SLU 83	Si
V_SLU	2.761	SLU 84	Si
PF_SLV	0.754	SLV 8	No
V_SLV	1.921	SLV 13	Si
PFFP_SLV	1.917	SLV 12	Si
R_SLV	2.255	SLV 5	Si

Maschio 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.263	-3.169	-18.793	-3.169	L4	L5	0.53	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	2.67	-349.55	-10725	-0.0001904	0.0003743	0.0035	0.53	824.64	1468.35	1468.35	4.2	No	Si
SLU 74	3.47	582.5	-11306	-0.0002481	0.0003743	0.0035	0.53	754.16	1451.24	1451.24	2.49	No	Si
SLU 83	2.67	-352.14	-11125	-0.0001988	0.0003743	0.0035	0.53	777.29	1469.03	1469.03	4.17	No	Si
SLU 83	3.47	581.15	-11743	-0.000259	0.0003743	0.0035	0.53	693.24	1446	1446	2.49	No	Si
SLU 69	2.67	-341.57	-9697	-0.00017	0.0003743	0.0035	0.53	920.46	1463.43	1463.43	4.28	No	Si
SLU 69	3.47	577.98	-10188	-0.0002218	0.0003743	0.0035	0.53	879.32	1461.4	1461.4	2.53	No	Si
SLU 81	2.67	-349.03	-11022	-0.0001962	0.0003743	0.0035	0.53	790.04	1468.78	1468.78	4.21	No	Si
SLU 81	3.47	574.7	-11633	-0.0002546	0.0003743	0.0035	0.53	709.14	1447.28	1447.28	2.52	No	Si
SLU 84	2.67	-343.07	-11203	-0.0001987	0.0003743	0.0035	0.53	767.44	1469.26	1469.26	4.28	No	Si
SLU 84	3.47	577.86	-11796	-0.0002596	0.0003743	0.0035	0.53	685.34	1445.38	1445.38	2.5	No	Si
SLU 78	2.67	-343.59	-10906	-0.0001929	0.0003743	0.0035	0.53	803.93	1468.55	1468.55	4.27	No	Si
SLU 78	3.47	585.67	-11469	-0.0002528	0.0003743	0.0035	0.53	732.23	1449.24	1449.24	2.47	No	Si
SLU 75	2.67	-340.48	-10803	-0.0001903	0.0003743	0.0035	0.53	815.89	1468.41	1468.41	4.31	No	Si
SLU 75	3.47	579.21	-11359	-0.0002488	0.0003743	0.0035	0.53	747.08	1450.58	1450.58	2.5	No	Si
SLU 77	2.67	-352.67	-10828	-0.000193	0.0003743	0.0035	0.53	812.96	1468.44	1468.44	4.16	No	Si
SLU 77	3.47	588.95	-11415	-0.0002522	0.0003743	0.0035	0.53	739.52	1449.89	1449.89	2.46	No	Si
SLU 80	2.67	-341.43	-10822	-0.0001909	0.0003743	0.0035	0.53	813.73	1468.44	1468.44	4.3	No	Si
SLU 80	3.47	579.61	-11380	-0.0002494	0.0003743	0.0035	0.53	744.25	1450.32	1450.32	2.5	No	Si
SLU 79	2.67	-350.5	-10744	-0.000191	0.0003743	0.0035	0.53	822.54	1468.36	1468.36	4.19	No	Si
SLU 79	3.47	582.9	-11327	-0.0002487	0.0003743	0.0035	0.53	751.37	1450.98	1450.98	2.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	2.67	210.08	-4106	-0.0000676	0.0005615	0.0035	0.53		939.33	939.33	4.47		Si
SLV 8	3.47	-865.05	-4815	-0.0002366	0.0005615	0.0035	0.424		1140.31	1140.31	1.32		Si
SLV 13	2.67	-921.43	-5844	-0.0002269	0.0005615	0.0035	0.424		1320.24	1320.24	1.43		Si
SLV 13	3.47	1926.43	-6357	-0.0371842	0.0005615	0.0035	0.424		1332.01	1332.01	0.69		No
SLV 9	2.67	-716.02	-10451	-0.0002194	0.0005615	0.0035	0.53		1877.24	1877.24	2.62		Si
SLV 9	3.47	1704.96	-10489	-0.0006591	0.0005615	0.0035	0.53		1864.85	1864.85	1.09		Si
SLD 14	2.67	-579.02	-6458	-0.0001432	0.0005615	0.0035	0.53		1415.7	1415.7	2.44		Si
SLD 14	3.47	1174.73	-6886	-0.0003351	0.0005615	0.0035	0.53		1418.34	1418.34	1.21		Si
SLV 14	2.67	-767.28	-6080	-0.0001748	0.0005615	0.0035	0.53		1359.4	1359.4	1.77		Si
SLV 14	3.47	1620.87	-6551	-0.0135491	0.0005615	0.0035	0.424		1363.45	1363.45	0.84		No
SLV 16	2.67	-613.16	-3675	-0.0001457	0.0005615	0.0035	0.424		920.6	920.6	1.5		Si
SLV 16	3.47	1109.18	-4400	-0.0101961	0.0005615	0.0035	0.424		1000.51	1000.51	0.9		No
SLV 10	2.67	-612.26	-10610	-0.0002062	0.0005615	0.0035	0.53		1893.04	1893.04	3.09		Si
SLV 10	3.47	1499.27	-10619	-0.0004329	0.0005615	0.0035	0.53		1880.28	1880.28	1.25		Si
SLV 15	2.67	-767.31	-3440	-0.0003737	0.0005615	0.0035	0.424		871.85	871.85	1.14		Si
SLV 15	3.47	1414.75	-4207	-0.0366536	0.0005615	0.0035	0.424		960.11	960.11	0.68		No
SLD 13	2.67	-676.81	-6309	-0.0001573	0.0005615	0.0035	0.53		1394.92	1394.92	2.06		Si
SLD 13	3.47	1368.59	-6763	-0.000857	0.0005615	0.0035	0.53		1398.16	1398.16	1.02		Si
SLD 15	2.67	-586.88	-4899	-0.0001297	0.0005615	0.0035	0.53		1155.73	1155.73	1.97		Si
SLD 15	3.47	1068.44	-5506	-0.0003676	0.0005615	0.0035	0.53		1195.45	1195.45	1.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	2.67	-349.03	-11022	-9178	-1218	0.53	0.53	-61848	10833	2924	40441	4444	1351	5795	No	4.76	Si
SLU 81	3.47	574.7	-11633	-9687	-1216	0.53	0.53	-65278	10833	3059	40441	4444	1351	5795	No	4.77	Si
SLU 79	2.67	-350.5	-10744	-8947	-1228	0.53	0.53	-60286	10833	2862	40441	4444	1351	5795	No	4.72	Si
SLU 79	3.47	582.9	-11327	-9432	-1226	0.53	0.53	-63557	10833	2991	40441	4444	1351	5795	No	4.73	Si
SLU 80	2.67	-341.43	-10822	-9011	-1211	0.53	0.53	-60723	10833	2879	40441	4444	1351	5795	No	4.79	Si
SLU 80	3.47	579.61	-11380	-9476	-1209	0.53	0.53	-63857	10833	3003	40441	4444	1351	5795	No	4.79	Si
SLU 74	2.67	-349.55	-10725	-8931	-1226	0.53	0.53	-60181	10833	2858	40441	4444	1351	5795	No	4.73	Si
SLU 74	3.47	582.5	-11306	-9414	-1224	0.53	0.53	-63438	10833	2987	40441	4444	1351	5795	No	4.73	Si
SLU 84	2.67	-343.07	-11203	-9329	-1213	0.53	0.53	-62864	10833	2964	40441	4444	1351	5795	No	4.78	Si
SLU 84	3.47	577.86	-11796	-9823	-1211	0.53	0.53	-66193	10833	3096	40441	4444	1351	5795	No	4.78	Si
SLU 77	2.67	-352.67	-10828	-9017	-1238	0.53	0.53	-60760	10833	2881	40441	4444	1351	5795	No	4.68	Si
SLU 77	3.47	588.95	-11415	-9506	-1237	0.53	0.53	-64054	10833	3011	40441	4444	1351	5795	No	4.69	Si
SLU 78	2.67	-343.59	-10906	-9082	-1222	0.53	0.53	-61197	10833	2898	40441	4444	1351	5795	No	4.74	Si
SLU 78	3.47	585.67	-11469	-9550	-1220	0.53	0.53	-64353	10833	3023	40441	4444	1351	5795	No	4.75	Si
SLU 83	2.67	-352.14	-11125	-9264	-1230	0.53	0.53	-62428	10833	2947	40441	4444	1351	5795	No	4.71	Si
SLU 83	3.47	581.15	-11743	-9779	-1228	0.53	0.53	-65893	10833	3084	40441	4444	1351	5795	No	4.72	Si
SLU 75	2.67	-340.48	-10803	-8996	-1209	0.53	0.53	-60617	10833	2875	40441	4444	1351	5795	No	4.79	Si
SLU 75	3.47	579.21	-11359	-9459	-1207	0.53	0.53	-63738	10833	2998	40441	4444	1351	5795	No	4.8	Si
SLU 69	2.67	-341.57	-9697	-8075	-1204	0.53	0.53	-54411	10833	2629	40441	4444	1351	5795	No	4.81	Si
SLU 69	3.47	577.98	-10188	-8484	-1203	0.53	0.53	-57167	10833	2738	40441	4444	1351	5795	No	4.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	2.67	-716.02	-10451	-8703	-3060	0.53	0.53	-58643	16250	3035	40441	6666	1351	8017		2.62	Si
SLV 9	3.47	1704.96	-10489	-8734	-3086	0.53	0.3073	-58855	16250	3043	40441	6666	1351	8017		2.6	Si
SLV 14	2.67	-767.28	-6080	-5063	-3075	0.53	0.4164	-44548	16250	2064	40441	6666	1351	8017		2.61	Si
SLV 14	3.47	1620.87	-6551	-5455	-3072	0.424	0.0527	0	0	0	40441	5333	1081	6414		2.09	Si
SLD 15	2.67	-586.88	-4899	-4080	-2150	0.53	0.4356	-34064	16250	1982	40441	6666	1351	8017		3.73	Si
SLD 15	3.47	1068.44	-5506	-4585	-2135	0.53	0.2128	-30894	16250	1937	40441	6666	1351	8017		3.75	Si
SLD 13	2.67	-676.81	-6309	-5253	-2629	0.53	0.4732	-40569	16250	2153	40441	6666	1351	8017		3.05	Si
SLD 13	3.47	1368.59	-6763	-5632	-2625	0.53	0.1879	-126413	16250	2216	40441	6666	1351	8017		3.05	Si
SLV 13	2.67	-921.43	-5844	-4866	-3652	0.424	0.322	0	0	0	40441	5333	1081	6414		1.76	Si
SLV 13	3.47	1926.43	-6357	-5294	-3649	0.424	0	0	0	0	40441	5333	1081	6414		1.76	Si
SLD 14	2.67	-579.02	-6458	-5378	-2263	0.53	0.526	-36240	16250	2393	40441	6666	1351	8017		3.54	Si
SLD 14	3.47	1174.73	-6886	-5734	-2259	0.53	0.2832	-38642	16250	2244	40441	6666	1351	8017		3.55	Si
SLV 16	2.67	-613.16	-3675	-3060	-2258	0.424	0.2945	0	0	0	40441	5333	1081	6414		2.84	Si
SLV 16	3.47	1109.18	-4400	-3664	-2237	0.424	0.0388	0	0	0	40441	5333	1081	6414		2.87	Si
SLV 15	2.67	-767.31	-3440	-2864	-2836	0.424	0.1257	0	0	0	40441	5333	1081	6414		2.26	Si
SLV 15	3.47	1414.75	-4207	-3503	-2814	0.424	0	0	0	0	40441	5333	1081	6414		2.28	Si
SLV 10	2.67	-612.26	-10610	-8835	-2672	0.53	0.53	-59534	16250	3070	40441	6666	1351	8017		3	Si
SLV 10	3.47	1499.27	-10619	-8843	-2697	0.53	0.3714	-59587	16250	3072	40441	6666	1351	8017		2.97	Si
SLD 9	2.67	-533.34	-9100	-7578	-2196	0.53	0.53	-51062	16250	2735	40441	6666	1351	8017		3.65	Si
SLD 9	3.47	1193.1	-9272	-7721	-2210	0.53	0.409	-52027	16250	2773	40441	6666	1351	8017		3.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	10257	-1522	46.66	198.78	4.26	Si
SLV 11	179667	0.3	10952	-1625	46.66	211.21	4.53	Si
SLV 8	179667	0.3	14424	-2141	46.66	271.37	5.82	Si
SLV 7	179667	0.3	15119	-2244	46.66	283.01	6.07	Si
SLV 16	179667	0.3	26210	-3890	46.66	451.09	9.67	Si
SLV 15	179667	0.3	27243	-4043	46.66	465.03	9.97	Si
SLV 4	179667	0.3	40100	-5951	46.66	614.36	13.17	Si
SLV 3	179667	0.3	41133	-6104	46.66	624.4	13.38	Si
SLV 14	179667	0.3	44196	-6559	46.66	652.49	13.98	Si
SLV 13	179667	0.3	45229	-6712	46.66	661.38	14.17	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-2931	-16351	15	0.909	375.9	0.942	14.02353	3.93621	Si
SLV 6	-2921	-16095	14	0.912	374.8	0.942	14.06694	3.93621	Si
SLV 1	-2311	-12052	10	1.104	313.1	0.933	17.19936	4.67428	Si
SLV 2	-2295	-11672	9	1.11	311.6	0.932	17.29716	4.67428	Si
SLV 9	-2779	-15847	11	0.951	360.5	0.94	14.69652	3.93621	Si
SLV 10	-2769	-15591	11	0.953	359.5	0.94	14.74425	3.93621	Si
SLV 13	-1805	-10372	-2	1.342	262.1	0.922	21.13939	4.67428	Si
SLV 14	-1789	-9992	-2	1.35	260.6	0.922	21.28501	4.67428	Si
SLV 3	-1625	-7810	2	1.453	244.1	0.918	22.9935	4.67428	Si
SLV 4	-1610	-7429	2	1.463	242.5	0.918	23.16861	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.462	SLU 77	Si
V_SLU	4.68	SLU 77	Si
PF_SLV	0.679	SLV 15	No
V_SLV	1.756	SLV 13	Si
PFFP_SLV	4.26	SLV 12	Si
R_SLV	3.563	SLV 5	Si

Maschio 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L4	L5	4.67	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.67	12375.1	-72302	-0.0001956	0.0004492	0.0035	4.6702	16033.18	112814.55	112814.55	9.12	No	Si
SLU 83	4.35	-3802.34	-43525	-0.0000973	0.0004492	0.0035	4.6702	46261.77	90735.65	90735.65	23.86	No	Si
SLU 81	0.67	12138.59	-71215	-0.0001917	0.0004492	0.0035	4.6702	18054.85	111828.21	111828.21	9.21	No	Si
SLU 81	4.35	-3766.41	-42742	-0.0000955	0.0004492	0.0035	4.6702	46407.8	89658.4	89658.4	23.8	No	Si
SLU 77	0.67	12301.94	-71472	-0.000193	0.0004492	0.0035	4.6702	17582.61	112061.66	112061.66	9.11	No	Si
SLU 77	4.35	-3640.6	-43119	-0.000096	0.0004492	0.0035	4.6702	46342.01	90176.78	90176.78	24.77	No	Si
SLU 79	0.67	12197.49	-70933	-0.0001911	0.0004492	0.0035	4.6702	18568.66	111572.02	111572.02	9.15	No	Si
SLU 79	4.35	-3615.04	-42743	-0.0000951	0.0004492	0.0035	4.6702	46407.65	89659.69	89659.69	24.8	No	Si
SLU 84	0.67	12296.23	-71868	-0.0001941	0.0004492	0.0035	4.6702	16849.31	112420.42	112420.42	9.14	No	Si
SLU 84	4.35	-3819.09	-43347	-0.000097	0.0004492	0.0035	4.6702	46298.22	90490.02	90490.02	23.69	No	Si
SLU 75	0.67	11986.56	-69951	-0.0001877	0.0004492	0.0035	4.6702	20319	110681.2	110681.2	9.23	No	Si
SLU 75	4.35	-3621.43	-42157	-0.0000938	0.0004492	0.0035	4.6702	46493.47	88853.91	88853.91	24.54	No	Si
SLU 82	0.67	12059.72	-70781	-0.0001902	0.0004492	0.0035	4.6702	18843.37	111434.09	111434.09	9.24	No	Si
SLU 82	4.35	-3783.17	-42564	-0.0000951	0.0004492	0.0035	4.6702	46436.08	89412.78	89412.78	23.63	No	Si
SLU 74	0.67	12065.43	-70385	-0.0001892	0.0004492	0.0035	4.6702	19551.55	111075.32	111075.32	9.21	No	Si
SLU 74	4.35	-3604.67	-42336	-0.0000941	0.0004492	0.0035	4.6702	46469.43	89099.53	89099.53	24.72	No	Si
SLU 80	0.67	12118.62	-70498	-0.0001896	0.0004492	0.0035	4.6702	19350.01	111177.9	111177.9	9.17	No	Si
SLU 80	4.35	-3631.8	-42564	-0.0000947	0.0004492	0.0035	4.6702	46435.93	89414.06	89414.06	24.62	No	Si
SLU 78	0.67	12223.07	-71038	-0.0001915	0.0004492	0.0035	4.6702	18377.66	111667.53	111667.53	9.14	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	4.35	-3657.36	-42940	-0.0000956	0.0004492	0.0035	4.6702	46374.22	89931.15	89931.15	24.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	0.67	14771.38	-64934	-0.0001716	0.0006738	0.0035	4.6702		114224.93	114224.93	7.73		Si
SLD 12	4.35	459.42	-35993	-0.0000702	0.0006738	0.0035	4.6702		72181.25	72181.25	157.11		Si
SLV 10	0.67	-3536.29	-13976	-0.0000347	0.0006738	0.0035	4.6702		42520.41	42520.41	12.02		Si
SLV 10	4.35	-5670.56	-13846	-0.0000396	0.0006738	0.0035	4.6702		42252.87	42252.87	7.45		Si
SLV 5	0.67	-2989.06	-19766	-0.0000445	0.0006738	0.0035	4.6702		53967.79	53967.79	18.06		Si
SLV 5	4.35	-7134.92	-16367	-0.0000481	0.0006738	0.0035	4.6702		47273.31	47273.31	6.63		Si
SLV 9	0.67	-3336.73	-13291	-0.0000329	0.0006738	0.0035	4.6702		41104.04	41104.04	12.32		Si
SLV 9	4.35	-5910.88	-13440	-0.0000395	0.0006738	0.0035	4.6702		41412.16	41412.16	7.01		Si
SLV 6	0.67	-3188.61	-20451	-0.0000463	0.0006738	0.0035	4.6702		55277.2	55277.2	17.34		Si
SLV 6	4.35	-6894.6	-16774	-0.0000483	0.0006738	0.0035	4.6702		48074.19	48074.19	6.97		Si
SLD 11	0.67	14892.48	-64519	-0.000171	0.0006738	0.0035	4.6702		113671.62	113671.62	7.63		Si
SLD 11	4.35	313.58	-35746	-0.0000693	0.0006738	0.0035	4.6702		71761.45	71761.45	228.84		Si
SLV 8	0.67	19781.39	-83415	-0.0002317	0.0006738	0.0035	4.6702		132983.99	132983.99	6.72		Si
SLV 8	4.35	1183.02	-44139	-0.0000886	0.0006738	0.0035	4.6702		86040.44	86040.44	72.73		Si
SLV 12	0.67	19433.72	-76939	-0.0002143	0.0006738	0.0035	4.6702		126914.36	126914.36	6.53		Si
SLV 12	4.35	2407.06	-41212	-0.0000858	0.0006738	0.0035	4.6702		81060.43	81060.43	33.68		Si
SLV 7	0.67	19980.95	-82730	-0.0002306	0.0006738	0.0035	4.6702		132341.85	132341.85	6.62		Si
SLV 7	4.35	942.7	-43733	-0.0000871	0.0006738	0.0035	4.6702		85348.67	85348.67	90.54		Si
SLV 11	0.67	19633.28	-76254	-0.0002132	0.0006738	0.0035	4.6702		126272.22	126272.22	6.43		Si
SLV 11	4.35	2166.74	-40805	-0.0000844	0.0006738	0.0035	4.6702		80368.66	80368.66	37.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.67	12223.07	-71038	-39387	-6135	4.6702	4.6702	-60242	10833	19531	115546	23497	23818	47314	No	7.71	Si
SLU 78	4.35	-3657.36	-42940	-23809	-4192	4.6702	4.6702	-36414	10833	13300	115546	23497	23818	47314	No	11.29	Si
SLU 84	0.67	12296.23	-71868	-39847	-6192	4.6702	4.6702	-60945	10833	19715	115546	23497	23818	47314	No	7.64	Si
SLU 84	4.35	-3819.09	-43347	-24034	-4211	4.6702	4.6702	-36759	10833	13390	115546	23497	23818	47314	No	11.24	Si
SLU 82	0.67	12059.72	-70781	-39245	-6173	4.6702	4.6702	-60024	10833	19474	115546	23497	23818	47314	No	7.67	Si
SLU 82	4.35	-3783.17	-42564	-23600	-4224	4.6702	4.6702	-36095	10833	13216	115546	23497	23818	47314	No	11.2	Si
SLU 73	0.67	11593.03	-68035	-37722	-6322	4.6702	4.6702	-57695	10833	18865	115546	23497	23818	47314	No	7.48	Si
SLU 73	4.35	-3571.11	-40879	-22666	-4442	4.6702	4.6702	-34666	10833	12843	115546	23497	23818	47314	No	10.65	Si
SLU 75	0.67	11986.56	-69951	-38785	-6116	4.6702	4.6702	-59320	10833	19290	115546	23497	23818	47314	No	7.74	Si
SLU 75	4.35	-3621.43	-42157	-23374	-4205	4.6702	4.6702	-35750	10833	13126	115546	23497	23818	47314	No	11.25	Si
SLU 65	0.67	10626.76	-62303	-34544	-6084	4.6702	4.6702	-52834	10833	17594	115546	23497	23818	47314	No	7.78	Si
SLU 65	4.35	-3050.24	-37226	-20640	-4402	4.6702	4.6702	-31568	10833	12033	115546	23497	23818	47314	No	10.75	Si
SLU 55	0.67	10331.24	-61081	-33867	-6063	4.6702	4.6702	-51798	10833	17323	115546	23497	23818	47314	No	7.8	Si
SLU 55	4.35	-3107.66	-36573	-20278	-4382	4.6702	4.6702	-31015	10833	11888	115546	23497	23818	47314	No	10.8	Si
SLU 76	0.67	11829.53	-69122	-38325	-6341	4.6702	4.6702	-58617	10833	19106	115546	23497	23818	47314	No	7.46	Si
SLU 76	4.35	-3607.04	-41662	-23100	-4429	4.6702	4.6702	-35330	10833	13017	115546	23497	23818	47314	No	10.68	Si
SLU 80	0.67	12118.62	-70498	-39088	-6110	4.6702	4.6702	-59784	10833	19412	115546	23497	23818	47314	No	7.74	Si
SLU 80	4.35	-3631.8	-42564	-23600	-4180	4.6702	4.6702	-36096	10833	13217	115546	23497	23818	47314	No	11.32	Si
SLU 68	0.67	10863.27	-63390	-35147	-6103	4.6702	4.6702	-53756	10833	17835	115546	23497	23818	47314	No	7.75	Si
SLU 68	4.35	-3086.17	-38009	-21074	-4389	4.6702	4.6702	-32233	10833	12206	115546	23497	23818	47314	No	10.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	0.67	1450.53	-27621	-15315	-18922	4.6702	4.6702	-23423	16250	11791	115546	35245	23818	59063		3.12	Si
SLD 9	4.35	-4403.22	-19710	-10928	-16332	4.6702	4.6702	-16715	15843	10358	115546	35245	23818	59063		3.62	Si
SLD 5	0.67	1673.29	-31771	-17616	-19426	4.6702	4.6702	-26942	16250	12711	115546	35245	23818	59063		3.04	Si
SLD 5	4.35	-5187.28	-21586	-11969	-16465	4.6702	4.6702	-18306	16161	10567	115546	35245	23818	59063		3.59	Si
SLV 8	0.67	19781.39	-83415	-46250	20919	4.6702	4.6702	-70737	16250	24165	115546	35245	23818	59063		2.82	Si
SLV 8	4.35	1183.02	-44139	-24473	19924	4.6702	4.6702	-37431	16250	15454	115546	35245	23818	59063		2.96	Si
SLV 6	0.67	-3188.61	-20451	-11339	-29232	4.6702	4.6702	-17343	15969	10441	115546	35245	23818	59063		2.02	Si
SLV 6	4.35	-6894.6	-16774	-9300	-25336	4.6702	4.6702	-14224	15345	10033	115546	35245	23818	59063		2.33	Si
SLV 10	0.67	-3536.29	-13976	-7749	-28443	4.6702	4.6702	-11852	14870	9723	115546	35245	23818	59063		2.08	Si
SLV 10	4.35	-5670.56	-13846	-7677	-25128	4.6702	4.6702	-11742	14848	9708	115546	35245	23818	59063		2.35	Si
SLV 9	0.67	-3336.73	-13291	-7369	-29327	4.6702	4.6702	-11271	14754	9647	115546	35245	23818	59063		2.01	Si
SLV 9	4.35	-5910.88	-13440	-7452	-25792	4.6702	4.6702	-11397	14779	9663	115546	35245	23818	59063		2.29	Si
SLV 12	0.67	19433.72	-76939	-42659	21708	4.6702	4.6702	-65246	16250	22729	115546	35245	23818	59063		2.72	Si
SLV 12	4.35	2407.06	-41212	-22850	20131	4.6702	4.6702	-34949	16250	14805	115546	35245	23818	59063		2.93	Si
SLV 11	0.67	19633.28	-76254	-42280	20825	4.6702	4.6702	-64665	16250	22577	115546	35245	23818	59063		2.84	Si
SLV 11	4.35	2166.74	-40805	-22625	19468	4.6702	4.6702	-34604	16250	14715	115546	35245	23818	59063		3.03	Si
SLV 7	0.67	19980.95	-82730	-45870	20036	4.6702	4.6702	-70157	16250	24013	115546	35245	23818	59063		2.95	Si
SLV 7	4.35	942.7	-43733	-24248	19260	4.6702	4.6702	-37086	16250	15364	115546	35245	23818	59063		3.07	Si
SLV 5	0.67	-2989.06	-19766	-10959	-30116	4.6702	4.6702	-16762	15852	10365	115546	35245	23818	59063		1.96	Si
SLV 5	4.35	-7134.92	-16367	-9075	-26000	4.6702	4.6702	-13880	15276	9988	115546	35245	23818	59063		2.27	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-16131	0.3	223.73	977.16	1674.33	1325.75	5.93	Si
SLV 10	-16599	0.3	223.73	1000.98	1712.94	1356.96	6.07	Si
SLV 5	-20664	0.3	223.73	1197.06	2046.89	1621.98	7.25	Si
SLV 6	-21132	0.3	223.73	1218.4	2085.33	1651.87	7.38	Si
SLV 13	-24702	0.3	223.73	1372.72	2372.12	1872.42	8.37	Si
SLV 14	-25398	0.3	223.73	1401.05	2427.93	1914.49	8.56	Si
SLV 15	-36680	0.3	223.73	1781.68	3316.3	2548.99	11.39	Si
SLV 16	-37376	0.3	223.73	1800.28	3369.48	2584.88	11.55	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-39814	0.3	223.73	1861.02	3556.05	2708.53	12.11	Si
SLV 2	-40509	0.3	223.73	1877.07	3609.31	2743.19	12.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-38075	-69098	-324	0.664	4215.4	0.975	9.89385	8.49483	Si
SLV 3	-37471	-68081	-324	0.674	4153.9	0.975	10.04391	8.49483	Si
SLV 2	-29866	-50209	-318	0.829	3379.4	0.969	12.43309	8.49483	Si
SLV 8	-44139	-83415	-108	0.584	4833.2	0.978	8.67811	5.8758	Si
SLV 7	-43733	-82730	-108	0.589	4791.7	0.978	8.7541	5.8758	Si
SLV 1	-29261	-49192	-318	0.845	3317.9	0.969	12.6735	8.49483	Si
SLV 16	-28317	-47514	316	0.871	3221.8	0.968	13.06947	8.49483	Si
SLV 15	-27713	-46496	316	0.888	3160.3	0.967	13.33585	8.49483	Si
SLV 12	-41212	-76939	84	0.623	4534.9	0.977	9.26556	5.8758	Si
SLV 11	-40805	-76254	84	0.628	4493.5	0.977	9.35249	5.8758	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.109	SLU 77	Si
V_SLU	7.461	SLU 76	Si
PF_SLV	6.432	SLV 11	Si
V_SLV	1.961	SLV 5	Si
PFFP_SLV	5.926	SLV 9	Si
R_SLV	1.165	SLV 4	Si

Maschio 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-19.618	6.661	L4	L5	0.71	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	0.67	-933.18	-15182	-0.000236	0.0003743	0.0035	0.71	1346.82	2637.86	2637.86	2.83	No	Si
SLU 73	4.35	766.64	-7722	-0.0001209	0.0003743	0.0035	0.71	1695.46	2019.42	2019.42	2.63	No	Si
SLU 76	0.67	-951.69	-15465	-0.0002431	0.0003743	0.0035	0.71	1295.18	2637.44	2637.44	2.77	No	Si
SLU 76	4.35	781.38	-7885	-0.0001239	0.0003743	0.0035	0.71	1708.67	2041.87	2041.87	2.61	No	Si
SLU 78	0.67	-979.96	-15981	-0.0002561	0.0003743	0.0035	0.71	1193.82	2635.3	2635.3	2.69	No	Si
SLU 78	4.35	797.67	-8192	-0.0001285	0.0003743	0.0035	0.71	1731.09	2084.67	2084.67	2.61	No	Si
SLU 81	0.67	-975.25	-16023	-0.0002563	0.0003743	0.0035	0.71	1185.11	2635.15	2635.15	2.7	No	Si
SLU 81	4.35	788.42	-8154	-0.0001273	0.0003743	0.0035	0.71	1728.5	2079.41	2079.41	2.64	No	Si
SLU 84	0.67	-993.24	-16161	-0.0002612	0.0003743	0.0035	0.71	1156.31	2634.69	2634.69	2.65	No	Si
SLU 84	4.35	810.74	-8220	-0.0001299	0.0003743	0.0035	0.71	1733	2088.61	2088.61	2.58	No	Si
SLU 83	0.67	-993.77	-16306	-0.0002642	0.0003743	0.0035	0.71	1125.13	2634.32	2634.32	2.65	No	Si
SLU 83	4.35	803.16	-8316	-0.0001303	0.0003743	0.0035	0.71	1739.25	2102.03	2102.03	2.62	No	Si
SLU 75	0.67	-961.45	-15698	-0.0002485	0.0003743	0.0035	0.71	1250.58	2636.6	2636.6	2.74	No	Si
SLU 75	4.35	782.92	-8029	-0.0001255	0.0003743	0.0035	0.71	1719.63	2062.01	2062.01	2.63	No	Si
SLU 82	0.67	-974.72	-15878	-0.0002535	0.0003743	0.0035	0.71	1214.84	2635.73	2635.73	2.7	No	Si
SLU 82	4.35	795.99	-8058	-0.0001269	0.0003743	0.0035	0.71	1721.7	2065.98	2065.98	2.6	No	Si
SLU 77	0.67	-980.5	-16126	-0.000259	0.0003743	0.0035	0.71	1163.56	2634.8	2634.8	2.69	No	Si
SLU 77	4.35	790.09	-8288	-0.0001289	0.0003743	0.0035	0.71	1737.44	2098.06	2098.06	2.66	No	Si
SLU 80	0.67	-970.57	-15845	-0.0002523	0.0003743	0.0035	0.71	1221.44	2635.88	2635.88	2.72	No	Si
SLU 80	4.35	791.08	-8112	-0.0001271	0.0003743	0.0035	0.71	1725.55	2073.55	2073.55	2.62	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	0.67	-410.8	1563	0.3863284	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	4.35	716.45	2126	0.4764667	0.0005615	0.0035	0.568		0	0	0		No
SLD 5	0.67	-757.22	-4326	-0.0000895	0.0005615	0.0035	0.71		1492.92	1492.92	1.97		Si
SLD 5	4.35	889.53	37	-0.0417517	0.0005615	0.0035	0.568		0	0	0		No
SLV 1	0.67	-1255.59	-9525	-0.0001696	0.0005615	0.0035	0.71		2710.35	2710.35	2.16		Si
SLV 1	4.35	1250.9	-602	-0.0472343	0.0005615	0.0035	0.568		240.6	240.6	0.19		No
SLD 9	0.67	-536.91	-3416	-0.000063	0.0005615	0.0035	0.71		1231.76	1231.76	2.29		Si
SLD 9	4.35	683.04	-683	-0.0200327	0.0005615	0.0035	0.568		268.14	268.14	0.39		No
SLV 5	0.67	-820.77	270	0.0540813	0.0005615	0.0035	0.568		0	0	0		No
SLV 5	4.35	1136.48	3918	0.891754	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	0.67	-716.12	-4404	-0.0000849	0.0005615	0.0035	0.71		1515.03	1515.03	2.12		Si
SLD 6	4.35	830.28	-369	-0.0318161	0.0005615	0.0035	0.568		160.13	160.13	0.19		No
SLV 9	0.67	-478.52	1692	0.4187473	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	4.35	814.09	2794	0.6356496	0.0005615	0.0035	0.568		0	0	0		No
SLD 10	0.67	-495.81	-3495	-0.0000596	0.0005615	0.0035	0.71		1255.23	1255.23	2.53		Si
SLD 10	4.35	623.79	-1088	-0.0115989	0.0005615	0.0035	0.568		405.06	405.06	0.65		No
SLV 2	0.67	-1154.99	-9717	-0.0001625	0.0005615	0.0035	0.71		2741.49	2741.49	2.37		Si
SLV 2	4.35	1105.85	-1595	-0.0255542	0.0005615	0.0035	0.568		572.55	572.55	0.52		No
SLV 6	0.67	-753.05	141	-0.002074	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	4.35	1038.84	3250	0.7327751	0.0005615	0.0035	0.568		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.67	-974.72	-15878	-13222	-1662	0.71	0.71	-66507	10833	4164	40441	5953	1810	7763	No	4.67	Si
SLU 82	4.35	795.99	-8058	-6710	-4221	0.71	0.71	-33751	10833	2427	40441	5953	1810	7763	No	1.84	Si
SLU 84	0.67	-993.24	-16161	-13457	-1700	0.71	0.71	-67692	10833	4226	40441	5953	1810	7763	No	4.57	Si
SLU 84	4.35	810.74	-8220	-6845	-4302	0.71	0.71	-34432	10833	2463	40441	5953	1810	7763	No	1.8	Si
SLU 79	0.67	-971.1	-15990	-13315	-1624	0.71	0.71	-66979	10833	4189	40441	5953	1810	7763	No	4.78	Si
SLU 79	4.35	783.5	-8208	-6835	-4143	0.71	0.71	-34380	10833	2461	40441	5953	1810	7763	No	1.87	Si
SLU 77	0.67	-980.5	-16126	-13429	-1644	0.71	0.71	-67548	10833	4219	40441	5953	1810	7763	No	4.72	Si
SLU 77	4.35	790.09	-8288	-6902	-4181	0.71	0.71	-34716	10833	2478	40441	5953	1810	7763	No	1.86	Si
SLU 78	0.67	-979.96	-15981	-13308	-1677	0.71	0.71	-66939	10833	4187	40441	5953	1810	7763	No	4.63	Si
SLU 78	4.35	797.67	-8192	-6821	-4232	0.71	0.71	-34313	10833	2457	40441	5953	1810	7763	No	1.83	Si
SLU 75	0.67	-961.45	-15698	-13072	-1638	0.71	0.71	-65754	10833	4124	40441	5953	1810	7763	No	4.74	Si
SLU 75	4.35	782.92	-8029	-6686	-4151	0.71	0.71	-33632	10833	2421	40441	5953	1810	7763	No	1.87	Si
SLU 81	0.67	-975.25	-16023	-13343	-1629	0.71	0.71	-67116	10833	4196	40441	5953	1810	7763	No	4.77	Si
SLU 81	4.35	788.42	-8154	-6790	-4170	0.71	0.71	-34154	10833	2449	40441	5953	1810	7763	No	1.86	Si
SLU 76	0.67	-951.69	-15465	-12878	-1641	0.71	0.71	-64779	10833	4072	40441	5953	1810	7763	No	4.73	Si
SLU 76	4.35	781.38	-7885	-6566	-4147	0.71	0.71	-33027	10833	2389	40441	5953	1810	7763	No	1.87	Si
SLU 80	0.67	-970.57	-15845	-13194	-1657	0.71	0.71	-66370	10833	4156	40441	5953	1810	7763	No	4.68	Si
SLU 80	4.35	791.08	-8112	-6755	-4194	0.71	0.71	-33977	10833	2439	40441	5953	1810	7763	No	1.85	Si
SLU 83	0.67	-993.77	-16306	-13578	-1667	0.71	0.71	-68301	10833	4259	40441	5953	1810	7763	No	4.66	Si
SLU 83	4.35	803.16	-8316	-6925	-4251	0.71	0.71	-34835	10833	2485	40441	5953	1810	7763	No	1.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.67	-410.8	1563	1302	-2402	0.568	0.2766	0	0	0	40441	7144	1448	8592		3.58	Si
SLV 10	4.35	716.45	2126	1770	-4852	0.568	0.054	0	0	0	40441	7144	1448	8592		1.77	Si
SLD 6	0.67	-716.12	-4404	-3667	-2864	0.71	0.5772	-22955	15008	2425	40441	8929	1810	10740		3.75	Si
SLD 6	4.35	830.28	-369	-307	-5354	0.568	0	0	0	0	40441	7144	1448	8592		1.6	Si
SLD 5	0.67	-757.22	-4326	-3602	-3156	0.71	0.5398	-24124	15242	2304	40441	8929	1810	10740		3.4	Si
SLD 5	4.35	889.53	37	30	-5777	0.568	0	0	0	0	40441	7144	1448	8592		1.49	Si
SLV 6	0.67	-753.05	141	118	-4081	0.568	0	0	0	0	40441	7144	1448	8592		2.11	Si
SLV 6	4.35	1038.84	3250	2706	-7123	0.568	0.1061	0	0	0	40441	7144	1448	8592		1.21	Si
SLD 1	0.67	-1037.17	-10153	-8455	-3492	0.71	0.71	-42529	16250	3230	40441	8929	1810	10740		3.08	Si
SLD 1	4.35	980.28	-2522	-2100	-6112	0.568	0	0	0	0	40441	7144	1448	8592		1.41	Si
SLV 1	0.67	-1255.59	-9525	-7932	-4932	0.71	0.6695	-43372	16250	3072	40441	8929	1810	10740		2.18	Si
SLV 1	4.35	1250.9	-602	-502	-8112	0.568	0	0	0	0	40441	7144	1448	8592		1.06	Si
SLV 5	0.67	-820.77	270	225	-4562	0.568	0	0	0	0	40441	7144	1448	8592		1.88	Si
SLV 5	4.35	1136.48	3918	3262	-7821	0.568	0.1948	0	0	0	40441	7144	1448	8592		1.1	Si
SLV 9	0.67	-478.52	1692	1409	-2883	0.568	0.2167	0	0	0	40441	7144	1448	8592		2.98	Si
SLV 9	4.35	814.09	2794	2326	-5550	0.568	0.1908	0	0	0	40441	7144	1448	8592		1.55	Si
SLV 2	0.67	-1154.99	-9717	-8091	-4217	0.71	0.7084	-40701	16250	3223	40441	8929	1810	10740		2.55	Si
SLV 2	4.35	1105.85	-1595	-1328	-7075	0.568	0	0	0	0	40441	7144	1448	8592		1.21	Si
SLV 3	0.67	-1271.95	-16526	-13761	-3470	0.71	0.71	-69222	16250	4627	40441	8929	1810	10740		3.09	Si
SLV 3	4.35	1006.26	-5740	-4780	-5945	0.71	0.5391	-24042	15225	2298	40441	8929	1810	10740		1.81	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.3	0	339	62.51	0	0	No, Trazione
SLV 5	179667	0.3	0	-366	62.51	0	0	No, e>t/2
SLV 10	179667	0.3	0	232	62.51	0	0	No, Trazione
SLV 6	179667	0.3	2377	-473	62.51	65.12	1.04	Si
SLV 13	179667	0.3	19389	-3854	62.51	471.12	7.54	Si
SLV 14	179667	0.3	20188	-4013	62.51	487.6	7.8	Si
SLV 1	179667	0.3	31197	-6202	62.51	690.91	11.05	Si
SLV 2	179667	0.3	31997	-6361	62.51	703.95	11.26	Si
SLV 15	179667	0.3	41122	-8175	62.51	836.33	13.38	Si
SLV 16	179667	0.3	41922	-8334	62.51	846.48	13.54	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-14999	-21772	104	0.288	1630.3	0.98	4.26533	3.93621	Si
SLV 11	-14331	-21643	102	0.299	1562.3	0.979	4.43627	3.93621	Si
SLV 8	-13875	-23195	107	0.307	1515.8	0.979	4.55569	3.93621	Si
SLV 7	-13207	-23065	104	0.32	1447.8	0.978	4.75503	3.93621	Si
SLV 16	-10479	-11977	25	0.396	1169.9	0.973	5.91732	4.67428	Si
SLV 15	-9486	-11785	22	0.432	1068.8	0.971	6.46143	4.67428	Si
SLV 4	-6732	-16717	33	0.577	788.5	0.961	8.71952	4.67428	Si
SLV 3	-5740	-16526	30	0.661	687.6	0.956	10.04419	4.67428	Si
SLV 14	-5341	-4976	-41	0.7	647.1	0.953	10.67182	4.67428	Si
SLV 13	-4349	-4785	-44	0.831	546.4	0.946	12.76037	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.576	SLU 84	Si
V_SLU	1.804	SLU 84	Si
PF_SLV	0	SLD 5	No
V_SLV	1.059	SLV 1	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.084	SLV 12	Si

Maschio 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.243	-3.169	-17.263	-3.169	L4	L5	1.02	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	1.57	1505.87	-20034	-0.0001946	0.0003743	0.0035	1.02	3177.75	5401.93	5401.93	3.59	No	Si
SLU 82	3.47	1376.18	-15377	-0.0001462	0.0003743	0.0035	1.02	3695.02	4980.1	4980.1	3.62	No	Si
SLU 78	1.57	1446.95	-19662	-0.000188	0.0003743	0.0035	1.02	3246.87	5408.09	5408.09	3.74	No	Si
SLU 78	3.47	1390.23	-15117	-0.0001447	0.0003743	0.0035	1.02	3701.49	4952.58	4952.58	3.56	No	Si
SLU 68	1.57	1219.4	-17353	-0.0001563	0.0003743	0.0035	1.02	3568.44	5188.98	5188.98	4.26	No	Si
SLU 68	3.47	1293.36	-13311	-0.0001264	0.0003743	0.0035	1.02	3680.93	4629.55	4629.55	3.58	No	Si
SLU 69	1.57	1240.77	-17524	-0.0001587	0.0003743	0.0035	1.02	3551	5208	5208	4.2	No	Si
SLU 69	3.47	1301.41	-13445	-0.0001278	0.0003743	0.0035	1.02	3686.37	4659.37	4659.37	3.58	No	Si
SLU 67	1.57	1225.72	-17425	-0.0001572	0.0003743	0.0035	1.02	3561.24	5196.95	5196.95	4.24	No	Si
SLU 67	3.47	1299.32	-13375	-0.0001272	0.0003743	0.0035	1.02	3683.61	4643.82	4643.82	3.57	No	Si
SLU 83	1.57	1520.91	-20133	-0.0001963	0.0003743	0.0035	1.02	3158.41	5400.32	5400.32	3.55	No	Si
SLU 83	3.47	1378.28	-15446	-0.0001469	0.0003743	0.0035	1.02	3692.89	4987.33	4987.33	3.62	No	Si
SLU 81	1.57	1508.12	-19945	-0.0001938	0.0003743	0.0035	1.02	3194.7	5403.38	5403.38	3.58	No	Si
SLU 81	3.47	1362.62	-15295	-0.000145	0.0003743	0.0035	1.02	3697.31	4971.42	4971.42	3.65	No	Si
SLU 84	1.57	1518.66	-20222	-0.0001971	0.0003743	0.0035	1.02	3140.88	5398.9	5398.9	3.56	No	Si
SLU 84	3.47	1391.83	-15528	-0.0001481	0.0003743	0.0035	1.02	3690.17	4995.61	4995.61	3.59	No	Si
SLU 72	1.57	1233.7	-17482	-0.000158	0.0003743	0.0035	1.02	3555.41	5203.27	5203.27	4.22	No	Si
SLU 72	3.47	1299.98	-13408	-0.0001274	0.0003743	0.0035	1.02	3684.94	4651.16	4651.16	3.58	No	Si
SLU 70	1.57	1238.52	-17613	-0.0001594	0.0003743	0.0035	1.02	3541.58	5217.89	5217.89	4.21	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	3.47	1314.97	-13527	-0.0001289	0.0003743	0.0035	1.02	3689.39	4677.72	4677.72	3.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	1.57	3716.53	-15819	-0.0002433	0.0005615	0.0035	1.02		5943.67	5943.67	1.6		Si
SLV 4	3.47	-1120.43	-7826	-0.0000785	0.0005615	0.0035	1.02		3694.24	3694.24	3.3		Si
SLV 16	1.57	-889.16	-5825	-0.0000592	0.0005615	0.0035	1.02		2907.28	2907.28	3.27		Si
SLV 16	3.47	1610.35	-6756	-0.0000929	0.0005615	0.0035	1.02		3030.32	3030.32	1.88		Si
SLV 8	1.57	2488.94	-6114	-0.0002535	0.0005615	0.0035	1.02		2781.38	2781.38	1.12		Si
SLV 8	3.47	-1299.31	-1510	-0.0015184	0.0005615	0.0035	0.816		985.22	985.22	0.76		No
SLV 12	1.57	1107.23	-3116	-0.0000741	0.0005615	0.0035	1.02		1568.15	1568.15	1.42		Si
SLV 12	3.47	-480.07	-1189	-0.0000396	0.0005615	0.0035	0.816		829.97	829.97	1.73		Si
SLV 7	1.57	2148.14	-5785	-0.0001651	0.0005615	0.0035	1.02		2654.71	2654.71	1.24		Si
SLV 7	3.47	-1040.58	-1789	-0.000507	0.0005615	0.0035	0.816		1118	1118	1.07		Si
SLV 13	1.57	-1795.84	-10587	-0.0001185	0.0005615	0.0035	1.02		4669.88	4669.88	2.6		Si
SLV 13	3.47	3021.08	-12320	-0.0001877	0.0005615	0.0035	1.02		4960.96	4960.96	1.64		Si
SLV 15	1.57	-1395.43	-5335	-0.0000793	0.0005615	0.0035	1.02		2702.02	2702.02	1.94		Si
SLV 15	3.47	1994.69	-7170	-0.0001178	0.0005615	0.0035	1.02		3192.73	3192.73	1.6		Si
SLV 3	1.57	3210.26	-15330	-0.0002096	0.0005615	0.0035	1.02		5838.26	5838.26	1.82		Si
SLV 3	3.47	-736.09	-8240	-0.0000682	0.0005615	0.0035	1.02		3847.37	3847.37	5.23		Si
SLV 14	1.57	-1289.56	-11076	-0.0001041	0.0005615	0.0035	1.02		4831.23	4831.23	3.75		Si
SLV 14	3.47	2636.74	-11906	-0.0001631	0.0005615	0.0035	1.02		4831.31	4831.31	1.83		Si
SLV 11	1.57	766.43	-2787	-0.0000426	0.0005615	0.0035	1.02		1416.94	1416.94	1.85		Si
SLV 11	3.47	-221.35	-1467	-0.0000143	0.0005615	0.0035	1.02		964.66	964.66	4.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	1.57	1449.2	-19574	-16299	1523	1.02	1.02	-57071	10833	5263	40441	8552	2601	11153	No	7.33	Si
SLU 77	3.47	1376.67	-15035	-12520	-892	1.02	1.02	-43836	10833	4255	40441	8552	2601	11153	No	12.5	Si
SLU 82	1.57	1505.87	-20034	-16682	1596	1.02	1.02	-58411	10833	5365	40441	8552	2601	11153	No	6.99	Si
SLU 82	3.47	1376.18	-15377	-12805	-858	1.02	1.02	-44834	10833	4331	40441	8552	2601	11153	No	13	Si
SLU 83	1.57	1520.91	-20133	-16765	1618	1.02	1.02	-58701	10833	5387	40441	8552	2601	11153	No	6.9	Si
SLU 83	3.47	1378.28	-15446	-12862	-859	1.02	1.02	-45037	10833	4346	40441	8552	2601	11153	No	12.99	Si
SLU 81	1.57	1508.12	-19945	-16608	1601	1.02	1.02	-58153	10833	5345	40441	8552	2601	11153	No	6.97	Si
SLU 81	3.47	1362.62	-15295	-12737	-843	1.02	1.02	-44596	10833	4313	40441	8552	2601	11153	No	13.23	Si
SLU 74	1.57	1436.4	-19386	-16143	1506	1.02	1.02	-56522	10833	5221	40441	8552	2601	11153	No	7.41	Si
SLU 74	3.47	1361.02	-14884	-12394	-876	1.02	1.02	-43395	10833	4221	40441	8552	2601	11153	No	12.73	Si
SLU 78	1.57	1446.95	-19662	-16373	1518	1.02	1.02	-57329	10833	5283	40441	8552	2601	11153	No	7.35	Si
SLU 78	3.47	1390.23	-15117	-12588	-908	1.02	1.02	-44075	10833	4273	40441	8552	2601	11153	No	12.29	Si
SLU 80	1.57	1442.13	-19531	-16264	1517	1.02	1.02	-56947	10833	5253	40441	8552	2601	11153	No	7.35	Si
SLU 80	3.47	1375.23	-14998	-12489	-895	1.02	1.02	-43730	10833	4247	40441	8552	2601	11153	No	12.46	Si
SLU 84	1.57	1518.66	-20222	-16839	1613	1.02	1.02	-58960	10833	5407	40441	8552	2601	11153	No	6.91	Si
SLU 84	3.47	1391.83	-15528	-12931	-874	1.02	1.02	-45275	10833	4365	40441	8552	2601	11153	No	12.76	Si
SLU 79	1.57	1444.38	-19443	-16190	1522	1.02	1.02	-56688	10833	5234	40441	8552	2601	11153	No	7.33	Si
SLU 79	3.47	1361.68	-14916	-12421	-880	1.02	1.02	-43491	10833	4229	40441	8552	2601	11153	No	12.68	Si
SLU 62	1.57	1383.27	-17982	-14974	1509	1.02	1.02	-52430	10833	4909	40441	8552	2601	11153	No	7.39	Si
SLU 62	3.47	1211.52	-13630	-11350	-784	1.02	1.02	-39741	10833	3943	40441	8552	2601	11153	No	14.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	1.57	3316.12	-21070	-17546	5175	1.02	1.02	-61434	16250	6053	40441	12828	2601	15429		2.98	Si
SLV 2	3.47	-94.04	-12977	-10806	524	1.02	1.02	-37837	16250	4641	40441	12828	2601	15429		29.42	Si
SLV 1	1.57	2809.85	-20581	-17138	4290	1.02	1.02	-60007	16250	5945	40441	12828	2601	15429		3.6	Si
SLV 1	3.47	290.3	-13391	-11151	89	1.02	1.02	-39044	16250	4641	40441	12828	2601	15429		173.39	Si
SLV 13	1.57	-1795.84	-10587	-8816	-3857	1.02	1.02	-30868	16250	4641	40441	12828	2601	15429		4	Si
SLV 13	3.47	3021.08	-12320	-10259	-2968	1.02	0.7944	-35922	16250	4111	40441	12828	2601	15429		5.2	Si
SLV 4	1.57	3716.53	-15819	-13173	5845	1.02	0.8252	-46123	16250	4887	40441	12828	2601	15429		2.64	Si
SLV 4	3.47	-1120.43	-7826	-6517	1686	1.02	1.02	-22819	14981	4278	40441	12828	2601	15429		9.15	Si
SLV 3	1.57	3210.26	-15330	-12765	4960	1.02	0.9018	-44696	16250	4779	40441	12828	2601	15429		3.11	Si
SLV 3	3.47	-736.09	-8240	-6862	1250	1.02	1.02	-24026	15222	4347	40441	12828	2601	15429		12.34	Si
SLD 3	1.57	2390.39	-14713	-12252	3517	1.02	1.02	-42899	16250	4642	40441	12828	2601	15429		4.39	Si
SLD 3	3.47	-101.38	-9041	-7528	538	1.02	1.02	-26360	15689	4481	40441	12828	2601	15429		28.66	Si
SLD 4	1.57	2711.57	-15024	-12510	4079	1.02	0.9885	-43804	16250	4711	40441	12828	2601	15429		3.78	Si
SLD 4	3.47	-345.21	-8778	-7310	815	1.02	1.02	-25594	15536	4437	40441	12828	2601	15429		18.94	Si
SLV 15	1.57	-1395.43	-5335	-4443	-3187	1.02	0.7454	-21519	14721	3072	40441	12828	2601	15429		4.84	Si
SLV 15	3.47	1994.69	-7170	-5970	-1806	1.02	0.6953	-20904	14597	2967	40441	12828	2601	15429		8.54	Si
SLD 2	1.57	2476.04	-18099	-15071	3685	1.02	1.02	-52770	16250	5394	40441	12828	2601	15429		4.19	Si
SLD 2	3.47	256.55	-11796	-9822	134	1.02	1.02	-34392	16250	4641	40441	12828	2601	15429		115.27	Si
SLV 8	1.57	2488.94	-6114	-5092	3631	1.02	0.3088	-61208	16250	2733	40441	12828	2601	15429		4.25	Si
SLV 8	3.47	-1299.31	-1510	-1257	1899	0.816	0	0	0	0	40441	10263	2081	12343		6.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	8389	-2396	89.8	316.99	3.53	Si
SLV 12	179667	0.3	9542	-2725	89.8	357.7	3.98	Si
SLV 15	179667	0.3	17318	-4946	89.8	613.93	6.84	Si
SLV 7	179667	0.3	18886	-5394	89.8	661.74	7.37	Si
SLV 16	179667	0.3	19032	-5435	89.8	666.13	7.42	Si
SLV 8	179667	0.3	20039	-5723	89.8	696.11	7.75	Si
SLV 13	179667	0.3	35709	-10199	89.8	1093.94	12.18	Si
SLV 14	179667	0.3	37423	-10688	89.8	1129.64	12.58	Si
SLV 3	179667	0.3	52308	-14939	89.8	1375.12	15.31	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.3	54022	-15429	89.8	1395.93	15.54	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-12080	-21498	-173	0.467	1377.9	0.967	7.02053	3.93621	Si
SLV 10	-11817	-21177	-173	0.476	1351.1	0.967	7.15826	3.93621	Si
SLV 5	-11717	-21882	-159	0.481	1340.9	0.967	7.22821	3.93621	Si
SLV 6	-11454	-21562	-159	0.49	1314.1	0.966	7.37461	3.93621	Si
SLV 13	-9074	-14256	-79	0.606	1072	0.959	9.17752	4.67428	Si
SLV 14	-8683	-13780	-78	0.629	1032.2	0.958	9.5416	4.67428	Si
SLV 1	-7864	-15537	-32	0.689	949	0.954	10.49068	4.67428	Si
SLV 2	-7473	-15061	-31	0.719	909.3	0.953	10.9721	4.67428	Si
SLV 15	-6079	-8366	17	0.856	767.8	0.945	13.17092	4.67428	Si
SLV 16	-5688	-7890	17	0.905	728.1	0.942	13.95002	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.551	SLU 83	Si
V_SLU	6.895	SLU 83	Si
PF_SLV	0.758	SLV 8	No
V_SLV	2.64	SLV 4	Si
PFFP_SLV	3.53	SLV 11	Si
R_SLV	1.784	SLV 9	Si

Maschio 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L4	L5	3.211	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	0.67	686.51	-26476	-0.0000798	0.0004492	0.0035	3.2107	22014.2	35126.89	35126.89	51.17	No	Si
SLU 79	2.77	-6264.79	-21923	-0.0000976	0.0004492	0.0035	3.2107	21145.91	34788.94	34788.94	5.55	No	Si
SLU 83	0.67	674.27	-27227	-0.0000821	0.0004492	0.0035	3.2107	22040.97	35912.13	35912.13	53.26	No	Si
SLU 83	2.77	-6432.13	-22593	-0.0001008	0.0004492	0.0035	3.2107	21349.7	35522.75	35522.75	5.52	No	Si
SLU 74	0.67	675.85	-26395	-0.0000795	0.0004492	0.0035	3.2107	22009.3	35033.22	35033.22	51.84	No	Si
SLU 74	2.77	-6282.07	-21846	-0.0000975	0.0004492	0.0035	3.2107	21120.73	34704.37	34704.37	5.52	No	Si
SLU 77	0.67	687.72	-26657	-0.0000804	0.0004492	0.0035	3.2107	22023.66	35334.11	35334.11	51.38	No	Si
SLU 77	2.77	-6312.65	-22100	-0.0000985	0.0004492	0.0035	3.2107	21202.42	34983.25	34983.25	5.54	No	Si
SLU 66	0.67	676.72	-24030	-0.0000722	0.0004492	0.0035	3.2107	21698.36	32322.69	32322.69	47.76	No	Si
SLU 66	2.77	-5820.28	-19688	-0.0000879	0.0004492	0.0035	3.2107	20276.5	32331.16	32331.16	5.55	No	Si
SLU 64	0.67	663.64	-23586	-0.0000708	0.0004492	0.0035	3.2107	21603.68	31814.58	31814.58	47.94	No	Si
SLU 64	2.77	-5741.84	-19256	-0.0000861	0.0004492	0.0035	3.2107	20074.75	31826.2	31826.2	5.54	No	Si
SLU 53	0.67	654.87	-23521	-0.0000705	0.0004492	0.0035	3.2107	21588.75	31739.64	31739.64	48.47	No	Si
SLU 53	2.77	-5711.66	-19270	-0.000086	0.0004492	0.0035	3.2107	20081.19	31841.91	31841.91	5.57	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	0.67	642.65	-20713	-0.0000619	0.0004492	0.0035	3.2107	20711.45	28521	28521	44.38	No	Si
SLU 43	2.77	-5171.43	-16681	-0.0000749	0.0004492	0.0035	3.2107	18645.32	28815.35	28815.35	5.57	No	Si
SLU 60	0.67	641.41	-24091	-0.0000722	0.0004492	0.0035	3.2107	21710.59	32393.19	32393.19	50.5	No	Si
SLU 60	2.77	-5831.14	-19762	-0.0000882	0.0004492	0.0035	3.2107	20309.96	32417.64	32417.64	5.56	No	Si
SLU 81	0.67	662.4	-26965	-0.0000812	0.0004492	0.0035	3.2107	22035.36	35678.87	35678.87	53.86	No	Si
SLU 81	2.77	-6401.56	-22338	-0.0000998	0.0004492	0.0035	3.2107	21275.34	35243.88	35243.88	5.51	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	0.67	5588.98	-13827	-0.0000672	0.0006738	0.0035	3.2107		21181.47	21181.47	3.79		Si
SLD 8	2.77	-7628.24	-7797	-0.0000736	0.0006738	0.0035	2.5686		17460.68	17460.68	2.29		Si
SLV 3	0.67	3865.12	-18741	-0.0000723	0.0006738	0.0035	3.2107		27160.25	27160.25	7.03		Si
SLV 3	2.77	-7236.31	-13752	-0.0000757	0.0006738	0.0035	3.2107		25668.34	25668.34	3.55		Si
SLV 7	0.67	8992.76	-11029	-0.0000833	0.0006738	0.0035	3.2107		17369.54	17369.54	1.93		Si
SLV 7	2.77	-9764.58	-3055	-0.0005529	0.0006738	0.0035	2.5686		10544.89	10544.89	1.08		Si
SLD 12	0.67	5229.25	-12818	-0.0000624	0.0006738	0.0035	3.2107		19823.48	19823.48	3.79		Si
SLD 12	2.77	-7121.34	-6879	-0.0000712	0.0006738	0.0035	2.5686		16155.22	16155.22	2.27		Si
SLD 7	0.67	5482.4	-14016	-0.0000672	0.0006738	0.0035	3.2107		21435.04	21435.04	3.91		Si
SLD 7	2.77	-7562.9	-7967	-0.0000719	0.0006738	0.0035	2.5686		17701.45	17701.45	2.34		Si
SLV 4	0.67	4126.03	-18280	-0.0000724	0.0006738	0.0035	3.2107		26625.65	26625.65	6.45		Si
SLV 4	2.77	-7396.25	-13338	-0.0000754	0.0006738	0.0035	3.2107		25107.96	25107.96	3.39		Si
SLD 11	0.67	5122.66	-13006	-0.0000624	0.0006738	0.0035	3.2107		20077.05	20077.05	3.92		Si
SLD 11	2.77	-7056.01	-7049	-0.0000688	0.0006738	0.0035	2.5686		16396	16396	2.32		Si
SLV 8	0.67	9168.39	-10718	-0.0000854	0.0006738	0.0035	3.2107		16937	16937	1.85		Si
SLV 8	2.77	-9872.25	-2776	-0.0005791	0.0006738	0.0035	2.5686		10125.78	10125.78	1.03		Si
SLV 12	0.67	8563.47	-9058	-0.0000818	0.0006738	0.0035	3.2107		14605.33	14605.33	1.71		Si
SLV 12	2.77	-9031.99	-1282	-0.0005798	0.0006738	0.0035	2.5686		7865.26	7865.26	0.87		No
SLV 11	0.67	8387.83	-9369	-0.0000785	0.0006738	0.0035	3.2107		15045.22	15045.22	1.79		Si
SLV 11	2.77	-8924.33	-1561	-0.0005597	0.0006738	0.0035	2.5686		8288.59	8288.59	0.93		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.67	547.29	-27007	-14974	5315	3.2107	3.2107	-33313	10833	7491	115546	16154	16375	32528	No	6.12	Si
SLU 82	2.77	-6238.29	-22452	-12449	4642	3.2107	3.2107	-27695	10833	6610	115546	16154	16375	32528	No	7.01	Si
SLU 80	0.67	571.4	-26518	-14703	5196	3.2107	3.2107	-32710	10833	7397	115546	16154	16375	32528	No	6.26	Si
SLU 80	2.77	-6101.52	-22037	-12219	4536	3.2107	3.2107	-27183	10833	6529	115546	16154	16375	32528	No	7.17	Si
SLU 77	0.67	687.72	-26657	-14780	5441	3.2107	3.2107	-32882	10833	7423	115546	16154	16375	32528	No	5.98	Si
SLU 77	2.77	-6312.65	-22100	-12254	4706	3.2107	3.2107	-27261	10833	6542	115546	16154	16375	32528	No	6.91	Si
SLU 83	0.67	674.27	-27227	-15096	5562	3.2107	3.2107	-33585	10833	7534	115546	16154	16375	32528	No	5.85	Si
SLU 83	2.77	-6432.13	-22593	-12527	4811	3.2107	3.2107	-27868	10833	6637	115546	16154	16375	32528	No	6.76	Si
SLU 75	0.67	560.75	-26436	-14658	5194	3.2107	3.2107	-32609	10833	7381	115546	16154	16375	32528	No	6.26	Si
SLU 75	2.77	-6118.81	-21960	-12176	4537	3.2107	3.2107	-27087	10833	6515	115546	16154	16375	32528	No	7.17	Si
SLU 78	0.67	572.62	-26699	-14803	5225	3.2107	3.2107	-32933	10833	7431	115546	16154	16375	32528	No	6.23	Si
SLU 78	2.77	-6149.38	-22214	-12317	4561	3.2107	3.2107	-27402	10833	6564	115546	16154	16375	32528	No	7.13	Si
SLU 74	0.67	675.85	-26395	-14635	5409	3.2107	3.2107	-32558	10833	7373	115546	16154	16375	32528	No	6.01	Si
SLU 74	2.77	-6282.07	-21846	-12112	4681	3.2107	3.2107	-26947	10833	6492	115546	16154	16375	32528	No	6.95	Si
SLU 81	0.67	662.4	-26965	-14951	5530	3.2107	3.2107	-33261	10833	7483	115546	16154	16375	32528	No	5.88	Si
SLU 81	2.77	-6401.56	-22338	-12385	4786	3.2107	3.2107	-27554	10833	6588	115546	16154	16375	32528	No	6.8	Si
SLU 79	0.67	686.51	-26476	-14680	5411	3.2107	3.2107	-32659	10833	7388	115546	16154	16375	32528	No	6.01	Si
SLU 79	2.77	-6264.79	-21923	-12155	4681	3.2107	3.2107	-27042	10833	6507	115546	16154	16375	32528	No	6.95	Si
SLU 84	0.67	559.16	-27269	-15120	5346	3.2107	3.2107	-33637	10833	7542	115546	16154	16375	32528	No	6.08	Si
SLU 84	2.77	-6268.86	-22707	-12590	4666	3.2107	3.2107	-28009	10833	6659	115546	16154	16375	32528	No	6.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.67	8563.47	-9058	-5022	13212	3.2107	1.9799	-11173	14735	5151	115546	24231	16375	40605		3.07	Si
SLV 12	2.77	-9031.99	-1282	-711	12902	2.5686	0	0	0	0	115546	19385	13100	32484		2.52	Si
SLV 3	0.67	3865.12	-18741	-10391	7312	3.2107	3.2107	-23117	16250	7304	115546	24231	16375	40605		5.55	Si
SLV 3	2.77	-7236.31	-13752	-7625	6891	3.2107	3.2107	-16963	15893	7144	115546	24231	16375	40605		5.89	Si
SLV 4	0.67	4126.03	-18280	-10135	7463	3.2107	3.2107	-22548	16250	7304	115546	24231	16375	40605		5.44	Si
SLV 4	2.77	-7396.25	-13338	-7395	7061	3.2107	3.1524	-16452	15790	6969	115546	24231	16375	40605		5.75	Si
SLD 7	0.67	5482.4	-14016	-7771	9518	3.2107	3.2107	-17288	15958	7173	115546	24231	16375	40605		4.27	Si
SLD 7	2.77	-7562.9	-7967	-4417	9131	2.5686	1.968	0	0	0	115546	19385	13100	32484		3.56	Si
SLD 11	0.67	5122.66	-13006	-7211	9255	3.2107	3.2107	-16043	15709	7061	115546	24231	16375	40605		4.39	Si
SLD 11	2.77	-7056.01	-7049	-3908	8863	2.5686	1.8129	0	0	0	115546	19385	13100	32484		3.67	Si
SLV 8	0.67	9168.39	-10718	-5943	13637	3.2107	2.2497	-13221	15144	5472	115546	24231	16375	40605		2.98	Si
SLV 8	2.77	-9872.25	-2776	-1539	13346	2.5686	0	0	0	0	115546	19385	13100	32484		2.43	Si
SLV 11	0.67	8387.83	-9369	-5195	13110	3.2107	2.1302	-11556	14811	5211	115546	24231	16375	40605		3.1	Si
SLV 11	2.77	-8924.33	-1561	-865	12788	2.5686	0	0	0	0	115546	19385	13100	32484		2.54	Si
SLD 12	0.67	5229.25	-12818	-7107	9317	3.2107	3.2107	-15811	15662	7040	115546	24231	16375	40605		4.36	Si
SLD 12	2.77	-7121.34	-6879	-3814	8932	2.5686	1.7105	0	0	0	115546	19385	13100	32484		3.64	Si
SLD 8	0.67	5588.98	-13827	-7667	9580	3.2107	3.2107	-17056	15911	7152	115546	24231	16375	40605		4.24	Si
SLD 8	2.77	-7628.24	-7797	-4323	9200	2.5686	1.8811	0	0	0	115546	19385	13100	32484		3.53	Si
SLV 7	0.67	8992.76	-11029	-6115	13535	3.2107	2.3698	-13604	15221	5532	115546	24231	16375	40605		3	Si
SLV 7	2.77	-9764.58	-3055	-1694	13232	2.5686	0	0	0	0	115546	19385	13100	32484		2.45	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-2421	0.3	153.81	164.46	413.86	289.16	1.88	Si
SLV 11	-2739	0.3	153.81	185.34	442.04	313.69	2.04	Si
SLV 8	-4149	0.3	153.81	275.83	565.55	420.69	2.74	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-4468	0.3	153.81	295.78	593.14	444.46	2.89	Si
SLV 16	-8756	0.3	153.81	547.75	960.16	753.96	4.9	Si
SLV 15	-9228	0.3	153.81	573.62	1000.17	786.89	5.12	Si
SLV 4	-14519	0.3	153.81	837.21	1438.03	1137.62	7.4	Si
SLV 3	-14992	0.3	153.81	858.45	1476.37	1167.41	7.59	Si
SLV 14	-15981	0.3	153.81	901.66	1555.54	1228.6	7.99	Si
SLV 13	-16454	0.3	153.81	921.72	1593.39	1257.56	8.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-16992	-23628	-236	0.984	1963	0.964	14.82446	8.49483	Si
SLV 2	-16757	-23166	-236	0.996	1939	0.964	15.01853	8.49483	Si
SLV 3	-13681	-18741	-212	1.196	1626.1	0.958	18.14754	8.49483	Si
SLV 4	-13445	-18280	-212	1.214	1602.2	0.957	18.44031	8.49483	Si
SLV 5	-19316	-27317	-106	0.882	2199.5	0.968	13.24629	5.8758	Si
SLV 6	-19158	-27006	-106	0.889	2183.3	0.968	13.3489	5.8758	Si
SLV 13	-12703	-18095	217	1.276	1526.8	0.955	19.42255	8.49483	Si
SLV 14	-12468	-17634	217	1.298	1502.8	0.955	19.75885	8.49483	Si
SLV 9	-18030	-25657	30	0.943	2068.5	0.966	14.18623	5.8758	Si
SLV 10	-17871	-25347	30	0.95	2052.4	0.966	14.30381	5.8758	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.506	SLU 81	Si
V_SLU	5.849	SLU 83	Si
PF_SLV	0.871	SLV 12	No
V_SLV	2.434	SLV 8	Si
PFFP_SLV	1.88	SLV 12	Si
R_SLV	1.745	SLV 1	Si

Maschio 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.343	-3.169	L4	L5	1.59	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.67	-7133.25	-14567	-0.000217	0.0003743	0.0035	1.2717	7855.77	9519.79	9519.79	1.33	No	Si
SLU 77	2.77	1578.2	-12370	-0.0000657	0.0003743	0.0035	1.5896	7147.71	7886.01	7886.01	5	No	Si
SLU 78	0.67	-7162.43	-14633	-0.0002182	0.0003743	0.0035	1.2717	7874.51	9542.54	9542.54	1.33	No	Si
SLU 78	2.77	1588.99	-12436	-0.0000661	0.0003743	0.0035	1.5896	7171.56	7917.94	7917.94	4.98	No	Si
SLU 75	0.67	-7100.09	-14490	-0.0002157	0.0003743	0.0035	1.2717	7833.95	9493.63	9493.63	1.34	No	Si
SLU 75	2.77	1585.3	-12293	-0.0000655	0.0003743	0.0035	1.5896	7119.99	7849.24	7849.24	4.95	No	Si
SLU 80	0.67	-7113.79	-14533	-0.0002161	0.0003743	0.0035	1.2717	7846.19	9508.26	9508.26	1.34	No	Si
SLU 80	2.77	1568.77	-12336	-0.0000654	0.0003743	0.0035	1.5896	7135.54	7869.82	7869.82	5.02	No	Si
SLU 84	0.67	-7326.42	-14943	-0.0002258	0.0003743	0.0035	1.2717	7960.2	9650.03	9650.03	1.32	No	Si
SLU 84	2.77	1621.31	-12747	-0.0000678	0.0003743	0.0035	1.5896	7281.16	8068.07	8068.07	4.98	No	Si
SLU 83	0.67	-7297.23	-14877	-0.0002245	0.0003743	0.0035	1.2717	7942.18	9626.94	9626.94	1.32	No	Si
SLU 83	2.77	1610.53	-12680	-0.0000674	0.0003743	0.0035	1.5896	7258.04	8035.9	8035.9	4.99	No	Si
SLU 81	0.67	-7234.88	-14734	-0.000222	0.0003743	0.0035	1.2717	7902.84	9577.44	9577.44	1.32	No	Si
SLU 81	2.77	1606.84	-12538	-0.0000667	0.0003743	0.0035	1.5896	7207.69	7966.79	7966.79	4.96	No	Si
SLU 79	0.67	-7084.61	-14467	-0.0002149	0.0003743	0.0035	1.2717	7827.22	9485.63	9485.63	1.34	No	Si
SLU 79	2.77	1557.98	-12270	-0.000065	0.0003743	0.0035	1.5896	7111.45	7837.97	7837.97	5.03	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	0.67	-7264.07	-14801	-0.0002232	0.0003743	0.0035	1.2717	7921.19	9600.37	9600.37	1.32	No	Si
SLU 82	2.77	1617.63	-12604	-0.0000672	0.0003743	0.0035	1.5896	7231.15	7998.84	7998.84	4.94	No	Si
SLU 74	0.67	-7070.9	-14424	-0.0002145	0.0003743	0.0035	1.2717	7814.88	9471.04	9471.04	1.34	No	Si
SLU 74	2.77	1574.52	-12227	-0.000065	0.0003743	0.0035	1.5896	7095.81	7817.43	7817.43	4.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	0.67	-8565.48	-14615	-0.0003123	0.0005615	0.0035	1.2717		10414.6	10414.6	1.22		Si
SLV 14	2.77	5085.53	-13088	-0.0001233	0.0005615	0.0035	1.5896		8928.06	8928.06	1.76		Si
SLV 11	0.67	-3457.31	-3944	-0.0006178	0.0005615	0.0035	1.2717		3636.04	3636.04	1.05		Si
SLV 11	2.77	994.23	-1698	-0.0000288	0.0005615	0.0035	1.5896		1467.62	1467.62	1.48		Si
SLV 13	0.67	-9233.45	-15293	-0.000378	0.0005615	0.0035	1.2717		10778.96	10778.96	1.17		Si
SLV 13	2.77	5970.13	-13766	-0.0001489	0.0005615	0.0035	1.5896		9354.44	9354.44	1.57		Si
SLV 12	0.67	-3007.67	-3487	-0.0004825	0.0005615	0.0035	1.2717		3305.93	3305.93	1.1		Si
SLV 12	2.77	398.76	-1242	-0.0000092	0.0005615	0.0035	1.5896		1117.86	1117.86	2.8		Si
SLV 16	0.67	-7005.65	-10364	-0.0003992	0.0005615	0.0035	1.2717		7936.24	7936.24	1.13		Si
SLV 16	2.77	4149.11	-8501	-0.0001045	0.0005615	0.0035	1.5896		6135.13	6135.13	1.48		Si
SLV 7	0.67	-1496.73	-2205	-0.0000659	0.0005615	0.0035	1.2717		2362.36	2362.36	1.58		Si
SLV 7	2.77	-1407.84	31	-0.001246	0.0005615	0.0035	1.2717		648.89	648.89	0.46		No
SLV 3	0.67	-1138.35	-5247	-0.0000321	0.0005615	0.0035	1.5896		4563.72	4563.72	4.01		Si
SLV 3	2.77	-2973.19	-3412	-0.0004931	0.0005615	0.0035	1.2717		3252.16	3252.16	1.09		Si
SLV 8	0.67	-1047.08	-1748	-0.0000315	0.0005615	0.0035	1.2717		2018.57	2018.57	1.93		Si
SLV 8	2.77	-2003.3	488	0.0531616	0.0005615	0.0035	1.2717		0	0	0		No
SLV 4	0.67	-470.38	-4569	-0.0000213	0.0005615	0.0035	1.5896		4092.05	4092.05	8.7		Si
SLV 4	2.77	-3857.78	-2734	-0.0019081	0.0005615	0.0035	1.2717		2757.5	2757.5	0.71		No
SLV 15	0.67	-7673.62	-11042	-0.0005718	0.0005615	0.0035	1.2717		8356.22	8356.22	1.09		Si
SLV 15	2.77	5033.7	-9179	-0.0001451	0.0005615	0.0035	1.5896		6538	6538	1.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.67	-7264.07	-14801	-12325	-4228	1.2717	0.912	0	0	0	40441	10662	3243	13905	No	3.29	Si
SLU 82	2.77	1617.63	-12604	-10495	-4228	1.5896	1.5896	-23581	10089	4490	40441	13328	4053	17381	No	4.11	Si
SLU 78	0.67	-7162.43	-14633	-12185	-4166	1.2717	0.916	0	0	0	40441	10662	3243	13905	No	3.34	Si
SLU 78	2.77	1588.99	-12436	-10356	-4166	1.5896	1.5896	-23267	10047	4472	40441	13328	4053	17381	No	4.17	Si
SLU 76	0.67	-7070.9	-14434	-12020	-4115	1.2717	0.9148	0	0	0	40441	10662	3243	13905	No	3.38	Si
SLU 76	2.77	1572.27	-12238	-10190	-4115	1.5896	1.5896	-22896	9997	4450	40441	13328	4053	17381	No	4.22	Si
SLU 84	0.67	-7326.42	-14943	-12444	-4260	1.2717	0.9135	0	0	0	40441	10662	3243	13905	No	3.26	Si
SLU 84	2.77	1621.31	-12747	-10614	-4260	1.5896	1.5896	-23848	10124	4506	40441	13328	4053	17381	No	4.08	Si
SLU 74	0.67	-7070.9	-14424	-12011	-4116	1.2717	0.9137	0	0	0	40441	10662	3243	13905	No	3.38	Si
SLU 74	2.77	1574.52	-12227	-10182	-4116	1.5896	1.5896	-22876	9995	4448	40441	13328	4053	17381	No	4.22	Si
SLU 75	0.67	-7100.09	-14490	-12066	-4135	1.2717	0.9144	0	0	0	40441	10662	3243	13905	No	3.36	Si
SLU 75	2.77	1585.3	-12293	-10237	-4135	1.5896	1.5896	-23000	10011	4456	40441	13328	4053	17381	No	4.2	Si
SLU 81	0.67	-7234.88	-14734	-12269	-4209	1.2717	0.9113	0	0	0	40441	10662	3243	13905	No	3.3	Si
SLU 81	2.77	1606.84	-12538	-10440	-4209	1.5896	1.5896	-23457	10072	4483	40441	13328	4053	17381	No	4.13	Si
SLU 83	0.67	-7297.23	-14877	-12388	-4241	1.2717	0.9129	0	0	0	40441	10662	3243	13905	No	3.28	Si
SLU 83	2.77	1610.53	-12680	-10559	-4241	1.5896	1.5896	-23724	10108	4499	40441	13328	4053	17381	No	4.1	Si
SLU 80	0.67	-7113.79	-14533	-12102	-4133	1.2717	0.9159	0	0	0	40441	10662	3243	13905	No	3.36	Si
SLU 80	2.77	1568.77	-12336	-10273	-4133	1.5896	1.5896	-23080	10022	4461	40441	13328	4053	17381	No	4.21	Si
SLU 77	0.67	-7133.25	-14567	-12130	-4147	1.2717	0.9153	0	0	0	40441	10662	3243	13905	No	3.35	Si
SLU 77	2.77	1578.2	-12370	-10301	-4147	1.5896	1.5896	-23143	10030	4464	40441	13328	4053	17381	No	4.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.67	-9233.45	-15293	-12734	-7278	1.2717	0.573	0	0	0	40441	15993	3243	19236		2.64	Si
SLV 13	2.77	5970.13	-13766	-11463	-7125	1.5896	1.0833	-25754	15568	5199	40441	19992	4053	24045		3.37	Si
SLV 9	0.67	-8656.75	-18113	-15083	-6054	1.2717	0.9506	0	0	0	40441	15993	3243	19236		3.18	Si
SLV 9	2.77	4115.65	-16988	-14146	-6040	1.5896	1.5896	-31783	16250	7233	40441	19992	4053	24045		3.98	Si
SLD 14	0.67	-7189.17	-12814	-10670	-5169	1.2717	0.7013	0	0	0	40441	15993	3243	19236		3.72	Si
SLD 14	2.77	3611.4	-11223	-9346	-5070	1.5896	1.419	-20998	14616	5807	40441	19992	4053	24045		4.74	Si
SLV 14	0.67	-8565.48	-14615	-12170	-6539	1.2717	0.6261	0	0	0	40441	15993	3243	19236		2.94	Si
SLV 14	2.77	5085.53	-13088	-10898	-6386	1.5896	1.2186	-24486	15314	5225	40441	19992	4053	24045		3.77	Si
SLD 9	0.67	-7140.24	-14775	-12304	-4775	1.2717	0.9346	0	0	0	40441	15993	3243	19236		4.03	Si
SLD 9	2.77	2921.43	-13421	-11175	-4765	1.5896	1.5896	-25109	15438	6871	40441	19992	4053	24045		5.05	Si
SLV 15	0.67	-7673.62	-11042	-9195	-6116	1.2717	0.2995	0	0	0	40441	15993	3243	19236		3.15	Si
SLV 15	2.77	5033.7	-9179	-7643	-5941	1.5896	0.7391	-17173	13851	4181	40441	19992	4053	24045		4.05	Si
SLV 16	0.67	-7005.65	-10364	-8630	-5376	1.2717	0.3565	0	0	0	40441	15993	3243	19236		3.58	Si
SLV 16	2.77	4149.11	-8501	-7079	-5202	1.5896	0.9201	-15904	13597	4030	40441	19992	4053	24045		4.62	Si
SLD 15	0.67	-6698.34	-10754	-8955	-4956	1.2717	0.5158	0	0	0	40441	15993	3243	19236		3.88	Si
SLD 15	2.77	3622.82	-8966	-7466	-4844	1.5896	1.1722	-16775	13772	4520	40441	19992	4053	24045		4.96	Si
SLV 10	0.67	-8207.1	-17656	-14703	-5556	1.2717	0.9899	0	0	0	40441	15993	3243	19236		3.46	Si
SLV 10	2.77	3520.18	-16532	-13766	-5543	1.5896	1.5896	-30929	16250	7233	40441	19992	4053	24045		4.34	Si
SLD 13	0.67	-7612.94	-13244	-11029	-5638	1.2717	0.6599	0	0	0	40441	15993	3243	19236		3.41	Si
SLD 13	2.77	4172.6	-11653	-9704	-5539	1.5896	1.3102	-21803	14777	5421	40441	19992	4053	24045		4.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	0	430	139.94	0	0	No, Trazione
SLV 7	179667	0.3	0	-27	139.94	0	0	No, e>t/2
SLV 12	179667	0.3	2913	-1297	139.94	178.05	1.27	Si
SLV 11	179667	0.3	3938	-1753	139.94	239.08	1.71	Si
SLV 4	179667	0.3	6286	-2798	139.94	375.55	2.68	Si
SLV 3	179667	0.3	7809	-3476	139.94	461.71	3.3	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.3	16592	-7385	139.94	921.56	6.59	Si
SLV 1	179667	0.3	18116	-8063	139.94	994.91	7.11	Si
SLV 16	179667	0.3	19213	-8551	139.94	1046.58	7.48	Si
SLV 15	179667	0.3	20736	-9229	139.94	1116.67	7.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-11582	-8819	-114	0.717	1410.5	0.952	10.94972	4.67428	Si
SLV 1	-10772	-9497	-113	0.762	1328.3	0.95	11.66793	4.67428	Si
SLV 6	-12462	-15918	-422	0.652	1499.9	0.955	9.93148	3.93621	Si
SLV 5	-11917	-16374	-421	0.678	1444.5	0.953	10.3293	3.93621	Si
SLV 10	-9942	-17656	-424	0.788	1244.1	0.947	12.09409	3.93621	Si
SLV 4	-8195	-4569	148	0.952	1067	0.939	14.72975	4.67428	Si
SLV 9	-9397	-18113	-424	0.826	1188.8	0.945	12.70046	3.93621	Si
SLV 3	-7385	-5247	148	1.036	985	0.935	16.09408	4.67428	Si
SLV 14	-3184	-14615	-123	1.941	564.1	0.902	31.25438	4.67428	Si
SLV 13	-2373	-15293	-122	2.341	485.1	0.894	38.04917	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.317	SLU 84	Si
V_SLU	3.264	SLU 84	Si
PF_SLV	0	SLV 8	No
V_SLV	2.643	SLV 13	Si
PFFP_SLV	0	SLV 8	No
R_SLV	2.343	SLV 2	Si

Maschio 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.661	L4	L5	4.455	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.67	1969.75	-81329	-0.0001966	0.0004492	0.0035	4.455	0	110365.98	110365.98	56.03	No	Si
SLU 78	2.77	-14573.69	-59996	-0.0001816	0.0004492	0.0035	4.455	28430.96	100942.28	100942.28	6.93	No	Si
SLU 79	0.67	2193.53	-81104	-0.0001968	0.0004492	0.0035	4.455	0	110260.98	110260.98	50.27	No	Si
SLU 79	2.77	-14722.67	-59940	-0.000182	0.0004492	0.0035	4.455	28501.75	100899.63	100899.63	6.85	No	Si
SLU 75	0.67	1807.79	-80077	-0.0001922	0.0004492	0.0035	4.455	0	109780.98	109780.98	60.73	No	Si
SLU 75	2.77	-14370.88	-59001	-0.0001781	0.0004492	0.0035	4.455	29675.26	100176.2	100176.2	6.97	No	Si
SLU 83	0.67	2320.83	-82712	-0.0002022	0.0004492	0.0035	4.455	0	111011.75	111011.75	47.83	No	Si
SLU 83	2.77	-15052.88	-61111	-0.0001865	0.0004492	0.0035	4.455	26966.65	101801.42	101801.42	6.76	No	Si
SLU 74	0.67	2087.88	-80487	-0.0001946	0.0004492	0.0035	4.455	0	109972.5	109972.5	52.67	No	Si
SLU 74	2.77	-14611.16	-59426	-0.0001801	0.0004492	0.0035	4.455	29150	100503.95	100503.95	6.88	No	Si
SLU 81	0.67	2158.87	-81459	-0.0001978	0.0004492	0.0035	4.455	0	110426.75	110426.75	51.15	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	2.77	-14850.07	-60116	-0.0001829	0.0004492	0.0035	4.455	28275.85	101035.34	101035.34	6.8	No	Si
SLU 84	0.67	2040.74	-82302	-0.0001998	0.0004492	0.0035	4.455	0	110820.23	110820.23	54.3	No	Si
SLU 84	2.77	-14812.61	-60686	-0.0001844	0.0004492	0.0035	4.455	27533.84	101473.67	101473.67	6.85	No	Si
SLU 82	0.67	1878.77	-81049	-0.0001954	0.0004492	0.0035	4.455	0	110235.23	110235.23	58.67	No	Si
SLU 82	2.77	-14609.8	-59691	-0.0001809	0.0004492	0.0035	4.455	28818.29	100707.6	100707.6	6.89	No	Si
SLU 77	0.67	2249.85	-81739	-0.000199	0.0004492	0.0035	4.455	0	110557.5	110557.5	49.14	No	Si
SLU 77	2.77	-14813.96	-60421	-0.0001837	0.0004492	0.0035	4.455	27880.94	101270.02	101270.02	6.84	No	Si
SLU 80	0.67	1913.43	-80694	-0.0001945	0.0004492	0.0035	4.455	0	110069.46	110069.46	57.52	No	Si
SLU 80	2.77	-14482.4	-59515	-0.0001799	0.0004492	0.0035	4.455	29039.79	100571.89	100571.89	6.94	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.67	-22800.65	-24993	-0.0001152	0.0006738	0.0035	4.455		60047.86	60047.86	2.63		Si
SLV 6	2.77	3988.33	-9818	-0.0000297	0.0006738	0.0035	4.455		22623.55	22623.55	5.67		Si
SLV 7	0.67	25239.97	-86273	-0.0002758	0.0006738	0.0035	4.455		126895.14	126895.14	5.03		Si
SLV 7	2.77	-22366.37	-70968	-0.0002235	0.0006738	0.0035	4.455		119533.94	119533.94	5.34		Si
SLV 9	0.67	-23209.72	-24059	-0.0001157	0.0006738	0.0035	4.455		58425.62	58425.62	2.52		Si
SLV 9	2.77	2542.66	-10069	-0.0000263	0.0006738	0.0035	4.455		23125.64	23125.64	9.1		Si
SLV 16	0.67	6971.55	-62849	-0.0001534	0.0006738	0.0035	4.455		104993.45	104993.45	15.06		Si
SLV 16	2.77	-17303.19	-50489	-0.000156	0.0006738	0.0035	4.455		98483.74	98483.74	5.69		Si
SLV 8	0.67	25054.35	-86289	-0.0002751	0.0006738	0.0035	4.455		126909.28	126909.28	5.07		Si
SLV 8	2.77	-22702.61	-71093	-0.0002249	0.0006738	0.0035	4.455		119635.76	119635.76	5.27		Si
SLV 12	0.67	24459.67	-85371	-0.0002704	0.0006738	0.0035	4.455		126099.37	126099.37	5.16		Si
SLV 12	2.77	-24484.51	-71468	-0.0002319	0.0006738	0.0035	4.455		119942.22	119942.22	4.9		Si
SLV 11	0.67	24645.28	-85355	-0.000271	0.0006738	0.0035	4.455		126085.23	126085.23	5.12		Si
SLV 11	2.77	-24148.27	-71343	-0.0002304	0.0006738	0.0035	4.455		119840.4	119840.4	4.96		Si
SLV 5	0.67	-22615.03	-24977	-0.0001145	0.0006738	0.0035	4.455		60020.73	60020.73	2.65		Si
SLV 5	2.77	4324.56	-9694	-0.0000303	0.0006738	0.0035	4.455		22370.48	22370.48	5.17		Si
SLV 10	0.67	-23395.34	-24075	-0.0001165	0.0006738	0.0035	4.455		58454.25	58454.25	2.5		Si
SLV 10	2.77	2206.43	-10193	-0.0000257	0.0006738	0.0035	4.455		23374.64	23374.64	10.59		Si
SLD 12	0.67	14713.85	-72854	-0.000203	0.0006738	0.0035	4.455		115063.81	115063.81	7.82		Si
SLD 12	2.77	-18580.97	-58698	-0.0001798	0.0006738	0.0035	4.455		108433.39	108433.39	5.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	0.67	1564.74	-79169	-43895	-10494	4.455	4.455	-70379	10833	21160	115546	22414	22720	45135	No	4.3	Si
SLU 76	2.77	-14119.4	-58236	-32289	-11150	4.455	4.455	-51770	10833	16518	115546	22414	22720	45135	No	4.05	Si
SLU 77	0.67	2249.85	-81739	-45321	-10228	4.455	4.455	-72664	10833	21731	115546	22414	22720	45135	No	4.41	Si
SLU 77	2.77	-14813.96	-60421	-33501	-10909	4.455	4.455	-53713	10833	17003	115546	22414	22720	45135	No	4.14	Si
SLU 78	0.67	1969.75	-81329	-45093	-10496	4.455	4.455	-72300	10833	21640	115546	22414	22720	45135	No	4.3	Si
SLU 78	2.77	-14573.69	-59996	-33265	-11172	4.455	4.455	-53335	10833	16908	115546	22414	22720	45135	No	4.04	Si
SLU 73	0.67	1402.77	-77916	-43201	-10403	4.455	4.455	-69266	10833	20883	115546	22414	22720	45135	No	4.34	Si
SLU 73	2.77	-13916.6	-57241	-31738	-11048	4.455	4.455	-50886	10833	16297	115546	22414	22720	45135	No	4.09	Si
SLU 81	0.67	2158.87	-81459	-45166	-10281	4.455	4.455	-72415	10833	21668	115546	22414	22720	45135	No	4.39	Si
SLU 81	2.77	-14850.07	-60116	-33332	-10961	4.455	4.455	-53442	10833	16935	115546	22414	22720	45135	No	4.12	Si
SLU 84	0.67	2040.74	-82302	-45633	-10640	4.455	4.455	-73164	10833	21855	115546	22414	22720	45135	No	4.24	Si
SLU 84	2.77	-14812.61	-60686	-33648	-11327	4.455	4.455	-53948	10833	17061	115546	22414	22720	45135	No	3.98	Si
SLU 80	0.67	1913.43	-80694	-44741	-10407	4.455	4.455	-71735	10833	21499	115546	22414	22720	45135	No	4.34	Si
SLU 80	2.77	-14482.4	-59515	-32998	-11078	4.455	4.455	-52907	10833	16802	115546	22414	22720	45135	No	4.07	Si
SLU 83	0.67	2320.83	-82712	-45860	-10373	4.455	4.455	-73529	10833	21946	115546	22414	22720	45135	No	4.35	Si
SLU 83	2.77	-15052.88	-61111	-33884	-11064	4.455	4.455	-54327	10833	17156	115546	22414	22720	45135	No	4.08	Si
SLU 82	0.67	1878.77	-81049	-44938	-10549	4.455	4.455	-72051	10833	21578	115546	22414	22720	45135	No	4.28	Si
SLU 82	2.77	-14609.8	-59691	-33096	-11224	4.455	4.455	-53064	10833	16841	115546	22414	22720	45135	No	4.02	Si
SLU 75	0.67	1807.79	-80077	-44399	-10404	4.455	4.455	-71186	10833	21362	115546	22414	22720	45135	No	4.34	Si
SLU 75	2.77	-14370.88	-59001	-32713	-11070	4.455	4.455	-52450	10833	16688	115546	22414	22720	45135	No	4.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	0.67	-13361.95	-36916	-20468	-17162	4.455	4.455	-32818	16250	13591	115546	33621	22720	56342		3.28	Si
SLD 10	2.77	-2923.71	-22778	-12629	-17178	4.455	4.455	-20249	16250	10456	115546	33621	22720	56342		3.28	Si
SLV 2	0.67	-5402.67	-47522	-26349	-15579	4.455	4.455	-42246	16250	15944	115546	33621	22720	56342		3.62	Si
SLV 2	2.77	-3356.25	-30857	-17109	-15867	4.455	4.455	-27431	16250	12248	115546	33621	22720	56342		3.55	Si
SLD 9	0.67	-13249.31	-36906	-20463	-17275	4.455	4.455	-32809	16250	13589	115546	33621	22720	56342		3.26	Si
SLD 9	2.77	-2719.67	-22702	-12587	-17291	4.455	4.455	-20182	16250	10439	115546	33621	22720	56342		3.26	Si
SLV 1	0.67	-5126.92	-47499	-26336	-15854	4.455	4.455	-42225	16250	15938	115546	33621	22720	56342		3.55	Si
SLV 1	2.77	-2856.76	-30672	-17006	-16146	4.455	4.455	-27267	16250	12207	115546	33621	22720	56342		3.49	Si
SLD 5	0.67	-12869.21	-37493	-20788	-18484	4.455	4.455	-33331	16250	13719	115546	33621	22720	56342		3.05	Si
SLD 5	2.77	-1578.97	-22463	-12455	-18522	4.455	4.455	-19969	16250	10386	115546	33621	22720	56342		3.04	Si
SLD 6	0.67	-12981.86	-37503	-20794	-18372	4.455	4.455	-33339	16250	13722	115546	33621	22720	56342		3.07	Si
SLD 6	2.77	-1783.02	-22538	-12497	-18408	4.455	4.455	-20036	16250	10403	115546	33621	22720	56342		3.06	Si
SLV 9	0.67	-23209.72	-24059	-13339	-24570	4.455	3.7884	-25466	16250	10740	115546	33621	22720	56342		2.29	Si
SLV 9	2.77	2542.66	-10069	-5583	-24283	4.455	4.455	-8951	14290	8913	115546	33621	22720	56342		2.32	Si
SLV 6	0.67	-22800.65	-24993	-13858	-26274	4.455	3.9457	-25338	16250	10947	115546	33621	22720	56342		2.14	Si
SLV 6	2.77	3988.33	-9818	-5444	-26018	4.455	4.455	-8728	14246	8885	115546	33621	22720	56342		2.17	Si
SLV 10	0.67	-23395.34	-24075	-13348	-24384	4.455	3.7672	-25628	16250	10744	115546	33621	22720	56342		2.31	Si
SLV 10	2.77	2206.43	-10193	-5652	-24096	4.455	4.455	-9062	14312	8927	115546	33621	22720	56342		2.34	Si
SLV 5	0.67	-22615.03	-24977	-13849	-26459	4.455	3.9662	-25195	16250	10944	115546	33621	22720	56342		2.13	Si
SLV 5	2.77	4324.56	-9694	-5375	-26205	4.455	4.455	-8617	14223	8871	115546	33621	22720	56342		2.15	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-10100	0.3	213.42	644.53	1155.99	900.26	4.22	Si
SLV 6	-10225	0.3	213.42	651.7	1166.62	909.16	4.26	Si
SLV 9	-10475	0.3	213.42	666.07	1187.97	927.02	4.34	Si
SLV 10	-10600	0.3	213.42	673.18	1198.52	935.85	4.38	Si
SLV 1	-31082	0.3	213.42	1584.15	2866.98	2225.57	10.43	Si
SLV 2	-31267	0.3	213.42	1590.04	2881.09	2235.57	10.47	Si
SLV 13	-32333	0.3	213.42	1623.13	2962.37	2292.75	10.74	Si
SLV 14	-32518	0.3	213.42	1628.74	2976.49	2302.61	10.79	Si
SLV 3	-49468	0.3	213.42	1964.27	4249.97	3107.12	14.56	Si
SLV 4	-49653	0.3	213.42	1965.99	4263.6	3114.8	14.59	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-32625	-62849	427	0.729	3644.8	0.973	10.89403	8.49483	Si
SLV 15	-32514	-62825	427	0.731	3633.5	0.973	10.92898	8.49483	Si
SLV 4	-30871	-65911	-423	0.767	3466.2	0.971	11.47634	8.49483	Si
SLV 12	-46087	-85371	134	0.537	5016.2	0.98	7.96054	5.8758	Si
SLV 3	-30760	-65887	-423	0.77	3454.9	0.971	11.51522	8.49483	Si
SLV 11	-46013	-85355	134	0.538	5008.5	0.98	7.97271	5.8758	Si
SLV 8	-45561	-86289	-121	0.543	4962.5	0.98	8.05114	5.8758	Si
SLV 7	-45486	-86273	-121	0.544	4954.9	0.98	8.0636	5.8758	Si
SLV 14	-20545	-44460	423	1.109	2415.2	0.96	16.7829	8.49483	Si
SLV 13	-20434	-44437	423	1.114	2403.9	0.96	16.86724	8.49483	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.763	SLU 83	Si
V_SLU	3.985	SLU 84	Si
PF_SLV	2.499	SLV 10	Si
V_SLV	2.129	SLV 5	Si
PFFP_SLV	4.218	SLV 5	Si
R_SLV	1.282	SLV 16	Si

Maschio 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L4	Z medio 271 cm	1.281	0.28	2.04	2.04	2.04			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.67	-35.32	-25304	-0.0001279	0.0003743	0.0035	1.2809	4975.28	8578.76	8578.76	242.88	No	Si
SLU 84	2.71	658.5	-21891	-0.000123	0.0003743	0.0035	1.2809	5614.76	8193.91	8193.91	12.44	No	Si
SLU 40	0.67	-75.62	-21404	-0.000105	0.0003743	0.0035	1.2809	5672.62	8268.04	8268.04	109.34	No	Si
SLU 40	2.71	647.99	-18603	-0.0001031	0.0003743	0.0035	1.2809	5844.25	7789.94	7789.94	12.02	No	Si
SLU 21	0.67	-22.66	-19143	-0.0000908	0.0003743	0.0035	1.2809	5832.59	8003.83	8003.83	353.17	No	Si
SLU 21	2.71	551.19	-16572	-0.0000893	0.0003743	0.0035	1.2809	5796.52	7247.83	7247.83	13.15	No	Si
SLU 83	0.67	-12.86	-25126	-0.0001262	0.0003743	0.0035	1.2809	5018.87	8579.05	8579.05	667.24	No	Si
SLU 83	2.71	641.26	-21758	-0.0001217	0.0003743	0.0035	1.2809	5631.38	8177.57	8177.57	12.75	No	Si
SLU 39	0.67	-53.15	-21226	-0.0001034	0.0003743	0.0035	1.2809	5691.78	8245.58	8245.58	155.13	No	Si
SLU 39	2.71	630.75	-18470	-0.0001019	0.0003743	0.0035	1.2809	5845.55	7764.41	7764.41	12.31	No	Si
SLU 19	0.67	-24.56	-18904	-0.0000895	0.0003743	0.0035	1.2809	5839.01	7978.5	7978.5	324.9	No	Si
SLU 19	2.71	548.87	-16346	-0.0000881	0.0003743	0.0035	1.2809	5782.3	7187.49	7187.49	13.1	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	0.67	-73.72	-21643	-0.0001064	0.0003743	0.0035	1.2809	5645.26	8298.5	8298.5	112.56	No	Si
SLU 42	2.71	650.31	-18829	-0.0001044	0.0003743	0.0035	1.2809	5840.62	7816.17	7816.17	12.02	No	Si
SLU 41	0.67	-51.26	-21465	-0.0001048	0.0003743	0.0035	1.2809	5665.92	8275.67	8275.67	161.45	No	Si
SLU 41	2.71	633.07	-18696	-0.0001032	0.0003743	0.0035	1.2809	5842.97	7800.69	7800.69	12.32	No	Si
SLU 82	0.67	-37.22	-25066	-0.0001265	0.0003743	0.0035	1.2809	5033.31	8579.19	8579.19	230.53	No	Si
SLU 82	2.71	656.18	-21665	-0.0001215	0.0003743	0.0035	1.2809	5642.61	8166.22	8166.22	12.45	No	Si
SLU 81	0.67	-14.75	-24887	-0.0001247	0.0003743	0.0035	1.2809	5075.41	8579.7	8579.7	581.61	No	Si
SLU 81	2.71	638.94	-21533	-0.0001202	0.0003743	0.0035	1.2809	5658.17	8150.04	8150.04	12.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0.67	2307.8	277	-0.0387947	0.0005615	0.0035	1.0247		0	0	0		No
SLV 12	2.71	-703.97	-1252	-0.0000539	0.0005615	0.0035	1.0247		1156.63	1156.63	1.64		Si
SLV 4	0.67	1243.83	-10896	-0.0000726	0.0005615	0.0035	1.2809		5954.82	5954.82	4.79		Si
SLV 4	2.71	-568.37	-10248	-0.0000555	0.0005615	0.0035	1.2809		6015.75	6015.75	10.58		Si
SLD 7	0.67	1529.96	-6547	-0.0000585	0.0005615	0.0035	1.2809		3876.17	3876.17	2.53		Si
SLD 7	2.71	-449.48	-6601	-0.0000368	0.0005615	0.0035	1.2809		4203.97	4203.97	9.35		Si
SLV 11	0.67	2287.79	197	-0.0377776	0.0005615	0.0035	1.0247		0	0	0		No
SLV 11	2.71	-653.02	-1276	-0.0000349	0.0005615	0.0035	1.0247		1171.07	1171.07	1.79		Si
SLD 12	0.67	1362.06	-6685	-0.0000555	0.0005615	0.0035	1.2809		3939.9	3939.9	2.89		Si
SLD 12	2.71	-304.25	-6585	-0.0000338	0.0005615	0.0035	1.2809		4195.31	4195.31	13.79		Si
SLV 9	0.67	-2507.73	-33586	-0.0002301	0.0005615	0.0035	1.2809		12239.65	12239.65	4.88		Si
SLV 9	2.71	1473.39	-26979	-0.0001615	0.0005615	0.0035	1.2809		11209.2	11209.2	7.61		Si
SLD 8	0.67	1542.1	-6498	-0.0000586	0.0005615	0.0035	1.2809		3853.61	3853.61	2.5		Si
SLD 8	2.71	-480.41	-6587	-0.0000373	0.0005615	0.0035	1.2809		4196.43	4196.43	8.74		Si
SLD 11	0.67	1349.91	-6734	-0.0000555	0.0005615	0.0035	1.2809		3962.54	3962.54	2.94		Si
SLD 11	2.71	-273.32	-6599	-0.0000332	0.0005615	0.0035	1.2809		4202.85	4202.85	15.38		Si
SLV 8	0.67	2589.15	569	-0.0443174	0.0005615	0.0035	1.0247		0	0	0		No
SLV 8	2.71	-979.17	-1255	-0.000331	0.0005615	0.0035	1.0247		1158.21	1158.21	1.18		Si
SLV 7	0.67	2569.14	488	-0.0441261	0.0005615	0.0035	1.0247		0	0	0		No
SLV 7	2.71	-928.22	-1278	-0.0002589	0.0005615	0.0035	1.0247		1172.64	1172.64	1.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	0.67	-75.62	-21404	-17824	-1937	1.2809	1.2809	-49697	10833	5904	21410	10740	3266	14006	No	7.23	Si
SLU 40	2.71	647.99	-18603	-15491	-548	1.2809	1.2809	-43193	10833	5282	21410	10740	3266	14006	No	25.57	Si
SLU 73	0.67	-30.67	-24085	-20056	-1934	1.2809	1.2809	-55922	10833	6499	21410	10740	3266	14006	No	7.24	Si
SLU 73	2.71	550.36	-20726	-17259	-288	1.2809	1.2809	-48122	10833	5753	21410	10740	3266	14006	No	48.57	Si
SLU 76	0.67	-28.78	-24324	-20255	-1952	1.2809	1.2809	-56476	10833	6552	21410	10740	3266	14006	No	7.18	Si
SLU 76	2.71	552.68	-20951	-17446	-280	1.2809	1.2809	-48645	10833	5803	21410	10740	3266	14006	No	50.07	Si
SLU 82	0.67	-37.22	-25066	-20872	-2043	1.2809	1.2809	-58198	10833	6717	21410	10740	3266	14006	No	6.85	Si
SLU 82	2.71	656.18	-21665	-18041	-400	1.2809	1.2809	-50303	10833	5962	21410	10740	3266	14006	No	35.02	Si
SLU 42	0.67	-73.72	-21643	-18023	-1955	1.2809	1.2809	-50251	10833	5957	21410	10740	3266	14006	No	7.16	Si
SLU 42	2.71	650.31	-18829	-15679	-539	1.2809	1.2809	-43717	10833	5332	21410	10740	3266	14006	No	25.97	Si
SLU 83	0.67	-12.86	-25126	-20923	-1941	1.2809	1.2809	-58337	10833	6730	21410	10740	3266	14006	No	7.22	Si
SLU 83	2.71	641.26	-21758	-18118	-299	1.2809	1.2809	-50518	10833	5982	21410	10740	3266	14006	No	46.85	Si
SLU 84	0.67	-35.32	-25304	-21071	-2062	1.2809	1.2809	-58752	10833	6770	21410	10740	3266	14006	No	6.79	Si
SLU 84	2.71	658.5	-21891	-18229	-391	1.2809	1.2809	-50826	10833	6012	21410	10740	3266	14006	No	35.79	Si
SLU 78	0.67	-15.14	-24593	-20479	-1913	1.2809	1.2809	-57100	10833	6612	21410	10740	3266	14006	No	7.32	Si
SLU 78	2.71	547.75	-21229	-17677	-220	1.2809	1.2809	-49289	10833	5865	21410	10740	3266	14006	No	63.66	Si
SLU 75	0.67	-17.04	-24354	-20280	-1895	1.2809	1.2809	-56546	10833	6559	21410	10740	3266	14006	No	7.39	Si
SLU 75	2.71	545.43	-21003	-17490	-229	1.2809	1.2809	-48766	10833	5815	21410	10740	3266	14006	No	61.26	Si
SLU 81	0.67	-14.75	-24887	-20724	-1922	1.2809	1.2809	-57783	10833	6677	21410	10740	3266	14006	No	7.29	Si
SLU 81	2.71	638.94	-21533	-17931	-308	1.2809	1.2809	-49995	10833	5932	21410	10740	3266	14006	No	45.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.67	2569.14	488	406	8233	1.0247	0	0	0	0	21410	12887	2613	15500		1.88	Si
SLV 7	2.71	-928.22	-1278	-1064	7339	1.0247	0	0	0	0	21410	12887	2613	15500		2.11	Si
SLV 10	0.67	-2487.72	-33505	-27900	-10299	1.2809	1.2809	-77793	16250	9166	21410	16109	3266	19376		1.88	Si
SLV 10	2.71	1422.43	-26956	-22446	-7079	1.2809	1.2809	-62586	16250	7712	21410	16109	3266	19376		2.74	Si
SLD 10	0.67	-1448.54	-26470	-22042	-6495	1.2809	1.2809	-61459	16250	7604	21410	16109	3266	19376		2.98	Si
SLD 10	2.71	943.7	-21633	-18014	-4124	1.2809	1.2809	-50227	16250	6530	21410	16109	3266	19376		4.7	Si
SLV 9	0.67	-2507.73	-33586	-27968	-10455	1.2809	1.2809	-77980	16250	9184	21410	16109	3266	19376		1.85	Si
SLV 9	2.71	1473.39	-26979	-22466	-7241	1.2809	1.2809	-62641	16250	7717	21410	16109	3266	19376		2.68	Si
SLD 9	0.67	-1460.68	-26519	-22083	-6589	1.2809	1.2809	-61573	16250	7615	21410	16109	3266	19376		2.94	Si
SLD 9	2.71	974.63	-21647	-18026	-4222	1.2809	1.2809	-50260	16250	6533	21410	16109	3266	19376		4.59	Si
SLV 6	0.67	-2206.37	-33214	-27658	-9077	1.2809	1.2809	-77117	16250	9102	21410	16109	3266	19376		2.13	Si
SLV 6	2.71	1147.23	-26958	-22449	-5997	1.2809	1.2809	-62592	16250	7713	21410	16109	3266	19376		3.23	Si
SLV 8	0.67	2589.15	569	473	8389	1.0247	0	0	0	0	21410	12887	2613	15500		1.85	Si
SLV 8	2.71	-979.17	-1255	-1045	7501	1.0247	0	0	0	0	21410	12887	2613	15500		2.07	Si
SLV 11	0.67	2287.79	197	164	7011	1.0247	0	0	0	0	21410	12887	2613	15500		2.21	Si
SLV 11	2.71	-653.02	-1276	-1062	6258	1.0247	0.3857	0	0	0	21410	12887	2613	15500		2.48	Si
SLV 5	0.67	-2226.37	-33295	-27725	-9232	1.2809	1.2809	-77304	16250	9120	21410	16109	3266	19376		2.1	Si
SLV 5	2.71	1198.19	-26982	-22468	-6159	1.2809	1.2809	-62647	16250	7718	21410	16109	3266	19376		3.15	Si
SLV 12	0.67	2307.8	277	231	7167	1.0247	0	0	0	0	21410	12887	2613	15500		2.16	Si
SLV 12	2.71	-703.97	-1252	-1043	6420	1.0247	0.2346	0	0	0	21410	12887	2613	15500		2.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.69 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.28	0	-101	32.61	0	0	No, e>t/2
SLV 12	179667	0.28	0	-125	32.61	0	0	No, e>t/2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.28	831	-298	32.61	41.51	1.27	Si
SLV 8	179667	0.28	895	-321	32.61	44.69	1.37	Si
SLV 15	179667	0.28	29104	-10438	32.61	1182.84	36.27	Si
SLV 16	179667	0.28	29199	-10472	32.61	1185.8	36.37	Si
SLV 3	179667	0.28	30931	-11094	32.61	1238.53	37.98	Si
SLV 4	179667	0.28	31027	-11128	32.61	1241.37	38.07	Si
SLV 13	179667	0.28	54369	-19499	32.61	1758.03	53.91	Si
SLV 14	179667	0.28	54465	-19534	32.61	1759.41	53.96	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.69 Wa = 0.05 Ta = 0.0248

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-26979	-33586	89	0.327	2851.3	0.989	4.81295	2.92747	Si
SLV 10	-26956	-33505	91	0.328	2848.9	0.988	4.81524	2.92747	Si
SLV 5	-26982	-33295	79	0.328	2851.5	0.989	4.81782	2.92747	Si
SLV 6	-26958	-33214	81	0.328	2849.1	0.988	4.82012	2.92747	Si
SLV 13	-17986	-22121	77	0.453	1934.7	0.983	6.69331	3.07085	Si
SLV 14	-17951	-22002	79	0.453	1931.1	0.983	6.70199	3.07085	Si
SLV 1	-17994	-21151	44	0.454	1935.6	0.983	6.71664	3.07085	Si
SLV 2	-17959	-21031	47	0.455	1932	0.983	6.72536	3.07085	Si
SLV 15	-10275	-11986	57	0.726	1149.1	0.972	10.84466	3.07085	Si
SLV 16	-10240	-11867	59	0.728	1145.5	0.972	10.87332	3.07085	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.019	SLU 42	Si
V_SLU	6.793	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	1.848	SLV 8	Si
PFFP_SLV	0	SLV 11	No
R_SLV	1.644	SLV 9	Si

Maschio 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 271 cm	L5	1.281	0.28	1.64	1.64	1.64			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 18	2.71	-214.14	-15075	-0.0000735	0.0003743	0.0035	1.2809	5668.79	7097.66	7097.66	33.14	No	Si
SLU 18	4.35	14.46	-13988	-0.0000634	0.0003743	0.0035	1.2809	5526.61	6574.89	6574.89	454.63	No	Si
SLU 20	2.71	-209.21	-15300	-0.0000746	0.0003743	0.0035	1.2809	5692.97	7145.65	7145.65	34.16	No	Si
SLU 20	4.35	10.99	-14216	-0.0000645	0.0003743	0.0035	1.2809	5559.92	6632.6	6632.6	603.5	No	Si
SLU 82	2.71	-216.8	-20352	-0.0001024	0.0003743	0.0035	1.2809	5769.34	8139.69	8139.69	37.55	No	Si
SLU 82	4.35	38.06	-18925	-0.00009	0.0003743	0.0035	1.2809	5838.53	7827.45	7827.45	205.67	No	Si
SLU 40	2.71	-250.44	-17334	-0.0000863	0.0003743	0.0035	1.2809	5831.39	7604.93	7604.93	30.37	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	4.35	51.91	-16220	-0.0000757	0.0003743	0.0035	1.2809	5773.58	7153.98	7153.98	137.82	No	Si
SLU 42	2.71	-245.5	-17558	-0.0000875	0.0003743	0.0035	1.2809	5837.78	7658.53	7658.53	31.2	No	Si
SLU 42	4.35	48.44	-16449	-0.0000769	0.0003743	0.0035	1.2809	5789	7214.91	7214.91	148.96	No	Si
SLU 19	2.71	-234.86	-15201	-0.0000746	0.0003743	0.0035	1.2809	5682.51	7124.39	7124.39	30.33	No	Si
SLU 19	4.35	24.72	-14093	-0.0000642	0.0003743	0.0035	1.2809	5542.2	6601.45	6601.45	267.01	No	Si
SLU 41	2.71	-224.78	-17433	-0.0000863	0.0003743	0.0035	1.2809	5834.43	7628.52	7628.52	33.94	No	Si
SLU 41	4.35	38.17	-16344	-0.0000761	0.0003743	0.0035	1.2809	5782.12	7186.76	7186.76	188.26	No	Si
SLU 21	2.71	-229.93	-15426	-0.0000757	0.0003743	0.0035	1.2809	5705.71	7172.73	7172.73	31.2	No	Si
SLU 21	4.35	21.25	-14321	-0.0000653	0.0003743	0.0035	1.2809	5574.67	6659.36	6659.36	313.35	No	Si
SLU 39	2.71	-229.72	-17208	-0.0000852	0.0003743	0.0035	1.2809	5827.06	7575.26	7575.26	32.98	No	Si
SLU 39	4.35	41.65	-16115	-0.0000749	0.0003743	0.0035	1.2809	5765.86	7126.03	7126.03	171.11	No	Si
SLU 84	2.71	-211.86	-20577	-0.0001036	0.0003743	0.0035	1.2809	5751.95	8166.3	8166.3	38.55	No	Si
SLU 84	4.35	34.59	-19153	-0.0000912	0.0003743	0.0035	1.2809	5832.26	7854.41	7854.41	227.09	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	2.71	1137.33	-1686	-0.0010069	0.0005615	0.0035	1.0247		1147.25	1147.25	1.01		Si
SLV 11	4.35	-19.51	-3057	-0.0000131	0.0005615	0.0035	1.2809		2234.83	2234.83	114.54		Si
SLD 12	2.71	683.18	-6609	-0.0000415	0.0005615	0.0035	1.2809		3904.78	3904.78	5.72		Si
SLD 12	4.35	-44.28	-6901	-0.00003	0.0005615	0.0035	1.2809		4361.98	4361.98	98.5		Si
SLV 7	2.71	1302.32	-1580	-0.0047639	0.0005615	0.0035	1.0247		1083.18	1083.18	0.83		No
SLV 7	4.35	-283.25	-2266	-0.0000148	0.0005615	0.0035	1.2809		1769.73	1769.73	6.25		Si
SLV 8	2.71	1318.28	-1532	-0.0055366	0.0005615	0.0035	1.0247		1053.79	1053.79	0.8		No
SLV 8	4.35	-347.87	-2065	-0.0000152	0.0005615	0.0035	1.2809		1649.7	1649.7	4.74		Si
SLV 12	2.71	1153.29	-1637	-0.0015213	0.0005615	0.0035	1.0247		1117.85	1117.85	0.97		No
SLV 12	4.35	-84.13	-2856	-0.0000135	0.0005615	0.0035	1.2809		2116.24	2116.24	25.16		Si
SLV 4	2.71	674.91	-9808	-0.0000557	0.0005615	0.0035	1.2809		5421.36	5421.36	8.03		Si
SLV 4	4.35	-543.66	-8094	-0.0000453	0.0005615	0.0035	1.2809		4971.67	4971.67	9.14		Si
SLD 11	2.71	673.49	-6638	-0.0000414	0.0005615	0.0035	1.2809		3918.38	3918.38	5.82		Si
SLD 11	4.35	-5.07	-7023	-0.0000297	0.0005615	0.0035	1.2809		4426.25	4426.25	872.59		Si
SLV 3	2.71	651.2	-9880	-0.0000555	0.0005615	0.0035	1.2809		5456.36	5456.36	8.38		Si
SLV 3	4.35	-447.67	-8394	-0.0000447	0.0005615	0.0035	1.2809		5122.9	5122.9	11.44		Si
SLD 8	2.71	788.73	-6541	-0.0000433	0.0005615	0.0035	1.2809		3873.38	3873.38	4.91		Si
SLD 8	4.35	-213.45	-6394	-0.0000311	0.0005615	0.0035	1.2809		4094.88	4094.88	19.18		Si
SLD 7	2.71	779.05	-6570	-0.0000432	0.0005615	0.0035	1.2809		3886.96	3886.96	4.99		Si
SLD 7	4.35	-174.23	-6516	-0.0000309	0.0005615	0.0035	1.2809		4159.12	4159.12	23.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	2.71	112.4	-17651	-14699	141	1.2809	1.2809	-40983	10833	5940	16652	10740	3266	14006	No	99.45	Si
SLU 64	4.35	-1.76	-16278	-13555	1839	1.2809	1.2809	-37795	10833	5583	16652	10740	3266	14006	No	7.61	Si
SLU 66	2.71	118.73	-18017	-15003	138	1.2809	1.2809	-41833	10833	6035	16652	10740	3266	14006	No	101.59	Si
SLU 66	4.35	-4.93	-16651	-13865	1882	1.2809	1.2809	-38660	10833	5680	16652	10740	3266	14006	No	7.44	Si
SLU 70	2.71	102.95	-18367	-15295	29	1.2809	1.2809	-42646	10833	6127	16652	10740	3266	14006	No	490.9	Si
SLU 70	4.35	1.86	-16985	-14144	1830	1.2809	1.2809	-39436	10833	5767	16652	10740	3266	14006	No	7.65	Si
SLU 79	2.71	-93.66	-19904	-16574	-258	1.2809	1.2809	-46212	10833	6526	16652	10740	3266	14006	No	54.36	Si
SLU 79	4.35	11.99	-18514	-15417	1890	1.2809	1.2809	-42986	10833	6165	16652	10740	3266	14006	No	7.41	Si
SLU 72	2.71	101.55	-18226	-15177	34	1.2809	1.2809	-42317	10833	6090	16652	10740	3266	14006	No	412.11	Si
SLU 72	4.35	1.55	-16841	-14023	1820	1.2809	1.2809	-39101	10833	5729	16652	10740	3266	14006	No	7.7	Si
SLU 74	2.71	-97.21	-19820	-16505	-266	1.2809	1.2809	-46019	10833	6505	16652	10740	3266	14006	No	52.73	Si
SLU 74	4.35	15.76	-18430	-15347	1868	1.2809	1.2809	-42791	10833	6143	16652	10740	3266	14006	No	7.5	Si
SLU 71	2.71	122.27	-18101	-15073	146	1.2809	1.2809	-42026	10833	6057	16652	10740	3266	14006	No	96.05	Si
SLU 71	4.35	-8.71	-16735	-13936	1904	1.2809	1.2809	-38856	10833	5702	16652	10740	3266	14006	No	7.35	Si
SLU 83	2.71	-191.14	-20452	-17030	-433	1.2809	1.2809	-47485	10833	6669	16652	10740	3266	14006	No	32.34	Si
SLU 83	4.35	24.32	-19048	-15862	1852	1.2809	1.2809	-44226	10833	6304	16652	10740	3266	14006	No	7.56	Si
SLU 77	2.71	-92.27	-20045	-16692	-263	1.2809	1.2809	-46541	10833	6563	16652	10740	3266	14006	No	53.23	Si
SLU 77	4.35	12.29	-18658	-15537	1900	1.2809	1.2809	-43321	10833	6202	16652	10740	3266	14006	No	7.37	Si
SLU 69	2.71	123.67	-18242	-15190	140	1.2809	1.2809	-42354	10833	6094	16652	10740	3266	14006	No	99.78	Si
SLU 69	4.35	-8.4	-16880	-14056	1914	1.2809	1.2809	-39191	10833	5739	16652	10740	3266	14006	No	7.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	2.71	651.2	-9880	-8227	4071	1.2809	1.2809	-22939	15004	5381	16652	16109	3266	19376		4.76	Si
SLV 3	4.35	-447.67	-8394	-6990	4585	1.2809	1.2809	-19489	14314	5134	16652	16109	3266	19376		4.23	Si
SLV 8	2.71	1318.28	-1532	-1275	6638	1.0247	0	0	0	0	16652	12887	2613	15500		2.34	Si
SLV 8	4.35	-347.87	-2065	-1719	5732	1.2809	1.2809	-4794	11375	4080	16652	16109	3266	19376		3.38	Si
SLV 5	2.71	-1096.92	-25611	-21327	-5089	1.2809	1.2809	-59465	16250	8685	16652	16109	3266	19376		3.81	Si
SLV 5	4.35	81.29	-22269	-18544	-1567	1.2809	1.2809	-51705	16250	7816	16652	16109	3266	19376		12.36	Si
SLV 11	2.71	1137.33	-1686	-1404	4865	1.0247	0	0	0	0	16652	12887	2613	15500		3.19	Si
SLV 11	4.35	-19.51	-3057	-2546	4066	1.2809	1.2809	-7098	11836	4245	16652	16109	3266	19376		4.77	Si
SLV 6	2.71	-1080.96	-25563	-21287	-4832	1.2809	1.2809	-59352	16250	8673	16652	16109	3266	19376		4.01	Si
SLV 6	4.35	16.67	-22068	-18376	-1307	1.2809	1.2809	-51237	16250	7763	16652	16109	3266	19376		14.83	Si
SLV 7	2.71	1302.32	-1580	-1316	6381	1.0247	0	0	0	0	16652	12887	2613	15500		2.43	Si
SLV 7	4.35	-283.25	-2266	-1887	5472	1.2809	1.2809	-5262	11469	4113	16652	16109	3266	19376		3.54	Si
SLV 10	2.71	-1245.94	-25669	-21375	-6347	1.2809	1.2809	-59598	16250	8700	16652	16109	3266	19376		3.05	Si
SLV 10	4.35	280.42	-22858	-19035	-2712	1.2809	1.2809	-53073	16250	7969	16652	16109	3266	19376		7.14	Si
SLV 4	2.71	674.91	-9808	-8167	4454	1.2809	1.2809	-22771	14971	5369	16652	16109	3266	19376		4.35	Si
SLV 4	4.35	-543.66	-8094	-6740	4972	1.2809	1.2809	-18793	14175	5084	16652	16109	3266	19376		3.9	Si
SLV 9	2.71	-1261.91	-25717	-21415	-6605	1.2809	1.2809	-59710	16250	8713	16652	16109	3266	19376		2.93	Si
SLV 9	4.35	345.03	-23060	-19202	-2973	1.2809	1.2809	-53541	16250	8022	16652	16109	3266	19376		6.52	Si
SLV 12	2.71	1153.29	-1637	-1363	5123	1.0247	0	0	0	0	16652	12887	2613	15500		3.03	Si
SLV 12	4.35	-84.13	-2856	-2378	4327	1.2809	1.2809	-6630	11743	4212	16652	16109	3266	19376		4.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.53 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.32	4570	-1639	24.04	222.58	9.26	Si
SLV 7	179667	0.32	5007	-1796	24.04	243.14	10.11	Si
SLV 12	179667	0.32	6192	-2221	24.04	298.31	12.41	Si
SLV 11	179667	0.32	6629	-2378	24.04	318.41	13.24	Si
SLV 4	179667	0.32	24890	-8927	24.04	1046.07	43.51	Si
SLV 3	179667	0.32	25539	-9160	24.04	1067.9	44.42	Si
SLV 16	179667	0.32	30299	-10867	24.04	1219.51	50.73	Si
SLV 15	179667	0.32	30948	-11100	24.04	1239.03	51.54	Si
SLV 2	179667	0.32	44022	-15788	24.04	1573.21	65.44	Si
SLV 1	179667	0.32	44671	-16021	24.04	1586.88	66.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.53 Wa = 0.05 Ta = 0.016

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-23060	-25717	54	0.39	2431.9	0.989	5.73012	3.09531	Si
SLV 10	-22858	-25669	54	0.393	2411.4	0.989	5.76922	3.09531	Si
SLV 5	-22269	-25611	-11	0.402	2351.3	0.989	5.91539	3.09531	Si
SLV 6	-22068	-25563	-11	0.405	2330.8	0.989	5.95757	3.09531	Si
SLV 13	-17031	-17441	118	0.491	1817.4	0.986	7.23905	3.19084	Si
SLV 14	-16731	-17369	118	0.498	1786.9	0.985	7.34457	3.19084	Si
SLV 1	-14394	-17089	-97	0.564	1548.8	0.983	8.33701	3.19084	Si
SLV 2	-14095	-17017	-97	0.574	1518.2	0.983	8.48477	3.19084	Si
SLV 15	-11030	-10232	109	0.702	1205.9	0.979	10.42931	3.19084	Si
SLV 16	-10730	-10160	109	0.719	1175.4	0.978	10.67874	3.19084	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	30.334	SLU 19	Si
V_SLU	7.316	SLU 69	Si
PF_SLV	0.799	SLV 8	No
V_SLV	2.335	SLV 8	Si
PFFP_SLV	9.258	SLV 8	Si
R_SLV	1.851	SLV 9	Si

Maschio 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	0.051	L4	L5	3.456	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.67	10565.29	-59758	-0.0001458	0.0003743	0.0035	3.4556	40617.02	59774.66	59774.66	5.66	No	Si
SLU 81	2.77	-610.43	-54118	-0.0000975	0.0003743	0.0035	3.4556	42136.85	59533.61	59533.61	97.53	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	0.67	9856.05	-53016	-0.0001271	0.0003743	0.0035	3.4556	42303.59	57531.68	57531.68	5.84	No	Si
SLU 69	2.77	-2027.06	-48496	-0.0000905	0.0003743	0.0035	3.4556	42541.59	56681.15	56681.15	27.96	No	Si
SLU 83	0.67	10726.12	-60465	-0.0001482	0.0003743	0.0035	3.4556	40347.72	60013.99	60013.99	5.6	No	Si
SLU 83	2.77	-575.78	-54839	-0.0000989	0.0003743	0.0035	3.4556	42004.86	59759.22	59759.22	103.79	No	Si
SLU 74	0.67	10460.85	-58277	-0.0001418	0.0003743	0.0035	3.4556	41123.92	59281.79	59281.79	5.67	No	Si
SLU 74	2.77	-1020.62	-52999	-0.0000965	0.0003743	0.0035	3.4556	42305.9	59147.47	59147.47	57.95	No	Si
SLU 84	0.67	10352.48	-60536	-0.0001469	0.0003743	0.0035	3.4556	40319.72	60038.16	60038.16	5.8	No	Si
SLU 84	2.77	-470.94	-55119	-0.0000991	0.0003743	0.0035	3.4556	41948.49	59842.35	59842.35	127.07	No	Si
SLU 80	0.67	10185.18	-58685	-0.0001417	0.0003743	0.0035	3.4556	40992.02	59416.4	59416.4	5.83	No	Si
SLU 80	2.77	-882.47	-53601	-0.0000973	0.0003743	0.0035	3.4556	42220.39	59360.63	59360.63	67.27	No	Si
SLU 77	0.67	10621.68	-58985	-0.0001441	0.0003743	0.0035	3.4556	40891.34	59515.89	59515.89	5.6	No	Si
SLU 77	2.77	-985.96	-53719	-0.0000979	0.0003743	0.0035	3.4556	42202.22	59400.78	59400.78	60.25	No	Si
SLU 71	0.67	9793.19	-52646	-0.000126	0.0003743	0.0035	3.4556	42350.07	57401.74	57401.74	5.86	No	Si
SLU 71	2.77	-2028.4	-48097	-0.0000897	0.0003743	0.0035	3.4556	42528.19	56452.84	56452.84	27.83	No	Si
SLU 78	0.67	10248.04	-59056	-0.0001429	0.0003743	0.0035	3.4556	40867.02	59539.53	59539.53	5.81	No	Si
SLU 78	2.77	-881.13	-54000	-0.0000981	0.0003743	0.0035	3.4556	42156.87	59494.68	59494.68	67.52	No	Si
SLU 79	0.67	10558.82	-58614	-0.000143	0.0003743	0.0035	3.4556	41015.41	59392.9	59392.9	5.62	No	Si
SLU 79	2.77	-987.31	-53320	-0.0000971	0.0003743	0.0035	3.4556	42261.81	59262.88	59262.88	60.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	0.67	23641.43	-35779	-0.0001289	0.0005615	0.0035	3.4556		50757.61	50757.61	2.15		Si
SLD 8	2.77	-4118.18	-23019	-0.0000477	0.0005615	0.0035	3.4556		38327.17	38327.17	9.31		Si
SLV 7	0.67	35290.15	-33036	-0.000205	0.0005615	0.0035	3.4556		47984.94	47984.94	1.36		Si
SLV 7	2.77	-5969.16	-14288	-0.0000384	0.0005615	0.0035	3.4556		26091.72	26091.72	4.37		Si
SLD 11	0.67	23260.2	-35219	-0.0001266	0.0005615	0.0035	3.4556		50188.57	50188.57	2.16		Si
SLD 11	2.77	-3351.25	-24121	-0.0000474	0.0005615	0.0035	3.4556		39799.02	39799.02	11.88		Si
SLV 8	0.67	35191.75	-32928	-0.0002044	0.0005615	0.0035	3.4556		47875.98	47875.98	1.36		Si
SLV 8	2.77	-5946.26	-13909	-0.0000377	0.0005615	0.0035	3.4556		25539.78	25539.78	4.3		Si
SLV 12	0.67	34507.44	-31949	-0.0002012	0.0005615	0.0035	3.4556		46842.43	46842.43	1.36		Si
SLV 12	2.77	-4728.64	-15270	-0.0000366	0.0005615	0.0035	3.4556		27509.18	27509.18	5.82		Si
SLV 11	0.67	34605.84	-32057	-0.0002019	0.0005615	0.0035	3.4556		46981.98	46981.98	1.36		Si
SLV 11	2.77	-4751.55	-15649	-0.0000373	0.0005615	0.0035	3.4556		28059.73	28059.73	5.91		Si
SLV 10	0.67	-20758.19	-46518	-0.0001397	0.0005615	0.0035	3.4556		64943.07	64943.07	3.13		Si
SLV 10	2.77	3150.83	-57782	-0.0001066	0.0005615	0.0035	3.4556		71326.83	71326.83	22.64		Si
SLD 7	0.67	23701.14	-35844	-0.0001292	0.0005615	0.0035	3.4556		50824.7	50824.7	2.14		Si
SLD 7	2.77	-4132.08	-23249	-0.0000481	0.0005615	0.0035	3.4556		38633.49	38633.49	9.35		Si
SLV 9	0.67	-20659.79	-46627	-0.0001397	0.0005615	0.0035	3.4556		65027.98	65027.98	3.15		Si
SLV 9	2.77	3127.92	-58161	-0.0001072	0.0005615	0.0035	3.4556		71602.33	71602.33	22.89		Si
SLD 12	0.67	23200.49	-35153	-0.0001262	0.0005615	0.0035	3.4556		50121.69	50121.69	2.16		Si
SLD 12	2.77	-3337.35	-23891	-0.000047	0.0005615	0.0035	3.4556		39490.64	39490.64	11.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.67	10460.85	-58277	-48528	6926	3.4556	3.4556	-50155	10833	22601	40441	28974	8812	37785	No	5.46	Si
SLU 74	2.77	-1020.62	-52999	-44133	5722	3.4556	3.4556	-45612	10833	20950	40441	28974	8812	37785	No	6.6	Si
SLU 58	0.67	9473.33	-52532	-43744	6690	3.4556	3.4556	-45210	10833	20804	40441	28974	8812	37785	No	5.65	Si
SLU 58	2.77	-1410.47	-47191	-39297	5627	3.4556	3.4556	-40614	10833	19134	40441	28974	8812	37785	No	6.71	Si
SLU 60	0.67	9479.8	-53676	-44696	6789	3.4556	3.4556	-46194	10833	21162	40441	28974	8812	37785	No	5.57	Si
SLU 60	2.77	-1033.58	-47989	-39961	5766	3.4556	3.4556	-41301	10833	19383	40441	28974	8812	37785	No	6.55	Si
SLU 81	0.67	10565.29	-59758	-49761	7076	3.4556	3.4556	-51428	10833	23064	40441	28974	8812	37785	No	5.34	Si
SLU 81	2.77	-610.43	-54118	-45065	5895	3.4556	3.4556	-46575	10833	21300	40441	28974	8812	37785	No	6.41	Si
SLU 62	0.67	9640.63	-54383	-45285	6855	3.4556	3.4556	-46803	10833	21383	40441	28974	8812	37785	No	5.51	Si
SLU 62	2.77	-998.93	-48710	-40561	5806	3.4556	3.4556	-41920	10833	19609	40441	28974	8812	37785	No	6.51	Si
SLU 83	0.67	10726.12	-60465	-50350	7141	3.4556	3.4556	-52037	10833	23285	40441	28974	8812	37785	No	5.29	Si
SLU 83	2.77	-575.78	-54839	-45665	5934	3.4556	3.4556	-47195	10833	21525	40441	28974	8812	37785	No	6.37	Si
SLU 79	0.67	10558.82	-58614	-48809	6977	3.4556	3.4556	-50444	10833	22706	40441	28974	8812	37785	No	5.42	Si
SLU 79	2.77	-987.31	-53320	-44401	5756	3.4556	3.4556	-45889	10833	21051	40441	28974	8812	37785	No	6.56	Si
SLU 77	0.67	10621.68	-58985	-49117	6992	3.4556	3.4556	-50763	10833	22822	40441	28974	8812	37785	No	5.4	Si
SLU 77	2.77	-985.96	-53719	-44732	5762	3.4556	3.4556	-46231	10833	21175	40441	28974	8812	37785	No	6.56	Si
SLU 84	0.67	10352.48	-60536	-50409	6750	3.4556	3.4556	-52098	10833	23307	40441	28974	8812	37785	No	5.6	Si
SLU 84	2.77	-470.94	-55119	-45899	5520	3.4556	3.4556	-47437	10833	21613	40441	28974	8812	37785	No	6.84	Si
SLU 56	0.67	9536.19	-52903	-44053	6705	3.4556	3.4556	-45529	10833	20920	40441	28974	8812	37785	No	5.64	Si
SLU 56	2.77	-1409.12	-47590	-39629	5634	3.4556	3.4556	-40957	10833	19258	40441	28974	8812	37785	No	6.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.67	35290.15	-33036	-27510	31508	3.4556	1.9787	-28431	16103	16893	40441	43460	8812	52272		1.66	Si
SLV 7	2.77	-5969.16	-14288	-11898	32511	3.4556	3.4556	-12297	12876	12459	40441	43460	8812	52272		1.61	Si
SLV 10	0.67	-20758.19	-46518	-38736	-21621	3.4556	3.4556	-40035	16250	21110	40441	43460	8812	52272		2.42	Si
SLV 10	2.77	3150.83	-57782	-48116	-24327	3.4556	3.4556	-49728	16250	24633	40441	43460	8812	52272		2.15	Si
SLV 12	0.67	34507.44	-31949	-26604	29321	3.4556	1.9432	-27496	15916	16553	40441	43460	8812	52272		1.78	Si
SLV 12	2.77	-4728.64	-15270	-12715	30246	3.4556	3.4556	-13142	13045	12622	40441	43460	8812	52272		1.73	Si
SLV 5	0.67	-19975.49	-47606	-39642	-19435	3.4556	3.4556	-40970	16250	21450	40441	43460	8812	52272		2.69	Si
SLV 5	2.77	1910.31	-56800	-47298	-22063	3.4556	3.4556	-48883	16250	24326	40441	43460	8812	52272		2.37	Si
SLD 8	0.67	23641.43	-35779	-29793	20691	3.4556	3.2011	-30792	16250	17751	40441	43460	8812	52272		2.53	Si
SLD 8	2.77	-4118.18	-23019	-19168	20917	3.4556	3.4556	-19811	14379	13913	40441	43460	8812	52272		2.5	Si
SLD 7	0.67	23701.14	-35844	-29848	20579	3.4556	3.1998	-30848	16250	17772	40441	43460	8812	52272		2.54	Si
SLD 7	2.77	-4132.08	-23249	-19360	20814	3.4556	3.4556	-20009	14418	13951	40441	43460	8812	52272		2.51	Si
SLV 6	0.67	-20073.89	-47497	-39551	-19251	3.4556	3.4556	-40877	16250	21416	40441	43460	8812	52272		2.72	Si
SLV 6	2.77	1933.21	-56421	-46982	-21894	3.4556	3.4556	-48557	16250	24207	40441	43460	8812	52272		2.39	Si
SLV 8	0.67	35191.75	-32928	-27419	31691	3.4556	1.9771	-28338	16084	16859	40441	43460	8812	52272		1.65	Si
SLV 8	2.77	-5946.26	-13909	-11582	32680	3.4556	3.4556	-11970	12811	12395	40441	43460	8812	52272		1.6	Si
SLV 11	0.67	34605.84	-32057	-26695	29138	3.4556	1.9449	-27589	15934	16587	40441	43460	8812	52272		1.79	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	2.77	-4751.55	-15649	-13031	30077	3.4556	3.4556	-13468	13110	12685	40441	43460	8812	52272		1.74	Si
SLV 9	0.67	-20659.79	-46627	-38827	-21805	3.4556	3.4556	-40128	16250	21144	40441	43460	8812	52272		2.4	Si
SLV 9	2.77	3127.92	-58161	-48432	-24496	3.4556	3.4556	-50054	16250	24752	40441	43460	8812	52272		2.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	17907	-17326	312.08	2141.23	6.86	Si
SLV 7	179667	0.3	18257	-17665	312.08	2177.46	6.98	Si
SLV 12	179667	0.3	19030	-18413	312.08	2256.62	7.23	Si
SLV 11	179667	0.3	19381	-18752	312.08	2292.14	7.34	Si
SLV 4	179667	0.3	30375	-29390	312.08	3296.23	10.56	Si
SLV 3	179667	0.3	30895	-29894	312.08	3338.45	10.7	Si
SLV 16	179667	0.3	34120	-33014	312.08	3589.29	11.5	Si
SLV 15	179667	0.3	34641	-33517	312.08	3628.05	11.63	Si
SLV 2	179667	0.3	42259	-40888	312.08	4140.37	13.27	Si
SLV 1	179667	0.3	42779	-41392	312.08	4171.61	13.37	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-39041	-40412	931	0.478	4476.2	0.966	7.19583	4.67428	Si
SLV 14	-38300	-40251	930	0.486	4400.7	0.966	7.3183	4.67428	Si
SLV 9	-44958	-46627	274	0.438	5078.5	0.97	6.56191	3.93621	Si
SLV 10	-44458	-46518	274	0.442	5027.6	0.97	6.62664	3.93621	Si
SLV 5	-43361	-47606	-241	0.452	4915.9	0.969	6.78437	3.93621	Si
SLV 6	-42862	-47497	-241	0.457	4865.1	0.969	6.85383	3.93621	Si
SLV 1	-33720	-43675	-786	0.546	3934.7	0.962	8.24578	4.67428	Si
SLV 2	-32978	-43513	-786	0.556	3859.3	0.961	8.40893	4.67428	Si
SLV 15	-32270	-36041	979	0.561	3787.2	0.961	8.48896	4.67428	Si
SLV 16	-31528	-35880	979	0.572	3711.8	0.96	8.66456	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.595	SLU 83	Si
V_SLU	5.291	SLU 83	Si
PF_SLV	1.357	SLV 12	Si
V_SLV	1.6	SLV 8	Si
PFFP_SLV	6.861	SLV 8	Si
R_SLV	1.539	SLV 13	Si

Maschio 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.693	6.661	-17.793	6.661	L4	L5	1.9	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	1.57	-903.73	-20094	-0.0000701	0.0003743	0.0035	1.9	12007.45	14838.85	14838.85	16.42	No	Si
SLU 70	3.47	491.95	-23383	-0.0000773	0.0003743	0.0035	1.9	12623.86	15470.23	15470.23	31.45	No	Si
SLU 78	1.57	-984.24	-22243	-0.0000785	0.0003743	0.0035	1.9	12453.24	15796.01	15796.01	16.05	No	Si
SLU 78	3.47	705.85	-26303	-0.0000902	0.0003743	0.0035	1.9	12853.2	16645.62	16645.62	23.58	No	Si
SLU 75	1.57	-958.88	-21835	-0.0000767	0.0003743	0.0035	1.9	12380.91	15608.09	15608.09	16.28	No	Si
SLU 75	3.47	690.33	-25760	-0.000088	0.0003743	0.0035	1.9	12833.18	16424.87	16424.87	23.79	No	Si
SLU 79	1.57	-974.81	-22215	-0.0000783	0.0003743	0.0035	1.9	12448.34	15782.69	15782.69	16.19	No	Si
SLU 79	3.47	667.21	-26113	-0.0000891	0.0003743	0.0035	1.9	12847.38	16568.46	16568.46	24.83	No	Si
SLU 74	1.57	-960.19	-22002	-0.0000773	0.0003743	0.0035	1.9	12411.3	15684.88	15684.88	16.34	No	Si
SLU 74	3.47	661.46	-25831	-0.000088	0.0003743	0.0035	1.9	12836.4	16454.23	16454.23	24.88	No	Si
SLU 77	1.57	-985.55	-22411	-0.0000791	0.0003743	0.0035	1.9	12481.22	15873.92	15873.92	16.11	No	Si
SLU 77	3.47	676.97	-26375	-0.0000902	0.0003743	0.0035	1.9	12855.06	16674.66	16674.66	24.63	No	Si
SLU 84	1.57	-982.63	-22559	-0.0000796	0.0003743	0.0035	1.9	12505.06	15942.95	15942.95	16.22	No	Si
SLU 84	3.47	772.23	-26750	-0.0000926	0.0003743	0.0035	1.9	12861.9	16827.4	16827.4	21.79	No	Si
SLU 80	1.57	-973.5	-22047	-0.0000776	0.0003743	0.0035	1.9	12419.2	15705.32	15705.32	16.13	No	Si
SLU 80	3.47	696.08	-26042	-0.0000891	0.0003743	0.0035	1.9	12844.87	16539.58	16539.58	23.76	No	Si
SLU 76	1.57	-947.25	-21526	-0.0000755	0.0003743	0.0035	1.9	12322.47	15468.14	15468.14	16.33	No	Si
SLU 76	3.47	699.82	-25451	-0.000087	0.0003743	0.0035	1.9	12817.19	16298.16	16298.16	23.29	No	Si
SLU 83	1.57	-983.95	-22727	-0.0000802	0.0003743	0.0035	1.9	12531.19	16021.73	16021.73	16.28	No	Si
SLU 83	3.47	743.36	-26821	-0.0000925	0.0003743	0.0035	1.9	12862.64	16854.09	16854.09	22.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	1.57	-1819.69	-980	-0.0004153	0.0005615	0.0035	1.52		1960.41	1960.41	1.08		Si
SLV 5	3.47	4378.2	-13635	-0.0000802	0.0005615	0.0035	1.9		11253.41	11253.41	2.57		Si
SLV 10	1.57	1258.15	-1241	-0.0004744	0.0005615	0.0035	1.9		1343.29	1343.29	1.07		Si
SLV 10	3.47	1111.09	-6438	-0.000028	0.0005615	0.0035	1.9		5919.91	5919.91	5.33		Si
SLV 9	1.57	689.94	-899	-0.0000173	0.0005615	0.0035	1.9		1026.33	1026.33	1.49		Si
SLV 9	3.47	1816.33	-7784	-0.0000383	0.0005615	0.0035	1.9		7032.56	7032.56	3.87		Si
SLV 6	1.57	-1251.47	-1322	-0.0000824	0.0005615	0.0035	1.52		2273.85	2273.85	1.82		Si
SLV 6	3.47	3672.96	-12289	-0.0000692	0.0005615	0.0035	1.9		10294.9	10294.9	2.8		Si
SLV 1	1.57	-5138.21	-10555	-0.0000845	0.0005615	0.0035	1.9		10039.53	10039.53	1.95		Si
SLV 1	3.47	5853.25	-25656	-0.0001356	0.0005615	0.0035	1.9		18756.32	18756.32	3.2		Si
SLV 2	1.57	-4294.1	-11063	-0.0000723	0.0005615	0.0035	1.9		10427.98	10427.98	2.43		Si
SLV 2	3.47	4805.58	-23657	-0.0001178	0.0005615	0.0035	1.9		17606.15	17606.15	3.66		Si
SLV 13	1.57	3227.22	-10285	-0.0000588	0.0005615	0.0035	1.9		8891.18	8891.18	2.76		Si
SLV 13	3.47	-2686.34	-6153	-0.000043	0.0005615	0.0035	1.9		6507.02	6507.02	2.42		Si
SLV 15	1.57	3010.64	-18482	-0.0000826	0.0005615	0.0035	1.9		14716.98	14716.98	4.89		Si
SLV 15	3.47	-4130.64	-10326	-0.0000688	0.0005615	0.0035	1.9		9865.41	9865.41	2.39		Si
SLV 16	1.57	3854.75	-18990	-0.0000925	0.0005615	0.0035	1.9		14995.37	14995.37	3.89		Si
SLV 16	3.47	-5178.3	-8327	-0.0000947	0.0005615	0.0035	1.52		8291.29	8291.29	1.6		Si
SLV 14	1.57	4071.33	-10793	-0.0000691	0.0005615	0.0035	1.9		9244.34	9244.34	2.27		Si
SLV 14	3.47	-3734	-4154	-0.0002028	0.0005615	0.0035	1.52		4796.84	4796.84	1.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	1.57	-957.27	-22150	-18445	-3917	1.9	1.9	-34671	10833	6626	40441	15930	4845	20775	No	5.3	Si
SLU 82	3.47	756.72	-26207	-21823	-3908	1.9	1.9	-41020	10833	7526	40441	15930	4845	20775	No	5.32	Si
SLU 81	1.57	-958.58	-22318	-18584	-3858	1.9	1.9	-34933	10833	6663	40441	15930	4845	20775	No	5.39	Si
SLU 81	3.47	727.84	-26278	-21882	-3849	1.9	1.9	-41132	10833	7542	40441	15930	4845	20775	No	5.4	Si
SLU 77	1.57	-985.55	-22411	-18662	-3847	1.9	1.9	-35079	10833	6684	40441	15930	4845	20775	No	5.4	Si
SLU 77	3.47	676.97	-26375	-21962	-3838	1.9	1.9	-41283	10833	7564	40441	15930	4845	20775	No	5.41	Si
SLU 75	1.57	-958.88	-21835	-18182	-3822	1.9	1.9	-34177	10833	6556	40441	15930	4845	20775	No	5.44	Si
SLU 75	3.47	690.33	-25760	-21451	-3814	1.9	1.9	-40321	10833	7427	40441	15930	4845	20775	No	5.45	Si
SLU 79	1.57	-974.81	-22215	-18498	-3806	1.9	1.9	-34771	10833	6640	40441	15930	4845	20775	No	5.46	Si
SLU 79	3.47	667.21	-26113	-21745	-3797	1.9	1.9	-40874	10833	7506	40441	15930	4845	20775	No	5.47	Si
SLU 78	1.57	-984.24	-22243	-18522	-3905	1.9	1.9	-34817	10833	6646	40441	15930	4845	20775	No	5.32	Si
SLU 78	3.47	705.85	-26303	-21903	-3897	1.9	1.9	-41171	10833	7548	40441	15930	4845	20775	No	5.33	Si
SLU 76	1.57	-947.25	-21526	-17925	-3821	1.9	1.9	-33694	10833	6487	40441	15930	4845	20775	No	5.44	Si
SLU 76	3.47	699.82	-25451	-21193	-3812	1.9	1.9	-39837	10833	7359	40441	15930	4845	20775	No	5.45	Si
SLU 80	1.57	-973.5	-22047	-18359	-3865	1.9	1.9	-34509	10833	6603	40441	15930	4845	20775	No	5.38	Si
SLU 80	3.47	696.08	-26042	-21685	-3856	1.9	1.9	-40762	10833	7490	40441	15930	4845	20775	No	5.39	Si
SLU 84	1.57	-982.63	-22559	-18785	-4000	1.9	1.9	-35311	10833	6717	40441	15930	4845	20775	No	5.19	Si
SLU 84	3.47	772.23	-26750	-22275	-3991	1.9	1.9	-41871	10833	7647	40441	15930	4845	20775	No	5.2	Si
SLU 83	1.57	-983.95	-22727	-18925	-3941	1.9	1.9	-35573	10833	6754	40441	15930	4845	20775	No	5.27	Si
SLU 83	3.47	743.36	-26821	-22335	-3932	1.9	1.9	-41982	10833	7663	40441	15930	4845	20775	No	5.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	1.57	-4294.1	-11063	-9213	-11529	1.9	1.6856	-19671	14351	6773	40441	23896	4845	28741		2.49	Si
SLV 2	3.47	4805.58	-23657	-19700	-11307	1.9	1.9	-37029	16250	8645	40441	23896	4845	28741		2.54	Si
SLV 5	1.57	-1819.69	-980	-816	-10016	1.52	0	0	0	0	40441	19117	3876	22993		2.3	Si
SLV 5	3.47	4378.2	-13635	-11354	-9878	1.9	1.8867	-21342	14685	7758	40441	23896	4845	28741		2.91	Si
SLV 6	1.57	-1251.47	-1322	-1101	-8568	1.52	0.0109	0	0	0	40441	19117	3876	22993		2.68	Si
SLV 6	3.47	3672.96	-12289	-10233	-8430	1.9	1.9	-19236	14264	7588	40441	23896	4845	28741		3.41	Si
SLV 3	1.57	-5354.78	-18752	-15615	-11160	1.9	1.9	-29352	16250	8645	40441	23896	4845	28741		2.58	Si
SLV 3	3.47	4408.94	-29829	-24839	-10983	1.9	1.9	-46690	16250	9184	40441	23896	4845	28741		2.62	Si
SLV 1	1.57	-5138.21	-10555	-8789	-13680	1.9	1.3896	-22849	14987	5831	40441	23896	4845	28741		2.1	Si
SLV 1	3.47	5853.25	-25656	-21364	-13458	1.9	1.9	-40158	16250	8645	40441	23896	4845	28741		2.14	Si
SLD 3	1.57	-3650.54	-17105	-14244	-8078	1.9	1.9	-26774	15771	8390	40441	23896	4845	28741		3.56	Si
SLD 3	3.47	2975.94	-25094	-20896	-7959	1.9	1.9	-39278	16250	8645	40441	23896	4845	28741		3.61	Si
SLD 2	1.57	-2984.57	-12630	-10517	-8183	1.9	1.9	-19768	14370	7645	40441	23896	4845	28741		3.51	Si
SLD 2	3.47	3156.29	-21384	-17807	-8042	1.9	1.9	-33472	16250	8645	40441	23896	4845	28741		3.57	Si
SLD 1	1.57	-3520.09	-12307	-10248	-9548	1.9	1.9	-19264	14269	7591	40441	23896	4845	28741		3.01	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	3.47	3820.94	-22652	-18863	-9406	1.9	1.9	-35457	16250	8645	40441	23896	4845	28741		3.06	Si
SLV 4	1.57	-4510.67	-19261	-16039	-9009	1.9	1.9	-30148	16250	8645	40441	23896	4845	28741		3.19	Si
SLV 4	3.47	3361.28	-27830	-23175	-8832	1.9	1.9	-43561	16250	8741	40441	23896	4845	28741		3.25	Si
SLV 16	1.57	3854.75	-18990	-15813	8853	1.9	1.9	-29724	16250	8645	40441	23896	4845	28741		3.25	Si
SLV 16	3.47	-5178.3	-8327	-6934	8642	1.52	0.9845	0	0	0	40441	19117	3876	22993		2.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	8066	-4291	167.27	569.04	3.4	Si
SLV 9	179667	0.3	9220	-4905	167.27	645.24	3.86	Si
SLV 14	179667	0.3	13698	-7287	167.27	928.72	5.55	Si
SLV 6	179667	0.3	14444	-7684	167.27	974.06	5.82	Si
SLV 13	179667	0.3	15412	-8199	167.27	1032.03	6.17	Si
SLV 5	179667	0.3	15598	-8298	167.27	1043.09	6.24	Si
SLV 16	179667	0.3	25144	-13376	167.27	1564.37	9.35	Si
SLV 15	179667	0.3	26858	-14288	167.27	1648.56	9.86	Si
SLV 2	179667	0.3	34959	-18598	167.27	2007.71	12	Si
SLV 1	179667	0.3	36673	-19510	167.27	2075.48	12.41	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-28975	-18220	-325	0.377	3225.7	0.974	5.62508	4.67428	Si
SLV 1	-27237	-10879	205	0.401	3048.7	0.972	5.99857	4.67428	Si
SLV 4	-26609	-18340	-324	0.405	2984.7	0.972	6.05981	4.67428	Si
SLV 2	-24871	-10999	207	0.434	2807.8	0.97	6.49516	4.67428	Si
SLV 7	-23506	-25455	-904	0.427	2668.8	0.969	6.4112	3.93621	Si
SLV 8	-21913	-25536	-903	0.453	2506.6	0.967	6.81781	3.93621	Si
SLV 5	-17712	-986	864	0.545	2079.2	0.96	8.24892	3.93621	Si
SLV 11	-17411	-24300	-870	0.553	2048.6	0.96	8.36879	3.93621	Si
SLV 6	-16119	-1067	865	0.59	1917.2	0.957	8.95977	3.93621	Si
SLV 12	-15818	-24380	-870	0.599	1886.6	0.957	9.10472	3.93621	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.049	SLU 78	Si
V_SLU	5.194	SLU 84	Si
PF_SLV	1.068	SLV 10	Si
V_SLV	2.101	SLV 1	Si
PFFP_SLV	3.402	SLV 10	Si
R_SLV	1.203	SLV 3	Si

Maschio 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.793	6.661	-12.868	6.661	L4	L5	3.925	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	1.57	-2255	-53014	-0.0000859	0.0003743	0.0035	3.925	54745.52	72008.51	72008.51	31.93	No	Si
SLU 80	3.47	-3059.86	-63362	-0.0001071	0.0003743	0.0035	3.925	53931.45	77550.55	77550.55	25.34	No	Si
SLU 81	1.57	-2241.46	-53732	-0.0000872	0.0003743	0.0035	3.925	54810.3	72447.54	72447.54	32.32	No	Si
SLU 81	3.47	-3049.83	-64246	-0.0001088	0.0003743	0.0035	3.925	53687.79	77779.31	77779.31	25.5	No	Si
SLU 78	1.57	-2277.32	-53504	-0.0000868	0.0003743	0.0035	3.925	54791.74	72307.8	72307.8	31.75	No	Si
SLU 78	3.47	-3059.62	-63990	-0.0001083	0.0003743	0.0035	3.925	53761.23	77712.31	77712.31	25.4	No	Si
SLU 83	1.57	-2302.34	-54689	-0.000089	0.0003743	0.0035	3.925	54868.54	73042.75	73042.75	31.73	No	Si
SLU 83	3.47	-3122.53	-65422	-0.0001112	0.0003743	0.0035	3.925	53321.09	78094.19	78094.19	25.01	No	Si
SLU 82	1.57	-2259.82	-53412	-0.0000866	0.0003743	0.0035	3.925	54783.64	72250.95	72250.95	31.97	No	Si
SLU 82	3.47	-3019	-63958	-0.0001081	0.0003743	0.0035	3.925	53770.25	77703.98	77703.98	25.74	No	Si
SLU 77	1.57	-2258.95	-53824	-0.0000874	0.0003743	0.0035	3.925	54817.35	72504.75	72504.75	32.1	No	Si
SLU 77	3.47	-3090.45	-64278	-0.0001089	0.0003743	0.0035	3.925	53678.45	77787.72	77787.72	25.17	No	Si
SLU 79	1.57	-2236.63	-53334	-0.0000864	0.0003743	0.0035	3.925	54776.65	72203.53	72203.53	32.28	No	Si
SLU 79	3.47	-3090.68	-63650	-0.0001077	0.0003743	0.0035	3.925	53855.02	77624.39	77624.39	25.12	No	Si
SLU 75	1.57	-2216.43	-52547	-0.000085	0.0003743	0.0035	3.925	54693.73	71726.57	71726.57	32.36	No	Si
SLU 75	3.47	-2986.92	-62813	-0.0001058	0.0003743	0.0035	3.925	54068.85	77412.03	77412.03	25.92	No	Si
SLU 84	1.57	-2320.71	-54369	-0.0000885	0.0003743	0.0035	3.925	54852.63	72842.38	72842.38	31.39	No	Si
SLU 84	3.47	-3091.7	-65134	-0.0001106	0.0003743	0.0035	3.925	53415.44	78015.92	78015.92	25.23	No	Si
SLU 74	1.57	-2198.07	-52867	-0.0000855	0.0003743	0.0035	3.925	54730.09	71919.74	71919.74	32.72	No	Si
SLU 74	3.47	-3017.74	-63102	-0.0001065	0.0003743	0.0035	3.925	53997.96	77484.5	77484.5	25.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	1.57	15068.15	-41006	-0.0000922	0.0005615	0.0035	3.925		65866.85	65866.85	4.37		Si
SLV 15	3.47	-15440.89	-45249	-0.0000999	0.0005615	0.0035	3.925		75564.86	75564.86	4.89		Si
SLV 3	1.57	-20283.54	-45744	-0.000112	0.0005615	0.0035	3.925		76156	76156	3.75		Si
SLV 3	3.47	12538.77	-53469	-0.0001066	0.0005615	0.0035	3.925		80722.77	80722.77	6.44		Si
SLV 13	1.57	13885.78	-25381	-0.0000652	0.0005615	0.0035	3.925		43848.69	43848.69	3.16		Si
SLV 13	3.47	-13930.77	-30751	-0.0000735	0.0005615	0.0035	3.925		56473.05	56473.05	4.05		Si
SLV 2	1.57	-17852.53	-29703	-0.0000806	0.0005615	0.0035	3.925		54988.99	54988.99	3.08		Si
SLV 2	3.47	11281.16	-38430	-0.0000795	0.0005615	0.0035	3.925		62888.74	62888.74	5.57		Si
SLV 5	1.57	-9881.73	-10165	-0.0000367	0.0005615	0.0035	3.925		23400.76	23400.76	2.37		Si
SLV 5	3.47	5565.51	-19092	-0.000038	0.0005615	0.0035	3.925		34647.87	34647.87	6.23		Si
SLV 14	1.57	17499.16	-24964	-0.0000727	0.0005615	0.0035	3.925		43229.67	43229.67	2.47		Si
SLV 14	3.47	-16698.49	-30210	-0.0000788	0.0005615	0.0035	3.925		55705.74	55705.74	3.34		Si
SLV 1	1.57	-21465.9	-30120	-0.0000898	0.0005615	0.0035	3.925		55578.14	55578.14	2.59		Si
SLV 1	3.47	14048.89	-38971	-0.0000866	0.0005615	0.0035	3.925		63511.5	63511.5	4.52		Si
SLV 16	1.57	18681.52	-40588	-0.0000998	0.0005615	0.0035	3.925		65382.25	65382.25	3.5		Si
SLV 16	3.47	-18208.61	-44707	-0.0001055	0.0005615	0.0035	3.925		74921.17	74921.17	4.11		Si
SLD 1	1.57	-14197.79	-32433	-0.0000767	0.0005615	0.0035	3.925		58876.47	58876.47	4.15		Si
SLD 1	3.47	8155.19	-40423	-0.0000755	0.0005615	0.0035	3.925		65190.64	65190.64	7.99		Si
SLV 6	1.57	-7449.37	-9884	-0.0000291	0.0005615	0.0035	3.925		22900.34	22900.34	3.07		Si
SLV 6	3.47	3702.4	-18727	-0.0000335	0.0005615	0.0035	3.925		34123.91	34123.91	9.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	1.57	-2259.82	-53412	-44477	-1467	3.925	3.925	-40470	10833	23080	40441	32909	10009	42918	No	29.26	Si
SLU 82	3.47	-3019	-63958	-53258	-1466	3.925	3.925	-48461	10833	26593	40441	32909	10009	42918	No	29.28	Si
SLU 73	1.57	-2145.47	-50886	-42374	-1399	3.925	3.925	-38557	10833	22239	40441	32909	10009	42918	No	30.68	Si
SLU 73	3.47	-2893.9	-60818	-50644	-1398	3.925	3.925	-46082	10833	25547	40441	32909	10009	42918	No	30.7	Si
SLU 78	1.57	-2277.32	-53504	-44554	-1447	3.925	3.925	-40540	10833	23111	40441	32909	10009	42918	No	29.65	Si
SLU 78	3.47	-3059.62	-63990	-53285	-1446	3.925	3.925	-48485	10833	26604	40441	32909	10009	42918	No	29.67	Si
SLU 83	1.57	-2302.34	-54689	-45540	-1457	3.925	3.925	-41438	10833	23506	40441	32909	10009	42918	No	29.46	Si
SLU 83	3.47	-3122.53	-65422	-54478	-1456	3.925	3.925	-49570	10833	27081	40441	32909	10009	42918	No	29.47	Si
SLU 77	1.57	-2258.95	-53824	-44820	-1418	3.925	3.925	-40783	10833	23218	40441	32909	10009	42918	No	30.28	Si
SLU 77	3.47	-3090.45	-64278	-53525	-1417	3.925	3.925	-48703	10833	26700	40441	32909	10009	42918	No	30.29	Si
SLU 75	1.57	-2216.43	-52547	-43757	-1427	3.925	3.925	-39815	10833	22793	40441	32909	10009	42918	No	30.07	Si
SLU 75	3.47	-2986.92	-62813	-52306	-1426	3.925	3.925	-47594	10833	26212	40441	32909	10009	42918	No	30.09	Si
SLU 80	1.57	-2255	-53014	-44145	-1419	3.925	3.925	-40169	10833	22948	40441	32909	10009	42918	No	30.25	Si
SLU 80	3.47	-3059.86	-63362	-52762	-1418	3.925	3.925	-48009	10833	26395	40441	32909	10009	42918	No	30.26	Si
SLU 81	1.57	-2241.46	-53732	-44743	-1437	3.925	3.925	-40713	10833	23187	40441	32909	10009	42918	No	29.87	Si
SLU 81	3.47	-3049.83	-64246	-53498	-1436	3.925	3.925	-48679	10833	26689	40441	32909	10009	42918	No	29.88	Si
SLU 84	1.57	-2320.71	-54369	-45273	-1487	3.925	3.925	-41195	10833	23399	40441	32909	10009	42918	No	28.87	Si
SLU 84	3.47	-3091.7	-65134	-54238	-1486	3.925	3.925	-49352	10833	26985	40441	32909	10009	42918	No	28.88	Si
SLU 76	1.57	-2206.35	-51843	-43171	-1419	3.925	3.925	-39282	10833	22558	40441	32909	10009	42918	No	30.25	Si
SLU 76	3.47	-2966.6	-61994	-51623	-1418	3.925	3.925	-46973	10833	25939	40441	32909	10009	42918	No	30.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	1.57	-14197.79	-32433	-27007	-13220	3.925	3.925	-24574	15332	18738	40441	49363	10009	59179		4.48	Si
SLD 1	3.47	8155.19	-40423	-33661	-12952	3.925	3.925	-30629	16250	21400	40441	49363	10009	59372		4.58	Si
SLV 3	1.57	-20283.54	-45744	-38091	-18862	3.925	3.925	-34660	16250	23172	40441	49363	10009	59372		3.15	Si
SLV 3	3.47	12538.77	-53469	-44524	-18437	3.925	3.925	-40513	16250	25745	40441	49363	10009	59372		3.22	Si
SLV 4	1.57	-16670.16	-45327	-37744	-15489	3.925	3.925	-34344	16250	23033	40441	49363	10009	59372		3.83	Si
SLV 4	3.47	9771.04	-52928	-44073	-15064	3.925	3.925	-40103	16250	25565	40441	49363	10009	59372		3.94	Si
SLV 13	1.57	13885.78	-25381	-21135	13736	3.925	3.925	-19232	14263	16390	40441	49363	10009	56831		4.14	Si
SLV 13	3.47	-13930.77	-30751	-25607	13312	3.925	3.925	-23300	15077	18178	40441	49363	10009	58619		4.4	Si
SLD 3	1.57	-13495.74	-41593	-34635	-12407	3.925	3.925	-31515	16250	21789	40441	49363	10009	59372		4.79	Si
SLD 3	3.47	7275.51	-48912	-40729	-12134	3.925	3.925	-37060	16250	24227	40441	49363	10009	59372		4.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	1.57	-21465.9	-30120	-25081	-20256	3.925	3.7494	-24190	15255	17968	40441	49363	10009	58409		2.88	Si
SLV 1	3.47	14048.89	-38971	-32452	-19842	3.925	3.925	-29528	16250	20916	40441	49363	10009	59372		2.99	Si
SLV 2	1.57	-17852.53	-29703	-24734	-16883	3.925	3.925	-22506	14918	17829	40441	49363	10009	58270		3.45	Si
SLV 2	3.47	11281.16	-38430	-32001	-16469	3.925	3.925	-29118	16240	20736	40441	49363	10009	59372		3.61	Si
SLV 15	1.57	15068.15	-41006	-34146	15130	3.925	3.925	-31070	16250	21594	40441	49363	10009	59372		3.92	Si
SLV 15	3.47	-15440.89	-45249	-37679	14717	3.925	3.925	-34285	16250	23007	40441	49363	10009	59372		4.03	Si
SLV 16	1.57	18681.52	-40588	-33799	18504	3.925	3.925	-30754	16250	21455	40441	49363	10009	59372		3.21	Si
SLV 16	3.47	-18208.61	-44707	-37229	18090	3.925	3.925	-33875	16250	22827	40441	49363	10009	59372		3.28	Si
SLV 14	1.57	17499.16	-24964	-20788	17109	3.925	3.7846	-18916	14200	16251	40441	49363	10009	56692		3.31	Si
SLV 14	3.47	-16698.49	-30210	-25156	16685	3.925	3.925	-22890	14995	17998	40441	49363	10009	58439		3.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	12479	-13714	345.55	1763.09	5.1	Si
SLV 9	179667	0.3	12781	-14047	345.55	1801.97	5.21	Si
SLV 6	179667	0.3	14431	-15860	345.55	2010.58	5.82	Si
SLV 5	179667	0.3	14734	-16193	345.55	2048.27	5.93	Si
SLV 14	179667	0.3	26120	-28706	345.55	3331.47	9.64	Si
SLV 13	179667	0.3	26570	-29200	345.55	3376.79	9.77	Si
SLV 2	179667	0.3	32629	-35859	345.55	3947.66	11.42	Si
SLV 1	179667	0.3	33079	-36353	345.55	3987.08	11.54	Si
SLV 16	179667	0.3	39828	-43771	345.55	4529.82	13.11	Si
SLV 15	179667	0.3	40278	-44266	345.55	4562.71	13.2	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-57329	-59558	-2209	0.366	6406.2	0.973	5.46387	3.93621	Si
SLV 8	-56994	-59417	-2209	0.368	6372.1	0.973	5.49169	3.93621	Si
SLV 11	-55276	-58147	-2190	0.377	6197.1	0.972	5.64438	3.93621	Si
SLV 12	-54941	-58006	-2189	0.379	6163.1	0.972	5.67425	3.93621	Si
SLV 3	-47226	-42187	-705	0.46	5377.5	0.968	6.91252	4.67428	Si
SLV 4	-46729	-41977	-705	0.465	5326.9	0.968	6.9772	4.67428	Si
SLV 15	-40383	-37484	-640	0.527	4681.1	0.963	7.95631	4.67428	Si
SLV 16	-39886	-37273	-640	0.533	4630.5	0.963	8.04375	4.67428	Si
SLV 1	-36444	-25857	604	0.576	4280.3	0.96	8.72351	4.67428	Si
SLV 2	-35946	-25647	604	0.583	4229.8	0.96	8.82979	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	25.01	SLU 83	Si
V_SLU	28.867	SLU 84	Si
PF_SLV	2.368	SLV 5	Si
V_SLV	2.883	SLV 1	Si
PFFP_SLV	5.102	SLV 10	Si
R_SLV	1.388	SLV 7	Si

Maschio 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	6.661	-7.963	6.661	L4	L5	3.905	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	1.57	1037.07	-61030	-0.0000979	0.0003743	0.0035	3.905	53832.37	73754.33	73754.33	71.12	No	Si
SLU 74	3.47	2880.02	-60787	-0.0001024	0.0003743	0.0035	3.905	53877.12	73663.85	73663.85	25.58	No	Si
SLU 82	1.57	1209.57	-61664	-0.0000996	0.0003743	0.0035	3.905	53705.99	73991.55	73991.55	61.17	No	Si
SLU 82	3.47	2926.22	-61824	-0.0001045	0.0003743	0.0035	3.905	53671.89	74051.69	74051.69	25.31	No	Si
SLU 79	1.57	990.58	-61418	-0.0000985	0.0003743	0.0035	3.905	53756.75	73899.17	73899.17	74.6	No	Si
SLU 79	3.47	2818.72	-61098	-0.0001028	0.0003743	0.0035	3.905	53819.46	73779.73	73779.73	26.17	No	Si
SLU 83	1.57	1168.75	-63075	-0.0001021	0.0003743	0.0035	3.905	53373.8	74527.23	74527.23	63.77	No	Si
SLU 83	3.47	2941.39	-63069	-0.0001069	0.0003743	0.0035	3.905	53375.51	74524.72	74524.72	25.34	No	Si
SLU 64	1.57	670.16	-53331	-0.000083	0.0003743	0.0035	3.905	54243.05	69792.97	69792.97	104.14	No	Si
SLU 64	3.47	2647.71	-52333	-0.0000863	0.0003743	0.0035	3.905	54144.06	68927.94	68927.94	26.03	No	Si
SLU 84	1.57	1187.57	-62638	-0.0001013	0.0003743	0.0035	3.905	53484.29	74360.05	74360.05	62.62	No	Si
SLU 84	3.47	2899.64	-62786	-0.0001062	0.0003743	0.0035	3.905	53447.7	74416.45	74416.45	25.66	No	Si
SLU 75	1.57	1055.9	-60593	-0.0000971	0.0003743	0.0035	3.905	53911.47	73591.61	73591.61	69.7	No	Si
SLU 75	3.47	2838.27	-60504	-0.0001017	0.0003743	0.0035	3.905	53926.65	73558.8	73558.8	25.92	No	Si
SLU 77	1.57	1015.08	-62004	-0.0000997	0.0003743	0.0035	3.905	53632.32	74119.75	74119.75	73.02	No	Si
SLU 77	3.47	2853.44	-61749	-0.0001041	0.0003743	0.0035	3.905	53687.9	74023.64	74023.64	25.94	No	Si
SLU 81	1.57	1190.74	-62102	-0.0001003	0.0003743	0.0035	3.905	53610.45	74156.61	74156.61	62.28	No	Si
SLU 81	3.47	2967.98	-62107	-0.0001051	0.0003743	0.0035	3.905	53609.26	74158.6	74158.6	24.99	No	Si
SLU 73	1.57	1065.94	-58741	-0.0000937	0.0003743	0.0035	3.905	54171.73	72913.73	72913.73	68.4	No	Si
SLU 73	3.47	2802.3	-58703	-0.0000983	0.0003743	0.0035	3.905	54175.83	72899.93	72899.93	26.01	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	1.57	6356.92	-7563	-0.0000241	0.0005615	0.0035	3.905		14978.23	14978.23	2.36		Si
SLV 9	3.47	-4286.4	-18030	-0.000034	0.0005615	0.0035	3.905		36661.28	36661.28	8.55		Si
SLV 16	1.57	19430.22	-54436	-0.0001257	0.0005615	0.0035	3.905		81418.65	81418.65	4.19		Si
SLV 16	3.47	-12178.86	-52551	-0.000105	0.0005615	0.0035	3.905		83297.33	83297.33	6.84		Si
SLV 13	1.57	16973.06	-33621	-0.0000854	0.0005615	0.0035	3.905		56038.42	56038.42	3.3		Si
SLV 13	3.47	-11383.49	-37737	-0.0000792	0.0005615	0.0035	3.905		65749.3	65749.3	5.78		Si
SLV 2	1.57	-14857.83	-27787	-0.0000716	0.0005615	0.0035	3.905		51858.39	51858.39	3.49		Si
SLV 2	3.47	13599.52	-28730	-0.0000702	0.0005615	0.0035	3.905		48588.94	48588.94	3.57		Si
SLV 5	1.57	-4230.43	-5731	-0.0000166	0.0005615	0.0035	3.905		15347.87	15347.87	3.63		Si
SLV 5	3.47	3996.66	-15105	-0.0000292	0.0005615	0.0035	3.905		28202.65	28202.65	7.06		Si
SLV 1	1.57	-18318.09	-27513	-0.000079	0.0005615	0.0035	3.905		51446.04	51446.04	2.81		Si
SLV 1	3.47	16226.72	-27988	-0.000075	0.0005615	0.0035	3.905		47473.1	47473.1	2.93		Si
SLV 14	1.57	20433.31	-33895	-0.0000938	0.0005615	0.0035	3.905		56462.04	56462.04	2.76		Si
SLV 14	3.47	-14010.69	-38480	-0.0000864	0.0005615	0.0035	3.905		66734.17	66734.17	4.76		Si
SLV 10	1.57	8686.2	-7748	-0.0000332	0.0005615	0.0035	3.905		15314.35	15314.35	1.76		Si
SLV 10	3.47	-6054.91	-18530	-0.0000385	0.0005615	0.0035	3.905		37479.75	37479.75	6.19		Si
SLV 4	1.57	-15860.93	-48329	-0.0001067	0.0005615	0.0035	3.905		78711.77	78711.77	4.96		Si
SLV 4	3.47	15431.35	-42802	-0.0000966	0.0005615	0.0035	3.905		67522.66	67522.66	4.38		Si
SLV 3	1.57	-19321.18	-48054	-0.0001145	0.0005615	0.0035	3.905		78405.17	78405.17	4.06		Si
SLV 3	3.47	18058.55	-42059	-0.0001016	0.0005615	0.0035	3.905		66656.35	66656.35	3.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	1.57	361.47	-47659	-39687	-696	3.905	3.905	-36296	10833	21138	40441	32741	9958	42699	No	61.31	Si
SLU 48	3.47	2279.7	-46073	-38365	-708	3.905	3.905	-35088	10833	20609	40441	32741	9958	42699	No	60.33	Si
SLU 46	1.57	402.29	-46248	-38511	-651	3.905	3.905	-35222	10833	20667	40441	32741	9958	42699	No	65.62	Si
SLU 46	3.47	2264.53	-44828	-37329	-662	3.905	3.905	-34140	10833	20194	40441	32741	9958	42699	No	64.5	Si
SLU 64	1.57	670.16	-53331	-44409	-668	3.905	3.905	-40616	10833	23027	40441	32741	9958	42699	No	63.96	Si
SLU 64	3.47	2647.71	-52333	-43578	-680	3.905	3.905	-39856	10833	22694	40441	32741	9958	42699	No	62.78	Si
SLU 69	1.57	650.67	-55865	-46519	-666	3.905	3.905	-42546	10833	23871	40441	32741	9958	42699	No	64.12	Si
SLU 69	3.47	2629.25	-54908	-45722	-679	3.905	3.905	-41817	10833	23552	40441	32741	9958	42699	No	62.92	Si
SLU 71	1.57	626.17	-55278	-46031	-666	3.905	3.905	-42099	10833	23675	40441	32741	9958	42699	No	64.1	Si
SLU 71	3.47	2594.53	-54257	-45180	-679	3.905	3.905	-41321	10833	23335	40441	32741	9958	42699	No	62.91	Si
SLU 50	1.57	336.97	-47073	-39198	-697	3.905	3.905	-35850	10833	20942	40441	32741	9958	42699	No	61.29	Si
SLU 50	3.47	2244.99	-45422	-37823	-708	3.905	3.905	-34592	10833	20392	40441	32741	9958	42699	No	60.32	Si
SLU 51	1.57	355.79	-46635	-38834	-650	3.905	3.905	-35517	10833	20797	40441	32741	9958	42699	No	65.67	Si
SLU 51	3.47	2203.23	-45139	-37588	-661	3.905	3.905	-34377	10833	20298	40441	32741	9958	42699	No	64.55	Si
SLU 66	1.57	672.67	-54891	-45708	-667	3.905	3.905	-41804	10833	23546	40441	32741	9958	42699	No	64.05	Si
SLU 66	3.47	2655.83	-53946	-44921	-679	3.905	3.905	-41084	10833	23231	40441	32741	9958	42699	No	62.86	Si
SLU 45	1.57	383.46	-46686	-38876	-697	3.905	3.905	-35555	10833	20813	40441	32741	9958	42699	No	61.25	Si
SLU 45	3.47	2306.29	-45111	-37564	-708	3.905	3.905	-34356	10833	20289	40441	32741	9958	42699	No	60.28	Si
SLU 43	1.57	380.96	-45126	-37577	-698	3.905	3.905	-34367	10833	20294	40441	32741	9958	42699	No	61.16	Si
SLU 43	3.47	2298.16	-43498	-36222	-709	3.905	3.905	-33127	10833	19752	40441	32741	9958	42699	No	60.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	1.57	-14857.83	-27787	-23139	-14618	3.905	3.905	-21162	14649	17151	40441	49112	9958	57592		3.94	Si
SLV 2	3.47	13599.52	-28730	-23924	-14281	3.905	3.905	-21880	14793	17465	40441	49112	9958	57906		4.05	Si
SLD 14	1.57	13236.56	-37011	-30819	11962	3.905	3.905	-28187	16054	20223	40441	49112	9958	59070		4.94	Si
SLD 14	3.47	-8150.43	-39533	-32920	11663	3.905	3.905	-30108	16250	21063	40441	49112	9958	59070		5.06	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	1.57	-19321.18	-48054	-40015	-20039	3.905	3.905	-36597	16250	23901	40441	49112	9958	59070		2.95	Si
SLV 3	3.47	18058.55	-42059	-35023	-19606	3.905	3.905	-32031	16250	21904	40441	49112	9958	59070		3.01	Si
SLV 13	1.57	16973.06	-33621	-27996	15830	3.905	3.905	-25605	15538	19093	40441	49112	9958	59070		3.73	Si
SLV 13	3.47	-11383.49	-37737	-31424	15376	3.905	3.905	-28740	16165	20465	40441	49112	9958	59070		3.84	Si
SLV 15	1.57	15969.96	-54162	-45101	13655	3.905	3.905	-41249	16250	25935	40441	49112	9958	59070		4.33	Si
SLV 15	3.47	-9551.66	-51808	-43141	13298	3.905	3.905	-39456	16250	25151	40441	49112	9958	59070		4.44	Si
SLV 4	1.57	-15860.93	-48329	-40244	-16793	3.905	3.905	-36806	16250	23992	40441	49112	9958	59070		3.52	Si
SLV 4	3.47	15431.35	-42802	-35641	-16359	3.905	3.905	-32597	16250	22151	40441	49112	9958	59070		3.61	Si
SLV 14	1.57	20433.31	-33895	-28225	19076	3.905	3.905	-25814	15579	19185	40441	49112	9958	59070		3.1	Si
SLV 14	3.47	-14010.69	-38480	-32043	18623	3.905	3.905	-29305	16250	20712	40441	49112	9958	59070		3.17	Si
SLV 16	1.57	19430.22	-54436	-45330	16902	3.905	3.905	-41458	16250	26027	40441	49112	9958	59070		3.49	Si
SLV 16	3.47	-12178.86	-52551	-43760	16545	3.905	3.905	-40022	16250	25399	40441	49112	9958	59070		3.57	Si
SLD 3	1.57	-12124.43	-44938	-37421	-12925	3.905	3.905	-34224	16250	22863	40441	49112	9958	59070		4.57	Si
SLD 3	3.47	12198.29	-41005	-34146	-12645	3.905	3.905	-31229	16250	21553	40441	49112	9958	59070		4.67	Si
SLV 1	1.57	-18318.09	-27513	-22910	-17865	3.905	3.8601	-21422	14701	17059	40441	49112	9958	57500		3.22	Si
SLV 1	3.47	16226.72	-27988	-23306	-17527	3.905	3.905	-21315	14680	17217	40441	49112	9958	57658		3.29	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.3	10441	-11416	343.79	1489	4.33	Si
SLV 6	179667	0.3	10769	-11775	343.79	1532.23	4.46	Si
SLV 9	179667	0.3	12740	-13930	343.79	1787.5	5.2	Si
SLV 10	179667	0.3	13068	-14289	343.79	1829.23	5.32	Si
SLV 1	179667	0.3	25526	-27910	343.79	3254.32	9.47	Si
SLV 2	179667	0.3	26013	-28443	343.79	3303.74	9.61	Si
SLV 13	179667	0.3	33189	-36289	343.79	3976.38	11.57	Si
SLV 14	179667	0.3	33677	-36822	343.79	4018.31	11.69	Si
SLV 3	179667	0.3	40824	-44636	343.79	4578.62	13.32	Si
SLV 4	179667	0.3	41311	-45169	343.79	4613.09	13.42	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-50958	-77881	-2007	0.406	5754.5	0.97	6.07848	3.93621	Si
SLV 11	-50403	-77849	-2007	0.409	5698	0.97	6.13691	3.93621	Si
SLV 16	-44274	-54204	-636	0.486	5074.1	0.966	7.30398	4.67428	Si
SLV 15	-43449	-54157	-636	0.493	4990.2	0.966	7.42606	4.67428	Si
SLV 8	-48141	-75926	-1986	0.426	5467.8	0.968	6.39381	3.93621	Si
SLV 7	-47586	-75894	-1986	0.43	5411.3	0.968	6.45905	3.93621	Si
SLV 14	-35613	-31948	559	0.586	4192.9	0.96	8.87881	4.67428	Si
SLV 4	-34886	-47688	-568	0.596	4119	0.959	9.03834	4.67428	Si
SLV 13	-34789	-31901	560	0.598	4109.1	0.959	9.06383	4.67428	Si
SLV 3	-34062	-47640	-567	0.609	4035.2	0.958	9.23103	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	24.986	SLU 81	Si
V_SLU	60.205	SLU 43	Si
PF_SLV	1.763	SLV 10	Si
V_SLV	2.948	SLV 3	Si
PFFP_SLV	4.331	SLV 5	Si
R_SLV	1.544	SLV 12	Si

Maschio 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.963	6.661	-5.158	6.661	L4	L5	1.805	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	1.57	-3288.47	-17069	-0.0000909	0.0003743	0.0035	1.805	10294.65	12491.48	12491.48	3.8	No	Si
SLU 77	3.47	-767.94	-24041	-0.0000881	0.0003743	0.0035	1.805	11559.72	15052.7	15052.7	19.6	No	Si
SLU 75	1.57	-3207.08	-16708	-0.0000886	0.0003743	0.0035	1.805	10182.85	12349.9	12349.9	3.85	No	Si
SLU 75	3.47	-866.4	-23686	-0.0000879	0.0003743	0.0035	1.805	11536.48	14947.63	14947.63	17.25	No	Si
SLU 74	1.57	-3241.15	-16819	-0.0000894	0.0003743	0.0035	1.805	10217.64	12393.11	12393.11	3.82	No	Si
SLU 74	3.47	-818.76	-23744	-0.0000876	0.0003743	0.0035	1.805	11540.57	14964.66	14964.66	18.28	No	Si
SLU 83	1.57	-3350.59	-17392	-0.0000928	0.0003743	0.0035	1.805	10390.95	12620.19	12620.19	3.77	No	Si
SLU 83	3.47	-924.16	-24657	-0.0000924	0.0003743	0.0035	1.805	11589.51	15238.62	15238.62	16.49	No	Si
SLU 84	1.57	-3316.53	-17282	-0.000092	0.0003743	0.0035	1.805	10358.39	12575.92	12575.92	3.79	No	Si
SLU 84	3.47	-971.81	-24599	-0.0000927	0.0003743	0.0035	1.805	11587.28	15220.95	15220.95	15.66	No	Si
SLU 82	1.57	-3269.2	-17032	-0.0000905	0.0003743	0.0035	1.805	10283.24	12476.65	12476.65	3.82	No	Si
SLU 82	3.47	-1022.63	-24302	-0.0000922	0.0003743	0.0035	1.805	11573.96	15130.87	15130.87	14.8	No	Si
SLU 80	1.57	-3236.45	-16773	-0.0000892	0.0003743	0.0035	1.805	10203.15	12375.02	12375.02	3.82	No	Si
SLU 80	3.47	-782.8	-23675	-0.0000869	0.0003743	0.0035	1.805	11535.73	14944.56	14944.56	19.09	No	Si
SLU 78	1.57	-3254.4	-16958	-0.0000901	0.0003743	0.0035	1.805	10260.83	12447.8	12447.8	3.82	No	Si
SLU 78	3.47	-815.59	-23983	-0.0000884	0.0003743	0.0035	1.805	11556.23	15035.47	15035.47	18.44	No	Si
SLU 79	1.57	-3270.52	-16884	-0.00009	0.0003743	0.0035	1.805	10237.69	12418.35	12418.35	3.8	No	Si
SLU 79	3.47	-735.15	-23733	-0.0000865	0.0003743	0.0035	1.805	11539.84	14961.57	14961.57	20.35	No	Si
SLU 81	1.57	-3303.27	-17142	-0.0000913	0.0003743	0.0035	1.805	10316.77	12520.47	12520.47	3.79	No	Si
SLU 81	3.47	-974.98	-24360	-0.0000918	0.0003743	0.0035	1.805	11576.8	15148.33	15148.33	15.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	1.57	-7203.1	-13630	-0.0001413	0.0005615	0.0035	1.444		11513.05	11513.05	1.6		Si
SLV 3	3.47	7784.96	-6940	-0.0168983	0.0005615	0.0035	1.444		6005.28	6005.28	0.77		No
SLV 2	1.57	-4858.89	-8247	-0.0000985	0.0005615	0.0035	1.444		7670.01	7670.01	1.58		Si
SLV 2	3.47	3968.67	-5539	-0.000113	0.0005615	0.0035	1.805		4891.92	4891.92	1.23		Si
SLV 4	1.57	-6320.43	-13508	-0.0001184	0.0005615	0.0035	1.805		11432.69	11432.69	1.81		Si
SLV 4	3.47	6255.49	-8883	-0.0001794	0.0005615	0.0035	1.805		7434.34	7434.34	1.19		Si
SLV 10	1.57	1670.75	-2505	-0.0000381	0.0005615	0.0035	1.805		2373.16	2373.16	1.42		Si
SLV 10	3.47	-6650.32	-13533	-0.0001262	0.0005615	0.0035	1.444		11448.93	11448.93	1.72		Si
SLV 9	1.57	1076.57	-2587	-0.0000188	0.0005615	0.0035	1.805		2442.91	2442.91	2.27		Si
SLV 9	3.47	-5620.75	-12225	-0.000104	0.0005615	0.0035	1.805		10558.22	10558.22	1.88		Si
SLD 2	1.57	-3946.85	-9456	-0.0000716	0.0005615	0.0035	1.805		8576.35	8576.35	2.17		Si
SLD 2	3.47	2449.79	-9256	-0.0000524	0.0005615	0.0035	1.805		7678.67	7678.67	3.13		Si
SLD 3	1.57	-5363.45	-12613	-0.0000991	0.0005615	0.0035	1.805		10830.32	10830.32	2.02		Si
SLD 3	3.47	4761.19	-9978	-0.0000872	0.0005615	0.0035	1.805		8156.25	8156.25	1.71		Si
SLD 1	1.57	-4506.83	-9533	-0.0000821	0.0005615	0.0035	1.805		8632.23	8632.23	1.92		Si
SLD 1	3.47	3420.11	-8023	-0.0000614	0.0005615	0.0035	1.805		6842.46	6842.46	2		Si
SLV 1	1.57	-5741.57	-8368	-0.0001495	0.0005615	0.0035	1.444		7762.78	7762.78	1.35		Si
SLV 1	3.47	5498.15	-3596	-0.0203502	0.0005615	0.0035	1.444		3296.41	3296.41	0.6		No
SLV 14	1.57	2785.37	-8826	-0.0000545	0.0005615	0.0035	1.805		7396.84	7396.84	2.66		Si
SLV 14	3.47	-8648.23	-24329	-0.0001779	0.0005615	0.0035	1.805		17645.32	17645.32	2.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	1.57	-3316.53	-17282	-14391	3376	1.805	1.805	-28474	10741	5459	40441	15134	4603	19737	No	5.85	Si
SLU 84	3.47	-971.81	-24599	-20484	3320	1.805	1.805	-40531	10833	7084	40441	15134	4603	19737	No	5.95	Si
SLU 73	1.57	-3119.1	-16199	-13489	3222	1.805	1.805	-26690	10503	5308	40441	15134	4603	19737	No	6.13	Si
SLU 73	3.47	-916.2	-23042	-19187	3170	1.805	1.805	-37965	10833	6738	40441	15134	4603	19737	No	6.23	Si
SLU 76	1.57	-3166.42	-16449	-13697	3194	1.805	1.805	-27102	10558	5336	40441	15134	4603	19737	No	6.18	Si
SLU 76	3.47	-865.38	-23339	-19435	3140	1.805	1.805	-38455	10833	6804	40441	15134	4603	19737	No	6.29	Si
SLU 78	1.57	-3254.4	-16958	-14122	3186	1.805	1.805	-27941	10670	5393	40441	15134	4603	19737	No	6.19	Si
SLU 78	3.47	-815.59	-23983	-19971	3131	1.805	1.805	-39515	10833	6947	40441	15134	4603	19737	No	6.3	Si
SLU 82	1.57	-3269.2	-17032	-14182	3404	1.805	1.805	-28062	10686	5404	40441	15134	4603	19737	No	5.8	Si
SLU 82	3.47	-1022.63	-24302	-20237	3349	1.805	1.805	-40041	10833	7018	40441	15134	4603	19737	No	5.89	Si
SLU 83	1.57	-3350.59	-17392	-14483	3308	1.805	1.805	-28656	10765	5484	40441	15134	4603	19737	No	5.97	Si
SLU 83	3.47	-924.16	-24657	-20532	3251	1.805	1.805	-40626	10833	7097	40441	15134	4603	19737	No	6.07	Si
SLU 81	1.57	-3303.27	-17142	-14275	3337	1.805	1.805	-28244	10710	5428	40441	15134	4603	19737	No	5.91	Si
SLU 81	3.47	-974.98	-24360	-20285	3281	1.805	1.805	-40136	10833	7031	40441	15134	4603	19737	No	6.02	Si
SLU 80	1.57	-3236.45	-16773	-13967	3120	1.805	1.805	-27636	10629	5372	40441	15134	4603	19737	No	6.33	Si
SLU 80	3.47	-782.8	-23675	-19715	3065	1.805	1.805	-39008	10833	6879	40441	15134	4603	19737	No	6.44	Si
SLU 75	1.57	-3207.08	-16708	-13913	3215	1.805	1.805	-27529	10615	5365	40441	15134	4603	19737	No	6.14	Si
SLU 75	3.47	-866.4	-23686	-19723	3161	1.805	1.805	-39026	10833	6881	40441	15134	4603	19737	No	6.24	Si
SLU 74	1.57	-3241.15	-16819	-14006	3147	1.805	1.805	-27712	10639	5377	40441	15134	4603	19737	No	6.27	Si
SLU 74	3.47	-818.76	-23744	-19772	3092	1.805	1.805	-39121	10833	6894	40441	15134	4603	19737	No	6.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	1.57	1076.57	-2587	-2154	8899	1.805	1.4589	-4262	11269	4603	40441	22701	4603	27304		3.07	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	3.47	-5620.75	-12225	-10180	8815	1.805	1.3282	-27771	15971	5940	40441	22701	4603	27304		3.1	Si
SLV 1	1.57	-5741.57	-8368	-6968	-7377	1.444	0.6492	0	0	0	40441	18161	3682	21843		2.96	Si
SLV 1	3.47	5498.15	-3596	-2994	-7268	1.444	0	0	0	0	40441	18161	3682	21843		3.01	Si
SLD 14	1.57	945.71	-9842	-8196	9773	1.805	1.805	-16217	13660	6904	40441	22701	4603	27304		2.79	Si
SLD 14	3.47	-5624.45	-21291	-17729	9641	1.805	1.805	-35080	16250	8213	40441	22701	4603	27304		2.83	Si
SLV 3	1.57	-7203.1	-13630	-11350	-10213	1.444	1.122	0	0	0	40441	18161	3682	21843		2.14	Si
SLV 3	3.47	7784.96	-6940	-5779	-10103	1.444	0	0	0	0	40441	18161	3682	21843		2.16	Si
SLV 16	1.57	1323.83	-14087	-11731	11420	1.805	1.805	-23211	15059	7611	40441	22701	4603	27304		2.39	Si
SLV 16	3.47	-6361.41	-27674	-23044	11237	1.805	1.805	-45596	16250	8578	40441	22701	4603	27304		2.43	Si
SLV 13	1.57	1902.69	-8947	-7450	12008	1.805	1.805	-14742	13365	6755	40441	22701	4603	27304		2.27	Si
SLV 13	3.47	-7118.76	-22386	-18641	11821	1.805	1.7535	-38799	16250	7978	40441	22701	4603	27304		2.31	Si
SLV 10	1.57	1670.75	-2505	-2086	10412	1.805	0.7067	-4128	11242	2989	40441	22701	4603	27304		2.62	Si
SLV 10	3.47	-6650.32	-13533	-11269	10330	1.444	1.2333	0	0	0	40441	18161	3682	21843		2.11	Si
SLD 13	1.57	385.73	-9919	-8260	8347	1.805	1.805	-16343	13685	6917	40441	22701	4603	27304		3.27	Si
SLD 13	3.47	-4654.13	-20058	-16703	8213	1.805	1.805	-33049	16250	8213	40441	22701	4603	27304		3.32	Si
SLV 15	1.57	441.16	-14208	-11832	9172	1.805	1.805	-23410	15099	7631	40441	22701	4603	27304		2.98	Si
SLV 15	3.47	-4831.94	-25731	-21426	8986	1.805	1.805	-42395	16250	8213	40441	22701	4603	27304		3.04	Si
SLV 14	1.57	2785.37	-8826	-7350	14256	1.805	1.7607	-14542	13325	6569	40441	22701	4603	27304		1.92	Si
SLV 14	3.47	-8648.23	-24329	-20259	14072	1.805	1.6411	-45256	16250	7835	40441	22701	4603	27304		1.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.3	9498	-4800	158.91	630.24	3.97	Si
SLV 2	179667	0.3	12794	-6466	158.91	829.39	5.22	Si
SLV 5	179667	0.3	12968	-6554	158.91	839.65	5.28	Si
SLV 6	179667	0.3	15186	-7675	158.91	967.68	6.09	Si
SLV 3	179667	0.3	16587	-8383	158.91	1046.18	6.58	Si
SLV 4	179667	0.3	19883	-10049	158.91	1223.67	7.7	Si
SLV 9	179667	0.3	22570	-11407	158.91	1360.96	8.56	Si
SLV 10	179667	0.3	24789	-12528	158.91	1469.25	9.25	Si
SLV 7	179667	0.3	36599	-18497	158.91	1969.01	12.39	Si
SLV 8	179667	0.3	38818	-19619	158.91	2048.46	12.89	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-26786	-11372	-290	0.386	2989	0.973	5.77018	4.67428	Si
SLV 14	-26188	-5729	148	0.399	2928.1	0.973	5.96099	4.67428	Si
SLV 15	-24279	-11601	-282	0.42	2733.7	0.971	6.29222	4.67428	Si
SLV 13	-23682	-5959	156	0.434	2672.9	0.97	6.50589	4.67428	Si
SLV 12	-19656	-17808	-760	0.481	2263.1	0.965	7.23888	3.93621	Si
SLV 11	-17969	-17963	-755	0.519	2091.4	0.962	7.83671	3.93621	Si
SLV 10	-17665	1001	700	0.529	2060.5	0.962	7.99776	3.93621	Si, Trazione
SLV 9	-15978	847	706	0.576	1888.9	0.959	8.7312	3.93621	Si, Trazione
SLV 8	-13299	-17650	-726	0.671	1616.6	0.953	10.23494	3.93621	Si
SLV 7	-11612	-17805	-721	0.752	1445.3	0.948	11.52616	3.93621	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.767	SLU 83	Si
V_SLU	5.797	SLU 82	Si
PF_SLV	0.6	SLV 1	No
V_SLV	1.915	SLV 14	Si
PFFP_SLV	3.966	SLV 1	Si
R_SLV	1.234	SLV 16	Si

Maschio 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-24.614	1.141	L4	L5	12.351	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.67	-27128.28	-298370	-0.0001425	0.0004492	0.0035	12.3514	541591.47	1207091.8	1207091.8	44.5	No	Si
SLU 78	3.17	-25506.98	-259685	-0.0001214	0.0004492	0.0035	12.3514	618187.52	1141542.6	1141542.6	44.75	No	Si
SLU 40	0.67	-26162.63	-255713	-0.0001195	0.0004492	0.0035	12.3514	623576.06	1132949.43	1132949.43	43.3	No	Si
SLU 40	3.17	-22772.95	-225271	-0.0001034	0.0004492	0.0035	12.3514	649562.86	1067092.26	1067092.26	46.86	No	Si
SLU 39	0.67	-26134.29	-255417	-0.0001194	0.0004492	0.0035	12.3514	623959.36	1132308.71	1132308.71	43.33	No	Si
SLU 39	3.17	-22646.6	-225188	-0.0001033	0.0004492	0.0035	12.3514	649596.55	1066913.4	1066913.4	47.11	No	Si
SLU 41	0.67	-26682.01	-259395	-0.0001216	0.0004492	0.0035	12.3514	618596.14	1140915.82	1140915.82	42.76	No	Si
SLU 41	3.17	-23384.3	-229008	-0.0001054	0.0004492	0.0035	12.3514	647831.27	1075176.58	1075176.58	45.98	No	Si
SLU 81	0.67	-27893.68	-299258	-0.0001431	0.0004492	0.0035	12.3514	539319.78	1208362.48	1208362.48	43.32	No	Si
SLU 81	3.17	-25432.87	-261035	-0.0001221	0.0004492	0.0035	12.3514	616250.62	1144463.89	1144463.89	45	No	Si
SLU 82	0.67	-27922.03	-299554	-0.0001433	0.0004492	0.0035	12.3514	538556.96	1208786.3	1208786.3	43.29	No	Si
SLU 82	3.17	-25559.22	-261118	-0.0001222	0.0004492	0.0035	12.3514	616130.3	1144642.74	1144642.74	44.78	No	Si
SLU 77	0.67	-27099.94	-298074	-0.0001423	0.0004492	0.0035	12.3514	542344.03	1206667.98	1206667.98	44.53	No	Si
SLU 77	3.17	-25380.63	-259602	-0.0001214	0.0004492	0.0035	12.3514	618304.37	1141363.74	1141363.74	44.97	No	Si
SLU 42	0.67	-26710.36	-259691	-0.0001217	0.0004492	0.0035	12.3514	618178.4	1141556.54	1141556.54	42.74	No	Si
SLU 42	3.17	-23510.65	-229091	-0.0001054	0.0004492	0.0035	12.3514	647788.35	1075355.44	1075355.44	45.74	No	Si
SLU 84	0.67	-28469.75	-303532	-0.0001457	0.0004492	0.0035	12.3514	528061.08	1214479.68	1214479.68	42.66	No	Si
SLU 84	3.17	-26296.92	-264938	-0.0001244	0.0004492	0.0035	12.3514	610353.76	1152905.92	1152905.92	43.84	No	Si
SLU 83	0.67	-28441.4	-303236	-0.0001455	0.0004492	0.0035	12.3514	528858.34	1214055.86	1214055.86	42.69	No	Si
SLU 83	3.17	-26170.56	-264855	-0.0001243	0.0004492	0.0035	12.3514	610483.31	1152727.06	1152727.06	44.05	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	0.67	-166266.56	-179875	-0.0001099	0.0006738	0.0035	12.3514		997758.81	997758.81	6		Si
SLV 13	3.17	-45542.6	-143482	-0.0000681	0.0006738	0.0035	12.3514		843726.64	843726.64	18.53		Si
SLD 15	0.67	-113933.29	-179084	-0.0000982	0.0006738	0.0035	12.3514		994490.15	994490.15	8.73		Si
SLD 15	3.17	-35262.74	-150427	-0.0000689	0.0006738	0.0035	12.3514		874278.95	874278.95	24.79		Si
SLV 16	0.67	-169713.46	-164059	-0.0001034	0.0006738	0.0035	12.3514		932371.46	932371.46	5.49		Si
SLV 16	3.17	-48453.05	-136929	-0.0000658	0.0006738	0.0035	12.3514		814898.94	814898.94	16.82		Si
SLV 1	0.67	137418.2	-239005	-0.0001312	0.0006738	0.0035	12.3514		1137739.35	1137739.35	8.28		Si
SLV 1	3.17	17232.91	-208595	-0.0000907	0.0006738	0.0035	12.3514		1030652.11	1030652.11	59.81		Si
SLV 15	0.67	-168771.6	-166003	-0.000104	0.0006738	0.0035	12.3514		940410.67	940410.67	5.57		Si
SLV 15	3.17	-46372.26	-137680	-0.0000657	0.0006738	0.0035	12.3514		818203.97	818203.97	17.64		Si
SLV 14	0.67	-167208.42	-177930	-0.0001092	0.0006738	0.0035	12.3514		989719.6	989719.6	5.92		Si
SLV 14	3.17	-47623.39	-142731	-0.0000682	0.0006738	0.0035	12.3514		840421.61	840421.61	17.65		Si
SLV 4	0.67	133971.29	-223189	-0.0001229	0.0006738	0.0035	12.3514		1082045.12	1082045.12	8.08		Si
SLV 4	3.17	14322.47	-202042	-0.0000871	0.0006738	0.0035	12.3514		1007577.17	1007577.17	70.35		Si
SLV 2	0.67	136476.33	-237061	-0.00013	0.0006738	0.0035	12.3514		1130891.89	1130891.89	8.29		Si
SLV 2	3.17	15152.13	-207843	-0.0000899	0.0006738	0.0035	12.3514		1028006.62	1028006.62	67.85		Si
SLV 3	0.67	134913.15	-225134	-0.000124	0.0006738	0.0035	12.3514		1088892.58	1088892.58	8.07		Si
SLV 3	3.17	16403.25	-202793	-0.0000879	0.0006738	0.0035	12.3514		1010222.66	1010222.66	61.59		Si
SLD 16	0.67	-114530.82	-177851	-0.0000978	0.0006738	0.0035	12.3514		989389.98	989389.98	8.64		Si
SLD 16	3.17	-36582.82	-149950	-0.000069	0.0006738	0.0035	12.3514		872182.2	872182.2	23.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	0.67	-22095.83	-270101	-192683	-14821	12.3514	12.3514	-55715	10833	97049	115546	124286	62992	187278	No	12.64	Si
SLU 72	3.17	-21498.51	-231914	-165442	-15279	12.3514	12.3514	-47838	10833	86152	115546	124286	62992	187278	No	12.26	Si
SLU 67	0.67	-21735.4	-268204	-191330	-14891	12.3514	12.3514	-55323	10833	96507	115546	124286	62992	187278	No	12.58	Si
SLU 67	3.17	-20894.01	-230075	-164130	-15345	12.3514	12.3514	-47458	10833	85628	115546	124286	62992	187278	No	12.2	Si
SLU 78	0.67	-27128.28	-298370	-212850	-14544	12.3514	12.3514	-61546	10833	105115	115546	124286	62992	187278	No	12.88	Si
SLU 78	3.17	-25506.98	-259685	-185253	-15052	12.3514	12.3514	-53566	10833	94077	115546	124286	62992	187278	No	12.44	Si
SLU 71	0.67	-22067.48	-269805	-192472	-14679	12.3514	12.3514	-55654	10833	96964	115546	124286	62992	187278	No	12.76	Si
SLU 71	3.17	-21372.16	-231831	-165383	-15136	12.3514	12.3514	-47821	10833	86129	115546	124286	62992	187278	No	12.37	Si
SLU 68	0.67	-21567	-266320	-189986	-14877	12.3514	12.3514	-54935	10833	95970	115546	124286	62992	187278	No	12.59	Si
SLU 68	3.17	-20845.05	-228149	-162756	-15328	12.3514	12.3514	-47061	10833	85078	115546	124286	62992	187278	No	12.22	Si
SLU 65	0.67	-21019.28	-262341	-187148	-14839	12.3514	12.3514	-54114	10833	94834	115546	124286	62992	187278	No	12.62	Si
SLU 65	3.17	-20107.35	-224330	-160031	-15282	12.3514	12.3514	-46273	10833	83988	115546	124286	62992	187278	No	12.25	Si
SLU 69	0.67	-22254.78	-271887	-193957	-14787	12.3514	12.3514	-56083	10833	97558	115546	124286	62992	187278	No	12.67	Si
SLU 69	3.17	-21505.36	-233812	-166796	-15248	12.3514	12.3514	-48229	10833	86694	115546	124286	62992	187278	No	12.28	Si
SLU 66	0.67	-21707.06	-267908	-191119	-14748	12.3514	12.3514	-55262	10833	96423	115546	124286	62992	187278	No	12.7	Si
SLU 66	3.17	-20767.66	-229992	-164071	-15202	12.3514	12.3514	-47441	10833	85604	115546	124286	62992	187278	No	12.32	Si
SLU 64	0.67	-20972.03	-261848	-186796	-14601	12.3514	12.3514	-54012	10833	94694	115546	124286	62992	187278	No	12.83	Si
SLU 64	3.17	-19896.76	-224192	-159933	-15045	12.3514	12.3514	-46245	10833	83949	115546	124286	62992	187278	No	12.45	Si
SLU 70	0.67	-22283.13	-272183	-194169	-14929	12.3514	12.3514	-56144	10833	97643	115546	124286	62992	187278	No	12.54	Si
SLU 70	3.17	-21631.71	-233895	-166855	-15390	12.3514	12.3514	-48246	10833	86718	115546	124286	62992	187278	No	12.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.67	-166266.56	-179875	-128318	-73128	12.3514	12.3514	-37103	16250	81293	115546	186429	62992	196838		2.69	Si
SLV 13	3.17	-45542.6	-143482	-102357	-71392	12.3514	12.3514	-29597	16250	70908	115546	186429	62992	186454		2.61	Si
SLV 3	0.67	134913.15	-225134	-160605	49560	12.3514	12.3514	-46439	16250	94207	115546	186429	62992	209752		4.23	Si
SLV 3	3.17	16403.25	-202793	-144668	47134	12.3514	12.3514	-41831	16250	87832	115546	186429	62992	203378		4.31	Si
SLD 15	0.67	-113933.29	-179084	-127754	-46942	12.3514	12.3514	-36940	16250	81067	115546	186429	62992	196613		4.19	Si
SLD 15	3.17	-35262.74	-150427	-107311	-46045	12.3514	12.3514	-31029	16250	72890	115546	186429	62992	188436		4.09	Si
SLV 16	0.67	-169713.46	-164059	-117036	-65338	12.3514	12.3514	-33841	16250	76780	115546	186429	62992	192325		2.94	Si
SLV 16	3.17	-48453.05	-136929	-97682	-63773	12.3514	12.3514	-28245	16250	69039	115546	186429	62992	184584		2.89	Si
SLD 14	0.67	-113092.64	-185975	-132670	-49467	12.3514	12.3514	-38362	16250	83033	115546	186429	62992	198579		4.01	Si
SLD 14	3.17	-36076.15	-153345	-109392	-48459	12.3514	12.3514	-31631	16250	73723	115546	186429	62992	189268		3.91	Si
SLV 15	0.67	-168771.6	-166003	-118423	-67027	12.3514	12.3514	-34242	16250	77335	115546	186429	62992	192880		2.88	Si
SLV 15	3.17	-46372.26	-137680	-98218	-65468	12.3514	12.3514	-28400	16250	69253	115546	186429	62992	184799		2.82	Si
SLD 13	0.67	-112495.11	-187209	-133550	-50538	12.3514	12.3514	-38616	16250	83385	115546	186429	62992	198931		3.94	Si
SLD 13	3.17	-34756.08	-153821	-109732	-49534	12.3514	12.3514	-31729	16250	73859	115546	186429	62992	189404		3.82	Si
SLV 14	0.67	-167208.42	-177930	-126931	-71439	12.3514	12.3514	-36702	16250	80738	115546	186429	62992	196284		2.75	Si
SLV 14	3.17	-47623.39	-142731	-101821	-69697	12.3514	12.3514	-29442	16250	70694	115546	186429	62992	186240		2.67	Si
SLV 4	0.67	133971.29	-223189	-159218	51249	12.3514	12.3514	-46038	16250	93652	115546	186429	62992	209198		4.08	Si
SLV 4	3.17	14322.47	-202042	-144132	48829	12.3514	12.3514	-41676	16250	87618	115546	186429	62992	203163		4.16	Si
SLD 16	0.67	-114530.82	-177851	-126874	-45871	12.3514	12.3514	-36686	16250	80715	115546	186429	62992	196261		4.28	Si
SLD 16	3.17	-36582.82	-149950	-106971	-44970	12.3514	12.3514	-30931	16250	72754	115546	186429	62992	188300		4.19	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-142058	0.3	1115.46	15430.89	22645.55	19038.22	17.07	Si
SLV 15	-142961	0.3	1115.46	15500.48	22774.09	19137.29	17.16	Si
SLV 14	-148994	0.3	1115.46	15956.01	23633.1	19794.56	17.75	Si
SLV 13	-149897	0.3	1115.46	16022.84	23761.8	19892.32	17.83	Si
SLV 12	-156315	0.3	1115.46	16487.3	24658.25	20572.77	18.44	Si
SLV 11	-156923	0.3	1115.46	16530.35	24741.65	20636	18.5	Si
SLV 8	-175344	0.3	1115.46	17757.43	27271.21	22514.32	20.18	Si
SLV 7	-175952	0.3	1115.46	17795.38	27354.79	22575.08	20.24	Si
SLV 10	-179433	0.3	1115.46	18009.5	27833.43	22921.46	20.55	Si
SLV 9	-180042	0.3	1115.46	18046.35	27912.42	22979.38	20.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-186024	-239005	-599	0.389	20731.5	0.973	5.80099	4.67428	Si
SLV 2	-185442	-237061	-602	0.39	20672.3	0.973	5.81669	4.67428	Si
SLV 3	-181465	-225134	69	0.4	20267.2	0.973	5.96917	4.67428	Si
SLV 4	-180883	-223189	67	0.401	20207.9	0.973	5.98618	4.67428	Si
SLV 5	-174963	-234175	-1214	0.406	19605.1	0.972	6.07115	3.93621	Si
SLV 6	-174572	-232866	-1216	0.407	19565.2	0.972	6.08293	3.93621	Si
SLV 13	-139496	-179875	-128	0.5	15994.3	0.966	7.51679	4.67428	Si
SLV 14	-138914	-177930	-130	0.501	15935	0.966	7.54432	4.67428	Si
SLV 15	-134937	-166003	541	0.511	15530.2	0.965	7.69808	4.67428	Si
SLV 16	-134355	-164059	538	0.513	15471	0.965	7.72777	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	42.659	SLU 84	Si
V_SLU	12.169	SLU 70	Si
PF_SLV	5.494	SLV 16	Si
V_SLV	2.612	SLV 13	Si
PFFP_SLV	17.068	SLV 16	Si
R_SLV	1.241	SLV 1	Si

Maschio 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L4	L5	0.676	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.67	-700.14	-23544	-0.0002973	0.0004492	0.0035	0.6764	0	3849.95	3849.95	5.5	No	Si
SLU 83	3.17	549.34	-20953	-0.000241	0.0004492	0.0035	0.6764	669.66	3807.96	3807.96	6.93	No	Si
SLU 79	0.67	-648.31	-22895	-0.0002804	0.0004492	0.0035	0.6764	82.19	3853.95	3853.95	5.94	No	Si
SLU 79	3.17	505.41	-20321	-0.0002279	0.0004492	0.0035	0.6764	837.24	3800.75	3800.75	7.52	No	Si
SLU 82	0.67	-674.32	-23269	-0.0002896	0.0004492	0.0035	0.6764	0	3859.23	3859.23	5.72	No	Si
SLU 82	3.17	518.98	-20763	-0.0002352	0.0004492	0.0035	0.6764	721.48	3805.78	3805.78	7.33	No	Si
SLU 80	0.67	-631.87	-22932	-0.000279	0.0004492	0.0035	0.6764	69.73	3854.55	3854.55	6.1	No	Si
SLU 80	3.17	483.88	-20424	-0.000227	0.0004492	0.0035	0.6764	810.9	3801.91	3801.91	7.86	No	Si
SLU 77	0.67	-651.83	-23051	-0.0002833	0.0004492	0.0035	0.6764	29.91	3856.44	3856.44	5.92	No	Si
SLU 77	3.17	508.24	-20472	-0.0002302	0.0004492	0.0035	0.6764	798.25	3802.47	3802.47	7.48	No	Si
SLU 81	0.67	-690.76	-23231	-0.000291	0.0004492	0.0035	0.6764	0	3859.29	3859.29	5.59	No	Si
SLU 81	3.17	540.51	-20660	-0.0002361	0.0004492	0.0035	0.6764	748.84	3804.61	3804.61	7.04	No	Si
SLU 41	0.67	-627.7	-20283	-0.0002403	0.0004492	0.0035	0.6764	847	3812.51	3812.51	6.07	No	Si
SLU 41	3.17	496.98	-18222	-0.0002011	0.0004492	0.0035	0.6764	1309.78	3669.94	3669.94	7.38	No	Si
SLU 78	0.67	-635.38	-23089	-0.0002819	0.0004492	0.0035	0.6764	17.27	3857.04	3857.04	6.07	No	Si
SLU 78	3.17	486.71	-20575	-0.0002293	0.0004492	0.0035	0.6764	771.45	3803.64	3803.64	7.82	No	Si
SLU 74	0.67	-642.44	-22739	-0.0002773	0.0004492	0.0035	0.6764	133.45	3851.48	3851.48	6	No	Si
SLU 74	3.17	499.4	-20179	-0.0002255	0.0004492	0.0035	0.6764	873.31	3799.13	3799.13	7.61	No	Si
SLU 84	0.67	-683.7	-23582	-0.0002959	0.0004492	0.0035	0.6764	0	3848.68	3848.68	5.63	No	Si
SLU 84	3.17	527.81	-21056	-0.00024	0.0004492	0.0035	0.6764	641.42	3809.12	3809.12	7.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	0.67	-2233.12	-14774	-0.0003083	0.0006738	0.0035	0.6764		3801.2	3801.2	1.7		Si
SLV 11	3.17	2614.02	-7756	-0.0105911	0.0006738	0.0035	0.5411		2263.04	2263.04	0.87		No
SLV 7	0.67	-868.08	-11302	-0.0001495	0.0006738	0.0035	0.6764		3205.07	3205.07	3.69		Si
SLV 7	3.17	1021.2	-5283	-0.0001268	0.0006738	0.0035	0.6764		1662.2	1662.2	1.63		Si
SLD 15	0.67	-2074.26	-18716	-0.000325	0.0006738	0.0035	0.6764		4343.99	4343.99	2.09		Si
SLD 15	3.17	2289.88	-14928	-0.0003173	0.0006738	0.0035	0.6764		3761.61	3761.61	1.64		Si
SLV 1	0.67	2182.19	-10350	-0.0003197	0.0006738	0.0035	0.6764		2893.52	2893.52	1.33		Si
SLV 1	3.17	-2756.33	-11476	-0.0005366	0.0006738	0.0035	0.5411		3240.17	3240.17	1.18		Si
SLV 15	0.67	-3045.95	-20489	-0.0004748	0.0006738	0.0035	0.6764		4554.05	4554.05	1.5		Si
SLV 15	3.17	3445.35	-15521	-0.0007093	0.0006738	0.0035	0.6764		3869.14	3869.14	1.12		Si
SLV 3	0.67	1504.21	-8917	-0.0001903	0.0006738	0.0035	0.6764		2545.33	2545.33	1.69		Si
SLV 3	3.17	-1864.04	-7279	-0.0003542	0.0006738	0.0035	0.5411		2286.71	2286.71	1.23		Si
SLV 2	0.67	2251.02	-10391	-0.0003413	0.0006738	0.0035	0.6764		2903.41	2903.41	1.29		Si
SLV 2	3.17	-2842.28	-11574	-0.0006023	0.0006738	0.0035	0.5411		3260.19	3260.19	1.15		Si
SLV 16	0.67	-2977.12	-20530	-0.0004619	0.0006738	0.0035	0.6764		4558.87	4558.87	1.53		Si
SLV 16	3.17	3359.4	-15620	-0.0006292	0.0006738	0.0035	0.6764		3882.23	3882.23	1.16		Si
SLV 12	0.67	-2186.79	-14801	-0.0003021	0.0006738	0.0035	0.6764		3805.68	3805.68	1.74		Si
SLV 12	3.17	2556.16	-7822	-0.0089277	0.0006738	0.0035	0.5411		2279.2	2279.2	0.89		No
SLV 4	0.67	1573.04	-8958	-0.0002006	0.0006738	0.0035	0.6764		2555.22	2555.22	1.62		Si
SLV 4	3.17	-1949.99	-7377	-0.0004139	0.0006738	0.0035	0.5411		2311.31	2311.31	1.19		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.67	-642.44	-22739	-16221	-759	0.6764	0.6764	-85653	10833	5055	115546	6806	3449	10255	No	13.51	Si
SLU 74	3.17	499.4	-20179	-14395	-490	0.6764	0.6764	-76011	10833	4568	115546	6806	3449	10255	No	20.95	Si
SLU 75	0.67	-626	-22776	-16248	-740	0.6764	0.6764	-85795	10833	5062	115546	6806	3449	10255	No	13.86	Si
SLU 75	3.17	477.88	-20281	-14468	-469	0.6764	0.6764	-76397	10833	4587	115546	6806	3449	10255	No	21.87	Si
SLU 79	0.67	-648.31	-22895	-16332	-766	0.6764	0.6764	-86240	10833	5084	115546	6806	3449	10255	No	13.39	Si
SLU 79	3.17	505.41	-20321	-14497	-495	0.6764	0.6764	-76546	10833	4595	115546	6806	3449	10255	No	20.72	Si
SLU 82	0.67	-674.32	-23269	-16599	-781	0.6764	0.6764	-87650	10833	5156	115546	6806	3449	10255	No	13.13	Si
SLU 82	3.17	518.98	-20763	-14812	-503	0.6764	0.6764	-78209	10833	4679	115546	6806	3449	10255	No	20.4	Si
SLU 81	0.67	-690.76	-23231	-16573	-800	0.6764	0.6764	-87509	10833	5149	115546	6806	3449	10255	No	12.82	Si
SLU 81	3.17	540.51	-20660	-14738	-523	0.6764	0.6764	-77823	10833	4659	115546	6806	3449	10255	No	19.6	Si
SLU 78	0.67	-635.38	-23089	-16471	-751	0.6764	0.6764	-86973	10833	5121	115546	6806	3449	10255	No	13.65	Si
SLU 78	3.17	486.71	-20575	-14677	-477	0.6764	0.6764	-77501	10833	4643	115546	6806	3449	10255	No	21.51	Si
SLU 84	0.67	-683.7	-23582	-16823	-793	0.6764	0.6764	-88828	10833	5215	115546	6806	3449	10255	No	12.94	Si
SLU 84	3.17	527.81	-21056	-15021	-511	0.6764	0.6764	-79314	10833	4735	115546	6806	3449	10255	No	20.09	Si
SLU 77	0.67	-651.83	-23051	-16444	-770	0.6764	0.6764	-86831	10833	5114	115546	6806	3449	10255	No	13.31	Si
SLU 77	3.17	508.24	-20472	-14604	-497	0.6764	0.6764	-77116	10833	4624	115546	6806	3449	10255	No	20.62	Si
SLU 83	0.67	-700.14	-23544	-16796	-812	0.6764	0.6764	-88687	10833	5208	115546	6806	3449	10255	No	12.64	Si
SLU 83	3.17	549.34	-20953	-14948	-531	0.6764	0.6764	-78928	10833	4715	115546	6806	3449	10255	No	19.31	Si
SLU 80	0.67	-631.87	-22932	-16359	-747	0.6764	0.6764	-86382	10833	5092	115546	6806	3449	10255	No	13.73	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	3.17	483.88	-20424	-14570	-474	0.6764	0.6764	-76932	10833	4614	115546	6806	3449	10255	No	21.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.67	-2977.12	-20530	-14646	-3072	0.6764	0.5795	-77333	16250	4999	115546	10209	3449	13658		4.45	Si
SLV 16	3.17	3359.4	-15620	-11143	-2685	0.6764	0.3693	-58836	16250	4065	115546	10209	3449	13658		5.09	Si
SLV 12	0.67	-2186.79	-14801	-10559	-2459	0.6764	0.5713	-55754	16250	3910	115546	10209	3449	13658		5.56	Si
SLV 12	3.17	2556.16	-7822	-5580	-2311	0.5411	0.0342	0	0	0	115546	8167	2760	10927		4.73	Si
SLV 13	0.67	-2367.97	-21922	-15639	-2342	0.6764	0.6764	-82577	16250	5264	115546	10209	3449	13658		5.83	Si
SLV 13	3.17	2553.06	-19718	-14066	-1892	0.6764	0.6261	-74274	16250	4845	115546	10209	3449	13658		7.22	Si
SLV 1	0.67	2182.19	-10350	-7384	2095	0.6764	0.382	-38988	16250	3063	115546	10209	3449	13658		6.52	Si
SLV 1	3.17	-2756.33	-11476	-8186	2070	0.5411	0.294	0	0	0	115546	8167	2760	10927		5.28	Si
SLV 15	0.67	-3045.95	-20489	-14617	-3138	0.6764	0.5686	-98073	16250	4992	115546	10209	3449	13658		4.35	Si
SLV 15	3.17	3445.35	-15521	-11072	-2751	0.6764	0.3486	-58464	16250	4046	115546	10209	3449	13658		4.96	Si
SLV 2	0.67	2251.02	-10391	-7413	2161	0.6764	0.3647	-39141	16250	3071	115546	10209	3449	13658		6.32	Si
SLV 2	3.17	-2842.28	-11574	-8257	2137	0.5411	0.2778	0	0	0	115546	8167	2760	10927		5.11	Si
SLV 11	0.67	-2233.12	-14774	-10539	-2503	0.6764	0.5611	-55651	16250	3904	115546	10209	3449	13658		5.46	Si
SLV 11	3.17	2614.02	-7756	-5533	-2356	0.5411	0.0034	0	0	0	115546	8167	2760	10927		4.64	Si
SLV 14	0.67	-2299.13	-21963	-15668	-2276	0.6764	0.6764	-82731	16250	5272	115546	10209	3449	13658		6	Si
SLV 14	3.17	2467.11	-19817	-14137	-1826	0.6764	0.6411	-74646	16250	4864	115546	10209	3449	13658		7.48	Si
SLD 15	0.67	-2074.26	-18716	-13351	-2164	0.6764	0.6764	-70500	16250	4654	115546	10209	3449	13658		6.31	Si
SLD 15	3.17	2289.88	-14928	-10649	-1847	0.6764	0.5544	-56232	16250	3934	115546	10209	3449	13658		7.39	Si
SLD 16	0.67	-2030.59	-18742	-13370	-2122	0.6764	0.6764	-70597	16250	4659	115546	10209	3449	13658		6.44	Si
SLD 16	3.17	2235.35	-14991	-10694	-1805	0.6764	0.5672	-56468	16250	3946	115546	10209	3449	13658		7.57	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-5893	0.3	61.08	684.96	950.69	817.82	13.39	Si
SLV 8	-5956	0.3	61.08	690.79	960.01	825.4	13.51	Si
SLV 3	-7520	0.3	61.08	824.7	1186.61	1005.66	16.46	Si
SLV 4	-7614	0.3	61.08	832.12	1200.2	1016.16	16.64	Si
SLV 11	-8213	0.3	61.08	877.73	1286.65	1082.19	17.72	Si
SLV 12	-8276	0.3	61.08	882.38	1295.79	1089.08	17.83	Si
SLV 1	-11247	0.3	61.08	1064.38	1696.86	1380.62	22.6	Si
SLV 2	-11341	0.3	61.08	1068.98	1708.47	1388.72	22.74	Si
SLV 15	-15252	0.3	61.08	1197.02	2140.96	1668.99	27.32	Si
SLV 16	-15346	0.3	61.08	1198.58	2150.08	1674.33	27.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-5724	-21963	59	0.631	681.1	0.957	9.57465	4.67428	Si
SLV 13	-5714	-21922	59	0.632	680	0.957	9.58958	4.67428	Si
SLV 16	-5661	-20530	66	0.635	674.6	0.957	9.64988	4.67428	Si
SLV 15	-5651	-20489	66	0.636	673.6	0.957	9.66509	4.67428	Si
SLV 10	-5206	-19578	7	0.692	628.4	0.954	10.54354	3.93621	Si
SLV 9	-5199	-19550	7	0.693	627.7	0.954	10.55569	3.93621	Si
SLV 12	-4995	-14801	33	0.712	607	0.953	10.86262	3.93621	Si
SLV 11	-4988	-14774	33	0.713	606.3	0.953	10.87563	3.93621	Si
SLV 2	-4037	-10391	-62	0.844	509.7	0.945	12.98615	4.67428	Si
SLV 1	-4026	-10350	-62	0.846	508.7	0.945	13.0144	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.499	SLU 83	Si
V_SLU	12.636	SLU 83	Si
PF_SLV	0.866	SLV 11	No
V_SLV	4.353	SLV 15	Si
PFFP_SLV	13.389	SLV 7	Si
R_SLV	2.048	SLV 14	Si

Maschio 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L4	L5	1.944	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.67	1134.25	-58567	-0.0001911	0.0004492	0.0035	1.9436	6787.32	31381.51	31381.51	27.67	No	Si
SLU 77	3.17	7265.91	-45770	-0.0002103	0.0004492	0.0035	1.9436	13863.93	28904.71	28904.71	3.98	No	Si
SLU 81	0.67	1119.81	-59002	-0.0001927	0.0004492	0.0035	1.9436	6462.12	31396.6	31396.6	28.04	No	Si
SLU 81	3.17	7319.79	-46132	-0.0002125	0.0004492	0.0035	1.9436	13729.63	29038.88	29038.88	3.97	No	Si
SLU 76	0.67	1123.75	-57663	-0.0001873	0.0004492	0.0035	1.9436	7443.89	31350.22	31350.22	27.9	No	Si
SLU 76	3.17	7209.3	-45044	-0.0002067	0.0004492	0.0035	1.9436	14122.19	28635.14	28635.14	3.97	No	Si
SLU 79	0.67	1125.84	-58164	-0.0001894	0.0004492	0.0035	1.9436	7082.6	31367.58	31367.58	27.86	No	Si
SLU 79	3.17	7210.82	-45434	-0.0002083	0.0004492	0.0035	1.9436	13985.46	28779.87	28779.87	3.99	No	Si
SLU 80	0.67	1131.43	-58329	-0.0001901	0.0004492	0.0035	1.9436	6962.02	31373.29	31373.29	27.73	No	Si
SLU 80	3.17	7271.73	-45594	-0.0002097	0.0004492	0.0035	1.9436	13927.89	28839.43	28839.43	3.97	No	Si
SLU 82	0.67	1125.39	-59167	-0.0001934	0.0004492	0.0035	1.9436	6337.5	31402.31	31402.31	27.9	No	Si
SLU 82	3.17	7380.7	-46293	-0.0002138	0.0004492	0.0035	1.9436	13668.79	29074.17	29074.17	3.94	No	Si
SLU 84	0.67	1136.8	-59944	-0.0001967	0.0004492	0.0035	1.9436	5740.67	31429.19	31429.19	27.65	No	Si
SLU 84	3.17	7483.74	-46950	-0.0002178	0.0004492	0.0035	1.9436	13411.68	29207.59	29207.59	3.9	No	Si
SLU 78	0.67	1139.84	-58732	-0.0001918	0.0004492	0.0035	1.9436	6664.8	31387.22	31387.22	27.54	No	Si
SLU 78	3.17	7326.82	-45931	-0.0002117	0.0004492	0.0035	1.9436	13804.79	28964.27	28964.27	3.95	No	Si
SLU 75	0.67	1128.43	-57956	-0.0001886	0.0004492	0.0035	1.9436	7234.14	31360.34	31360.34	27.79	No	Si
SLU 75	3.17	7223.78	-45273	-0.0002078	0.0004492	0.0035	1.9436	14042.3	28720.27	28720.27	3.98	No	Si
SLU 83	0.67	1131.21	-59779	-0.000196	0.0004492	0.0035	1.9436	5869.04	31423.48	31423.48	27.78	No	Si
SLU 83	3.17	7422.83	-46790	-0.0002164	0.0004492	0.0035	1.9436	13475.61	29175.02	29175.02	3.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0.67	-9145.75	-31881	-0.0001655	0.0006738	0.0035	1.9436		26729.74	26729.74	2.92		Si
SLV 16	3.17	8955.2	-28767	-0.000154	0.0006738	0.0035	1.9436		23195.01	23195.01	2.59		Si
SLV 10	0.67	-1714.56	-50050	-0.0001539	0.0006738	0.0035	1.9436		35153.56	35153.56	20.5		Si
SLV 10	3.17	10624.4	-42539	-0.0002148	0.0006738	0.0035	1.9436		30871.04	30871.04	2.91		Si
SLV 13	0.67	-9036.59	-38593	-0.0001863	0.0006738	0.0035	1.9436		30442.17	30442.17	3.37		Si
SLV 13	3.17	11420.66	-35393	-0.0001982	0.0006738	0.0035	1.9436		26960.85	26960.85	2.36		Si
SLV 14	0.67	-8889.33	-38995	-0.0001862	0.0006738	0.0035	1.9436		30642.99	30642.99	3.45		Si
SLV 14	3.17	11452.79	-35699	-0.0001995	0.0006738	0.0035	1.9436		27128.32	27128.32	2.37		Si
SLV 9	0.67	-1813.68	-49779	-0.000154	0.0006738	0.0035	1.9436		35050.97	35050.97	19.33		Si
SLV 9	3.17	10602.77	-42333	-0.0002138	0.0006738	0.0035	1.9436		30758.31	30758.31	2.9		Si
SLV 4	0.67	10567.62	-39938	-0.0002053	0.0006738	0.0035	1.9436		29447.79	29447.79	2.79		Si
SLV 4	3.17	-1721.92	-25348	-0.0000807	0.0006738	0.0035	1.9436		22623.25	22623.25	13.14		Si
SLV 15	0.67	-9293.01	-31478	-0.0001656	0.0006738	0.0035	1.9436		26496.4	26496.4	2.85		Si
SLV 15	3.17	8923.07	-28461	-0.0001528	0.0006738	0.0035	1.9436		22979.38	22979.38	2.58		Si
SLD 13	0.67	-5509.27	-38620	-0.0001535	0.0006738	0.0035	1.9436		30455.46	30455.46	5.53		Si
SLD 13	3.17	8986.06	-33395	-0.0001689	0.0006738	0.0035	1.9436		25867.88	25867.88	2.88		Si
SLV 3	0.67	10420.36	-39536	-0.0002025	0.0006738	0.0035	1.9436		29227.63	29227.63	2.8		Si
SLV 3	3.17	-1754.05	-25042	-0.0000802	0.0006738	0.0035	1.9436		22421.02	22421.02	12.78		Si
SLD 14	0.67	-5415.85	-38875	-0.0001535	0.0006738	0.0035	1.9436		30582.86	30582.86	5.65		Si
SLD 14	3.17	9006.44	-33589	-0.0001697	0.0006738	0.0035	1.9436		25974.13	25974.13	2.88		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	0.67	1125.84	-58164	-41493	2113	1.9436	1.9436	-76244	10833	13160	115546	19558	9913	29470	No	13.94	Si
SLU 79	3.17	7210.82	-45434	-32411	-2659	1.9436	1.9436	-59556	10833	10739	115546	19558	9913	29470	No	11.08	Si
SLU 78	0.67	1139.84	-58732	-41898	2107	1.9436	1.9436	-76987	10833	13268	115546	19558	9913	29470	No	13.98	Si
SLU 78	3.17	7326.82	-45931	-32766	-2698	1.9436	1.9436	-60208	10833	10833	115546	19558	9913	29470	No	10.92	Si
SLU 83	0.67	1131.21	-59779	-42645	2152	1.9436	1.9436	-78360	10833	13467	115546	19558	9913	29470	No	13.69	Si
SLU 83	3.17	7422.83	-46790	-33379	-2718	1.9436	1.9436	-61334	10833	10997	115546	19558	9913	29470	No	10.84	Si
SLU 77	0.67	1134.25	-58567	-41780	2127	1.9436	1.9436	-76771	10833	13237	115546	19558	9913	29470	No	13.85	Si
SLU 77	3.17	7265.91	-45770	-32652	-2682	1.9436	1.9436	-59997	10833	10803	115546	19558	9913	29470	No	10.99	Si
SLU 75	0.67	1128.43	-57956	-41344	2087	1.9436	1.9436	-75970	10833	13121	115546	19558	9913	29470	No	14.12	Si
SLU 75	3.17	7223.78	-45273	-32297	-2663	1.9436	1.9436	-59346	10833	10708	115546	19558	9913	29470	No	11.06	Si
SLU 84	0.67	1136.8	-59944	-42762	2133	1.9436	1.9436	-78576	10833	13499	115546	19558	9913	29470	No	13.82	Si
SLU 84	3.17	7483.74	-46950	-33493	-2734	1.9436	1.9436	-61544	10833	11027	115546	19558	9913	29470	No	10.78	Si
SLU 82	0.67	1125.39	-59167	-42209	2112	1.9436	1.9436	-77558	10833	13351	115546	19558	9913	29470	No	13.96	Si
SLU 82	3.17	7380.7	-46293	-33024	-2700	1.9436	1.9436	-60682	10833	10902	115546	19558	9913	29470	No	10.92	Si
SLU 80	0.67	1131.43	-58329	-41611	2094	1.9436	1.9436	-76460	10833	13192	115546	19558	9913	29470	No	14.08	Si
SLU 80	3.17	7271.73	-45594	-32526	-2676	1.9436	1.9436	-59767	10833	10769	115546	19558	9913	29470	No	11.01	Si
SLU 76	0.67	1123.75	-57663	-41136	2060	1.9436	1.9436	-75587	10833	13065	115546	19558	9913	29470	No	14.31	Si
SLU 76	3.17	7209.3	-45044	-32133	-2652	1.9436	1.9436	-59045	10833	10664	115546	19558	9913	29470	No	11.11	Si
SLU 81	0.67	1119.81	-59002	-42091	2131	1.9436	1.9436	-77342	10833	13320	115546	19558	9913	29470	No	13.83	Si
SLU 81	3.17	7319.79	-46132	-32910	-2683	1.9436	1.9436	-60471	10833	10871	115546	19558	9913	29470	No	10.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.67	-9145.75	-31881	-22743	-7288	1.9436	1.9436	-41790	16250	9208	115546	29337	9913	39249		5.39	Si
SLV 16	3.17	8955.2	-28767	-20522	-6796	1.9436	1.9436	-37708	16250	8844	115546	29337	9913	39249		5.78	Si
SLV 4	0.67	10567.62	-39938	-28491	11063	1.9436	1.9436	-52352	16250	10741	115546	29337	9913	39249		3.55	Si
SLV 4	3.17	-1721.92	-25348	-18082	3841	1.9436	1.9436	-33226	16250	8844	115546	29337	9913	39249		10.22	Si
SLV 14	0.67	-8889.33	-38995	-27818	-8080	1.9436	1.9436	-51116	16250	10562	115546	29337	9913	39249		4.86	Si
SLV 14	3.17	11452.79	-35699	-25467	-7477	1.9436	1.9436	-46795	16250	9935	115546	29337	9913	39249		5.25	Si
SLD 4	0.67	7040.31	-39912	-28472	7582	1.9436	1.9436	-52317	16250	10736	115546	29337	9913	39249		5.18	Si
SLD 4	3.17	712.68	-27345	-19507	1774	1.9436	1.9436	-35845	16250	8844	115546	29337	9913	39249		22.12	Si
SLV 13	0.67	-9036.59	-38593	-27531	-8173	1.9436	1.9436	-50589	16250	10485	115546	29337	9913	39249		4.8	Si
SLV 13	3.17	11420.66	-35393	-25248	-7539	1.9436	1.9436	-46394	16250	9876	115546	29337	9913	39249		5.21	Si
SLD 3	0.67	6946.89	-39656	-28290	7522	1.9436	1.9436	-51983	16250	10687	115546	29337	9913	39249		5.22	Si
SLD 3	3.17	692.29	-27151	-19369	1735	1.9436	1.9436	-35591	16250	8844	115546	29337	9913	39249		22.63	Si
SLV 2	0.67	10824.04	-47053	-33566	10271	1.9436	1.9436	-61678	16250	12094	115546	29337	9913	39249		3.82	Si
SLV 2	3.17	775.67	-32280	-23028	3161	1.9436	1.9436	-42313	16250	9284	115546	29337	9913	39249		12.42	Si
SLV 1	0.67	10676.79	-46650	-33279	10177	1.9436	1.9436	-61151	16250	12018	115546	29337	9913	39249		3.86	Si
SLV 1	3.17	743.54	-31974	-22809	3099	1.9436	1.9436	-41912	16250	9226	115546	29337	9913	39249		12.67	Si
SLV 3	0.67	10420.36	-39536	-28204	10969	1.9436	1.9436	-51825	16250	10665	115546	29337	9913	39249		3.58	Si
SLV 3	3.17	-1754.05	-25042	-17864	3779	1.9436	1.9436	-32825	16250	8844	115546	29337	9913	39249		10.39	Si
SLV 15	0.67	-9293.01	-31478	-22456	-7382	1.9436	1.9436	-41263	16250	9132	115546	29337	9913	39249		5.32	Si
SLV 15	3.17	8923.07	-28461	-20303	-6858	1.9436	1.9436	-37307	16250	8844	115546	29337	9913	39249		5.72	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-24151	0.3	175.53	2562.47	3846.57	3204.52	18.26	Si
SLV 12	-24426	0.3	175.53	2582.25	3884.57	3233.41	18.42	Si
SLV 7	-26785	0.3	175.53	2742.91	4210.03	3476.47	19.81	Si
SLV 8	-27060	0.3	175.53	2760.66	4248.04	3504.35	19.96	Si
SLV 15	-29415	0.3	175.53	2903.68	4564.37	3734.03	21.27	Si
SLV 16	-29825	0.3	175.53	2926.95	4617.66	3772.3	21.49	Si
SLV 13	-36619	0.3	175.53	3244.52	5447.21	4345.87	24.76	Si
SLV 14	-37028	0.3	175.53	3259.51	5492.21	4375.86	24.93	Si
SLV 3	-38195	0.3	175.53	3299.67	5620.41	4460.04	25.41	Si
SLV 4	-38604	0.3	175.53	3312.85	5665.36	4489.1	25.57	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-27676	-47053	-88	0.408	3099.7	0.972	6.09606	4.67428	Si
SLV 1	-27571	-46650	-88	0.409	3089	0.972	6.11632	4.67428	Si
SLV 14	-27075	-38995	-106	0.415	3038.5	0.972	6.20479	4.67428	Si
SLV 13	-26971	-38593	-106	0.416	3027.9	0.971	6.22589	4.67428	Si
SLV 4	-25412	-39938	103	0.438	2869.1	0.97	6.56157	4.67428	Si
SLV 3	-25307	-39536	103	0.439	2858.5	0.97	6.58544	4.67428	Si
SLV 6	-30090	-52467	-316	0.373	3345.5	0.974	5.55933	3.93621	Si
SLV 5	-30019	-52196	-317	0.373	3338.4	0.974	5.57068	3.93621	Si
SLV 10	-29910	-50050	-322	0.374	3327.2	0.974	5.58585	3.93621	Si
SLV 9	-29839	-49779	-322	0.375	3320	0.974	5.59733	3.93621	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.903	SLU 84	Si
V_SLU	10.778	SLU 84	Si
PF_SLV	2.361	SLV 13	Si
V_SLV	3.548	SLV 4	Si
PFFP_SLV	18.256	SLV 11	Si
R_SLV	1.304	SLV 2	Si

Maschio 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L4	L5	1.55	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

											εlim,conv / ε,CNR DT-200						CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0.67	4424.19	-46902	-0.0002662	0.0004492	0.0035	1.55	4200.25	19931.06	19931.06	4.51	No	Si
SLU 75	2.77	-957.8	-40480	-0.0001652	0.0004492	0.0035	1.55	7424.3	19514.56	19514.56	20.37	No	Si
SLU 81	0.67	4503.49	-47582	-0.0002723	0.0004492	0.0035	1.55	3788.12	19955.95	19955.95	4.43	No	Si
SLU 81	2.77	-938.03	-41285	-0.0001686	0.0004492	0.0035	1.55	7086.12	19631.9	19631.9	20.93	No	Si
SLU 83	0.67	4523.18	-48183	-0.0002766	0.0004492	0.0035	1.55	3412.97	19977.93	19977.93	4.42	No	Si
SLU 83	2.77	-929.64	-41826	-0.000171	0.0004492	0.0035	1.55	6848.28	19683.53	19683.53	21.17	No	Si
SLU 73	0.67	4400.58	-46076	-0.0002605	0.0004492	0.0035	1.55	4682.23	19900.86	19900.86	4.52	No	Si
SLU 73	2.77	-953.63	-39688	-0.0001615	0.0004492	0.0035	1.55	7738.45	19358.87	19358.87	20.3	No	Si
SLU 78	0.67	4443.87	-47502	-0.0002705	0.0004492	0.0035	1.55	3837.04	19953.04	19953.04	4.49	No	Si
SLU 78	2.77	-949.41	-41021	-0.0001676	0.0004492	0.0035	1.55	7199.2	19606.68	19606.68	20.65	No	Si
SLU 84	0.67	4554.65	-48328	-0.0002783	0.0004492	0.0035	1.55	3320.47	19983.25	19983.25	4.39	No	Si
SLU 84	2.77	-923.31	-41891	-0.0001712	0.0004492	0.0035	1.55	6818.96	19689.77	19689.77	21.33	No	Si
SLU 82	0.67	4534.96	-47727	-0.0002739	0.0004492	0.0035	1.55	3698.18	19961.28	19961.28	4.4	No	Si
SLU 82	2.77	-931.7	-41350	-0.0001688	0.0004492	0.0035	1.55	7057.83	19638.14	19638.14	21.08	No	Si
SLU 80	0.67	4418.98	-47180	-0.0002679	0.0004492	0.0035	1.55	4033	19941.26	19941.26	4.51	No	Si
SLU 80	2.77	-941.08	-40726	-0.0001661	0.0004492	0.0035	1.55	7322.87	19562.98	19562.98	20.79	No	Si
SLU 76	0.67	4420.27	-46677	-0.0002647	0.0004492	0.0035	1.55	4333.51	19922.84	19922.84	4.51	No	Si
SLU 76	2.77	-945.24	-40229	-0.0001638	0.0004492	0.0035	1.55	7525.87	19465.21	19465.21	20.59	No	Si
SLU 77	0.67	4412.41	-47357	-0.0002689	0.0004492	0.0035	1.55	3926.02	19947.71	19947.71	4.52	No	Si
SLU 77	2.77	-955.74	-40955	-0.0001674	0.0004492	0.0035	1.55	7226.86	19600.44	19600.44	20.51	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.67	7772.48	-39818	-0.0002572	0.0006738	0.0035	1.55		21592.92	21592.92	2.78		Si
SLV 6	2.77	-2464.79	-30164	-0.0001361	0.0006738	0.0035	1.55		19085.85	19085.85	7.74		Si
SLD 2	0.67	9198.61	-29058	-0.000236	0.0006738	0.0035	1.55		17506.73	17506.73	1.9		Si
SLD 2	2.77	-4821.47	-24234	-0.0001467	0.0006738	0.0035	1.55		16409	16409	3.4		Si
SLV 3	0.67	11297.43	-21063	-0.0003559	0.0006738	0.0035	1.55		13746.12	13746.12	1.22		Si
SLV 3	2.77	-7168.03	-19580	-0.000171	0.0006738	0.0035	1.55		14023.86	14023.86	1.96		Si
SLD 3	0.67	8369.17	-25215	-0.0002081	0.0006738	0.0035	1.55		15778.65	15778.65	1.89		Si
SLD 3	2.77	-4856.15	-22472	-0.0001404	0.0006738	0.0035	1.55		15531.4	15531.4	3.2		Si
SLD 1	0.67	9054.15	-28672	-0.0002318	0.0006738	0.0035	1.55		17333.26	17333.26	1.91		Si
SLD 1	2.77	-4772.72	-24078	-0.0001454	0.0006738	0.0035	1.55		16331.19	16331.19	3.42		Si
SLV 1	0.67	12470.36	-26958	-0.0003455	0.0006738	0.0035	1.55		16562.58	16562.58	1.33		Si
SLV 1	2.77	-7027.22	-22314	-0.0001736	0.0006738	0.0035	1.55		15452.67	15452.67	2.2		Si
SLD 4	0.67	8513.63	-25601	-0.0002122	0.0006738	0.0035	1.55		15952.12	15952.12	1.87		Si
SLD 4	2.77	-4904.9	-22628	-0.0001417	0.0006738	0.0035	1.55		15609.21	15609.21	3.18		Si
SLV 2	0.67	12698.06	-27566	-0.0003529	0.0006738	0.0035	1.55		16836.03	16836.03	1.33		Si
SLV 2	2.77	-7104.06	-22560	-0.0001757	0.0006738	0.0035	1.55		15575.32	15575.32	2.19		Si
SLV 5	0.67	7619.2	-39409	-0.0002528	0.0006738	0.0035	1.55		21462.79	21462.79	2.82		Si
SLV 5	2.77	-2413.07	-29998	-0.0001347	0.0006738	0.0035	1.55		19017.2	19017.2	7.88		Si
SLV 4	0.67	11525.13	-21671	-0.0003605	0.0006738	0.0035	1.55		14095.86	14095.86	1.22		Si
SLV 4	2.77	-7244.87	-19826	-0.0001731	0.0006738	0.0035	1.55		14154.34	14154.34	1.95		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.67	4424.19	-46902	-33458	1607	1.55	1.55	-77093	10833	10593	115546	15597	7905	23502	No	14.62	Si
SLU 75	2.77	-957.8	-40480	-28877	2035	1.55	1.55	-66537	10833	9372	115546	15597	7905	23502	No	11.55	Si
SLU 65	0.67	4038.1	-41996	-29959	1631	1.55	1.55	-69030	10833	9660	115546	15597	7905	23502	No	14.41	Si
SLU 65	2.77	-1014.65	-35706	-25472	2013	1.55	1.55	-58691	10833	8464	115546	15597	7905	23502	No	11.68	Si
SLU 82	0.67	4534.96	-47727	-34048	1633	1.55	1.55	-78451	10833	10750	115546	15597	7905	23502	No	14.39	Si
SLU 82	2.77	-931.7	-41350	-29498	2071	1.55	1.55	-67969	10833	9537	115546	15597	7905	23502	No	11.35	Si
SLU 78	0.67	4443.87	-47502	-33887	1603	1.55	1.55	-78081	10833	10708	115546	15597	7905	23502	No	14.66	Si
SLU 78	2.77	-949.41	-41021	-29263	2036	1.55	1.55	-67427	10833	9475	115546	15597	7905	23502	No	11.54	Si
SLU 84	0.67	4554.65	-48328	-34476	1628	1.55	1.55	-79438	10833	10865	115546	15597	7905	23502	No	14.43	Si
SLU 84	2.77	-923.31	-41891	-29884	2071	1.55	1.55	-68858	10833	9640	115546	15597	7905	23502	No	11.35	Si
SLU 73	0.67	4400.58	-46076	-32870	1682	1.55	1.55	-75736	10833	10436	115546	15597	7905	23502	No	13.98	Si
SLU 73	2.77	-953.63	-39688	-28312	2105	1.55	1.55	-65235	10833	9221	115546	15597	7905	23502	No	11.17	Si
SLU 76	0.67	4420.27	-46677	-33298	1677	1.55	1.55	-76724	10833	10551	115546	15597	7905	23502	No	14.01	Si
SLU 76	2.77	-945.24	-40229	-28698	2105	1.55	1.55	-66125	10833	9324	115546	15597	7905	23502	No	11.16	Si
SLU 68	0.67	4057.79	-42597	-30388	1626	1.55	1.55	-70018	10833	9774	115546	15597	7905	23502	No	14.45	Si
SLU 68	2.77	-1006.27	-36247	-25858	2013	1.55	1.55	-59580	10833	8567	115546	15597	7905	23502	No	11.68	Si
SLU 83	0.67	4523.18	-48183	-34372	1522	1.55	1.55	-79199	10833	10837	115546	15597	7905	23502	No	15.44	Si
SLU 83	2.77	-929.64	-41826	-29838	1962	1.55	1.55	-68750	10833	9628	115546	15597	7905	23502	No	11.98	Si
SLU 80	0.67	4418.98	-47180	-33657	1602	1.55	1.55	-77551	10833	10646	115546	15597	7905	23502	No	14.67	Si
SLU 80	2.77	-941.08	-40726	-29053	2032	1.55	1.55	-66942	10833	9419	115546	15597	7905	23502	No	11.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	0.67	12698.06	-27566	-19665	12028	1.55	0.9431	-45311	16250	7751	115546	23395	7905	31300		2.6	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	2.77	-7104.06	-22560	-16094	12198	1.55	1.3803	-42536	16250	6799	115546	23395	7905	31300		2.57	Si
SLV 5	0.67	7619.2	-39409	-28113	10266	1.55	1.55	-64777	16250	10004	115546	23395	7905	31300		3.05	Si
SLV 5	2.77	-2413.07	-29998	-21400	10720	1.55	1.55	-49309	16250	8214	115546	23395	7905	31300		2.92	Si
SLV 15	0.67	-6579.09	-36704	-26184	-9818	1.55	1.55	-60332	16250	9489	115546	23395	7905	31300		3.19	Si
SLV 15	2.77	5581.75	-32306	-23047	-9408	1.55	1.55	-53103	16250	8653	115546	23395	7905	31300		3.33	Si
SLV 16	0.67	-6351.39	-37312	-26618	-9437	1.55	1.55	-61331	16250	9605	115546	23395	7905	31300		3.32	Si
SLV 16	2.77	5504.91	-32553	-23222	-9015	1.55	1.55	-53507	16250	8699	115546	23395	7905	31300		3.47	Si
SLV 6	0.67	7772.48	-39818	-28405	10522	1.55	1.55	-65450	16250	10082	115546	23395	7905	31300		2.97	Si
SLV 6	2.77	-2464.79	-30164	-21518	10984	1.55	1.55	-49581	16250	8245	115546	23395	7905	31300		2.85	Si
SLV 11	0.67	-1653.51	-24452	-17444	-8312	1.55	1.55	-40193	16250	7159	115546	23395	7905	31300		3.77	Si
SLV 11	2.77	942.49	-24702	-17622	-8194	1.55	1.55	-40604	16250	7206	115546	23395	7905	31300		3.82	Si
SLV 4	0.67	11525.13	-21671	-15460	8026	1.55	0.7296	-35622	16250	6630	115546	23395	7905	31300		3.9	Si
SLV 4	2.77	-7244.87	-19826	-14143	8060	1.55	1.2287	-41952	16250	6279	115546	23395	7905	31300		3.88	Si
SLV 12	0.67	-1500.23	-24862	-17736	-8056	1.55	1.55	-40866	16250	7236	115546	23395	7905	31300		3.89	Si
SLV 12	2.77	890.76	-24868	-17740	-7930	1.55	1.55	-40876	16250	7238	115546	23395	7905	31300		3.95	Si
SLD 2	0.67	9198.61	-29058	-20729	7988	1.55	1.3753	-47763	16250	8035	115546	23395	7905	31300		3.92	Si
SLD 2	2.77	-4821.47	-24234	-17288	8196	1.55	1.55	-39834	16250	7117	115546	23395	7905	31300		3.82	Si
SLV 1	0.67	12470.36	-26958	-19231	11647	1.55	0.9372	-44312	16250	7635	115546	23395	7905	31300		2.69	Si
SLV 1	2.77	-7027.22	-22314	-15918	11805	1.55	1.3802	-42062	16250	6752	115546	23395	7905	31300		2.65	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-19812	0.3	139.98	2082.87	3143.2	2613.03	18.67	Si
SLV 4	-20059	0.3	139.98	2100.06	3177.14	2638.6	18.85	Si
SLV 7	-21182	0.3	139.98	2175.8	3331.97	2753.89	19.67	Si
SLV 8	-21348	0.3	139.98	2186.6	3354.81	2770.71	19.79	Si
SLV 1	-22485	0.3	139.98	2258.1	3511.55	2884.83	20.61	Si
SLV 2	-22732	0.3	139.98	2272.98	3544.3	2908.64	20.78	Si
SLV 11	-24995	0.3	139.98	2399.71	3837.83	3118.77	22.28	Si
SLV 12	-25161	0.3	139.98	2408.29	3858.22	3133.25	22.38	Si
SLV 5	-30092	0.3	139.98	2619.14	4440.86	3530	25.22	Si
SLV 6	-30258	0.3	139.98	2624.74	4459.2	3541.97	25.3	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-20803	-43207	63	0.429	2342.9	0.971	6.42519	4.67428	Si
SLV 13	-20774	-42599	62	0.43	2339.9	0.971	6.43407	4.67428	Si
SLV 16	-20229	-37312	-2	0.442	2284.4	0.97	6.62735	4.67428	Si
SLV 15	-20200	-36704	-3	0.443	2281.4	0.97	6.63482	4.67428	Si
SLV 10	-19589	-44510	113	0.449	2219.2	0.969	6.73802	3.93621	Si
SLV 9	-19570	-44101	112	0.45	2217.2	0.969	6.74464	3.93621	Si
SLV 2	-15433	-27566	-9	0.557	1796.3	0.962	8.40767	4.67428	Si
SLV 1	-15404	-26958	-10	0.558	1793.3	0.962	8.42052	4.67428	Si
SLV 4	-14859	-21671	-74	0.571	1737.9	0.961	8.63385	4.67428	Si
SLV 3	-14830	-21063	-75	0.572	1734.9	0.961	8.64758	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.387	SLU 84	Si
V_SLU	11.165	SLU 76	Si
PF_SLV	1.217	SLV 3	Si
V_SLV	2.566	SLV 2	Si
PFFP_SLV	18.667	SLV 3	Si
R_SLV	1.375	SLV 14	Si

Maschio 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L4	L5	3.97	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.67	22681.2	-93118	-0.000189	0.0004492	0.0035	3.97	58117.54	120491.21	120491.21	5.31	No	Si
SLU 81	2.77	15168.57	-81783	-0.0001491	0.0004492	0.0035	3.97	64590.62	111702.67	111702.67	7.36	No	Si
SLU 83	0.67	22903.79	-94214	-0.0001917	0.0004492	0.0035	3.97	57292.41	120975.75	120975.75	5.28	No	Si
SLU 83	2.77	15407.75	-82827	-0.0001515	0.0004492	0.0035	3.97	64151.5	112512	112512	7.3	No	Si
SLU 75	0.67	22402.2	-91613	-0.0001854	0.0004492	0.0035	3.97	59193.11	119324.41	119324.41	5.33	No	Si
SLU 75	2.77	14794.15	-80110	-0.0001453	0.0004492	0.0035	3.97	65227.93	110405.68	110405.68	7.46	No	Si
SLU 78	0.67	22624.79	-92709	-0.0001881	0.0004492	0.0035	3.97	58416.2	120174.31	120174.31	5.31	No	Si
SLU 78	2.77	15033.33	-81154	-0.0001477	0.0004492	0.0035	3.97	64839.84	111215.02	111215.02	7.4	No	Si
SLU 82	0.67	22700.33	-93098	-0.000189	0.0004492	0.0035	3.97	58131.96	120476.02	120476.02	5.31	No	Si
SLU 82	2.77	15189.6	-81765	-0.0001492	0.0004492	0.0035	3.97	64597.8	111688.94	111688.94	7.35	No	Si
SLU 84	0.67	22922.92	-94194	-0.0001918	0.0004492	0.0035	3.97	57307.47	120967.34	120967.34	5.28	No	Si
SLU 84	2.77	15428.79	-82809	-0.0001516	0.0004492	0.0035	3.97	64159.22	112498.27	112498.27	7.29	No	Si
SLU 74	0.67	22383.06	-91632	-0.0001854	0.0004492	0.0035	3.97	59179.53	119339.6	119339.6	5.33	No	Si
SLU 74	2.77	14773.11	-80128	-0.0001453	0.0004492	0.0035	3.97	65221.6	110419.42	110419.42	7.47	No	Si
SLU 79	0.67	22456.33	-92048	-0.0001864	0.0004492	0.0035	3.97	58889.08	119661.6	119661.6	5.33	No	Si
SLU 79	2.77	14919.58	-80533	-0.0001464	0.0004492	0.0035	3.97	65074.48	110733.69	110733.69	7.42	No	Si
SLU 77	0.67	22605.65	-92729	-0.0001881	0.0004492	0.0035	3.97	58401.99	120189.5	120189.5	5.32	No	Si
SLU 77	2.77	15012.29	-81172	-0.0001477	0.0004492	0.0035	3.97	64832.98	111228.75	111228.75	7.41	No	Si
SLU 80	0.67	22475.46	-92028	-0.0001864	0.0004492	0.0035	3.97	58902.89	119646.41	119646.41	5.32	No	Si
SLU 80	2.77	14940.62	-80516	-0.0001464	0.0004492	0.0035	3.97	65081.01	110719.96	110719.96	7.41	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	0.67	21044.2	-53263	-0.0001114	0.0006738	0.0035	3.97		88984.36	88984.36	4.23		Si
SLD 4	2.77	3989.56	-42450	-0.0000617	0.0006738	0.0035	3.97		73197.02	73197.02	18.35		Si
SLV 4	0.67	24102.78	-47702	-0.0001097	0.0006738	0.0035	3.97		80865.58	80865.58	3.36		Si
SLV 4	2.77	726.8	-35658	-0.0000463	0.0006738	0.0035	3.97		63279.87	63279.87	87.07		Si
SLD 1	0.67	21334.5	-53503	-0.0001123	0.0006738	0.0035	3.97		89336.09	89336.09	4.19		Si
SLD 1	2.77	4609.66	-42844	-0.0000635	0.0006738	0.0035	3.97		73772.58	73772.58	16		Si
SLD 3	0.67	20803.1	-53232	-0.0001108	0.0006738	0.0035	3.97		88940.24	88940.24	4.28		Si
SLD 3	2.77	4040.02	-42495	-0.0000619	0.0006738	0.0035	3.97		73262.24	73262.24	18.13		Si
SLV 6	0.67	19930.7	-59421	-0.0001179	0.0006738	0.0035	3.97		97770.1	97770.1	4.91		Si
SLV 6	2.77	8831.96	-49840	-0.0000815	0.0006738	0.0035	3.97		83986.86	83986.86	9.51		Si
SLD 2	0.67	21575.6	-53534	-0.0001129	0.0006738	0.0035	3.97		89380.21	89380.21	4.14		Si
SLD 2	2.77	4559.19	-42800	-0.0000633	0.0006738	0.0035	3.97		73707.35	73707.35	16.17		Si
SLV 5	0.67	19674.87	-59389	-0.0001173	0.0006738	0.0035	3.97		97733.64	97733.64	4.97		Si
SLV 5	2.77	8885.5	-49887	-0.0000816	0.0006738	0.0035	3.97		84056.06	84056.06	9.46		Si
SLV 3	0.67	23722.74	-47654	-0.0001089	0.0006738	0.0035	3.97		80796.04	80796.04	3.41		Si
SLV 3	2.77	806.35	-35728	-0.0000466	0.0006738	0.0035	3.97		63382.68	63382.68	78.6		Si
SLV 2	0.67	25009.5	-48161	-0.0001123	0.0006738	0.0035	3.97		81536	81536	3.26		Si
SLV 2	2.77	1686.8	-36245	-0.000049	0.0006738	0.0035	3.97		64136.96	64136.96	38.02		Si
SLV 1	0.67	24629.46	-48114	-0.0001114	0.0006738	0.0035	3.97		81466.45	81466.45	3.31		Si
SLV 1	2.77	1766.34	-36315	-0.0000492	0.0006738	0.0035	3.97		64239.77	64239.77	36.37		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	0.67	20702.18	-83307	-59429	8926	3.97	3.97	-53463	10833	30192	115546	39948	20247	60195	No	6.74	Si
SLU 68	2.77	13018.31	-71673	-51130	8883	3.97	3.97	-45997	10833	26873	115546	39948	20247	60195	No	6.78	Si
SLU 71	0.67	20892.88	-84436	-60235	8973	3.97	3.97	-54187	10833	30514	115546	39948	20247	60195	No	6.71	Si
SLU 71	2.77	13222.43	-72746	-51896	8929	3.97	3.97	-46685	10833	27179	115546	39948	20247	60195	No	6.74	Si
SLU 48	0.67	18824.14	-75105	-53578	8969	3.97	3.97	-48199	10833	27852	115546	39948	20247	60195	No	6.71	Si
SLU 48	2.77	11255.6	-63536	-45325	8930	3.97	3.97	-40775	10833	24551	115546	39948	20247	60195	No	6.74	Si
SLU 66	0.67	20819.62	-84021	-59938	8998	3.97	3.97	-53921	10833	30396	115546	39948	20247	60195	No	6.69	Si
SLU 66	2.77	13075.96	-72341	-51606	8954	3.97	3.97	-46425	10833	27063	115546	39948	20247	60195	No	6.72	Si
SLU 67	0.67	20838.75	-84001	-59924	8995	3.97	3.97	-53908	10833	30390	115546	39948	20247	60195	No	6.69	Si
SLU 67	2.77	13097	-72323	-51594	8951	3.97	3.97	-46414	10833	27058	115546	39948	20247	60195	No	6.72	Si
SLU 69	0.67	21042.21	-85117	-60720	9040	3.97	3.97	-54624	10833	30709	115546	39948	20247	60195	No	6.66	Si
SLU 69	2.77	13315.14	-73385	-52351	8996	3.97	3.97	-47095	10833	27361	115546	39948	20247	60195	No	6.69	Si
SLU 49	0.67	18843.27	-75085	-53564	8966	3.97	3.97	-48186	10833	27846	115546	39948	20247	60195	No	6.71	Si
SLU 49	2.77	11276.64	-63518	-45312	8927	3.97	3.97	-40763	10833	24546	115546	39948	20247	60195	No	6.74	Si
SLU 72	0.67	20912.02	-84416	-60221	8970	3.97	3.97	-54175	10833	30509	115546	39948	20247	60195	No	6.71	Si
SLU 72	2.77	13243.47	-72729	-51883	8926	3.97	3.97	-46674	10833	27174	115546	39948	20247	60195	No	6.74	Si
SLU 70	0.67	21061.34	-85097	-60706	9037	3.97	3.97	-54612	10833	30703	115546	39948	20247	60195	No	6.66	Si
SLU 70	2.77	13336.18	-73367	-52338	8993	3.97	3.97	-47084	10833	27356	115546	39948	20247	60195	No	6.69	Si
SLU 45	0.67	18601.55	-74009	-52796	8927	3.97	3.97	-47495	10833	27539	115546	39948	20247	60195	No	6.74	Si
SLU 45	2.77	11016.42	-62492	-44580	8889	3.97	3.97	-40105	10833	24253	115546	39948	20247	60195	No	6.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	0.67	21575.6	-53534	-38190	13672	3.97	3.97	-34356	16250	24907	115546	59922	20247	80169		5.86	Si
SLD 2	2.77	4559.19	-42800	-30532	13267	3.97	3.97	-27467	16250	21845	115546	59922	20247	80169		6.04	Si
SLD 3	0.67	20803.1	-53232	-37975	13560	3.97	3.97	-34162	16250	24821	115546	59922	20247	80169		5.91	Si
SLD 3	2.77	4040.02	-42495	-30315	13081	3.97	3.97	-27271	16250	21758	115546	59922	20247	80169		6.13	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	0.67	23722.74	-47654	-33996	17434	3.97	3.97	-30583	16250	23230	115546	59922	20247	80169		4.6	Si
SLV 3	2.77	806.35	-35728	-25488	16706	3.97	3.97	-22929	16250	19827	115546	59922	20247	80169		4.8	Si
SLD 1	0.67	21334.5	-53503	-38168	13463	3.97	3.97	-34336	16250	24899	115546	59922	20247	80169		5.95	Si
SLD 1	2.77	4609.66	-42844	-30564	13057	3.97	3.97	-27495	16250	21857	115546	59922	20247	80169		6.14	Si
SLV 8	0.67	16908.3	-57890	-41297	10355	3.97	3.97	-37151	16250	26151	115546	59922	20247	80169		7.74	Si
SLV 8	2.77	5631.98	-47883	-34159	9932	3.97	3.97	-30729	16250	23295	115546	59922	20247	80169		8.07	Si
SLV 2	0.67	25009.5	-48161	-34357	17610	3.97	3.97	-30908	16250	23374	115546	59922	20247	80169		4.55	Si
SLV 2	2.77	1686.8	-36245	-25856	17002	3.97	3.97	-23260	16250	19974	115546	59922	20247	80169		4.72	Si
SLD 4	0.67	21044.2	-53263	-37996	13770	3.97	3.97	-34182	16250	24830	115546	59922	20247	80169		5.82	Si
SLD 4	2.77	3989.56	-42450	-30283	13291	3.97	3.97	-27243	16250	21745	115546	59922	20247	80169		6.03	Si
SLV 4	0.67	24102.78	-47702	-34030	17764	3.97	3.97	-30613	16250	23243	115546	59922	20247	80169		4.51	Si
SLV 4	2.77	726.8	-35658	-25437	17036	3.97	3.97	-22884	16250	19807	115546	59922	20247	80169		4.71	Si
SLV 7	0.67	16652.47	-57858	-41275	10132	3.97	3.97	-37131	16250	26141	115546	59922	20247	80169		7.91	Si
SLV 7	2.77	5685.52	-47931	-34192	9709	3.97	3.97	-30760	16250	23309	115546	59922	20247	80169		8.26	Si
SLV 1	0.67	24629.46	-48114	-34323	17280	3.97	3.97	-30877	16250	23361	115546	59922	20247	80169		4.64	Si
SLV 1	2.77	1766.34	-36315	-25906	16672	3.97	3.97	-23306	16250	19994	115546	59922	20247	80169		4.81	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-36493	0.3	358.53	4193.87	6004.19	5099.03	14.22	Si
SLV 3	-36563	0.3	358.53	4200.19	6014.3	5107.25	14.24	Si
SLV 2	-37083	0.3	358.53	4246.63	6088.91	5167.77	14.41	Si
SLV 1	-37153	0.3	358.53	4252.9	6099.03	5175.96	14.44	Si
SLV 8	-48559	0.3	358.53	5177.96	7739.36	6458.66	18.01	Si
SLV 7	-48607	0.3	358.53	5181.44	7746.18	6463.81	18.03	Si
SLV 6	-50526	0.3	358.53	5319.36	8013.54	6666.45	18.59	Si
SLV 5	-50573	0.3	358.53	5322.71	8020.07	6671.39	18.61	Si
SLV 12	-59482	0.3	358.53	5896.22	9233.4	7564.81	21.1	Si
SLV 11	-59530	0.3	358.53	5898.98	9239.56	7569.27	21.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-55726	-78775	-333	0.41	6249.5	0.972	6.13437	4.67428	Si
SLV 14	-55687	-78823	-332	0.41	6245.5	0.972	6.13828	4.67428	Si
SLV 15	-55369	-78316	95	0.416	6213.1	0.972	6.22919	4.67428	Si
SLV 16	-55330	-78364	96	0.417	6209.2	0.972	6.23281	4.67428	Si
SLV 9	-48594	-68587	-750	0.453	5523.3	0.968	6.79854	3.93621	Si
SLV 10	-48568	-68619	-749	0.453	5520.6	0.968	6.80188	3.93621	Si
SLV 11	-47404	-67057	676	0.464	5402.2	0.968	6.97001	3.93621	Si
SLV 12	-47378	-67089	676	0.464	5399.5	0.968	6.97322	3.93621	Si
SLV 5	-42129	-59389	-680	0.513	4865.3	0.964	7.73178	3.93621	Si
SLV 6	-42103	-59421	-679	0.513	4862.6	0.964	7.73615	3.93621	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.277	SLU 84	Si
V_SLU	6.659	SLU 69	Si
PF_SLV	3.26	SLV 2	Si
V_SLV	4.513	SLV 4	Si
PFFP_SLV	14.222	SLV 4	Si
R_SLV	1.312	SLV 13	Si

Maschio 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.414	L4	Z medio 271 cm	1.271	0.28	2.04	2.04	2.04			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	0.67	556.75	-22882	-0.0001279	0.0003743	0.0035	1.2709	5357.31	8213.04	8213.04	14.75	No	Si
SLU 71	2.71	-216.89	-17999	-0.00009	0.0003743	0.0035	1.2709	5755.54	7679.91	7679.91	35.41	No	Si
SLU 84	0.67	573.71	-26402	-0.0001521	0.0003743	0.0035	1.2709	4551.26	8369.36	8369.36	14.59	No	Si
SLU 84	2.71	-146.57	-20827	-0.0001044	0.0003743	0.0035	1.2709	5626.84	8090.9	8090.9	55.2	No	Si
SLU 80	0.67	572.8	-25531	-0.000146	0.0003743	0.0035	1.2709	4791.08	8397.78	8397.78	14.66	No	Si
SLU 80	2.71	-168.05	-20145	-0.000101	0.0003743	0.0035	1.2709	5683.51	8010.63	8010.63	47.67	No	Si
SLU 77	0.67	587.38	-25543	-0.0001465	0.0003743	0.0035	1.2709	4788.22	8397.51	8397.51	14.3	No	Si
SLU 77	2.71	-180.68	-20159	-0.0001014	0.0003743	0.0035	1.2709	5682.52	8012.22	8012.22	44.34	No	Si
SLU 83	0.67	585.54	-26273	-0.0001516	0.0003743	0.0035	1.2709	4588.61	8374.02	8374.02	14.3	No	Si
SLU 83	2.71	-158.01	-20720	-0.0001041	0.0003743	0.0035	1.2709	5636.78	8078.08	8078.08	51.13	No	Si
SLU 79	0.67	584.63	-25402	-0.0001454	0.0003743	0.0035	1.2709	4824.48	8400.94	8400.94	14.37	No	Si
SLU 79	2.71	-179.48	-20038	-0.0001007	0.0003743	0.0035	1.2709	5690.9	7998.43	7998.43	44.56	No	Si
SLU 74	0.67	576.34	-25333	-0.0001447	0.0003743	0.0035	1.2709	4842.02	8402.64	8402.64	14.58	No	Si
SLU 74	2.71	-175.24	-19967	-0.0001002	0.0003743	0.0035	1.2709	5695.66	7990.27	7990.27	45.6	No	Si
SLU 69	0.67	559.5	-23022	-0.0001289	0.0003743	0.0035	1.2709	5333.48	8231.09	8231.09	14.71	No	Si
SLU 69	2.71	-218.09	-18120	-0.0000907	0.0003743	0.0035	1.2709	5755.78	7709.37	7709.37	35.35	No	Si
SLU 78	0.67	575.54	-25672	-0.0001471	0.0003743	0.0035	1.2709	4754.19	8394.38	8394.38	14.59	No	Si
SLU 78	2.71	-169.25	-20266	-0.0001017	0.0003743	0.0035	1.2709	5674.68	8024.53	8024.53	47.41	No	Si
SLU 81	0.67	574.5	-26063	-0.0001498	0.0003743	0.0035	1.2709	4647.78	8381.61	8381.61	14.59	No	Si
SLU 81	2.71	-152.56	-20528	-0.0001028	0.0003743	0.0035	1.2709	5653.7	8055.2	8055.2	52.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0.67	1966.79	-1439	-0.0167828	0.0005615	0.0035	1.0167		988.45	988.45	0.5		No
SLV 8	2.71	-529.97	-1824	-0.0000186	0.0005615	0.0035	1.2709		1493.28	1493.28	2.82		Si
SLD 12	0.67	1495.6	-7939	-0.0000648	0.0005615	0.0035	1.2709		4483.85	4483.85	3		Si
SLD 12	2.71	-525.32	-6997	-0.0000404	0.0005615	0.0035	1.2709		4375.91	4375.91	8.33		Si
SLV 15	0.67	1423.93	-12076	-0.0000829	0.0005615	0.0035	1.2709		6476.02	6476.02	4.55		Si
SLV 15	2.71	-761.97	-10874	-0.000063	0.0005615	0.0035	1.2709		6248.02	6248.02	8.2		Si
SLV 16	0.67	1371.98	-12358	-0.0000831	0.0005615	0.0035	1.2709		6587.91	6587.91	4.8		Si
SLV 16	2.71	-689.2	-10897	-0.0000616	0.0005615	0.0035	1.2709		6258.73	6258.73	9.08		Si
SLD 11	0.67	1516.82	-7824	-0.0000647	0.0005615	0.0035	1.2709		4429.94	4429.94	2.92		Si
SLD 11	2.71	-555.04	-6988	-0.000041	0.0005615	0.0035	1.2709		4370.95	4370.95	7.87		Si
SLD 8	0.67	1313.53	-8080	-0.0000616	0.0005615	0.0035	1.2709		4550.4	4550.4	3.46		Si
SLD 8	2.71	-363.65	-6728	-0.0000359	0.0005615	0.0035	1.2709		4235.48	4235.48	11.65		Si
SLV 12	0.67	2251.4	-1217	-0.0232196	0.0005615	0.0035	1.0167		852.38	852.38	0.38		No
SLV 12	2.71	-782.36	-2243	-0.0000278	0.0005615	0.0035	1.2709		1742.32	1742.32	2.23		Si
SLV 7	0.67	2001.76	-1249	-0.0190387	0.0005615	0.0035	1.0167		872.34	872.34	0.44		No
SLV 7	2.71	-578.96	-1808	-0.0000202	0.0005615	0.0035	1.2709		1483.71	1483.71	2.56		Si
SLD 7	0.67	1334.75	-7965	-0.0000615	0.0005615	0.0035	1.2709		4496.36	4496.36	3.37		Si
SLD 7	2.71	-393.38	-6719	-0.0000365	0.0005615	0.0035	1.2709		4230.42	4230.42	10.75		Si
SLV 11	0.67	2286.37	-1027	-0.0256065	0.0005615	0.0035	1.0167		736.13	736.13	0.32		No
SLV 11	2.71	-831.34	-2227	-0.0000302	0.0005615	0.0035	1.0167		1732.91	1732.91	2.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.67	574.5	-26063	-21703	-1471	1.2709	1.2709	-60988	10833	6929	21410	10656	3241	13897	No	9.45	Si
SLU 81	2.71	-152.56	-20528	-17094	1854	1.2709	1.2709	-48035	10833	5700	21410	10656	3241	13897	No	7.5	Si
SLU 78	0.67	575.54	-25672	-21377	-1444	1.2709	1.2709	-60073	10833	6842	21410	10656	3241	13897	No	9.63	Si
SLU 78	2.71	-169.25	-20266	-16875	1844	1.2709	1.2709	-47422	10833	5642	21410	10656	3241	13897	No	7.54	Si
SLU 74	0.67	576.34	-25333	-21095	-1365	1.2709	1.2709	-59280	10833	6767	21410	10656	3241	13897	No	10.18	Si
SLU 74	2.71	-175.24	-19967	-16626	1883	1.2709	1.2709	-46722	10833	5576	21410	10656	3241	13897	No	7.38	Si
SLU 77	0.67	587.38	-25543	-21270	-1355	1.2709	1.2709	-59770	10833	6814	21410	10656	3241	13897	No	10.25	Si
SLU 77	2.71	-180.68	-20159	-16787	1925	1.2709	1.2709	-47172	10833	5618	21410	10656	3241	13897	No	7.22	Si
SLU 66	0.67	548.46	-22813	-18996	-1113	1.2709	1.2709	-53382	10833	6208	21410	10656	3241	13897	No	12.49	Si
SLU 66	2.71	-212.64	-17928	-14929	1834	1.2709	1.2709	-41951	10833	5123	21410	10656	3241	13897	No	7.58	Si
SLU 83	0.67	585.54	-26273	-21878	-1461	1.2709	1.2709	-61478	10833	6976	21410	10656	3241	13897	No	9.51	Si
SLU 83	2.71	-158.01	-20720	-17254	1896	1.2709	1.2709	-48485	10833	5743	21410	10656	3241	13897	No	7.33	Si
SLU 79	0.67	584.63	-25402	-21153	-1344	1.2709	1.2709	-59441	10833	6783	21410	10656	3241	13897	No	10.34	Si
SLU 79	2.71	-179.48	-20038	-16686	1918	1.2709	1.2709	-46890	10833	5592	21410	10656	3241	13897	No	7.25	Si
SLU 71	0.67	556.75	-22882	-19054	-1092	1.2709	1.2709	-53543	10833	6223	21410	10656	3241	13897	No	12.72	Si
SLU 71	2.71	-216.89	-17999	-14988	1869	1.2709	1.2709	-42119	10833	5139	21410	10656	3241	13897	No	7.44	Si
SLU 69	0.67	559.5	-23022	-19171	-1104	1.2709	1.2709	-53872	10833	6254	21410	10656	3241	13897	No	12.59	Si
SLU 69	2.71	-218.09	-18120	-15089	1877	1.2709	1.2709	-42401	10833	5166	21410	10656	3241	13897	No	7.41	Si
SLU 80	0.67	572.8	-25531	-21260	-1432	1.2709	1.2709	-59744	10833	6811	21410	10656	3241	13897	No	9.7	Si
SLU 80	2.71	-168.05	-20145	-16775	1836	1.2709	1.2709	-47140	10833	5615	21410	10656	3241	13897	No	7.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	0.67	-607.84	-22830	-19011	-5569	1.2709	1.2709	-53423	16250	6782	21410	15984	3241	19225		3.45	Si
SLV 2	2.71	474.12	-16497	-13737	-3051	1.2709	1.2709	-38603	16250	5783	21410	15984	3241	19225		6.3	Si
SLV 12	0.67	2251.4	-1217	-1013	6006	1.0167	0	0	0	0	21410	12787	2593	15380		2.56	Si
SLV 12	2.71	-782.36	-2243	-1868	7355	1.2709	0.8598	-7782	11973	2883	21410	15984	3241	19225		2.61	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.67	-1150.7	-33468	-27869	-6239	1.2709	1.2709	-78315	16250	9145	21410	15984	3241	19225		3.08	Si
SLV 9	2.71	242.13	-25547	-21273	-3106	1.2709	1.2709	-59780	16250	7386	21410	15984	3241	19225		6.19	Si
SLV 6	0.67	-1470.28	-33879	-28212	-8084	1.2709	1.2709	-79278	16250	9236	21410	15984	3241	19225		2.38	Si
SLV 6	2.71	543.49	-25144	-20938	-4935	1.2709	1.2709	-58837	16250	7296	21410	15984	3241	19225		3.9	Si
SLV 10	0.67	-1185.67	-33657	-28027	-6539	1.2709	1.2709	-78758	16250	9187	21410	15984	3241	19225		2.94	Si
SLV 10	2.71	291.11	-25563	-21287	-3386	1.2709	1.2709	-59817	16250	7389	21410	15984	3241	19225		5.68	Si
SLV 15	0.67	1423.93	-12076	-10056	3790	1.2709	1.2709	-28259	16068	5718	21410	15984	3241	19225		5.07	Si
SLV 15	2.71	-761.97	-10874	-9055	5752	1.2709	1.2709	-25445	15506	5518	21410	15984	3241	19225		3.34	Si
SLV 7	0.67	2001.76	-1249	-1040	4761	1.0167	0	0	0	0	21410	12787	2593	15380		3.23	Si
SLV 7	2.71	-578.96	-1808	-1505	6087	1.2709	0.9456	-5699	11556	3060	21410	15984	3241	19225		3.16	Si
SLV 11	0.67	2286.37	-1027	-856	6306	1.0167	0	0	0	0	21410	12787	2593	15380		2.44	Si
SLV 11	2.71	-831.34	-2227	-1854	7636	1.0167	0.7864	0	0	0	21410	12787	2593	15380		2.01	Si
SLV 5	0.67	-1435.31	-33690	-28054	-7784	1.2709	1.2709	-78834	16250	9194	21410	15984	3241	19225		2.47	Si
SLV 5	2.71	494.51	-25128	-20924	-4655	1.2709	1.2709	-58800	16250	7293	21410	15984	3241	19225		4.13	Si
SLV 8	0.67	1966.79	-1439	-1198	4461	1.0167	0	0	0	0	21410	12787	2593	15380		3.45	Si
SLV 8	2.71	-529.97	-1824	-1519	5806	1.2709	1.0346	-5253	11467	3322	21410	15984	3241	19225		3.31	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.69 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.28	3782	-1346	32.35	183.74	5.68	Si
SLV 8	179667	0.28	3963	-1410	32.35	192.32	5.94	Si
SLV 11	179667	0.28	4615	-1642	32.35	222.99	6.89	Si
SLV 12	179667	0.28	4797	-1707	32.35	231.48	7.15	Si
SLV 3	179667	0.28	30639	-10903	32.35	1220.2	37.71	Si
SLV 4	179667	0.28	30909	-10999	32.35	1228.22	37.96	Si
SLV 15	179667	0.28	33418	-11892	32.35	1300.58	40.2	Si
SLV 16	179667	0.28	33688	-11988	32.35	1308.11	40.43	Si
SLV 1	179667	0.28	54531	-19405	32.35	1746.68	53.99	Si
SLV 2	179667	0.28	54801	-19501	32.35	1750.49	54.1	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.69 Wa = 0.05 Ta = 0.0248

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-25563	-33657	-60	0.34	2706.1	0.988	5.0066	2.92747	Si
SLV 9	-25547	-33468	-62	0.34	2704.5	0.988	5.00796	2.92747	Si
SLV 6	-25144	-33879	-25	0.346	2663.4	0.988	5.09231	2.92747	Si
SLV 5	-25128	-33690	-27	0.346	2661.8	0.988	5.09376	2.92747	Si
SLV 14	-17894	-22090	-59	0.453	1924.5	0.983	6.69177	3.07085	Si
SLV 13	-17870	-21809	-62	0.453	1922.1	0.983	6.69685	3.07085	Si
SLV 2	-16497	-22830	57	0.484	1782.2	0.982	7.16594	3.07085	Si
SLV 1	-16473	-22549	54	0.485	1779.8	0.982	7.17712	3.07085	Si
SLV 16	-10897	-12358	-25	0.688	1211.7	0.974	10.27202	3.07085	Si
SLV 15	-10874	-12076	-27	0.689	1209.3	0.974	10.28777	3.07085	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.297	SLU 77	Si
V_SLU	7.218	SLU 77	Si
PF_SLV	0.322	SLV 11	No
V_SLV	2.014	SLV 11	Si
PFFP_SLV	5.679	SLV 7	Si
R_SLV	1.71	SLV 10	Si

Maschio 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.414	Z medio 271 cm	L5	1.271	0.28	1.64	1.64	1.64			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	2.71	178.54	-19260	-0.0000962	0.0003743	0.0035	1.2709	5732.8	7762.32	7762.32	43.48	No	Si
SLU 74	4.35	-645.5	-16813	-0.0000939	0.0003743	0.0035	1.2709	5726.01	7399.17	7399.17	11.46	No	Si
SLU 83	2.71	166.89	-19911	-0.0000996	0.0003743	0.0035	1.2709	5699.22	7840.74	7840.74	46.98	No	Si
SLU 83	4.35	-677.43	-17367	-0.0000978	0.0003743	0.0035	1.2709	5745.97	7528.29	7528.29	11.11	No	Si
SLU 77	2.71	187.52	-19450	-0.0000975	0.0003743	0.0035	1.2709	5724.53	7784.98	7784.98	41.51	No	Si
SLU 77	4.35	-655.3	-16998	-0.0000952	0.0003743	0.0035	1.2709	5733.89	7441.94	7441.94	11.36	No	Si
SLU 82	2.71	131.02	-19822	-0.0000982	0.0003743	0.0035	1.2709	5704.71	7829.85	7829.85	59.76	No	Si
SLU 82	4.35	-652.9	-17259	-0.0000966	0.0003743	0.0035	1.2709	5742.91	7502.69	7502.69	11.49	No	Si
SLU 81	2.71	157.91	-19721	-0.0000983	0.0003743	0.0035	1.2709	5710.56	7817.63	7817.63	49.51	No	Si
SLU 81	4.35	-667.63	-17182	-0.0000965	0.0003743	0.0035	1.2709	5740.5	7484.69	7484.69	11.21	No	Si
SLU 84	2.71	140	-20011	-0.0000995	0.0003743	0.0035	1.2709	5692.71	7853.05	7853.05	56.09	No	Si
SLU 84	4.35	-662.7	-17444	-0.0000979	0.0003743	0.0035	1.2709	5747.88	7546.47	7546.47	11.39	No	Si
SLU 60	2.71	158.6	-17776	-0.0000874	0.0003743	0.0035	1.2709	5753.76	7498.73	7498.73	47.28	No	Si
SLU 60	4.35	-614.11	-15423	-0.0000855	0.0003743	0.0035	1.2709	5628.61	7090.68	7090.68	11.55	No	Si
SLU 62	2.71	167.57	-17966	-0.0000887	0.0003743	0.0035	1.2709	5755.39	7551.65	7551.65	45.06	No	Si
SLU 62	4.35	-623.9	-15608	-0.0000867	0.0003743	0.0035	1.2709	5645.54	7130.77	7130.77	11.43	No	Si
SLU 80	2.71	161.28	-19431	-0.0000967	0.0003743	0.0035	1.2709	5725.4	7782.75	7782.75	48.26	No	Si
SLU 80	4.35	-638.74	-16961	-0.0000945	0.0003743	0.0035	1.2709	5732.41	7433.35	7433.35	11.64	No	Si
SLU 79	2.71	188.17	-19331	-0.0000968	0.0003743	0.0035	1.2709	5729.87	7770.73	7770.73	41.3	No	Si
SLU 79	4.35	-653.47	-16884	-0.0000945	0.0003743	0.0035	1.2709	5729.2	7415.63	7415.63	11.35	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	2.71	972.17	-6928	-0.0000493	0.0005615	0.0035	1.2709		4013.4	4013.4	4.13		Si
SLD 8	4.35	-650.59	-6793	-0.0000421	0.0005615	0.0035	1.2709		4269.08	4269.08	6.56		Si
SLV 15	2.71	1234.17	-10840	-0.0000729	0.0005615	0.0035	1.2709		5876.87	5876.87	4.76		Si
SLV 15	4.35	-1131.57	-9211	-0.0000631	0.0005615	0.0035	1.2709		5473.83	5473.83	4.84		Si
SLD 7	2.71	1007.26	-6926	-0.00005	0.0005615	0.0035	1.2709		4012.13	4012.13	3.98		Si
SLD 7	4.35	-682.09	-6748	-0.0000425	0.0005615	0.0035	1.2709		4245.63	4245.63	6.22		Si
SLV 11	2.71	1965.95	-2894	-0.0037419	0.0005615	0.0035	1.0167		1854.26	1854.26	0.94		No
SLV 11	4.35	-1160.48	-3428	-0.0000414	0.0005615	0.0035	1.2709		2432.85	2432.85	2.1		Si
SLV 8	2.71	1572.76	-2452	-0.001089	0.0005615	0.0035	1.0167		1594.65	1594.65	1.01		Si
SLV 8	4.35	-814.36	-3414	-0.0000306	0.0005615	0.0035	1.2709		2424.8	2424.8	2.98		Si
SLD 11	2.71	1222.07	-7212	-0.0000557	0.0005615	0.0035	1.2709		4144.83	4144.83	3.39		Si
SLD 11	4.35	-870.59	-6804	-0.0000466	0.0005615	0.0035	1.2709		4275.23	4275.23	4.91		Si
SLV 16	2.71	1148.28	-10846	-0.0000711	0.0005615	0.0035	1.2709		5880.16	5880.16	5.12		Si
SLV 16	4.35	-1054.46	-9320	-0.000062	0.0005615	0.0035	1.2709		5526.32	5526.32	5.24		Si
SLV 12	2.71	1908.12	-2899	-0.0023963	0.0005615	0.0035	1.0167		1856.9	1856.9	0.97		No
SLV 12	4.35	-1108.57	-3501	-0.0000393	0.0005615	0.0035	1.2709		2474.71	2474.71	2.23		Si
SLV 7	2.71	1630.58	-2448	-0.0019458	0.0005615	0.0035	1.0167		1591.97	1591.97	0.98		No
SLV 7	4.35	-866.27	-3340	-0.0000316	0.0005615	0.0035	1.2709		2382.85	2382.85	2.75		Si
SLD 12	2.71	1186.98	-7215	-0.000055	0.0005615	0.0035	1.2709		4146.1	4146.1	3.49		Si
SLD 12	4.35	-839.09	-6849	-0.0000462	0.0005615	0.0035	1.2709		4298.71	4298.71	5.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	2.71	140	-20011	-16664	560	1.2709	1.2709	-46827	10833	6493	16652	10656	3241	13897	No	24.83	Si
SLU 84	4.35	-662.7	-17444	-14526	3862	1.2709	1.2709	-40820	10833	5830	16652	10656	3241	13897	No	3.6	Si
SLU 74	2.71	178.54	-19260	-16038	695	1.2709	1.2709	-45068	10833	6299	16652	10656	3241	13897	No	20.01	Si
SLU 74	4.35	-645.5	-16813	-14000	3838	1.2709	1.2709	-39341	10833	5667	16652	10656	3241	13897	No	3.62	Si
SLU 80	2.71	161.28	-19431	-16181	609	1.2709	1.2709	-45469	10833	6343	16652	10656	3241	13897	No	22.82	Si
SLU 80	4.35	-638.74	-16961	-14124	3782	1.2709	1.2709	-39689	10833	5705	16652	10656	3241	13897	No	3.67	Si
SLU 82	2.71	131.02	-19822	-16506	523	1.2709	1.2709	-46382	10833	6444	16652	10656	3241	13897	No	26.58	Si
SLU 82	4.35	-652.9	-17259	-14372	3793	1.2709	1.2709	-40385	10833	5782	16652	10656	3241	13897	No	3.66	Si
SLU 81	2.71	157.91	-19721	-16422	650	1.2709	1.2709	-46147	10833	6418	16652	10656	3241	13897	No	21.38	Si
SLU 81	4.35	-667.63	-17182	-14308	3902	1.2709	1.2709	-40206	10833	5762	16652	10656	3241	13897	No	3.56	Si
SLU 78	2.71	160.63	-19550	-16280	604	1.2709	1.2709	-45748	10833	6374	16652	10656	3241	13897	No	23	Si
SLU 78	4.35	-640.57	-17075	-14219	3798	1.2709	1.2709	-39956	10833	5735	16652	10656	3241	13897	No	3.66	Si
SLU 75	2.71	151.66	-19361	-16122	567	1.2709	1.2709	-45304	10833	6325	16652	10656	3241	13897	No	24.49	Si
SLU 75	4.35	-630.78	-16889	-14064	3729	1.2709	1.2709	-39521	10833	5687	16652	10656	3241	13897	No	3.73	Si
SLU 83	2.71	166.89	-19911	-16580	687	1.2709	1.2709	-46592	10833	6467	16652	10656	3241	13897	No	20.23	Si
SLU 83	4.35	-677.43	-17367	-14462	3971	1.2709	1.2709	-40640	10833	5810	16652	10656	3241	13897	No	3.5	Si
SLU 77	2.71	187.52	-19450	-16196	731	1.2709	1.2709	-45513	10833	6348	16652	10656	3241	13897	No	19	Si
SLU 77	4.35	-655.3	-16998	-14155	3907	1.2709	1.2709	-39776	10833	5715	16652	10656	3241	13897	No	3.56	Si
SLU 79	2.71	188.17	-19331	-16097	736	1.2709	1.2709	-45234	10833	6317	16652	10656	3241	13897	No	18.87	Si
SLU 79	4.35	-653.47	-16884	-14060	3892	1.2709	1.2709	-39509	10833	5686	16652	10656	3241	13897	No	3.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	2.71	-1676.02	-23668	-19708	-7155	1.2709	1.2709	-55383	16250	8100	16652	15984	3241	19225		2.69	Si
SLV 6	4.35	284.97	-19694	-16400	-3780	1.2709	1.2709	-46084	16250	7075	16652	15984	3241	19225		5.09	Si
SLV 12	2.71	1908.12	-2899	-2414	7853	1.0167	0	0	0	0	16652	12787	2593	15380		1.96	Si
SLV 12	4.35	-1108.57	-3501	-2916	8735	1.2709	0.9566	-10941	12605	3376	16652	15984	3241	19225		2.2	Si
SLD 11	2.71	1222.07	-7212	-6006	5084	1.2709	1.2709	-16877	13792	4908	16652	15984	3241	19225		3.78	Si
SLD 11	4.35	-870.59	-6804	-5666	6471	1.2709	1.2709	-15922	13601	4840	16652	15984	3241	19225		2.97	Si
SLV 16	2.71	1148.28	-10846	-9032	5405	1.2709	1.2709	-25381	15493	5513	16652	15984	3241	19225		3.56	Si
SLV 16	4.35	-1054.46	-9320	-7761	7156	1.2709	1.2709	-21809	14778	5259	16652	15984	3241	19225		2.69	Si
SLV 11	2.71	1965.95	-2894	-2410	8208	1.0167	0	0	0	0	16652	12787	2593	15380		1.87	Si
SLV 11	4.35	-1160.48	-3428	-2854	9078	1.2709	0.8907	-11505	12718	3172	16652	15984	3241	19225		2.12	Si
SLV 5	2.71	-1618.19	-23663	-19705	-6800	1.2709	1.2709	-55372	16250	8099	16652	15984	3241	19225		2.83	Si
SLV 5	4.35	233.06	-19620	-16338	-3437	1.2709	1.2709	-45912	16250	7056	16652	15984	3241	19225		5.59	Si
SLD 12	2.71	1186.98	-7215	-6008	4869	1.2709	1.2709	-16883	13793	4908	16652	15984	3241	19225		3.95	Si
SLD 12	4.35	-839.09	-6849	-5703	6263	1.2709	1.2709	-16027	13622	4848	16652	15984	3241	19225		3.07	Si
SLV 7	2.71	1630.58	-2448	-2038	6301	1.0167	0	0	0	0	16652	12787	2593	15380		2.44	Si
SLV 7	4.35	-866.27	-3340	-2781	7176	1.2709	1.1283	-8839	12184	3849	16652	15984	3241	19225		2.68	Si
SLV 15	2.71	1234.17	-10840	-9026	5932	1.2709	1.2709	-25365	15490	5512	16652	15984	3241	19225		3.24	Si
SLV 15	4.35	-1131.57	-9211	-7670	7666	1.2709	1.2709	-21553	14727	5241	16652	15984	3241	19225		2.51	Si
SLV 8	2.71	1572.76	-2452	-2042	5947	1.0167	0	0	0	0	16652	12787	2593	15380		2.59	Si
SLV 8	4.35	-814.36	-3414	-2843	6833	1.2709	1.1907	-7988	12014	4005	16652	15984	3241	19225		2.81	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.53 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.32	7232	-2574	23.85	343.26	14.39	Si
SLV 7	179667	0.32	7278	-2590	23.85	345.33	14.48	Si
SLV 12	179667	0.32	8715	-3101	23.85	409.4	17.16	Si
SLV 11	179667	0.32	8761	-3118	23.85	411.42	17.25	Si
SLV 4	179667	0.32	24513	-8723	23.85	1025.22	42.98	Si
SLV 3	179667	0.32	24581	-8747	23.85	1027.53	43.08	Si
SLV 16	179667	0.32	29454	-10482	23.85	1184.4	49.65	Si
SLV 15	179667	0.32	29522	-10506	23.85	1186.49	49.74	Si
SLV 2	179667	0.32	40817	-14525	23.85	1490.01	62.46	Si
SLV 1	179667	0.32	40885	-14549	23.85	1491.59	62.53	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.53 Wa = 0.05 Ta = 0.016

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-19694	-23668	-78	0.437	2088.2	0.988	6.42841	3.09531	Si
SLV 10	-19782	-24114	-34	0.437	2097.2	0.988	6.43788	3.09531	Si
SLV 5	-19620	-23663	-78	0.438	2080.7	0.987	6.44734	3.09531	Si
SLV 9	-19708	-24110	-34	0.439	2089.7	0.988	6.45677	3.09531	Si
SLV 14	-14204	-17211	53	0.569	1528.7	0.983	8.4188	3.19084	Si
SLV 13	-14095	-17204	52	0.573	1517.6	0.983	8.47402	3.19084	Si
SLV 2	-13911	-15722	-95	0.576	1498.9	0.983	8.52338	3.19084	Si
SLV 1	-13802	-15716	-96	0.58	1487.7	0.983	8.57937	3.19084	Si
SLV 16	-9320	-10846	82	0.807	1031.1	0.975	12.01939	3.19084	Si
SLV 15	-9211	-10840	82	0.815	1020	0.975	12.14432	3.19084	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.113	SLU 83	Si
V_SLU	3.5	SLU 83	Si
PF_SLV	0.943	SLV 11	No
V_SLV	1.874	SLV 11	Si
PFFP_SLV	14.39	SLV 8	Si
R_SLV	2.077	SLV 6	Si

Maschio 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.314	-11.003	-0.749	F7	L5	2.565	0.28	0.929	0.219	0.219			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	4.13	830.8	-29665	-0.000072	0.0003743	0.0035	2.565	22609.85	27200.81	27200.81	32.74	No	Si
SLU 45	4.35	-292.57	-29206	-0.0000678	0.0003743	0.0035	2.565	22495.31	28261.61	28261.61	96.6	No	Si
SLU 40	4.13	307.48	-30956	-0.0000723	0.0003743	0.0035	2.565	22892.87	27875.81	27875.81	90.66	No	Si
SLU 40	4.35	-921.01	-30622	-0.000075	0.0003743	0.0035	2.565	22825.31	29047.5	29047.5	31.54	No	Si
SLU 71	4.13	872.82	-33484	-0.0000823	0.0003743	0.0035	2.565	23277.72	29216.21	29216.21	33.47	No	Si
SLU 71	4.35	-416.36	-33034	-0.0000784	0.0003743	0.0035	2.565	23225.62	30047.12	30047.12	72.17	No	Si
SLU 48	4.13	862.5	-30111	-0.0000733	0.0003743	0.0035	2.565	22714.28	27432.54	27432.54	31.81	No	Si
SLU 48	4.35	-277.82	-29654	-0.0000688	0.0003743	0.0035	2.565	22607.12	28539.46	28539.46	102.73	No	Si
SLU 82	4.13	490.24	-36694	-0.0000887	0.0003743	0.0035	2.565	23443.39	30948.34	30948.34	63.13	No	Si
SLU 82	4.35	-950.87	-36252	-0.0000902	0.0003743	0.0035	2.565	23442.05	31355.04	31355.04	32.98	No	Si
SLU 81	4.13	553.37	-36667	-0.000089	0.0003743	0.0035	2.565	23443.5	30937.65	30937.65	55.91	No	Si
SLU 81	4.35	-935.44	-36225	-0.0000901	0.0003743	0.0035	2.565	23441.74	31343.42	31343.42	33.51	No	Si
SLU 41	4.13	402.31	-31375	-0.000074	0.0003743	0.0035	2.565	22972.19	28097.92	28097.92	69.84	No	Si
SLU 41	4.35	-890.83	-31042	-0.0000759	0.0003743	0.0035	2.565	22909.65	29249.54	29249.54	32.83	No	Si
SLU 50	4.13	864.67	-29879	-0.0000727	0.0003743	0.0035	2.565	22660.82	27311.77	27311.77	31.59	No	Si
SLU 50	4.35	-268.67	-29421	-0.0000682	0.0003743	0.0035	2.565	22549.8	28394.44	28394.44	105.68	No	Si
SLU 39	4.13	370.61	-30929	-0.0000726	0.0003743	0.0035	2.565	22887.54	27861.51	27861.51	75.18	No	Si
SLU 39	4.35	-905.58	-30595	-0.0000748	0.0003743	0.0035	2.565	22819.61	29033.97	29033.97	32.06	No	Si
SLU 42	4.13	339.18	-31402	-0.0000737	0.0003743	0.0035	2.565	22977.1	28112.32	28112.32	82.88	No	Si
SLU 42	4.35	-906.25	-31069	-0.0000761	0.0003743	0.0035	2.565	22914.93	29262.33	29262.33	32.29	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	4.13	-6073.01	-26714	-0.00009	0.0005615	0.0035	2.565		29898.31	29898.31	4.92		Si
SLV 10	4.35	-3973.22	-26494	-0.0000783	0.0005615	0.0035	2.565		29712.31	29712.31	7.48		Si
SLV 5	4.13	-5951.53	-26817	-0.0000896	0.0005615	0.0035	2.565		29985.23	29985.23	5.04		Si
SLV 5	4.35	-3817.32	-26597	-0.0000777	0.0005615	0.0035	2.565		29798.85	29798.85	7.81		Si
SLD 7	4.13	4460.36	-24146	-0.0000753	0.0005615	0.0035	2.565		26162.66	26162.66	5.87		Si
SLD 7	4.35	1680.37	-23723	-0.0000597	0.0005615	0.0035	2.565		25754.2	25754.2	15.33		Si
SLV 11	4.13	7150.73	-23185	-0.0000872	0.0005615	0.0035	2.565		25213.88	25213.88	3.53		Si
SLV 11	4.35	3050.79	-22710	-0.0000645	0.0005615	0.0035	2.565		24738.53	24738.53	8.11		Si
SLV 6	4.13	-6011.46	-27001	-0.0000904	0.0005615	0.0035	2.565		30140.93	30140.93	5.01		Si
SLV 6	4.35	-3867.66	-26782	-0.0000784	0.0005615	0.0035	2.565		29955.36	29955.36	7.75		Si
SLV 8	4.13	7152.34	-23656	-0.0000883	0.0005615	0.0035	2.565		25686.65	25686.65	3.59		Si
SLV 8	4.35	3106.01	-23183	-0.0000659	0.0005615	0.0035	2.565		25211.51	25211.51	8.12		Si
SLV 9	4.13	-6013.08	-26530	-0.0000893	0.0005615	0.0035	2.565		29742.68	29742.68	4.95		Si
SLV 9	4.35	-3922.88	-26309	-0.0000776	0.0005615	0.0035	2.565		29556.51	29556.51	7.53		Si
SLD 11	4.13	4420.26	-23963	-0.0000746	0.0005615	0.0035	2.565		25992.03	25992.03	5.88		Si
SLD 11	4.35	1611.15	-23541	-0.000059	0.0005615	0.0035	2.565		25570.68	25570.68	15.87		Si
SLV 7	4.13	7212.27	-23472	-0.0000882	0.0005615	0.0035	2.565		25501.6	25501.6	3.54		Si
SLV 7	4.35	3156.35	-22998	-0.0000658	0.0005615	0.0035	2.565		25026.16	25026.16	7.93		Si
SLV 12	4.13	7090.8	-23369	-0.0000873	0.0005615	0.0035	2.565		25398.53	25398.53	3.58		Si
SLV 12	4.35	3000.45	-22895	-0.0000647	0.0005615	0.0035	2.565		24923.52	24923.52	8.31		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.13	628.28	-36596	-30474	6146	2.565	2.565	-42432	10833	15646	9516	21506	6541	25162	No	4.09	Si
SLU 78	4.35	-783.63	-36154	-30106	6164	2.565	2.565	-41919	10833	15499	9516	21506	6541	25015	No	4.06	Si
SLU 79	4.13	693.58	-36337	-30258	6337	2.565	2.565	-42131	10833	15560	9516	21506	6541	25076	No	3.96	Si
SLU 79	4.35	-759.06	-35894	-29889	6354	2.565	2.565	-41617	10833	15412	9516	21506	6541	24928	No	3.92	Si
SLU 81	4.13	553.37	-36667	-30533	6495	2.565	2.565	-42514	10833	15670	9516	21506	6541	25186	No	3.88	Si
SLU 81	4.35	-935.44	-36225	-30165	6514	2.565	2.565	-42002	10833	15523	9516	21506	6541	25038	No	3.84	Si
SLU 82	4.13	490.24	-36694	-30556	6276	2.565	2.565	-42546	10833	15679	9516	21506	6541	25195	No	4.01	Si
SLU 82	4.35	-950.87	-36252	-30188	6294	2.565	2.565	-42033	10833	15532	9516	21506	6541	25048	No	3.98	Si
SLU 83	4.13	585.07	-37113	-30905	6568	2.565	2.565	-43032	10833	15819	9516	21506	6541	25334	No	3.86	Si
SLU 83	4.35	-920.69	-36672	-30537	6587	2.565	2.565	-42520	10833	15672	9516	21506	6541	25187	No	3.82	Si
SLU 80	4.13	630.45	-36364	-30281	6118	2.565	2.565	-42163	10833	15569	9516	21506	6541	25085	No	4.1	Si
SLU 80	4.35	-774.49	-35921	-29912	6135	2.565	2.565	-41649	10833	15422	9516	21506	6541	24937	No	4.06	Si
SLU 62	4.13	576.92	-33509	-27903	5902	2.565	2.565	-38852	10833	14618	9516	21506	6541	24134	No	4.09	Si
SLU 62	4.35	-773	-33059	-27529	5918	2.565	2.565	-38331	10833	14468	9516	21506	6541	23984	No	4.05	Si
SLU 84	4.13	521.94	-37141	-30927	6349	2.565	2.565	-43063	10833	15828	9516	21506	6541	25343	No	3.99	Si
SLU 84	4.35	-936.11	-36699	-30560	6367	2.565	2.565	-42552	10833	15681	9516	21506	6541	25196	No	3.96	Si
SLU 74	4.13	659.71	-36123	-30080	6293	2.565	2.565	-41883	10833	15489	9516	21506	6541	25004	No	3.97	Si
SLU 74	4.35	-782.96	-35679	-29711	6311	2.565	2.565	-41369	10833	15341	9516	21506	6541	24857	No	3.94	Si
SLU 77	4.13	691.41	-36569	-30451	6365	2.565	2.565	-42400	10833	15637	9516	21506	6541	25153	No	3.95	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	4.35	-768.2	-36126	-30083	6383	2.565	2.565	-41887	10833	15490	9516	21506	6541	25005	No	3.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	4.13	4420.26	-23963	-19954	12376	2.565	2.565	-27784	15973	13167	9516	32259	6541	22683		1.83	Si
SLD 11	4.35	1611.15	-23541	-19603	12407	2.565	2.565	-27295	15876	13027	9516	32259	6541	22542		1.82	Si
SLV 16	4.13	2397.11	-24250	-20193	9292	2.565	2.565	-28117	16040	13263	9516	32259	6541	22779		2.45	Si
SLV 16	4.35	424.28	-23864	-19872	9330	2.565	2.565	-27669	15951	13134	9516	32259	6541	22650		2.43	Si
SLV 8	4.13	7152.34	-23656	-19699	17411	2.565	2.565	-27429	15902	13065	9516	32259	6541	22581		1.3	Si
SLV 8	4.35	3106.01	-23183	-19305	17443	2.565	2.565	-26880	15793	12908	9516	32259	6541	22423		1.29	Si
SLV 7	4.13	7212.27	-23472	-19546	17459	2.565	2.565	-27215	15860	13004	9516	32259	6541	22519		1.29	Si
SLV 7	4.35	3156.35	-22998	-19151	17492	2.565	2.565	-26665	15750	12846	9516	32259	6541	22361		1.28	Si
SLD 12	4.13	4383.89	-24075	-20047	12347	2.565	2.565	-27914	15999	13205	9516	32259	6541	22720		1.84	Si
SLD 12	4.35	1580.6	-23653	-19696	12378	2.565	2.565	-27425	15902	13064	9516	32259	6541	22580		1.82	Si
SLV 12	4.13	7090.8	-23369	-19460	18019	2.565	2.565	-27096	15836	12970	9516	32259	6541	22485		1.25	Si
SLV 12	4.35	3000.45	-22895	-19065	18063	2.565	2.565	-26546	15726	12812	9516	32259	6541	22327		1.24	Si
SLV 11	4.13	7150.73	-23185	-19307	18068	2.565	2.565	-26882	15793	12908	9516	32259	6541	22424		1.24	Si
SLV 11	4.35	3050.79	-22710	-18911	18112	2.565	2.565	-26331	15683	12750	9516	32259	6541	22266		1.23	Si
SLD 7	4.13	4460.36	-24146	-20107	11986	2.565	2.565	-27996	16016	13228	9516	32259	6541	22744		1.9	Si
SLD 7	4.35	1680.37	-23723	-19755	12011	2.565	2.565	-27506	15918	13088	9516	32259	6541	22603		1.88	Si
SLV 15	4.13	2486.14	-23976	-19965	9363	2.565	2.565	-27800	15977	13172	9516	32259	6541	22687		2.42	Si
SLV 15	4.35	499.06	-23589	-19643	9403	2.565	2.565	-27351	15887	13043	9516	32259	6541	22558		2.4	Si
SLD 8	4.13	4423.99	-24258	-20200	11957	2.565	2.565	-28126	16042	13266	9516	32259	6541	22781		1.91	Si
SLD 8	4.35	1649.82	-23836	-19848	11981	2.565	2.565	-27637	15944	13125	9516	32259	6541	22641		1.89	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.241 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.34	31605	-22698	16.62	2520.11	151.66	Si
SLV 12	179667	0.34	31862	-22883	16.62	2535.22	152.57	Si
SLV 7	179667	0.34	32003	-22985	16.62	2543.51	153.06	Si
SLV 8	179667	0.34	32261	-23169	16.62	2558.48	153.97	Si
SLV 15	179667	0.34	32818	-23569	16.62	2590.62	155.9	Si
SLV 16	179667	0.34	33200	-23844	16.62	2612.42	157.21	Si
SLV 3	179667	0.34	34147	-24524	16.62	2665.66	160.42	Si
SLV 13	179667	0.34	34309	-24641	16.62	2674.69	160.96	Si
SLV 4	179667	0.34	34529	-24798	16.62	2686.8	161.69	Si
SLV 14	179667	0.34	34691	-24915	16.62	2695.74	162.23	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.241 Wa = 0.05 Ta = 0.0052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-25903	-26210	-958	0.662	2732.6	0.989	9.72038	3.08689	Si
SLV 1	-25628	-25936	-958	0.667	2704.6	0.989	9.80021	3.08689	Si
SLV 6	-26782	-27001	-275	0.67	2822.2	0.989	9.84267	3.05751	Si
SLV 14	-24944	-25254	1005	0.679	2634.9	0.989	9.97901	3.08689	Si
SLV 5	-26597	-26817	-275	0.674	2803.4	0.989	9.89531	3.05751	Si
SLV 10	-26494	-26714	314	0.674	2792.9	0.989	9.90331	3.05751	Si
SLV 4	-24823	-25206	-955	0.683	2622.6	0.989	10.04563	3.08689	Si
SLV 9	-26309	-26530	314	0.678	2774	0.989	9.9569	3.05751	Si
SLV 13	-24669	-24980	1005	0.685	2606.9	0.989	10.06468	3.08689	Si
SLV 3	-24548	-24933	-955	0.689	2594.6	0.988	10.13252	3.08689	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	31.539	SLU 40	Si
V_SLU	3.824	SLU 83	Si
PF_SLV	3.526	SLV 11	Si
V_SLV	1.229	SLV 11	Si
PFFP_SLV	151.656	SLV 11	Si
R_SLV	3.149	SLV 2	Si

Maschio 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.314	-11.003	-0.354	L4	Z medio 353 cm	2.96	0.28	2.86	2.04	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	0.67	4257.83	-62305	-0.0001609	0.0003743	0.0035	2.96	24124.75	45147.12	45147.12	10.6	No	Si
SLU 74	2.71	1771.41	-51322	-0.0001164	0.0003743	0.0035	2.96	29758.4	43948.79	43948.79	24.81	No	Si
SLU 84	0.67	4028.94	-64499	-0.0001667	0.0003743	0.0035	2.96	22492.07	44972.4	44972.4	11.16	No	Si
SLU 84	2.71	1775.89	-53325	-0.0001218	0.0003743	0.0035	2.96	29046.56	44584.36	44584.36	25.11	No	Si
SLU 81	0.67	4248.11	-63947	-0.0001662	0.0003743	0.0035	2.96	22918.38	45015.54	45015.54	10.6	No	Si
SLU 81	2.71	1788.17	-52785	-0.0001204	0.0003743	0.0035	2.96	29252.23	44411.12	44411.12	24.84	No	Si
SLU 79	0.67	4339.92	-62596	-0.0001623	0.0003743	0.0035	2.96	23917.97	45123.48	45123.48	10.4	No	Si
SLU 79	2.71	1808.93	-51596	-0.0001173	0.0003743	0.0035	2.96	29669.14	44034.73	44034.73	24.34	No	Si
SLU 83	0.67	4346.86	-64572	-0.0001687	0.0003743	0.0035	2.96	22434.73	44966.72	44966.72	10.34	No	Si
SLU 83	2.71	1831.47	-53348	-0.0001221	0.0003743	0.0035	2.96	29037.31	44591.99	44591.99	24.35	No	Si
SLU 80	0.67	4022	-62522	-0.0001603	0.0003743	0.0035	2.96	23970.24	45129.41	45129.41	11.22	No	Si
SLU 80	2.71	1753.35	-51573	-0.000117	0.0003743	0.0035	2.96	29676.94	44027.31	44027.31	25.11	No	Si
SLU 69	0.67	4109.97	-56860	-0.0001436	0.0003743	0.0035	2.96	27446.5	45588.86	45588.86	11.09	No	Si
SLU 69	2.71	1661.1	-46483	-0.0001034	0.0003743	0.0035	2.96	30897.68	42495.85	42495.85	25.58	No	Si
SLU 77	0.67	4356.58	-62929	-0.0001635	0.0003743	0.0035	2.96	23677.09	45096.53	45096.53	10.35	No	Si
SLU 77	2.71	1814.71	-51885	-0.0001181	0.0003743	0.0035	2.96	29572.4	44125.54	44125.54	24.32	No	Si
SLU 71	0.67	4093.32	-56526	-0.0001425	0.0003743	0.0035	2.96	27616.32	45510.29	45510.29	11.12	No	Si
SLU 71	2.71	1655.32	-46194	-0.0001027	0.0003743	0.0035	2.96	30939.7	42412.83	42412.83	25.62	No	Si
SLU 78	0.67	4038.65	-62856	-0.0001615	0.0003743	0.0035	2.96	23730.22	45102.42	45102.42	11.17	No	Si
SLU 78	2.71	1759.12	-51862	-0.0001178	0.0003743	0.0035	2.96	29580.44	44118.08	44118.08	25.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.67	-19532.65	-41103	-0.0001614	0.0005615	0.0035	2.96		48573.94	48573.94	2.49		Si
SLV 9	2.71	-4405.4	-35693	-0.0000854	0.0005615	0.0035	2.96		44345.31	44345.31	10.07		Si
SLV 5	0.67	-20882.2	-40098	-0.0001655	0.0005615	0.0035	2.96		47934.15	47934.15	2.3		Si
SLV 5	2.71	-4649.37	-34458	-0.0000838	0.0005615	0.0035	2.96		43216.44	43216.44	9.3		Si
SLD 11	0.67	17151.19	-44453	-0.0001591	0.0005615	0.0035	2.96		49264.3	49264.3	2.87		Si
SLD 11	2.71	4668.23	-35438	-0.000086	0.0005615	0.0035	2.96		41469.18	41469.18	8.88		Si
SLV 8	0.67	25519.95	-44752	-0.0002006	0.0005615	0.0035	2.96		49444.01	49444.01	1.94		Si
SLV 8	2.71	6852.98	-34501	-0.0000928	0.0005615	0.0035	2.96		40636.17	40636.17	5.93		Si
SLV 11	0.67	27073.69	-45467	-0.0002116	0.0005615	0.0035	2.96		49876.42	49876.42	1.84		Si
SLV 11	2.71	7093.14	-35623	-0.0000962	0.0005615	0.0035	2.96		41634.24	41634.24	5.87		Si
SLV 10	0.67	-19736.84	-41394	-0.0001631	0.0005615	0.0035	2.96		48757.73	48757.73	2.47		Si
SLV 10	2.71	-4401.6	-35807	-0.0000857	0.0005615	0.0035	2.96		44447.64	44447.64	10.1		Si
SLD 12	0.67	17027.27	-44630	-0.000159	0.0005615	0.0035	2.96		49370.51	49370.51	2.9		Si
SLD 12	2.71	4670.53	-35507	-0.0000861	0.0005615	0.0035	2.96		41530.62	41530.62	8.89		Si
SLV 12	0.67	26869.5	-45757	-0.0002108	0.0005615	0.0035	2.96		50052.53	50052.53	1.86		Si
SLV 12	2.71	7096.94	-35736	-0.0000965	0.0005615	0.0035	2.96		41735.6	41735.6	5.88		Si
SLV 6	0.67	-21086.39	-40388	-0.0001672	0.0005615	0.0035	2.96		48123.2	48123.2	2.28		Si
SLV 6	2.71	-4645.57	-34571	-0.000084	0.0005615	0.0035	2.96		43319.95	43319.95	9.33		Si
SLV 7	0.67	25724.14	-44461	-0.0002012	0.0005615	0.0035	2.96		49268.92	49268.92	1.92		Si
SLV 7	2.71	6849.18	-34387	-0.0000926	0.0005615	0.0035	2.96		40535.56	40535.56	5.92		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.67	4022	-62522	-52063	10355	2.96	2.96	-62818	10833	24814	30925	24818	7548	32366	No	3.13	Si
SLU 80	2.71	1753.35	-51573	-42945	8363	2.96	2.96	-51816	10833	21167	30925	24818	7548	32366	No	3.87	Si
SLU 75	0.67	3939.9	-62231	-51821	10297	2.96	2.96	-62525	10833	24717	30925	24818	7548	32366	No	3.14	Si
SLU 75	2.71	1715.83	-51298	-42717	8312	2.96	2.96	-51541	10833	21076	30925	24818	7548	32366	No	3.89	Si
SLU 83	0.67	4346.86	-64572	-53770	10809	2.96	2.96	-64877	10833	25497	30925	24818	7548	32366	No	2.99	Si
SLU 83	2.71	1831.47	-53348	-44424	8777	2.96	2.96	-53600	10833	21759	30925	24818	7548	32366	No	3.69	Si
SLU 77	0.67	4356.58	-62929	-52402	10631	2.96	2.96	-63227	10833	24950	30925	24818	7548	32366	No	3.04	Si
SLU 77	2.71	1814.71	-51885	-43205	8631	2.96	2.96	-52130	10833	21271	30925	24818	7548	32366	No	3.75	Si
SLU 84	0.67	4028.94	-64499	-53709	10594	2.96	2.96	-64804	10833	25473	30925	24818	7548	32366	No	3.06	Si
SLU 84	2.71	1775.89	-53325	-44404	8558	2.96	2.96	-53576	10833	21751	30925	24818	7548	32366	No	3.78	Si
SLU 79	0.67	4339.92	-62596	-52124	10570	2.96	2.96	-62891	10833	24839	30925	24818	7548	32366	No	3.06	Si
SLU 79	2.71	1808.93	-51596	-42965	8582	2.96	2.96	-51840	10833	21175	30925	24818	7548	32366	No	3.77	Si
SLU 78	0.67	4038.65	-62856	-52341	10416	2.96	2.96	-63153	10833	24925	30925	24818	7548	32366	No	3.11	Si
SLU 78	2.71	1759.12	-51862	-43186	8413	2.96	2.96	-52106	10833	21263	30925	24818	7548	32366	No	3.85	Si
SLU 74	0.67	4257.83	-62305	-51882	10512	2.96	2.96	-62599	10833	24742	30925	24818	7548	32366	No	3.08	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	2.71	1771.41	-51322	-42736	8530	2.96	2.96	-51564	10833	21084	30925	24818	7548	32366	No	3.79	Si
SLU 81	0.67	4248.11	-63947	-53250	10690	2.96	2.96	-64249	10833	25289	30925	24818	7548	32366	No	3.03	Si
SLU 81	2.71	1788.17	-52785	-43955	8676	2.96	2.96	-53034	10833	21571	30925	24818	7548	32366	No	3.73	Si
SLU 82	0.67	3930.19	-63874	-53189	10475	2.96	2.96	-64176	10833	25265	30925	24818	7548	32366	No	3.09	Si
SLU 82	2.71	1732.59	-52761	-43935	8457	2.96	2.96	-53010	10833	21563	30925	24818	7548	32366	No	3.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	0.67	17151.19	-44453	-37017	15438	2.96	2.96	-44663	16250	20791	30925	37227	7548	44775		2.9	Si
SLD 11	2.71	4668.23	-35438	-29510	14281	2.96	2.96	-35605	16250	17788	30925	37227	7548	44775		3.14	Si
SLD 7	0.67	16287.92	-43807	-36479	15282	2.96	2.96	-44014	16250	20576	30925	37227	7548	44775		2.93	Si
SLD 7	2.71	4511.05	-34651	-28854	14271	2.96	2.96	-34815	16250	17526	30925	37227	7548	44775		3.14	Si
SLV 12	0.67	26869.5	-45757	-38103	21163	2.96	2.6783	-45973	16250	21225	30925	37227	7548	44775		2.12	Si
SLV 12	2.71	7096.94	-35736	-29758	20203	2.96	2.96	-35905	16250	17888	30925	37227	7548	44775		2.22	Si
SLD 12	0.67	17027.27	-44630	-37164	15436	2.96	2.96	-44841	16250	20850	30925	37227	7548	44775		2.9	Si
SLD 12	2.71	4670.53	-35507	-29567	14293	2.96	2.96	-35675	16250	17811	30925	37227	7548	44775		3.13	Si
SLV 7	0.67	25724.14	-44461	-37023	20925	2.96	2.7043	-44671	16250	20793	30925	37227	7548	44775		2.14	Si
SLV 7	2.71	6849.18	-34387	-28635	20167	2.96	2.96	-34550	16250	17438	30925	37227	7548	44775		2.22	Si
SLV 8	0.67	25519.95	-44752	-37265	20923	2.96	2.7292	-44963	16250	20890	30925	37227	7548	44775		2.14	Si
SLV 8	2.71	6852.98	-34501	-28729	20187	2.96	2.96	-34664	16250	17476	30925	37227	7548	44775		2.22	Si
SLV 15	0.67	12385.53	-45042	-37507	11823	2.96	2.96	-45255	16250	20987	30925	37227	7548	44775		3.79	Si
SLV 15	2.71	3352.36	-37061	-30862	10205	2.96	2.96	-37236	16250	18329	30925	37227	7548	44775		4.39	Si
SLV 16	0.67	12082.19	-45474	-37867	11819	2.96	2.96	-45689	16250	21131	30925	37227	7548	44775		3.79	Si
SLV 16	2.71	3358	-37230	-31002	10235	2.96	2.96	-37406	16250	18385	30925	37227	7548	44775		4.37	Si
SLD 8	0.67	16164	-43983	-36625	15281	2.96	2.96	-44191	16250	20634	30925	37227	7548	44775		2.93	Si
SLD 8	2.71	4513.36	-34720	-28912	14283	2.96	2.96	-34884	16250	17549	30925	37227	7548	44775		3.13	Si
SLV 11	0.67	27073.69	-45467	-37861	21165	2.96	2.6536	-45682	16250	21128	30925	37227	7548	44775		2.12	Si
SLV 11	2.71	7093.14	-35623	-29664	20183	2.96	2.96	-35791	16250	17850	30925	37227	7548	44775		2.22	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.69 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.28	44494	-36877	151.93	3658.57	24.08	Si
SLV 2	179667	0.28	44833	-37157	151.93	3674.88	24.19	Si
SLV 5	179667	0.28	44864	-37183	151.93	3676.35	24.2	Si
SLV 6	179667	0.28	45092	-37372	151.93	3687.22	24.27	Si
SLV 3	179667	0.28	45830	-37984	151.93	3721.89	24.5	Si
SLV 4	179667	0.28	46169	-38265	151.93	3737.52	24.6	Si
SLV 9	179667	0.28	46469	-38513	151.93	3751.2	24.69	Si
SLV 10	179667	0.28	46696	-38702	151.93	3761.52	24.76	Si
SLV 7	179667	0.28	49316	-40873	151.93	3874.39	25.5	Si
SLV 8	179667	0.28	49544	-41062	151.93	3883.72	25.56	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.69 Wa = 0.05 Ta = 0.0488

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-37230	-45474	281	0.467	4124.3	0.975	6.95856	3.59045	Si
SLV 14	-37251	-44165	250	0.467	4126.5	0.975	6.96707	3.59045	Si
SLV 15	-37061	-45042	281	0.469	4107.2	0.975	6.98625	3.59045	Si
SLV 13	-37083	-43733	249	0.469	4109.3	0.975	6.99477	3.59045	Si
SLV 2	-33133	-40813	-383	0.512	3707.1	0.972	7.65986	3.59045	Si
SLV 4	-33112	-42122	-352	0.514	3704.9	0.972	7.67751	3.59045	Si
SLV 1	-32964	-40381	-384	0.515	3689.9	0.972	7.69391	3.59045	Si
SLV 3	-32943	-41690	-352	0.516	3687.7	0.972	7.71167	3.59045	Si
SLV 12	-35736	-45757	96	0.488	3972.2	0.974	7.28376	3.25447	Si
SLV 11	-35623	-45467	96	0.49	3960.6	0.974	7.30412	3.25447	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.345	SLU 83	Si
V_SLU	2.994	SLU 83	Si
PF_SLV	1.842	SLV 11	Si
V_SLV	2.115	SLV 11	Si
PFFP_SLV	24.081	SLV 1	Si
R_SLV	1.938	SLV 16	Si

Maschio 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.661	L4	L5	5.52	0.2	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	0.67	-14264.91	-59788	-0.0000966	0.0004492	0.0035	5.52	91877.22	146534.31	146534.31	10.27	No	Si
SLU 52	4.35	-9249.61	-40972	-0.0000633	0.0004492	0.0035	5.52	78735.39	113154.43	113154.43	12.23	No	Si
SLU 55	0.67	-14375.39	-60835	-0.0000982	0.0004492	0.0035	5.52	92182.99	148216.51	148216.51	10.31	No	Si
SLU 55	4.35	-9260.29	-41994	-0.0000647	0.0004492	0.0035	5.52	79821.94	115175.31	115175.31	12.44	No	Si
SLU 82	0.67	-15531.96	-70495	-0.0001142	0.0004492	0.0035	5.52	92887.55	162842.25	162842.25	10.48	No	Si
SLU 82	4.35	-10784.09	-48559	-0.0000757	0.0004492	0.0035	5.52	85777.61	127418.34	127418.34	11.82	No	Si
SLU 73	0.67	-15479.92	-67811	-0.0001101	0.0004492	0.0035	5.52	93074.85	158877.6	158877.6	10.26	No	Si
SLU 73	4.35	-10419.95	-46693	-0.0000727	0.0004492	0.0035	5.52	84264.66	123939.5	123939.5	11.89	No	Si
SLU 65	0.67	-14602.28	-62005	-0.0001003	0.0004492	0.0035	5.52	92471.48	150095.52	150095.52	10.28	No	Si
SLU 65	4.35	-9259.71	-42818	-0.0000658	0.0004492	0.0035	5.52	80665.83	116711.24	116711.24	12.6	No	Si
SLU 44	0.67	-13387.27	-53982	-0.000087	0.0004492	0.0035	5.52	89367.8	136901.72	136901.72	10.23	No	Si
SLU 44	4.35	-8089.37	-37096	-0.0000566	0.0004492	0.0035	5.52	74229.1	105425.12	105425.12	13.03	No	Si
SLU 84	0.67	-15642.44	-71542	-0.0001159	0.0004492	0.0035	5.52	92734.54	164299.46	164299.46	10.5	No	Si
SLU 84	4.35	-10794.77	-49581	-0.0000771	0.0004492	0.0035	5.52	86546.66	129263.05	129263.05	11.97	No	Si
SLU 68	0.67	-14712.76	-63052	-0.000102	0.0004492	0.0035	5.52	92682.26	151777.72	151777.72	10.32	No	Si
SLU 68	4.35	-9270.38	-43840	-0.0000672	0.0004492	0.0035	5.52	81675.13	118618.52	118618.52	12.8	No	Si
SLU 47	0.67	-13497.75	-55029	-0.0000887	0.0004492	0.0035	5.52	89922.35	138719.3	138719.3	10.28	No	Si
SLU 47	4.35	-8100.04	-38119	-0.0000579	0.0004492	0.0035	5.52	75477.85	107464.61	107464.61	13.27	No	Si
SLU 76	0.67	-15590.4	-68858	-0.0001118	0.0004492	0.0035	5.52	93036.84	160424.41	160424.41	10.29	No	Si
SLU 76	4.35	-10430.63	-47716	-0.0000741	0.0004492	0.0035	5.52	85111.77	125846.77	125846.77	12.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	0.67	-32140.27	-34761	-0.0000853	0.0006738	0.0035	5.52		103301.29	103301.29	3.21		Si
SLD 5	4.35	-18742.9	-19459	-0.0000478	0.0006738	0.0035	5.52		67976.55	67976.55	3.63		Si
SLV 1	0.67	-21901.26	-39318	-0.0000772	0.0006738	0.0035	5.52		113270.84	113270.84	5.17		Si
SLV 1	4.35	-11443.2	-26889	-0.0000473	0.0006738	0.0035	5.52		85538.34	85538.34	7.48		Si
SLV 6	0.67	-47650.48	-25523	-0.0001314	0.0006738	0.0035	4.416		82366.34	82366.34	1.73		Si
SLV 6	4.35	-27443.33	-9474	-0.0002293	0.0006738	0.0035	4.416		43228.3	43228.3	1.58		Si
SLV 2	0.67	-22407.5	-39361	-0.000078	0.0006738	0.0035	5.52		113359.94	113359.94	5.06		Si
SLV 2	4.35	-11845.41	-26473	-0.0000473	0.0006738	0.0035	5.52		84573.69	84573.69	7.14		Si
SLD 9	0.67	-31938.61	-35526	-0.000086	0.0006738	0.0035	5.52		104985.96	104985.96	3.29		Si
SLD 9	4.35	-19355.59	-19227	-0.0000484	0.0006738	0.0035	5.52		67410.79	67410.79	3.48		Si
SLV 9	0.67	-46983.17	-26741	-0.0001223	0.0006738	0.0035	4.416		85193.91	85193.91	1.81		Si
SLV 9	4.35	-28100.21	-9377	-0.0002537	0.0006738	0.0035	4.416		42980.69	42980.69	1.53		Si
SLD 10	0.67	-32145.41	-35543	-0.0000863	0.0006738	0.0035	5.52		105024.41	105024.41	3.27		Si
SLD 10	4.35	-19519.89	-19057	-0.0000484	0.0006738	0.0035	5.52		66996.71	66996.71	3.43		Si
SLV 5	0.67	-47309.71	-25494	-0.0001295	0.0006738	0.0035	4.416		82299.58	82299.58	1.74		Si
SLV 5	4.35	-27172.58	-9754	-0.0002051	0.0006738	0.0035	4.416		43941.74	43941.74	1.62		Si
SLV 10	0.67	-47323.94	-26769	-0.0001238	0.0006738	0.0035	4.416		85260.67	85260.67	1.8		Si
SLV 10	4.35	-28370.96	-9097	-0.0002766	0.0006738	0.0035	4.416		42267.25	42267.25	1.49		Si
SLD 6	0.67	-32347.07	-34779	-0.0000856	0.0006738	0.0035	5.52		103339.74	103339.74	3.19		Si
SLD 6	4.35	-18907.21	-19289	-0.0000478	0.0006738	0.0035	5.52		67562.47	67562.47	3.57		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.67	-15347.85	-69601	-44544	-10166	5.52	5.52	-40348	10833	24195	115546	39675	28152	67827	No	6.67	Si
SLU 75	4.35	-10389.93	-48340	-30937	-11196	5.52	5.52	-28023	10833	18752	115546	39675	28152	67827	No	6.06	Si
SLU 77	0.67	-14972.19	-70941	-45402	-9654	5.52	5.52	-41125	10833	24538	115546	39675	28152	67827	No	7.03	Si
SLU 77	4.35	-10200.94	-49669	-31788	-10709	5.52	5.52	-28794	10833	19092	115546	39675	28152	67827	No	6.33	Si
SLU 81	0.67	-15045.83	-70788	-45305	-9883	5.52	5.52	-41037	10833	24499	115546	39675	28152	67827	No	6.86	Si
SLU 81	4.35	-10584.43	-48865	-31274	-10939	5.52	5.52	-28328	10833	18887	115546	39675	28152	67827	No	6.2	Si
SLU 76	0.67	-15590.4	-68858	-44069	-10391	5.52	5.52	-39918	10833	24004	115546	39675	28152	67827	No	6.53	Si
SLU 76	4.35	-10430.63	-47716	-30538	-11407	5.52	5.52	-27662	10833	18592	115546	39675	28152	67827	No	5.95	Si
SLU 84	0.67	-15642.44	-71542	-45787	-10385	5.52	5.52	-41474	10833	24692	115546	39675	28152	67827	No	6.53	Si
SLU 84	4.35	-10794.77	-49581	-31732	-11449	5.52	5.52	-28743	10833	19070	115546	39675	28152	67827	No	5.92	Si
SLU 82	0.67	-15531.96	-70495	-45117	-10390	5.52	5.52	-40867	10833	24423	115546	39675	28152	67827	No	6.53	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	4.35	-10784.09	-48559	-31078	-11438	5.52	5.52	-28150	10833	18808	115546	39675	28152	67827	No	5.93	Si
SLU 83	0.67	-15156.31	-71836	-45975	-9878	5.52	5.52	-41644	10833	24767	115546	39675	28152	67827	No	6.87	Si
SLU 83	4.35	-10595.11	-49888	-31928	-10951	5.52	5.52	-28920	10833	19148	115546	39675	28152	67827	No	6.19	Si
SLU 80	0.67	-15376.79	-70101	-44865	-10049	5.52	5.52	-40638	10833	24323	115546	39675	28152	67827	No	6.75	Si
SLU 80	4.35	-10308.19	-48943	-31324	-11086	5.52	5.52	-28373	10833	18906	115546	39675	28152	67827	No	6.12	Si
SLU 78	0.67	-15458.33	-70648	-45215	-10162	5.52	5.52	-40955	10833	24463	115546	39675	28152	67827	No	6.67	Si
SLU 78	4.35	-10400.6	-49362	-31592	-11207	5.52	5.52	-28616	10833	19014	115546	39675	28152	67827	No	6.05	Si
SLU 73	0.67	-15479.92	-67811	-43399	-10396	5.52	5.52	-39311	10833	23736	115546	39675	28152	67827	No	6.52	Si
SLU 73	4.35	-10419.95	-46693	-29884	-11395	5.52	5.52	-27069	10833	18331	115546	39675	28152	67827	No	5.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	0.67	-32145.41	-35543	-22748	-27554	5.52	5.52	-20605	16250	18665	115546	59513	28152	87665		3.18	Si
SLD 10	4.35	-19519.89	-19057	-12197	-27523	5.52	5.2072	-11772	14854	15470	115546	59513	28152	87665		3.19	Si
SLV 8	0.67	25797.18	-69196	-44285	27901	5.52	5.52	-40113	16250	27280	115546	59513	28152	87665		3.14	Si
SLV 8	4.35	14217.89	-56982	-36468	25956	5.52	5.52	-33033	16250	24153	115546	59513	28152	87665		3.38	Si
SLV 7	0.67	26137.96	-69167	-44267	28645	5.52	5.52	-40097	16250	27272	115546	59513	28152	87665		3.06	Si
SLV 7	4.35	14488.64	-57262	-36647	26700	5.52	5.52	-33195	16250	24225	115546	59513	28152	87665		3.28	Si
SLV 5	0.67	-47309.71	-25494	-16316	-38429	4.416	2.7128	0	0	0	115546	47610	22522	70132		1.82	Si
SLV 5	4.35	-27172.58	-9754	-6242	-38389	4.416	0	0	0	0	115546	47610	22522	70132		1.83	Si
SLV 11	0.67	26464.5	-70413	-45065	25678	5.52	5.52	-40819	16250	27591	115546	59513	28152	87665		3.41	Si
SLV 11	4.35	13561.01	-56885	-36406	24232	5.52	5.52	-32977	16250	24128	115546	59513	28152	87665		3.62	Si
SLD 6	0.67	-32347.07	-34779	-22258	-25718	5.52	5.4897	-20466	16250	18469	115546	59513	28152	87665		3.41	Si
SLD 6	4.35	-18907.21	-19289	-12345	-25968	5.52	5.3394	-11621	14824	15830	115546	59513	28152	87665		3.38	Si
SLV 9	0.67	-46983.17	-26741	-17114	-41396	4.416	3.009	0	0	0	115546	47610	22522	70132		1.69	Si
SLV 9	4.35	-28100.21	-9377	-6001	-40857	4.416	0	0	0	0	115546	47610	22522	70132		1.72	Si
SLV 10	0.67	-47323.94	-26769	-17132	-42140	4.416	2.9765	0	0	0	115546	47610	22522	70132		1.66	Si
SLV 10	4.35	-28370.96	-9097	-5822	-41602	4.416	0	0	0	0	115546	47610	22522	70132		1.69	Si
SLV 6	0.67	-47650.48	-25523	-16335	-39173	4.416	2.679	0	0	0	115546	47610	22522	70132		1.79	Si
SLV 6	4.35	-27443.33	-9474	-6063	-39134	4.416	0	0	0	0	115546	47610	22522	70132		1.79	Si
SLD 9	0.67	-31938.61	-35526	-22736	-27103	5.52	5.52	-20595	16250	18661	115546	59513	28152	87665		3.23	Si
SLD 9	4.35	-19355.59	-19227	-12305	-27071	5.52	5.2599	-11758	14852	15624	115546	59513	28152	87665		3.24	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-9658	0.3	364.76	919.74	1624.32	1272.03	3.49	Si
SLV 6	-9797	0.3	364.76	932.27	1640.34	1286.31	3.53	Si
SLV 9	-9928	0.3	364.76	944.1	1655.49	1299.79	3.56	Si
SLV 5	-10067	0.3	364.76	956.59	1671.48	1314.04	3.6	Si
SLV 14	-31409	0.3	364.76	2653.38	4064.22	3358.8	9.21	Si
SLV 13	-31810	0.3	364.76	2680.92	4108.05	3394.48	9.31	Si
SLV 2	-31872	0.3	364.76	2685.14	4114.78	3399.96	9.32	Si
SLV 1	-32272	0.3	364.76	2712.5	4158.61	3435.56	9.42	Si
SLV 16	-50248	0.3	364.76	3776.98	6085.48	4931.23	13.52	Si
SLV 15	-50648	0.3	364.76	3797.06	6127.96	4962.51	13.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.04 Ta = 0.1131

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-56885	-70413	566	0.532	6363.6	0.972	7.94536	4.59966	Si
SLV 12	-56605	-70442	565	0.534	6335.1	0.972	7.98158	4.59966	Si
SLV 7	-57262	-69167	-161	0.535	6401.9	0.973	7.99678	4.59966	Si
SLV 8	-56982	-69196	-162	0.537	6373.4	0.972	8.03247	4.59966	Si
SLV 3	-41141	-52420	-1146	0.696	4760.8	0.964	10.49328	5.9165	Si
SLV 4	-40726	-52463	-1148	0.702	4718.6	0.964	10.59039	5.9165	Si
SLV 15	-39885	-56575	1275	0.712	4633	0.963	10.7496	5.9165	Si
SLV 16	-39470	-56618	1274	0.719	4590.8	0.963	10.85329	5.9165	Si
SLV 1	-26889	-39318	-1265	1.004	3311.9	0.95	15.36171	5.9165	Si
SLV 2	-26473	-39361	-1266	1.018	3269.7	0.949	15.57626	5.9165	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.226	SLU 44	Si
V_SLU	5.924	SLU 84	Si
PF_SLV	1.49	SLV 10	Si
V_SLV	1.664	SLV 10	Si
PFFP_SLV	3.487	SLV 10	Si
R_SLV	1.727	SLV 11	Si

Maschio 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-10.863	-3.169	L4	L5	1.42	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	0.67	4650.92	-10454	-0.0001681	0.0003743	0.0035	1.42	5505.74	6069.12	6069.12	1.3	No	Si
SLU 73	2.77	-1201.55	-18444	-0.0000999	0.0003743	0.0035	1.42	7128.81	9180.17	9180.17	7.64	No	Si
SLU 75	0.67	4695.19	-10578	-0.0001698	0.0003743	0.0035	1.42	5547.88	6119.04	6119.04	1.3	No	Si
SLU 75	2.77	-1193.24	-18665	-0.0001009	0.0003743	0.0035	1.42	7141.89	9233.68	9233.68	7.74	No	Si
SLU 76	0.67	4683.44	-10547	-0.0001693	0.0003743	0.0035	1.42	5537.51	6106.68	6106.68	1.3	No	Si
SLU 76	2.77	-1191.16	-18596	-0.0001005	0.0003743	0.0035	1.42	7138	9216.95	9216.95	7.74	No	Si
SLU 77	0.67	4700.49	-10620	-0.0001696	0.0003743	0.0035	1.42	5561.96	6135.91	6135.91	1.31	No	Si
SLU 77	2.77	-1157.68	-18716	-0.0001004	0.0003743	0.0035	1.42	7144.66	9246.08	9246.08	7.99	No	Si
SLU 78	0.67	4727.71	-10671	-0.000171	0.0003743	0.0035	1.42	5579.25	6156.74	6156.74	1.3	No	Si
SLU 78	2.77	-1182.85	-18818	-0.0001014	0.0003743	0.0035	1.42	7149.9	9270.87	9270.87	7.84	No	Si
SLU 82	0.67	4820.35	-10835	-0.000176	0.0003743	0.0035	1.42	5633.92	6223.57	6223.57	1.29	No	Si
SLU 82	2.77	-1237.27	-19144	-0.0001042	0.0003743	0.0035	1.42	7164.31	9350.45	9350.45	7.56	No	Si
SLU 80	0.67	4697.81	-10606	-0.0001696	0.0003743	0.0035	1.42	5557.43	6130.47	6130.47	1.3	No	Si
SLU 80	2.77	-1163.99	-18681	-0.0001004	0.0003743	0.0035	1.42	7142.76	9237.53	9237.53	7.94	No	Si
SLU 81	0.67	4793.13	-10784	-0.0001746	0.0003743	0.0035	1.42	5616.93	6202.64	6202.64	1.29	No	Si
SLU 81	2.77	-1212.1	-19042	-0.0001032	0.0003743	0.0035	1.42	7160.23	9325.58	9325.58	7.69	No	Si
SLU 84	0.67	4852.87	-10928	-0.0001773	0.0003743	0.0035	1.42	5664.45	6261.55	6261.55	1.29	No	Si
SLU 84	2.77	-1226.88	-19296	-0.0001048	0.0003743	0.0035	1.42	7169.76	9388.06	9388.06	7.65	No	Si
SLU 83	0.67	4825.64	-10877	-0.0001759	0.0003743	0.0035	1.42	5647.62	6240.56	6240.56	1.29	No	Si
SLU 83	2.77	-1201.71	-19195	-0.0001037	0.0003743	0.0035	1.42	7166.23	9363	9363	7.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	0.67	483.38	-5483	-0.0000284	0.0005615	0.0035	1.42		3734.04	3734.04	7.72		Si
SLV 15	2.77	4197.47	-3260	-0.0250302	0.0005615	0.0035	1.136		2326.19	2326.19	0.55		No
SLV 2	0.67	5949.15	-9081	-0.0057839	0.0005615	0.0035	1.42		5715.73	5715.73	0.96		No
SLV 2	2.77	-5744.97	-22149	-0.0002004	0.0005615	0.0035	1.42		11875.96	11875.96	2.07		Si
SLV 12	0.67	507.5	-2422	-0.000017	0.0005615	0.0035	1.42		1774.01	1774.01	3.5		Si
SLV 12	2.77	2415.59	-1766	-0.0151265	0.0005615	0.0035	1.136		1334.09	1334.09	0.55		No
SLV 3	0.67	4240.74	-5979	-0.0060504	0.0005615	0.0035	1.136		4036.79	4036.79	0.95		No
SLV 3	2.77	-3688.91	-15151	-0.0001244	0.0005615	0.0035	1.42		9269.28	9269.28	2.51		Si
SLD 2	0.67	4926.09	-8357	-0.0003115	0.0005615	0.0035	1.42		5340.99	5340.99	1.08		Si
SLD 2	2.77	-3915.25	-18590	-0.0001448	0.0005615	0.0035	1.42		10688.43	10688.43	2.73		Si
SLV 16	0.67	833.9	-5676	-0.0000348	0.0005615	0.0035	1.42		3852.59	3852.59	4.62		Si
SLV 16	2.77	3488.42	-4512	-0.0071092	0.0005615	0.0035	1.136		3128.43	3128.43	0.9		No
SLV 11	0.67	271.54	-2292	-0.0000128	0.0005615	0.0035	1.42		1687.17	1687.17	6.21		Si
SLV 11	2.77	2892.88	-923	-0.028288	0.0005615	0.0035	1.136		758.06	758.06	0.26		No
SLV 1	0.67	5598.62	-8889	-0.0009337	0.0005615	0.0035	1.42		5615.93	5615.93	1		Si
SLV 1	2.77	-5035.93	-20896	-0.0001783	0.0005615	0.0035	1.42		11447.41	11447.41	2.27		Si
SLV 4	0.67	4591.27	-6171	-0.0080342	0.0005615	0.0035	1.136		4152.87	4152.87	0.9		No
SLV 4	2.77	-4397.95	-16403	-0.0001445	0.0005615	0.0035	1.42		9829	9829	2.23		Si
SLD 4	0.67	4131.6	-6651	-0.0003459	0.0005615	0.0035	1.42		4441.53	4441.53	1.08		Si
SLD 4	2.77	-3127.39	-15226	-0.0001144	0.0005615	0.0035	1.42		9302.89	9302.89	2.97		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.67	4700.49	-10620	-8843	6479	1.42	0.8021	-22241	9910	3634	40441	11906	3621	15527	No	2.4	Si
SLU 77	2.77	-1157.68	-18716	-15585	8650	1.42	1.42	-39198	10833	5432	40441	11906	3621	15527	No	1.8	Si
SLU 78	0.67	4727.71	-10671	-8886	6522	1.42	0.8009	-22348	9924	3645	40441	11906	3621	15527	No	2.38	Si
SLU 78	2.77	-1182.85	-18818	-15670	8711	1.42	1.42	-39410	10833	5454	40441	11906	3621	15527	No	1.78	Si
SLU 75	0.67	4695.19	-10578	-8808	6490	1.42	0.7984	-22154	9898	3625	40441	11906	3621	15527	No	2.39	Si
SLU 75	2.77	-1193.24	-18665	-15543	8676	1.42	1.42	-39091	10833	5421	40441	11906	3621	15527	No	1.79	Si
SLU 76	0.67	4683.44	-10547	-8783	6468	1.42	0.7979	-22090	9890	3618	40441	11906	3621	15527	No	2.4	Si
SLU 76	2.77	-1191.16	-18596	-15486	8641	1.42	1.42	-38947	10833	5405	40441	11906	3621	15527	No	1.8	Si
SLU 82	0.67	4820.35	-10835	-9023	6636	1.42	0.7954	-22692	9970	3682	40441	11906	3621	15527	No	2.34	Si
SLU 82	2.77	-1237.27	-19144	-15941	8934	1.42	1.42	-40093	10833	5527	40441	11906	3621	15527	No	1.74	Si
SLU 84	0.67	4852.87	-10928	-9100	6668	1.42	0.7978	-22887	9996	3703	40441	11906	3621	15527	No	2.33	Si
SLU 84	2.77	-1226.88	-19296	-16068	8969	1.42	1.42	-40412	10833	5561	40441	11906	3621	15527	No	1.73	Si
SLU 74	0.67	4667.97	-10527	-8766	6447	1.42	0.7997	-22046	9884	3613	40441	11906	3621	15527	No	2.41	Si
SLU 74	2.77	-1168.08	-18564	-15458	8615	1.42	1.42	-38879	10833	5398	40441	11906	3621	15527	No	1.8	Si
SLU 81	0.67	4793.13	-10784	-8980	6594	1.42	0.7966	-22585	9956	3671	40441	11906	3621	15527	No	2.35	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	2.77	-1212.1	-19042	-15857	8872	1.42	1.42	-39881	10833	5504	40441	11906	3621	15527	No	1.75	Si
SLU 83	0.67	4825.64	-10877	-9057	6626	1.42	0.799	-22780	9982	3691	40441	11906	3621	15527	No	2.34	Si
SLU 83	2.77	-1201.71	-19195	-15984	8907	1.42	1.42	-40200	10833	5538	40441	11906	3621	15527	No	1.74	Si
SLU 80	0.67	4697.81	-10606	-8832	6472	1.42	0.8012	-22213	9906	3631	40441	11906	3621	15527	No	2.4	Si
SLU 80	2.77	-1163.99	-18681	-15556	8636	1.42	1.42	-39125	10833	5424	40441	11906	3621	15527	No	1.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.67	4591.27	-6171	-5139	8858	1.136	0	0	0	0	40441	14287	2897	17184		1.94	Si
SLV 4	2.77	-4397.95	-16403	-13659	10787	1.42	1.3257	-37573	16250	6032	40441	17859	3621	21480		1.99	Si
SLV 2	0.67	5949.15	-9081	-7562	11188	1.42	0.1648	-176229	16250	3931	40441	17859	3621	21480		1.92	Si
SLV 2	2.77	-5744.97	-22149	-18444	14192	1.42	1.3519	-50200	16250	6832	40441	17859	3621	21480		1.51	Si
SLV 5	0.67	5925.02	-12143	-10112	9566	1.42	0.6662	-25431	15503	4610	40441	17859	3621	21480		2.25	Si
SLV 5	2.77	-3963.09	-23643	-19687	12931	1.42	1.42	-49515	16250	7164	40441	17859	3621	21480		1.66	Si
SLV 10	0.67	5033.77	-12124	-10096	7117	1.42	0.8844	-25391	15495	4606	40441	17859	3621	21480		3.02	Si
SLV 10	2.77	-2074.47	-20918	-17419	10136	1.42	1.42	-43810	16250	6559	40441	17859	3621	21480		2.12	Si
SLV 1	0.67	5598.62	-8889	-7402	10273	1.42	0.2405	-129525	16250	3888	40441	17859	3621	21480		2.09	Si
SLV 1	2.77	-5035.93	-20896	-17401	12975	1.42	1.407	-43764	16250	6554	40441	17859	3621	21480		1.66	Si
SLD 2	0.67	4926.09	-8357	-6959	8699	1.42	0.3616	-72152	16250	3770	40441	17859	3621	21480		2.47	Si
SLD 2	2.77	-3915.25	-18590	-15480	11099	1.42	1.42	-38934	16250	6461	40441	17859	3621	21480		1.94	Si
SLD 6	0.67	4972.42	-10212	-8503	7898	1.42	0.6692	-21387	14694	4182	40441	17859	3621	21480		2.72	Si
SLD 6	2.77	-2988.47	-19709	-16412	10584	1.42	1.42	-41278	16250	6461	40441	17859	3621	21480		2.03	Si
SLD 5	0.67	4829.23	-10133	-8438	7524	1.42	0.7003	-21222	14661	4164	40441	17859	3621	21480		2.85	Si
SLD 5	2.77	-2698.83	-19198	-15986	10087	1.42	1.42	-40206	16250	6461	40441	17859	3621	21480		2.13	Si
SLD 1	0.67	4703.71	-8235	-6857	8118	1.42	0.4164	-61127	16250	3743	40441	17859	3621	21480		2.65	Si
SLD 1	2.77	-3465.42	-17796	-14819	10327	1.42	1.42	-37270	16250	6461	40441	17859	3621	21480		2.08	Si
SLV 6	0.67	6160.98	-12272	-10219	10182	1.42	0.624	-25702	15557	4639	40441	17859	3621	21480		2.11	Si
SLV 6	2.77	-4440.38	-24486	-20389	13750	1.42	1.42	-51281	16250	7351	40441	17859	3621	21480		1.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	2615	-1040	125.02	143.05	1.14	Si
SLV 12	179667	0.3	4534	-1803	125.02	244.87	1.96	Si
SLV 15	179667	0.3	8810	-3503	125.02	462.14	3.7	Si
SLV 7	179667	0.3	10635	-4228	125.02	550.76	4.41	Si
SLV 16	179667	0.3	11661	-4637	125.02	599.56	4.8	Si
SLV 8	179667	0.3	12554	-4991	125.02	641.36	5.13	Si
SLV 13	179667	0.3	22541	-8962	125.02	1069.53	8.56	Si
SLV 14	179667	0.3	25392	-10096	125.02	1178.42	9.43	Si
SLV 3	179667	0.3	35545	-14133	125.02	1518.07	12.14	Si
SLV 4	179667	0.3	38396	-15266	125.02	1599.93	12.8	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-12578	-8394	-58	0.611	1486.9	0.959	9.26785	4.67428	Si
SLV 14	-12465	-8586	-57	0.616	1475.4	0.959	9.34365	4.67428	Si
SLV 9	-14705	-11994	-156	0.529	1703.2	0.964	7.98215	3.93621	Si
SLV 10	-14629	-12124	-155	0.532	1695.4	0.964	8.01974	3.93621	Si
SLV 5	-13790	-12143	-148	0.56	1610.1	0.962	8.45562	3.93621	Si
SLV 6	-13713	-12272	-147	0.562	1602.3	0.962	8.49804	3.93621	Si
SLV 15	-9824	-5483	33	0.755	1207	0.95	11.55181	4.67428	Si
SLV 16	-9711	-5676	35	0.763	1195.5	0.95	11.66781	4.67428	Si
SLV 1	-9527	-8889	-33	0.775	1176.9	0.949	11.86713	4.67428	Si
SLV 2	-9414	-9081	-31	0.783	1165.4	0.949	11.99379	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.29	SLU 84	Si
V_SLU	1.731	SLU 84	Si
PF_SLV	0.262	SLV 11	No
V_SLV	1.514	SLV 2	Si
PFFP_SLV	1.144	SLV 11	Si
R_SLV	1.983	SLV 13	Si

Maschio 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.453	-3.169	-8.543	-3.169	L4	L5	1.09	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	1.57	-1590.25	-16860	-0.0001503	0.0003743	0.0035	1.09	4202.95	5832.83	5832.83	3.67	No	Si
SLU 70	3.47	-1653.87	-13081	-0.0001244	0.0003743	0.0035	1.09	4127.92	5165.17	5165.17	3.12	No	Si
SLU 80	1.57	-1824.74	-18675	-0.0001742	0.0003743	0.0035	1.09	4060.93	6032.39	6032.39	3.31	No	Si
SLU 80	3.47	-1752.99	-14497	-0.0001381	0.0003743	0.0035	1.09	4214.73	5447.7	5447.7	3.11	No	Si
SLU 75	1.57	-1806.21	-18626	-0.000173	0.0003743	0.0035	1.09	4066.21	6026.94	6026.94	3.34	No	Si
SLU 75	3.47	-1766.88	-14498	-0.0001386	0.0003743	0.0035	1.09	4214.74	5447.76	5447.76	3.08	No	Si
SLU 82	1.57	-1880.65	-19164	-0.0001807	0.0003743	0.0035	1.09	4002.84	6088.73	6088.73	3.24	No	Si
SLU 82	3.47	-1788.04	-14913	-0.0001424	0.0003743	0.0035	1.09	4226.85	5534.86	5534.86	3.1	No	Si
SLU 84	1.57	-1903.97	-19334	-0.0001831	0.0003743	0.0035	1.09	3980.66	6108.81	6108.81	3.21	No	Si
SLU 84	3.47	-1796.56	-15035	-0.0001437	0.0003743	0.0035	1.09	4229.25	5560.83	5560.83	3.1	No	Si
SLU 78	1.57	-1829.52	-18797	-0.0001754	0.0003743	0.0035	1.09	4047.24	6046.24	6046.24	3.3	No	Si
SLU 78	3.47	-1775.4	-14620	-0.0001398	0.0003743	0.0035	1.09	4218.92	5473.11	5473.11	3.08	No	Si
SLU 74	1.57	-1816.13	-18551	-0.0001728	0.0003743	0.0035	1.09	4074.22	6018.54	6018.54	3.31	No	Si
SLU 74	3.47	-1740	-14403	-0.0001369	0.0003743	0.0035	1.09	4211.12	5428.12	5428.12	3.12	No	Si
SLU 73	1.57	-1771.49	-18384	-0.0001696	0.0003743	0.0035	1.09	4091.45	5999.7	5999.7	3.39	No	Si
SLU 73	3.47	-1753.87	-14317	-0.0001368	0.0003743	0.0035	1.09	4207.58	5410.5	5410.5	3.08	No	Si
SLU 77	1.57	-1839.45	-18722	-0.0001751	0.0003743	0.0035	1.09	4055.7	6037.73	6037.73	3.28	No	Si
SLU 77	3.47	-1748.52	-14525	-0.0001381	0.0003743	0.0035	1.09	4215.71	5453.33	5453.33	3.12	No	Si
SLU 76	1.57	-1794.8	-18554	-0.0001719	0.0003743	0.0035	1.09	4073.93	6018.85	6018.85	3.35	No	Si
SLU 76	3.47	-1762.39	-14439	-0.000138	0.0003743	0.0035	1.09	4212.54	5435.59	5435.59	3.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	1.57	2089.96	-8506	-0.0001074	0.0005615	0.0035	1.09		4001.43	4001.43	1.91		Si
SLV 2	3.47	-4271.43	-12987	-0.0002571	0.0005615	0.0035	0.872		5879.63	5879.63	1.38		Si
SLV 12	1.57	-3095.54	-6814	-0.0003334	0.0005615	0.0035	0.872		3553.4	3553.4	1.15		Si
SLV 12	3.47	2034.24	-411	-0.0374012	0.0005615	0.0035	0.872		301.61	301.61	0.15		No
SLV 15	1.57	-4535.78	-16846	-0.0002629	0.0005615	0.0035	1.09		6935.86	6935.86	1.53		Si
SLV 15	3.47	1863.42	-6524	-0.000094	0.0005615	0.0035	1.09		3178.42	3178.42	1.71		Si
SLV 6	1.57	981.33	-18177	-0.0001274	0.0005615	0.0035	1.09		7085.17	7085.17	7.22		Si
SLV 6	3.47	-4757.15	-19460	-0.0002837	0.0005615	0.0035	1.09		7517.71	7517.71	1.58		Si
SLV 8	1.57	-1476.84	-3117	-0.000163	0.0005615	0.0035	0.872		1854.78	1854.78	1.26		Si
SLV 8	3.47	837.65	-482	-0.0114975	0.0005615	0.0035	0.872		339.48	339.48	0.41		No
SLV 11	1.57	-3427.15	-7174	-0.0005533	0.0005615	0.0035	0.872		3705.95	3705.95	1.08		Si
SLV 11	3.47	2349.13	-52	-0.0484535	0.0005615	0.0035	0.872		109.2	109.2	0.05		No
SLV 4	1.57	1352.5	-3988	-0.0000711	0.0005615	0.0035	1.09		2108.27	2108.27	1.56		Si
SLV 4	3.47	-2592.99	-7294	-0.0001503	0.0005615	0.0035	0.872		3756.29	3756.29	1.45		Si
SLV 7	1.57	-1808.45	-3476	-0.0003807	0.0005615	0.0035	0.872		2029.61	2029.61	1.12		Si
SLV 7	3.47	1152.55	-123	-0.0224225	0.0005615	0.0035	0.872		147.4	147.4	0.13		No
SLV 3	1.57	859.88	-4521	-0.0000459	0.0005615	0.0035	1.09		2359.76	2359.76	2.74		Si
SLV 3	3.47	-2125.2	-6761	-0.000111	0.0005615	0.0035	0.872		3530.01	3530.01	1.66		Si
SLV 1	1.57	1597.33	-9039	-0.0000915	0.0005615	0.0035	1.09		4228.33	4228.33	2.65		Si
SLV 1	3.47	-3803.64	-12454	-0.0002144	0.0005615	0.0035	0.872		5707.31	5707.31	1.5		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	1.57	-1824.74	-18675	-15551	-1552	1.09	1.09	-50952	10833	5126	40441	9139	2780	11919	No	7.68	Si
SLU 80	3.47	-1752.99	-14497	-12072	1325	1.09	1.09	-39555	10833	4199	40441	9139	2780	11919	No	8.99	Si
SLU 82	1.57	-1880.65	-19164	-15958	-1596	1.09	1.09	-52288	10833	5235	40441	9139	2780	11919	No	7.47	Si
SLU 82	3.47	-1788.04	-14913	-12418	1330	1.09	1.09	-40689	10833	4291	40441	9139	2780	11919	No	8.96	Si
SLU 63	1.57	-1736.5	-17362	-14458	-1573	1.09	1.09	-47372	10833	4835	40441	9139	2780	11919	No	7.58	Si
SLU 63	3.47	-1560.37	-13253	-11036	1173	1.09	1.09	-36161	10833	3922	40441	9139	2780	11919	No	10.16	Si
SLU 84	1.57	-1903.97	-19334	-16100	-1630	1.09	1.09	-52752	10833	5273	40441	9139	2780	11919	No	7.31	Si
SLU 84	3.47	-1796.56	-15035	-12520	1337	1.09	1.09	-41022	10833	4318	40441	9139	2780	11919	No	8.91	Si
SLU 62	1.57	-1746.43	-17287	-14395	-1599	1.09	1.09	-47167	10833	4818	40441	9139	2780	11919	No	7.45	Si
SLU 62	3.47	-1533.49	-13158	-10957	1143	1.09	1.09	-35902	10833	3901	40441	9139	2780	11919	No	10.43	Si
SLU 60	1.57	-1723.11	-17117	-14254	-1566	1.09	1.09	-46703	10833	4780	40441	9139	2780	11919	No	7.61	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	3.47	-1524.97	-13036	-10856	1137	1.09	1.09	-35569	10833	3874	40441	9139	2780	11919	No	10.49	Si
SLU 81	1.57	-1890.58	-19089	-15896	-1623	1.09	1.09	-52083	10833	5218	40441	9139	2780	11919	No	7.34	Si
SLU 81	3.47	-1761.16	-14818	-12339	1300	1.09	1.09	-40430	10833	4270	40441	9139	2780	11919	No	9.17	Si
SLU 79	1.57	-1834.67	-18600	-15488	-1578	1.09	1.09	-50748	10833	5110	40441	9139	2780	11919	No	7.55	Si
SLU 79	3.47	-1726.12	-14402	-11993	1295	1.09	1.09	-39296	10833	4178	40441	9139	2780	11919	No	9.2	Si
SLU 77	1.57	-1839.45	-18722	-15590	-1571	1.09	1.09	-51081	10833	5137	40441	9139	2780	11919	No	7.59	Si
SLU 77	3.47	-1748.52	-14525	-12095	1316	1.09	1.09	-39629	10833	4205	40441	9139	2780	11919	No	9.05	Si
SLU 83	1.57	-1913.9	-19260	-16038	-1657	1.09	1.09	-52548	10833	5256	40441	9139	2780	11919	No	7.19	Si
SLU 83	3.47	-1769.68	-14940	-12441	1307	1.09	1.09	-40762	10833	4297	40441	9139	2780	11919	No	9.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	1.57	-4043.16	-16312	-13583	-6894	1.09	0.8914	-56311	16250	5091	40441	13709	2780	16488		2.39	Si
SLV 16	3.47	1395.62	-7058	-5877	-2101	1.09	1.0418	-19256	14268	4162	40441	13709	2780	16488		7.85	Si
SLV 14	1.57	-3305.71	-20830	-17345	-5218	1.09	1.09	-56833	16250	6094	40441	13709	2780	16488		3.16	Si
SLV 14	3.47	-282.82	-12751	-10618	-199	1.09	1.09	-34790	16250	4960	40441	13709	2780	16488		82.84	Si
SLV 15	1.57	-4535.78	-16846	-14028	-7901	1.09	0.8272	-63059	16250	5210	40441	13709	2780	16488		2.09	Si
SLV 15	3.47	1863.42	-6524	-5433	-2660	1.09	0.7782	-17801	13977	3045	40441	13709	2780	16488		6.2	Si
SLV 12	1.57	-3095.54	-6814	-5674	-5138	0.872	0.2722	0	0	0	40441	10967	2224	13190		2.57	Si
SLV 12	3.47	2034.24	-411	-342	-2760	0.872	0	0	0	0	40441	10967	2224	13190		4.78	Si
SLV 6	1.57	981.33	-18177	-15137	3771	1.09	1.09	-49596	16250	5505	40441	13709	2780	16488		4.37	Si
SLV 6	3.47	-4757.15	-19460	-16204	4996	1.09	0.9016	-67037	16250	5790	40441	13709	2780	16488		3.3	Si
SLV 11	1.57	-3427.15	-7174	-5974	-5816	0.872	0.2018	0	0	0	40441	10967	2224	13190		2.27	Si
SLV 11	3.47	2349.13	-52	-43	-3137	0.872	0	0	0	0	40441	10967	2224	13190		4.21	Si
SLV 13	1.57	-3798.33	-21364	-17790	-6224	1.09	1.09	-58289	16250	6213	40441	13709	2780	16488		2.65	Si
SLV 13	3.47	184.98	-12218	-10174	-758	1.09	1.09	-33335	16250	4960	40441	13709	2780	16488		21.75	Si
SLV 2	1.57	2089.96	-8506	-7083	5856	1.09	0.8979	-23207	15058	3786	40441	13709	2780	16488		2.82	Si
SLV 2	3.47	-4271.43	-12987	-10815	4520	0.872	0.6483	0	0	0	40441	10967	2224	13190		2.92	Si
SLV 1	1.57	1597.33	-9039	-7527	4850	1.09	1.09	-24663	15349	4685	40441	13709	2780	16488		3.4	Si
SLV 1	3.47	-3803.64	-12454	-10371	3961	0.872	0.7188	0	0	0	40441	10967	2224	13190		3.33	Si
SLD 15	1.57	-3320.82	-15469	-12882	-5377	1.09	0.991	-42207	16250	4904	40441	13709	2780	16488		3.07	Si
SLD 15	3.47	712.17	-7845	-6533	-1315	1.09	1.09	-21405	14698	4486	40441	13709	2780	16488		12.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	8132	-2482	95.96	328.97	3.43	Si
SLV 7	179667	0.3	9310	-2841	95.96	373.53	3.89	Si
SLV 4	179667	0.3	11317	-3454	95.96	447.72	4.67	Si
SLV 3	179667	0.3	13066	-3988	95.96	510.52	5.32	Si
SLV 12	179667	0.3	20246	-6179	95.96	750.4	7.82	Si
SLV 11	179667	0.3	21424	-6539	95.96	786.98	8.2	Si
SLV 2	179667	0.3	26406	-8059	95.96	933.18	9.72	Si
SLV 1	179667	0.3	28155	-8593	95.96	981.22	10.23	Si
SLV 16	179667	0.3	51697	-15778	95.96	1461.16	15.23	Si
SLV 15	179667	0.3	53446	-16312	95.96	1484.44	15.47	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-13734	-18209	-179	0.444	1556.4	0.969	6.65469	3.93621	Si
SLV 5	-13452	-17928	-179	0.452	1527.7	0.969	6.77709	3.93621	Si
SLV 10	-13315	-18460	-185	0.455	1513.8	0.968	6.8317	3.93621	Si
SLV 9	-13033	-18179	-186	0.464	1485	0.968	6.9615	3.93621	Si
SLV 2	-10118	-11868	-43	0.588	1188.4	0.96	8.89494	4.67428	Si
SLV 1	-9699	-11451	-43	0.609	1145.8	0.959	9.23321	4.67428	Si
SLV 14	-8722	-12705	-64	0.664	1046.5	0.956	10.10633	4.67428	Si
SLV 13	-8303	-12288	-64	0.693	1003.9	0.954	10.55346	4.67428	Si
SLV 4	-6541	-6626	67	0.845	825	0.945	12.9917	4.67428	Si
SLV 3	-6122	-6209	67	0.892	782.5	0.943	13.7579	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.083	SLU 78	Si
V_SLU	7.193	SLU 83	Si
PF_SLV	0.046	SLV 11	No
V_SLV	2.087	SLV 15	Si
PFFP_SLV	3.428	SLV 8	Si
R_SLV	1.691	SLV 6	Si

Maschio 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L4	L5	4.31	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0.67	-7715.46	-47508	-0.0001309	0.0004492	0.0035	4.31	36409.18	86108.18	86108.18	11.16	No	Si
SLU 76	4.35	2021.56	-31708	-0.0000735	0.0004492	0.0035	4.31	38943.88	57394.47	57394.47	28.39	No	Si
SLU 75	0.67	-7727.32	-47725	-0.0001315	0.0004492	0.0035	4.31	36272.85	86336.48	86336.48	11.17	No	Si
SLU 75	4.35	2015.41	-31956	-0.000074	0.0004492	0.0035	4.31	39016.88	57778.51	57778.51	28.67	No	Si
SLU 73	0.67	-7716.5	-47064	-0.0001298	0.0004492	0.0035	4.31	36680.16	85640	85640	11.1	No	Si
SLU 73	4.35	1895.53	-31276	-0.0000721	0.0004492	0.0035	4.31	38808.14	56725.6	56725.6	29.93	No	Si
SLU 82	0.67	-7974.1	-48829	-0.0001353	0.0004492	0.0035	4.31	35536.61	87498.04	87498.04	10.97	No	Si
SLU 82	4.35	1935.22	-32509	-0.000075	0.0004492	0.0035	4.31	39166.62	58634.37	58634.37	30.3	No	Si
SLU 83	0.67	-7884.1	-49113	-0.0001357	0.0004492	0.0035	4.31	35335.79	87796.73	87796.73	11.14	No	Si
SLU 83	4.35	2040.54	-32876	-0.0000762	0.0004492	0.0035	4.31	39256.05	59201.9	59201.9	29.01	No	Si
SLU 74	0.67	-7638.36	-47564	-0.0001308	0.0004492	0.0035	4.31	36374.33	86166.98	86166.98	11.28	No	Si
SLU 74	4.35	1994.69	-31891	-0.0000738	0.0004492	0.0035	4.31	38997.97	57677.17	57677.17	28.92	No	Si
SLU 78	0.67	-7726.27	-48170	-0.0001327	0.0004492	0.0035	4.31	35984.67	86804.66	86804.66	11.23	No	Si
SLU 78	4.35	2141.44	-32388	-0.0000754	0.0004492	0.0035	4.31	39135.43	58447.38	58447.38	27.29	No	Si
SLU 81	0.67	-7885.14	-48668	-0.0001345	0.0004492	0.0035	4.31	35648.48	87328.55	87328.55	11.08	No	Si
SLU 81	4.35	1914.51	-32444	-0.0000748	0.0004492	0.0035	4.31	39149.82	58533.02	58533.02	30.57	No	Si
SLU 80	0.67	-7655.11	-47846	-0.0001316	0.0004492	0.0035	4.31	36195.89	86463.37	86463.37	11.29	No	Si
SLU 80	4.35	2133.79	-32097	-0.0000747	0.0004492	0.0035	4.31	39056.59	57995.78	57995.78	27.18	No	Si
SLU 84	0.67	-7973.06	-49274	-0.0001364	0.0004492	0.0035	4.31	35219.73	87966.22	87966.22	11.03	No	Si
SLU 84	4.35	2061.26	-32941	-0.0000764	0.0004492	0.0035	4.31	39271.2	59303.24	59303.24	28.77	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.67	12045.92	-10954	-0.0000612	0.0006738	0.0035	4.31		23942.63	23942.63	1.99		Si
SLV 7	4.35	1452.76	-12292	-0.000029	0.0006738	0.0035	4.31		26501.97	26501.97	18.24		Si
SLV 6	0.67	-21532.03	-53662	-0.0001858	0.0006738	0.0035	4.31		98308.51	98308.51	4.57		Si
SLV 6	4.35	2827.7	-30025	-0.0000706	0.0006738	0.0035	4.31		56445.54	56445.54	19.96		Si
SLV 12	0.67	10594.11	-12435	-0.0000561	0.0006738	0.0035	4.31		26773.81	26773.81	2.53		Si
SLV 12	4.35	-222.09	-13563	-0.0000281	0.0006738	0.0035	4.31		37913.12	37913.12	170.71		Si
SLV 10	0.67	-22629.45	-54495	-0.0001916	0.0006738	0.0035	4.31		99281.32	99281.32	4.39		Si
SLV 10	4.35	1139.47	-31111	-0.0000678	0.0006738	0.0035	4.31		58143.54	58143.54	51.03		Si
SLD 10	0.67	-15465.49	-45495	-0.0001454	0.0006738	0.0035	4.31		88309.19	88309.19	5.71		Si
SLD 10	4.35	1181.99	-27260	-0.0000596	0.0006738	0.0035	4.31		52121.47	52121.47	44.1		Si
SLV 5	0.67	-21177.63	-53014	-0.0001829	0.0006738	0.0035	4.31		97551.28	97551.28	4.61		Si
SLV 5	4.35	2814.32	-29841	-0.0000701	0.0006738	0.0035	4.31		56156.93	56156.93	19.95		Si
SLV 8	0.67	11691.52	-11602	-0.0000596	0.0006738	0.0035	4.31		25186.92	25186.92	2.15		Si
SLV 8	4.35	1466.14	-12477	-0.0000294	0.0006738	0.0035	4.31		26853.78	26853.78	18.32		Si
SLV 11	0.67	10948.5	-11787	-0.0000565	0.0006738	0.0035	4.31		25538.59	25538.59	2.33		Si
SLV 11	4.35	-235.47	-13378	-0.0000277	0.0006738	0.0035	4.31		37568.8	37568.8	159.55		Si
SLD 9	0.67	-15250.42	-45102	-0.0001438	0.0006738	0.0035	4.31		87805.96	87805.96	5.76		Si
SLD 9	4.35	1173.87	-27148	-0.0000594	0.0006738	0.0035	4.31		51946.33	51946.33	44.25		Si
SLV 9	0.67	-22275.05	-53847	-0.0001887	0.0006738	0.0035	4.31		98524.09	98524.09	4.42		Si
SLV 9	4.35	1126.09	-30927	-0.0000674	0.0006738	0.0035	4.31		57854.93	57854.93	51.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.67	-7885.14	-48668	-26984	10534	4.31	4.31	-44720	10833	14279	115546	21685	21981	43666	No	4.15	Si
SLU 81	4.35	1914.51	-32444	-17989	9827	4.31	4.31	-29812	10833	10681	115546	21685	21981	43666	No	4.44	Si
SLU 82	0.67	-7974.1	-48829	-27073	10187	4.31	4.31	-44868	10833	14315	115546	21685	21981	43666	No	4.29	Si
SLU 82	4.35	1935.22	-32509	-18025	9589	4.31	4.31	-29872	10833	10695	115546	21685	21981	43666	No	4.55	Si
SLU 77	0.67	-7637.32	-48009	-26619	10391	4.31	4.31	-44115	10833	14133	115546	21685	21981	43666	No	4.2	Si
SLU 77	4.35	2120.73	-32323	-17922	9695	4.31	4.31	-29701	10833	10654	115546	21685	21981	43666	No	4.5	Si
SLU 84	0.67	-7973.06	-49274	-27320	10233	4.31	4.31	-45277	10833	14413	115546	21685	21981	43666	No	4.27	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.35	2061.26	-32941	-18265	9630	4.31	4.31	-30269	10833	10791	115546	21685	21981	43666	No	4.53	Si
SLU 75	0.67	-7727.32	-47725	-26462	9997	4.31	4.31	-43854	10833	14070	115546	21685	21981	43666	No	4.37	Si
SLU 75	4.35	2015.41	-31956	-17718	9415	4.31	4.31	-29364	10833	10573	115546	21685	21981	43666	No	4.64	Si
SLU 78	0.67	-7726.27	-48170	-26708	10044	4.31	4.31	-44263	10833	14169	115546	21685	21981	43666	No	4.35	Si
SLU 78	4.35	2141.44	-32388	-17958	9457	4.31	4.31	-29761	10833	10669	115546	21685	21981	43666	No	4.62	Si
SLU 83	0.67	-7884.1	-49113	-27231	10581	4.31	4.31	-45129	10833	14378	115546	21685	21981	43666	No	4.13	Si
SLU 83	4.35	2040.54	-32876	-18228	9869	4.31	4.31	-30209	10833	10777	115546	21685	21981	43666	No	4.42	Si
SLU 79	0.67	-7566.15	-47685	-26439	10309	4.31	4.31	-43817	10833	14061	115546	21685	21981	43666	No	4.24	Si
SLU 79	4.35	2113.08	-32031	-17760	9618	4.31	4.31	-29433	10833	10589	115546	21685	21981	43666	No	4.54	Si
SLU 80	0.67	-7655.11	-47846	-26528	9961	4.31	4.31	-43965	10833	14097	115546	21685	21981	43666	No	4.38	Si
SLU 80	4.35	2133.79	-32097	-17796	9379	4.31	4.31	-29493	10833	10604	115546	21685	21981	43666	No	4.66	Si
SLU 74	0.67	-7638.36	-47564	-26372	10345	4.31	4.31	-43706	10833	14034	115546	21685	21981	43666	No	4.22	Si
SLU 74	4.35	1994.69	-31891	-17682	9654	4.31	4.31	-29304	10833	10558	115546	21685	21981	43666	No	4.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.67	12045.92	-10954	-6074	24373	4.31	3.166	-10066	14513	7658	115546	32527	21981	54508		2.24	Si
SLV 7	4.35	1452.76	-12292	-6816	23733	4.31	4.31	-11295	14759	8906	115546	32527	21981	54508		2.3	Si
SLD 12	0.67	3996.32	-20871	-11572	18527	4.31	4.31	-19178	16250	9857	115546	32527	21981	54508		2.94	Si
SLD 12	4.35	381.51	-16979	-9414	17838	4.31	4.31	-15602	15620	9425	115546	32527	21981	54508		3.06	Si
SLD 11	0.67	4211.39	-20477	-11354	18677	4.31	4.31	-18816	16250	9805	115546	32527	21981	54508		2.92	Si
SLD 11	4.35	373.39	-16867	-9352	17995	4.31	4.31	-15499	15600	9413	115546	32527	21981	54508		3.03	Si
SLD 8	0.67	4666.9	-20347	-11282	17128	4.31	4.31	-18697	16239	9799	115546	32527	21981	54508		3.18	Si
SLD 8	4.35	1418.36	-16256	-9013	16543	4.31	4.31	-14938	15488	9345	115546	32527	21981	54508		3.29	Si
SLV 8	0.67	11691.52	-11602	-6433	24125	4.31	3.4419	-10661	14632	7802	115546	32527	21981	54508		2.26	Si
SLV 8	4.35	1466.14	-12477	-6918	23474	4.31	4.31	-11465	14793	8926	115546	32527	21981	54508		2.32	Si
SLV 11	0.67	10948.5	-11787	-6535	26622	4.31	3.6784	-10831	14666	7843	115546	32527	21981	54508		2.05	Si
SLV 11	4.35	-235.47	-13378	-7418	25805	4.31	4.31	-12293	14959	9026	115546	32527	21981	54508		2.11	Si
SLV 15	0.67	-1874.02	-27322	-15149	16662	4.31	4.31	-25106	16250	11288	115546	32527	21981	54508		3.27	Si
SLV 15	4.35	-1731.77	-20743	-11501	15820	4.31	4.31	-19060	16250	9829	115546	32527	21981	54508		3.45	Si
SLD 7	0.67	4881.96	-19954	-11064	17278	4.31	4.31	-18336	16167	9755	115546	32527	21981	54508		3.15	Si
SLD 7	4.35	1410.24	-16144	-8951	16700	4.31	4.31	-14835	15467	9333	115546	32527	21981	54508		3.26	Si
SLV 12	0.67	10594.11	-12435	-6895	26375	4.31	3.9091	-11426	14785	8092	115546	32527	21981	54508		2.07	Si
SLV 12	4.35	-222.09	-13563	-7520	25547	4.31	4.31	-12463	14993	9047	115546	32527	21981	54508		2.13	Si
SLV 16	0.67	-2400.49	-28285	-15683	16295	4.31	4.31	-25990	16250	11501	115546	32527	21981	54508		3.35	Si
SLV 16	4.35	-1711.9	-21017	-11653	15436	4.31	4.31	-19312	16250	9890	115546	32527	21981	54508		3.53	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-10728	0.3	206.48	678.13	1207.39	942.76	4.57	Si
SLV 8	-11085	0.3	206.48	698.18	1237.59	967.88	4.69	Si
SLV 11	-13116	0.3	206.48	809.21	1408.7	1108.96	5.37	Si
SLV 12	-13472	0.3	206.48	828.18	1437.99	1133.08	5.49	Si
SLV 3	-17764	0.3	206.48	1043.75	1790.61	1417.18	6.86	Si
SLV 4	-18294	0.3	206.48	1068.75	1834	1451.38	7.03	Si
SLV 15	-25721	0.3	206.48	1381.74	2432.08	1906.91	9.24	Si
SLV 16	-26251	0.3	206.48	1401.4	2474.65	1938.02	9.39	Si
SLV 1	-26256	0.3	206.48	1401.58	2475.03	1938.3	9.39	Si
SLV 2	-26786	0.3	206.48	1420.88	2517.6	1969.24	9.54	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-26281	-40903	348	0.864	2988.3	0.968	12.97093	8.49483	Si
SLV 13	-26007	-39940	348	0.872	2960.4	0.968	13.09904	8.49483	Si
SLV 2	-22661	-38127	-275	0.991	2619.9	0.964	14.94107	8.49483	Si
SLV 1	-22387	-37164	-275	1.002	2592	0.964	15.11128	8.49483	Si
SLV 16	-21017	-28285	274	1.061	2452.6	0.962	16.02585	8.49483	Si
SLV 10	-31111	-54495	216	0.745	3480.1	0.972	11.13164	5.8758	Si
SLV 9	-30927	-53847	216	0.749	3461.3	0.972	11.19414	5.8758	Si
SLV 15	-20743	-27322	274	1.073	2424.7	0.961	16.22252	8.49483	Si
SLV 6	-30025	-53662	29	0.775	3369.5	0.972	11.59688	5.8758	Si
SLV 5	-29841	-53014	29	0.78	3350.7	0.971	11.66433	5.8758	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.973	SLU 82	Si
V_SLU	4.127	SLU 83	Si
PF_SLV	1.988	SLV 7	Si
V_SLV	2.047	SLV 11	Si
PFFP_SLV	4.566	SLV 7	Si
R_SLV	1.527	SLV 14	Si

Maschio 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L4	L5	4.67	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.67	19010.57	-73658	-0.0002226	0.0004492	0.0035	4.67	13408.3	114039.99	114039.99	6	No	Si
SLU 83	4.35	-3790.05	-42728	-0.0000955	0.0004492	0.0035	4.67	46406.82	89635.88	89635.88	23.65	No	Si
SLU 79	0.67	18694.66	-72318	-0.0002174	0.0004492	0.0035	4.67	15997.22	112824	112824	6.04	No	Si
SLU 79	4.35	-3470.12	-42192	-0.0000934	0.0004492	0.0035	4.67	46485.77	88897.89	88897.89	25.62	No	Si
SLU 77	0.67	18815.96	-72846	-0.0002194	0.0004492	0.0035	4.67	14990.54	113302.71	113302.71	6.02	No	Si
SLU 77	4.35	-3524.63	-42518	-0.0000943	0.0004492	0.0035	4.67	46439.79	89346.46	89346.46	25.35	No	Si
SLU 82	0.67	18605.69	-72048	-0.0002163	0.0004492	0.0035	4.67	16505.65	112579.23	112579.23	6.05	No	Si
SLU 82	4.35	-3865.11	-41627	-0.0000933	0.0004492	0.0035	4.67	46550.68	88121.3	88121.3	22.8	No	Si
SLU 84	0.67	18935.93	-73181	-0.0002209	0.0004492	0.0035	4.67	14342.82	113606.71	113606.71	6	No	Si
SLU 84	4.35	-3808.84	-42545	-0.0000952	0.0004492	0.0035	4.67	46435.76	89383.11	89383.11	23.47	No	Si
SLU 78	0.67	18741.33	-72368	-0.0002177	0.0004492	0.0035	4.67	15902.37	112869.44	112869.44	6.02	No	Si
SLU 78	4.35	-3543.43	-42334	-0.0000939	0.0004492	0.0035	4.67	46466.47	89093.7	89093.7	25.14	No	Si
SLU 81	0.67	18680.32	-72526	-0.000218	0.0004492	0.0035	4.67	15602.75	113012.5	113012.5	6.05	No	Si
SLU 81	4.35	-3846.32	-41811	-0.0000936	0.0004492	0.0035	4.67	46531.6	88374.07	88374.07	22.98	No	Si
SLU 74	0.67	18485.72	-71713	-0.0002149	0.0004492	0.0035	4.67	17131.2	112275.23	112275.23	6.07	No	Si
SLU 74	4.35	-3580.91	-41600	-0.0000924	0.0004492	0.0035	4.67	46553.28	88084.66	88084.66	24.6	No	Si
SLU 75	0.67	18411.08	-71236	-0.0002132	0.0004492	0.0035	4.67	18011.41	111841.95	111841.95	6.07	No	Si
SLU 75	4.35	-3599.7	-41417	-0.0000921	0.0004492	0.0035	4.67	46570.1	87831.89	87831.89	24.4	No	Si
SLU 80	0.67	18620.02	-71841	-0.0002158	0.0004492	0.0035	4.67	16894.32	112390.72	112390.72	6.04	No	Si
SLU 80	4.35	-3488.91	-42008	-0.0000931	0.0004492	0.0035	4.67	46508.95	88645.13	88645.13	25.41	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	0.67	1650.15	-17765	-0.0000373	0.0006738	0.0035	4.67		40245.3	40245.3	24.39		Si
SLV 10	4.35	-7608.53	-15057	-0.0000468	0.0006738	0.0035	4.67		44692.08	44692.08	5.87		Si
SLV 4	0.67	16091.03	-48858	-0.0001388	0.0006738	0.0035	4.67		92824.98	92824.98	5.77		Si
SLV 4	4.35	2317.38	-28045	-0.000059	0.0006738	0.0035	4.67		58658.12	58658.12	25.31		Si
SLV 3	0.67	15822.14	-50326	-0.0001413	0.0006738	0.0035	4.67		94778.13	94778.13	5.99		Si
SLV 3	4.35	2824.94	-28974	-0.0000622	0.0006738	0.0035	4.67		60239.16	60239.16	21.32		Si
SLD 7	0.67	19129.98	-67638	-0.0001906	0.0006738	0.0035	4.67		117818.04	117818.04	6.16		Si
SLD 7	4.35	813.42	-36038	-0.0000712	0.0006738	0.0035	4.67		72255.03	72255.03	88.83		Si
SLV 12	0.67	23925.35	-85818	-0.000251	0.0006738	0.0035	4.67		135230.44	135230.44	5.65		Si
SLV 12	4.35	376.39	-43412	-0.000085	0.0006738	0.0035	4.67		84799.66	84799.66	225.3		Si
SLV 8	0.67	23887.53	-79864	-0.0002353	0.0006738	0.0035	4.67		129649.44	129649.44	5.43		Si
SLV 8	4.35	2600.39	-40970	-0.0000858	0.0006738	0.0035	4.67		80645.49	80645.49	31.01		Si
SLD 8	0.67	19239.82	-67038	-0.0001895	0.0006738	0.0035	4.67		117020.17	117020.17	6.08		Si
SLD 8	4.35	606.08	-35658	-0.0000699	0.0006738	0.0035	4.67		71609.17	71609.17	118.15		Si
SLD 4	0.67	14676.75	-48469	-0.0001341	0.0006738	0.0035	4.67		92306.01	92306.01	6.29		Si
SLD 4	4.35	575.55	-27916	-0.0000544	0.0006738	0.0035	4.67		58438.4	58438.4	101.54		Si
SLV 7	0.67	23706.52	-80851	-0.0002373	0.0006738	0.0035	4.67		130575.4	130575.4	5.51		Si
SLV 7	4.35	2942.05	-41595	-0.000088	0.0006738	0.0035	4.67		81709.77	81709.77	27.77		Si
SLV 11	0.67	23744.34	-86806	-0.0002531	0.0006738	0.0035	4.67		136156.41	136156.41	5.73		Si
SLV 11	4.35	718.05	-44037	-0.0000872	0.0006738	0.0035	4.67		85863.95	85863.95	119.58		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	0.67	17233.62	-66599	-36926	-2750	4.67	4.67	-56479	10833	18547	115546	23496	23817	47313	No	17.2	Si
SLU 70	4.35	-2928.23	-38941	-21591	-4949	4.67	4.67	-33024	10833	12413	115546	23496	23817	47313	No	9.56	Si
SLU 73	0.67	17909.77	-69257	-38400	-2821	4.67	4.67	-58734	10833	19136	115546	23496	23817	47313	No	16.77	Si
SLU 73	4.35	-3613.99	-40050	-22206	-5086	4.67	4.67	-33965	10833	12659	115546	23496	23817	47313	No	9.3	Si
SLU 55	0.67	16123.81	-62247	-34513	-2966	4.67	4.67	-52789	10833	17582	115546	23496	23817	47313	No	15.95	Si
SLU 55	4.35	-2988.11	-36068	-19998	-5023	4.67	4.67	-30588	10833	11776	115546	23496	23817	47313	No	9.42	Si
SLU 68	0.67	16732.31	-64620	-35829	-2943	4.67	4.67	-54801	10833	18108	115546	23496	23817	47313	No	16.08	Si
SLU 68	4.35	-2942.51	-37575	-20834	-5075	4.67	4.67	-31866	10833	12110	115546	23496	23817	47313	No	9.32	Si
SLU 80	0.67	18620.02	-71841	-39832	-2661	4.67	4.67	-60925	10833	19709	115546	23496	23817	47313	No	17.78	Si
SLU 80	4.35	-3488.91	-42008	-23292	-5032	4.67	4.67	-35625	10833	13093	115546	23496	23817	47313	No	9.4	Si
SLU 84	0.67	18935.93	-73181	-40576	-2592	4.67	4.67	-62061	10833	20006	115546	23496	23817	47313	No	18.26	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.35	-3808.84	-42545	-23589	-4994	4.67	4.67	-36080	10833	13212	115546	23496	23817	47313	No	9.47	Si
SLU 65	0.67	16402.07	-63488	-35201	-2913	4.67	4.67	-53841	10833	17857	115546	23496	23817	47313	No	16.24	Si
SLU 65	4.35	-2998.78	-36658	-20325	-5000	4.67	4.67	-31087	10833	11907	115546	23496	23817	47313	No	9.46	Si
SLU 78	0.67	18741.33	-72368	-40125	-2658	4.67	4.67	-61372	10833	19826	115546	23496	23817	47313	No	17.8	Si
SLU 78	4.35	-3543.43	-42334	-23472	-5035	4.67	4.67	-35901	10833	13165	115546	23496	23817	47313	No	9.4	Si
SLU 75	0.67	18411.08	-71236	-39497	-2629	4.67	4.67	-60412	10833	19575	115546	23496	23817	47313	No	18	Si
SLU 75	4.35	-3599.7	-41417	-22964	-4959	4.67	4.67	-35123	10833	12962	115546	23496	23817	47313	No	9.54	Si
SLU 76	0.67	18240.02	-70390	-39028	-2850	4.67	4.67	-59694	10833	19387	115546	23496	23817	47313	No	16.6	Si
SLU 76	4.35	-3557.71	-40968	-22715	-5161	4.67	4.67	-34743	10833	12862	115546	23496	23817	47313	No	9.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.67	6201.07	-27165	-15062	-15074	4.67	4.67	-23038	16250	11690	115546	35244	23817	59061		3.92	Si
SLD 6	4.35	-4057.78	-19051	-10563	-14981	4.67	4.67	-16156	15731	10285	115546	35244	23817	59061		3.94	Si
SLV 6	0.67	1612.33	-11810	-6548	-24382	4.67	4.67	-10016	14503	9482	115546	35244	23817	59061		2.42	Si
SLV 6	4.35	-5384.54	-12615	-6995	-23081	4.67	4.67	-10698	14640	9571	115546	35244	23817	59061		2.56	Si
SLV 7	0.67	23706.52	-80851	-44829	19809	4.67	4.67	-68566	16250	23596	115546	35244	23817	59061		2.98	Si
SLV 7	4.35	2942.05	-41595	-23063	15419	4.67	4.67	-35275	16250	14890	115546	35244	23817	59061		3.83	Si
SLV 8	0.67	23887.53	-79864	-44281	19458	4.67	4.67	-67728	16250	23377	115546	35244	23817	59061		3.04	Si
SLV 8	4.35	2600.39	-40970	-22716	15131	4.67	4.67	-34744	16250	14751	115546	35244	23817	59061		3.9	Si
SLD 5	0.67	6091.23	-27765	-15394	-14861	4.67	4.67	-23546	16250	11823	115546	35244	23817	59061		3.97	Si
SLD 5	4.35	-3850.44	-19431	-10773	-14806	4.67	4.67	-16478	15796	10327	115546	35244	23817	59061		3.99	Si
SLV 11	0.67	23744.34	-86806	-48130	20744	4.67	4.67	-73616	16250	24916	115546	35244	23817	59061		2.85	Si
SLV 11	4.35	718.05	-44037	-24417	16187	4.67	4.67	-37346	16250	15432	115546	35244	23817	59061		3.65	Si
SLV 12	0.67	23925.35	-85818	-47582	20393	4.67	4.67	-72778	16250	24697	115546	35244	23817	59061		2.9	Si
SLV 12	4.35	376.39	-43412	-24070	15899	4.67	4.67	-36815	16250	15293	115546	35244	23817	59061		3.71	Si
SLV 9	0.67	1469.14	-18753	-10397	-23096	4.67	4.67	-15903	15681	10252	115546	35244	23817	59061		2.56	Si
SLV 9	4.35	-7266.87	-15683	-8695	-22025	4.67	4.67	-13300	15160	9912	115546	35244	23817	59061		2.68	Si
SLV 10	0.67	1650.15	-17765	-9850	-23447	4.67	4.67	-15065	15513	10142	115546	35244	23817	59061		2.52	Si
SLV 10	4.35	-7608.53	-15057	-8349	-22313	4.67	4.67	-12769	15054	9842	115546	35244	23817	59061		2.65	Si
SLV 5	0.67	1431.32	-12798	-7096	-24031	4.67	4.67	-10854	14671	9592	115546	35244	23817	59061		2.46	Si
SLV 5	4.35	-5042.87	-13241	-7341	-22793	4.67	4.67	-11229	14746	9641	115546	35244	23817	59061		2.59	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-16644	0.3	223.72	1003.24	1716.63	1359.93	6.08	Si
SLV 5	-17193	0.3	223.72	1030.85	1762.01	1396.43	6.24	Si
SLV 10	-20936	0.3	223.72	1209.45	2069.16	1639.31	7.33	Si
SLV 9	-21485	0.3	223.72	1234.31	2114.29	1674.3	7.48	Si
SLV 2	-26603	0.3	223.72	1448.79	2524.69	1986.74	8.88	Si
SLV 1	-27420	0.3	223.72	1480.18	2590.28	2035.23	9.1	Si
SLV 4	-39546	0.3	223.72	1854.66	3535.55	2695.11	12.05	Si
SLV 3	-40363	0.3	223.72	1873.7	3598.07	2735.89	12.23	Si
SLV 14	-40910	0.3	223.72	1886.02	3639.97	2762.99	12.35	Si
SLV 13	-41726	0.3	223.72	1903.76	3702.53	2803.14	12.53	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-37114	-70174	322	0.68	4117.5	0.975	10.13528	8.49483	Si
SLV 16	-36185	-68706	322	0.696	4022.9	0.974	10.38002	8.49483	Si
SLV 11	-44037	-86806	100	0.585	4822.8	0.978	8.69929	5.8758	Si
SLV 12	-43412	-85818	100	0.593	4759	0.978	8.81733	5.8758	Si
SLV 3	-28974	-50326	-318	0.853	3288.6	0.969	12.79053	8.49483	Si
SLV 13	-28608	-49758	321	0.862	3251.3	0.968	12.94272	8.49483	Si
SLV 4	-28045	-48858	-318	0.878	3194	0.968	13.18697	8.49483	Si
SLV 7	-41595	-80851	-92	0.617	4574	0.977	9.18213	5.8758	Si
SLV 14	-27678	-48290	321	0.889	3156.7	0.967	13.34901	8.49483	Si
SLV 8	-40970	-79864	-92	0.626	4510.3	0.977	9.31414	5.8758	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.999	SLU 83	Si
V_SLU	9.167	SLU 76	Si
PF_SLV	5.427	SLV 8	Si
V_SLV	2.422	SLV 6	Si
PFFP_SLV	6.079	SLV 6	Si
R_SLV	1.193	SLV 15	Si

Maschio 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.453	-3.169	L4	L5	0.515	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	2.67	299.55	-10666	-0.0001895	0.0003743	0.0035	0.515	751.17	1372.45	1372.45	4.58	No	Si
SLU 81	3.47	-485.76	-11858	-0.0002562	0.0003743	0.0035	0.515	587.23	1387.54	1387.54	2.86	No	Si
SLU 74	2.67	297.95	-10372	-0.0001834	0.0003743	0.0035	0.515	783.92	1375.01	1375.01	4.61	No	Si
SLU 74	3.47	-484.72	-11519	-0.0002471	0.0003743	0.0035	0.515	638.91	1388.48	1388.48	2.86	No	Si
SLU 75	2.67	290.1	-10455	-0.0001835	0.0003743	0.0035	0.515	775	1374.27	1374.27	4.74	No	Si
SLU 75	3.47	-482.69	-11565	-0.0002478	0.0003743	0.0035	0.515	632.14	1388.5	1388.5	2.88	No	Si
SLU 73	2.67	283.05	-10334	-0.0001799	0.0003743	0.0035	0.515	787.96	1375.35	1375.35	4.86	No	Si
SLU 73	3.47	-475.69	-11405	-0.0002422	0.0003743	0.0035	0.515	655.33	1388.48	1388.48	2.92	No	Si
SLU 79	2.67	293.05	-10385	-0.0001827	0.0003743	0.0035	0.515	782.53	1374.89	1374.89	4.69	No	Si
SLU 79	3.47	-476.93	-11526	-0.0002455	0.0003743	0.0035	0.515	637.85	1388.48	1388.48	2.91	No	Si
SLU 84	2.67	290.16	-10843	-0.0001913	0.0003743	0.0035	0.515	729.94	1370.98	1370.98	4.72	No	Si
SLU 84	3.47	-482.66	-12002	-0.0002594	0.0003743	0.0035	0.515	563.95	1381.92	1381.92	2.86	No	Si
SLU 83	2.67	298.01	-10760	-0.0001911	0.0003743	0.0035	0.515	739.98	1371.66	1371.66	4.6	No	Si
SLU 83	3.47	-484.69	-11956	-0.0002586	0.0003743	0.0035	0.515	571.42	1384.59	1384.59	2.86	No	Si
SLU 77	2.67	296.4	-10467	-0.0001849	0.0003743	0.0035	0.515	773.71	1374.17	1374.17	4.64	No	Si
SLU 77	3.47	-483.65	-11617	-0.0002494	0.0003743	0.0035	0.515	624.28	1388.53	1388.53	2.87	No	Si
SLU 78	2.67	288.55	-10549	-0.0001851	0.0003743	0.0035	0.515	764.51	1373.45	1373.45	4.76	No	Si
SLU 78	3.47	-481.62	-11663	-0.0002501	0.0003743	0.0035	0.515	617.36	1388.57	1388.57	2.88	No	Si
SLU 82	2.67	291.71	-10748	-0.0001896	0.0003743	0.0035	0.515	741.4	1371.76	1371.76	4.7	No	Si
SLU 82	3.47	-483.73	-11904	-0.0002569	0.0003743	0.0035	0.515	579.91	1386.72	1386.72	2.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	2.67	-245.75	-3507	-0.0000681	0.0005615	0.0035	0.515		858.46	858.46	3.49		Si
SLV 11	3.47	776.45	-5057	-0.0001979	0.0005615	0.0035	0.515		1083.07	1083.07	1.39		Si
SLV 4	2.67	764.11	-3185	-0.0062251	0.0005615	0.0035	0.412		727	727	0.95		No
SLV 4	3.47	-1146.15	-4204	-0.0057582	0.0005615	0.0035	0.412		992.02	992.02	0.87		No
SLV 2	2.67	915.56	-5789	-0.0002474	0.0005615	0.0035	0.515		1196.49	1196.49	1.31		Si
SLV 2	3.47	-1611.45	-6337	-0.0081185	0.0005615	0.0035	0.412		1348.02	1348.02	0.84		No
SLV 6	2.67	681.91	-10581	-0.0002273	0.0005615	0.0035	0.515		1791.9	1791.9	2.63		Si
SLV 6	3.47	-1474.58	-10581	-0.0004678	0.0005615	0.0035	0.412		1813.99	1813.99	1.23		Si
SLD 4	2.67	569.46	-4649	-0.0001327	0.0005615	0.0035	0.515		1018.92	1018.92	1.79		Si
SLD 4	3.47	-870.66	-5563	-0.0002301	0.0005615	0.0035	0.412		1229.72	1229.72	1.41		Si
SLD 1	2.67	572.61	-6303	-0.0001476	0.0005615	0.0035	0.515		1277.59	1277.59	2.23		Si
SLD 1	3.47	-1003.06	-6910	-0.000265	0.0005615	0.0035	0.412		1420	1420	1.42		Si
SLV 3	2.67	630.74	-3382	-0.000193	0.0005615	0.0035	0.515		765.73	765.73	1.21		Si
SLV 3	3.47	-925.93	-4356	-0.0005073	0.0005615	0.0035	0.412		1020.82	1020.82	1.1		Si
SLV 5	2.67	592.13	-10714	-0.0002149	0.0005615	0.0035	0.515		1799.73	1799.73	3.04		Si
SLV 5	3.47	-1326.33	-10684	-0.0003862	0.0005615	0.0035	0.515		1823.98	1823.98	1.38		Si
SLV 1	2.67	782.19	-5986	-0.0001909	0.0005615	0.0035	0.515		1227.46	1227.46	1.57		Si
SLV 1	3.47	-1391.24	-6490	-0.0043842	0.0005615	0.0035	0.412		1368.11	1368.11	0.98		No
SLD 2	2.67	657.22	-6178	-0.0001613	0.0005615	0.0035	0.515		1257.71	1257.71	1.91		Si
SLD 2	3.47	-1142.77	-6813	-0.0003541	0.0005615	0.0035	0.412		1408.1	1408.1	1.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	2.67	290.16	-10843	-9029	1065	0.515	0.515	-62616	10833	2870	40441	4318	1313	5631	No	5.29	Si
SLU 84	3.47	-482.66	-12002	-9994	1067	0.515	0.515	-69309	10833	3128	40441	4318	1313	5631	No	5.28	Si
SLU 81	2.67	299.55	-10666	-8881	1082	0.515	0.515	-61592	10833	2831	40441	4318	1313	5631	No	5.2	Si
SLU 81	3.47	-485.76	-11858	-9874	1084	0.515	0.515	-68475	10833	3096	40441	4318	1313	5631	No	5.19	Si
SLU 79	2.67	293.05	-10385	-8648	1060	0.515	0.515	-59971	10833	2769	40441	4318	1313	5631	No	5.31	Si
SLU 79	3.47	-476.93	-11526	-9598	1062	0.515	0.515	-66559	10833	3022	40441	4318	1313	5631	No	5.3	Si
SLU 83	2.67	298.01	-10760	-8960	1079	0.515	0.515	-62138	10833	2852	40441	4318	1313	5631	No	5.22	Si
SLU 83	3.47	-484.69	-11956	-9956	1081	0.515	0.515	-69044	10833	3118	40441	4318	1313	5631	No	5.21	Si
SLU 74	2.67	297.95	-10372	-8637	1076	0.515	0.515	-59895	10833	2766	40441	4318	1313	5631	No	5.23	Si
SLU 74	3.47	-484.72	-11519	-9592	1078	0.515	0.515	-66517	10833	3020	40441	4318	1313	5631	No	5.22	Si
SLU 80	2.67	285.2	-10468	-8717	1045	0.515	0.515	-60449	10833	2787	40441	4318	1313	5631	No	5.39	Si
SLU 80	3.47	-474.9	-11572	-9636	1047	0.515	0.515	-66824	10833	3032	40441	4318	1313	5631	No	5.38	Si
SLU 75	2.67	290.1	-10455	-8706	1061	0.515	0.515	-60373	10833	2784	40441	4318	1313	5631	No	5.31	Si
SLU 75	3.47	-482.69	-11565	-9630	1063	0.515	0.515	-66783	10833	3031	40441	4318	1313	5631	No	5.3	Si
SLU 77	2.67	296.4	-10467	-8716	1073	0.515	0.515	-60441	10833	2787	40441	4318	1313	5631	No	5.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	3.47	-483.65	-11617	-9674	1075	0.515	0.515	-67087	10833	3042	40441	4318	1313	5631	No	5.24	Si
SLU 78	2.67	288.55	-10549	-8785	1058	0.515	0.515	-60919	10833	2805	40441	4318	1313	5631	No	5.32	Si
SLU 78	3.47	-481.62	-11663	-9712	1060	0.515	0.515	-67352	10833	3053	40441	4318	1313	5631	No	5.31	Si
SLU 82	2.67	291.71	-10748	-8950	1068	0.515	0.515	-62069	10833	2849	40441	4318	1313	5631	No	5.27	Si
SLU 82	3.47	-483.73	-11904	-9912	1070	0.515	0.515	-68740	10833	3106	40441	4318	1313	5631	No	5.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	2.67	657.22	-6178	-5144	2309	0.515	0.4533	-35674	16250	2066	40441	6477	1313	7790		3.37	Si
SLD 2	3.47	-1142.77	-6813	-5673	2181	0.412	0.2693	0	0	0	40441	5182	1051	6232		2.86	Si
SLV 6	2.67	681.91	-10581	-8811	2736	0.515	0.515	-61105	16250	3044	40441	6477	1313	7790		2.85	Si
SLV 6	3.47	-1474.58	-10581	-8811	2544	0.412	0.3544	0	0	0	40441	5182	1051	6232		2.45	Si
SLV 5	2.67	592.13	-10714	-8922	2437	0.515	0.515	-61870	16250	3073	40441	6477	1313	7790		3.2	Si
SLV 5	3.47	-1326.33	-10684	-8897	2244	0.515	0.4001	-84612	16250	3067	40441	6477	1313	7790		3.47	Si
SLD 6	2.67	497.48	-9082	-7562	1956	0.515	0.515	-52444	16250	2711	40441	6477	1313	7790		3.98	Si
SLD 6	3.47	-1023.9	-9396	-7824	1841	0.515	0.4456	-65421	16250	2781	40441	6477	1313	7790		4.23	Si
SLD 4	2.67	569.46	-4649	-3871	1866	0.515	0.405	-26845	15786	1790	40441	6477	1313	7790		4.17	Si
SLD 4	3.47	-870.66	-5563	-4632	1789	0.412	0.303	0	0	0	40441	5182	1051	6232		3.48	Si
SLV 1	2.67	782.19	-5986	-4985	2764	0.515	0.3805	-34570	16250	2023	40441	6477	1313	7790		2.82	Si
SLV 1	3.47	-1391.24	-6490	-5404	2547	0.412	0.1294	0	0	0	40441	5182	1051	6232		2.45	Si
SLV 2	2.67	915.56	-5789	-4821	3209	0.515	0.2981	-33432	16250	1980	40441	6477	1313	7790		2.43	Si
SLV 2	3.47	-1611.45	-6337	-5277	2992	0.412	0.0096	0	0	0	40441	5182	1051	6232		2.08	Si
SLV 3	2.67	630.74	-3382	-2816	2008	0.515	0.213	-19529	14322	1445	40441	6477	1313	7790		3.88	Si
SLV 3	3.47	-925.93	-4356	-3628	1875	0.412	0.1349	0	0	0	40441	5182	1051	6232		3.32	Si
SLD 1	2.67	572.61	-6303	-5248	2027	0.515	0.4999	-36396	16250	2275	40441	6477	1313	7790		3.84	Si
SLD 1	3.47	-1003.06	-6910	-5754	1898	0.412	0.337	0	0	0	40441	5182	1051	6232		3.28	Si
SLV 4	2.67	764.11	-3185	-2652	2453	0.412	0.0527	0	0	0	40441	5182	1051	6232		2.54	Si
SLV 4	3.47	-1146.15	-4204	-3500	2320	0.412	0	0	0	0	40441	5182	1051	6232		2.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	5256	-758	45.34	102.45	2.26	Si
SLV 8	179667	0.3	5683	-820	45.34	110.47	2.44	Si
SLV 11	179667	0.3	8624	-1244	45.34	164.28	3.62	Si
SLV 12	179667	0.3	9052	-1305	45.34	171.91	3.79	Si
SLV 3	179667	0.3	26742	-3856	45.34	445.33	9.82	Si
SLV 4	179667	0.3	27377	-3948	45.34	453.61	10	Si
SLV 15	179667	0.3	37971	-5475	45.34	575.96	12.7	Si
SLV 16	179667	0.3	38606	-5567	45.34	582.35	12.84	Si
SLV 1	179667	0.3	48616	-7010	45.34	669.02	14.76	Si
SLV 2	179667	0.3	49251	-7102	45.34	673.62	14.86	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-4844	-9944	-30	0.579	568	0.961	8.7658	4.67428	Si
SLV 14	-4828	-10314	-29	0.581	566.4	0.961	8.79101	4.67428	Si
SLV 9	-5574	-15282	-18	0.516	642.2	0.965	7.77236	3.93621	Si
SLV 10	-5563	-15531	-18	0.517	641.1	0.965	7.78544	3.93621	Si
SLV 5	-5100	-15241	-7	0.559	594	0.962	8.43776	3.93621	Si
SLV 6	-5089	-15490	-7	0.56	592.9	0.962	8.45327	3.93621	Si
SLV 15	-3743	-5379	-28	0.721	456	0.952	11.00808	4.67428	Si
SLV 16	-3727	-5749	-27	0.724	454.4	0.952	11.04874	4.67428	Si
SLV 1	-3265	-9807	9	0.813	407.5	0.947	12.48092	4.67428	Si
SLV 2	-3249	-10176	9	0.817	405.9	0.947	12.53275	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.856	SLU 81	Si
V_SLU	5.193	SLU 81	Si
PF_SLV	0.837	SLV 2	No
V_SLV	2.083	SLV 2	Si
PFFP_SLV	2.26	SLV 7	Si
R_SLV	1.875	SLV 13	Si

Maschio 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.163	-3.169	-5.438	-3.169	L4	L5	2.275	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	2.67	8307.16	-23884	-0.0001214	0.0003743	0.0035	2.275	17162.64	20281.64	20281.64	2.44	No	Si
SLU 74	3.47	916.92	-22668	-0.0000635	0.0003743	0.0035	2.275	16772.5	19664.98	19664.98	21.45	No	Si
SLU 81	2.67	8489.75	-24546	-0.000125	0.0003743	0.0035	2.275	17353.37	20582.32	20582.32	2.42	No	Si
SLU 81	3.47	976.49	-23330	-0.0000658	0.0003743	0.0035	2.275	16991.46	20033.17	20033.17	20.52	No	Si
SLU 77	2.67	8363.22	-24067	-0.0001225	0.0003743	0.0035	2.275	17216.97	20364.5	20364.5	2.44	No	Si
SLU 77	3.47	956	-22852	-0.0000643	0.0003743	0.0035	2.275	16834.64	19781.75	19781.75	20.69	No	Si
SLU 79	2.67	8294.25	-23837	-0.0001212	0.0003743	0.0035	2.275	17148.51	20260.43	20260.43	2.44	No	Si
SLU 79	3.47	954.77	-22621	-0.0000636	0.0003743	0.0035	2.275	16756.37	19634.47	19634.47	20.56	No	Si
SLU 82	2.67	8451.05	-24960	-0.0001261	0.0003743	0.0035	2.275	17464.97	20772.45	20772.45	2.46	No	Si
SLU 82	3.47	933.58	-23745	-0.0000666	0.0003743	0.0035	2.275	17120.73	20219.12	20219.12	21.66	No	Si
SLU 78	2.67	8324.52	-24482	-0.0001236	0.0003743	0.0035	2.275	17335.53	20552.98	20552.98	2.47	No	Si
SLU 78	3.47	913.09	-23266	-0.0000651	0.0003743	0.0035	2.275	16970.88	20004.48	20004.48	21.91	No	Si
SLU 84	2.67	8507.1	-25144	-0.0001272	0.0003743	0.0035	2.275	17512.38	20856.95	20856.95	2.45	No	Si
SLU 84	3.47	972.66	-23928	-0.0000674	0.0003743	0.0035	2.275	17175.96	20301.76	20301.76	20.87	No	Si
SLU 83	2.67	8545.8	-24729	-0.0001261	0.0003743	0.0035	2.275	17403.45	20666.19	20666.19	2.42	No	Si
SLU 83	3.47	1015.58	-23514	-0.0000665	0.0003743	0.0035	2.275	17049.34	20115.19	20115.19	19.81	No	Si
SLU 69	2.67	7645.48	-21557	-0.0001088	0.0003743	0.0035	2.275	16370.48	18890.67	18890.67	2.47	No	Si
SLU 69	3.47	722.9	-20342	-0.0000556	0.0003743	0.0035	2.275	15881.14	18026.32	18026.32	24.94	No	Si
SLU 71	2.67	7576.52	-21327	-0.0001076	0.0003743	0.0035	2.275	16281.75	18725.54	18725.54	2.47	No	Si
SLU 71	3.47	721.67	-20112	-0.000055	0.0003743	0.0035	2.275	15782.6	17864.59	17864.59	24.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	2.67	282.45	-1287	-0.0000047	0.0005615	0.0035	2.275		2016.68	2016.68	7.14		Si
SLV 11	3.47	4737.55	-532	-0.0163359	0.0005615	0.0035	2.275		1181.71	1181.71	0.25		No
SLV 8	2.67	1495.53	-2551	-0.0000163	0.0005615	0.0035	2.275		3395.43	3395.43	2.27		Si
SLV 8	3.47	478.71	-1787	-0.000007	0.0005615	0.0035	2.275		2565.04	2565.04	5.36		Si
SLV 4	2.67	5947.33	-13384	-0.0000709	0.0005615	0.0035	2.275		13785.87	13785.87	2.32		Si
SLV 4	3.47	-5064.64	-12488	-0.0000622	0.0005615	0.0035	2.275		15365.02	15365.02	3.03		Si
SLV 16	2.67	3215.63	-11422	-0.0000474	0.0005615	0.0035	2.275		12172.68	12172.68	3.79		Si
SLV 16	3.47	5938.43	-10559	-0.0000672	0.0005615	0.0035	2.275		11473.37	11473.37	1.93		Si
SLV 12	2.67	676.02	-1963	-0.0000086	0.0005615	0.0035	2.275		2756.47	2756.47	4.08		Si
SLV 12	3.47	3779.63	-1208	-0.009201	0.0005615	0.0035	1.82		1929.76	1929.76	0.51		No
SLV 2	2.67	8861.75	-21939	-0.0001135	0.0005615	0.0035	2.275		20972.11	20972.11	2.37		Si
SLV 2	3.47	-6315.82	-20942	-0.0000929	0.0005615	0.0035	2.275		22489.18	22489.18	3.56		Si
SLV 3	2.67	5362.67	-12379	-0.0000642	0.0005615	0.0035	2.275		12956.31	12956.31	2.42		Si
SLV 3	3.47	-3641.6	-11484	-0.0000503	0.0005615	0.0035	2.275		14454.24	14454.24	3.97		Si
SLV 15	2.67	2630.97	-10417	-0.0000412	0.0005615	0.0035	2.275		11355.11	11355.11	4.32		Si
SLV 15	3.47	7361.46	-9555	-0.0000976	0.0005615	0.0035	2.275		10559.92	10559.92	1.43		Si
SLV 7	2.67	1101.97	-1875	-0.000012	0.0005615	0.0035	2.275		2661.31	2661.31	2.42		Si
SLV 7	3.47	1436.63	-1111	-0.0003704	0.0005615	0.0035	1.82		1822.66	1822.66	1.27		Si
SLV 6	2.67	11210.27	-31070	-0.0001573	0.0005615	0.0035	2.275		27195.8	27195.8	2.43		Si
SLV 6	3.47	-3691.91	-29965	-0.0001	0.0005615	0.0035	2.275		28704.42	28704.42	7.77		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	2.67	8451.05	-24960	-20785	9391	2.275	2.275	-32629	10833	7587	80882	19075	5801	24876	No	2.65	Si
SLU 82	3.47	933.58	-23745	-19773	9391	2.275	2.275	-31040	10833	7317	80882	19075	5801	24876	No	2.65	Si
SLU 81	2.67	8489.75	-24546	-20440	9386	2.275	2.275	-32087	10833	7495	80882	19075	5801	24876	No	2.65	Si
SLU 81	3.47	976.49	-23330	-19428	9386	2.275	2.275	-30499	10833	7225	80882	19075	5801	24876	No	2.65	Si
SLU 74	2.67	8307.16	-23884	-19888	9232	2.275	2.275	-31222	10833	7348	80882	19075	5801	24876	No	2.69	Si
SLU 74	3.47	916.92	-22668	-18876	9232	2.275	2.275	-29633	10833	7078	80882	19075	5801	24876	No	2.69	Si
SLU 83	2.67	8545.8	-24729	-20592	9407	2.275	2.275	-32327	10833	7535	80882	19075	5801	24876	No	2.64	Si
SLU 83	3.47	1015.58	-23514	-19580	9407	2.275	2.275	-30738	10833	7265	80882	19075	5801	24876	No	2.64	Si
SLU 77	2.67	8363.22	-24067	-20041	9253	2.275	2.275	-31461	10833	7388	80882	19075	5801	24876	No	2.69	Si
SLU 77	3.47	956	-22852	-19029	9253	2.275	2.275	-29873	10833	7118	80882	19075	5801	24876	No	2.69	Si
SLU 84	2.67	8507.1	-25144	-20937	9412	2.275	2.275	-32869	10833	7627	80882	19075	5801	24876	No	2.64	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	3.47	972.66	-23928	-19925	9412	2.275	2.275	-31280	10833	7358	80882	19075	5801	24876	No	2.64	Si
SLU 75	2.67	8268.47	-24298	-20234	9237	2.275	2.275	-31764	10833	7440	80882	19075	5801	24876	No	2.69	Si
SLU 75	3.47	874	-23083	-19221	9237	2.275	2.275	-30175	10833	7170	80882	19075	5801	24876	No	2.69	Si
SLU 79	2.67	8294.25	-23837	-19849	9168	2.275	2.275	-31160	10833	7337	80882	19075	5801	24876	No	2.71	Si
SLU 79	3.47	954.77	-22621	-18837	9168	2.275	2.275	-29572	10833	7067	80882	19075	5801	24876	No	2.71	Si
SLU 78	2.67	8324.52	-24482	-20386	9258	2.275	2.275	-32003	10833	7480	80882	19075	5801	24876	No	2.69	Si
SLU 78	3.47	913.09	-23266	-19374	9258	2.275	2.275	-30415	10833	7211	80882	19075	5801	24876	No	2.69	Si
SLU 80	2.67	8255.56	-24251	-20194	9174	2.275	2.275	-31702	10833	7429	80882	19075	5801	24876	No	2.71	Si
SLU 80	3.47	911.85	-23036	-19182	9174	2.275	2.275	-30113	10833	7159	80882	19075	5801	24876	No	2.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	2.67	10816.7	-30394	-25309	17116	2.275	2.275	-39732	16250	10351	80882	28612	5801	34413		2.01	Si
SLV 5	3.47	-2733.99	-29289	-24389	17130	2.275	2.275	-38287	16250	10351	80882	28612	5801	34413		2.01	Si
SLD 6	2.67	8959.81	-24956	-20781	13865	2.275	2.275	-32624	16250	10351	80882	28612	5801	34413		2.48	Si
SLD 6	3.47	-2038.72	-23912	-19912	13876	2.275	2.275	-31258	16250	10351	80882	28612	5801	34413		2.48	Si
SLV 10	2.67	10390.76	-30481	-25382	13610	2.275	2.275	-39847	16250	10351	80882	28612	5801	34413		2.53	Si
SLV 10	3.47	-390.99	-29386	-24470	13670	2.275	2.275	-38414	16250	10351	80882	28612	5801	34413		2.52	Si
SLD 5	2.67	8720.98	-24546	-20440	12840	2.275	2.275	-32087	16250	10351	80882	28612	5801	34413		2.68	Si
SLD 5	3.47	-1457.41	-23501	-19570	12851	2.275	2.275	-30722	16250	10351	80882	28612	5801	34413		2.68	Si
SLD 2	2.67	7653.82	-19631	-16347	14401	2.275	2.2428	-25662	15549	9765	80882	28612	5801	34413		2.39	Si
SLD 2	3.47	-3805.93	-18657	-15536	14359	2.275	2.275	-24389	15295	9743	80882	28612	5801	34413		2.4	Si
SLV 4	2.67	5947.33	-13384	-11145	13787	2.275	2.0794	-17496	13916	8102	80882	28612	5801	34413		2.5	Si
SLV 4	3.47	-5064.64	-12488	-10399	13698	2.275	2.1959	-16325	13682	8412	80882	28612	5801	34413		2.51	Si
SLV 2	2.67	8861.75	-21939	-18269	19090	2.275	2.2007	-28680	16153	9953	80882	28612	5801	34413		1.8	Si
SLV 2	3.47	-6315.82	-20942	-17439	19023	2.275	2.275	-27376	15892	10123	80882	28612	5801	34413		1.81	Si
SLV 1	2.67	8277.09	-20935	-17433	16580	2.275	2.2264	-27367	15890	9906	80882	28612	5801	34413		2.08	Si
SLV 1	3.47	-4892.79	-19938	-16602	16514	2.275	2.275	-26063	15629	9956	80882	28612	5801	34413		2.08	Si
SLV 6	2.67	11210.27	-31070	-25872	18805	2.275	2.275	-40616	16250	10351	80882	28612	5801	34413		1.83	Si
SLV 6	3.47	-3691.91	-29965	-24952	18819	2.275	2.275	-39171	16250	10351	80882	28612	5801	34413		1.83	Si
SLD 1	2.67	7282.91	-18994	-15816	12808	2.275	2.2622	-24829	15383	9743	80882	28612	5801	34413		2.69	Si
SLD 1	3.47	-2903.14	-18020	-15005	12766	2.275	2.275	-23556	15128	9637	80882	28612	5801	34413		2.7	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	2846	-1813	200.29	249.12	1.24	Si
SLV 11	179667	0.3	3136	-1998	200.29	273.92	1.37	Si
SLV 8	179667	0.3	3455	-2201	200.29	301.18	1.5	Si
SLV 12	179667	0.3	3745	-2385	200.29	325.77	1.63	Si
SLV 3	179667	0.3	15298	-9745	200.29	1227.58	6.13	Si
SLV 4	179667	0.3	16202	-10321	200.29	1291.61	6.45	Si
SLV 15	179667	0.3	16262	-10359	200.29	1295.83	6.47	Si
SLV 16	179667	0.3	17167	-10935	200.29	1358.84	6.78	Si
SLV 1	179667	0.3	26386	-16808	200.29	1946.54	9.72	Si
SLV 2	179667	0.3	27291	-17384	200.29	1998.86	9.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-23902	-13534	-497	0.513	2763.7	0.964	7.7374	3.93621	Si
SLV 9	-23611	-13497	-498	0.519	2734	0.964	7.82129	3.93621	Si
SLV 6	-23372	-12372	-553	0.521	2709.7	0.963	7.85918	3.93621	Si
SLV 5	-23081	-12335	-553	0.527	2680.1	0.963	7.94634	3.93621	Si
SLV 14	-17473	-10373	-57	0.692	2109.9	0.954	10.53663	4.67428	Si
SLV 13	-17040	-10318	-58	0.707	2065.9	0.953	10.77113	4.67428	Si
SLV 2	-15706	-6499	-241	0.746	1930.3	0.95	11.4122	4.67428	Si
SLV 1	-15273	-6444	-242	0.764	1886.4	0.949	11.69396	4.67428	Si
SLV 16	-11372	-6493	265	0.972	1490.9	0.938	15.06272	4.67428	Si
SLV 15	-10939	-6438	264	1.003	1447.1	0.937	15.56904	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.418	SLU 83	Si
V_SLU	2.643	SLU 84	Si
PF_SLV	0.249	SLV 11	No
V_SLV	1.803	SLV 2	Si
PFFP_SLV	1.244	SLV 7	Si
R_SLV	1.966	SLV 10	Si

Maschio 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.263	-3.169	-2.163	-3.169	L4	L5	1.9	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	1.57	-2969.69	-11428	-0.0000615	0.0003743	0.0035	1.9	8566	10099.7	10099.7	3.4	No	Si
SLU 74	3.47	1356.91	-17798	-0.0000669	0.0003743	0.0035	1.9	11352.2	13014.03	13014.03	9.59	No	Si
SLU 37	1.57	-2559.46	-9686	-0.0000519	0.0003743	0.0035	1.9	7556.1	8900.41	8900.41	3.48	No	Si
SLU 37	3.47	1261.14	-15367	-0.0000578	0.0003743	0.0035	1.9	10456.68	11610.84	11610.84	9.21	No	Si
SLU 60	1.57	-2721.06	-10406	-0.0000558	0.0003743	0.0035	1.9	7986.48	9395.97	9395.97	3.45	No	Si
SLU 60	3.47	1182.01	-16025	-0.0000592	0.0003743	0.0035	1.9	10719.44	11984.2	11984.2	10.14	No	Si
SLU 83	1.57	-3098.03	-11769	-0.0000639	0.0003743	0.0035	1.9	8751.19	10319.87	10319.87	3.33	No	Si
SLU 83	3.47	1472.05	-18504	-0.0000704	0.0003743	0.0035	1.9	11573.46	13433.81	13433.81	9.13	No	Si
SLU 79	1.57	-2983.24	-11402	-0.0000616	0.0003743	0.0035	1.9	8551.92	10083.26	10083.26	3.38	No	Si
SLU 79	3.47	1367.42	-17769	-0.0000669	0.0003743	0.0035	1.9	11342.81	12997.01	12997.01	9.5	No	Si
SLU 81	1.57	-3065.52	-11683	-0.0000633	0.0003743	0.0035	1.9	8704.98	10264.27	10264.27	3.35	No	Si
SLU 81	3.47	1453.22	-18355	-0.0000697	0.0003743	0.0035	1.9	11527.94	13344.51	13344.51	9.18	No	Si
SLU 77	1.57	-3002.2	-11514	-0.0000621	0.0003743	0.0035	1.9	8612.98	10154.89	10154.89	3.38	No	Si
SLU 77	3.47	1375.74	-17948	-0.0000676	0.0003743	0.0035	1.9	11400.65	13102.82	13102.82	9.52	No	Si
SLU 62	1.57	-2753.56	-10492	-0.0000564	0.0003743	0.0035	1.9	8036.54	9455.12	9455.12	3.43	No	Si
SLU 62	3.47	1200.84	-16175	-0.0000599	0.0003743	0.0035	1.9	10777.22	12069.85	12069.85	10.05	No	Si
SLU 39	1.57	-2641.74	-9967	-0.0000536	0.0003743	0.0035	1.9	7726.07	9095.4	9095.4	3.44	No	Si
SLU 39	3.47	1346.94	-15952	-0.0000606	0.0003743	0.0035	1.9	10691.13	11942.75	11942.75	8.87	No	Si
SLU 41	1.57	-2674.25	-10052	-0.0000542	0.0003743	0.0035	1.9	7777.45	9153.78	9153.78	3.42	No	Si
SLU 41	3.47	1365.77	-16102	-0.0000613	0.0003743	0.0035	1.9	10749.29	12028.27	12028.27	8.81	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	1.57	-3236.32	2837	0.2651385	0.0005615	0.0035	1.52		0	0	0		No
SLV 12	3.47	3779.07	-5140	-0.0000891	0.0005615	0.0035	1.9		4837.89	4837.89	1.28		Si
SLV 8	1.57	-971.92	2665	0.2442824	0.0005615	0.0035	1.52		0	0	0		No
SLV 8	3.47	1863.04	-1760	-0.0010622	0.0005615	0.0035	1.52		1840.46	1840.46	0.99		No
SLD 12	1.57	-2789.23	-1581	-0.0007745	0.0005615	0.0035	1.52		2368.13	2368.13	0.85		No
SLD 12	3.47	2596.04	-8044	-0.0000462	0.0005615	0.0035	1.9		7264.92	7264.92	2.8		Si
SLD 15	1.57	-4759.96	-5471	-0.0002294	0.0005615	0.0035	1.52		5799.67	5799.67	1.22		Si
SLD 15	3.47	3553.33	-14274	-0.0000743	0.0005615	0.0035	1.9		11724.19	11724.19	3.3		Si
SLV 15	1.57	-6319.04	-3843	-0.0025336	0.0005615	0.0035	1.52		4388.53	4388.53	0.69		No
SLV 15	3.47	5161.92	-15365	-0.0000935	0.0005615	0.0035	1.9		12514.71	12514.71	2.42		Si
SLV 7	1.57	-1545.17	3268	0.3006931	0.0005615	0.0035	1.52		0	0	0		No
SLV 7	3.47	2473.97	-2149	-0.0029423	0.0005615	0.0035	1.52		2196.97	2196.97	0.89		No
SLV 11	1.57	-3809.57	3440	0.3213515	0.0005615	0.0035	1.52		0	0	0		No
SLV 11	3.47	4390	-5529	-0.000137	0.0005615	0.0035	1.9		5171.69	5171.69	1.18		Si
SLV 16	1.57	-5467.45	-4740	-0.0010403	0.0005615	0.0035	1.52		5164.64	5164.64	0.94		No
SLV 16	3.47	4254.35	-14786	-0.0000826	0.0005615	0.0035	1.9		12094.58	12094.58	2.84		Si
SLD 11	1.57	-3137.11	-1215	-0.0012093	0.0005615	0.0035	1.52		2034.08	2034.08	0.65		No
SLD 11	3.47	2966.78	-8280	-0.0000506	0.0005615	0.0035	1.9		7455.27	7455.27	2.51		Si
SLD 7	1.57	-1687.32	-1319	-0.0002859	0.0005615	0.0035	1.52		2129.58	2129.58	1.26		Si
SLD 7	3.47	1744.22	-6109	-0.0000327	0.0005615	0.0035	1.9		5662.87	5662.87	3.25		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	1.57	-3002.2	-11514	-9588	-7362	1.9	1.9	-18022	9347	4973	40441	15930	4845	20775	No	2.82	Si
SLU 77	3.47	1375.74	-17948	-14946	-7386	1.9	1.9	-28093	10690	5693	40441	15930	4845	20775	No	2.81	Si
SLU 84	1.57	-2962.58	-12090	-10068	-7451	1.9	1.9	-18925	9468	5037	40441	15930	4845	20775	No	2.79	Si
SLU 84	3.47	1445.39	-18653	-15533	-7475	1.9	1.9	-29197	10833	5849	40441	15930	4845	20775	No	2.78	Si
SLU 75	1.57	-2834.25	-11749	-9784	-7115	1.9	1.9	-18391	9397	4999	40441	15930	4845	20775	No	2.92	Si
SLU 75	3.47	1330.25	-17947	-14945	-7138	1.9	1.9	-28091	10690	5692	40441	15930	4845	20775	No	2.91	Si
SLU 81	1.57	-3065.52	-11683	-9729	-7571	1.9	1.9	-18287	9383	4992	40441	15930	4845	20775	No	2.74	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	3.47	1453.22	-18355	-15284	-7596	1.9	1.9	-28729	10775	5783	40441	15930	4845	20775	No	2.74	Si
SLU 80	1.57	-2847.79	-11724	-9763	-7126	1.9	1.9	-18351	9391	4996	40441	15930	4845	20775	No	2.92	Si
SLU 80	3.47	1340.76	-17918	-14921	-7149	1.9	1.9	-28046	10684	5686	40441	15930	4845	20775	No	2.91	Si
SLU 82	1.57	-2930.07	-12005	-9996	-7388	1.9	1.9	-18790	9450	5027	40441	15930	4845	20775	No	2.81	Si
SLU 82	3.47	1426.56	-18503	-15408	-7411	1.9	1.9	-28962	10806	5816	40441	15930	4845	20775	No	2.8	Si
SLU 83	1.57	-3098.03	-11769	-9800	-7635	1.9	1.9	-18422	9401	5001	40441	15930	4845	20775	No	2.72	Si
SLU 83	3.47	1472.05	-18504	-15409	-7660	1.9	1.9	-28964	10806	5816	40441	15930	4845	20775	No	2.71	Si
SLU 78	1.57	-2866.75	-11835	-9855	-7178	1.9	1.9	-18525	9414	5008	40441	15930	4845	20775	No	2.89	Si
SLU 78	3.47	1349.09	-18097	-15070	-7202	1.9	1.9	-28326	10721	5726	40441	15930	4845	20775	No	2.88	Si
SLU 79	1.57	-2983.24	-11402	-9495	-7309	1.9	1.9	-17848	9324	4960	40441	15930	4845	20775	No	2.84	Si
SLU 79	3.47	1367.42	-17769	-14797	-7333	1.9	1.9	-27814	10653	5667	40441	15930	4845	20775	No	2.83	Si
SLU 74	1.57	-2969.69	-11428	-9516	-7298	1.9	1.9	-17888	9329	4963	40441	15930	4845	20775	No	2.85	Si
SLU 74	3.47	1356.91	-17798	-14821	-7322	1.9	1.9	-27859	10659	5671	40441	15930	4845	20775	No	2.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	1.57	-5234.74	-11280	-9393	-10396	1.9	1.4578	-23271	15071	6152	40441	23896	4845	28741		2.76	Si
SLV 14	3.47	2872.83	-19756	-16451	-9941	1.9	1.9	-30923	16250	8645	40441	23896	4845	28741		2.89	Si
SLD 15	1.57	-4759.96	-5471	-4555	-10629	1.52	0.2397	0	0	0	40441	19117	3876	22993		2.16	Si
SLD 15	3.47	3553.33	-14274	-11886	-10411	1.9	1.9	-22342	14885	7919	40441	23896	4845	28741		2.76	Si
SLD 16	1.57	-4219.7	-6039	-5029	-9507	1.52	0.7539	0	0	0	40441	19117	3876	22993		2.42	Si
SLD 16	3.47	2977.55	-13907	-11580	-9288	1.9	1.9	-21768	14770	7858	40441	23896	4845	28741		3.09	Si
SLD 11	1.57	-3137.11	-1215	-1012	-8386	1.52	0	0	0	0	40441	19117	3876	22993		2.74	Si
SLD 11	3.47	2966.78	-8280	-6895	-8426	1.9	1.7751	-12960	13009	6466	40441	23896	4845	28741		3.41	Si
SLV 12	1.57	-3236.32	2837	2362	-9443	1.52	0	0	0	0	40441	19117	3876	22993		2.43	Si
SLV 12	3.47	3779.07	-5140	-4280	-9505	1.9	0.6441	-24025	15222	3702	40441	23896	4845	28741		3.02	Si
SLV 11	1.57	-3809.57	3440	2865	-10635	1.52	0	0	0	0	40441	19117	3876	22993		2.16	Si
SLV 11	3.47	4390	-5529	-4604	-10697	1.9	0.4679	-35816	16250	3789	40441	23896	4845	28741		2.69	Si
SLV 13	1.57	-6086.33	-10383	-8646	-12165	1.52	1.0915	0	0	0	40441	19117	3876	22993		1.89	Si
SLV 13	3.47	3780.4	-20334	-16933	-11710	1.9	1.9	-31828	16250	8645	40441	23896	4845	28741		2.45	Si
SLV 16	1.57	-5467.45	-4740	-3947	-12180	1.52	0	0	0	0	40441	19117	3876	22993		1.89	Si
SLV 16	3.47	4254.35	-14786	-12313	-11828	1.9	1.9	-23144	15046	8004	40441	23896	4845	28741		2.43	Si
SLD 13	1.57	-4618.73	-9309	-7752	-9581	1.9	1.3616	-20541	14525	5538	40441	23896	4845	28741		3	Si
SLD 13	3.47	2745.65	-17184	-14310	-9300	1.9	1.9	-26898	15796	8404	40441	23896	4845	28741		3.09	Si
SLV 15	1.57	-6319.04	-3843	-3200	-13949	1.52	0	0	0	0	40441	19117	3876	22993		1.65	Si
SLV 15	3.47	5161.92	-15365	-12794	-13597	1.9	1.8421	-24049	15227	7854	40441	23896	4845	28741		2.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	0	-120	167.27	0	0	No, e>t/2
SLV 7	179667	0.3	0	-117	167.27	0	0	No, e>t/2
SLV 11	179667	0.3	4246	-2259	167.27	307.45	1.84	Si
SLV 12	179667	0.3	4252	-2262	167.27	307.87	1.84	Si
SLV 3	179667	0.3	8342	-4438	167.27	587.4	3.51	Si
SLV 4	179667	0.3	8351	-4443	167.27	587.98	3.52	Si
SLV 1	179667	0.3	19332	-10285	167.27	1257.59	7.52	Si
SLV 2	179667	0.3	19341	-10289	167.27	1258.08	7.52	Si
SLV 15	179667	0.3	21764	-11578	167.27	1389.95	8.31	Si
SLV 16	179667	0.3	21772	-11583	167.27	1390.42	8.31	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-20087	-12728	-286	0.516	2320.8	0.964	7.78461	3.93621	Si
SLV 10	-20074	-12883	-286	0.517	2319.5	0.964	7.78889	3.93621	Si
SLV 13	-16799	-8820	52	0.614	1986.4	0.959	9.30423	4.67428	Si
SLV 14	-16780	-9050	52	0.614	1984.4	0.959	9.31377	4.67428	Si
SLV 5	-17929	-12047	-371	0.565	2101.3	0.961	8.53989	3.93621	Si
SLV 6	-17916	-12202	-371	0.565	2100	0.961	8.54516	3.93621	Si
SLV 15	-11821	-4822	256	0.81	1480.6	0.947	12.43382	4.67428	Si
SLV 16	-11802	-5052	256	0.811	1478.7	0.947	12.45157	4.67428	Si
SLV 1	-9607	-6549	-231	0.962	1256.2	0.939	14.90207	4.67428	Si
SLV 2	-9588	-6779	-231	0.964	1254.3	0.938	14.92708	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.331	SLU 83	Si
V_SLU	2.712	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	1.648	SLV 15	Si
PFFP_SLV	0	SLV 7	No
R_SLV	1.978	SLV 9	Si

Maschio 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.903	5.951	-5.158	5.951	L4	L5	2.255	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	1.57	4947.06	-19834	-0.000085	0.0003743	0.0035	2.255	15462.86	17447.18	17447.18	3.53	No	Si
SLU 49	3.47	-615.53	-23638	-0.0000647	0.0003743	0.0035	2.255	16851.7	20682.52	20682.52	33.6	No	Si
SLU 46	1.57	4856.39	-19287	-0.0000827	0.0003743	0.0035	2.255	15221.71	17066.76	17066.76	3.51	No	Si
SLU 46	3.47	-618.14	-22932	-0.0000627	0.0003743	0.0035	2.255	16632.17	20310.47	20310.47	32.86	No	Si
SLU 45	1.57	4931.11	-19477	-0.0000838	0.0003743	0.0035	2.255	15306.72	17198.6	17198.6	3.49	No	Si
SLU 45	3.47	-650.41	-23166	-0.0000636	0.0003743	0.0035	2.255	16706.73	20432.62	20432.62	31.42	No	Si
SLU 43	1.57	4798.05	-18726	-0.0000806	0.0003743	0.0035	2.255	14962.95	16679.49	16679.49	3.48	No	Si
SLU 43	3.47	-660.61	-22237	-0.0000611	0.0003743	0.0035	2.255	16399.34	19952.86	19952.86	30.2	No	Si
SLU 51	1.57	4904.66	-19629	-0.0000841	0.0003743	0.0035	2.255	15373.58	17303.98	17303.98	3.53	No	Si
SLU 51	3.47	-623.12	-23417	-0.0000642	0.0003743	0.0035	2.255	16784.73	20564.93	20564.93	33	No	Si
SLU 50	1.57	4979.39	-19818	-0.0000852	0.0003743	0.0035	2.255	15456.32	17436.59	17436.59	3.5	No	Si
SLU 50	3.47	-655.39	-23651	-0.0000651	0.0003743	0.0035	2.255	16855.31	20688.97	20688.97	31.57	No	Si
SLU 47	1.57	4764.18	-18955	-0.0000811	0.0003743	0.0035	2.255	15070.19	16837.54	16837.54	3.53	No	Si
SLU 47	3.47	-604.22	-22554	-0.0000616	0.0003743	0.0035	2.255	16507.72	20115.12	20115.12	33.29	No	Si
SLU 48	1.57	5021.78	-20024	-0.0000861	0.0003743	0.0035	2.255	15544.24	17580.24	17580.24	3.5	No	Si
SLU 48	3.47	-647.8	-23872	-0.0000656	0.0003743	0.0035	2.255	16920.46	20807.42	20807.42	32.12	No	Si
SLU 77	1.57	5852.49	-25404	-0.0001092	0.0003743	0.0035	2.255	17323.57	20695.72	20695.72	3.54	No	Si
SLU 77	3.47	-639.9	-30181	-0.0000843	0.0003743	0.0035	2.255	18052.46	23546.21	23546.21	36.8	No	Si
SLU 44	1.57	4673.51	-18409	-0.0000788	0.0003743	0.0035	2.255	14812.21	16462.71	16462.71	3.52	No	Si
SLU 44	3.47	-606.84	-21848	-0.0000596	0.0003743	0.0035	2.255	16261.33	19755.72	19755.72	32.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	1.57	-3101.55	-3342	-0.0000592	0.0005615	0.0035	1.804		4988.26	4988.26	1.61		Si
SLV 10	3.47	2912.61	15	-0.0160608	0.0005615	0.0035	1.804		275.82	275.82	0.09		No
SLD 3	1.57	6602.29	-15961	-0.0000828	0.0005615	0.0035	2.255		15673.78	15673.78	2.37		Si
SLD 3	3.47	-3389.4	-23914	-0.0000822	0.0005615	0.0035	2.255		23350.89	23350.89	6.89		Si
SLV 7	1.57	11237.21	-30223	-0.0001573	0.0005615	0.0035	2.255		26300.06	26300.06	2.34		Si
SLV 7	3.47	-3926.49	-39807	-0.0001321	0.0005615	0.0035	2.255		32331.04	32331.04	8.23		Si
SLV 3	1.57	8205.08	-15883	-0.0000974	0.0005615	0.0035	2.255		15606.3	15606.3	1.9		Si
SLV 3	3.47	-5077.92	-26677	-0.0001017	0.0005615	0.0035	2.255		25288.33	25288.33	4.98		Si
SLV 5	1.57	-1409.26	-57	-0.0004737	0.0005615	0.0035	1.804		1428.67	1428.67	1.01		Si
SLV 5	3.47	119.14	-1184	-0.0000035	0.0005615	0.0035	2.255		1606.18	1606.18	13.48		Si
SLV 6	1.57	-2037.25	-113	-0.000698	0.0005615	0.0035	1.804		1490.96	1490.96	0.73		No
SLV 6	3.47	867.76	-90	-0.0029537	0.0005615	0.0035	1.804		395.76	395.76	0.46		No
SLV 4	1.57	7272.18	-15966	-0.0000884	0.0005615	0.0035	2.255		15677.39	15677.39	2.16		Si
SLV 4	3.47	-3965.82	-25053	-0.0000893	0.0005615	0.0035	2.255		24150.87	24150.87	6.09		Si
SLV 1	1.57	4411.14	-6833	-0.0000513	0.0005615	0.0035	2.255		7559.05	7559.05	1.71		Si
SLV 1	3.47	-3864.23	-15090	-0.0000618	0.0005615	0.0035	2.255		16315.98	16315.98	4.22		Si
SLV 9	1.57	-2473.56	-3287	-0.0000311	0.0005615	0.0035	1.804		4929.33	4929.33	1.99		Si
SLV 9	3.47	2163.99	-1078	-0.0043679	0.0005615	0.0035	1.804		1490.06	1490.06	0.69		No
SLV 2	1.57	3478.24	-6916	-0.0000397	0.0005615	0.0035	2.255		7642.12	7642.12	2.2		Si
SLV 2	3.47	-2752.13	-13466	-0.0000503	0.0005615	0.0035	2.255		14892.95	14892.95	5.41		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	1.57	5735.37	-25009	-20825	7853	2.255	2.255	-32982	10833	7579	40441	18907	5750	24657	No	3.14	Si
SLU 80	3.47	-615.23	-29725	-24753	7770	2.255	2.255	-39203	10833	8627	40441	18907	5750	24657	No	3.17	Si
SLU 78	1.57	5777.77	-25214	-20996	7881	2.255	2.255	-33253	10833	7625	40441	18907	5750	24657	No	3.13	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	3.47	-607.63	-29947	-24937	7798	2.255	2.255	-39495	10833	8676	40441	18907	5750	24657	No	3.16	Si
SLU 75	1.57	5687.1	-24667	-20541	7739	2.255	2.255	-32532	10833	7504	40441	18907	5750	24657	No	3.19	Si
SLU 75	3.47	-610.24	-29240	-24349	7657	2.255	2.255	-38563	10833	8519	40441	18907	5750	24657	No	3.22	Si
SLU 77	1.57	5852.49	-25404	-21154	7964	2.255	2.255	-33503	10833	7667	40441	18907	5750	24657	No	3.1	Si
SLU 77	3.47	-639.9	-30181	-25132	7880	2.255	2.255	-39803	10833	8728	40441	18907	5750	24657	No	3.13	Si
SLU 82	1.57	5683.07	-24854	-20697	7731	2.255	2.255	-32779	10833	7545	40441	18907	5750	24657	No	3.19	Si
SLU 82	3.47	-615.38	-29411	-24491	7647	2.255	2.255	-38788	10833	8557	40441	18907	5750	24657	No	3.22	Si
SLU 83	1.57	5848.46	-25591	-21310	7956	2.255	2.255	-33750	10833	7709	40441	18907	5750	24657	No	3.1	Si
SLU 83	3.47	-645.04	-30351	-25274	7870	2.255	2.255	-40028	10833	8766	40441	18907	5750	24657	No	3.13	Si
SLU 79	1.57	5810.09	-25198	-20983	7935	2.255	2.255	-33233	10833	7622	40441	18907	5750	24657	No	3.11	Si
SLU 79	3.47	-647.49	-29959	-24947	7852	2.255	2.255	-39511	10833	8679	40441	18907	5750	24657	No	3.14	Si
SLU 81	1.57	5757.79	-25044	-20855	7814	2.255	2.255	-33030	10833	7587	40441	18907	5750	24657	No	3.16	Si
SLU 81	3.47	-647.65	-29645	-24686	7729	2.255	2.255	-39097	10833	8609	40441	18907	5750	24657	No	3.19	Si
SLU 74	1.57	5761.82	-24857	-20699	7822	2.255	2.255	-32783	10833	7546	40441	18907	5750	24657	No	3.15	Si
SLU 74	3.47	-642.51	-29474	-24543	7739	2.255	2.255	-38871	10833	8571	40441	18907	5750	24657	No	3.19	Si
SLU 84	1.57	5773.74	-25401	-21152	7873	2.255	2.255	-33500	10833	7667	40441	18907	5750	24657	No	3.13	Si
SLU 84	3.47	-612.77	-30118	-25079	7788	2.255	2.255	-39720	10833	8714	40441	18907	5750	24657	No	3.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	1.57	7272.18	-15966	-13295	12726	2.255	2.016	-21056	14628	8257	40441	28360	5750	34111		2.68	Si
SLV 4	3.47	-3965.82	-25053	-20862	12272	2.255	2.255	-33040	16250	10260	40441	28360	5750	34111		2.78	Si
SLV 7	1.57	11237.21	-30223	-25167	15055	2.255	2.255	-39859	16250	10260	40441	28360	5750	34111		2.27	Si
SLV 7	3.47	-3926.49	-39807	-33148	14812	2.255	2.255	-52498	16250	11879	40441	28360	5750	34111		2.3	Si
SLV 1	1.57	4411.14	-6833	-5690	10644	2.255	1.4459	-9012	12219	4947	40441	28360	5750	34111		3.2	Si
SLV 1	3.47	-3864.23	-15090	-12566	10231	2.255	2.255	-19902	14397	9090	40441	28360	5750	34111		3.33	Si
SLV 3	1.57	8205.08	-15883	-13226	14817	2.255	1.8327	-20947	14606	7495	40441	28360	5750	34111		2.3	Si
SLV 3	3.47	-5077.92	-26677	-22215	14360	2.255	2.255	-35183	16250	10260	40441	28360	5750	34111		2.38	Si
SLV 11	1.57	10172.91	-33453	-27857	11378	2.255	2.255	-44119	16250	10468	40441	28360	5750	34111		3	Si
SLV 11	3.47	-1881.64	-39701	-33060	11362	2.255	2.255	-52359	16250	11855	40441	28360	5750	34111		3	Si
SLD 3	1.57	6602.29	-15961	-13291	11357	2.255	2.1416	-21051	14627	8771	40441	28360	5750	34111		3	Si
SLD 3	3.47	-3389.4	-23914	-19914	11047	2.255	2.255	-31539	16250	10260	40441	28360	5750	34111		3.09	Si
SLD 4	1.57	6010.45	-16014	-13335	10031	2.255	2.255	-21120	14641	9244	40441	28360	5750	34111		3.4	Si
SLD 4	3.47	-2683.87	-22883	-19055	9722	2.255	2.255	-30180	16250	10260	40441	28360	5750	34111		3.51	Si
SLD 7	1.57	8298.77	-24579	-20467	11236	2.255	2.255	-32415	16250	10260	40441	28360	5750	34111		3.04	Si
SLD 7	3.47	-2577.34	-31580	-26297	11060	2.255	2.255	-41649	16250	10260	40441	28360	5750	34111		3.08	Si
SLD 8	1.57	7917.68	-24612	-20495	10382	2.255	2.255	-32460	16250	10260	40441	28360	5750	34111		3.29	Si
SLD 8	3.47	-2123.04	-30916	-25744	10207	2.255	2.255	-40773	16250	10260	40441	28360	5750	34111		3.34	Si
SLV 8	1.57	10609.22	-30278	-25213	13647	2.255	2.255	-39932	16250	10260	40441	28360	5750	34111		2.5	Si
SLV 8	3.47	-3177.87	-38713	-32237	13406	2.255	2.255	-51056	16250	11636	40441	28360	5750	34111		2.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	0	-563	198.53	0	0	No, e>t/2
SLV 6	179667	0.3	0	111	198.53	0	0	No, Trazione
SLV 5	179667	0.3	0	-690	198.53	0	0	No, e>t/2
SLV 9	179667	0.3	0	-1364	198.53	0	0	No, e>t/2
SLV 2	179667	0.3	18656	-11779	198.53	1447.65	7.29	Si
SLV 1	179667	0.3	20539	-12968	198.53	1571.4	7.92	Si
SLV 14	179667	0.3	22214	-14026	198.53	1678.03	8.45	Si
SLV 13	179667	0.3	24098	-15215	198.53	1794.01	9.04	Si
SLV 4	179667	0.3	36128	-22811	198.53	2438.08	12.28	Si
SLV 3	179667	0.3	38011	-24000	198.53	2523.73	12.71	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-32530	-35167	522	0.391	3639.1	0.972	5.84551	3.93621	Si
SLV 7	-32517	-31757	494	0.392	3637.8	0.972	5.85973	3.93621	Si
SLV 12	-31715	-35089	521	0.4	3556.1	0.972	5.9769	3.93621	Si
SLV 8	-31702	-31679	493	0.401	3554.7	0.972	5.99153	3.93621	Si
SLV 15	-21975	-26990	208	0.559	2564.6	0.962	8.44671	4.67428	Si
SLV 3	-21931	-15623	114	0.564	2560.1	0.962	8.52068	4.67428	Si
SLV 16	-20764	-26874	207	0.587	2441.4	0.96	8.88091	4.67428	Si
SLV 4	-20720	-15507	113	0.592	2437	0.96	8.95981	4.67428	Si
SLV 1	-12700	-5188	-183	0.887	1622.5	0.943	13.67944	4.67428	Si
SLV 13	-12744	-16555	-89	0.891	1627	0.943	13.73587	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.476	SLU 43	Si
V_SLU	3.096	SLU 77	Si
PF_SLV	0.095	SLV 10	No
V_SLV	2.266	SLV 7	Si
PFFP_SLV	0	SLV 6	No
R_SLV	1.485	SLV 11	Si

Maschio 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.903	5.951	L4	L5	1.78	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	1.57	-1288	-13515	-0.0000567	0.0003743	0.0035	1.78	8824.8	10586.89	10586.89	8.22	No	Si
SLU 40	3.47	867.46	-15364	-0.0000585	0.0003743	0.0035	1.78	9533.87	10707.34	10707.34	12.34	No	Si
SLU 83	1.57	-1451.78	-16341	-0.0000687	0.0003743	0.0035	1.78	9860.02	11982.67	11982.67	8.25	No	Si
SLU 83	3.47	878.12	-18119	-0.0000685	0.0003743	0.0035	1.78	10367.67	12215.04	12215.04	13.91	No	Si
SLU 36	1.57	-1277.72	-13763	-0.0000575	0.0003743	0.0035	1.78	8926.67	10725.96	10725.96	8.39	No	Si
SLU 36	3.47	829.23	-15565	-0.0000588	0.0003743	0.0035	1.78	9603.48	10816.86	10816.86	13.04	No	Si
SLU 84	1.57	-1457.56	-16157	-0.0000681	0.0003743	0.0035	1.78	9801.17	11913.54	11913.54	8.17	No	Si
SLU 84	3.47	902.86	-18025	-0.0000685	0.0003743	0.0035	1.78	10343.62	12178.17	12178.17	13.49	No	Si
SLU 42	1.57	-1319.61	-13847	-0.0000582	0.0003743	0.0035	1.78	8960.7	10772.33	10772.33	8.16	No	Si
SLU 42	3.47	893.97	-15779	-0.0000603	0.0003743	0.0035	1.78	9676.54	10934.39	10934.39	12.23	No	Si
SLU 78	1.57	-1415.66	-16073	-0.0000673	0.0003743	0.0035	1.78	9773.94	11882.2	11882.2	8.39	No	Si
SLU 78	3.47	838.12	-17810	-0.0000669	0.0003743	0.0035	1.78	10287.46	12071.33	12071.33	14.4	No	Si
SLU 39	1.57	-1282.22	-13699	-0.0000573	0.0003743	0.0035	1.78	8900.7	10690.65	10690.65	8.34	No	Si
SLU 39	3.47	842.72	-15458	-0.0000586	0.0003743	0.0035	1.78	9566.68	10758.64	10758.64	12.77	No	Si
SLU 82	1.57	-1425.94	-15826	-0.0000665	0.0003743	0.0035	1.78	9692.13	11789.08	11789.08	8.27	No	Si
SLU 82	3.47	876.36	-17610	-0.0000666	0.0003743	0.0035	1.78	10233.63	11957.01	11957.01	13.64	No	Si
SLU 81	1.57	-1420.16	-16010	-0.0000671	0.0003743	0.0035	1.78	9753.12	11858.52	11858.52	8.35	No	Si
SLU 81	3.47	851.61	-17704	-0.0000667	0.0003743	0.0035	1.78	10259.05	12010.56	12010.56	14.1	No	Si
SLU 41	1.57	-1313.83	-14031	-0.0000588	0.0003743	0.0035	1.78	9034.46	10873.22	10873.22	8.28	No	Si
SLU 41	3.47	869.23	-15873	-0.0000603	0.0003743	0.0035	1.78	9707.99	10985.91	10985.91	12.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	1.57	1771.07	-4359	-0.0000321	0.0005615	0.0035	1.78		3869.44	3869.44	2.18		Si
SLV 2	3.47	-874.21	-4494	-0.0000222	0.0005615	0.0035	1.78		4642.11	4642.11	5.31		Si
SLV 6	1.57	403.72	4851	0	0.0005615	0.0035	1.424		0	0	0		No
SLV 6	3.47	1614.97	150	-0.0154931	0.0005615	0.0035	1.424		0	0	0		No
SLV 1	1.57	2468.8	-5483	-0.0000449	0.0005615	0.0035	1.78		4772.46	4772.46	1.93		Si
SLV 1	3.47	-1582.34	-4080	-0.0000289	0.0005615	0.0035	1.78		4306.78	4306.78	2.72		Si
SLV 13	1.57	-3109.39	-8404	-0.0000588	0.0005615	0.0035	1.78		7677.67	7677.67	2.47		Si
SLV 13	3.47	2674.99	-12293	-0.0000659	0.0005615	0.0035	1.78		9556.4	9556.4	3.57		Si
SLV 9	1.57	-800.06	3218	0	0.0005615	0.0035	1.424		0	0	0		No
SLV 9	3.47	2415.49	-2035	-0.0057344	0.0005615	0.0035	1.424		1938.52	1938.52	0.8		No
SLV 5	1.57	873.4	4094	0	0.0005615	0.0035	1.424		0	0	0		No
SLV 5	3.47	1138.3	429	0.0022972	0.0005615	0.0035	1.424		0	0	0		No
SLV 14	1.57	-3807.12	-7280	-0.0000728	0.0005615	0.0035	1.424		6834.42	6834.42	1.8		Si
SLV 14	3.47	3383.11	-12707	-0.0000749	0.0005615	0.0035	1.78		9835.86	9835.86	2.91		Si
SLV 10	1.57	-1269.74	3975	0.3622279	0.0005615	0.0035	1.424		0	0	0		No
SLV 10	3.47	2892.17	-2314	-0.0080967	0.0005615	0.0035	1.424		2173.97	2173.97	0.75		No
SLD 10	1.57	-1163.5	-2169	-0.0000217	0.0005615	0.0035	1.424		2729.86	2729.86	2.35		Si
SLD 10	3.47	1908.37	-6235	-0.0000382	0.0005615	0.0035	1.78		5364.73	5364.73	2.81		Si
SLD 14	1.57	-2754.02	-8807	-0.0000553	0.0005615	0.0035	1.78		7981.78	7981.78	2.9		Si
SLD 14	3.47	2280.04	-12490	-0.0000623	0.0005615	0.0035	1.78		9688.76	9688.76	4.25		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	1.57	-1373.29	-15485	-12895	-2988	1.78	1.78	-25872	10394	5180	40441	14924	4539	19463	No	6.51	Si
SLU 76	3.47	823.52	-17182	-14308	-2985	1.78	1.78	-28708	10772	5415	40441	14924	4539	19463	No	6.52	Si
SLU 77	1.57	-1409.88	-16257	-13538	-2979	1.78	1.78	-27162	10566	5266	40441	14924	4539	19463	No	6.53	Si
SLU 77	3.47	813.38	-17904	-14909	-2975	1.78	1.78	-29914	10833	5575	40441	14924	4539	19463	No	6.54	Si
SLU 83	1.57	-1451.78	-16341	-13608	-3096	1.78	1.78	-27302	10585	5275	40441	14924	4539	19463	No	6.29	Si
SLU 83	3.47	878.12	-18119	-15088	-3092	1.78	1.78	-30272	10833	5623	40441	14924	4539	19463	No	6.29	Si
SLU 82	1.57	-1425.94	-15826	-13178	-3084	1.78	1.78	-26441	10470	5218	40441	14924	4539	19463	No	6.31	Si
SLU 82	3.47	876.36	-17610	-14664	-3081	1.78	1.78	-29422	10833	5510	40441	14924	4539	19463	No	6.32	Si
SLU 75	1.57	-1384.05	-15742	-13109	-2967	1.78	1.78	-26301	10451	5209	40441	14924	4539	19463	No	6.56	Si
SLU 75	3.47	811.61	-17395	-14485	-2963	1.78	1.78	-29063	10820	5462	40441	14924	4539	19463	No	6.57	Si
SLU 78	1.57	-1415.66	-16073	-13385	-3037	1.78	1.78	-26855	10525	5246	40441	14924	4539	19463	No	6.41	Si
SLU 78	3.47	838.12	-17810	-14831	-3033	1.78	1.78	-29757	10833	5554	40441	14924	4539	19463	No	6.42	Si
SLU 80	1.57	-1401.05	-15939	-13273	-3019	1.78	1.78	-26631	10495	5231	40441	14924	4539	19463	No	6.45	Si
SLU 80	3.47	833.53	-17660	-14706	-3016	1.78	1.78	-29506	10833	5521	40441	14924	4539	19463	No	6.45	Si
SLU 81	1.57	-1420.16	-16010	-13332	-3026	1.78	1.78	-26749	10511	5239	40441	14924	4539	19463	No	6.43	Si
SLU 81	3.47	851.61	-17704	-14742	-3023	1.78	1.78	-29579	10833	5531	40441	14924	4539	19463	No	6.44	Si
SLU 84	1.57	-1457.56	-16157	-13454	-3154	1.78	1.78	-26995	10544	5255	40441	14924	4539	19463	No	6.17	Si
SLU 84	3.47	902.86	-18025	-15010	-3151	1.78	1.78	-30115	10833	5602	40441	14924	4539	19463	No	6.18	Si
SLU 79	1.57	-1395.27	-16123	-13426	-2961	1.78	1.78	-26938	10536	5251	40441	14924	4539	19463	No	6.57	Si
SLU 79	3.47	808.78	-17754	-14784	-2957	1.78	1.78	-29663	10833	5542	40441	14924	4539	19463	No	6.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	1.57	-3109.39	-8404	-6998	-6005	1.78	1.5601	-16148	13646	5961	40441	22386	4539	26925		4.48	Si
SLV 13	3.47	2674.99	-12293	-10237	-5640	1.78	1.78	-20539	14525	7239	40441	22386	4539	26925		4.77	Si
SLV 9	1.57	-800.06	3218	2679	-5296	1.424	1.78	0	0	0	40441	17909	3631	21540		4.07	Si
SLV 9	3.47	2415.49	-2035	-1695	-5257	1.424	0	0	0	0	40441	17909	3631	21540		4.1	Si
SLD 13	1.57	-2311.37	-9520	-7927	-4451	1.78	1.78	-15906	13598	6777	40441	22386	4539	26925		6.05	Si
SLD 13	3.47	1830.8	-12227	-10181	-4219	1.78	1.78	-20428	14502	7228	40441	22386	4539	26925		6.38	Si
SLD 16	1.57	-2983.82	-14043	-11694	-4409	1.78	1.78	-23463	15109	7531	40441	22386	4539	26925		6.11	Si
SLD 16	3.47	1718.76	-16227	-13512	-4148	1.78	1.78	-27111	15839	7894	40441	22386	4539	26925		6.49	Si
SLV 10	1.57	-1269.74	3975	3310	-6279	1.424	1.7116	0	0	0	40441	17909	3631	21540		3.43	Si
SLV 10	3.47	2892.17	-2314	-1927	-6240	1.424	0	0	0	0	40441	17909	3631	21540		3.45	Si
SLD 10	1.57	-1163.5	-2169	-1806	-4516	1.424	1.0606	0	0	0	40441	17909	3631	21540		4.77	Si
SLD 10	3.47	1908.37	-6235	-5192	-4489	1.78	1.7517	-10417	12500	6131	40441	22386	4539	26925		6	Si
SLV 6	1.57	403.72	4851	4039	-3824	1.424	1.78	0	0	0	40441	17909	3631	21540		5.63	Si
SLV 6	3.47	1614.97	150	125	-4016	1.424	0	0	0	0	40441	17909	3631	21540		5.36	Si
SLD 14	1.57	-2754.02	-8807	-7334	-5378	1.78	1.7319	-14714	13359	6478	40441	22386	4539	26925		5.01	Si
SLD 14	3.47	2280.04	-12490	-10400	-5145	1.78	1.78	-20867	14590	7272	40441	22386	4539	26925		5.23	Si
SLV 16	1.57	-4210.82	-16208	-13496	-5822	1.78	1.78	-27079	15833	7891	40441	22386	4539	26925		4.62	Si
SLV 16	3.47	2427.53	-19094	-15900	-5410	1.78	1.78	-31902	16250	8099	40441	22386	4539	26925		4.98	Si
SLV 14	1.57	-3807.12	-7280	-6062	-7465	1.424	1.1011	0	0	0	40441	17909	3631	21540		2.89	Si
SLV 14	3.47	3383.11	-12707	-10582	-7100	1.78	1.78	-21231	14663	7308	40441	22386	4539	26925		3.79	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.3	0	1974	156.71	0	0	No, Trazione
SLV 9	179667	0.3	0	-125	156.71	0	0	No, e>t/2
SLV 5	179667	0.3	0	1844	156.71	0	0	No, Trazione
SLV 10	179667	0.3	0	5	156.71	0	0	No, Trazione
SLV 2	179667	0.3	8814	-4393	156.71	579.52	3.7	Si
SLV 1	179667	0.3	9201	-4586	156.71	603.33	3.85	Si
SLV 14	179667	0.3	21979	-10955	156.71	1312.91	8.38	Si
SLV 13	179667	0.3	22366	-11147	156.71	1332.07	8.5	Si
SLV 4	179667	0.3	23767	-11846	156.71	1400.29	8.94	Si
SLV 3	179667	0.3	24154	-12038	156.71	1418.82	9.05	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-20452	-21997	369	0.477	2340.5	0.967	7.16507	3.93621	Si
SLV 11	-20433	-22374	369	0.477	2338.6	0.967	7.17103	3.93621	Si
SLV 8	-18861	-20125	397	0.509	2178.5	0.964	7.67446	3.93621	Si
SLV 7	-18842	-20502	396	0.51	2176.6	0.964	7.68138	3.93621	Si
SLV 16	-15731	-15562	75	0.613	1860.2	0.959	9.28488	4.67428	Si
SLV 15	-15703	-16123	75	0.613	1857.4	0.959	9.29977	4.67428	Si
SLV 4	-10427	-9322	167	0.857	1321.4	0.944	13.19385	4.67428	Si
SLV 3	-10399	-9882	167	0.859	1318.6	0.944	13.22502	4.67428	Si
SLV 14	-10090	-8253	-149	0.882	1287.3	0.943	13.59746	4.67428	Si
SLV 13	-10062	-8813	-150	0.884	1284.4	0.943	13.62973	4.67428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.163	SLU 42	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	6.171	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	2.885	SLV 14	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.82	SLV 12	Si

Maschio 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.284	-0.123	5.951	L4	L5	9.235	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 54	0.67	-34597.76	-126006	-0.000085	0.0004492	0.0035	9.235	349789.93	501089.31	501089.31	14.48	No	Si
SLU 54	4.35	-15327.83	-92855	-0.0000572	0.0004492	0.0035	9.235	302750.63	405434.29	405434.29	26.45	No	Si
SLU 60	0.67	-35205.33	-128821	-0.000087	0.0004492	0.0035	9.235	352305.25	508677.8	508677.8	14.45	No	Si
SLU 60	4.35	-16698.47	-94448	-0.0000587	0.0004492	0.0035	9.235	305745.38	410414.58	410414.58	24.58	No	Si
SLU 63	0.67	-35976.49	-130353	-0.0000883	0.0004492	0.0035	9.235	353576.25	512590.14	512590.14	14.25	No	Si
SLU 63	4.35	-16186.83	-95949	-0.0000593	0.0004492	0.0035	9.235	308500.73	415109.68	415109.68	25.64	No	Si
SLU 55	0.67	-35556.93	-124699	-0.0000846	0.0004492	0.0035	9.235	348544.32	497568.83	497568.83	13.99	No	Si
SLU 55	4.35	-15415.55	-91716	-0.0000565	0.0004492	0.0035	9.235	300563.4	401872.57	401872.57	26.07	No	Si
SLU 44	0.67	-32833.68	-110122	-0.0000744	0.0004492	0.0035	9.235	331259.46	457277.91	457277.91	13.93	No	Si
SLU 44	4.35	-13847.33	-80406	-0.0000493	0.0004492	0.0035	9.235	276789.43	365386.83	365386.83	26.39	No	Si
SLU 10	0.67	-30013.84	-101682	-0.0000681	0.0004492	0.0035	9.235	318414.05	432711.88	432711.88	14.42	No	Si
SLU 10	4.35	-13715.87	-74842	-0.000046	0.0004492	0.0035	9.235	263723.22	346791.15	346791.15	25.28	No	Si
SLU 73	0.67	-37977.31	-139175	-0.0000948	0.0004492	0.0035	9.235	359561.53	534461.08	534461.08	14.07	No	Si
SLU 73	4.35	-17515.43	-102819	-0.000064	0.0004492	0.0035	9.235	320265.57	436020.78	436020.78	24.89	No	Si
SLU 52	0.67	-36537.38	-122905	-0.0000838	0.0004492	0.0035	9.235	346751.93	492732.8	492732.8	13.49	No	Si
SLU 52	4.35	-16431.56	-90088	-0.000056	0.0004492	0.0035	9.235	297372.92	396784.25	396784.25	24.15	No	Si
SLU 82	0.67	-38396.87	-144829	-0.0000986	0.0004492	0.0035	9.235	362201.35	548286.46	548286.46	14.28	No	Si
SLU 82	4.35	-18286.71	-107053	-0.0000668	0.0004492	0.0035	9.235	326828.95	448344.19	448344.19	24.52	No	Si
SLU 61	0.67	-36956.94	-128559	-0.0000876	0.0004492	0.0035	9.235	352080.4	507969.87	507969.87	13.74	No	Si
SLU 61	4.35	-17202.84	-94322	-0.0000588	0.0004492	0.0035	9.235	305511.63	410021.37	410021.37	23.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.67	-251074.73	-85951	-0.0001818	0.0006738	0.0035	7.388		397895.22	397895.22	1.58		Si
SLV 6	4.35	-92088.9	-61930	-0.0000664	0.0006738	0.0035	9.235		309390.26	309390.26	3.36		Si
SLV 5	0.67	-247695.57	-86114	-0.000177	0.0006738	0.0035	7.388		398466.23	398466.23	1.61		Si
SLV 5	4.35	-92850.48	-62053	-0.0000667	0.0006738	0.0035	9.235		309868.78	309868.78	3.34		Si
SLD 5	0.67	-155196.23	-90255	-0.000107	0.0006738	0.0035	9.235		412939.42	412939.42	2.66		Si
SLD 5	4.35	-58852.61	-65724	-0.0000565	0.0006738	0.0035	9.235		323976.3	323976.3	5.5		Si
SLV 12	0.67	197974.8	-109161	-0.0001362	0.0006738	0.0035	9.235		431222.64	431222.64	2.18		Si
SLV 12	4.35	70172.38	-81493	-0.0000697	0.0006738	0.0035	9.235		338007.89	338007.89	4.82		Si
SLV 10	0.67	-254546.16	-109755	-0.0001705	0.0006738	0.0035	9.235		479047.85	479047.85	1.88		Si
SLV 10	4.35	-98468.79	-75988	-0.0000769	0.0006738	0.0035	9.235		361870.63	361870.63	3.67		Si
SLD 6	0.67	-157246.87	-90156	-0.0001078	0.0006738	0.0035	9.235		412592.9	412592.9	2.62		Si
SLD 6	4.35	-58390.45	-65650	-0.0000563	0.0006738	0.0035	9.235		323700.61	323700.61	5.54		Si
SLV 11	0.67	201353.96	-109325	-0.0001379	0.0006738	0.0035	9.235		431773.06	431773.06	2.14		Si
SLV 11	4.35	69410.8	-81617	-0.0000695	0.0006738	0.0035	9.235		338422.46	338422.46	4.88		Si
SLV 8	0.67	201446.23	-85357	-0.0001319	0.0006738	0.0035	9.235		351025.52	351025.52	1.74		Si
SLV 8	4.35	76552.27	-67435	-0.0000639	0.0006738	0.0035	9.235		290167.65	290167.65	3.79		Si
SLV 7	0.67	204825.39	-85521	-0.0001345	0.0006738	0.0035	9.235		351575.94	351575.94	1.72		Si
SLV 7	4.35	75790.69	-67558	-0.0000637	0.0006738	0.0035	9.235		290638.04	290638.04	3.83		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.67	-251167	-109918	-0.000168	0.0006738	0.0035	9.235		479586.71	479586.71	1.91		Si
SLV 9	4.35	-99230.37	-76111	-0.0000772	0.0006738	0.0035	9.235		362324.93	362324.93	3.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.67	-33305.62	-144333	-102963	4845	9.235	9.235	-39819	10833	56121	115546	92927	47098	140026	No	28.9	Si
SLU 77	4.35	-14891.32	-107339	-76573	4565	9.235	9.235	-29613	10833	45565	115546	92927	47098	140026	No	30.67	Si
SLU 35	0.67	-26782.07	-123110	-87824	4319	9.235	9.235	-33964	10833	50066	115546	92927	47098	140026	No	32.42	Si
SLU 35	4.35	-12175.63	-92093	-65697	4081	9.235	9.235	-25407	10833	41215	115546	92927	47098	140026	No	34.31	Si
SLU 83	0.67	-35664.8	-146886	-104785	5092	9.235	9.235	-40523	10833	56850	115546	92927	47098	140026	No	27.5	Si
SLU 83	4.35	-16766.33	-108806	-77619	4810	9.235	9.235	-30018	10833	45984	115546	92927	47098	140026	No	29.11	Si
SLU 39	0.67	-30121.71	-123869	-88365	4639	9.235	9.235	-34173	10833	50282	115546	92927	47098	140026	No	30.18	Si
SLU 39	4.35	-15066.65	-91932	-65582	4403	9.235	9.235	-25362	10833	41169	115546	92927	47098	140026	No	31.8	Si
SLU 79	0.67	-33097.04	-143202	-102157	4726	9.235	9.235	-39507	10833	55799	115546	92927	47098	140026	No	29.63	Si
SLU 79	4.35	-14642.8	-106283	-75820	4450	9.235	9.235	-29322	10833	45264	115546	92927	47098	140026	No	31.47	Si
SLU 82	0.67	-38396.87	-144829	-103317	4278	9.235	9.235	-39956	10833	56263	115546	92927	47098	140026	No	32.73	Si
SLU 82	4.35	-18286.71	-107053	-76369	4055	9.235	9.235	-29534	10833	45484	115546	92927	47098	140026	No	34.53	Si
SLU 32	0.67	-27762.53	-121316	-86544	4392	9.235	9.235	-33469	10833	49554	115546	92927	47098	140026	No	31.88	Si
SLU 32	4.35	-13191.64	-90465	-64536	4158	9.235	9.235	-24958	10833	40751	115546	92927	47098	140026	No	33.67	Si
SLU 41	0.67	-29141.25	-125663	-89645	4566	9.235	9.235	-34668	10833	50794	115546	92927	47098	140026	No	30.66	Si
SLU 41	4.35	-14050.64	-93560	-66743	4326	9.235	9.235	-25811	10833	41634	115546	92927	47098	140026	No	32.37	Si
SLU 81	0.67	-36645.25	-145091	-103505	5165	9.235	9.235	-40028	10833	56338	115546	92927	47098	140026	No	27.11	Si
SLU 81	4.35	-17782.34	-107178	-76458	4887	9.235	9.235	-29569	10833	45520	115546	92927	47098	140026	No	28.66	Si
SLU 74	0.67	-34286.07	-142538	-101683	4918	9.235	9.235	-39324	10833	55609	115546	92927	47098	140026	No	28.47	Si
SLU 74	4.35	-15907.33	-105711	-75412	4642	9.235	9.235	-29164	10833	45101	115546	92927	47098	140026	No	30.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.67	-254546.16	-109755	-78296	-49600	9.235	6.8948	-41381	16250	53724	115546	139391	47098	169269		3.41	Si
SLV 10	4.35	-98468.79	-75988	-54208	-47705	9.235	9.235	-20964	16250	44089	115546	139391	47098	159634		3.35	Si
SLD 11	0.67	107526.1	-105120	-74990	36909	9.235	9.235	-29001	16250	52401	115546	139391	47098	167947		4.55	Si
SLD 11	4.35	35712.35	-77897	-55570	35550	9.235	9.235	-21490	16250	44633	115546	139391	47098	160179		4.51	Si
SLV 8	0.67	201446.23	-85357	-60892	50904	9.235	6.7724	-23549	16250	46762	115546	139391	47098	162308		3.19	Si
SLV 8	4.35	76552.27	-67435	-48106	48631	9.235	9.235	-18604	16221	41944	115546	139391	47098	157489		3.24	Si
SLV 11	0.67	201353.96	-109325	-77990	60396	9.235	8.3271	-30161	16250	53601	115546	139391	47098	169147		2.8	Si
SLV 11	4.35	69410.8	-81617	-58223	58211	9.235	9.235	-22517	16250	45695	115546	139391	47098	161240		2.77	Si
SLD 7	0.67	109736.33	-89898	-64131	34116	9.235	9.235	-24801	16250	48058	115546	139391	47098	163603		4.8	Si
SLD 7	4.35	39771.3	-68973	-49204	32704	9.235	9.235	-19028	16250	42087	115546	139391	47098	157633		4.82	Si
SLV 6	0.67	-251074.73	-85951	-61315	-53953	7.388	5.089	0	0	0	115546	111513	37679	115546		2.14	Si
SLV 6	4.35	-92088.9	-61930	-44179	-52147	9.235	9.235	-17085	15917	41158	115546	139391	47098	156704		3.01	Si
SLV 7	0.67	204825.39	-85521	-61008	56043	9.235	6.6674	-23594	16250	46809	115546	139391	47098	162354		2.9	Si
SLV 7	4.35	75790.69	-67558	-48194	53769	9.235	9.235	-18638	16228	41961	115546	139391	47098	157507		2.93	Si
SLV 5	0.67	-247695.57	-86114	-61432	-48813	7.388	5.2234	0	0	0	115546	111513	37679	115546		2.37	Si
SLV 5	4.35	-92850.48	-62053	-44267	-47008	9.235	9.235	-17119	15924	41176	115546	139391	47098	156721		3.33	Si
SLV 9	0.67	-251167	-109918	-78413	-44460	9.235	6.9974	-40825	16250	53770	115546	139391	47098	169316		3.81	Si
SLV 9	4.35	-99230.37	-76111	-54296	-42567	9.235	9.235	-20998	16250	44124	115546	139391	47098	159669		3.75	Si
SLV 12	0.67	197974.8	-109161	-77873	55257	9.235	8.4117	-30116	16250	53554	115546	139391	47098	169100		3.06	Si
SLV 12	4.35	70172.38	-81493	-58135	53073	9.235	9.235	-22483	16250	45660	115546	139391	47098	161205		3.04	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-52323	0.3	813.04	6516.49	9121.27	7818.88	9.62	Si
SLV 1	-52564	0.3	813.04	6542.77	9157.08	7849.92	9.66	Si
SLV 4	-53613	0.3	813.04	6656.73	9312.98	7984.86	9.82	Si
SLV 3	-53854	0.3	813.04	6682.83	9348.81	8015.82	9.86	Si
SLV 6	-71270	0.3	813.04	8477.29	11920.58	10198.94	12.54	Si
SLV 5	-71432	0.3	813.04	8493.16	11944.29	10218.73	12.57	Si
SLV 8	-75570	0.3	813.04	8892.81	12549.29	10721.05	13.19	Si
SLV 7	-75732	0.3	813.04	8908.27	12573.02	10740.65	13.21	Si
SLV 10	-88766	0.3	813.04	10099.64	14466.46	12283.05	15.11	Si
SLV 9	-88928	0.3	813.04	10113.84	14489.8	12301.82	15.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-96121	-137343	1727	0.52	11126.4	0.964	7.84382	4.67428	Si
SLV 16	-95938	-137101	1729	0.521	11107.8	0.964	7.85669	4.67428	Si
SLV 13	-94470	-137521	1824	0.527	10958.4	0.963	7.95028	4.67428	Si
SLV 14	-94287	-137279	1826	0.528	10939.8	0.963	7.96355	4.67428	Si
SLV 11	-81617	-109325	379	0.613	9651	0.959	9.2868	3.93621	Si
SLV 12	-81493	-109161	380	0.613	9638.5	0.959	9.29893	3.93621	Si
SLV 9	-76111	-109918	704	0.646	9091.3	0.957	9.8182	3.93621	Si
SLV 10	-75988	-109755	705	0.647	9078.8	0.956	9.83195	3.93621	Si
SLV 7	-67558	-85521	-680	0.715	8222.2	0.952	10.90763	3.93621	Si
SLV 8	-67435	-85357	-678	0.716	8209.7	0.952	10.92537	3.93621	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.486	SLU 52	Si
V_SLU	27.108	SLU 81	Si
PF_SLV	1.585	SLV 6	Si
V_SLV	2.142	SLV 6	Si
PFFP_SLV	9.617	SLV 2	Si
R_SLV	1.678	SLV 15	Si

Maschio 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	5.951	-24.614	-3.169	L5	L6	9.121	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	4.35	13599.8	-73782	-0.0000512	0.0003743	0.0035	9.1207	240990.26	267278.85	267278.85	19.65	No	Si
SLU 19	7.9	7728.78	-51225	-0.000034	0.0003743	0.0035	9.1207	187580.09	200596.71	200596.71	25.95	No	Si
SLU 61	4.35	16368.53	-88275	-0.0000623	0.0003743	0.0035	9.1207	265888.14	307113.33	307113.33	18.76	No	Si
SLU 61	7.9	9234.25	-61242	-0.0000411	0.0003743	0.0035	9.1207	213500.62	233912.82	233912.82	25.33	No	Si
SLU 63	4.35	16150.13	-90029	-0.0000635	0.0003743	0.0035	9.1207	268402.22	311678.11	311678.11	19.3	No	Si
SLU 63	7.9	9110.54	-62942	-0.0000421	0.0003743	0.0035	9.1207	217550.56	238328.51	238328.51	26.16	No	Si
SLU 55	4.35	15797.53	-86321	-0.0000607	0.0003743	0.0035	9.1207	262962.01	301979.99	301979.99	19.12	No	Si
SLU 55	7.9	8508.96	-60433	-0.0000402	0.0003743	0.0035	9.1207	211538.56	231824.19	231824.19	27.24	No	Si
SLU 10	4.35	13247.21	-70074	-0.0000486	0.0003743	0.0035	9.1207	233436.87	257222.09	257222.09	19.42	No	Si
SLU 10	7.9	7127.19	-48716	-0.0000322	0.0003743	0.0035	9.1207	180536.96	191644.9	191644.9	26.89	No	Si
SLU 73	4.35	16780.61	-96258	-0.0000682	0.0003743	0.0035	9.1207	276456.06	326218.51	326218.51	19.44	No	Si
SLU 73	7.9	9272.97	-67125	-0.0000449	0.0003743	0.0035	9.1207	227084.07	249337.26	249337.26	26.89	No	Si
SLU 60	4.35	15648.06	-88352	-0.0000621	0.0003743	0.0035	9.1207	266000.55	307314.24	307314.24	19.64	No	Si
SLU 60	7.9	9242.47	-61278	-0.0000411	0.0003743	0.0035	9.1207	213588.31	234006.92	234006.92	25.32	No	Si
SLU 52	4.35	16015.93	-84567	-0.0000596	0.0003743	0.0035	9.1207	260219.74	297323.42	297323.42	18.56	No	Si
SLU 52	7.9	8632.66	-58733	-0.0000392	0.0003743	0.0035	9.1207	207339.01	227250.5	227250.5	26.32	No	Si
SLU 44	4.35	14072.49	-76035	-0.0000529	0.0003743	0.0035	9.1207	245344.69	273468.79	273468.79	19.43	No	Si
SLU 44	7.9	7241.76	-52936	-0.0000349	0.0003743	0.0035	9.1207	192256.29	206750.83	206750.83	28.55	No	Si
SLU 82	4.35	17133.2	-99966	-0.000071	0.0003743	0.0035	9.1207	280603.85	332737.73	332737.73	19.42	No	Si
SLU 82	7.9	9874.56	-69634	-0.0000469	0.0003743	0.0035	9.1207	232507.16	256037.65	256037.65	25.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	4.35	99574.59	-61035	-0.0000768	0.0005615	0.0035	9.1207		243907.22	243907.22	2.45		Si
SLV 10	7.9	27763.81	-43289	-0.0000364	0.0005615	0.0035	9.1207		184120.48	184120.48	6.63		Si
SLV 6	4.35	103011.68	-74041	-0.0000868	0.0005615	0.0035	9.1207		289178.17	289178.17	2.81		Si
SLV 6	7.9	31342.35	-49247	-0.0000415	0.0005615	0.0035	9.1207		203939.03	203939.03	6.51		Si
SLV 8	4.35	-79251.11	-73784	-0.0000767	0.0005615	0.0035	9.1207		313171.67	313171.67	3.95		Si
SLV 8	7.9	-13374	-50626	-0.0000353	0.0005615	0.0035	9.1207		232397.66	232397.66	17.38		Si
SLD 9	4.35	63542.3	-63430	-0.0000635	0.0005615	0.0035	9.1207		252151.03	252151.03	3.97		Si
SLD 9	7.9	17772.88	-44824	-0.0000334	0.0005615	0.0035	9.1207		189203.43	189203.43	10.65		Si
SLD 10	4.35	62674.5	-63383	-0.0000631	0.0005615	0.0035	9.1207		251988.38	251988.38	4.02		Si
SLD 10	7.9	18822.19	-44731	-0.0000338	0.0005615	0.0035	9.1207		188895.69	188895.69	10.04		Si
SLV 12	4.35	-82688.2	-60778	-0.0000695	0.0005615	0.0035	9.1207		268928.58	268928.58	3.25		Si
SLV 12	7.9	-16952.54	-44668	-0.000033	0.0005615	0.0035	9.1207		210167.35	210167.35	12.4		Si
SLV 11	4.35	-81258.19	-60856	-0.000069	0.0005615	0.0035	9.1207		269196.88	269196.88	3.31		Si
SLV 11	7.9	-18681.65	-44821	-0.0000338	0.0005615	0.0035	9.1207		210754.43	210754.43	11.28		Si
SLV 5	4.35	104441.68	-74119	-0.0000874	0.0005615	0.0035	9.1207		289452.24	289452.24	2.77		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	7.9	29613.24	-49400	-0.0000409	0.0005615	0.0035	9.1207		204451.31	204451.31	6.9		Si
SLV 9	4.35	101004.6	-61113	-0.0000775	0.0005615	0.0035	9.1207		244173.89	244173.89	2.42		Si
SLV 9	7.9	26034.7	-43442	-0.0000358	0.0005615	0.0035	9.1207		184626.15	184626.15	7.09		Si
SLV 7	4.35	-77821.1	-73862	-0.0000762	0.0005615	0.0035	9.1207		313428.42	313428.42	4.03		Si
SLV 7	7.9	-15103.11	-50779	-0.000036	0.0005615	0.0035	9.1207		232951.67	232951.67	15.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	4.35	13644.02	-85550	-71239	-2359	9.1207	9.1207	-27895	10664	40788	40441	76472	23258	81229	No	34.43	Si
SLU 39	7.9	8377.32	-59653	-49674	-2374	9.1207	9.1207	-19451	9538	32163	40441	76472	23258	72604	No	30.59	Si
SLU 79	4.35	15143.04	-99895	-83184	-2564	9.1207	9.1207	-32573	10833	45566	40441	76472	23258	86007	No	33.54	Si
SLU 79	7.9	9039.28	-70586	-58778	-2581	9.1207	9.1207	-23016	10013	35804	40441	76472	23258	76245	No	29.54	Si
SLU 32	4.35	12629.72	-84577	-70429	-2344	9.1207	9.1207	-27578	10622	40464	40441	76472	23258	80905	No	34.52	Si
SLU 32	7.9	7726	-59754	-49758	-2358	9.1207	9.1207	-19484	9542	32196	40441	76472	23258	72637	No	30.8	Si
SLU 77	4.35	15180.05	-100825	-83958	-2637	9.1207	9.1207	-32876	10833	45876	40441	76472	23258	86317	No	32.73	Si
SLU 77	7.9	9107.76	-71471	-59515	-2654	9.1207	9.1207	-23304	10052	36099	40441	76472	23258	76540	No	28.84	Si
SLU 66	4.35	13455.01	-90538	-75393	-2388	9.1207	9.1207	-29522	10833	42450	40441	76472	23258	82891	No	34.71	Si
SLU 66	7.9	7840.56	-63974	-53272	-2404	9.1207	9.1207	-20860	9726	33602	40441	76472	23258	74043	No	30.81	Si
SLU 74	4.35	15398.45	-99070	-82497	-2624	9.1207	9.1207	-32304	10833	45291	40441	76472	23258	85732	No	32.68	Si
SLU 74	7.9	9231.46	-69771	-58099	-2641	9.1207	9.1207	-22750	9978	35533	40441	76472	23258	75974	No	28.77	Si
SLU 81	4.35	16412.74	-100043	-83307	-2639	9.1207	9.1207	-32621	10833	45615	40441	76472	23258	86056	No	32.61	Si
SLU 81	7.9	9882.79	-69670	-58015	-2656	9.1207	9.1207	-22717	9973	35499	40441	76472	23258	75940	No	28.59	Si
SLU 35	4.35	12411.33	-86332	-71890	-2357	9.1207	9.1207	-28150	10698	41049	40441	76472	23258	81490	No	34.57	Si
SLU 35	7.9	7602.29	-61454	-51174	-2372	9.1207	9.1207	-20038	9616	32763	40441	76472	23258	73204	No	30.86	Si
SLU 41	4.35	13425.62	-87304	-72700	-2373	9.1207	9.1207	-28467	10740	41373	40441	76472	23258	81814	No	34.48	Si
SLU 41	7.9	8253.62	-61353	-51090	-2387	9.1207	9.1207	-20005	9612	32729	40441	76472	23258	73170	No	30.65	Si
SLU 83	4.35	16194.34	-101797	-84768	-2652	9.1207	9.1207	-33193	10833	46200	40441	76472	23258	86641	No	32.67	Si
SLU 83	7.9	9759.08	-71370	-59431	-2670	9.1207	9.1207	-23272	10047	36065	40441	76472	23258	76506	No	28.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	4.35	-41788.81	-71467	-59511	-32936	9.1207	9.1207	-23303	15077	42244	40441	114708	23258	82685		2.51	Si
SLD 8	7.9	-5112.18	-49243	-41006	-31167	9.1207	9.1207	-16057	13628	34842	40441	114708	23258	75283		2.42	Si
SLV 9	4.35	101004.6	-61113	-50890	51393	9.1207	8.7228	-19927	14402	38796	40441	114708	23258	79237		1.54	Si
SLV 9	7.9	26034.7	-43442	-36174	48366	9.1207	9.1207	-14165	13250	33837	40441	114708	23258	74278		1.54	Si
SLV 11	4.35	-81258.19	-60856	-50675	-48600	9.1207	9.1207	-19843	14385	38710	40441	114708	23258	79151		1.63	Si
SLV 11	7.9	-18681.65	-44821	-37323	-45687	9.1207	9.1207	-14615	13340	34067	40441	114708	23258	74508		1.63	Si
SLV 8	4.35	-79251.11	-73784	-61441	-54845	9.1207	9.1207	-24059	15228	43016	40441	114708	23258	83457		1.52	Si
SLV 8	7.9	-13374	-50626	-42157	-51842	9.1207	9.1207	-16508	13718	35303	40441	114708	23258	75744		1.46	Si
SLV 6	4.35	103011.68	-74041	-61655	45147	9.1207	9.1207	-24143	15245	43102	40441	114708	23258	83543		1.85	Si
SLV 6	7.9	31342.35	-49247	-41008	42211	9.1207	9.1207	-16058	13628	34844	40441	114708	23258	75285		1.78	Si
SLV 5	4.35	104441.68	-74119	-61720	50218	9.1207	9.1207	-24168	15250	43128	40441	114708	23258	83569		1.66	Si
SLV 5	7.9	29613.24	-49400	-41136	47281	9.1207	9.1207	-16108	13638	34895	40441	114708	23258	75335		1.59	Si
SLV 10	4.35	99574.59	-61035	-50825	46322	9.1207	8.7868	-19902	14397	38770	40441	114708	23258	79211		1.71	Si
SLV 10	7.9	27763.81	-43289	-36047	43296	9.1207	9.1207	-14115	13240	33811	40441	114708	23258	74252		1.71	Si
SLV 7	4.35	-77821.1	-73862	-61506	-49774	9.1207	9.1207	-24084	15233	43042	40441	114708	23258	83483		1.68	Si
SLV 7	7.9	-15103.11	-50779	-42284	-46772	9.1207	9.1207	-16557	13728	35354	40441	114708	23258	75795		1.62	Si
SLD 12	4.35	-43991.87	-63222	-52646	-32185	9.1207	9.1207	-20615	14540	39498	40441	114708	23258	79939		2.48	Si
SLD 12	7.9	-7362.4	-45524	-37908	-30471	9.1207	9.1207	-14844	13385	34184	40441	114708	23258	74625		2.45	Si
SLV 12	4.35	-82688.2	-60778	-50611	-53671	9.1207	9.1207	-19818	14380	38684	40441	114708	23258	79125		1.47	Si
SLV 12	7.9	-16952.54	-44668	-37195	-50757	9.1207	9.1207	-14565	13330	34041	40441	114708	23258	74482		1.47	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.38	16140	-41219	966.04	5160.8	5.34	Si
SLV 16	179667	0.38	16216	-41413	966.04	5182.2	5.36	Si
SLV 13	179667	0.38	16216	-41413	966.04	5182.2	5.36	Si
SLV 15	179667	0.38	16292	-41607	966.04	5203.58	5.39	Si
SLV 10	179667	0.38	20156	-51475	966.04	6255.38	6.48	Si
SLV 9	179667	0.38	20208	-51606	966.04	6268.83	6.49	Si
SLV 12	179667	0.38	20410	-52122	966.04	6321.86	6.54	Si
SLV 11	179667	0.38	20461	-52253	966.04	6335.25	6.56	Si
SLV 6	179667	0.38	23664	-60433	966.04	7149.62	7.4	Si
SLV 5	179667	0.38	23715	-60564	966.04	7162.23	7.41	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-57284	-89144	2277	0.792	7114.7	0.948	12.14427	5.32179	Si
SLV 4	-57057	-89029	2277	0.795	7091.6	0.948	12.18643	5.32179	Si
SLV 1	-56871	-89221	2295	0.797	7072.7	0.948	12.21709	5.32179	Si
SLV 2	-56644	-89106	2294	0.8	7049.6	0.948	12.2598	5.32179	Si
SLV 7	-50779	-73862	668	0.903	6454.8	0.944	13.90316	4.54183	Si
SLV 8	-50626	-73784	667	0.905	6439.3	0.944	13.93952	4.54183	Si
SLV 5	-49400	-74119	725	0.922	6315	0.943	14.22244	4.54183	Si
SLV 6	-49247	-74041	725	0.925	6299.5	0.943	14.2606	4.54183	Si
SLV 15	-37424	-45791	-2264	1.121	5103.4	0.932	17.48455	5.32179	Si
SLV 16	-37197	-45676	-2265	1.126	5080.4	0.931	17.57367	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.564	SLU 52	Si
V_SLU	28.591	SLU 81	Si
PF_SLV	2.417	SLV 9	Si
V_SLV	1.461	SLV 8	Si
PFFP_SLV	5.342	SLV 14	Si
R_SLV	2.282	SLV 3	Si

Maschio 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L5	L6	1.837	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	5.25	-1166.45	-11457	-0.0000463	0.0003743	0.0035	1.8365	8218.25	9728.58	9728.58	8.34	No	Si
SLU 44	7.05	-558.46	-10208	-0.0000361	0.0003743	0.0035	1.8365	7545.8	8912.55	8912.55	15.96	No	Si
SLU 48	5.25	-1276.13	-12513	-0.0000509	0.0003743	0.0035	1.8365	8744.25	10392.91	10392.91	8.14	No	Si
SLU 48	7.05	-581	-11156	-0.0000394	0.0003743	0.0035	1.8365	8061.49	9541.16	9541.16	16.42	No	Si
SLU 64	5.25	-1273.83	-13318	-0.0000536	0.0003743	0.0035	1.8365	9118.73	10869.24	10869.24	8.53	No	Si
SLU 64	7.05	-759.51	-12242	-0.0000447	0.0003743	0.0035	1.8365	8613.12	10222.32	10222.32	13.46	No	Si
SLU 46	5.25	-1222.2	-12057	-0.0000488	0.0003743	0.0035	1.8365	8521.79	10104.61	10104.61	8.27	No	Si
SLU 46	7.05	-580.96	-10770	-0.0000381	0.0003743	0.0035	1.8365	7855.13	9287.52	9287.52	15.99	No	Si
SLU 50	5.25	-1260.46	-12335	-0.0000502	0.0003743	0.0035	1.8365	8658.43	10281.54	10281.54	8.16	No	Si
SLU 50	7.05	-566.38	-10977	-0.0000387	0.0003743	0.0035	1.8365	7966.54	9427.26	9427.26	16.64	No	Si
SLU 51	5.25	-1218.86	-12232	-0.0000494	0.0003743	0.0035	1.8365	8608.27	10216.01	10216.01	8.38	No	Si
SLU 51	7.05	-589.91	-10966	-0.0000389	0.0003743	0.0035	1.8365	7960.61	9420.06	9420.06	15.97	No	Si
SLU 49	5.25	-1234.54	-12410	-0.0000502	0.0003743	0.0035	1.8365	8694.73	10329.39	10329.39	8.37	No	Si
SLU 49	7.05	-604.53	-11145	-0.0000396	0.0003743	0.0035	1.8365	8055.62	9534.12	9534.12	15.77	No	Si
SLU 43	5.25	-1235.78	-11628	-0.0000476	0.0003743	0.0035	1.8365	8306.31	9835.38	9835.38	7.96	No	Si
SLU 43	7.05	-519.24	-10226	-0.0000358	0.0003743	0.0035	1.8365	7556.18	8924.82	8924.82	17.19	No	Si
SLU 47	5.25	-1178.79	-11810	-0.0000476	0.0003743	0.0035	1.8365	8398.63	9949.31	9949.31	8.44	No	Si
SLU 47	7.05	-582.03	-10583	-0.0000375	0.0003743	0.0035	1.8365	7753.7	9162.38	9162.38	15.74	No	Si
SLU 45	5.25	-1263.79	-12160	-0.0000496	0.0003743	0.0035	1.8365	8572.59	10169.8	10169.8	8.05	No	Si
SLU 45	7.05	-557.43	-10781	-0.0000379	0.0003743	0.0035	1.8365	7861.14	9295.01	9295.01	16.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	5.25	-4656.31	-21768	-0.0001157	0.0005615	0.0035	1.8365		16777	16777	3.6		Si
SLV 12	7.05	1930.7	-12110	-0.0000549	0.0005615	0.0035	1.8365		9782.52	9782.52	5.07		Si
SLD 5	5.25	1227.05	-3352	-0.0000215	0.0005615	0.0035	1.8365		3152.65	3152.65	2.57		Si
SLD 5	7.05	-2100.91	-7796	-0.0000431	0.0005615	0.0035	1.8365		7459.98	7459.98	3.55		Si
SLV 9	5.25	1734.09	1822	0.146037	0.0005615	0.0035	1.4692		0	0	0		No
SLV 9	7.05	-2103.17	-5193	-0.0000362	0.0005615	0.0035	1.8365		5375.62	5375.62	2.56		Si
SLV 14	5.25	-2148.02	-6520	-0.0000397	0.0005615	0.0035	1.8365		6449.23	6449.23	3		Si
SLV 14	7.05	887.87	-5564	-0.0000246	0.0005615	0.0035	1.8365		5007.81	5007.81	5.64		Si
SLV 16	5.25	-3900.47	-13431	-0.000079	0.0005615	0.0035	1.8365		11605.4	11605.4	2.98		Si
SLV 16	7.05	1964.29	-7770	-0.0000417	0.0005615	0.0035	1.8365		6779.22	6779.22	3.45		Si
SLV 1	5.25	1968.62	-6865	-0.0000389	0.0005615	0.0035	1.8365		6061.63	6061.63	3.08		Si
SLV 1	7.05	-3149.19	-10955	-0.0000634	0.0005615	0.0035	1.8365		9854.17	9854.17	3.13		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	5.25	1185.18	1269	0.1020539	0.0005615	0.0035	1.4692		0	0	0		No
SLV 10	7.05	-1657.36	-4755	-0.0000297	0.0005615	0.0035	1.8365		5006.9	5006.9	3.02		Si
SLV 6	5.25	2175.54	919	0.0238448	0.0005615	0.0035	1.4692		0	0	0		No
SLV 6	7.05	-2669.8	-6177	-0.0000457	0.0005615	0.0035	1.8365		6171.42	6171.42	2.31		Si
SLV 15	5.25	-3085.04	-12610	-0.0000681	0.0005615	0.0035	1.8365		11036.98	11036.98	3.58		Si
SLV 15	7.05	1302.02	-8422	-0.0000372	0.0005615	0.0035	1.8365		7282.41	7282.41	5.59		Si
SLV 5	5.25	2724.45	1472	0.0765545	0.0005615	0.0035	1.4692		0	0	0		No
SLV 5	7.05	-3115.61	-6615	-0.0000536	0.0005615	0.0035	1.8365		6526.37	6526.37	2.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 38	5.25	-962.24	-12647	-10531	870	1.8365	1.8365	-20479	9675	4975	40441	15398	4683	20082	No	23.09	Si
SLU 38	7.05	-987.3	-12515	-10421	872	1.8365	1.8365	-20266	9647	4961	40441	15398	4683	20082	No	23.02	Si
SLU 34	5.25	-922.17	-12224	-10179	908	1.8365	1.8365	-19795	9584	4928	40441	15398	4683	20082	No	22.12	Si
SLU 34	7.05	-979.42	-12132	-10102	910	1.8365	1.8365	-19646	9564	4918	40441	15398	4683	20082	No	22.06	Si
SLU 40	5.25	-929.19	-12352	-10285	978	1.8365	1.8365	-20002	9611	4942	40441	15398	4683	20082	No	20.54	Si
SLU 40	7.05	-1031.69	-12347	-10281	980	1.8365	1.8365	-19994	9610	4942	40441	15398	4683	20082	No	20.49	Si
SLU 36	5.25	-977.92	-12824	-10679	870	1.8365	1.8365	-20767	9713	4995	40441	15398	4683	20082	No	23.09	Si
SLU 36	7.05	-1001.91	-12694	-10570	872	1.8365	1.8365	-20556	9685	4980	40441	15398	4683	20082	No	23.02	Si
SLU 84	5.25	-1216.68	-14943	-12443	929	1.8365	1.8365	-24198	10171	5230	40441	15398	4683	20082	No	21.62	Si
SLU 84	7.05	-1111.72	-14551	-12116	932	1.8365	1.8365	-23562	10086	5187	40441	15398	4683	20082	No	21.55	Si
SLU 41	5.25	-983.13	-12808	-10666	912	1.8365	1.8365	-20741	9710	4993	40441	15398	4683	20082	No	22.02	Si
SLU 41	7.05	-1031.73	-12734	-10603	915	1.8365	1.8365	-20620	9694	4985	40441	15398	4683	20082	No	21.96	Si
SLU 82	5.25	-1204.34	-14589	-12149	911	1.8365	1.8365	-23625	10094	5191	40441	15398	4683	20082	No	22.04	Si
SLU 82	7.05	-1088.15	-14175	-11804	914	1.8365	1.8365	-22954	10005	5145	40441	15398	4683	20082	No	21.97	Si
SLU 39	5.25	-970.79	-12455	-10371	895	1.8365	1.8365	-20168	9634	4954	40441	15398	4683	20082	No	22.45	Si
SLU 39	7.05	-1008.16	-12358	-10291	897	1.8365	1.8365	-20012	9613	4943	40441	15398	4683	20082	No	22.38	Si
SLU 31	5.25	-909.83	-11871	-9885	890	1.8365	1.8365	-19223	9507	4889	40441	15398	4683	20082	No	22.56	Si
SLU 31	7.05	-955.85	-11756	-9790	893	1.8365	1.8365	-19037	9483	4876	40441	15398	4683	20082	No	22.49	Si
SLU 42	5.25	-941.53	-12705	-10580	995	1.8365	1.8365	-20574	9688	4982	40441	15398	4683	20082	No	20.18	Si
SLU 42	7.05	-1055.26	-12722	-10594	998	1.8365	1.8365	-20602	9691	4984	40441	15398	4683	20082	No	20.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	5.25	1968.62	-6865	-5717	6014	1.8365	1.8365	-11117	12640	6500	40441	23098	4683	27781		4.62	Si
SLV 1	7.05	-3149.19	-10955	-9123	5570	1.8365	1.8365	-17740	13965	7181	40441	23098	4683	27781		4.99	Si
SLV 9	5.25	1734.09	1822	1517	6186	1.4692	0	0	0	0	40441	18478	3747	22225		3.59	Si
SLV 9	7.05	-2103.17	-5193	-4325	6337	1.8365	1.5399	-10076	12432	5360	40441	23098	4683	27781		4.38	Si
SLV 5	5.25	2724.45	1472	1226	8014	1.4692	0	0	0	0	40441	18478	3747	22225		2.77	Si
SLV 5	7.05	-3115.61	-6615	-5509	7895	1.8365	1.3419	-14764	13370	5023	40441	23098	4683	27781		3.52	Si
SLV 6	5.25	2175.54	919	765	6956	1.4692	0	0	0	0	40441	18478	3747	22225		3.2	Si
SLV 6	7.05	-2669.8	-6177	-5144	6837	1.8365	1.4582	-12671	12951	5288	40441	23098	4683	27781		4.06	Si
SLV 10	5.25	1185.18	1269	1056	5128	1.4692	0	0	0	0	40441	18478	3747	22225		4.33	Si
SLV 10	7.05	-1657.36	-4755	-3960	5279	1.8365	1.7092	-8302	12077	5780	40441	23098	4683	27781		5.26	Si
SLV 12	5.25	-4656.31	-21768	-18127	-7412	1.8365	1.8365	-35250	16250	8356	40441	23098	4683	27781		3.75	Si
SLV 12	7.05	1930.7	-12110	-10084	-7289	1.8365	1.8365	-19611	14339	7373	40441	23098	4683	27781		3.81	Si
SLV 8	5.25	-3665.94	-22118	-18418	-5584	1.8365	1.8365	-35817	16250	8356	40441	23098	4683	27781		4.98	Si
SLV 8	7.05	918.26	-13532	-11269	-5731	1.8365	1.8365	-21913	14799	7610	40441	23098	4683	27781		4.85	Si
SLV 11	5.25	-4107.4	-21215	-17666	-6354	1.8365	1.8365	-34354	16250	8356	40441	23098	4683	27781		4.37	Si
SLV 11	7.05	1484.89	-12549	-10449	-6231	1.8365	1.8365	-20320	14481	7446	40441	23098	4683	27781		4.46	Si
SLV 16	5.25	-3900.47	-13431	-11185	-5412	1.8365	1.8365	-21750	14767	7594	40441	23098	4683	27781		5.13	Si
SLV 16	7.05	1964.29	-7770	-6471	-4964	1.8365	1.8365	-12583	12933	6651	40441	23098	4683	27781		5.6	Si
SLD 5	5.25	1227.05	-3352	-2791	4878	1.8365	1.6567	-5428	11502	5336	40441	23098	4683	27781		5.7	Si
SLD 5	7.05	-2100.91	-7796	-6492	4804	1.8365	1.8365	-12625	12942	6655	40441	23098	4683	27781		5.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	5106	-2626	189.63	355.33	1.87	Si
SLV 9	179667	0.38	5187	-2667	189.63	360.71	1.9	Si
SLV 6	179667	0.38	6924	-3561	189.63	475.87	2.51	Si
SLV 5	179667	0.38	7004	-3602	189.63	481.11	2.54	Si
SLV 14	179667	0.38	12246	-6298	189.63	810.95	4.28	Si
SLV 13	179667	0.38	12365	-6359	189.63	818.14	4.31	Si
SLV 2	179667	0.38	18305	-9413	189.63	1159.85	6.12	Si
SLV 1	179667	0.38	18424	-9474	189.63	1166.35	6.15	Si
SLV 16	179667	0.38	20201	-10388	189.63	1261.92	6.65	Si
SLV 15	179667	0.38	20320	-10449	189.63	1268.22	6.69	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-12261	-18581	301	0.764	1506.3	0.95	11.68803	4.54183	Si
SLV 3	-10403	-13847	-82	0.894	1317.8	0.944	13.76464	5.32179	Si
SLV 8	-12060	-18687	300	0.775	1486	0.95	11.85827	4.54183	Si
SLV 4	-10105	-14005	-83	0.916	1287.5	0.943	14.11418	5.32179	Si
SLV 11	-11623	-17213	416	0.791	1441.5	0.949	12.11378	4.54183	Si
SLV 12	-11422	-17320	415	0.802	1421.2	0.948	12.29938	4.54183	Si
SLV 15	-8275	-9288	301	1.056	1102.3	0.935	16.40393	5.32179	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-8130	-8443	-295	1.071	1087.6	0.935	16.66102	5.32179	Si
SLV 16	-7977	-9446	301	1.087	1072.2	0.934	16.92119	5.32179	Si
SLV 2	-7832	-8602	-296	1.104	1057.5	0.933	17.19258	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.959	SLU 43	Si
V_SLU	20.131	SLU 42	Si
PF_SLV	0	SLV 5	No
V_SLV	2.773	SLV 5	Si
PFFP_SLV	1.874	SLV 10	Si
R_SLV	2.573	SLV 7	Si

Maschio 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.878	5.951	L5	L6	2.26	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	5.25	-47.71	-22478	-0.0000572	0.0003743	0.0035	2.26	16538.26	20135.05	20135.05	422.07	No	Si
SLU 81	7.05	1602.35	-22854	-0.0000694	0.0003743	0.0035	2.26	16664.08	19593.96	19593.96	12.23	No	Si
SLU 45	5.25	-157.04	-18198	-0.0000463	0.0003743	0.0035	2.26	14755.31	17762.5	17762.5	113.11	No	Si
SLU 45	7.05	1302.14	-17926	-0.0000535	0.0003743	0.0035	2.26	14620.36	16177.89	16177.89	12.42	No	Si
SLU 44	5.25	-119.52	-17130	-0.0000432	0.0003743	0.0035	2.26	14210.26	17019.53	17019.53	142.4	No	Si
SLU 44	7.05	1247.9	-16916	-0.0000503	0.0003743	0.0035	2.26	14096.02	15495.8	15495.8	12.42	No	Si
SLU 62	5.25	-92.98	-20304	-0.0000516	0.0003743	0.0035	2.26	15712.8	19055.3	19055.3	204.94	No	Si
SLU 62	7.05	1443.32	-20405	-0.0000613	0.0003743	0.0035	2.26	15754.85	17895.66	17895.66	12.4	No	Si
SLU 61	5.25	-71.84	-19616	-0.0000496	0.0003743	0.0035	2.26	15417.08	18700.28	18700.28	260.29	No	Si
SLU 61	7.05	1426.31	-19794	-0.0000595	0.0003743	0.0035	2.26	15495.38	17466.18	17466.18	12.25	No	Si
SLU 43	5.25	-188.55	-17403	-0.0000444	0.0003743	0.0035	2.26	14353.19	17220.02	17220.02	91.33	No	Si
SLU 43	7.05	1304.25	-17180	-0.0000514	0.0003743	0.0035	2.26	14236.81	15673.29	15673.29	12.02	No	Si
SLU 60	5.25	-113.26	-19779	-0.0000503	0.0003743	0.0035	2.26	15488.88	18789.68	18789.68	165.89	No	Si
SLU 60	7.05	1460.13	-19953	-0.0000602	0.0003743	0.0035	2.26	15564.12	17577.45	17577.45	12.04	No	Si
SLU 53	5.25	-104.33	-19862	-0.0000504	0.0003743	0.0035	2.26	15524.68	18833.58	18833.58	180.51	No	Si
SLU 53	7.05	1411.25	-19867	-0.0000596	0.0003743	0.0035	2.26	15527.01	17517.16	17517.16	12.41	No	Si
SLU 64	5.25	-123	-20102	-0.0000512	0.0003743	0.0035	2.26	15627.57	18957.13	18957.13	154.13	No	Si
SLU 64	7.05	1446.48	-20081	-0.0000604	0.0003743	0.0035	2.26	15618.93	17667.43	17667.43	12.21	No	Si
SLU 52	5.25	-66.82	-18794	-0.0000473	0.0003743	0.0035	2.26	15041.96	18164.44	18164.44	271.85	No	Si
SLU 52	7.05	1357.01	-18857	-0.0000564	0.0003743	0.0035	2.26	15071.47	16815.22	16815.22	12.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	5.25	1739.44	-380	-0.0064433	0.0005615	0.0035	1.808		720.93	720.93	0.41		No
SLV 10	7.05	-521.7	-2258	-0.0000085	0.0005615	0.0035	2.26		3838.68	3838.68	7.36		Si
SLD 5	5.25	2291.74	-6772	-0.0000304	0.0005615	0.0035	2.26		7516.11	7516.11	3.28		Si
SLD 5	7.05	-937.3	-6144	-0.0000203	0.0005615	0.0035	2.26		7907.21	7907.21	8.44		Si
SLV 5	5.25	3897.87	-679	-0.016849	0.0005615	0.0035	1.808		1053.78	1053.78	0.27		No
SLV 5	7.05	-2320.56	303	0.0211722	0.0005615	0.0035	1.808		0	0	0		No
SLV 16	5.25	-3942.11	-18860	-0.0000721	0.0005615	0.0035	2.26		19531.15	19531.15	4.95		Si
SLV 16	7.05	4305.42	-22713	-0.0000849	0.0005615	0.0035	2.26		21250.04	21250.04	4.94		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	5.25	3223.53	-1145	-0.0101941	0.0005615	0.0035	1.808		1568.4	1568.4	0.49		No
SLV 6	7.05	-1708.61	-1035	-0.0002137	0.0005615	0.0035	1.808		2510.66	2510.66	1.47		Si
SLV 9	5.25	2413.78	87	-0.0135913	0.0005615	0.0035	1.808		0	0	0		No
SLV 9	7.05	-1133.66	-920	-0.0000779	0.0005615	0.0035	1.808		2384.39	2384.39	2.1		Si
SLV 2	5.25	2752.43	-12523	-0.0000477	0.0005615	0.0035	2.26		12790.52	12790.52	4.65		Si
SLV 2	7.05	-1171.16	-10004	-0.0000312	0.0005615	0.0035	2.26		11708.94	11708.94	10		Si
SLD 6	5.25	1882.52	-7055	-0.0000285	0.0005615	0.0035	2.26		7801.48	7801.48	4.14		Si
SLD 6	7.05	-565.94	-6956	-0.00002	0.0005615	0.0035	2.26		8730.68	8730.68	15.43		Si
SLV 1	5.25	3754.19	-11830	-0.0000524	0.0005615	0.0035	2.26		12212.04	12212.04	3.25		Si
SLV 1	7.05	-2080.24	-8016	-0.0000321	0.0005615	0.0035	2.26		9778.99	9778.99	4.7		Si
SLV 14	5.25	-2194.54	-9971	-0.0000377	0.0005615	0.0035	2.26		11677.35	11677.35	5.32		Si
SLV 14	7.05	2785.19	-14081	-0.0000519	0.0005615	0.0035	2.26		14103.74	14103.74	5.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	5.25	-6.29	-22315	-18582	-2908	2.26	2.26	-29364	10833	6986	40441	18949	5763	24712	No	8.5	Si
SLU 82	7.05	1568.54	-22695	-18899	-2908	2.26	2.26	-29865	10833	7070	40441	18949	5763	24712	No	8.5	Si
SLU 84	5.25	13.99	-22839	-19019	-2842	2.26	2.26	-30055	10833	7102	40441	18949	5763	24712	No	8.7	Si
SLU 84	7.05	1551.72	-23147	-19275	-2842	2.26	2.26	-30460	10833	7171	40441	18949	5763	24712	No	8.7	Si
SLU 73	5.25	-1.26	-21493	-17897	-2794	2.26	2.26	-28283	10715	6803	40441	18949	5763	24712	No	8.84	Si
SLU 73	7.05	1499.23	-21758	-18118	-2794	2.26	2.26	-28631	10762	6862	40441	18949	5763	24712	No	8.84	Si
SLU 60	5.25	-113.26	-19779	-16471	-2746	2.26	2.26	-26028	10415	6591	40441	18949	5763	24712	No	9	Si
SLU 60	7.05	1460.13	-19953	-16615	-2746	2.26	2.26	-26257	10445	6610	40441	18949	5763	24712	No	9	Si
SLU 77	5.25	-18.5	-23085	-19223	-2743	2.26	2.26	-30378	10833	7157	40441	18949	5763	24712	No	9.01	Si
SLU 77	7.05	1536.66	-23220	-19336	-2743	2.26	2.26	-30556	10833	7187	40441	18949	5763	24712	No	9.01	Si
SLU 74	5.25	-38.78	-22561	-18787	-2809	2.26	2.26	-29688	10833	7040	40441	18949	5763	24712	No	8.8	Si
SLU 74	7.05	1553.47	-22768	-18959	-2809	2.26	2.26	-29961	10833	7086	40441	18949	5763	24712	No	8.8	Si
SLU 75	5.25	2.64	-22397	-18650	-2770	2.26	2.26	-29473	10833	7004	40441	18949	5763	24712	No	8.92	Si
SLU 75	7.05	1519.66	-22609	-18827	-2770	2.26	2.26	-29752	10833	7051	40441	18949	5763	24712	No	8.92	Si
SLU 81	5.25	-47.71	-22478	-18718	-2947	2.26	2.26	-29580	10833	7022	40441	18949	5763	24712	No	8.39	Si
SLU 81	7.05	1602.35	-22854	-19031	-2947	2.26	2.26	-30074	10833	7106	40441	18949	5763	24712	No	8.39	Si
SLU 76	5.25	19.02	-22017	-18334	-2728	2.26	2.26	-28973	10807	6920	40441	18949	5763	24712	No	9.06	Si
SLU 76	7.05	1482.42	-22209	-18494	-2728	2.26	2.26	-29226	10833	6962	40441	18949	5763	24712	No	9.06	Si
SLU 83	5.25	-27.42	-23003	-19155	-2880	2.26	2.26	-30270	10833	7139	40441	18949	5763	24712	No	8.58	Si
SLU 83	7.05	1585.54	-23306	-19407	-2881	2.26	2.26	-30669	10833	7206	40441	18949	5763	24712	No	8.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5.25	-3942.11	-18860	-15705	-8622	2.26	2.26	-24818	15380	9733	40441	28423	5763	34186		3.96	Si
SLV 16	7.05	4305.42	-22713	-18913	-8158	2.26	2.26	-29888	16250	10283	40441	28423	5763	34186		4.19	Si
SLD 15	5.25	-1868.73	-16911	-14082	-5014	2.26	2.26	-22253	14867	9408	40441	28423	5763	34186		6.82	Si
SLD 15	7.05	2537.67	-18555	-15451	-4714	2.26	2.26	-24417	15300	9682	40441	28423	5763	34186		7.25	Si
SLV 14	5.25	-2194.54	-9971	-8303	-6909	2.26	2.26	-13121	13041	8252	40441	28423	5763	34186		4.95	Si
SLV 14	7.05	2785.19	-14081	-11725	-6472	2.26	2.26	-18529	14123	8937	40441	28423	5763	34186		5.28	Si
SLD 14	5.25	-1480.08	-12145	-10113	-5199	2.26	2.26	-15982	13613	8614	40441	28423	5763	34186		6.58	Si
SLD 14	7.05	2224.17	-14761	-12292	-4915	2.26	2.26	-19424	14302	9050	40441	28423	5763	34186		6.96	Si
SLV 11	5.25	-3411.46	-29545	-24602	-5712	2.26	2.26	-38878	16250	10283	40441	28423	5763	34186		5.98	Si
SLV 11	7.05	3933.79	-29693	-24726	-5532	2.26	2.26	-39074	16250	10283	40441	28423	5763	34186		6.18	Si
SLV 12	5.25	-4085.79	-30011	-24991	-6974	2.26	2.26	-39492	16250	10283	40441	28423	5763	34186		4.9	Si
SLV 12	7.05	4545.74	-31032	-25840	-6793	2.26	2.26	-40835	16250	10283	40441	28423	5763	34186		5.03	Si
SLD 16	5.25	-2504.26	-17351	-14448	-6203	2.26	2.26	-22832	14983	9481	40441	28423	5763	34186		5.51	Si
SLD 16	7.05	3114.4	-19816	-16501	-5903	2.26	2.26	-26077	15632	9892	40441	28423	5763	34186		5.79	Si
SLD 12	5.25	-2479.66	-23918	-19917	-5027	2.26	2.26	-31474	16250	10283	40441	28423	5763	34186		6.8	Si
SLD 12	7.05	3162.49	-24584	-20472	-4913	2.26	2.26	-32351	16250	10283	40441	28423	5763	34186		6.96	Si
SLV 13	5.25	-1192.79	-9278	-7726	-5035	2.26	2.26	-12209	12858	8137	40441	28423	5763	34186		6.79	Si
SLV 13	7.05	1876.11	-12093	-10070	-4598	2.26	2.26	-15913	13599	8606	40441	28423	5763	34186		7.44	Si
SLV 15	5.25	-2940.36	-18167	-15128	-6748	2.26	2.26	-23906	15198	9617	40441	28423	5763	34186		5.07	Si
SLV 15	7.05	3396.34	-20725	-17258	-6284	2.26	2.26	-27272	15871	10043	40441	28423	5763	34186		5.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.38	0	-877	233.35	0	0	No, e>t/2
SLV 5	179667	0.38	0	-479	233.35	0	0	No, e>t/2
SLV 6	179667	0.38	0	-1439	233.35	0	0	No, e>t/2
SLV 10	179667	0.38	2903	-1837	233.35	252.3	1.08	Si
SLV 1	179667	0.38	15856	-10034	233.35	1258.86	5.39	Si
SLV 13	179667	0.38	17953	-11361	233.35	1403.55	6.01	Si
SLV 2	179667	0.38	18109	-11459	233.35	1414.05	6.06	Si
SLV 14	179667	0.38	20206	-12787	233.35	1553.26	6.66	Si
SLV 3	179667	0.38	29742	-18821	233.35	2121.77	9.09	Si
SLV 15	179667	0.38	31840	-20148	233.35	2232.66	9.57	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-23839	-30664	790	0.503	2743.4	0.965	7.57144	4.54183	Si
SLV 8	-22868	-30579	854	0.518	2644.6	0.964	7.81458	4.54183	Si
SLV 11	-22686	-29851	788	0.525	2626	0.964	7.90972	4.54183	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-21714	-29766	853	0.542	2527.2	0.962	8.17927	4.54183	Si
SLV 16	-18489	-19856	143	0.655	2199.2	0.957	9.94632	5.32179	Si
SLV 15	-16775	-18647	141	0.712	2025	0.954	10.83706	5.32179	Si
SLV 4	-15251	-19573	357	0.758	1870.2	0.951	11.59041	5.32179	Si
SLV 3	-13537	-18364	355	0.838	1696.2	0.946	12.86169	5.32179	Si
SLV 14	-12691	-10337	-347	0.884	1610.4	0.944	13.60993	5.32179	Si
SLV 13	-10977	-9128	-349	0.995	1436.8	0.938	15.4148	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.017	SLU 43	Si
V_SLU	8.386	SLU 81	Si
PF_SLV	0	SLV 5	No
V_SLV	3.965	SLV 16	Si
PFFP_SLV	0	SLV 5	No
R_SLV	1.667	SLV 12	Si

Maschio 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L5	L6	2.136	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	5.25	458.79	-17135	-0.0000486	0.0003743	0.0035	2.1364	13153.96	14572.07	14572.07	31.76	No	Si
SLU 81	7.05	-1927.83	-18262	-0.0000633	0.0003743	0.0035	2.1364	13658.08	16623.37	16623.37	8.62	No	Si
SLU 83	5.25	436.49	-17465	-0.0000493	0.0003743	0.0035	2.1364	13306.17	14787.7	14787.7	33.88	No	Si
SLU 83	7.05	-1918.88	-18605	-0.0000643	0.0003743	0.0035	2.1364	13802.8	16840.88	16840.88	8.78	No	Si
SLU 41	5.25	450.27	-14823	-0.000042	0.0003743	0.0035	2.1364	11980.37	13094.59	13094.59	29.08	No	Si
SLU 41	7.05	-1730.25	-16148	-0.0000555	0.0003743	0.0035	2.1364	12675.91	15254.22	15254.22	8.82	No	Si
SLU 39	5.25	472.57	-14493	-0.0000412	0.0003743	0.0035	2.1364	11797.58	12888.32	12888.32	27.27	No	Si
SLU 39	7.05	-1739.21	-15805	-0.0000546	0.0003743	0.0035	2.1364	12501.6	15023.86	15023.86	8.64	No	Si
SLU 74	5.25	364.66	-17083	-0.0000477	0.0003743	0.0035	2.1364	13129.58	14538.14	14538.14	39.87	No	Si
SLU 74	7.05	-1814.41	-18020	-0.0000617	0.0003743	0.0035	2.1364	13553.67	16471.23	16471.23	9.08	No	Si
SLU 32	5.25	378.44	-14441	-0.0000404	0.0003743	0.0035	2.1364	11768.38	12855.87	12855.87	33.97	No	Si
SLU 32	7.05	-1625.79	-15563	-0.000053	0.0003743	0.0035	2.1364	12376.35	14862.89	14862.89	9.14	No	Si
SLU 42	5.25	397.09	-14970	-0.000042	0.0003743	0.0035	2.1364	12060.69	13187.04	13187.04	33.21	No	Si
SLU 42	7.05	-1702.13	-16177	-0.0000554	0.0003743	0.0035	2.1364	12690.29	15273.57	15273.57	8.97	No	Si
SLU 82	5.25	405.62	-17282	-0.0000486	0.0003743	0.0035	2.1364	13222.35	14668.13	14668.13	36.16	No	Si
SLU 82	7.05	-1899.71	-18291	-0.0000632	0.0003743	0.0035	2.1364	13670.34	16641.49	16641.49	8.76	No	Si
SLU 84	5.25	383.32	-17612	-0.0000494	0.0003743	0.0035	2.1364	13372.86	14884.34	14884.34	38.83	No	Si
SLU 84	7.05	-1890.75	-18634	-0.0000641	0.0003743	0.0035	2.1364	13814.71	16857.34	16857.34	8.92	No	Si
SLU 40	5.25	419.39	-14641	-0.0000412	0.0003743	0.0035	2.1364	11879.62	12980.2	12980.2	30.95	No	Si
SLU 40	7.05	-1711.08	-15834	-0.0000545	0.0003743	0.0035	2.1364	12516.33	15043.03	15043.03	8.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	5.25	2198.45	262	-0.015593	0.0005615	0.0035	2.1364		0	0	0		No
SLV 12	7.05	-2836.05	-7132	-0.0000381	0.0005615	0.0035	2.1364		8408.67	8408.67	2.96		Si
SLD 8	5.25	2253.43	-5388	-0.0000295	0.0005615	0.0035	2.1364		5730.2	5730.2	2.54		Si
SLD 8	7.05	-3107.43	-10795	-0.0000496	0.0005615	0.0035	2.1364		11751.28	11751.28	3.78		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	5.25	1638.86	-139	-0.0091838	0.0005615	0.0035	2.1364		402.79	402.79	0.25		No
SLV 11	7.05	-2254.32	-6564	-0.0000323	0.0005615	0.0035	2.1364		7880.79	7880.79	3.5		Si
SLV 4	5.25	3730.86	-9924	-0.0000519	0.0005615	0.0035	2.1364		9884.47	9884.47	2.65		Si
SLV 4	7.05	-4848.82	-15712	-0.000076	0.0005615	0.0035	2.1364		15881.33	15881.33	3.28		Si
SLV 13	5.25	-3353.77	-13510	-0.0000588	0.0005615	0.0035	2.1364		14080.46	14080.46	4.2		Si
SLV 13	7.05	2518.82	-8333	-0.0000388	0.0005615	0.0035	2.1364		8523.75	8523.75	3.38		Si
SLV 3	5.25	2899.57	-10521	-0.0000474	0.0005615	0.0035	2.1364		10354.09	10354.09	3.57		Si
SLV 3	7.05	-3984.63	-14869	-0.0000672	0.0005615	0.0035	2.1364		15194.43	15194.43	3.81		Si
SLV 7	5.25	3074.26	-1262	-0.0108609	0.0005615	0.0035	2.1364		1578.2	1578.2	0.51		No
SLV 7	7.05	-3816.34	-9217	-0.0000509	0.0005615	0.0035	2.1364		10336.54	10336.54	2.71		Si
SLD 7	5.25	1913.85	-5632	-0.0000274	0.0005615	0.0035	2.1364		5966.68	5966.68	3.12		Si
SLD 7	7.05	-2754.41	-10450	-0.0000461	0.0005615	0.0035	2.1364		11444.7	11444.7	4.16		Si
SLV 8	5.25	3633.85	-860	-0.0172051	0.0005615	0.0035	2.1364		1159.22	1159.22	0.32		No
SLV 8	7.05	-4398.07	-9785	-0.0000574	0.0005615	0.0035	2.1364		10844.28	10844.28	2.47		Si
SLD 12	5.25	1338.98	-4677	-0.000021	0.0005615	0.0035	2.1364		5034.64	5034.64	3.76		Si
SLD 12	7.05	-2110.91	-9096	-0.0000379	0.0005615	0.0035	2.1364		10228.33	10228.33	4.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	5.25	458.79	-17135	-14269	3651	2.1364	2.1364	-23853	10125	6057	40441	17913	5448	23360	No	6.4	Si
SLU 81	7.05	-1927.83	-18262	-15207	3653	2.1364	2.1364	-25421	10334	6182	40441	17913	5448	23360	No	6.39	Si
SLU 39	5.25	472.57	-14493	-12069	3295	2.1364	2.1364	-20175	9634	5763	40441	17913	5448	23360	No	7.09	Si
SLU 39	7.05	-1739.21	-15805	-13161	3297	2.1364	2.1364	-22001	9878	5909	40441	17913	5448	23360	No	7.09	Si
SLU 74	5.25	364.66	-17083	-14225	3423	2.1364	2.1364	-23780	10115	6051	40441	17913	5448	23360	No	6.82	Si
SLU 74	7.05	-1814.41	-18020	-15006	3425	2.1364	2.1364	-25085	10289	6155	40441	17913	5448	23360	No	6.82	Si
SLU 77	5.25	342.36	-17413	-14500	3413	2.1364	2.1364	-24239	10176	6087	40441	17913	5448	23360	No	6.84	Si
SLU 77	7.05	-1805.46	-18363	-15291	3416	2.1364	2.1364	-25563	10353	6193	40441	17913	5448	23360	No	6.84	Si
SLU 79	5.25	342.71	-17229	-14347	3381	2.1364	2.1364	-23983	10142	6067	40441	17913	5448	23360	No	6.91	Si
SLU 79	7.05	-1778.75	-18149	-15113	3383	2.1364	2.1364	-25264	10313	6169	40441	17913	5448	23360	No	6.9	Si
SLU 83	5.25	436.49	-17465	-14543	3641	2.1364	2.1364	-24312	10186	6093	40441	17913	5448	23360	No	6.42	Si
SLU 83	7.05	-1918.88	-18605	-15493	3644	2.1364	2.1364	-25899	10398	6220	40441	17913	5448	23360	No	6.41	Si
SLU 82	5.25	405.62	-17282	-14391	3541	2.1364	2.1364	-24058	10152	6073	40441	17913	5448	23360	No	6.6	Si
SLU 82	7.05	-1899.71	-18291	-15231	3532	2.1364	2.1364	-25461	10339	6185	40441	17913	5448	23360	No	6.61	Si
SLU 78	5.25	289.19	-17560	-14622	3304	2.1364	2.1364	-24444	10204	6104	40441	17913	5448	23360	No	7.07	Si
SLU 78	7.05	-1777.33	-18392	-15315	3295	2.1364	2.1364	-25603	10358	6196	40441	17913	5448	23360	No	7.09	Si
SLU 84	5.25	383.32	-17612	-14666	3531	2.1364	2.1364	-24517	10213	6110	40441	17913	5448	23360	No	6.62	Si
SLU 84	7.05	-1890.75	-18634	-15517	3523	2.1364	2.1364	-25939	10403	6223	40441	17913	5448	23360	No	6.63	Si
SLU 75	5.25	311.49	-17230	-14348	3313	2.1364	2.1364	-23985	10142	6067	40441	17913	5448	23360	No	7.05	Si
SLU 75	7.05	-1786.29	-18049	-15029	3305	2.1364	2.1364	-25125	10294	6158	40441	17913	5448	23360	No	7.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	5.25	2407.68	-10743	-8946	6887	2.1364	2.1364	-14955	13408	8020	40441	26869	5448	32317		4.69	Si
SLD 4	7.05	-3480.29	-14447	-12030	6589	2.1364	2.1364	-20111	14439	8637	40441	26869	5448	32317		4.9	Si
SLV 4	5.25	3730.86	-9924	-8264	9700	2.1364	2.0768	-13815	13180	7664	40441	26869	5448	32317		3.33	Si
SLV 4	7.05	-4848.82	-15712	-13084	9238	2.1364	2.1364	-21872	14791	8848	40441	26869	5448	32317		3.5	Si
SLD 8	5.25	2253.43	-5388	-4487	7418	2.1364	1.9499	-7500	11917	6506	40441	26869	5448	32317		4.36	Si
SLD 8	7.05	-3107.43	-10795	-8989	7342	2.1364	2.1364	-15027	13422	8029	40441	26869	5448	32317		4.4	Si
SLV 7	5.25	3074.26	-1262	-1051	9742	2.1364	0	0	16250	3160	40441	26869	5448	32317		3.32	Si
SLV 7	7.05	-3816.34	-9217	-7676	9626	2.1364	1.9625	-14052	13227	7268	40441	26869	5448	32317		3.36	Si
SLV 11	5.25	1638.86	-139	-116	7001	2.1364	0	0	0	2911	40441	26869	5448	32317		4.62	Si
SLV 11	7.05	-2254.32	-6564	-5466	7168	2.1364	2.1364	-9138	12244	7324	40441	26869	5448	32317		4.51	Si
SLV 12	5.25	2198.45	262	219	8210	2.1364	0	0	8220	2880	40441	26869	5448	32317		3.94	Si
SLV 12	7.05	-2836.05	-7132	-5939	8377	2.1364	2.0117	-10593	12535	7061	40441	26869	5448	32317		3.86	Si
SLV 8	5.25	3633.85	-860	-716	10951	2.1364	0	0	16250	3071	40441	26869	5448	32317		2.95	Si
SLV 8	7.05	-4398.07	-9785	-8148	10835	2.1364	1.8562	-15798	13576	7056	40441	26869	5448	32317		2.98	Si
SLV 3	5.25	2899.57	-10521	-8761	7904	2.1364	2.1364	-14646	13346	7983	40441	26869	5448	32317		4.09	Si
SLV 3	7.05	-3984.63	-14869	-12381	7442	2.1364	2.1364	-20698	14556	8707	40441	26869	5448	32317		4.34	Si
SLV 9	5.25	-3256.75	-22574	-18798	-6548	2.1364	2.1364	-31424	16250	9721	40441	26869	5448	32317		4.94	Si
SLV 9	7.05	2068.07	-14260	-11875	-6429	2.1364	2.1364	-19851	14387	8606	40441	26869	5448	32317		5.03	Si
SLD 7	5.25	1913.85	-5632	-4690	6684	2.1364	2.1364	-7840	11985	7169	40441	26869	5448	32317		4.84	Si
SLD 7	7.05	-2754.41	-10450	-8702	6609	2.1364	2.1364	-14547	13326	7972	40441	26869	5448	32317		4.89	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	7548	-4515	220.59	600.87	2.72	Si
SLV 12	179667	0.38	7850	-4696	220.59	623.6	2.83	Si
SLV 7	179667	0.38	10932	-6539	220.59	849.96	3.85	Si
SLV 15	179667	0.38	11073	-6624	220.59	860.06	3.9	Si
SLV 8	179667	0.38	11233	-6720	220.59	871.56	3.95	Si
SLV 16	179667	0.38	11521	-6892	220.59	892.06	4.04	Si
SLV 13	179667	0.38	17540	-10492	220.59	1300.23	5.89	Si
SLV 14	179667	0.38	17989	-10761	220.59	1329.04	6.02	Si
SLV 3	179667	0.38	22352	-13371	220.59	1597.91	7.24	Si
SLV 4	179667	0.38	22800	-13639	220.59	1624.36	7.36	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-14448	-17528	143	0.769	1771.1	0.951	11.75041	5.32179	Si
SLV 1	-14035	-17550	143	0.788	1729.1	0.95	12.05225	5.32179	Si
SLV 6	-14990	-21409	-390	0.731	1826.1	0.952	11.15444	4.54183	Si
SLV 5	-14711	-21423	-390	0.742	1797.8	0.952	11.33954	4.54183	Si
SLV 4	-12158	-12010	425	0.868	1538.6	0.945	13.34853	5.32179	Si
SLV 3	-11744	-12032	426	0.893	1496.7	0.943	13.75317	5.32179	Si
SLV 10	-13221	-19214	-565	0.8	1646.5	0.948	12.27056	4.54183	Si
SLV 9	-12942	-19228	-564	0.814	1618.2	0.947	12.5002	4.54183	Si
SLV 14	-8552	-10212	-439	1.152	1173.8	0.931	17.986	5.32179	Si
SLV 13	-8138	-10233	-438	1.197	1132	0.928	18.74316	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.623	SLU 81	Si
V_SLU	6.395	SLU 81	Si
PF_SLV	0	SLV 12	No
V_SLV	2.951	SLV 8	Si
PFFP_SLV	2.724	SLV 11	Si
R_SLV	2.208	SLV 2	Si

Maschio 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L5	L6	2.285	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	6.35	-1932.87	-21100	-0.0000658	0.0003743	0.0035	2.285	16297.87	19728.32	19728.32	10.21	No	Si
SLU 81	7.15	-1893.34	-18558	-0.0000585	0.0003743	0.0035	2.285	15161.79	18247.28	18247.28	9.64	No	Si
SLU 39	6.35	-1650.16	-18089	-0.0000555	0.0003743	0.0035	2.285	14927.74	17928.93	17928.93	10.86	No	Si
SLU 39	7.15	-1668.27	-16050	-0.0000502	0.0003743	0.0035	2.285	13818.66	16451.58	16451.58	9.86	No	Si
SLU 41	6.35	-1659.68	-18376	-0.0000564	0.0003743	0.0035	2.285	15071.79	18123.18	18123.18	10.92	No	Si
SLU 41	7.15	-1676.47	-16304	-0.0000509	0.0003743	0.0035	2.285	13965.18	16636.1	16636.1	9.92	No	Si
SLU 75	6.35	-1904.05	-21040	-0.0000654	0.0003743	0.0035	2.285	16273.78	19698.61	19698.61	10.35	No	Si
SLU 75	7.15	-1823.58	-18450	-0.0000577	0.0003743	0.0035	2.285	15108.76	18173.89	18173.89	9.97	No	Si
SLU 40	6.35	-1646.57	-18267	-0.0000056	0.0003743	0.0035	2.285	15017.47	18049.31	18049.31	10.96	No	Si
SLU 40	7.15	-1661.83	-16198	-0.0000505	0.0003743	0.0035	2.285	13904.23	16558.85	16558.85	9.96	No	Si
SLU 74	6.35	-1907.64	-20862	-0.000065	0.0003743	0.0035	2.285	16201.35	19610.53	19610.53	10.28	No	Si
SLU 74	7.15	-1830.02	-18302	-0.0000573	0.0003743	0.0035	2.285	15034.91	18072.94	18072.94	9.88	No	Si
SLU 77	6.35	-1917.17	-21149	-0.0000658	0.0003743	0.0035	2.285	16317.54	19752.73	19752.73	10.3	No	Si
SLU 77	7.15	-1838.23	-18557	-0.0000581	0.0003743	0.0035	2.285	15161.3	18246.59	18246.59	9.93	No	Si
SLU 83	6.35	-1942.4	-21386	-0.0000667	0.0003743	0.0035	2.285	16411.68	19871.63	19871.63	10.23	No	Si
SLU 83	7.15	-1901.55	-18813	-0.0000592	0.0003743	0.0035	2.285	15285.89	18422.04	18422.04	9.69	No	Si
SLU 84	6.35	-1938.81	-21564	-0.0000671	0.0003743	0.0035	2.285	16480.85	19961.24	19961.24	10.3	No	Si
SLU 84	7.15	-1895.11	-18961	-0.0000596	0.0003743	0.0035	2.285	15357.08	18524.29	18524.29	9.77	No	Si
SLU 82	6.35	-1929.29	-21277	-0.0000663	0.0003743	0.0035	2.285	16368.83	19817.09	19817.09	10.27	No	Si
SLU 82	7.15	-1886.9	-18706	-0.0000588	0.0003743	0.0035	2.285	15234.31	18348.88	18348.88	9.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	6.35	-234.27	-11714	-0.0000291	0.0005615	0.0035	2.285		13483.16	13483.16	57.56		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.15	-3612.19	-11351	-0.0000495	0.0005615	0.0035	2.285		13143.73	13143.73	3.64		Si
SLV 12	6.35	-712.08	-4309	-0.0000143	0.0005615	0.0035	2.285		6081.55	6081.55	8.54		Si
SLV 12	7.15	-1402.71	-4141	-0.0000181	0.0005615	0.0035	2.285		5904.62	5904.62	4.21		Si
SLV 4	6.35	73.19	-11037	-0.0000265	0.0005615	0.0035	2.285		11719.12	11719.12	160.11		Si
SLV 4	7.15	-4360.34	-11160	-0.0000538	0.0005615	0.0035	2.285		12963.3	12963.3	2.97		Si
SLD 3	6.35	-640.88	-12740	-0.0000342	0.0005615	0.0035	2.285		14431.97	14431.97	22.52		Si
SLD 3	7.15	-2735.05	-11804	-0.0000451	0.0005615	0.0035	2.285		13566.11	13566.11	4.96		Si
SLD 8	6.35	-596.58	-8414	-0.0000234	0.0005615	0.0035	2.285		10292.13	10292.13	17.25		Si
SLD 8	7.15	-2270.67	-7979	-0.0000327	0.0005615	0.0035	2.285		9852.57	9852.57	4.34		Si
SLD 4	6.35	-445.82	-12311	-0.0000319	0.0005615	0.0035	2.285		14032.94	14032.94	31.48		Si
SLD 4	7.15	-3209.68	-11683	-0.0000478	0.0005615	0.0035	2.285		13454.47	13454.47	4.19		Si
SLV 8	6.35	-114.53	-4373	-0.0000108	0.0005615	0.0035	2.285		6148.92	6148.92	53.69		Si
SLV 8	7.15	-2945.23	-4918	-0.0000322	0.0005615	0.0035	2.285		6715.44	6715.44	2.28		Si
SLD 7	6.35	-722.18	-8690	-0.0000248	0.0005615	0.0035	2.285		10569.58	10569.58	14.64		Si
SLD 7	7.15	-1965.05	-8057	-0.000031	0.0005615	0.0035	2.285		9931.41	9931.41	5.05		Si
SLV 2	6.35	-406.52	-16780	-0.0000427	0.0005615	0.0035	2.285		18027.31	18027.31	44.35		Si
SLV 2	7.15	-3925.97	-15760	-0.0000627	0.0005615	0.0035	2.285		17152.07	17152.07	4.37		Si
SLV 7	6.35	-321.49	-4829	-0.0000132	0.0005615	0.0035	2.285		6623.46	6623.46	20.6		Si
SLV 7	7.15	-2441.61	-5047	-0.0000272	0.0005615	0.0035	2.285		6848.67	6848.67	2.8		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	6.35	-1738.51	-19141	-15939	-1951	2.285	2.285	-24913	10266	6568	40441	19158	5827	24985	No	12.8	Si
SLU 72	7.15	-1551.76	-16590	-13815	-1444	2.285	2.285	-21592	9823	6285	40441	19158	5827	24985	No	17.31	Si
SLU 76	6.35	-1873.47	-20870	-17378	-1890	2.285	2.285	-27162	10566	6760	40441	19158	5827	24985	No	13.22	Si
SLU 76	7.15	-1785.35	-18272	-15215	-1411	2.285	2.285	-23781	10115	6472	40441	19158	5827	24985	No	17.71	Si
SLU 65	6.35	-1717.07	-18687	-15561	-1883	2.285	2.285	-24322	10187	6518	40441	19158	5827	24985	No	13.27	Si
SLU 65	7.15	-1531.06	-16179	-13473	-1409	2.285	2.285	-21058	9752	6239	40441	19158	5827	24985	No	17.73	Si
SLU 78	6.35	-1913.58	-21326	-17759	-1918	2.285	2.285	-27757	10645	6811	40441	19158	5827	24985	No	13.03	Si
SLU 78	7.15	-1831.79	-18705	-15576	-1428	2.285	2.285	-24345	10190	6520	40441	19158	5827	24985	No	17.5	Si
SLU 71	6.35	-1742.09	-18964	-15791	-1902	2.285	2.285	-24682	10235	6549	40441	19158	5827	24985	No	13.13	Si
SLU 71	7.15	-1558.2	-16442	-13691	-1421	2.285	2.285	-21399	9798	6269	40441	19158	5827	24985	No	17.58	Si
SLU 70	6.35	-1766.7	-19430	-16180	-1961	2.285	2.285	-25289	10316	6600	40441	19158	5827	24985	No	12.74	Si
SLU 70	7.15	-1585.7	-16867	-14045	-1451	2.285	2.285	-21953	9871	6316	40441	19158	5827	24985	No	17.22	Si
SLU 67	6.35	-1757.18	-19144	-15941	-1911	2.285	2.285	-24916	10267	6569	40441	19158	5827	24985	No	13.08	Si
SLU 67	7.15	-1577.5	-16612	-13833	-1426	2.285	2.285	-21621	9827	6287	40441	19158	5827	24985	No	17.52	Si
SLU 69	6.35	-1770.29	-19253	-16032	-1912	2.285	2.285	-25058	10285	6581	40441	19158	5827	24985	No	13.07	Si
SLU 69	7.15	-1592.14	-16719	-13922	-1428	2.285	2.285	-21760	9846	6299	40441	19158	5827	24985	No	17.49	Si
SLU 68	6.35	-1726.59	-18974	-15800	-1934	2.285	2.285	-24695	10237	6550	40441	19158	5827	24985	No	12.92	Si
SLU 68	7.15	-1539.27	-16434	-13685	-1434	2.285	2.285	-21389	9796	6268	40441	19158	5827	24985	No	17.42	Si
SLU 80	6.35	-1885.38	-21038	-17518	-1908	2.285	2.285	-27381	10595	6779	40441	19158	5827	24985	No	13.1	Si
SLU 80	7.15	-1797.85	-18428	-15345	-1421	2.285	2.285	-23984	10142	6489	40441	19158	5827	24985	No	17.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	6.35	73.19	-11037	-9191	7579	2.285	2.285	-14365	13290	8503	40441	28738	5827	34564		4.56	Si
SLV 4	7.15	-4360.34	-11160	-9293	5601	2.285	2.2553	-14524	13322	8412	40441	28738	5827	34564		6.17	Si
SLD 9	6.35	-2036.05	-19867	-16543	-5873	2.285	2.285	-25857	15588	9973	40441	28738	5827	34564		5.89	Si
SLD 9	7.15	-125.74	-16543	-13776	-4075	2.285	2.285	-21531	14723	9420	40441	28738	5827	34564		8.48	Si
SLV 10	6.35	-2311.14	-23452	-19529	-7462	2.285	2.285	-30523	16250	10397	40441	28738	5827	34564		4.63	Si
SLV 10	7.15	45.2	-19476	-16218	-5026	2.285	2.285	-25348	15486	9908	40441	28738	5827	34564		6.88	Si
SLV 9	6.35	-2518.11	-23907	-19908	-8867	2.285	2.285	-31116	16250	10397	40441	28738	5827	34564		3.9	Si
SLV 9	7.15	548.82	-19605	-16325	-6074	2.285	2.285	-25516	15520	9930	40441	28738	5827	34564		5.69	Si
SLV 8	6.35	-114.53	-4373	-3642	6172	2.285	2.285	-5692	11555	7393	40441	28738	5827	34564		5.6	Si
SLV 8	7.15	-2945.23	-4918	-4095	4023	2.285	1.6308	-9003	12217	5579	40441	28738	5827	34564		8.59	Si
SLD 14	6.35	-1991.76	-15541	-12941	-5651	2.285	2.285	-20226	14462	9253	40441	28738	5827	34564		6.12	Si
SLD 14	7.15	338.63	-12718	-10590	-4223	2.285	2.285	-16553	13727	8783	40441	28738	5827	34564		8.18	Si
SLV 15	6.35	-2226.11	-11501	-9577	-7338	2.285	2.285	-14968	13410	8580	40441	28738	5827	34564		4.71	Si
SLV 15	7.15	1529.56	-8762	-7297	-5826	2.285	2.285	-11405	12698	8124	40441	28738	5827	34564		5.93	Si
SLV 13	6.35	-2705.83	-17244	-14359	-10273	2.285	2.285	-22443	14905	9536	40441	28738	5827	34564		3.36	Si
SLV 13	7.15	1963.93	-13363	-11127	-7652	2.285	2.285	-17392	13895	8890	40441	28738	5827	34564		4.52	Si
SLV 14	6.35	-2398.37	-16566	-13795	-8187	2.285	2.285	-21562	14729	9424	40441	28738	5827	34564		4.22	Si
SLV 14	7.15	1215.78	-13172	-10968	-6095	2.285	2.285	-17143	13845	8858	40441	28738	5827	34564		5.67	Si
SLD 13	6.35	-2186.81	-15970	-13298	-6974	2.285	2.285	-20785	14574	9324	40441	28738	5827	34564		4.96	Si
SLD 13	7.15	813.27	-12839	-10691	-5211	2.285	2.285	-16711	13759	8803	40441	28738	5827	34564		6.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.38	6365	-4072	235.93	546.33	2.32	Si
SLV 11	179667	0.38	6674	-4270	235.93	571.67	2.42	Si
SLV 8	179667	0.38	7474	-4782	235.93	636.73	2.7	Si
SLV 7	179667	0.38	7784	-4980	235.93	661.66	2.8	Si
SLV 16	179667	0.38	13875	-8877	235.93	1129.91	4.79	Si
SLV 15	179667	0.38	14335	-9171	235.93	1163.47	4.93	Si
SLV 4	179667	0.38	17574	-11244	235.93	1393.02	5.9	Si
SLV 3	179667	0.38	18034	-11538	235.93	1424.58	6.04	Si
SLV 14	179667	0.38	21487	-13747	235.93	1653.84	7.01	Si
SLV 13	179667	0.38	21946	-14041	235.93	1683.29	7.13	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-16675	-19607	-654	0.694	2018.4	0.954	10.5832	4.54183	Si
SLV 6	-16555	-19554	-654	0.699	2006.2	0.953	10.65057	4.54183	Si
SLV 9	-16114	-18348	-562	0.72	1961.4	0.952	10.98243	4.54183	Si
SLV 10	-15994	-18295	-562	0.724	1949.2	0.952	11.05472	4.54183	Si
SLV 1	-13244	-15676	-338	0.862	1670.1	0.945	13.25507	5.32179	Si
SLV 2	-13066	-15598	-338	0.872	1652	0.945	13.41199	5.32179	Si
SLV 13	-11374	-11479	-32	1	1480.6	0.939	15.4655	5.32179	Si
SLV 14	-11195	-11400	-32	1.013	1462.5	0.939	15.6765	5.32179	Si
SLV 3	-9717	-11037	25	1.135	1313	0.933	17.68696	5.32179	Si
SLV 4	-9538	-10959	25	1.152	1295	0.932	17.96486	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.638	SLU 81	Si
V_SLU	12.739	SLU 70	Si
PF_SLV	2.28	SLV 8	Si
V_SLV	3.365	SLV 13	Si
PFFP_SLV	2.316	SLV 12	Si
R_SLV	2.33	SLV 5	Si

Maschio 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L5	L6	0.58	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	6.35	96.56	-6101	-0.0000711	0.0003743	0.0035	0.58	1116.4	1319.24	1319.24	13.66	No	Si
SLU 70	7.15	378.32	-5704	-0.0000979	0.0003743	0.0035	0.58	1083.54	1263.63	1263.63	3.34	No	Si
SLU 72	6.35	94.47	-6013	-0.0000699	0.0003743	0.0035	0.58	1109.63	1309.23	1309.23	13.86	No	Si
SLU 72	7.15	372.65	-5622	-0.0000963	0.0003743	0.0035	0.58	1076.05	1249.25	1249.25	3.35	No	Si
SLU 66	6.35	92.12	-5993	-0.0000694	0.0003743	0.0035	0.58	1108.03	1306.94	1306.94	14.19	No	Si
SLU 66	7.15	372.11	-5611	-0.0000961	0.0003743	0.0035	0.58	1074.96	1247.1	1247.1	3.35	No	Si
SLU 68	6.35	93.51	-5951	-0.0000691	0.0003743	0.0035	0.58	1104.62	1302.12	1302.12	13.92	No	Si
SLU 68	7.15	369.55	-5560	-0.0000952	0.0003743	0.0035	0.58	1070.21	1237.83	1237.83	3.35	No	Si
SLU 78	6.35	122.43	-6791	-0.0000819	0.0003743	0.0035	0.58	1160.51	1400.44	1400.44	11.44	No	Si
SLU 78	7.15	399.95	-6362	-0.0001085	0.0003743	0.0035	0.58	1135.04	1349.53	1349.53	3.37	No	Si
SLU 65	6.35	91.17	-5870	-0.0000679	0.0003743	0.0035	0.58	1097.97	1290.81	1290.81	14.16	No	Si
SLU 65	7.15	365.2	-5485	-0.0000938	0.0003743	0.0035	0.58	1063.01	1224.13	1224.13	3.35	No	Si
SLU 71	6.35	92.38	-5986	-0.0000693	0.0003743	0.0035	0.58	1107.48	1306.16	1306.16	14.14	No	Si
SLU 71	7.15	370.79	-5603	-0.0000958	0.0003743	0.0035	0.58	1074.28	1245.77	1245.77	3.36	No	Si
SLU 67	6.35	94.21	-6020	-0.0000699	0.0003743	0.0035	0.58	1110.17	1310.02	1310.02	13.91	No	Si
SLU 67	7.15	373.97	-5630	-0.0000965	0.0003743	0.0035	0.58	1076.72	1250.58	1250.58	3.34	No	Si
SLU 69	6.35	94.47	-6074	-0.0000706	0.0003743	0.0035	0.58	1114.33	1316.14	1316.14	13.93	No	Si
SLU 69	7.15	376.45	-5686	-0.0000975	0.0003743	0.0035	0.58	1081.83	1260.37	1260.37	3.35	No	Si
SLU 64	6.35	87.69	-5825	-0.000067	0.0003743	0.0035	0.58	1094.16	1283.68	1283.68	14.64	No	Si
SLU 64	7.15	362.09	-5454	-0.000093	0.0003743	0.0035	0.58	1059.91	1218.33	1218.33	3.36	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	6.35	-279.04	-3019	-0.0000554	0.0005615	0.0035	0.58		863.63	863.63	3.1		Si
SLD 13	7.15	672.1	-3750	-0.0001302	0.0005615	0.0035	0.58		960.17	960.17	1.43		Si
SLD 15	6.35	-250.68	-2530	-0.0000478	0.0005615	0.0035	0.58		745.59	745.59	2.97		Si
SLD 15	7.15	553.06	-3338	-0.0001009	0.0005615	0.0035	0.58		871.05	871.05	1.57		Si
SLV 13	6.35	-476.42	-2209	-0.0001121	0.0005615	0.0035	0.464		664.88	664.88	1.4		Si
SLV 13	7.15	905.62	-3530	-0.000719	0.0005615	0.0035	0.464		912.29	912.29	1.01		Si
SLV 16	6.35	-298.5	-1822	-0.0000522	0.0005615	0.0035	0.464		566.9	566.9	1.9		Si
SLV 16	7.15	562.47	-2909	-0.0001143	0.0005615	0.0035	0.58		779.63	779.63	1.39		Si
SLD 16	6.35	-168.62	-2814	-0.0000425	0.0005615	0.0035	0.58		814.54	814.54	4.83		Si
SLD 16	7.15	464.29	-3392	-0.000082	0.0005615	0.0035	0.58		882.58	882.58	1.9		Si
SLV 9	6.35	-190.94	-5000	-0.0000667	0.0005615	0.0035	0.58		1303.45	1303.45	6.83		Si
SLV 9	7.15	798.04	-5062	-0.0001495	0.0005615	0.0035	0.58		1252.34	1252.34	1.57		Si
SLV 14	6.35	-347.09	-2658	-0.0000607	0.0005615	0.0035	0.58		776.63	776.63	2.24		Si
SLV 14	7.15	765.69	-3614	-0.0001863	0.0005615	0.0035	0.58		930.6	930.6	1.22		Si
SLD 14	6.35	-196.98	-3304	-0.0000501	0.0005615	0.0035	0.58		931.16	931.16	4.73		Si
SLD 14	7.15	583.33	-3804	-0.0001049	0.0005615	0.0035	0.58		971.87	971.87	1.67		Si
SLV 15	6.35	-427.84	-1373	-0.0006089	0.0005615	0.0035	0.464		448.84	448.84	1.05		Si
SLV 15	7.15	702.4	-2824	-0.0003048	0.0005615	0.0035	0.58		761.77	761.77	1.08		Si
SLV 10	6.35	-103.88	-5302	-0.0000609	0.0005615	0.0035	0.58		1364.28	1364.28	13.13		Si
SLV 10	7.15	703.85	-5119	-0.000129	0.0005615	0.0035	0.58		1265.31	1265.31	1.8		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	6.35	126.73	-6839	-5695	135	0.58	0.58	-35065	10833	2040	40441	4863	1479	6342	No	47.02	Si
SLU 82	7.15	394.85	-6412	-5339	-375	0.58	0.58	-32876	10833	1945	40441	4863	1479	6342	No	16.89	Si
SLU 75	6.35	120.08	-6710	-5588	103	0.58	0.58	-34408	10833	2011	40441	4863	1479	6342	No	61.29	Si
SLU 75	7.15	395.6	-6287	-5235	-370	0.58	0.58	-32236	10833	1917	40441	4863	1479	6342	No	17.14	Si
SLU 79	6.35	118.25	-6677	-5560	107	0.58	0.58	-34235	10833	2004	40441	4863	1479	6342	No	59.44	Si
SLU 79	7.15	392.41	-6261	-5213	-374	0.58	0.58	-32102	10833	1911	40441	4863	1479	6342	No	16.98	Si
SLU 83	6.35	126.99	-6892	-5739	138	0.58	0.58	-35339	10833	2052	40441	4863	1479	6342	No	46	Si
SLU 83	7.15	397.33	-6467	-5386	-382	0.58	0.58	-33162	10833	1957	40441	4863	1479	6342	No	16.62	Si
SLU 81	6.35	124.64	-6812	-5672	135	0.58	0.58	-34927	10833	2034	40441	4863	1479	6342	No	46.97	Si
SLU 81	7.15	392.98	-6393	-5323	-378	0.58	0.58	-32778	10833	1941	40441	4863	1479	6342	No	16.78	Si
SLU 78	6.35	122.43	-6791	-5655	106	0.58	0.58	-34821	10833	2029	40441	4863	1479	6342	No	59.64	Si
SLU 78	7.15	399.95	-6362	-5297	-374	0.58	0.58	-32620	10833	1934	40441	4863	1479	6342	No	16.98	Si
SLU 80	6.35	120.34	-6704	-5582	107	0.58	0.58	-34373	10833	2010	40441	4863	1479	6342	No	59.51	Si
SLU 80	7.15	394.28	-6280	-5229	-371	0.58	0.58	-32199	10833	1916	40441	4863	1479	6342	No	17.1	Si
SLU 74	6.35	117.99	-6684	-5565	104	0.58	0.58	-34270	10833	2005	40441	4863	1479	6342	No	61.21	Si
SLU 74	7.15	393.73	-6268	-5219	-373	0.58	0.58	-32139	10833	1913	40441	4863	1479	6342	No	17.02	Si
SLU 77	6.35	120.34	-6764	-5632	106	0.58	0.58	-34682	10833	2023	40441	4863	1479	6342	No	59.57	Si
SLU 77	7.15	398.08	-6343	-5282	-376	0.58	0.58	-32522	10833	1930	40441	4863	1479	6342	No	16.86	Si
SLU 84	6.35	129.08	-6919	-5762	138	0.58	0.58	-35478	10833	2058	40441	4863	1479	6342	No	46.04	Si
SLU 84	7.15	399.2	-6486	-5401	-379	0.58	0.58	-33259	10833	1961	40441	4863	1479	6342	No	16.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	6.35	333.23	-4010	-3339	1622	0.58	0.58	-20561	14529	2359	40441	7294	1479	8773		5.41	Si
SLV 8	7.15	-249.4	-3365	-2802	25	0.58	0.58	-17254	13867	2252	40441	7294	1479	8773		348.63	Si
SLV 14	6.35	-347.09	-2658	-2213	-1831	0.58	0.4782	-16662	13749	1841	40441	7294	1479	8773		4.79	Si
SLV 14	7.15	765.69	-3614	-3010	-709	0.58	0.2344	-18532	14123	1584	40441	7294	1479	8773		12.38	Si
SLV 15	6.35	-427.84	-1373	-1143	-1827	0.464	0	0	0	0	40441	5836	1183	7019		3.84	Si
SLV 15	7.15	702.4	-2824	-2352	-829	0.58	0.1239	-70954	16250	1409	40441	7294	1479	8773		10.58	Si
SLV 9	6.35	-190.94	-5000	-4163	-1550	0.58	0.58	-25637	15544	2524	40441	7294	1479	8773		5.66	Si
SLV 9	7.15	798.04	-5062	-4215	-547	0.58	0.3971	-25957	15608	1906	40441	7294	1479	8773		16.03	Si
SLD 4	6.35	421.32	-5991	-4989	1542	0.58	0.58	-30719	16250	2639	40441	7294	1479	8773		5.69	Si
SLD 4	7.15	-123.46	-4677	-3895	129	0.58	0.58	-23981	15213	2471	40441	7294	1479	8773		68.19	Si
SLV 3	6.35	489.37	-6352	-5289	1903	0.58	0.58	-32570	16250	2639	40441	7294	1479	8773		4.61	Si
SLV 3	7.15	-217.05	-4813	-4008	187	0.58	0.58	-24679	15352	2493	40441	7294	1479	8773		46.98	Si
SLV 13	6.35	-476.42	-2209	-1839	-2340	0.464	0.2229	0	0	0	40441	5836	1183	7019		3	Si
SLV 13	7.15	905.62	-3530	-2939	-876	0.464	0.1003	0	0	0	40441	5836	1183	7019		8.01	Si
SLV 2	6.35	570.13	-7637	-6359	1899	0.58	0.58	-39158	16250	2639	40441	7294	1479	8773		4.62	Si
SLV 2	7.15	-153.75	-5603	-4666	307	0.58	0.58	-28729	16162	2625	40441	7294	1479	8773		28.59	Si
SLV 16	6.35	-298.5	-1822	-1517	-1318	0.464	0.3785	0	0	0	40441	5836	1183	7019		5.32	Si
SLV 16	7.15	562.47	-2909	-2422	-662	0.58	0.2899	-14916	13400	1428	40441	7294	1479	8773		13.25	Si
SLV 4	6.35	618.71	-6801	-5663	2412	0.58	0.58	-34873	16250	2639	40441	7294	1479	8773		3.64	Si
SLV 4	7.15	-356.98	-4898	-4078	354	0.58	0.58	-25112	15439	2507	40441	7294	1479	8773		24.82	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	8719	-1416	59.89	186.91	3.12	Si
SLV 12	179667	0.38	9295	-1510	59.89	198.48	3.31	Si
SLV 15	179667	0.38	11178	-1815	59.89	235.55	3.93	Si
SLV 16	179667	0.38	12035	-1955	59.89	252.07	4.21	Si
SLV 7	179667	0.38	12789	-2077	59.89	266.41	4.45	Si
SLV 8	179667	0.38	13365	-2171	59.89	277.28	4.63	Si
SLV 13	179667	0.38	17477	-2838	59.89	351.88	5.88	Si
SLV 14	179667	0.38	18334	-2977	59.89	366.79	6.12	Si
SLV 3	179667	0.38	24745	-4019	59.89	471.44	7.87	Si
SLV 4	179667	0.38	25602	-4158	59.89	484.5	8.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-3667	-4028	-37	0.814	454.9	0.949	12.46764	5.32179	Si
SLV 1	-3564	-4186	-37	0.833	444.4	0.947	12.78461	5.32179	Si
SLV 6	-3747	-6102	-51	0.796	463	0.949	12.18552	4.54183	Si
SLV 5	-3677	-6208	-51	0.809	455.9	0.949	12.38807	4.54183	Si
SLV 4	-3061	-2227	-19	0.95	393.5	0.942	14.65846	5.32179	Si
SLV 3	-2958	-2385	-19	0.977	383	0.94	15.10068	5.32179	Si
SLV 10	-3223	-6056	-46	0.903	409.9	0.944	13.91129	4.54183	Si
SLV 9	-3154	-6162	-45	0.92	402.8	0.943	14.17782	4.54183	Si
SLV 14	-1922	-3876	-18	1.375	278.4	0.923	21.65247	5.32179	Si
SLV 13	-1819	-4034	-18	1.434	268	0.921	22.64264	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.34	SLU 70	Si
V_SLU	16.621	SLU 83	Si
PF_SLV	1.007	SLV 13	Si
V_SLV	2.999	SLV 13	Si
PFFP_SLV	3.121	SLV 11	Si
R_SLV	2.343	SLV 2	Si

Maschio 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L5	L6	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	4.35	-5651.23	-39962	-0.0000946	0.0004492	0.0035	4.6702	46636.58	85834.54	85834.54	15.19	No	Si
SLU 75	7.9	-3416.69	-25492	-0.0000578	0.0004492	0.0035	4.6702	40531.56	63179.26	63179.26	18.49	No	Si
SLU 76	4.35	-5692.2	-39488	-0.0000936	0.0004492	0.0035	4.6702	46630.49	85182.61	85182.61	14.96	No	Si
SLU 76	7.9	-3347.4	-25136	-0.0000569	0.0004492	0.0035	4.6702	40227.15	62575.04	62575.04	18.69	No	Si
SLU 81	4.35	-5694.47	-40415	-0.0000957	0.0004492	0.0035	4.6702	46630.11	86458.1	86458.1	15.18	No	Si
SLU 81	7.9	-3666.9	-25308	-0.000058	0.0004492	0.0035	4.6702	40375.42	62867.5	62867.5	17.14	No	Si
SLU 61	4.35	-5231.2	-35551	-0.0000838	0.0004492	0.0035	4.6702	46072.5	79383.7	79383.7	15.18	No	Si
SLU 61	7.9	-3135.42	-22156	-0.0000503	0.0004492	0.0035	4.6702	37387.89	57334.04	57334.04	18.29	No	Si
SLU 82	4.35	-5812.28	-40251	-0.0000957	0.0004492	0.0035	4.6702	46633.84	86232.33	86232.33	14.84	No	Si
SLU 82	7.9	-3665.48	-25216	-0.0000579	0.0004492	0.0035	4.6702	40296.05	62710.52	62710.52	17.11	No	Si
SLU 83	4.35	-5739.15	-41184	-0.0000975	0.0004492	0.0035	4.6702	46591.69	87515.18	87515.18	15.25	No	Si
SLU 83	7.9	-3594.63	-26115	-0.0000595	0.0004492	0.0035	4.6702	41046.67	64237.09	64237.09	17.87	No	Si
SLU 73	4.35	-5647.53	-38719	-0.0000918	0.0004492	0.0035	4.6702	46592.71	84080.95	84080.95	14.89	No	Si
SLU 73	7.9	-3419.67	-24329	-0.0000554	0.0004492	0.0035	4.6702	39509.73	61205.45	61205.45	17.9	No	Si
SLU 84	4.35	-5856.96	-41020	-0.0000975	0.0004492	0.0035	4.6702	46602.79	87289.41	87289.41	14.9	No	Si
SLU 84	7.9	-3593.21	-26023	-0.0000593	0.0004492	0.0035	4.6702	40971.66	64080.1	64080.1	17.83	No	Si
SLU 52	4.35	-5066.45	-34020	-0.00008	0.0004492	0.0035	4.6702	45610.53	77110.27	77110.27	15.22	No	Si
SLU 52	7.9	-2889.61	-21270	-0.0000479	0.0004492	0.0035	4.6702	36442.98	55733.75	55733.75	19.29	No	Si
SLU 78	4.35	-5695.9	-40730	-0.0000964	0.0004492	0.0035	4.6702	46618.53	86891.62	86891.62	15.26	No	Si
SLU 78	7.9	-3344.42	-26299	-0.0000592	0.0004492	0.0035	4.6702	41194.15	64548.84	64548.84	19.3	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	4.35	-15050.64	-16275	-0.0000683	0.0006738	0.0035	4.6702		47092.53	47092.53	3.13		Si
SLV 6	7.9	-3992.87	-10462	-0.0000291	0.0006738	0.0035	4.6702		35256.27	35256.27	8.83		Si
SLV 10	4.35	-13710.85	-13608	-0.0000604	0.0006738	0.0035	4.6702		41759.38	41759.38	3.05		Si
SLV 10	7.9	-3900.39	-8397	-0.0000249	0.0006738	0.0035	4.6702		30960.82	30960.82	7.94		Si
SLV 9	4.35	-14127.77	-13229	-0.0000616	0.0006738	0.0035	4.6702		40977.05	40977.05	2.9		Si
SLV 9	7.9	-3633.21	-8478	-0.0000244	0.0006738	0.0035	4.6702		31133.15	31133.15	8.57		Si
SLD 10	4.35	-9559.48	-19230	-0.0000598	0.0006738	0.0035	4.6702		52912.53	52912.53	5.54		Si
SLD 10	7.9	-3211.6	-11999	-0.0000301	0.0006738	0.0035	4.6702		38432.71	38432.71	11.97		Si
SLV 2	4.35	-8953.78	-28303	-0.0000764	0.0006738	0.0035	4.6702		69714.02	69714.02	7.79		Si
SLV 2	7.9	-3064.2	-18284	-0.0000418	0.0006738	0.0035	4.6702		51049.76	51049.76	16.66		Si
SLV 1	4.35	-9573.14	-27740	-0.0000769	0.0006738	0.0035	4.6702		68717.02	68717.02	7.18		Si
SLV 1	7.9	-2667.3	-18405	-0.0000411	0.0006738	0.0035	4.6702		51286.28	51286.28	19.23		Si
SLD 6	4.35	-10414.64	-20941	-0.0000653	0.0006738	0.0035	4.6702		56194.71	56194.71	5.4		Si
SLD 6	7.9	-3274.09	-13320	-0.0000328	0.0006738	0.0035	4.6702		41163.64	41163.64	12.57		Si
SLD 9	4.35	-9812.49	-19001	-0.00006	0.0006738	0.0035	4.6702		52460.26	52460.26	5.35		Si
SLD 9	7.9	-3049.46	-12048	-0.0000298	0.0006738	0.0035	4.6702		38534.13	38534.13	12.64		Si
SLV 5	4.35	-15467.56	-15897	-0.0000691	0.0006738	0.0035	4.6702		46347.26	46347.26	3		Si
SLV 5	7.9	-3725.69	-10543	-0.0000286	0.0006738	0.0035	4.6702		35423.41	35423.41	9.51		Si
SLD 5	4.35	-10667.65	-20712	-0.0000655	0.0006738	0.0035	4.6702		55764.94	55764.94	5.23		Si
SLD 5	7.9	-3111.95	-13369	-0.0000325	0.0006738	0.0035	4.6702		41265.06	41265.06	13.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	4.35	-5692.2	-39488	-21894	-4843	4.6702	4.6702	-33487	10833	12534	115546	23497	23818	47314	No	9.77	Si
SLU 76	7.9	-3347.4	-25136	-13937	-2647	4.6702	4.6702	-21316	10833	9352	115546	23497	23818	47314	No	17.87	Si
SLU 47	4.35	-4543.43	-31469	-17448	-4702	4.6702	4.6702	-26687	10833	10756	115546	23497	23818	47314	No	10.06	Si
SLU 47	7.9	-2245.98	-20152	-11173	-2977	4.6702	4.6702	-17089	10612	8246	115546	23497	23818	47314	No	15.89	Si
SLU 52	4.35	-5066.45	-34020	-18862	-4728	4.6702	4.6702	-28849	10833	11322	115546	23497	23818	47314	No	10.01	Si
SLU 52	7.9	-2889.61	-21270	-11793	-2890	4.6702	4.6702	-18037	10738	8494	115546	23497	23818	47314	No	16.37	Si
SLU 65	4.35	-5079.83	-35400	-19628	-4794	4.6702	4.6702	-30020	10833	11628	115546	23497	23818	47314	No	9.87	Si
SLU 65	7.9	-2848.31	-22405	-12422	-2856	4.6702	4.6702	-19000	10833	8746	115546	23497	23818	47314	No	16.57	Si
SLU 84	4.35	-5856.96	-41020	-22744	-4700	4.6702	4.6702	-34786	10833	12874	115546	23497	23818	47314	No	10.07	Si
SLU 84	7.9	-3593.21	-26023	-14428	-2422	4.6702	4.6702	-22068	10833	9548	115546	23497	23818	47314	No	19.54	Si
SLU 73	4.35	-5647.53	-38719	-21468	-4832	4.6702	4.6702	-32835	10833	12364	115546	23497	23818	47314	No	9.79	Si
SLU 73	7.9	-3419.67	-24329	-13490	-2709	4.6702	4.6702	-20632	10833	9173	115546	23497	23818	47314	No	17.47	Si
SLU 68	4.35	-5124.51	-36169	-20054	-4805	4.6702	4.6702	-30672	10833	11798	115546	23497	23818	47314	No	9.85	Si
SLU 68	7.9	-2776.04	-23211	-12870	-2795	4.6702	4.6702	-19684	10833	8925	115546	23497	23818	47314	No	16.93	Si
SLU 78	4.35	-5695.9	-40730	-22583	-4717	4.6702	4.6702	-34540	10833	12810	115546	23497	23818	47314	No	10.03	Si
SLU 78	7.9	-3344.42	-26299	-14582	-2425	4.6702	4.6702	-22302	10833	9609	115546	23497	23818	47314	No	19.51	Si
SLU 55	4.35	-5111.12	-34788	-19288	-4739	4.6702	4.6702	-29501	10833	11492	115546	23497	23818	47314	No	9.98	Si
SLU 55	7.9	-2817.34	-22076	-12240	-2829	4.6702	4.6702	-18721	10830	8673	115546	23497	23818	47314	No	16.72	Si
SLU 75	4.35	-5651.23	-39962	-22157	-4706	4.6702	4.6702	-33889	10833	12639	115546	23497	23818	47314	No	10.05	Si
SLU 75	7.9	-3416.69	-25492	-14134	-2486	4.6702	4.6702	-21618	10833	9430	115546	23497	23818	47314	No	19.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	4.35	6545.74	-41484	-23001	15535	4.6702	4.6702	-35180	16250	14866	115546	35245	23818	59063		3.8	Si
SLV 8	7.9	-845.94	-25983	-14406	16722	4.6702	4.6702	-22034	16250	11428	115546	35245	23818	59063		3.53	Si
SLD 9	4.35	-9812.49	-19001	-10535	-14456	4.6702	4.6702	-16113	15723	10280	115546	35245	23818	59063		4.09	Si
SLD 9	7.9	-3049.46	-12048	-6680	-12790	4.6702	4.6702	-10217	14543	9509	115546	35245	23818	59063		4.62	Si
SLV 9	4.35	-14127.77	-13229	-7335	-22275	4.6702	3.8015	-13868	15274	8599	115546	35245	23818	59063		2.65	Si
SLV 9	7.9	-3633.21	-8478	-4701	-20488	4.6702	4.6702	-7189	13938	9113	115546	35245	23818	59063		2.88	Si
SLV 11	4.35	7468.62	-38438	-21312	15049	4.6702	4.6702	-32597	16250	14190	115546	35245	23818	59063		3.92	Si
SLV 11	7.9	-486.28	-23998	-13306	16046	4.6702	4.6702	-20351	16250	10988	115546	35245	23818	59063		3.68	Si
SLV 12	4.35	7885.54	-38817	-21522	15333	4.6702	4.6702	-32918	16250	14274	115546	35245	23818	59063		3.85	Si
SLV 12	7.9	-753.46	-23918	-13261	16235	4.6702	4.6702	-20283	16250	10970	115546	35245	23818	59063		3.64	Si
SLV 6	4.35	-15050.64	-16275	-9024	-21789	4.6702	4.231	-15330	15566	9275	115546	35245	23818	59063		2.71	Si
SLV 6	7.9	-3992.87	-10462	-5801	-19812	4.6702	4.6702	-8872	14274	9333	115546	35245	23818	59063		2.98	Si
SLD 5	4.35	-10667.65	-20712	-11484	-14328	4.6702	4.6702	-17564	16013	10470	115546	35245	23818	59063		4.12	Si
SLD 5	7.9	-3111.95	-13369	-7412	-12482	4.6702	4.6702	-11337	14767	9655	115546	35245	23818	59063		4.73	Si
SLV 10	4.35	-13710.85	-13608	-7545	-21991	4.6702	3.9825	-13618	15224	8683	115546	35245	23818	59063		2.69	Si
SLV 10	7.9	-3900.39	-8397	-4656	-20299	4.6702	4.6702	-7121	13924	9104	115546	35245	23818	59063		2.91	Si
SLV 7	4.35	6128.82	-41106	-22791	15250	4.6702	4.6702	-34859	16250	14782	115546	35245	23818	59063		3.87	Si
SLV 7	7.9	-578.76	-26064	-14451	16533	4.6702	4.6702	-22103	16250	11446	115546	35245	23818	59063		3.57	Si
SLV 5	4.35	-15467.56	-15897	-8814	-22073	4.6702	4.0862	-15521	15604	9191	115546	35245	23818	59063		2.68	Si
SLV 5	7.9	-3725.69	-10543	-5846	-20001	4.6702	4.6702	-8941	14288	9342	115546	35245	23818	59063		2.95	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-11437	0.38	262.39	724.19	1283.6	1003.9	3.83	Si
SLV 10	-11651	0.38	262.39	736.27	1301.63	1018.95	3.88	Si
SLV 5	-13629	0.38	262.39	845.52	1468.05	1156.78	4.41	Si
SLV 6	-13842	0.38	262.39	857.04	1485.73	1171.39	4.46	Si
SLV 13	-15767	0.38	262.39	958.47	1644.33	1301.4	4.96	Si
SLV 14	-16084	0.38	262.39	974.78	1670.48	1322.63	5.04	Si
SLV 15	-21714	0.38	262.39	1244.56	2132.61	1688.59	6.44	Si
SLV 16	-22031	0.38	262.39	1258.67	2158.02	1708.35	6.51	Si
SLV 1	-23072	0.38	262.39	1304.1	2241.41	1772.75	6.76	Si
SLV 2	-23390	0.38	262.39	1317.7	2266.84	1792.27	6.83	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-23061	-35303	-404	1.048	2674.8	0.963	15.81583	9.26435	Si
SLV 4	-22941	-35865	-404	1.053	2662.5	0.963	15.89292	9.26435	Si
SLV 1	-18405	-27740	-426	1.281	2201.2	0.956	19.46898	9.26435	Si
SLV 2	-18284	-28303	-426	1.288	2189	0.956	19.58656	9.26435	Si
SLV 7	-26064	-41106	-89	0.95	2980.4	0.967	14.27815	6.57091	Si
SLV 8	-25983	-41484	-89	0.952	2972.1	0.967	14.31973	6.57091	Si
SLV 11	-23998	-38438	160	1.021	2770.2	0.964	15.38059	6.57091	Si
SLV 12	-23918	-38817	161	1.024	2761.9	0.964	15.42898	6.57091	Si
SLV 15	-16176	-26411	426	1.435	1974.8	0.952	21.90934	9.26435	Si
SLV 16	-16056	-26973	426	1.444	1962.6	0.952	22.05835	9.26435	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.836	SLU 82	Si
V_SLU	9.77	SLU 76	Si
PF_SLV	2.9	SLV 9	Si
V_SLV	2.652	SLV 9	Si
PFFP_SLV	3.826	SLV 9	Si
R_SLV	1.707	SLV 3	Si

Maschio 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-19.618	6.661	L5	L6	0.71	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.35	219.14	-7795	-0.0000797	0.0003743	0.0035	0.71	1701.52	2029.49	2029.49	9.26	No	Si
SLU 84	7.9	479.17	-6544	-0.000087	0.0003743	0.0035	0.71	1572.06	1793.27	1793.27	3.74	No	Si
SLU 39	4.35	172.44	-6536	-0.0000646	0.0003743	0.0035	0.71	1570.97	1791.39	1791.39	10.39	No	Si
SLU 39	7.9	412.72	-5445	-0.0000719	0.0003743	0.0035	0.71	1413.04	1562.87	1562.87	3.79	No	Si
SLU 41	4.35	176.67	-6693	-0.0000663	0.0003743	0.0035	0.71	1590.3	1825.48	1825.48	10.33	No	Si
SLU 41	7.9	431.7	-5713	-0.0000757	0.0003743	0.0035	0.71	1455.62	1617.73	1617.73	3.75	No	Si
SLU 40	4.35	158.72	-6416	-0.0000625	0.0003743	0.0035	0.71	1555.71	1765.71	1765.71	11.13	No	Si
SLU 40	7.9	428.84	-5440	-0.000073	0.0003743	0.0035	0.71	1412.07	1561.66	1561.66	3.64	No	Si
SLU 31	4.35	156.46	-6136	-0.0000599	0.0003743	0.0035	0.71	1517.86	1705.97	1705.97	10.9	No	Si
SLU 31	7.9	404.89	-5207	-0.0000692	0.0003743	0.0035	0.71	1372.97	1514.52	1514.52	3.74	No	Si
SLU 36	4.35	175.67	-6607	-0.0000655	0.0003743	0.0035	0.71	1579.83	1806.79	1806.79	10.29	No	Si
SLU 36	7.9	436.93	-5823	-0.0000771	0.0003743	0.0035	0.71	1472.44	1640.51	1640.51	3.75	No	Si
SLU 42	4.35	162.94	-6574	-0.0000643	0.0003743	0.0035	0.71	1575.7	1799.57	1799.57	11.04	No	Si
SLU 42	7.9	447.82	-5707	-0.0000768	0.0003743	0.0035	0.71	1454.7	1616.51	1616.51	3.61	No	Si
SLU 38	4.35	174.06	-6530	-0.0000647	0.0003743	0.0035	0.71	1570.2	1790.08	1790.08	10.28	No	Si
SLU 38	7.9	432.1	-5746	-0.0000761	0.0003743	0.0035	0.71	1460.7	1624.53	1624.53	3.76	No	Si
SLU 34	4.35	160.69	-6293	-0.0000616	0.0003743	0.0035	0.71	1539.4	1739.31	1739.31	10.82	No	Si
SLU 34	7.9	423.87	-5474	-0.000073	0.0003743	0.0035	0.71	1417.78	1568.8	1568.8	3.7	No	Si
SLU 82	4.35	214.91	-7638	-0.0000779	0.0003743	0.0035	0.71	1688.27	2007.9	2007.9	9.34	No	Si
SLU 82	7.9	460.19	-6277	-0.0000831	0.0003743	0.0035	0.71	1537.28	1735.96	1735.96	3.77	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	4.35	-471.83	442	0.112971	0.0005615	0.0035	0.568		0	0	0		No
SLD 9	7.9	889.73	-2883	-0.0002671	0.0005615	0.0035	0.71		980.33	980.33	1.1		Si
SLV 2	4.35	-744.81	428	0.1087051	0.0005615	0.0035	0.568		0	0	0		No
SLV 2	7.9	1452.85	-5976	-0.0002218	0.0005615	0.0035	0.71		1811.32	1811.32	1.25		Si
SLD 10	4.35	-376.87	-169	-0.0013534	0.0005615	0.0035	0.568		187.08	187.08	0.5		No
SLD 10	7.9	747.29	-2563	-0.000159	0.0005615	0.0035	0.71		881.41	881.41	1.18		Si
SLV 5	4.35	-1356.64	6695	1.6477277	0.0005615	0.0035	0.568		0	0	0		No
SLV 5	7.9	1953.1	-3609	-0.0344132	0.0005615	0.0035	0.568		1191.34	1191.34	0.61		No
SLD 5	4.35	-728.63	1747	0.4355285	0.0005615	0.0035	0.568		0	0	0		No
SLD 5	7.9	1266.85	-3906	-0.0019568	0.0005615	0.0035	0.71		1268.64	1268.64	1		Si
SLV 9	4.35	-954.96	4652	1.1451446	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	7.9	1361.49	-2012	-0.0308222	0.0005615	0.0035	0.568		707.56	707.56	0.52		No
SLV 10	4.35	-798.47	3646	0.8983622	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	7.9	1126.77	-1485	-0.028019	0.0005615	0.0035	0.568		536.41	536.41	0.48		No
SLD 6	4.35	-633.67	1137	0.2850982	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	7.9	1124.4	-3586	-0.0004329	0.0005615	0.0035	0.71		1185.17	1185.17	1.05		Si
SLV 1	4.35	-977.28	1922	0.4810946	0.0005615	0.0035	0.568		0	0	0		No
SLV 1	7.9	1801.54	-6760	-0.0003588	0.0005615	0.0035	0.71		2023.55	2023.55	1.12		Si
SLV 6	4.35	-1200.15	5689	1.4009575	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	7.9	1718.37	-3081	-0.031526	0.0005615	0.0035	0.568		1039.86	1039.86	0.61		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.35	219.14	-7795	-6491	953	0.71	0.71	-32653	10833	2369	40441	5953	1810	7763	No	8.14	Si
SLU 84	7.9	479.17	-6544	-5450	-1365	0.71	0.71	-27413	10599	2107	40441	5953	1810	7763	No	5.69	Si
SLU 82	4.35	214.91	-7638	-6360	935	0.71	0.71	-31994	10833	2334	40441	5953	1810	7763	No	8.3	Si
SLU 82	7.9	460.19	-6277	-5227	-1309	0.71	0.71	-26293	10450	2077	40441	5953	1810	7763	No	5.93	Si
SLU 80	4.35	230.26	-7751	-6455	957	0.71	0.71	-32468	10833	2359	40441	5953	1810	7763	No	8.11	Si
SLU 80	7.9	463.44	-6583	-5482	-1354	0.71	0.71	-27575	10621	2111	40441	5953	1810	7763	No	5.73	Si
SLU 79	4.35	243.98	-7871	-6554	991	0.71	0.71	-32968	10833	2386	40441	5953	1810	7763	No	7.83	Si
SLU 79	7.9	447.33	-6589	-5487	-1325	0.71	0.71	-27600	10624	2112	40441	5953	1810	7763	No	5.86	Si
SLU 78	4.35	231.86	-7829	-6519	966	0.71	0.71	-32792	10833	2376	40441	5953	1810	7763	No	8.04	Si
SLU 78	7.9	468.27	-6660	-5546	-1366	0.71	0.71	-27899	10664	2120	40441	5953	1810	7763	No	5.68	Si
SLU 77	4.35	245.59	-7948	-6618	1000	0.71	0.71	-33292	10833	2403	40441	5953	1810	7763	No	7.76	Si
SLU 77	7.9	452.15	-6666	-5551	-1338	0.71	0.71	-27924	10668	2121	40441	5953	1810	7763	No	5.8	Si
SLU 74	4.35	241.36	-7791	-6488	982	0.71	0.71	-32634	10833	2368	40441	5953	1810	7763	No	7.91	Si
SLU 74	7.9	433.18	-6399	-5329	-1282	0.71	0.71	-26804	10518	2091	40441	5953	1810	7763	No	6.06	Si
SLU 83	4.35	232.86	-7915	-6591	987	0.71	0.71	-33152	10833	2395	40441	5953	1810	7763	No	7.86	Si
SLU 83	7.9	463.05	-6550	-5455	-1336	0.71	0.71	-27437	10603	2108	40441	5953	1810	7763	No	5.81	Si
SLU 76	4.35	216.88	-7515	-6258	917	0.71	0.71	-31477	10833	2307	40441	5953	1810	7763	No	8.47	Si
SLU 76	7.9	455.21	-6312	-5256	-1317	0.71	0.71	-26439	10470	2081	40441	5953	1810	7763	No	5.89	Si
SLU 75	4.35	227.64	-7672	-6388	948	0.71	0.71	-32134	10833	2341	40441	5953	1810	7763	No	8.19	Si
SLU 75	7.9	449.29	-6393	-5324	-1311	0.71	0.71	-26779	10515	2090	40441	5953	1810	7763	No	5.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	4.35	1732.89	-17499	-14572	4290	0.71	0.71	-73298	16250	4843	40441	8929	1810	10740		2.5	Si
SLV 12	7.9	-1441.1	-4803	-3999	2640	0.568	0.1648	0	0	0	40441	7144	1448	8592		3.25	Si
SLV 7	4.35	1174.72	-14450	-12032	3183	0.71	0.71	-60525	16250	4166	40441	8929	1810	10740		3.37	Si
SLV 7	7.9	-614.76	-6927	-5768	1153	0.71	0.71	-29013	16219	3224	40441	8929	1810	10740		9.32	Si
SLV 16	4.35	1353.53	-12726	-10597	3152	0.71	0.71	-53306	16250	3783	40441	8929	1810	10740		3.41	Si
SLV 16	7.9	-1289.54	-1651	-1375	2086	0.568	0	0	0	0	40441	7144	1448	8592		4.12	Si
SLV 5	4.35	-1356.64	6695	5575	-2891	0.568	0.4571	0	0	0	40441	7144	1448	8592		2.97	Si
SLV 5	7.9	1953.1	-3609	-3005	-4270	0.568	0	0	0	0	40441	7144	1448	8592		2.01	Si
SLV 10	4.35	-798.47	3646	3036	-1784	0.568	0.408	0	0	0	40441	7144	1448	8592		4.82	Si
SLV 10	7.9	1126.77	-1485	-1236	-2783	0.568	0	0	0	0	40441	7144	1448	8592		3.09	Si
SLV 11	4.35	1576.4	-16493	-13734	3963	0.71	0.71	-69083	16250	4619	40441	8929	1810	10740		2.71	Si
SLV 11	7.9	-1206.37	-5330	-4439	2217	0.568	0.386	0	0	0	40441	7144	1448	8592		3.88	Si
SLV 9	4.35	-954.96	4652	3874	-2111	0.568	0.4492	0	0	0	40441	7144	1448	8592		4.07	Si
SLV 9	7.9	1361.49	-2012	-1676	-3205	0.568	0	0	0	0	40441	7144	1448	8592		2.68	Si
SLV 6	4.35	-1200.15	5689	4737	-2564	0.568	0.4321	0	0	0	40441	7144	1448	8592		3.35	Si
SLV 6	7.9	1718.37	-3081	-2565	-3847	0.568	0	0	0	0	40441	7144	1448	8592		2.23	Si
SLV 8	4.35	1331.21	-15456	-12870	3510	0.71	0.71	-64740	16250	4389	40441	8929	1810	10740		3.06	Si
SLV 8	7.9	-849.49	-6399	-5328	1575	0.71	0.6667	-28984	16213	3027	40441	8929	1810	10740		6.82	Si
SLV 1	4.35	-977.28	1922	1601	-1753	0.568	0	0	0	0	40441	7144	1448	8592		4.9	Si
SLV 1	7.9	1801.54	-6760	-5629	-3716	0.71	0.2655	-80251	16250	2458	40441	8929	1810	10740		2.89	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.38	0	386	73.31	0	0	No, Trazione
SLV 9	179667	0.38	0	548	73.31	0	0	No, Trazione
SLV 5	179667	0.38	0	563	73.31	0	0	No, Trazione
SLV 10	179667	0.38	0	371	73.31	0	0	No, Trazione
SLV 1	179667	0.38	13097	-2604	73.31	333.27	4.55	Si
SLV 13	179667	0.38	13345	-2653	73.31	338.97	4.62	Si
SLV 2	179667	0.38	14419	-2867	73.31	363.43	4.96	Si
SLV 14	179667	0.38	14667	-2916	73.31	369.01	5.03	Si
SLV 3	179667	0.38	27011	-5370	73.31	618.81	8.44	Si
SLV 15	179667	0.38	27259	-5419	73.31	623.25	8.5	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-7756	-4421	-223	0.491	889	0.966	7.38784	5.32179	Si
SLV 4	-6972	-5916	-222	0.538	809.2	0.963	8.11585	5.32179	Si
SLV 1	-6760	1922	-190	0.556	787.7	0.962	8.40389	5.32179	Si, Trazione
SLV 2	-5976	428	-189	0.618	707.9	0.958	9.36965	5.32179	Si, Trazione
SLV 7	-6927	-14450	-117	0.555	804.6	0.963	8.37055	4.54183	Si
SLV 8	-6399	-15456	-117	0.593	750.9	0.961	8.97789	4.54183	Si
SLV 11	-5330	-16493	6	0.711	642.3	0.955	10.82761	4.54183	Si
SLV 12	-4803	-17499	6	0.776	588.7	0.951	11.86358	4.54183	Si
SLV 5	-3609	6695	-8	0.983	467.6	0.94	15.19976	4.54183	Si, Trazione
SLV 15	-2435	-11231	188	1.285	349.1	0.924	20.21429	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.61	SLU 42	Si
V_SLU	5.682	SLU 78	Si
PF_SLV	0	SLD 5	No
V_SLV	2.012	SLV 5	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.388	SLV 3	Si

Maschio 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.263	-3.169	-17.313	-3.169	L5	L6	1.05	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	5.25	-19.67	-9862	-0.0000541	0.0003743	0.0035	1.05	3471.59	4147.31	4147.31	210.84	No	Si
SLU 66	7.05	782.53	-8184	-0.0000688	0.0003743	0.0035	1.05	3121.79	3447.22	3447.22	4.41	No	Si
SLU 49	5.25	0.8	-8938	-0.0000481	0.0003743	0.0035	1.05	3291.17	3689.79	3689.79	4605.08	No	Si
SLU 49	7.05	708.26	-7232	-0.0000606	0.0003743	0.0035	1.05	2879.45	3149.21	3149.21	4.45	No	Si
SLU 71	5.25	-10.78	-9884	-0.0000539	0.0003743	0.0035	1.05	3475.65	4153.13	4153.13	385.44	No	Si
SLU 71	7.05	780.63	-8173	-0.0000687	0.0003743	0.0035	1.05	3119.18	3443.73	3443.73	4.41	No	Si
SLU 67	5.25	-27.04	-9910	-0.0000546	0.0003743	0.0035	1.05	3480.21	4159.71	4159.71	153.82	No	Si
SLU 67	7.05	793.26	-8239	-0.0000695	0.0003743	0.0035	1.05	3134.86	3464.82	3464.82	4.37	No	Si
SLU 64	5.25	-18.08	-9598	-0.0000525	0.0003743	0.0035	1.05	3423.16	4080.4	4080.4	225.72	No	Si
SLU 64	7.05	755.89	-7942	-0.0000665	0.0003743	0.0035	1.05	3063.34	3370.63	3370.63	4.46	No	Si
SLU 70	5.25	-23.39	-10053	-0.0000553	0.0003743	0.0035	1.05	3505.25	4196.64	4196.64	179.41	No	Si
SLU 70	7.05	805.63	-8354	-0.0000706	0.0003743	0.0035	1.05	3161.82	3501.54	3501.54	4.35	No	Si
SLU 69	5.25	-16.02	-10005	-0.0000548	0.0003743	0.0035	1.05	3496.87	4184.13	4184.13	261.19	No	Si
SLU 69	7.05	794.91	-8299	-0.0000699	0.0003743	0.0035	1.05	3148.97	3483.94	3483.94	4.38	No	Si
SLU 72	5.25	-18.15	-9933	-0.0000545	0.0003743	0.0035	1.05	3484.23	4165.55	4165.55	229.54	No	Si
SLU 72	7.05	791.36	-8228	-0.0000694	0.0003743	0.0035	1.05	3132.28	3461.33	3461.33	4.37	No	Si
SLU 65	5.25	-30.36	-9678	-0.0000533	0.0003743	0.0035	1.05	3438.23	4100.74	4100.74	135.05	No	Si
SLU 65	7.05	773.77	-8034	-0.0000676	0.0003743	0.0035	1.05	3085.85	3399.73	3399.73	4.39	No	Si
SLU 68	5.25	-26.71	-9822	-0.0000541	0.0003743	0.0035	1.05	3464.43	4137.13	4137.13	154.88	No	Si
SLU 68	7.05	786.14	-8150	-0.0000687	0.0003743	0.0035	1.05	3113.64	3436.33	3436.33	4.37	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	5.25	2126.24	-4806	-0.0002466	0.0005615	0.0035	1.05		2369.98	2369.98	1.11		Si
SLV 8	7.05	-1085.15	-660	-0.0017886	0.0005615	0.0035	0.84		586.89	586.89	0.54		No
SLV 16	5.25	-1560.85	-2958	-0.0004748	0.0005615	0.0035	0.84		1711.05	1711.05	1.1		Si
SLV 16	7.05	1097.48	-5022	-0.0000596	0.0005615	0.0035	1.05		2453.03	2453.03	2.24		Si
SLV 13	5.25	-2865.64	-4709	-0.0027339	0.0005615	0.0035	0.84		2513.39	2513.39	0.88		No
SLV 13	7.05	2137.96	-8502	-0.0001185	0.0005615	0.0035	1.05		3840.99	3840.99	1.8		Si
SLV 12	5.25	789.13	-2648	-0.0000419	0.0005615	0.0035	1.05		1396.85	1396.85	1.77		Si
SLV 12	7.05	-454.04	-1055	-0.0000391	0.0005615	0.0035	0.84		785.9	785.9	1.73		Si
SLV 4	5.25	2896.17	-10152	-0.000168	0.0005615	0.0035	1.05		4457.63	4457.63	1.54		Si
SLV 4	7.05	-1006.23	-3706	-0.0000529	0.0005615	0.0035	1.05		2060.57	2060.57	2.05		Si
SLV 7	5.25	1755.66	-4408	-0.0001342	0.0005615	0.0035	1.05		2208.68	2208.68	1.26		Si
SLV 7	7.05	-883.38	-940	-0.0008778	0.0005615	0.0035	0.84		728.39	728.39	0.82		No
SLD 15	5.25	-1366.33	-4252	-0.0000769	0.0005615	0.0035	0.84		2308.41	2308.41	1.69		Si
SLD 15	7.05	1117.6	-5760	-0.0000635	0.0005615	0.0035	1.05		2739.71	2739.71	2.45		Si
SLV 14	5.25	-2315.13	-5300	-0.0002473	0.0005615	0.0035	0.84		2771.66	2771.66	1.2		Si
SLV 14	7.05	1838.23	-8085	-0.0001022	0.0005615	0.0035	1.05		3670.02	3670.02	2		Si
SLD 13	5.25	-1807.84	-5624	-0.000104	0.0005615	0.0035	0.84		2911.96	2911.96	1.61		Si
SLD 13	7.05	1551.76	-7554	-0.0000879	0.0005615	0.0035	1.05		3453.8	3453.8	2.23		Si
SLV 15	5.25	-2111.36	-2368	-0.0034063	0.0005615	0.0035	0.84		1429.95	1429.95	0.68		No
SLV 15	7.05	1397.21	-5438	-0.0000747	0.0005615	0.0035	1.05		2614.24	2614.24	1.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	5.25	-27.04	-9910	-8252	-321	1.05	1.05	-28068	10687	3144	40441	8804	2678	11481	No	35.77	Si
SLU 67	7.05	793.26	-8239	-6861	-1052	1.05	1.05	-23336	10056	2956	40441	8804	2678	11481	No	10.91	Si
SLU 72	5.25	-18.15	-9933	-8271	-299	1.05	1.05	-28133	10695	3149	40441	8804	2678	11481	No	38.38	Si
SLU 72	7.05	791.36	-8228	-6852	-1049	1.05	1.05	-23305	10052	2955	40441	8804	2678	11481	No	10.95	Si
SLU 70	5.25	-23.39	-10053	-8371	-313	1.05	1.05	-28474	10741	3176	40441	8804	2678	11481	No	36.73	Si
SLU 70	7.05	805.63	-8354	-6957	-1071	1.05	1.05	-23662	10099	2969	40441	8804	2678	11481	No	10.72	Si
SLU 75	5.25	56.45	-10935	-9105	-222	1.05	1.05	-30971	10833	3372	40441	8804	2678	11481	No	51.82	Si
SLU 75	7.05	813.6	-9082	-7563	-1004	1.05	1.05	-25723	10374	3050	40441	8804	2678	11481	No	11.44	Si
SLU 65	5.25	-30.36	-9678	-8059	-324	1.05	1.05	-27413	10600	3116	40441	8804	2678	11481	No	35.45	Si
SLU 65	7.05	773.77	-8034	-6690	-1024	1.05	1.05	-22756	9979	2934	40441	8804	2678	11481	No	11.21	Si
SLU 68	5.25	-26.71	-9822	-8179	-316	1.05	1.05	-27819	10654	3132	40441	8804	2678	11481	No	36.39	Si
SLU 68	7.05	786.14	-8150	-6786	-1043	1.05	1.05	-23083	10022	2947	40441	8804	2678	11481	No	11.01	Si
SLU 71	5.25	-10.78	-9884	-8231	-287	1.05	1.05	-27996	10677	3139	40441	8804	2678	11481	No	40	Si
SLU 71	7.05	780.63	-8173	-6806	-1029	1.05	1.05	-23148	10031	2949	40441	8804	2678	11481	No	11.16	Si
SLU 78	5.25	60.1	-11078	-9225	-213	1.05	1.05	-31377	10833	3403	40441	8804	2678	11481	No	53.85	Si
SLU 78	7.05	825.97	-9197	-7658	-1023	1.05	1.05	-26049	10418	3063	40441	8804	2678	11481	No	11.23	Si
SLU 69	5.25	-16.02	-10005	-8331	-301	1.05	1.05	-28337	10723	3165	40441	8804	2678	11481	No	38.21	Si
SLU 69	7.05	794.91	-8299	-6911	-1051	1.05	1.05	-23506	10079	2963	40441	8804	2678	11481	No	10.92	Si
SLU 66	5.25	-19.67	-9862	-8212	-309	1.05	1.05	-27931	10669	3137	40441	8804	2678	11481	No	37.18	Si
SLU 66	7.05	782.53	-8184	-6815	-1032	1.05	1.05	-23179	10035	2950	40441	8804	2678	11481	No	11.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	5.25	-1807.84	-5624	-4683	-3246	0.84	0.6107	0	0	0	40441	10564	2142	12706		3.91	Si
SLD 13	7.05	1551.76	-7554	-6290	-2593	1.05	0.9587	-21395	14696	3945	40441	13206	2678	15883		6.12	Si
SLV 16	5.25	-1560.85	-2958	-2463	-2971	0.84	0	0	0	0	40441	10564	2142	12706		4.28	Si
SLV 16	7.05	1097.48	-5022	-4182	-1718	1.05	0.9193	-14223	13261	3414	40441	13206	2678	15883		9.25	Si
SLV 10	5.25	-1725.13	-10453	-8704	-2894	1.05	1.05	-29606	16250	4778	40441	13206	2678	15883		5.49	Si
SLV 10	7.05	2015.11	-11267	-9382	-3462	1.05	1.0384	-31912	16250	4725	40441	13206	2678	15883		4.59	Si
SLV 4	5.25	2896.17	-10152	-8454	4647	1.05	0.7191	-28753	16167	3669	40441	13206	2678	15883		3.42	Si
SLV 4	7.05	-1006.23	-3706	-3086	2265	1.05	0.7604	-14594	13336	2839	40441	13206	2678	15883		7.01	Si
SLV 2	5.25	2141.9	-12493	-10403	3521	1.05	1.05	-35386	16250	4778	40441	13206	2678	15883		4.51	Si
SLV 2	7.05	-265.49	-6769	-5637	861	1.05	1.05	-19173	14251	4190	40441	13206	2678	15883		18.45	Si
SLV 3	5.25	2345.66	-9561	-7962	3729	1.05	0.839	-27081	15833	3720	40441	13206	2678	15883		4.26	Si
SLV 3	7.05	-706.5	-4122	-3433	1678	1.05	1.05	-11675	12752	3749	40441	13206	2678	15883		9.46	Si
SLV 14	5.25	-2315.13	-5300	-4413	-4097	0.84	0.2645	0	0	0	40441	10564	2142	12706		3.1	Si
SLV 14	7.05	1838.23	-8085	-6733	-3122	1.05	0.8929	-22900	14997	3750	40441	13206	2678	15883		5.09	Si
SLV 15	5.25	-2111.36	-2368	-1972	-3889	0.84	0	0	0	0	40441	10564	2142	12706		3.27	Si
SLV 15	7.05	1397.21	-5438	-4528	-2304	1.05	0.8042	-15402	13497	3039	40441	13206	2678	15883		6.89	Si
SLV 9	5.25	-2095.71	-10055	-8373	-3512	1.05	0.9498	-32034	16250	4321	40441	13206	2678	15883		4.52	Si
SLV 9	7.05	2216.87	-11547	-9616	-3857	1.05	0.9991	-32706	16250	4546	40441	13206	2678	15883		4.12	Si
SLV 13	5.25	-2865.64	-4709	-3922	-5015	0.84	0	0	0	0	40441	10564	2142	12706		2.53	Si
SLV 13	7.05	2137.96	-8502	-7079	-3709	1.05	0.8206	-24080	15233	3500	40441	13206	2678	15883		4.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	6529	-1919	108.42	257.24	2.37	Si
SLV 15	179667	0.38	6728	-1978	108.42	264.74	2.44	Si
SLV 12	179667	0.38	7881	-2317	108.42	307.63	2.84	Si
SLV 16	179667	0.38	8736	-2569	108.42	339.02	3.13	Si
SLV 7	179667	0.38	13869	-4077	108.42	518.99	4.79	Si
SLV 13	179667	0.38	14520	-4269	108.42	540.83	4.99	Si
SLV 8	179667	0.38	15220	-4475	108.42	564.03	5.2	Si
SLV 14	179667	0.38	16528	-4859	108.42	606.68	5.6	Si
SLV 3	179667	0.38	31194	-9171	108.42	1021.69	9.42	Si
SLV 9	179667	0.38	32502	-9556	108.42	1053.07	9.71	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-8970	-13032	-237	0.614	1060.4	0.959	9.31238	4.54183	Si
SLV 10	-8718	-12758	-237	0.629	1034.8	0.958	9.54887	4.54183	Si
SLV 13	-7332	-9585	-91	0.746	893.9	0.952	11.38656	5.32179	Si
SLV 5	-8393	-12672	-225	0.651	1001.7	0.957	9.89491	4.54183	Si
SLV 6	-8140	-12398	-225	0.668	976.1	0.956	10.16365	4.54183	Si
SLV 14	-6958	-9177	-91	0.779	855.9	0.95	11.92113	5.32179	Si
SLV 1	-5407	-8386	-48	0.967	698.6	0.941	14.93955	5.32179	Si
SLV 15	-5298	-6213	47	0.983	687.6	0.94	15.20654	5.32179	Si
SLV 2	-5033	-7978	-48	1.025	660.7	0.938	15.8858	5.32179	Si
SLV 16	-4924	-5805	47	1.044	649.7	0.937	16.18927	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.346	SLU 70	Si
V_SLU	10.717	SLU 70	Si
PF_SLV	0.541	SLV 8	No
V_SLV	2.534	SLV 13	Si
PFFP_SLV	2.373	SLV 11	Si
R_SLV	2.05	SLV 9	Si

Maschio 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L5	L6	3.211	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 58	4.35	4541.65	-17959	-0.0000753	0.0004492	0.0035	3.2107	19403.3	25364.3	25364.3	5.58	No	Si
SLU 58	6.45	-503.67	-13765	-0.0000407	0.0004492	0.0035	3.2107	16559.29	25217.78	25217.78	50.07	No	Si
SLU 48	4.35	4258.39	-16391	-0.0000689	0.0004492	0.0035	3.2107	18460.63	23567.4	23567.4	5.53	No	Si
SLU 48	6.45	-597.73	-12487	-0.0000376	0.0004492	0.0035	3.2107	15488.62	23603.43	23603.43	39.49	No	Si
SLU 69	4.35	4712.26	-18653	-0.0000784	0.0004492	0.0035	3.2107	19774.52	26159.29	26159.29	5.55	No	Si
SLU 69	6.45	-490.04	-14392	-0.0000425	0.0004492	0.0035	3.2107	17049.9	25996.91	25996.91	53.05	No	Si
SLU 43	4.35	4121.17	-15681	-0.000066	0.0004492	0.0035	3.2107	17985.98	22752.83	22752.83	5.52	No	Si
SLU 43	6.45	-709.66	-11763	-0.0000361	0.0004492	0.0035	3.2107	14839.21	22650.19	22650.19	31.92	No	Si
SLU 50	4.35	4220.65	-16194	-0.0000681	0.0004492	0.0035	3.2107	18331.6	23340.88	23340.88	5.53	No	Si
SLU 50	6.45	-590.47	-12288	-0.000037	0.0004492	0.0035	3.2107	15313.45	23341.83	23341.83	39.53	No	Si
SLU 64	4.35	4575.04	-17942	-0.0000754	0.0004492	0.0035	3.2107	19393.81	25344.72	25344.72	5.54	No	Si
SLU 64	6.45	-601.98	-13668	-0.000041	0.0004492	0.0035	3.2107	16481.14	25096.94	25096.94	41.69	No	Si
SLU 66	4.35	4662.52	-18396	-0.0000773	0.0004492	0.0035	3.2107	19640.5	25865.26	25865.26	5.55	No	Si
SLU 66	6.45	-549.64	-14129	-0.000042	0.0004492	0.0035	3.2107	16847.11	25670.42	25670.42	46.7	No	Si
SLU 71	4.35	4674.52	-18455	-0.0000776	0.0004492	0.0035	3.2107	19671.61	25932.77	25932.77	5.55	No	Si
SLU 71	6.45	-482.78	-14193	-0.0000418	0.0004492	0.0035	3.2107	16896.86	25749.92	25749.92	53.34	No	Si
SLU 45	4.35	4208.65	-16135	-0.0000679	0.0004492	0.0035	3.2107	18292.71	23273.37	23273.37	5.53	No	Si
SLU 45	6.45	-657.32	-12224	-0.0000371	0.0004492	0.0035	3.2107	15256.58	23257.61	23257.61	35.38	No	Si
SLU 53	4.35	4529.65	-17900	-0.0000751	0.0004492	0.0035	3.2107	19370.49	25296.79	25296.79	5.58	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 53	6.45	-570.53	-13701	-0.0000409	0.0004492	0.0035	3.2107	16507.94	25138.27	25138.27	44.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	4.35	10819.8	-9010	-0.0001369	0.0006738	0.0035	3.2107		14537.02	14537.02	1.34		Si
SLV 11	6.45	-5836.63	-1448	-0.0003271	0.0006738	0.0035	2.5686		8116.88	8116.88	1.39		Si
SLD 12	4.35	7817.16	-10878	-0.0000728	0.0006738	0.0035	3.2107		17160.5	17160.5	2.2		Si
SLD 12	6.45	-3700.41	-5113	-0.0000337	0.0006738	0.0035	3.2107		13603.44	13603.44	3.68		Si
SLD 8	4.35	7881.22	-11604	-0.0000744	0.0006738	0.0035	3.2107		18164.74	18164.74	2.3		Si
SLD 8	6.45	-3782.67	-5903	-0.0000356	0.0006738	0.0035	3.2107		14761.68	14761.68	3.9		Si
SLD 11	4.35	7786.17	-10973	-0.0000727	0.0006738	0.0035	3.2107		17292.59	17292.59	2.22		Si
SLD 11	6.45	-3606.88	-5172	-0.0000331	0.0006738	0.0035	3.2107		13689.52	13689.52	3.8		Si
SLV 8	4.35	10962.7	-10007	-0.0001195	0.0006738	0.0035	3.2107		15947.25	15947.25	1.45		Si
SLV 8	6.45	-6113.58	-2594	-0.0002806	0.0006738	0.0035	2.5686		9852.46	9852.46	1.61		Si
SLV 16	4.35	5610.11	-10480	-0.0000576	0.0006738	0.0035	3.2107		16606.18	16606.18	2.96		Si
SLV 16	6.45	-2025.66	-5824	-0.000026	0.0006738	0.0035	3.2107		14645.71	14645.71	7.23		Si
SLV 7	4.35	10911.63	-10163	-0.0001161	0.0006738	0.0035	3.2107		16164.92	16164.92	1.48		Si
SLV 7	6.45	-5959.45	-2691	-0.0002605	0.0006738	0.0035	2.5686		9997.8	9997.8	1.68		Si
SLV 15	4.35	5534.24	-10713	-0.0000579	0.0006738	0.0035	3.2107		16929.55	16929.55	3.06		Si
SLV 15	6.45	-1796.7	-5968	-0.0000252	0.0006738	0.0035	3.2107		14856.44	14856.44	8.27		Si
SLV 12	4.35	10870.87	-8854	-0.0001448	0.0006738	0.0035	3.2107		14315.65	14315.65	1.32		Si
SLV 12	6.45	-5990.76	-1351	-0.0003424	0.0006738	0.0035	2.5686		7970.08	7970.08	1.33		Si
SLD 7	4.35	7850.23	-11699	-0.0000744	0.0006738	0.0035	3.2107		18294.59	18294.59	2.33		Si
SLD 7	6.45	-3689.14	-5962	-0.0000351	0.0006738	0.0035	3.2107		14847.76	14847.76	4.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	4.35	4875.06	-20258	-11232	3959	3.2107	3.2107	-24988	10833	6412	115546	16154	16375	32528	No	8.22	Si
SLU 80	6.45	-305.74	-15790	-8755	4037	3.2107	3.2107	-19477	10833	5516	115546	16154	16375	32528	No	8.06	Si
SLU 75	4.35	4863.06	-20199	-11199	3989	3.2107	3.2107	-24915	10833	6400	115546	16154	16375	32528	No	8.15	Si
SLU 75	6.45	-372.6	-15726	-8719	4067	3.2107	3.2107	-19398	10833	5503	115546	16154	16375	32528	No	8	Si
SLU 78	4.35	4912.8	-20455	-11342	3980	3.2107	3.2107	-25232	10833	6451	115546	16154	16375	32528	No	8.17	Si
SLU 78	6.45	-313	-15989	-8865	4058	3.2107	3.2107	-19722	10833	5555	115546	16154	16375	32528	No	8.02	Si
SLU 83	4.35	5083.34	-20720	-11489	4304	3.2107	3.2107	-25559	10833	6504	115546	16154	16375	32528	No	7.56	Si
SLU 83	6.45	-418.39	-16040	-8893	4310	3.2107	3.2107	-19785	10833	5566	115546	16154	16375	32528	No	7.55	Si
SLU 84	4.35	4962.89	-20758	-11509	4111	3.2107	3.2107	-25605	10833	6512	115546	16154	16375	32528	No	7.91	Si
SLU 84	6.45	-328.14	-16160	-8960	4189	3.2107	3.2107	-19933	10833	5590	115546	16154	16375	32528	No	7.77	Si
SLU 82	4.35	4913.15	-20501	-11367	4120	3.2107	3.2107	-25288	10833	6461	115546	16154	16375	32528	No	7.89	Si
SLU 82	6.45	-387.74	-15897	-8814	4199	3.2107	3.2107	-19609	10833	5537	115546	16154	16375	32528	No	7.75	Si
SLU 74	4.35	4983.52	-20161	-11179	4182	3.2107	3.2107	-24869	10833	6392	115546	16154	16375	32528	No	7.78	Si
SLU 74	6.45	-462.84	-15606	-8653	4188	3.2107	3.2107	-19250	10833	5479	115546	16154	16375	32528	No	7.77	Si
SLU 79	4.35	4995.51	-20220	-11211	4152	3.2107	3.2107	-24942	10833	6404	115546	16154	16375	32528	No	7.83	Si
SLU 79	6.45	-395.99	-15670	-8688	4158	3.2107	3.2107	-19328	10833	5491	115546	16154	16375	32528	No	7.82	Si
SLU 77	4.35	5033.26	-20418	-11321	4172	3.2107	3.2107	-25186	10833	6444	115546	16154	16375	32528	No	7.8	Si
SLU 77	6.45	-403.25	-15868	-8798	4179	3.2107	3.2107	-19574	10833	5531	115546	16154	16375	32528	No	7.78	Si
SLU 81	4.35	5033.6	-20464	-11346	4313	3.2107	3.2107	-25242	10833	6453	115546	16154	16375	32528	No	7.54	Si
SLU 81	6.45	-477.99	-15777	-8748	4320	3.2107	3.2107	-19461	10833	5513	115546	16154	16375	32528	No	7.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	4.35	-3940.26	-17611	-9764	-6694	3.2107	3.2107	-21723	16250	7304	115546	24231	16375	40605		6.07	Si
SLV 9	6.45	5189.72	-18440	-10224	-6182	3.2107	3.2107	-22745	16250	7304	115546	24231	16375	40605		6.57	Si
SLV 5	4.35	-3848.43	-18764	-10404	-6661	3.2107	3.2107	-23146	16250	7304	115546	24231	16375	40605		6.1	Si
SLV 5	6.45	5066.9	-19683	-10913	-6207	3.2107	3.2107	-24279	16250	7471	115546	24231	16375	40605		6.54	Si
SLV 7	4.35	10911.63	-10163	-5635	12595	3.2107	1.5952	-12537	15007	5561	115546	24231	16375	40605		3.22	Si
SLV 7	6.45	-5959.45	-2691	-1492	12092	2.5686	0	0	0	0	115546	19385	13100	32484		2.69	Si
SLD 12	4.35	7817.16	-10878	-6032	8624	3.2107	2.6603	-13419	15184	5705	115546	24231	16375	40605		4.71	Si
SLD 12	6.45	-3700.41	-5113	-2835	8364	3.2107	2.645	-7682	14036	5198	115546	24231	16375	40605		4.85	Si
SLD 11	4.35	7786.17	-10973	-6084	8592	3.2107	2.6874	-13536	15207	5724	115546	24231	16375	40605		4.73	Si
SLD 11	6.45	-3606.88	-5172	-2868	8332	3.2107	2.7239	-7545	14009	5342	115546	24231	16375	40605		4.87	Si
SLD 7	4.35	7850.23	-11699	-6487	8614	3.2107	2.803	-14431	15386	6038	115546	24231	16375	40605		4.71	Si
SLD 7	6.45	-3689.14	-5962	-3306	8320	3.2107	2.9597	-8004	14101	5843	115546	24231	16375	40605		4.88	Si
SLD 8	4.35	7881.22	-11604	-6434	8645	3.2107	2.7785	-14314	15363	5976	115546	24231	16375	40605		4.7	Si
SLD 8	6.45	-3782.67	-5903	-3273	8351	3.2107	2.8937	-8102	14121	5720	115546	24231	16375	40605		4.86	Si
SLV 12	4.35	10870.87	-8854	-4909	12614	3.2107	1.1325	-10921	14684	5299	115546	24231	16375	40605		3.22	Si
SLV 12	6.45	-5990.76	-1351	-749	12169	2.5686	0	0	0	0	115546	19385	13100	32484		2.67	Si
SLV 8	4.35	10962.7	-10007	-5548	12647	3.2107	1.5295	-12344	14969	5530	115546	24231	16375	40605		3.21	Si
SLV 8	6.45	-6113.58	-2594	-1438	12144	2.5686	0	0	0	0	115546	19385	13100	32484		2.67	Si
SLV 11	4.35	10819.8	-9010	-4996	12562	3.2107	1.2134	-11114	14723	5330	115546	24231	16375	40605		3.23	Si
SLV 11	6.45	-5836.63	-1448	-803	12117	2.5686	0	0	0	0	115546	19385	13100	32484		2.68	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-2423	0.38	180.39	0	414.12	207.06	1.15	Si
SLV 11	-2544	0.38	180.39	0	424.77	212.38	1.18	Si
SLV 8	-3606	0.38	180.39	241.34	518.18	379.76	2.11	Si
SLV 7	-3726	0.38	180.39	249.01	528.66	388.84	2.16	Si
SLV 16	-6665	0.38	180.39	428.8	782.39	605.6	3.36	Si
SLV 15	-6844	0.38	180.39	439.26	797.66	618.46	3.43	Si
SLV 4	-10606	0.38	180.39	646.83	1115.99	881.41	4.89	Si
SLV 3	-10784	0.38	180.39	656.08	1130.94	893.51	4.95	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-11508	0.38	180.39	693.03	1190.97	942	5.22	Si
SLV 13	-11686	0.38	180.39	702.01	1205.7	953.86	5.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-10845	-17138	-294	1.467	1329.7	0.951	22.4144	9.26435	Si
SLV 2	-10740	-16905	-294	1.479	1319	0.951	22.61289	9.26435	Si
SLV 3	-8964	-14557	-253	1.732	1138.7	0.944	26.67328	9.26435	Si
SLV 4	-8859	-14325	-253	1.75	1128.1	0.943	26.95447	9.26435	Si
SLV 5	-11989	-18764	-149	1.354	1445.8	0.954	20.61915	6.57091	Si
SLV 6	-11918	-18608	-149	1.361	1438.6	0.954	20.73082	6.57091	Si
SLV 13	-7889	-13293	254	1.929	1029.9	0.939	29.86866	9.26435	Si
SLV 14	-7784	-13061	254	1.951	1019.3	0.938	30.22154	9.26435	Si
SLV 9	-11102	-17611	15	1.459	1355.7	0.952	22.28232	6.57091	Si
SLV 10	-11031	-17454	15	1.467	1348.6	0.952	22.41193	6.57091	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.521	SLU 43	Si
V_SLU	7.531	SLU 81	Si
PF_SLV	1.317	SLV 12	Si
V_SLV	2.669	SLV 12	Si
PFFP_SLV	1.148	SLV 12	Si
R_SLV	2.419	SLV 1	Si

Maschio 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.363	-3.169	L5	L6	1.61	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	4.35	22.26	-8209	-0.0000282	0.0003743	0.0035	1.61	5426.4	5746.31	5746.31	258.16	No	Si
SLU 81	6.45	2461.71	-14649	-0.0000862	0.0003743	0.0035	1.61	8028.52	9145.52	9145.52	3.72	No	Si
SLU 42	4.35	-32.65	-7000	-0.000024	0.0003743	0.0035	1.61	4775.38	5670.77	5670.77	173.67	No	Si
SLU 42	6.45	2226.77	-12836	-0.0000754	0.0003743	0.0035	1.61	7443.06	8240.91	8240.91	3.7	No	Si
SLU 39	4.35	-46.28	-6758	-0.0000234	0.0003743	0.0035	1.61	4639.06	5514.12	5514.12	119.16	No	Si
SLU 39	6.45	2215.97	-12542	-0.000074	0.0003743	0.0035	1.61	7337.45	8097.67	8097.67	3.65	No	Si
SLU 31	4.35	-53.49	-6590	-0.0000229	0.0003743	0.0035	1.61	4543.52	5406.33	5406.33	101.08	No	Si
SLU 31	6.45	2071.63	-12126	-0.0000703	0.0003743	0.0035	1.61	7182.55	7896.35	7896.35	3.81	No	Si
SLU 40	4.35	-47.73	-6820	-0.0000236	0.0003743	0.0035	1.61	4674.26	5554.27	5554.27	116.36	No	Si
SLU 40	6.45	2226.44	-12614	-0.0000744	0.0003743	0.0035	1.61	7363.63	8132.7	8132.7	3.65	No	Si
SLU 83	4.35	37.34	-8389	-0.000029	0.0003743	0.0035	1.61	5518.76	5859.49	5859.49	156.93	No	Si
SLU 83	6.45	2462.04	-14870	-0.0000871	0.0003743	0.0035	1.61	8092.14	9258.56	9258.56	3.76	No	Si
SLU 84	4.35	35.88	-8451	-0.0000292	0.0003743	0.0035	1.61	5550.41	5898.72	5898.72	164.39	No	Si
SLU 84	6.45	2472.51	-14942	-0.0000876	0.0003743	0.0035	1.61	8112.45	9295.41	9295.41	3.76	No	Si
SLU 33	4.35	-43.37	-6823	-0.0000236	0.0003743	0.0035	1.61	4675.77	5555.99	5555.99	128.12	No	Si
SLU 33	6.45	2093.58	-12466	-0.000072	0.0003743	0.0035	1.61	7309.37	8060.42	8060.42	3.85	No	Si
SLU 82	4.35	20.8	-8271	-0.0000284	0.0003743	0.0035	1.61	5458.44	5785.35	5785.35	278.12	No	Si
SLU 82	6.45	2472.18	-14721	-0.0000867	0.0003743	0.0035	1.61	8049.38	9182.18	9182.18	3.71	No	Si
SLU 41	4.35	-31.2	-6938	-0.0000238	0.0003743	0.0035	1.61	4740.57	5630.57	5630.57	180.49	No	Si
SLU 41	6.45	2216.3	-12764	-0.0000749	0.0003743	0.0035	1.61	7417.44	8205.69	8205.69	3.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	4.35	-3451.22	-2317	-0.0016305	0.0005615	0.0035	1.288		2476.21	2476.21	0.72		No
SLV 13	6.45	5180.44	-13821	-0.0001229	0.0005615	0.0035	1.61		9516.23	9516.23	1.84		Si
SLV 15	4.35	-3186.18	1388	0.1516595	0.0005615	0.0035	1.288		0	0	0		No
SLV 15	6.45	4454.17	-9395	-0.0001072	0.0005615	0.0035	1.61		6769.48	6769.48	1.52		Si
SLD 16	4.35	-1626.76	-1844	-0.0002392	0.0005615	0.0035	1.288		2116.03	2116.03	1.3		Si
SLD 16	6.45	2964.56	-9365	-0.0000703	0.0005615	0.0035	1.61		6751.73	6751.73	2.28		Si
SLV 12	4.35	-216.1	1602	0	0.0005615	0.0035	1.288		0	0	0		No
SLV 12	6.45	942.03	-2770	-0.0000211	0.0005615	0.0035	1.61		2306.74	2306.74	2.45		Si
SLV 11	4.35	-646.73	2219	0.2317584	0.0005615	0.0035	1.288		0	0	0		No
SLV 11	6.45	1414.89	-3106	-0.0000317	0.0005615	0.0035	1.61		2559.52	2559.52	1.81		Si
SLV 16	4.35	-2546.47	471	0.0468312	0.0005615	0.0035	1.288		0	0	0		No
SLV 16	6.45	3751.71	-8896	-0.0000862	0.0005615	0.0035	1.61		6469.59	6469.59	1.72		Si
SLD 15	4.35	-2032.6	-1263	-0.0008083	0.0005615	0.0035	1.288		1669.34	1669.34	0.82		No
SLD 15	6.45	3410.22	-9681	-0.000079	0.0005615	0.0035	1.61		6942.9	6942.9	2.04		Si
SLV 7	4.35	1175.29	-645	-0.0063377	0.0005615	0.0035	1.288		668.18	668.18	0.57		No
SLV 7	6.45	-365.54	-2211	-0.0000117	0.0005615	0.0035	1.61		2395.96	2395.96	6.55		Si
SLV 14	4.35	-2811.51	-3234	-0.0004269	0.0005615	0.0035	1.288		3163.04	3163.04	1.13		Si
SLV 14	6.45	4477.97	-13323	-0.0001073	0.0005615	0.0035	1.61		9199.7	9199.7	2.05		Si
SLV 8	4.35	1605.92	-1262	-0.0060862	0.0005615	0.0035	1.288		1150.95	1150.95	0.72		No
SLV 8	6.45	-838.41	-1876	-0.0000185	0.0005615	0.0035	1.288		2140.24	2140.24	2.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	4.35	41.71	-8392	-6988	-3675	1.61	1.61	-15501	9011	4062	40441	13499	4106	17605	No	4.79	Si
SLU 77	6.45	2329.18	-14722	-12259	-5912	1.61	1.61	-27193	10570	4765	40441	13499	4106	17605	No	2.98	Si
SLU 83	4.35	37.34	-8389	-6986	-3701	1.61	1.61	-15496	9011	4062	40441	13499	4106	17605	No	4.76	Si
SLU 83	6.45	2462.04	-14870	-12383	-6019	1.61	1.61	-27468	10607	4782	40441	13499	4106	17605	No	2.92	Si
SLU 80	4.35	46.18	-8360	-6961	-3642	1.61	1.61	-15442	9003	4059	40441	13499	4106	17605	No	4.83	Si
SLU 80	6.45	2311.05	-14628	-12181	-5868	1.61	1.61	-27020	10547	4755	40441	13499	4106	17605	No	3	Si
SLU 84	4.35	35.88	-8451	-7037	-3707	1.61	1.61	-15611	9026	4069	40441	13499	4106	17605	No	4.75	Si
SLU 84	6.45	2472.51	-14942	-12442	-6048	1.61	1.61	-27601	10625	4790	40441	13499	4106	17605	No	2.91	Si
SLU 74	4.35	26.63	-8212	-6838	-3667	1.61	1.61	-15169	8967	4042	40441	13499	4106	17605	No	4.8	Si
SLU 74	6.45	2328.85	-14500	-12074	-5896	1.61	1.61	-26784	10516	4740	40441	13499	4106	17605	No	2.99	Si
SLU 76	4.35	30.13	-8222	-6846	-3639	1.61	1.61	-15187	8969	4043	40441	13499	4106	17605	No	4.84	Si
SLU 76	6.45	2317.7	-14454	-12036	-5871	1.61	1.61	-26699	10504	4735	40441	13499	4106	17605	No	3	Si
SLU 81	4.35	22.26	-8209	-6836	-3694	1.61	1.61	-15164	8966	4042	40441	13499	4106	17605	No	4.77	Si
SLU 81	6.45	2461.71	-14649	-12198	-6003	1.61	1.61	-27059	10552	4757	40441	13499	4106	17605	No	2.93	Si
SLU 78	4.35	40.25	-8454	-7039	-3681	1.61	1.61	-15615	9027	4069	40441	13499	4106	17605	No	4.78	Si
SLU 78	6.45	2339.65	-14793	-12319	-5941	1.61	1.61	-27326	10588	4773	40441	13499	4106	17605	No	2.96	Si
SLU 75	4.35	25.17	-8274	-6890	-3673	1.61	1.61	-15283	8982	4049	40441	13499	4106	17605	No	4.79	Si
SLU 75	6.45	2339.32	-14572	-12134	-5925	1.61	1.61	-26917	10533	4748	40441	13499	4106	17605	No	2.97	Si
SLU 82	4.35	20.8	-8271	-6888	-3700	1.61	1.61	-15279	8982	4049	40441	13499	4106	17605	No	4.76	Si
SLU 82	6.45	2472.18	-14721	-12258	-6032	1.61	1.61	-27192	10570	4765	40441	13499	4106	17605	No	2.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	4.35	-935.44	-8207	-6834	-4406	1.61	1.61	-15160	13449	6063	40441	20248	4106	24354		5.53	Si
SLD 9	6.45	2922.43	-14575	-12137	-7112	1.61	1.61	-26924	15801	7123	40441	20248	4106	24354		3.42	Si
SLD 13	4.35	-2188.03	-3432	-2858	-6560	1.288	0.5025	0	0	0	40441	16199	3284	19483		2.97	Si
SLD 13	6.45	3836.08	-12273	-10220	-8413	1.61	1.4773	-22671	14951	6185	40441	20248	4106	24354		2.89	Si
SLV 9	4.35	-1530.2	-10131	-8436	-5542	1.61	1.61	-18714	14159	6383	40441	20248	4106	24354		4.39	Si
SLV 9	6.45	3835.77	-17860	-14872	-9133	1.61	1.61	-32991	16250	7326	40441	20248	4106	24354		2.67	Si
SLV 10	4.35	-1099.57	-10748	-8950	-4764	1.61	1.61	-19854	14387	6486	40441	20248	4106	24354		5.11	Si
SLV 10	6.45	3362.9	-17525	-14593	-8243	1.61	1.61	-32372	16250	7326	40441	20248	4106	24354		2.95	Si
SLV 14	4.35	-2811.51	-3234	-2693	-7679	1.288	0	0	0	0	40441	16199	3284	19483		2.54	Si
SLV 14	6.45	4477.97	-13323	-11094	-9645	1.61	1.4067	-24610	15339	6041	40441	20248	4106	24354		2.53	Si
SLV 13	4.35	-3451.22	-2317	-1930	-8835	1.288	0	0	0	0	40441	16199	3284	19483		2.21	Si
SLV 13	6.45	5180.44	-13821	-11509	-10966	1.61	1.2905	-25530	15523	5609	40441	20248	4106	24354		2.22	Si
SLV 16	4.35	-2546.47	471	393	-7096	1.288	0	0	0	0	40441	16199	3284	19483		2.75	Si
SLV 16	6.45	3751.71	-8896	-7408	-7811	1.61	1.1499	-16433	13703	4412	40441	20248	4106	24354		3.12	Si
SLV 15	4.35	-3186.18	1388	1156	-8252	1.288	0	0	0	0	40441	16199	3284	19483		2.36	Si
SLV 15	6.45	4454.17	-9395	-7823	-9132	1.61	0.9926	-17353	13887	4256	40441	20248	4106	24354		2.67	Si
SLD 15	4.35	-2032.6	-1263	-1052	-6217	1.288	0	0	0	0	40441	16199	3284	19483		3.13	Si
SLD 15	6.45	3410.22	-9681	-8062	-7339	1.61	1.3582	-17883	13993	5322	40441	20248	4106	24354		3.32	Si
SLD 14	4.35	-1782.19	-4014	-3342	-5827	1.288	1.0829	0	0	0	40441	16199	3284	19483		3.34	Si
SLD 14	6.45	3390.43	-11957	-9957	-7575	1.61	1.5644	-22087	14834	6498	40441	20248	4106	24354		3.22	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	4761	-2146	166.24	291.12	1.75	Si
SLV 7	179667	0.38	5505	-2482	166.24	334.9	2.01	Si
SLV 12	179667	0.38	6739	-3038	166.24	406.53	2.45	Si
SLV 11	179667	0.38	7483	-3373	166.24	449.1	2.7	Si
SLV 4	179667	0.38	13750	-6198	166.24	789.64	4.75	Si
SLV 3	179667	0.38	14854	-6696	166.24	846.31	5.09	Si
SLV 16	179667	0.38	20342	-9170	166.24	1112.81	6.69	Si
SLV 15	179667	0.38	21447	-9668	166.24	1163.46	7	Si
SLV 2	179667	0.38	23586	-10633	166.24	1258.68	7.57	Si
SLV 1	179667	0.38	24691	-11131	166.24	1306.37	7.86	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-10907	-12781	-62	0.771	1336.6	0.951	11.78904	5.32179	Si
SLV 6	-12540	-13612	-207	0.676	1502.5	0.956	10.27186	4.54183	Si
SLV 1	-10601	-11864	-61	0.79	1305.6	0.95	12.08738	5.32179	Si
SLV 5	-12334	-12995	-206	0.685	1481.6	0.955	10.42325	4.54183	Si
SLV 10	-11420	-10748	-206	0.731	1388.7	0.953	11.1525	4.54183	Si
SLV 9	-11214	-10131	-205	0.742	1367.8	0.952	11.33256	4.54183	Si
SLV 4	-8344	-9076	63	0.963	1076.6	0.941	14.8761	5.32179	Si
SLV 3	-8038	-8159	64	0.993	1045.7	0.939	15.35783	5.32179	Si
SLV 14	-7173	-3234	-60	1.089	958.1	0.935	16.92846	5.32179	Si
SLV 13	-6868	-2317	-59	1.128	927.3	0.933	17.56391	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.653	SLU 40	Si
V_SLU	2.911	SLU 84	Si
PF_SLV	0	SLV 11	No
V_SLV	2.205	SLV 13	Si
PFFP_SLV	1.751	SLV 8	Si
R_SLV	2.215	SLV 2	Si

Maschio 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.661	L5	L6	4.455	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	4.35	-17776.43	-33623	-0.0001227	0.0004492	0.0035	4.455	41851.69	71829.48	71829.48	4.04	No	Si
SLU 78	6.45	-11067.84	-30261	-0.0000943	0.0004492	0.0035	4.455	40640.46	66846.63	66846.63	6.04	No	Si
SLU 81	4.35	-17787.57	-33368	-0.0001221	0.0004492	0.0035	4.455	41782.87	71468.21	71468.21	4.02	No	Si
SLU 81	6.45	-11306.16	-30005	-0.0000944	0.0004492	0.0035	4.455	40521.42	66459.18	66459.18	5.88	No	Si
SLU 76	4.35	-17614.71	-32553	-0.0001195	0.0004492	0.0035	4.455	41537.95	70316.25	70316.25	3.99	No	Si
SLU 76	6.45	-10645.11	-29191	-0.0000905	0.0004492	0.0035	4.455	40116.38	65223.73	65223.73	6.13	No	Si
SLU 73	4.35	-17456.77	-31927	-0.0001175	0.0004492	0.0035	4.455	41323.17	69373.36	69373.36	3.97	No	Si
SLU 73	6.45	-10441.06	-28564	-0.0000885	0.0004492	0.0035	4.455	39778.46	64273.49	64273.49	6.16	No	Si
SLU 83	4.35	-17945.5	-33995	-0.0001241	0.0004492	0.0035	4.455	41944.86	72354.24	72354.24	4.03	No	Si
SLU 83	6.45	-11510.21	-30632	-0.0000965	0.0004492	0.0035	4.455	40806.57	67409.43	67409.43	5.86	No	Si
SLU 82	4.35	-18027.48	-33098	-0.0001221	0.0004492	0.0035	4.455	41706.12	71087.03	71087.03	3.94	No	Si
SLU 82	6.45	-11125.98	-29736	-0.0000932	0.0004492	0.0035	4.455	40391.69	66050.37	66050.37	5.94	No	Si
SLU 80	4.35	-17612.71	-33360	-0.0001215	0.0004492	0.0035	4.455	41780.56	71456.4	71456.4	4.06	No	Si
SLU 80	6.45	-10969.28	-29997	-0.0000934	0.0004492	0.0035	4.455	40517.47	66446.52	66446.52	6.06	No	Si
SLU 75	4.35	-17618.49	-32997	-0.0001206	0.0004492	0.0035	4.455	41676.11	70943.45	70943.45	4.03	No	Si
SLU 75	6.45	-10863.79	-29634	-0.0000922	0.0004492	0.0035	4.455	40341.72	65896.39	65896.39	6.07	No	Si
SLU 84	4.35	-18185.42	-33725	-0.0001242	0.0004492	0.0035	4.455	41877.98	71973.06	71973.06	3.96	No	Si
SLU 84	6.45	-11330.03	-30362	-0.0000953	0.0004492	0.0035	4.455	40686.71	67000.62	67000.62	5.91	No	Si
SLU 40	4.35	-15503.8	-27976	-0.0001022	0.0004492	0.0035	4.455	39439.94	63380.41	63380.41	4.09	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	6.45	-9670.72	-25289	-0.0000788	0.0004492	0.0035	4.455	37638.46	59067.16	59067.16	6.11	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	4.35	-25839.09	-10560	-0.0004851	0.0006738	0.0035	3.564		33228.65	33228.65	1.29		Si
SLD 5	6.45	-502.62	-8035	-0.0000169	0.0006738	0.0035	4.455		28226.97	28226.97	56.16		Si
SLV 6	4.35	-35444.12	-1935	-0.0015906	0.0006738	0.0035	3.564		15600.7	15600.7	0.44		No
SLV 6	6.45	4079.01	580	-0.0018608	0.0006738	0.0035	3.564		761.16	761.16	0.19		No
SLD 9	4.35	-24139.89	-11165	-0.0003313	0.0006738	0.0035	3.564		34421.34	34421.34	1.43		Si
SLD 9	6.45	-888.02	-8639	-0.0000191	0.0006738	0.0035	4.455		29438.92	29438.92	33.15		Si
SLV 9	4.35	-32975.28	-2774	-0.0013955	0.0006738	0.0035	3.564		17367.01	17367.01	0.53		No
SLV 9	6.45	3662.18	-257	-0.0009609	0.0006738	0.0035	3.564		2583.7	2583.7	0.71		No
SLD 6	4.35	-25727.29	-10625	-0.0004728	0.0006738	0.0035	3.564		33355.6	33355.6	1.3		Si
SLD 6	6.45	-615.76	-8099	-0.0000173	0.0006738	0.0035	4.455		28357.88	28357.88	46.05		Si
SLV 1	4.35	-23111.95	-15138	-0.0001312	0.0006738	0.0035	3.564		42127.03	42127.03	1.82		Si
SLV 1	6.45	-2808.83	-12606	-0.0000321	0.0006738	0.0035	4.455		37264.03	37264.03	13.27		Si
SLD 10	4.35	-24028.09	-11229	-0.0003193	0.0006738	0.0035	3.564		34548.3	34548.3	1.44		Si
SLD 10	6.45	-1001.16	-8703	-0.0000196	0.0006738	0.0035	4.455		29565.87	29565.87	29.53		Si
SLV 2	4.35	-22838.26	-15295	-0.0001264	0.0006738	0.0035	3.564		42423.09	42423.09	1.86		Si
SLV 2	6.45	-3085.79	-12764	-0.0000332	0.0006738	0.0035	4.455		37574.81	37574.81	12.18		Si
SLV 5	4.35	-35628.35	-1829	-0.0016066	0.0006738	0.0035	3.564		15377.42	15377.42	0.43		No
SLV 5	6.45	4265.45	686	-0.0020833	0.0006738	0.0035	3.564		529.89	529.89	0.12		No
SLV 10	4.35	-32791.05	-2880	-0.0013798	0.0006738	0.0035	3.564		17590.29	17590.29	0.54		No
SLV 10	6.45	3475.73	-364	-0.0008135	0.0006738	0.0035	3.564		2813.85	2813.85	0.81		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	4.35	-15909.86	-30239	-16766	-3111	4.455	4.455	-26882	10833	10309	115546	22414	22720	45135	No	14.51	Si
SLU 68	6.45	-9327.23	-26877	-14902	-3111	4.455	4.455	-23893	10833	9563	115546	22414	22720	45135	No	14.51	Si
SLU 84	4.35	-18185.42	-33725	-18699	-3241	4.455	4.455	-29981	10833	11082	115546	22414	22720	45135	No	13.93	Si
SLU 84	6.45	-11330.03	-30362	-16835	-3241	4.455	4.455	-26992	10833	10337	115546	22414	22720	45135	No	13.93	Si
SLU 65	4.35	-15751.92	-29613	-16419	-3133	4.455	4.455	-26325	10833	10170	115546	22414	22720	45135	No	14.41	Si
SLU 65	6.45	-9123.18	-26250	-14554	-3133	4.455	4.455	-23336	10833	9425	115546	22414	22720	45135	No	14.41	Si
SLU 82	4.35	-18027.48	-33098	-18352	-3263	4.455	4.455	-29424	10833	10943	115546	22414	22720	45135	No	13.83	Si
SLU 82	6.45	-11125.98	-29736	-16487	-3263	4.455	4.455	-26435	10833	10198	115546	22414	22720	45135	No	13.83	Si
SLU 75	4.35	-17618.49	-32997	-18295	-3193	4.455	4.455	-29334	10833	10921	115546	22414	22720	45135	No	14.14	Si
SLU 75	6.45	-10863.79	-29634	-16431	-3193	4.455	4.455	-26344	10833	10175	115546	22414	22720	45135	No	14.14	Si
SLU 80	4.35	-17612.71	-33360	-18496	-3140	4.455	4.455	-29656	10833	11001	115546	22414	22720	45135	No	14.38	Si
SLU 80	6.45	-10969.28	-29997	-16632	-3140	4.455	4.455	-26667	10833	10256	115546	22414	22720	45135	No	14.38	Si
SLU 76	4.35	-17614.71	-32553	-18049	-3295	4.455	4.455	-28939	10833	10822	115546	22414	22720	45135	No	13.7	Si
SLU 76	6.45	-10645.11	-29191	-16185	-3295	4.455	4.455	-25950	10833	10077	115546	22414	22720	45135	No	13.7	Si
SLU 78	4.35	-17776.43	-33623	-18643	-3171	4.455	4.455	-29890	10833	11060	115546	22414	22720	45135	No	14.23	Si
SLU 78	6.45	-11067.84	-30261	-16778	-3171	4.455	4.455	-26901	10833	10314	115546	22414	22720	45135	No	14.23	Si
SLU 81	4.35	-17787.57	-33368	-18501	-3063	4.455	4.455	-29663	10833	11003	115546	22414	22720	45135	No	14.74	Si
SLU 81	6.45	-11306.16	-30005	-16637	-3063	4.455	4.455	-26674	10833	10257	115546	22414	22720	45135	No	14.74	Si
SLU 73	4.35	-17456.77	-31927	-17702	-3317	4.455	4.455	-28382	10833	10683	115546	22414	22720	45135	No	13.61	Si
SLU 73	6.45	-10441.06	-28564	-15838	-3317	4.455	4.455	-25393	10833	9938	115546	22414	22720	45135	No	13.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.35	-35628.35	-1829	-1014	-19156	3.564	0	0	0	0	115546	26897	18176	45073		2.35	Si
SLV 5	6.45	4265.45	686	380	-18794	3.564	0	0	0	0	115546	26897	18176	45073		2.4	Si
SLD 9	4.35	-24139.89	-11165	-6191	-11159	3.564	0.1962	0	0	0	115546	26897	18176	45073		4.04	Si
SLD 9	6.45	-888.02	-8639	-4790	-10950	4.455	4.455	-7680	14036	8754	115546	33621	22720	56342		5.15	Si
SLD 10	4.35	-24028.09	-11229	-6226	-11052	3.564	0.2633	0	0	0	115546	26897	18176	45073		4.08	Si
SLD 10	6.45	-1001.16	-8703	-4825	-10843	4.455	4.455	-7737	14047	8761	115546	33621	22720	56342		5.2	Si
SLD 6	4.35	-25727.29	-10625	-5891	-12044	3.564	0	0	0	0	115546	26897	18176	45073		3.74	Si
SLD 6	6.45	-615.76	-8099	-4491	-11831	4.455	4.455	-7200	13940	8694	115546	33621	22720	56342		4.76	Si
SLV 12	4.35	11941.46	-44129	-24468	14871	4.455	4.455	-39230	16250	15191	115546	33621	22720	56342		3.79	Si
SLV 12	6.45	-18876.72	-41560	-23043	14510	4.455	4.455	-36946	16250	14621	115546	33621	22720	56342		3.88	Si
SLV 9	4.35	-32975.28	-2774	-1538	-17607	3.564	0	0	0	0	115546	26897	18176	45073		2.56	Si
SLV 9	6.45	3662.18	-257	-143	-17250	3.564	0	0	0	0	115546	26897	18176	45073		2.61	Si
SLD 5	4.35	-25839.09	-10560	-5855	-12151	3.564	0	0	0	0	115546	26897	18176	45073		3.71	Si
SLD 5	6.45	-502.62	-8035	-4455	-11939	4.455	4.455	-7143	13929	8687	115546	33621	22720	56342		4.72	Si
SLV 6	4.35	-35444.12	-1935	-1073	-18979	3.564	0	0	0	0	115546	26897	18176	45073		2.37	Si
SLV 6	6.45	4079.01	580	322	-18618	3.564	0	0	0	0	115546	26897	18176	45073		2.42	Si
SLV 10	4.35	-32791.05	-2880	-1597	-17430	3.564	0	0	0	0	115546	26897	18176	45073		2.59	Si
SLV 10	6.45	3475.73	-364	-202	-17074	3.564	0	0	0	0	115546	26897	18176	45073		2.64	Si
SLV 11	4.35	11757.23	-44023	-24409	14695	4.455	4.455	-39136	16250	15168	115546	33621	22720	56342		3.83	Si
SLV 11	6.45	-18690.28	-41454	-22984	14333	4.455	4.455	-36852	16250	14598	115546	33621	22720	56342		3.93	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	239	0.38	250.31	0	233.54	116.77	0.47	No
SLV 6	133	0.38	250.31	0	244.79	122.39	0.49	No
SLV 9	-706	0.38	250.31	0	328.97	164.49	0.66	No
SLV 10	-812	0.38	250.31	0	339.17	169.58	0.68	No
SLV 1	-13088	0.38	250.31	811.26	1408.79	1110.02	4.43	Si
SLV 2	-13245	0.38	250.31	819.75	1422.1	1120.92	4.48	Si
SLV 13	-16239	0.38	250.31	975.24	1668.91	1322.08	5.28	Si
SLV 14	-16396	0.38	250.31	983.12	1681.92	1332.52	5.32	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLD 5	-8504	0.16	103.57	550.99	1019.55	785.27	7.58	Si
SLV 3	-25478	0.38	250.31	1385.98	2417.66	1901.82	7.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-19757	-30821	472	1.15	2323.6	0.96	17.41399	9.26435	Si
SLV 15	-19737	-30663	472	1.151	2321.5	0.96	17.43093	9.26435	Si
SLV 4	-18855	-27670	-472	1.199	2231.8	0.959	18.18267	9.26435	Si
SLV 3	-18835	-27512	-472	1.2	2229.7	0.959	18.20116	9.26435	Si
SLV 12	-27087	-44129	142	0.877	3069.4	0.969	13.14847	6.57091	Si
SLV 11	-27073	-44023	142	0.877	3068	0.969	13.15482	6.57091	Si
SLV 8	-26816	-43184	-141	0.885	3041.9	0.969	13.27292	6.57091	Si
SLV 7	-26802	-43078	-141	0.885	3040.5	0.969	13.2794	6.57091	Si
SLV 14	-13202	-18446	472	1.638	1657.6	0.946	25.1645	9.26435	Si
SLV 13	-13181	-18289	472	1.64	1655.4	0.946	25.20007	9.26435	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.943	SLU 82	Si
V_SLU	13.607	SLU 73	Si
PF_SLV	0.124	SLV 5	No
V_SLV	2.353	SLV 5	Si
PFFP_SLV	0.467	SLV 5	No
R_SLV	1.88	SLV 16	Si

Maschio 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L5	Z medio 611 cm	1.281	0.28	1.76	1.76	1.76			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	4.35	-757.98	-17409	-0.0000989	0.0003743	0.0035	1.2809	5833.89	7623.05	7623.05	10.06	No	Si
SLU 76	6.11	603.01	-13984	-0.0000767	0.0003743	0.0035	1.2809	5526.22	6574.17	6574.17	10.9	No	Si
SLU 42	4.35	-712.78	-15435	-0.000087	0.0003743	0.0035	1.2809	5706.8	7174.97	7174.97	10.07	No	Si
SLU 42	6.11	645.86	-12533	-0.0000702	0.0003743	0.0035	1.2809	5271.73	6128.64	6128.64	9.49	No	Si
SLU 39	4.35	-689.62	-15122	-0.0000847	0.0003743	0.0035	1.2809	5674.07	7107.68	7107.68	10.31	No	Si
SLU 39	6.11	633.98	-12258	-0.0000686	0.0003743	0.0035	1.2809	5215.22	6018.33	6018.33	9.49	No	Si
SLU 40	4.35	-705	-15213	-0.0000856	0.0003743	0.0035	1.2809	5683.94	7127.13	7127.13	10.11	No	Si
SLU 40	6.11	644.67	-12321	-0.0000691	0.0003743	0.0035	1.2809	5228.35	6043.44	6043.44	9.37	No	Si
SLU 78	4.35	-763.09	-17707	-0.0001007	0.0003743	0.0035	1.2809	5841.18	7694.38	7694.38	10.08	No	Si
SLU 78	6.11	604.78	-14275	-0.0000783	0.0003743	0.0035	1.2809	5568.34	6647.69	6647.69	10.99	No	Si
SLU 81	4.35	-774.19	-17731	-0.0001012	0.0003743	0.0035	1.2809	5841.65	7700.31	7700.31	9.95	No	Si
SLU 81	6.11	668.44	-14300	-0.0000799	0.0003743	0.0035	1.2809	5571.87	6654.13	6654.13	9.95	No	Si
SLU 84	4.35	-797.35	-18044	-0.0001035	0.0003743	0.0035	1.2809	5845.71	7776.77	7776.77	9.75	No	Si
SLU 84	6.11	680.32	-14575	-0.0000816	0.0003743	0.0035	1.2809	5608.7	6724.29	6724.29	9.88	No	Si
SLU 82	4.35	-789.57	-17822	-0.0001021	0.0003743	0.0035	1.2809	5843.18	7722.43	7722.43	9.78	No	Si
SLU 82	6.11	679.13	-14363	-0.0000805	0.0003743	0.0035	1.2809	5580.51	6670.1	6670.1	9.82	No	Si
SLU 83	4.35	-781.97	-17953	-0.0001026	0.0003743	0.0035	1.2809	5844.88	7754.4	7754.4	9.92	No	Si
SLU 83	6.11	669.64	-14512	-0.000081	0.0003743	0.0035	1.2809	5600.52	6708.22	6708.22	10.02	No	Si
SLU 41	4.35	-697.4	-15344	-0.0000861	0.0003743	0.0035	1.2809	5697.64	7155.27	7155.27	10.26	No	Si
SLU 41	6.11	635.17	-12470	-0.0000697	0.0003743	0.0035	1.2809	5259.06	6103.37	6103.37	9.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	4.35	-1915.29	-20740	-0.0001371	0.0005615	0.0035	1.2809		9896.89	9896.89	5.17		Si
SLV 5	6.11	1126.21	-15946	-0.0000944	0.0005615	0.0035	1.2809		8003.8	8003.8	7.11		Si
SLV 13	4.35	-1158.71	-15060	-0.0000908	0.0005615	0.0035	1.2809		8068.44	8068.44	6.96		Si
SLV 13	6.11	1169.71	-11756	-0.0000751	0.0005615	0.0035	1.2809		6382.24	6382.24	5.46		Si
SLV 11	4.35	948.69	-3145	-0.0000331	0.0005615	0.0035	1.2809		2017.7	2017.7	2.13		Si
SLV 11	6.11	-402.44	-3037	-0.0000204	0.0005615	0.0035	1.2809		2222.91	2222.91	5.52		Si
SLV 8	4.35	1095.75	-2805	-0.0000403	0.0005615	0.0035	1.2809		1818.05	1818.05	1.66		Si
SLV 8	6.11	-776.84	-2796	-0.0000274	0.0005615	0.0035	1.2809		2081.46	2081.46	2.68		Si
SLV 6	4.35	-1901.73	-20651	-0.0001363	0.0005615	0.0035	1.2809		9868.28	9868.28	5.19		Si
SLV 6	6.11	1061.63	-15877	-0.0000927	0.0005615	0.0035	1.2809		7977.01	7977.01	7.51		Si
SLV 12	4.35	962.25	-3056	-0.0000335	0.0005615	0.0035	1.2809		1965.65	1965.65	2.04		Si
SLV 12	6.11	-467.01	-2967	-0.0000214	0.0005615	0.0035	1.2809		2181.83	2181.83	4.67		Si
SLV 7	4.35	1082.19	-2894	-0.0000389	0.0005615	0.0035	1.2809		1870.09	1870.09	1.73		Si
SLV 7	6.11	-712.26	-2866	-0.0000259	0.0005615	0.0035	1.2809		2122.4	2122.4	2.98		Si
SLV 10	4.35	-2035.23	-20903	-0.0001408	0.0005615	0.0035	1.2809		9947.12	9947.12	4.89		Si
SLV 10	6.11	1371.46	-16048	-0.0001003	0.0005615	0.0035	1.2809		8042.67	8042.67	5.86		Si
SLV 9	4.35	-2048.79	-20991	-0.0001416	0.0005615	0.0035	1.2809		9973.8	9973.8	4.87		Si
SLV 9	6.11	1436.03	-16117	-0.0001021	0.0005615	0.0035	1.2809		8069.52	8069.52	5.62		Si
SLV 14	4.35	-1138.57	-14928	-0.0000897	0.0005615	0.0035	1.2809		8016.98	8016.98	7.04		Si
SLV 14	6.11	1073.78	-11652	-0.0000725	0.0005615	0.0035	1.2809		6330.41	6330.41	5.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	4.35	-755.31	-17484	-14560	-5208	1.2809	1.2809	-40595	10833	5495	19031	10740	3266	14006	No	2.69	Si
SLU 75	6.11	603.58	-14063	-11710	-2632	1.2809	1.2809	-32651	10833	4666	19031	10740	3266	14006	No	5.32	Si
SLU 77	4.35	-747.71	-17616	-14669	-5175	1.2809	1.2809	-40899	10833	5527	19031	10740	3266	14006	No	2.71	Si
SLU 77	6.11	594.09	-14212	-11835	-2581	1.2809	1.2809	-32998	10833	4702	19031	10740	3266	14006	No	5.43	Si
SLU 83	4.35	-781.97	-17953	-14950	-5360	1.2809	1.2809	-41684	10833	5609	19031	10740	3266	14006	No	2.61	Si
SLU 83	6.11	669.64	-14512	-12085	-2767	1.2809	1.2809	-33695	10833	4774	19031	10740	3266	14006	No	5.06	Si
SLU 76	4.35	-757.98	-17409	-14497	-5206	1.2809	1.2809	-40421	10833	5477	19031	10740	3266	14006	No	2.69	Si
SLU 76	6.11	603.01	-13984	-11645	-2632	1.2809	1.2809	-32468	10833	4646	19031	10740	3266	14006	No	5.32	Si
SLU 80	4.35	-755.5	-17571	-14632	-5201	1.2809	1.2809	-40796	10833	5516	19031	10740	3266	14006	No	2.69	Si
SLU 80	6.11	597.08	-14154	-11787	-2601	1.2809	1.2809	-32863	10833	4688	19031	10740	3266	14006	No	5.39	Si
SLU 81	4.35	-774.19	-17731	-14765	-5309	1.2809	1.2809	-41168	10833	5555	19031	10740	3266	14006	No	2.64	Si
SLU 81	6.11	668.44	-14300	-11908	-2761	1.2809	1.2809	-33202	10833	4723	19031	10740	3266	14006	No	5.07	Si
SLU 82	4.35	-789.57	-17822	-14841	-5393	1.2809	1.2809	-41379	10833	5577	19031	10740	3266	14006	No	2.6	Si
SLU 82	6.11	679.13	-14363	-11960	-2817	1.2809	1.2809	-33348	10833	4738	19031	10740	3266	14006	No	4.97	Si
SLU 78	4.35	-763.09	-17707	-14745	-5260	1.2809	1.2809	-41111	10833	5549	19031	10740	3266	14006	No	2.66	Si
SLU 78	6.11	604.78	-14275	-11887	-2638	1.2809	1.2809	-33144	10833	4717	19031	10740	3266	14006	No	5.31	Si
SLU 84	4.35	-797.35	-18044	-15026	-5445	1.2809	1.2809	-41895	10833	5631	19031	10740	3266	14006	No	2.57	Si
SLU 84	6.11	680.32	-14575	-12137	-2823	1.2809	1.2809	-33841	10833	4790	19031	10740	3266	14006	No	4.96	Si
SLU 73	4.35	-750.2	-17187	-14312	-5154	1.2809	1.2809	-39905	10833	5423	19031	10740	3266	14006	No	2.72	Si
SLU 73	6.11	601.82	-13772	-11468	-2626	1.2809	1.2809	-31976	10833	4595	19031	10740	3266	14006	No	5.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	4.35	-1138.57	-14928	-12431	-8978	1.2809	1.2809	-34660	16250	5828	19031	16110	3266	19376		2.16	Si
SLV 14	6.11	1073.78	-11652	-9703	-6612	1.2809	1.2809	-27053	15827	5677	19031	16110	3266	19376		2.93	Si
SLV 13	4.35	-1158.71	-15060	-12541	-9618	1.2809	1.2809	-34966	16250	5828	19031	16110	3266	19376		2.01	Si
SLV 13	6.11	1169.71	-11756	-9789	-7256	1.2809	1.2809	-27294	15875	5694	19031	16110	3266	19376		2.67	Si
SLD 10	4.35	-1391.95	-17174	-14301	-8489	1.2809	1.2809	-39874	16250	6048	19031	16110	3266	19376		2.28	Si
SLD 10	6.11	949.17	-13317	-11089	-5659	1.2809	1.2809	-30919	16250	5828	19031	16110	3266	19376		3.42	Si
SLD 5	4.35	-1314.76	-17067	-14212	-7363	1.2809	1.2809	-39626	16250	6022	19031	16110	3266	19376		2.63	Si
SLD 5	6.11	789.93	-13250	-11033	-4558	1.2809	1.2809	-30763	16250	5828	19031	16110	3266	19376		4.25	Si
SLD 9	4.35	-1400.18	-17228	-14346	-8750	1.2809	1.2809	-39999	16250	6061	19031	16110	3266	19376		2.21	Si
SLD 9	6.11	988.36	-13359	-11124	-5922	1.2809	1.2809	-31017	16250	5828	19031	16110	3266	19376		3.27	Si
SLV 9	4.35	-2048.79	-20991	-17480	-12463	1.2809	1.2809	-48737	16250	6973	19031	16110	3266	19376		1.55	Si
SLV 9	6.11	1436.03	-16117	-13421	-8886	1.2809	1.2809	-37421	16250	5828	19031	16110	3266	19376		2.18	Si
SLV 5	4.35	-1915.29	-20740	-17270	-10298	1.2809	1.2809	-48154	16250	6912	19031	16110	3266	19376		1.88	Si
SLV 5	6.11	1126.21	-15946	-13279	-6757	1.2809	1.2809	-37024	16250	5828	19031	16110	3266	19376		2.87	Si
SLD 13	4.35	-888.32	-13775	-11470	-7233	1.2809	1.2809	-31981	16250	5828	19031	16110	3266	19376		2.68	Si
SLD 13	6.11	852.72	-10820	-9010	-5115	1.2809	1.2809	-25121	15441	5538	19031	16110	3266	19376		3.79	Si
SLV 10	4.35	-2035.23	-20903	-17406	-12032	1.2809	1.2809	-48532	16250	6952	19031	16110	3266	19376		1.61	Si
SLV 10	6.11	1371.46	-16048	-13363	-8453	1.2809	1.2809	-37259	16250	5828	19031	16110	3266	19376		2.29	Si
SLV 6	4.35	-1901.73	-20651	-17197	-9867	1.2809	1.2809	-47948	16250	6891	19031	16110	3266	19376		1.96	Si
SLV 6	6.11	1061.63	-15877	-13221	-6324	1.2809	1.2809	-36862	16250	5828	19031	16110	3266	19376		3.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.23 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.36	8689	-3116	31.64	411.44	13	Si
SLV 12	179667	0.36	8794	-3154	31.64	416.14	13.15	Si
SLV 7	179667	0.36	9708	-3482	31.64	456.46	14.43	Si
SLV 8	179667	0.36	9813	-3520	31.64	461.08	14.57	Si
SLV 15	179667	0.36	21849	-7836	31.64	940.12	29.71	Si
SLV 16	179667	0.36	22006	-7893	31.64	945.74	29.89	Si
SLV 3	179667	0.36	25247	-9055	31.64	1058.1	33.44	Si
SLV 4	179667	0.36	25404	-9111	31.64	1063.37	33.61	Si
SLV 13	179667	0.36	34171	-12256	31.64	1331.86	42.09	Si
SLV 14	179667	0.36	34328	-12312	31.64	1336.21	42.23	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.23 Wa = 0.05 Ta = 0.0185

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-16117	-20991	54	0.51	1730.3	0.984	7.53689	3.38591	Si
SLV 10	-16048	-20903	55	0.512	1723.2	0.984	7.56366	3.38591	Si
SLV 5	-15946	-20740	20	0.517	1712.9	0.984	7.63427	3.38591	Si
SLV 6	-15877	-20651	21	0.519	1705.8	0.984	7.66174	3.38591	Si
SLV 13	-11756	-15060	71	0.661	1285.9	0.978	9.82129	3.50711	Si
SLV 14	-11652	-14928	72	0.666	1275.3	0.978	9.89539	3.50711	Si
SLV 1	-11186	-14222	-42	0.692	1227.8	0.978	10.28805	3.50711	Si
SLV 2	-11082	-14090	-41	0.697	1217.3	0.977	10.37199	3.50711	Si
SLV 15	-7831	-9706	52	0.935	886.2	0.969	14.02113	3.50711	Si
SLV 16	-7728	-9574	53	0.946	875.6	0.969	14.1851	3.50711	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.375	SLU 40	Si
V_SLU	2.572	SLU 84	Si
PF_SLV	1.659	SLV 8	Si
V_SLV	1.555	SLV 9	Si
PFFP_SLV	13.003	SLV 11	Si
R_SLV	2.226	SLV 9	Si

Maschio 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 611 cm	L6	1.281	0.28	1.79	1.79	1.79			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	6.11	-782.11	-11528	-0.0000682	0.0003743	0.0035	1.2809	5052.18	6030.45	6030.45	7.71	No	Si
SLU 42	7.9	-141.37	-9890	-0.0000463	0.0003743	0.0035	1.2809	4618.63	5486.06	5486.06	38.81	No	Si
SLU 81	6.11	-824.18	-13258	-0.000078	0.0003743	0.0035	1.2809	5408.06	6572.57	6572.57	7.97	No	Si
SLU 81	7.9	-181.24	-11255	-0.0000536	0.0003743	0.0035	1.2809	4986.36	5949.3	5949.3	32.83	No	Si
SLU 40	6.11	-781.07	-11314	-0.0000671	0.0003743	0.0035	1.2809	5000.93	5966.88	5966.88	7.64	No	Si
SLU 40	7.9	-129.14	-9670	-0.0000449	0.0003743	0.0035	1.2809	4552.94	5398.84	5398.84	41.81	No	Si
SLU 82	6.11	-839.37	-13317	-0.0000786	0.0003743	0.0035	1.2809	5418.46	6592.13	6592.13	7.85	No	Si
SLU 82	7.9	-172.15	-11297	-0.0000536	0.0003743	0.0035	1.2809	4996.68	5961.72	5961.72	34.63	No	Si
SLU 19	6.11	-663.1	-9869	-0.0000573	0.0003743	0.0035	1.2809	4612.36	5477.6	5477.6	8.26	No	Si
SLU 19	7.9	-127.05	-8360	-0.0000388	0.0003743	0.0035	1.2809	4128.36	4848.33	4848.33	38.16	No	Si
SLU 84	6.11	-840.41	-13531	-0.0000798	0.0003743	0.0035	1.2809	5454.69	6662.69	6662.69	7.93	No	Si
SLU 84	7.9	-184.37	-11518	-0.000055	0.0003743	0.0035	1.2809	5049.75	6027.38	6027.38	32.69	No	Si
SLU 21	6.11	-664.14	-10083	-0.0000584	0.0003743	0.0035	1.2809	4674.44	5562.69	5562.69	8.38	No	Si
SLU 21	7.9	-139.27	-8581	-0.0000401	0.0003743	0.0035	1.2809	4204.19	4944.26	4944.26	35.5	No	Si
SLU 83	6.11	-825.22	-13471	-0.0000791	0.0003743	0.0035	1.2809	5444.74	6642.92	6642.92	8.05	No	Si
SLU 83	7.9	-193.46	-11475	-0.000055	0.0003743	0.0035	1.2809	5039.77	6014.8	6014.8	31.09	No	Si
SLU 41	6.11	-766.92	-11468	-0.0000675	0.0003743	0.0035	1.2809	5038.04	6012.64	6012.64	7.84	No	Si
SLU 41	7.9	-150.46	-9848	-0.0000462	0.0003743	0.0035	1.2809	4606.24	5469.36	5469.36	36.35	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	6.11	-765.88	-11254	-0.0000664	0.0003743	0.0035	1.2809	4986.35	5949.28	5949.28	7.77	No	Si
SLU 39	7.9	-138.24	-9627	-0.0000449	0.0003743	0.0035	1.2809	4540.23	5382.31	5382.31	38.94	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	6.11	877.43	-2535	-0.0000307	0.0005615	0.0035	1.2809		1657.75	1657.75	1.89		Si
SLV 7	7.9	-473.69	-2260	-0.0000185	0.0005615	0.0035	1.2809		1766.24	1766.24	3.73		Si
SLV 13	6.11	-1779.06	-11713	-0.0000878	0.0005615	0.0035	1.2809		6681.13	6681.13	3.76		Si
SLV 13	7.9	170.55	-10204	-0.0000471	0.0005615	0.0035	1.2809		5614.72	5614.72	32.92		Si
SLV 10	6.11	-1730.66	-15541	-0.0001057	0.0005615	0.0035	1.2809		8251.91	8251.91	4.77		Si
SLV 10	7.9	184.85	-12887	-0.0000597	0.0005615	0.0035	1.2809		6852.49	6852.49	37.07		Si
SLV 9	6.11	-1849	-15657	-0.0001089	0.0005615	0.0035	1.2809		8294.32	8294.32	4.49		Si
SLV 9	7.9	219.26	-13031	-0.000061	0.0005615	0.0035	1.2809		6905.52	6905.52	31.49		Si
SLV 4	6.11	925.83	-6363	-0.0000453	0.0005615	0.0035	1.2809		3791.3	3791.3	4.1		Si
SLV 4	7.9	-459.4	-4944	-0.0000297	0.0005615	0.0035	1.2809		3310.02	3310.02	7.21		Si
SLV 12	6.11	431.65	-2828	-0.0000201	0.0005615	0.0035	1.2809		1831.32	1831.32	4.24		Si
SLV 12	7.9	-385.81	-2716	-0.0000187	0.0005615	0.0035	1.2809		2034.26	2034.26	5.27		Si
SLV 14	6.11	-1603.27	-11540	-0.0000832	0.0005615	0.0035	1.2809		6605.79	6605.79	4.12		Si
SLV 14	7.9	119.44	-9991	-0.0000451	0.0005615	0.0035	1.2809		5510.69	5510.69	46.14		Si
SLV 8	6.11	995.77	-2418	-0.0000378	0.0005615	0.0035	1.2809		1588.43	1588.43	1.6		Si
SLV 8	7.9	-508.1	-2117	-0.0000186	0.0005615	0.0035	1.2809		1680.84	1680.84	3.31		Si
SLV 15	6.11	-1130.37	-7899	-0.0000563	0.0005615	0.0035	1.2809		4873.04	4873.04	4.31		Si
SLV 15	7.9	-0.65	-7153	-0.0000302	0.0005615	0.0035	1.2809		4493.27	4493.27	6964.26		Si
SLD 13	6.11	-1274.41	-10644	-0.000072	0.0005615	0.0035	1.2809		6197.68	6197.68	4.86		Si
SLD 13	7.9	52.87	-9171	-0.0000401	0.0005615	0.0035	1.2809		5113.61	5113.61	96.73		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	6.11	-825.22	-13471	-11218	-2718	1.2809	1.2809	-31278	10833	4446	19031	10740	3266	14006	No	5.15	Si
SLU 83	7.9	-193.46	-11475	-9556	-121	1.2809	1.2809	-26643	10497	3971	19031	10740	3266	14006	No	115.78	Si
SLU 76	6.11	-754.91	-13127	-10931	-2622	1.2809	1.2809	-30477	10833	4364	19031	10740	3266	14006	No	5.34	Si
SLU 76	7.9	-181.19	-11126	-9265	-121	1.2809	1.2809	-25833	10389	3887	19031	10740	3266	14006	No	116.21	Si
SLU 81	6.11	-824.18	-13258	-11040	-2713	1.2809	1.2809	-30781	10833	4395	19031	10740	3266	14006	No	5.16	Si
SLU 81	7.9	-181.24	-11255	-9372	-164	1.2809	1.2809	-26131	10429	3918	19031	10740	3266	14006	No	85.23	Si
SLU 75	6.11	-750.65	-13208	-10999	-2600	1.2809	1.2809	-30667	10833	4384	19031	10740	3266	14006	No	5.39	Si
SLU 75	7.9	-187.51	-11219	-9342	-93	1.2809	1.2809	-26049	10418	3910	19031	10740	3266	14006	No	150.25	Si
SLU 73	6.11	-753.87	-12913	-10753	-2617	1.2809	1.2809	-29981	10833	4313	19031	10740	3266	14006	No	5.35	Si
SLU 73	7.9	-168.97	-10905	-9081	-164	1.2809	1.2809	-25320	10320	3835	19031	10740	3266	14006	No	85.46	Si
SLU 82	6.11	-839.37	-13317	-11090	-2798	1.2809	1.2809	-30920	10833	4410	19031	10740	3266	14006	No	5.01	Si
SLU 82	7.9	-172.15	-11297	-9407	-218	1.2809	1.2809	-26228	10442	3928	19031	10740	3266	14006	No	64.16	Si
SLU 42	6.11	-782.11	-11528	-9599	-2596	1.2809	1.2809	-26765	10513	3983	19031	10740	3266	14006	No	5.4	Si
SLU 42	7.9	-141.37	-9890	-8236	-275	1.2809	1.2809	-22963	10006	3593	19031	10740	3266	14006	No	50.87	Si
SLU 84	6.11	-840.41	-13531	-11267	-2803	1.2809	1.2809	-31416	10833	4461	19031	10740	3266	14006	No	5	Si
SLU 84	7.9	-184.37	-11518	-9591	-175	1.2809	1.2809	-26741	10510	3981	19031	10740	3266	14006	No	80.07	Si
SLU 40	6.11	-781.07	-11314	-9421	-2591	1.2809	1.2809	-26269	10447	3932	19031	10740	3266	14006	No	5.41	Si
SLU 40	7.9	-129.14	-9670	-8052	-319	1.2809	1.2809	-22451	9938	3564	19031	10740	3266	14006	No	43.95	Si
SLU 78	6.11	-751.69	-13422	-11177	-2605	1.2809	1.2809	-31163	10833	4435	19031	10740	3266	14006	No	5.38	Si
SLU 78	7.9	-199.73	-11440	-9526	-50	1.2809	1.2809	-26562	10486	3962	19031	10740	3266	14006	No	280.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	6.11	-1849	-15657	-13038	-8245	1.2809	1.2809	-36352	16250	5828	19031	16110	3266	19376		2.35	Si
SLV 9	7.9	219.26	-13031	-10851	-3753	1.2809	1.2809	-30255	16250	5828	19031	16110	3266	19376		5.16	Si
SLD 10	6.11	-1203.65	-12851	-10701	-5223	1.2809	1.2809	-29837	16250	5828	19031	16110	3266	19376		3.71	Si
SLD 10	7.9	51.74	-10695	-8906	-1987	1.2809	1.2809	-24832	15383	5517	19031	16110	3266	19376		9.75	Si
SLV 13	6.11	-1779.06	-11713	-9753	-7501	1.2809	1.2809	-27195	15856	5687	19031	16110	3266	19376		2.58	Si
SLV 13	7.9	170.55	-10204	-8497	-3899	1.2809	1.2809	-23692	15155	5435	19031	16110	3266	19376		4.97	Si
SLV 10	6.11	-1730.66	-15541	-12941	-7732	1.2809	1.2809	-36083	16250	5828	19031	16110	3266	19376		2.51	Si
SLV 10	7.9	184.85	-12887	-10732	-3376	1.2809	1.2809	-29922	16250	5828	19031	16110	3266	19376		5.74	Si
SLD 13	6.11	-1274.41	-10644	-8863	-5266	1.2809	1.2809	-24712	15359	5509	19031	16110	3266	19376		3.68	Si
SLD 13	7.9	52.87	-9171	-7637	-2423	1.2809	1.2809	-21293	14675	5263	19031	16110	3266	19376		8	Si
SLV 5	6.11	-1284.88	-15248	-12697	-5836	1.2809	1.2809	-35403	16250	5828	19031	16110	3266	19376		3.32	Si
SLV 5	7.9	96.97	-12432	-10352	-2036	1.2809	1.2809	-28865	16190	5806	19031	16110	3266	19376		9.52	Si
SLV 8	6.11	995.77	-2418	-2014	5183	1.2809	0.6862	-5615	11540	2430	19031	16110	3266	19376		3.74	Si
SLV 8	7.9	-508.1	-2117	-1763	3904	1.2809	1.2013	-4915	11400	3835	19031	16110	3266	19376		4.96	Si
SLV 6	6.11	-1166.54	-15132	-12601	-5324	1.2809	1.2809	-35133	16250	5828	19031	16110	3266	19376		3.64	Si
SLV 6	7.9	62.56	-12289	-10233	-1660	1.2809	1.2809	-28532	16123	5783	19031	16110	3266	19376		11.67	Si
SLD 9	6.11	-1275.46	-12921	-10760	-5534	1.2809	1.2809	-30001	16250	5828	19031	16110	3266	19376		3.5	Si
SLD 9	7.9	72.62	-10782	-8978	-2216	1.2809	1.2809	-25034	15423	5532	19031	16110	3266	19376		8.75	Si
SLV 14	6.11	-1603.27	-11540	-9610	-6740	1.2809	1.2809	-26794	15776	5658	19031	16110	3266	19376		2.87	Si
SLV 14	7.9	119.44	-9991	-8320	-3341	1.2809	1.2809	-23197	15056	5400	19031	16110	3266	19376		5.8	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.005 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.39	4397	-1577	36.23	214.41	5.92	Si
SLV 7	179667	0.39	5170	-1854	36.23	250.8	6.92	Si
SLV 12	179667	0.39	7728	-2772	36.23	368.39	10.17	Si
SLV 11	179667	0.39	8501	-3049	36.23	403.09	11.13	Si
SLV 4	179667	0.39	12677	-4547	36.23	583.69	16.11	Si
SLV 3	179667	0.39	13826	-4959	36.23	631.36	17.43	Si
SLV 2	179667	0.39	23266	-8345	36.23	990.26	27.33	Si
SLV 16	179667	0.39	23781	-8529	36.23	1008.13	27.83	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.39	24415	-8757	36.23	1029.93	28.43	Si
SLV 15	179667	0.39	24930	-8941	36.23	1047.42	28.91	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.005 Wa = 0.05 Ta = 0.0191

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-13031	-15657	59	0.606	1417.3	0.98	8.98426	3.66543	Si
SLV 10	-12887	-15541	60	0.611	1402.7	0.98	9.06925	3.66543	Si
SLV 5	-12432	-15248	20	0.633	1356.3	0.979	9.39747	3.66543	Si
SLV 6	-12289	-15132	20	0.639	1341.7	0.979	9.49119	3.66543	Si
SLV 13	-10204	-11713	78	0.742	1129.3	0.975	11.06446	3.8014	Si
SLV 14	-9991	-11540	78	0.756	1107.6	0.975	11.26897	3.8014	Si
SLV 1	-8208	-10349	-54	0.896	926.1	0.97	13.42393	3.8014	Si
SLV 2	-7995	-10177	-53	0.917	904.4	0.97	13.73845	3.8014	Si
SLV 15	-7153	-7899	54	1.008	818.6	0.967	15.15231	3.8014	Si
SLV 16	-6940	-7726	55	1.034	796.9	0.966	15.56149	3.8014	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.639	SLU 40	Si
V_SLU	4.997	SLU 84	Si
PF_SLV	1.595	SLV 8	Si
V_SLV	2.35	SLV 9	Si
PFFP_SLV	5.918	SLV 8	Si
R_SLV	2.451	SLV 9	Si

Maschio 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	-0.354	Z medio 523 cm	L6	3.051	0.28	2.67	1.79	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	6.11	2344.68	-33031	-0.0000718	0.0003743	0.0035	3.0507	31247.22	37087.84	37087.84	15.82	No	Si
SLU 81	7.9	1059.07	-26070	-0.0000523	0.0003743	0.0035	3.0507	27845.12	31201.91	31201.91	29.46	No	Si
SLU 41	6.11	2189.79	-28707	-0.000062	0.0003743	0.0035	3.0507	29333.77	33678.9	33678.9	15.38	No	Si
SLU 41	7.9	1031.84	-22860	-0.0000457	0.0003743	0.0035	3.0507	25703.83	28280.69	28280.69	27.41	No	Si
SLU 21	6.11	1867.09	-25169	-0.0000535	0.0003743	0.0035	3.0507	27280.76	30370.02	30370.02	16.27	No	Si
SLU 21	7.9	993.75	-19980	-0.0000399	0.0003743	0.0035	3.0507	23474.72	25753.94	25753.94	25.92	No	Si
SLU 82	6.11	2342.31	-33189	-0.0000721	0.0003743	0.0035	3.0507	31304.58	37182.42	37182.42	15.87	No	Si
SLU 82	7.9	1083.23	-26207	-0.0000526	0.0003743	0.0035	3.0507	27928.62	31329.45	31329.45	28.92	No	Si
SLU 42	6.11	2187.42	-28864	-0.0000624	0.0003743	0.0035	3.0507	29415.05	33829.55	33829.55	15.47	No	Si
SLU 42	7.9	1056	-22998	-0.0000461	0.0003743	0.0035	3.0507	25802.77	28403.11	28403.11	26.9	No	Si
SLU 83	6.11	2398.12	-33627	-0.0000733	0.0003743	0.0035	3.0507	31459.45	37446.39	37446.39	15.61	No	Si
SLU 83	7.9	1084.2	-26621	-0.0000535	0.0003743	0.0035	3.0507	28176.15	31712.96	31712.96	29.25	No	Si
SLU 39	6.11	2136.35	-28111	-0.0000606	0.0003743	0.0035	3.0507	29018.71	33112.15	33112.15	15.5	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	7.9	1006.71	-22310	-0.0000445	0.0003743	0.0035	3.0507	25300.17	27791.69	27791.69	27.61	No	Si
SLU 20	6.11	1869.45	-25012	-0.0000532	0.0003743	0.0035	3.0507	27179.05	30225.38	30225.38	16.17	No	Si
SLU 20	7.9	969.58	-19843	-0.0000396	0.0003743	0.0035	3.0507	23361.25	25635.8	25635.8	26.44	No	Si
SLU 84	6.11	2395.75	-33784	-0.0000737	0.0003743	0.0035	3.0507	31513.52	37541.75	37541.75	15.67	No	Si
SLU 84	7.9	1108.36	-26758	-0.0000538	0.0003743	0.0035	3.0507	28256.99	31840.71	31840.71	28.73	No	Si
SLU 40	6.11	2133.98	-28269	-0.0000609	0.0003743	0.0035	3.0507	29103.28	33261.69	33261.69	15.59	No	Si
SLU 40	7.9	1030.87	-22447	-0.0000449	0.0003743	0.0035	3.0507	25401.76	27913.23	27913.23	27.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	6.11	2093.29	-18358	-0.00004	0.0005615	0.0035	3.0507		24973.5	24973.5	11.93		Si
SLV 16	7.9	187.39	-13740	-0.0000249	0.0005615	0.0035	3.0507		19758.68	19758.68	105.44		Si
SLD 12	6.11	2306.03	-15286	-0.0000351	0.0005615	0.0035	3.0507		21533.55	21533.55	9.34		Si
SLD 12	7.9	193.09	-11235	-0.0000204	0.0005615	0.0035	3.0507		16476.95	16476.95	85.33		Si
SLV 8	6.11	2814.67	-10499	-0.0000281	0.0005615	0.0035	3.0507		15492.91	15492.91	5.5		Si
SLV 8	7.9	111.44	-7154	-0.0000128	0.0005615	0.0035	3.0507		10909.36	10909.36	97.9		Si
SLV 7	6.11	2874.02	-10585	-0.0000285	0.0005615	0.0035	3.0507		15607.82	15607.82	5.43		Si
SLV 7	7.9	132.21	-7232	-0.000013	0.0005615	0.0035	3.0507		11017.16	11017.16	83.33		Si
SLD 11	6.11	2342.05	-15338	-0.0000353	0.0005615	0.0035	3.0507		21591.48	21591.48	9.22		Si
SLD 11	7.9	205.7	-11282	-0.0000205	0.0005615	0.0035	3.0507		16539.82	16539.82	80.41		Si
SLV 11	6.11	3078.72	-10339	-0.0000288	0.0005615	0.0035	3.0507		15278.07	15278.07	4.96		Si
SLV 11	7.9	68.36	-6893	-0.0000122	0.0005615	0.0035	3.0507		10544.22	10544.22	154.24		Si
SLV 12	6.11	3019.37	-10253	-0.0000284	0.0005615	0.0035	3.0507		15162	15162	5.02		Si
SLV 12	7.9	47.59	-6816	-0.000012	0.0005615	0.0035	3.0507		10435.98	10435.98	219.28		Si
SLD 7	6.11	2214.33	-15496	-0.0000352	0.0005615	0.0035	3.0507		21766.77	21766.77	9.83		Si
SLD 7	7.9	246.75	-11500	-0.000021	0.0005615	0.0035	3.0507		16832.2	16832.2	68.22		Si
SLV 15	6.11	2181.45	-18486	-0.0000406	0.0005615	0.0035	3.0507		25118.18	25118.18	11.51		Si
SLV 15	7.9	218.24	-13855	-0.0000252	0.0005615	0.0035	3.0507		19906.12	19906.12	91.21		Si
SLD 8	6.11	2178.32	-15444	-0.0000349	0.0005615	0.0035	3.0507		21708.77	21708.77	9.97		Si
SLD 8	7.9	234.14	-11453	-0.0000209	0.0005615	0.0035	3.0507		16769.53	16769.53	71.62		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	6.11	2398.12	-33627	-28001	3002	3.0507	3.0507	-32781	10833	15312	28547	25578	7779	33358	No	11.11	Si
SLU 83	7.9	1084.2	-26621	-22167	89	3.0507	3.0507	-25951	10405	12979	28547	25578	7779	33358	No	376.18	Si
SLU 43	6.11	1268.86	-25543	-21270	3038	3.0507	3.0507	-24901	10265	12620	28547	25578	7779	33358	No	10.98	Si
SLU 43	7.9	298.03	-19743	-16441	494	3.0507	3.0507	-19247	9511	10688	28547	25578	7779	33358	No	67.46	Si
SLU 81	6.11	2344.68	-33031	-27505	3014	3.0507	3.0507	-32200	10833	15114	28547	25578	7779	33358	No	11.07	Si
SLU 81	7.9	1059.07	-26070	-21709	87	3.0507	3.0507	-25415	10333	12795	28547	25578	7779	33358	No	382.64	Si
SLU 53	6.11	1865.84	-29113	-24243	3055	3.0507	3.0507	-28381	10729	13809	28547	25578	7779	33358	No	10.92	Si
SLU 53	7.9	809.72	-22904	-19072	139	3.0507	3.0507	-22328	9921	11741	28547	25578	7779	33358	No	240.69	Si
SLU 58	6.11	1904.58	-29390	-24473	3064	3.0507	3.0507	-28651	10765	13901	28547	25578	7779	33358	No	10.89	Si
SLU 58	7.9	837.44	-23161	-19287	141	3.0507	3.0507	-22579	9955	11826	28547	25578	7779	33358	No	236.61	Si
SLU 60	6.11	2024.34	-29336	-24428	3109	3.0507	3.0507	-28598	10758	13883	28547	25578	7779	33358	No	10.73	Si
SLU 60	7.9	996.81	-23053	-19196	-15	3.0507	3.0507	-22473	9941	11790	28547	25578	7779	33358	No	2254.05	Si
SLU 56	6.11	1919.29	-29709	-24739	3044	3.0507	3.0507	-28962	10806	14007	28547	25578	7779	33358	No	10.96	Si
SLU 56	7.9	834.85	-23454	-19531	140	3.0507	3.0507	-22865	9993	11924	28547	25578	7779	33358	No	238.12	Si
SLU 62	6.11	2077.78	-29932	-24925	3097	3.0507	3.0507	-29179	10833	14082	28547	25578	7779	33358	No	10.77	Si
SLU 62	7.9	1021.94	-23603	-19655	-13	3.0507	3.0507	-23010	10012	11974	28547	25578	7779	33358	No	2508.11	Si
SLU 50	6.11	1375.74	-26735	-22262	3014	3.0507	3.0507	-26062	10419	13017	28547	25578	7779	33358	No	11.07	Si
SLU 50	7.9	348.29	-20845	-17358	497	3.0507	3.0507	-20320	9654	11055	28547	25578	7779	33358	No	67.05	Si
SLU 45	6.11	1337.01	-26458	-22032	3006	3.0507	3.0507	-25793	10383	12925	28547	25578	7779	33358	No	11.1	Si
SLU 45	7.9	320.57	-20587	-17143	495	3.0507	3.0507	-20070	9620	10969	28547	25578	7779	33358	No	67.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	6.11	2814.67	-10499	-8742	22467	3.0507	3.0507	-10235	12464	10646	28547	38367	7779	39193		1.74	Si
SLV 8	7.9	111.44	-7154	-5958	7638	3.0507	3.0507	-6975	11812	10089	28547	38367	7779	38636		5.06	Si
SLV 12	6.11	3019.37	-10253	-8538	21138	3.0507	3.0507	-9995	12416	10605	28547	38367	7779	39152		1.85	Si
SLV 12	7.9	47.59	-6816	-5676	6813	3.0507	3.0507	-6644	11746	10033	28547	38367	7779	38580		5.66	Si
SLD 7	6.11	2214.33	-15496	-12904	14163	3.0507	3.0507	-15106	13438	11479	28547	38367	7779	40025		2.83	Si
SLD 7	7.9	246.75	-11500	-9576	4574	3.0507	3.0507	-11211	12659	10813	28547	38367	7779	39360		8.6	Si
SLV 7	6.11	2874.02	-10585	-8814	22494	3.0507	3.0507	-10319	12480	10661	28547	38367	7779	39207		1.74	Si
SLV 7	7.9	132.21	-7232	-6022	7544	3.0507	3.0507	-7050	11827	10102	28547	38367	7779	38649		5.12	Si
SLV 10	6.11	-267.71	-34290	-28554	-17896	3.0507	3.0507	-33428	16250	17589	28547	38367	7779	46136		2.58	Si
SLV 10	7.9	674.23	-27782	-23135	-6875	3.0507	3.0507	-27084	15833	15422	28547	38367	7779	43968		6.4	Si
SLV 9	6.11	-208.37	-34376	-28625	-17869	3.0507	3.0507	-33511	16250	17618	28547	38367	7779	46147		2.58	Si
SLV 9	7.9	695	-27859	-23199	-6969	3.0507	3.0507	-27159	15848	15447	28547	38367	7779	43994		6.31	Si
SLV 6	6.11	-472.41	-34535	-28758	-16568	3.0507	3.0507	-33667	16250	17671	28547	38367	7779	46147		2.79	Si
SLV 6	7.9	738.07	-28121	-23417	-6050	3.0507	3.0507	-27414	15899	15534	28547	38367	7779	44081		7.29	Si
SLV 5	6.11	-413.06	-34622	-28830	-16540	3.0507	3.0507	-33751	16250	17700	28547	38367	7779	46147		2.79	Si
SLV 5	7.9	758.84	-28198	-23481	-6144	3.0507	3.0507	-27489	15914	15560	28547	38367	7779	44107		7.18	Si
SLD 8	6.11	2178.32	-15444	-12860	14146	3.0507	3.0507	-15056	13428	11470	28547	38367	7779	40016		2.83	Si
SLD 8	7.9	234.14	-11453	-9537	4631	3.0507	3.0507	-11165	12650	10805	28547	38367	7779	39352		8.5	Si
SLV 11	6.11	3078.72	-10339	-8609	21165	3.0507	3.0507	-10079	12432	10620	28547	38367	7779	39166		1.85	Si
SLV 11	7.9	68.36	-6893	-5740	6719	3.0507	3.0507	-6720	11761	10046	28547	38367	7779	38592		5.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.005 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.39	11321	-9671	191.97	1253.53	6.53	Si
SLV 11	179667	0.39	11379	-9720	191.97	1259.37	6.56	Si
SLV 8	179667	0.39	11858	-10129	191.97	1307.97	6.81	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.39	11915	-10178	191.97	1313.76	6.84	Si
SLV 16	179667	0.39	18983	-16215	191.97	1987.97	10.36	Si
SLV 15	179667	0.39	19069	-16288	191.97	1995.62	10.4	Si
SLV 4	179667	0.39	20772	-17744	191.97	2146.21	11.18	Si
SLV 3	179667	0.39	20857	-17816	191.97	2153.62	11.22	Si
SLV 14	179667	0.39	26099	-22294	191.97	2587.73	13.48	Si
SLV 13	179667	0.39	26184	-22367	191.97	2594.43	13.51	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.005 Wa = 0.05 Ta = 0.0425

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-28198	-34622	-325	0.612	3191.9	0.969	9.17148	4.06102	Si
SLV 6	-28121	-34535	-325	0.613	3184.1	0.969	9.19358	4.06102	Si
SLV 9	-27859	-34376	292	0.619	3157.5	0.969	9.28556	4.06102	Si
SLV 10	-27782	-34290	292	0.621	3149.6	0.969	9.30833	4.06102	Si
SLV 1	-21274	-26516	-1026	0.748	2487.2	0.961	11.30207	4.41978	Si
SLV 2	-21159	-26388	-1026	0.751	2475.5	0.961	11.35593	4.41978	Si
SLV 13	-20145	-25697	1030	0.783	2372.5	0.96	11.85468	4.41978	Si
SLV 14	-20030	-25569	1030	0.787	2360.8	0.96	11.91454	4.41978	Si
SLV 3	-14984	-19305	-1011	1.005	1848	0.95	15.38374	4.41978	Si
SLV 4	-14869	-19177	-1011	1.012	1836.3	0.949	15.48713	4.41978	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.38	SLU 41	Si
V_SLU	10.731	SLU 60	Si
PF_SLV	4.962	SLV 11	Si
V_SLV	1.743	SLV 7	Si
PFFP_SLV	6.53	SLV 12	Si
R_SLV	2.258	SLV 5	Si

Maschio 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-0.354	-13.753	0.051	L5	L6	0.405	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	4.35	559.83	-7291	-0.0002958	0.0003743	0.0035	0.4049	543.84	837.66	837.66	1.5	No	Si
SLU 77	6.45	67.25	-4616	-0.0000816	0.0003743	0.0035	0.4049	560.87	669.96	669.96	9.96	No	Si
SLU 83	4.35	591.79	-7293	-0.000316	0.0003743	0.0035	0.4049	543.75	837.74	837.74	1.42	No	Si
SLU 83	6.45	64.03	-4637	-0.0000812	0.0003743	0.0035	0.4049	561.72	671.86	671.86	10.49	No	Si
SLU 79	4.35	557.7	-7237	-0.000293	0.0003743	0.0035	0.4049	546.66	835.07	835.07	1.5	No	Si
SLU 79	6.45	63.96	-4550	-0.0000797	0.0003743	0.0035	0.4049	558.13	664.11	664.11	10.38	No	Si
SLU 84	4.35	583.15	-7247	-0.0003089	0.0003743	0.0035	0.4049	546.15	835.54	835.54	1.43	No	Si
SLU 84	6.45	75.55	-4754	-0.0000858	0.0003743	0.0035	0.4049	566.15	682.44	682.44	9.03	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 63	4.35	543.32	-6626	-0.0002699	0.0003743	0.0035	0.4049	571.52	806.41	806.41	1.48	No	Si
SLU 63	6.45	32.79	-3942	-0.0000628	0.0003743	0.0035	0.4049	525.61	610.37	610.37	18.62	No	Si
SLU 81	4.35	585.99	-7172	-0.0003088	0.0003743	0.0035	0.4049	549.91	831.97	831.97	1.42	No	Si
SLU 81	6.45	59.05	-4517	-0.000078	0.0003743	0.0035	0.4049	556.71	661.2	661.2	11.2	No	Si
SLU 62	4.35	551.97	-6671	-0.0002758	0.0003743	0.0035	0.4049	570.12	808.6	808.6	1.46	No	Si
SLU 62	6.45	21.26	-3825	-0.0000584	0.0003743	0.0035	0.4049	517.84	598.12	598.12	28.13	No	Si
SLU 60	4.35	546.17	-6551	-0.00027	0.0003743	0.0035	0.4049	573.66	802.84	802.84	1.47	No	Si
SLU 60	6.45	16.29	-3705	-0.0000555	0.0003743	0.0035	0.4049	509.42	584.45	584.45	35.88	No	Si
SLU 82	4.35	577.35	-7127	-0.000302	0.0003743	0.0035	0.4049	552.11	829.8	829.8	1.44	No	Si
SLU 82	6.45	70.58	-4635	-0.0000827	0.0003743	0.0035	0.4049	561.63	671.66	671.66	9.52	No	Si
SLU 61	4.35	537.53	-6506	-0.0002642	0.0003743	0.0035	0.4049	574.87	800.68	800.68	1.49	No	Si
SLU 61	6.45	27.81	-3823	-0.0000599	0.0003743	0.0035	0.4049	517.69	597.89	597.89	21.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	4.35	1045.2	-9121	-0.0006967	0.0005615	0.0035	0.4049		1143.45	1143.45	1.09		Si
SLV 11	6.45	-839.85	5587	4.1690897	0.0005615	0.0035	0.324		0	0	0		No
SLV 8	4.35	1098.68	-9529	-0.0009355	0.0005615	0.0035	0.4049		1164.02	1164.02	1.06		Si
SLV 8	6.45	-918.28	6277	4.6825504	0.0005615	0.0035	0.324		0	0	0		No
SLD 7	4.35	798.06	-7698	-0.0003699	0.0005615	0.0035	0.4049		1064.16	1064.16	1.33		Si
SLD 7	6.45	-528.7	2481	1.8594977	0.0005615	0.0035	0.324		0	0	0		No
SLV 4	4.35	668.72	-7035	-0.0002883	0.0005615	0.0035	0.4049		1002.36	1002.36	1.5		Si
SLV 4	6.45	-375.13	877	0.6656166	0.0005615	0.0035	0.324		0	0	0		No
SLD 12	4.35	761.61	-7403	-0.0003445	0.0005615	0.0035	0.4049		1036.51	1036.51	1.36		Si
SLD 12	6.45	-479.54	2067	1.5504596	0.0005615	0.0035	0.324		0	0	0		No
SLV 3	4.35	671.26	-7075	-0.0002899	0.0005615	0.0035	0.4049		1006.02	1006.02	1.5		Si
SLV 3	6.45	-373.86	846	0.6424928	0.0005615	0.0035	0.324		0	0	0		No
SLV 7	4.35	1100.39	-9555	-0.0009436	0.0005615	0.0035	0.4049		1165.38	1165.38	1.06		Si
SLV 7	6.45	-917.43	6256	4.6670237	0.0005615	0.0035	0.324		0	0	0		No
SLV 12	4.35	1043.48	-9094	-0.000693	0.0005615	0.0035	0.4049		1142.11	1142.11	1.09		Si
SLV 12	6.45	-840.7	5608	4.1846174	0.0005615	0.0035	0.324		0	0	0		No
SLD 11	4.35	762.65	-7420	-0.0003452	0.0005615	0.0035	0.4049		1038.03	1038.03	1.36		Si
SLD 11	6.45	-479.02	2054	1.5410249	0.0005615	0.0035	0.324		0	0	0		No
SLD 8	4.35	797.02	-7682	-0.0003692	0.0005615	0.0035	0.4049		1062.63	1062.63	1.33		Si
SLD 8	6.45	-529.21	2494	1.8689299	0.0005615	0.0035	0.324		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	4.35	545.38	-7125	-5933	1660	0.4049	0.3778	-52329	10833	1946	40441	3395	1033	4428	No	2.67	Si
SLU 75	6.45	73.8	-4614	-3842	-325	0.4049	0.4049	-33883	10833	1388	40441	3395	1033	4428	No	13.6	Si
SLU 80	4.35	549.05	-7192	-5988	1672	0.4049	0.3784	-52816	10833	1961	40441	3395	1033	4428	No	2.65	Si
SLU 80	6.45	75.49	-4668	-3887	-335	0.4049	0.4049	-34279	10833	1400	40441	3395	1033	4428	No	13.22	Si
SLU 81	4.35	585.99	-7172	-5972	1752	0.4049	0.3623	-52675	10833	1956	40441	3395	1033	4428	No	2.53	Si
SLU 81	6.45	59.05	-4517	-3762	-208	0.4049	0.4049	-33177	10833	1367	40441	3395	1033	4428	No	21.33	Si
SLU 74	4.35	554.03	-7171	-5971	1686	0.4049	0.3756	-52663	10833	1956	40441	3395	1033	4428	No	2.63	Si
SLU 74	6.45	62.27	-4496	-3744	-227	0.4049	0.4049	-33021	10833	1362	40441	3395	1033	4428	No	19.51	Si
SLU 82	4.35	577.35	-7127	-5935	1726	0.4049	0.3644	-52341	10833	1946	40441	3395	1033	4428	No	2.57	Si
SLU 82	6.45	70.58	-4635	-3859	-306	0.4049	0.4049	-34039	10833	1393	40441	3395	1033	4428	No	14.46	Si
SLU 84	4.35	583.15	-7247	-6035	1745	0.4049	0.366	-53223	10833	1973	40441	3395	1033	4428	No	2.54	Si
SLU 84	6.45	75.55	-4754	-3959	-340	0.4049	0.4049	-34917	10833	1420	40441	3395	1033	4428	No	13.02	Si
SLU 77	4.35	559.83	-7291	-6071	1706	0.4049	0.3771	-53546	10833	1983	40441	3395	1033	4428	No	2.6	Si
SLU 77	6.45	67.25	-4616	-3844	-261	0.4049	0.4049	-33899	10833	1389	40441	3395	1033	4428	No	16.98	Si
SLU 79	4.35	557.7	-7237	-6026	1698	0.4049	0.3762	-53151	10833	1971	40441	3395	1033	4428	No	2.61	Si
SLU 79	6.45	63.96	-4550	-3789	-236	0.4049	0.4049	-33417	10833	1374	40441	3395	1033	4428	No	18.74	Si
SLU 83	4.35	591.79	-7293	-6073	1771	0.4049	0.364	-53558	10833	1983	40441	3395	1033	4428	No	2.5	Si
SLU 83	6.45	64.03	-4637	-3861	-241	0.4049	0.4049	-34055	10833	1394	40441	3395	1033	4428	No	18.34	Si
SLU 78	4.35	551.18	-7245	-6033	1680	0.4049	0.3792	-53211	10833	1973	40441	3395	1033	4428	No	2.64	Si
SLU 78	6.45	78.78	-4733	-3941	-359	0.4049	0.4049	-34761	10833	1415	40441	3395	1033	4428	No	12.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	4.35	797.02	-7682	-6397	2463	0.4049	0.2961	-56416	16250	2252	40441	5093	1033	6125		2.49	Si
SLD 8	6.45	-529.21	2494	2077	4784	0.324	0	0	0	0	40441	4074	826	4900		1.02	Si
SLV 5	4.35	-310.85	-1001	-833	-924	0.324	0	0	0	0	40441	4074	826	4900		5.31	Si
SLV 5	6.45	893.62	-11418	-9508	-7492	0.4049	0.3726	-83859	16250	3081	40441	5093	1033	6125		0.82	No
SLV 11	4.35	1045.2	-9121	-7595	3220	0.4049	0.2636	-66985	16250	2571	40441	5093	1033	6125		1.9	Si
SLV 11	6.45	-839.85	5587	4653	7453	0.324	0.1565	0	0	0	40441	4074	826	4900		0.66	No
SLV 12	4.35	1043.48	-9094	-7573	3213	0.4049	0.2632	-66789	16250	2565	40441	5093	1033	6125		1.91	Si
SLV 12	6.45	-840.7	5608	4670	7462	0.324	0.1577	0	0	0	40441	4074	826	4900		0.66	No
SLV 6	4.35	-312.56	-974	-811	-931	0.324	0	0	0	0	40441	4074	826	4900		5.27	Si
SLV 6	6.45	892.77	-11397	-9491	-7483	0.4049	0.3724	-83705	16250	3077	40441	5093	1033	6125		0.82	No
SLV 9	4.35	-366.04	-566	-471	-1097	0.324	0	0	0	0	40441	4074	826	4900		4.47	Si
SLV 9	6.45	971.2	-12087	-10065	-8175	0.4049	0.3664	-88772	16250	3230	40441	5093	1033	6125		0.75	No
SLV 10	4.35	-367.76	-539	-449	-1104	0.324	0	0	0	0	40441	4074	826	4900		4.44	Si
SLV 10	6.45	970.35	-12066	-10048	-8166	0.4049	0.3662	-88618	16250	3225	40441	5093	1033	6125		0.75	No
SLV 7	4.35	1100.39	-9555	-7957	3394	0.4049	0.2619	-70177	16250	2668	40441	5093	1033	6125		1.8	Si
SLV 7	6.45	-917.43	6256	5210	8136	0.324	0.1675	0	0	0	40441	4074	826	4900		0.6	No
SLD 7	4.35	798.06	-7698	-6410	2467	0.4049	0.2964	-56536	16250	2255	40441	5093	1033	6125		2.48	Si
SLD 7	6.45	-528.7	2481	2066	4779	0.324	0	0	0	0	40441	4074	826	4900		1.03	Si
SLV 8	4.35	1098.68	-9529	-7935	3386	0.4049	0.2615	-69981	16250	2662	40441	5093	1033	6125		1.81	Si
SLV 8	6.45	-918.28	6277	5227	8145	0.324	0.1686	0	0	0	40441	4074	826	4900		0.6	No

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.38	0	3364	42.89	0	0	No, Trazione
SLV 11	179667	0.38	0	2934	42.89	0	0	No, Trazione
SLV 12	179667	0.38	0	2952	42.89	0	0	No, Trazione
SLV 8	179667	0.38	0	3383	42.89	0	0	No, Trazione
SLV 4	179667	0.38	4310	-489	42.89	66.49	1.55	Si
SLV 3	179667	0.38	4553	-516	42.89	70.12	1.63	Si
SLV 16	179667	0.38	16961	-1923	42.89	239.33	5.58	Si
SLV 15	179667	0.38	17204	-1951	42.89	242.32	5.65	Si
SLV 2	179667	0.38	37407	-4241	42.89	448.34	10.45	Si
SLV 1	179667	0.38	37650	-4269	42.89	450.3	10.5	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3312	-7075	-129	0.627	393.9	0.957	9.52064	5.32179	Si
SLV 4	-3287	-7035	-129	0.631	391.4	0.957	9.58458	5.32179	Si
SLV 7	-4023	-9555	-3	0.561	466.2	0.963	8.46001	4.54183	Si
SLV 8	-4006	-9529	-2	0.563	464.5	0.963	8.49161	4.54183	Si
SLV 11	-3741	-9121	107	0.571	437.6	0.961	8.63511	4.54183	Si
SLV 12	-3725	-9094	107	0.573	435.9	0.961	8.6688	4.54183	Si
SLV 15	-2374	-5626	235	0.79	298.7	0.946	12.14054	5.32179	Si
SLV 16	-2349	-5586	235	0.797	296.2	0.945	12.25036	5.32179	Si
SLV 1	-2418	-4508	-129	0.816	303.1	0.946	12.53811	5.32179	Si
SLV 2	-2393	-4469	-129	0.824	300.6	0.946	12.65189	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.416	SLU 83	Si
V_SLU	2.5	SLU 83	Si
PF_SLV	0	SLD 7	No
V_SLV	0.602	SLV 8	No
PFFP_SLV	0	SLV 12	No
R_SLV	1.789	SLV 3	Si

Maschio 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L5	L6	2.015	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	5.25	705.29	-20975	-0.0000662	0.0003743	0.0035	2.015	13415.77	15867.8	15867.8	22.5	No	Si
SLU 40	7.05	1733.47	-18956	-0.000069	0.0003743	0.0035	2.015	12795.72	14675.68	14675.68	8.47	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	5.25	993.83	-24859	-0.0000817	0.0003743	0.0035	2.015	14206.63	17428.61	17428.61	17.54	No	Si
SLU 83	7.05	1918.23	-22262	-0.0000816	0.0003743	0.0035	2.015	13736.56	16381.34	16381.34	8.54	No	Si
SLU 34	5.25	708.86	-20629	-0.0000651	0.0003743	0.0035	2.015	13319.75	15707.61	15707.61	22.16	No	Si
SLU 34	7.05	1671.24	-18610	-0.0000673	0.0003743	0.0035	2.015	12675.22	14461.85	14461.85	8.65	No	Si
SLU 82	5.25	926.75	-24202	-0.0000788	0.0003743	0.0035	2.015	14110.02	17158.29	17158.29	18.51	No	Si
SLU 82	7.05	1892.67	-21605	-0.0000791	0.0003743	0.0035	2.015	13580.09	16125.15	16125.15	8.52	No	Si
SLU 42	5.25	725.38	-21613	-0.0000684	0.0003743	0.0035	2.015	13581.94	16128.03	16128.03	22.23	No	Si
SLU 42	7.05	1781.82	-19594	-0.0000715	0.0003743	0.0035	2.015	13007.06	15073.95	15073.95	8.46	No	Si
SLU 81	5.25	973.75	-24222	-0.0000793	0.0003743	0.0035	2.015	14113.1	17166.23	17166.23	17.63	No	Si
SLU 81	7.05	1869.88	-21625	-0.000079	0.0003743	0.0035	2.015	13584.93	16132.68	16132.68	8.63	No	Si
SLU 84	5.25	946.83	-24840	-0.0000812	0.0003743	0.0035	2.015	14203.99	17420.57	17420.57	18.4	No	Si
SLU 84	7.05	1941.02	-22243	-0.0000817	0.0003743	0.0035	2.015	13732.16	16373.72	16373.72	8.44	No	Si
SLU 41	5.25	772.38	-21632	-0.0000689	0.0003743	0.0035	2.015	13586.78	16135.56	16135.56	20.89	No	Si
SLU 41	7.05	1759.03	-19613	-0.0000713	0.0003743	0.0035	2.015	13013.27	15086.16	15086.16	8.58	No	Si
SLU 78	5.25	999.56	-24816	-0.0000816	0.0003743	0.0035	2.015	14200.7	17410.62	17410.62	17.42	No	Si
SLU 78	7.05	1889.09	-22219	-0.0000811	0.0003743	0.0035	2.015	13726.68	16364.28	16364.28	8.66	No	Si
SLU 39	5.25	752.29	-20994	-0.0000667	0.0003743	0.0035	2.015	13421.05	15876.4	15876.4	21.1	No	Si
SLU 39	7.05	1710.68	-18975	-0.0000688	0.0003743	0.0035	2.015	12802.37	14687.75	14687.75	8.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	5.25	3542.54	-10411	-0.0000566	0.0005615	0.0035	2.015		9670.32	9670.32	2.73		Si
SLD 14	7.05	-1512.36	-8348	-0.0000343	0.0005615	0.0035	2.015		8833.88	8833.88	5.84		Si
SLD 16	5.25	4874.51	-11332	-0.0000721	0.0005615	0.0035	2.015		10341.17	10341.17	2.12		Si
SLD 16	7.05	-2179.46	-9289	-0.0000423	0.0005615	0.0035	2.015		9632.8	9632.8	4.42		Si
SLV 13	5.25	3726.16	-9004	-0.000055	0.0005615	0.0035	2.015		8562.74	8562.74	2.3		Si
SLV 13	7.05	-1912.41	-6889	-0.0000335	0.0005615	0.0035	2.015		7554.51	7554.51	3.95		Si
SLD 15	5.25	4057.47	-12512	-0.000067	0.0005615	0.0035	2.015		11209.65	11209.65	2.76		Si
SLD 15	7.05	-1523.02	-10469	-0.0000403	0.0005615	0.0035	2.015		10622.96	10622.96	6.97		Si
SLV 16	5.25	7288.78	-8723	-0.0002082	0.0005615	0.0035	2.015		8321.42	8321.42	1.14		Si
SLV 16	7.05	-4086.44	-6642	-0.0000616	0.0005615	0.0035	1.612		7336.98	7336.98	1.8		Si
SLV 14	5.25	5014.03	-7144	-0.0000869	0.0005615	0.0035	2.015		6947.16	6947.16	1.39		Si
SLV 14	7.05	-2947.13	-5029	-0.0000428	0.0005615	0.0035	1.612		5880.57	5880.57	2		Si
SLV 15	5.25	6000.91	-10582	-0.0000895	0.0005615	0.0035	2.015		9794.49	9794.49	1.63		Si
SLV 15	7.05	-3051.72	-8502	-0.0000472	0.0005615	0.0035	2.015		8964.04	8964.04	2.94		Si
SLV 12	5.25	6416.41	-15914	-0.0000988	0.0005615	0.0035	2.015		13770.65	13770.65	2.15		Si
SLV 12	7.05	-2361.75	-13951	-0.0000571	0.0005615	0.0035	2.015		13400.1	13400.1	5.67		Si
SLV 11	5.25	5549.47	-17166	-0.0000937	0.0005615	0.0035	2.015		14734.59	14734.59	2.66		Si
SLV 11	7.05	-1665.22	-15203	-0.000055	0.0005615	0.0035	2.015		14343.97	14343.97	8.61		Si
SLV 5	5.25	-4875.13	-16231	-0.0000851	0.0005615	0.0035	2.015		15110.07	15110.07	3.1		Si
SLV 5	7.05	4605.16	-14217	-0.0000767	0.0005615	0.0035	2.015		12482.37	12482.37	2.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	5.25	946.83	-24840	-20685	-512	2.015	2.015	-36662	10833	7326	40441	16895	5138	22033	No	43.05	Si
SLU 84	7.05	1941.02	-22243	-18522	-512	2.015	2.015	-32829	10833	6750	40441	16895	5138	22033	No	43.05	Si
SLU 82	5.25	926.75	-24202	-20153	-496	2.015	2.015	-35720	10833	7185	40441	16895	5138	22033	No	44.41	Si
SLU 82	7.05	1892.67	-21605	-17991	-496	2.015	2.015	-31888	10833	6608	40441	16895	5138	22033	No	44.41	Si
SLU 38	5.25	760.28	-21280	-17720	-493	2.015	2.015	-31408	10833	6536	40441	16895	5138	22033	No	44.67	Si
SLU 38	7.05	1704.4	-19261	-16039	-493	2.015	2.015	-28428	10735	6088	40441	16895	5138	22033	No	44.67	Si
SLU 39	5.25	752.29	-20994	-17482	-501	2.015	2.015	-30986	10833	6472	40441	16895	5138	22033	No	43.96	Si
SLU 39	7.05	1710.68	-18975	-15801	-501	2.015	2.015	-28006	10679	6025	40441	16895	5138	22033	No	43.96	Si
SLU 34	5.25	708.86	-20629	-17178	-503	2.015	2.015	-30447	10833	6391	40441	16895	5138	22033	No	43.77	Si
SLU 34	7.05	1671.24	-18610	-15497	-503	2.015	2.015	-27467	10607	5984	40441	16895	5138	22033	No	43.77	Si
SLU 36	5.25	778.11	-21589	-17977	-498	2.015	2.015	-31863	10833	6604	40441	16895	5138	22033	No	44.29	Si
SLU 36	7.05	1729.89	-19570	-16296	-498	2.015	2.015	-28883	10796	6156	40441	16895	5138	22033	No	44.29	Si
SLU 31	5.25	688.77	-19991	-16647	-488	2.015	2.015	-29506	10833	6250	40441	16895	5138	22033	No	45.18	Si
SLU 31	7.05	1622.89	-17973	-14966	-488	2.015	2.015	-26526	10481	5914	40441	16895	5138	22033	No	45.18	Si
SLU 42	5.25	725.38	-21613	-17997	-556	2.015	2.015	-31899	10833	6610	40441	16895	5138	22033	No	39.65	Si
SLU 42	7.05	1781.82	-19594	-16316	-556	2.015	2.015	-28919	10800	6161	40441	16895	5138	22033	No	39.65	Si
SLU 40	5.25	705.29	-20975	-17466	-540	2.015	2.015	-30957	10833	6468	40441	16895	5138	22033	No	40.8	Si
SLU 40	7.05	1733.47	-18956	-15785	-540	2.015	2.015	-27978	10675	6023	40441	16895	5138	22033	No	40.8	Si
SLU 41	5.25	772.38	-21632	-18013	-517	2.015	2.015	-31927	10833	6614	40441	16895	5138	22033	No	42.63	Si
SLU 41	7.05	1759.03	-19613	-16332	-517	2.015	2.015	-28948	10804	6166	40441	16895	5138	22033	No	42.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	5.25	6000.91	-10582	-8812	5185	2.015	1.3213	-15619	13540	5066	40441	25342	5138	30480		5.88	Si
SLV 15	7.05	-3051.72	-8502	-7080	4957	2.015	1.9457	-12548	12926	7042	40441	25342	5138	30480		6.15	Si
SLV 14	5.25	5014.03	-7144	-5949	4591	2.015	0.9171	-10545	12526	4302	40441	25342	5138	30480		6.64	Si
SLV 14	7.05	-2947.13	-5029	-4188	4359	1.612	1.2643	0	0	0	40441	20274	4111	24384		5.59	Si
SLV 2	5.25	-4459.64	-21562	-17955	-5513	2.015	2.015	-31824	16250	9168	40441	25342	5138	30480		5.53	Si
SLV 2	7.05	5295.13	-19667	-16377	-5285	2.015	2.015	-29026	16222	9152	40441	25342	5138	30480		5.77	Si
SLV 5	5.25	-4875.13	-16231	-13515	-5255	2.015	2.015	-23955	15208	8580	40441	25342	5138	30480		5.8	Si
SLV 5	7.05	4605.16	-14217	-11839	-5192	2.015	2.015	-20983	14613	8245	40441	25342	5138	30480		5.87	Si
SLV 6	5.25	-4008.2	-14979	-12473	-4387	2.015	2.015	-22107	14838	8372	40441	25342	5138	30480		6.95	Si
SLV 6	7.05	3908.63	-12965	-10796	-4323	2.015	2.015	-19135	14244	8036	40441	25342	5138	30480		7.05	Si
SLV 3	5.25	-3472.76	-25000	-20818	-4919	2.015	2.015	-36899	16250	9168	40441	25342	5138	30480		6.2	Si
SLV 3	7.05	5190.54	-23140	-19269	-4687	2.015	2.015	-34152	16250	9168	40441	25342	5138	30480		6.5	Si
SLD 1	5.25	-3333.24	-20812	-17331	-4358	2.015	2.015	-30717	16250	9168	40441	25342	5138	30480		6.99	Si
SLD 1	7.05	4422.87	-18879	-15721	-4212	2.015	2.015	-27864	15989	9021	40441	25342	5138	30480		7.24	Si
SLV 12	5.25	6416.41	-15914	-13252	4927	2.015	1.8129	-23488	15114	7672	40441	25342	5138	30480		6.19	Si
SLV 12	7.05	-2361.75	-13951	-11618	4864	2.015	2.015	-20591	14535	8201	40441	25342	5138	30480		6.27	Si
SLV 16	5.25	7288.78	-8723	-7264	6476	2.015	0.5157	-51873	16250	4653	40441	25342	5138	30480		4.71	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	7.05	-4086.44	-6642	-5531	6247	1.612	1.1768	0	0	0	40441	20274	4111	24384		3.9	Si
SLV 1	5.25	-5747.51	-23422	-19504	-6803	2.015	2.015	-34569	16250	9168	40441	25342	5138	30480		4.48	Si
SLV 1	7.05	6329.85	-21526	-17925	-6575	2.015	2.015	-31771	16250	9168	40441	25342	5138	30480		4.64	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.38	10457	-5900	208.06	769.39	3.7	Si
SLV 16	179667	0.38	13353	-7534	208.06	962.5	4.63	Si
SLV 13	179667	0.38	13753	-7759	208.06	988.48	4.75	Si
SLV 15	179667	0.38	16649	-9393	208.06	1171.71	5.63	Si
SLV 10	179667	0.38	16681	-9411	208.06	1173.66	5.64	Si
SLV 9	179667	0.38	18900	-10663	208.06	1308.09	6.29	Si
SLV 6	179667	0.38	24450	-13795	208.06	1622.08	7.8	Si
SLV 12	179667	0.38	26335	-14858	208.06	1721.45	8.27	Si
SLV 5	179667	0.38	26669	-15047	208.06	1738.68	8.36	Si
SLV 11	179667	0.38	28554	-16110	208.06	1833.73	8.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-16806	-27197	-269	0.637	1993.4	0.958	9.66337	5.32179	Si
SLV 4	-15940	-24471	-269	0.666	1905.4	0.956	10.1245	5.32179	Si
SLV 7	-16997	-19408	-841	0.601	2012.9	0.958	9.10626	4.54183	Si
SLV 8	-16414	-17573	-840	0.619	1953.6	0.957	9.38984	4.54183	Si
SLV 1	-14443	-27068	233	0.726	1753.3	0.953	11.07443	5.32179	Si
SLV 2	-13577	-24342	233	0.765	1665.3	0.951	11.69055	5.32179	Si
SLV 11	-14920	-12984	-829	0.671	1801.8	0.954	10.22013	4.54183	Si
SLV 12	-14337	-11149	-828	0.694	1742.6	0.953	10.58312	4.54183	Si
SLV 15	-9882	-5785	-229	0.995	1290.6	0.939	15.39736	5.32179	Si
SLV 16	-9016	-3059	-229	1.071	1203	0.935	16.64679	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.436	SLU 84	Si
V_SLU	39.651	SLU 42	Si
PF_SLV	1.142	SLV 16	Si
V_SLV	3.903	SLV 16	Si
PFFP_SLV	3.698	SLV 14	Si
R_SLV	1.816	SLV 3	Si

Maschio 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L5	L6	4.025	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	5.25	-2232.13	-57022	-0.0000902	0.0003743	0.0035	4.025	57726.99	77348.65	77348.65	34.65	No	Si
SLU 77	7.05	151.8	-51863	-0.0000764	0.0003743	0.0035	4.025	57197.05	71399.23	71399.23	470.34	No	Si
SLU 78	5.25	-2260.51	-56864	-0.00009	0.0003743	0.0035	4.025	57724.63	77242.85	77242.85	34.17	No	Si
SLU 78	7.05	169.27	-51705	-0.0000762	0.0003743	0.0035	4.025	57166.16	71262.31	71262.31	421	No	Si
SLU 83	5.25	-2216.82	-57165	-0.0000904	0.0003743	0.0035	4.025	57728.38	77440.19	77440.19	34.93	No	Si
SLU 83	7.05	191.18	-52006	-0.0000767	0.0003743	0.0035	4.025	57224.32	71523.61	71523.61	374.11	No	Si
SLU 75	5.25	-2171.81	-55535	-0.0000875	0.0003743	0.0035	4.025	57670.06	76362.09	76362.09	35.16	No	Si
SLU 75	7.05	212.4	-50376	-0.0000074	0.0003743	0.0035	4.025	56871.11	70116.34	70116.34	330.12	No	Si
SLU 82	5.25	-2156.5	-55678	-0.0000877	0.0003743	0.0035	4.025	57678.91	76455.83	76455.83	35.45	No	Si
SLU 82	7.05	251.78	-50519	-0.0000744	0.0003743	0.0035	4.025	56905.84	70238.95	70238.95	278.97	No	Si
SLU 79	5.25	-2223.84	-56296	-0.0000889	0.0003743	0.0035	4.025	57708.89	76863.76	76863.76	34.56	No	Si
SLU 79	7.05	121.9	-51137	-0.0000751	0.0003743	0.0035	4.025	57047.64	70770.72	70770.72	580.59	No	Si
SLU 72	5.25	-2061.63	-51012	-0.0000795	0.0003743	0.0035	4.025	57019.88	73526.58	73526.58	35.66	No	Si
SLU 72	7.05	78.32	-45852	-0.0000663	0.0003743	0.0035	4.025	55402.22	66324.73	66324.73	846.85	No	Si
SLU 76	5.25	-2182.44	-54705	-0.0000861	0.0003743	0.0035	4.025	57604.49	75822.55	75822.55	34.74	No	Si
SLU 76	7.05	194.13	-49546	-0.0000726	0.0003743	0.0035	4.025	56655.21	69407.42	69407.42	357.53	No	Si
SLU 84	5.25	-2245.21	-57007	-0.0000902	0.0003743	0.0035	4.025	57726.81	77338.93	77338.93	34.45	No	Si
SLU 84	7.05	208.65	-51848	-0.0000765	0.0003743	0.0035	4.025	57194.22	71386.5	71386.5	342.14	No	Si
SLU 80	5.25	-2252.23	-56139	-0.0000887	0.0003743	0.0035	4.025	57702.51	76759.24	76759.24	34.08	No	Si
SLU 80	7.05	139.36	-50980	-0.0000749	0.0003743	0.0035	4.025	57012.73	70634.76	70634.76	506.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	5.25	-15496.45	-36534	-0.0000829	0.0005615	0.0035	4.025		66406.03	66406.03	4.29		Si
SLV 2	7.05	11696.34	-32689	-0.000069	0.0005615	0.0035	4.025		56410.77	56410.77	4.82		Si
SLV 3	5.25	-17744.25	-45419	-0.0001017	0.0005615	0.0035	4.025		78122.75	78122.75	4.4		Si
SLV 3	7.05	13263.85	-41564	-0.0000858	0.0005615	0.0035	4.025		68723.8	68723.8	5.18		Si
SLD 1	5.25	-12635.32	-37382	-0.0000781	0.0005615	0.0035	4.025		67590.48	67590.48	5.35		Si
SLD 1	7.05	9183.21	-33490	-0.0000649	0.0005615	0.0035	4.025		57668.13	57668.13	6.28		Si
SLV 1	5.25	-19003.54	-37142	-0.0000914	0.0005615	0.0035	4.025		67254.82	67254.82	3.54		Si
SLV 1	7.05	14324.16	-33296	-0.0000755	0.0005615	0.0035	4.025		57364.23	57364.23	4		Si
SLV 16	5.25	16181.14	-37190	-0.0000854	0.0005615	0.0035	4.025		63528.37	63528.37	3.93		Si
SLV 16	7.05	-14104.18	-33136	-0.0000748	0.0005615	0.0035	4.025		61608.06	61608.06	4.37		Si
SLV 14	5.25	14921.86	-28913	-0.0000702	0.0005615	0.0035	4.025		50546.46	50546.46	3.39		Si
SLV 14	7.05	-13043.88	-24869	-0.0000603	0.0005615	0.0035	4.025		49105.07	49105.07	3.76		Si
SLV 13	5.25	11414.78	-29520	-0.0000637	0.0005615	0.0035	4.025		51482.95	51482.95	4.51		Si
SLV 13	7.05	-10416.05	-25477	-0.0000557	0.0005615	0.0035	4.025		50052.07	50052.07	4.81		Si
SLV 4	5.25	-14237.17	-44812	-0.000093	0.0005615	0.0035	4.025		77377.66	77377.66	5.43		Si
SLV 4	7.05	10636.03	-40956	-0.0000792	0.0005615	0.0035	4.025		68004.26	68004.26	6.39		Si
SLV 15	5.25	12674.06	-37798	-0.0000788	0.0005615	0.0035	4.025		64295.91	64295.91	5.07		Si
SLV 15	7.05	-11476.36	-33744	-0.0000701	0.0005615	0.0035	4.025		62501.15	62501.15	5.45		Si
SLV 5	5.25	-9253.15	-24718	-0.0000522	0.0005615	0.0035	4.025		48866.78	48866.78	5.28		Si
SLV 5	7.05	6472.66	-20815	-0.000041	0.0005615	0.0035	4.025		38326.1	38326.1	5.92		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	5.25	-2252.23	-56139	-46747	-1336	4.025	4.025	-41480	10833	24124	40441	33747	10264	44011	No	32.95	Si
SLU 80	7.05	139.36	-50980	-42451	-1336	4.025	4.025	-37668	10833	22405	40441	33747	10264	44011	No	32.95	Si
SLU 81	5.25	-2128.12	-55836	-46495	-1319	4.025	4.025	-41256	10833	24023	40441	33747	10264	44011	No	33.36	Si
SLU 81	7.05	234.31	-50677	-42199	-1319	4.025	4.025	-37444	10833	22304	40441	33747	10264	44011	No	33.36	Si
SLU 75	5.25	-2171.81	-55535	-46245	-1331	4.025	4.025	-41034	10833	23923	40441	33747	10264	44011	No	33.05	Si
SLU 75	7.05	212.4	-50376	-41949	-1331	4.025	4.025	-37222	10833	22204	40441	33747	10264	44011	No	33.05	Si
SLU 78	5.25	-2260.51	-56864	-47352	-1357	4.025	4.025	-42016	10833	24365	40441	33747	10264	44011	No	32.44	Si
SLU 78	7.05	169.27	-51705	-43056	-1357	4.025	4.025	-38204	10833	22647	40441	33747	10264	44011	No	32.44	Si
SLU 82	5.25	-2156.5	-55678	-46364	-1345	4.025	4.025	-41139	10833	23970	40441	33747	10264	44011	No	32.73	Si
SLU 82	7.05	251.78	-50519	-42068	-1345	4.025	4.025	-37328	10833	22252	40441	33747	10264	44011	No	32.73	Si
SLU 83	5.25	-2216.82	-57165	-47602	-1345	4.025	4.025	-42238	10833	24465	40441	33747	10264	44011	No	32.73	Si
SLU 83	7.05	191.18	-52006	-43306	-1345	4.025	4.025	-38426	10833	22747	40441	33747	10264	44011	No	32.73	Si
SLU 76	5.25	-2182.44	-54705	-45553	-1327	4.025	4.025	-40420	10833	23646	40441	33747	10264	44011	No	33.16	Si
SLU 76	7.05	194.13	-49546	-41257	-1327	4.025	4.025	-36608	10833	21928	40441	33747	10264	44011	No	33.16	Si
SLU 79	5.25	-2223.84	-56296	-46879	-1310	4.025	4.025	-41596	10833	24176	40441	33747	10264	44011	No	33.59	Si
SLU 79	7.05	121.9	-51137	-42583	-1310	4.025	4.025	-37784	10833	22458	40441	33747	10264	44011	No	33.59	Si
SLU 77	5.25	-2232.13	-57022	-47483	-1331	4.025	4.025	-42132	10833	24418	40441	33747	10264	44011	No	33.06	Si
SLU 77	7.05	151.8	-51863	-43187	-1331	4.025	4.025	-38320	10833	22699	40441	33747	10264	44011	No	33.06	Si
SLU 84	5.25	-2245.21	-57007	-47471	-1370	4.025	4.025	-42121	10833	24413	40441	33747	10264	44011	No	32.12	Si
SLU 84	7.05	208.65	-51848	-43175	-1370	4.025	4.025	-38309	10833	22695	40441	33747	10264	44011	No	32.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	5.25	12674.06	-37798	-31475	13765	4.025	4.025	-27928	16002	20727	40441	50621	10264	60885		4.42	Si
SLV 15	7.05	-11476.36	-33744	-28099	13313	4.025	4.025	-24933	15403	19377	40441	50621	10264	59818		4.49	Si
SLV 14	5.25	14921.86	-28913	-24076	15818	4.025	4.025	-21363	14689	17768	40441	50621	10264	58209		3.68	Si
SLV 14	7.05	-13043.88	-24869	-20709	15412	4.025	4.025	-18375	14092	16421	40441	50621	10264	56862		3.69	Si
SLV 4	5.25	-14237.17	-44812	-37315	-14111	4.025	4.025	-33110	16250	23064	40441	50621	10264	60885		4.31	Si
SLV 4	7.05	10636.03	-40956	-34105	-13704	4.025	4.025	-30261	16250	21779	40441	50621	10264	60885		4.44	Si
SLV 2	5.25	-15496.45	-36534	-30423	-15466	4.025	4.025	-26994	15816	20307	40441	50621	10264	60748		3.93	Si
SLV 2	7.05	11696.34	-32689	-27220	-15014	4.025	4.025	-24153	15247	19026	40441	50621	10264	59467		3.96	Si
SLV 16	5.25	16181.14	-37190	-30969	17174	4.025	4.025	-27479	15912	20525	40441	50621	10264	60885		3.55	Si
SLV 16	7.05	-14104.18	-33136	-27593	16721	4.025	4.025	-24484	15313	19175	40441	50621	10264	59616		3.57	Si
SLV 13	5.25	11414.78	-29520	-24582	12410	4.025	4.025	-21812	14779	17970	40441	50621	10264	58411		4.71	Si
SLV 13	7.05	-10416.05	-25477	-21215	12003	4.025	4.025	-18824	14182	16624	40441	50621	10264	57065		4.75	Si
SLV 1	5.25	-19003.54	-37142	-30929	-18874	4.025	4.025	-27443	15905	20509	40441	50621	10264	60885		3.23	Si
SLV 1	7.05	14324.16	-33296	-27726	-18422	4.025	4.025	-24602	15337	19228	40441	50621	10264	59669		3.24	Si
SLD 3	5.25	-11898.52	-42227	-35163	-11551	4.025	4.025	-31200	16250	22203	40441	50621	10264	60885		5.27	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	7.05	8565.14	-38329	-31917	-11288	4.025	4.025	-28320	16081	20904	40441	50621	10264	60885		5.39	Si
SLD 1	5.25	-12635.32	-37382	-31128	-12345	4.025	4.025	-27620	15941	20589	40441	50621	10264	60885		4.93	Si
SLD 1	7.05	9183.21	-33490	-27887	-12054	4.025	4.025	-24745	15366	19293	40441	50621	10264	59733		4.96	Si
SLV 3	5.25	-17744.25	-45419	-37821	-17519	4.025	4.025	-33559	16250	23266	40441	50621	10264	60885		3.48	Si
SLV 3	7.05	13263.85	-41564	-34611	-17113	4.025	4.025	-30710	16250	21982	40441	50621	10264	60885		3.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	17580	-19813	415.59	2454.49	5.91	Si
SLV 9	179667	0.38	17943	-20222	415.59	2498.43	6.01	Si
SLV 6	179667	0.38	19659	-22155	415.59	2702.46	6.5	Si
SLV 5	179667	0.38	20022	-22564	415.59	2744.85	6.6	Si
SLV 14	179667	0.38	23623	-26624	415.59	3150.74	7.58	Si
SLV 13	179667	0.38	24163	-27231	415.59	3209.2	7.72	Si
SLV 2	179667	0.38	30552	-34432	415.59	3856.1	9.28	Si
SLV 16	179667	0.38	30958	-34889	415.59	3894.33	9.37	Si
SLV 1	179667	0.38	31091	-35040	415.59	3906.83	9.4	Si
SLV 15	179667	0.38	31497	-35497	415.59	3944.62	9.49	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-38122	-50701	-2005	0.537	4444.9	0.962	8.10703	4.54183	Si
SLV 8	-37846	-50329	-2005	0.54	4416.9	0.962	8.15887	4.54183	Si
SLV 11	-36745	-48194	-1987	0.554	4304.9	0.961	8.37988	4.54183	Si
SLV 12	-36470	-47822	-1987	0.558	4276.8	0.961	8.43549	4.54183	Si
SLV 3	-32218	-44206	-629	0.657	3844.5	0.957	9.98072	5.32179	Si
SLV 4	-31808	-43654	-629	0.664	3802.9	0.956	10.09374	5.32179	Si
SLV 15	-27629	-35849	-568	0.75	3378.2	0.951	11.45174	5.32179	Si
SLV 16	-27219	-35297	-568	0.759	3336.6	0.951	11.60242	5.32179	Si
SLV 1	-25723	-36055	569	0.796	3184.7	0.949	12.18972	5.32179	Si
SLV 2	-25313	-35502	569	0.807	3143.1	0.948	12.36136	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	34.082	SLU 80	Si
V_SLU	32.12	SLU 84	Si
PF_SLV	3.387	SLV 14	Si
V_SLV	3.226	SLV 1	Si
PFFP_SLV	5.906	SLV 10	Si
R_SLV	1.785	SLV 7	Si

Maschio 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L5	L6	4.005	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	5.25	-2164.6	-40655	-0.0000631	0.0003743	0.0035	4.005	52421.77	64431.71	64431.71	29.77	No	Si
SLU 48	7.05	899.79	-35651	-0.0000524	0.0003743	0.0035	4.005	49098.85	55538.67	55538.67	61.72	No	Si
SLU 71	5.25	-2348.74	-46849	-0.0000736	0.0003743	0.0035	4.005	55319.06	69997.24	69997.24	29.8	No	Si
SLU 71	7.05	984.09	-41761	-0.0000622	0.0003743	0.0035	4.005	53037.81	62574.22	62574.22	63.59	No	Si
SLU 72	5.25	-2290.52	-46743	-0.0000733	0.0003743	0.0035	4.005	55280.62	69907.22	69907.22	30.52	No	Si
SLU 72	7.05	970.51	-41654	-0.000062	0.0003743	0.0035	4.005	52980.37	62490.8	62490.8	64.39	No	Si
SLU 45	5.25	-2056.6	-39705	-0.0000614	0.0003743	0.0035	4.005	51858.66	63611.02	63611.02	30.93	No	Si
SLU 45	7.05	1040.75	-34702	-0.0000513	0.0003743	0.0035	4.005	48369.08	54362.68	54362.68	52.23	No	Si
SLU 50	5.25	-2178.98	-39887	-0.0000619	0.0003743	0.0035	4.005	51968.62	63766.58	63766.58	29.26	No	Si
SLU 50	7.05	862.88	-34883	-0.0000511	0.0003743	0.0035	4.005	48510.87	54586.41	54586.41	63.26	No	Si
SLU 51	5.25	-2120.76	-39780	-0.0000616	0.0003743	0.0035	4.005	51904.17	63675.15	63675.15	30.02	No	Si
SLU 51	7.05	849.31	-34777	-0.000051	0.0003743	0.0035	4.005	48427.73	54454.95	54454.95	64.12	No	Si
SLU 69	5.25	-2334.36	-47618	-0.0000749	0.0003743	0.0035	4.005	55584.56	70634.77	70634.77	30.26	No	Si
SLU 69	7.05	1021	-42529	-0.0000635	0.0003743	0.0035	4.005	53440.45	63178.79	63178.79	61.88	No	Si
SLU 70	5.25	-2276.13	-47511	-0.0000746	0.0003743	0.0035	4.005	55548.99	70547.64	70547.64	30.99	No	Si
SLU 70	7.05	1007.42	-42423	-0.0000633	0.0003743	0.0035	4.005	53385.87	63094.7	63094.7	62.63	No	Si
SLU 66	5.25	-2226.36	-46668	-0.000073	0.0003743	0.0035	4.005	55253.37	69843.74	69843.74	31.37	No	Si
SLU 66	7.05	1161.96	-41580	-0.0000623	0.0003743	0.0035	4.005	52939.77	62432.25	62432.25	53.73	No	Si
SLU 49	5.25	-2106.38	-40548	-0.0000628	0.0003743	0.0035	4.005	52360.19	64338.93	64338.93	30.54	No	Si
SLU 49	7.05	886.22	-35545	-0.0000522	0.0003743	0.0035	4.005	49018.58	55406.25	55406.25	62.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	5.25	-11734.28	-29280	-0.0000645	0.0005615	0.0035	4.005		55629.78	55629.78	4.74		Si
SLD 1	7.05	9180.42	-25319	-0.0000533	0.0005615	0.0035	4.005		44799.8	44799.8	4.88		Si
SLV 2	5.25	-13889.35	-27165	-0.0000659	0.0005615	0.0035	4.005		52360.17	52360.17	3.77		Si
SLV 2	7.05	11367.37	-23150	-0.0000547	0.0005615	0.0035	4.005		41548.32	41548.32	3.66		Si
SLV 13	5.25	13107.14	-35736	-0.0000771	0.0005615	0.0035	4.005		60900.04	60900.04	4.65		Si
SLV 13	7.05	-10098.73	-32000	-0.0000651	0.0005615	0.0035	4.005		59594.08	59594.08	5.9		Si
SLV 16	5.25	14131.47	-42843	-0.0000903	0.0005615	0.0035	4.005		69794.69	69794.69	4.94		Si
SLV 16	7.05	-11835.38	-39067	-0.0000795	0.0005615	0.0035	4.005		69522.55	69522.55	5.87		Si
SLV 3	5.25	-19740.27	-32163	-0.000086	0.0005615	0.0035	4.005		59831.84	59831.84	3.03		Si
SLV 3	7.05	14435.41	-28107	-0.0000685	0.0005615	0.0035	4.005		49030.61	49030.61	3.4		Si
SLV 14	5.25	16544.76	-36791	-0.0000862	0.0005615	0.0035	4.005		62575.68	62575.68	3.78		Si
SLV 14	7.05	-12501.08	-33055	-0.0000718	0.0005615	0.0035	4.005		61144.3	61144.3	4.89		Si
SLV 1	5.25	-17326.98	-26110	-0.0000716	0.0005615	0.0035	4.005		50744.55	50744.55	2.93		Si
SLV 1	7.05	13769.72	-22095	-0.0000582	0.0005615	0.0035	4.005		39979.6	39979.6	2.9		Si
SLD 3	5.25	-13146.73	-32822	-0.0000728	0.0005615	0.0035	4.005		60801.27	60801.27	4.62		Si
SLD 3	7.05	9573.35	-28838	-0.0000593	0.0005615	0.0035	4.005		50149.11	50149.11	5.24		Si
SLD 4	5.25	-10965.86	-33492	-0.0000691	0.0005615	0.0035	4.005		61783.71	61783.71	5.63		Si
SLD 4	7.05	8049.27	-29507	-0.0000571	0.0005615	0.0035	4.005		51176.57	51176.57	6.36		Si
SLV 4	5.25	-16302.65	-33217	-0.0000802	0.0005615	0.0035	4.005		61382.77	61382.77	3.77		Si
SLV 4	7.05	12033.07	-29162	-0.0000649	0.0005615	0.0035	4.005		50646.1	50646.1	4.21		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	5.25	-2047	-51992	-43295	-1906	4.005	4.005	-38608	10833	22716	40441	33580	10213	43792	No	22.98	Si
SLU 82	7.05	1352.21	-46904	-39058	-1906	4.005	4.005	-34829	10833	21021	40441	33580	10213	43792	No	22.98	Si
SLU 75	5.25	-2148.87	-51566	-42939	-1888	4.005	4.005	-38291	10833	22573	40441	33580	10213	43792	No	23.2	Si
SLU 75	7.05	1218.23	-46477	-38702	-1888	4.005	4.005	-34512	10833	20879	40441	33580	10213	43792	No	23.2	Si
SLU 74	5.25	-2207.09	-51672	-43028	-1928	4.005	4.005	-38370	10833	22609	40441	33580	10213	43792	No	22.72	Si
SLU 74	7.05	1231.8	-46584	-38791	-1928	4.005	4.005	-34592	10833	20914	40441	33580	10213	43792	No	22.72	Si
SLU 66	5.25	-2226.36	-46668	-38861	-1900	4.005	4.005	-34654	10833	20942	40441	33580	10213	43792	No	23.05	Si
SLU 66	7.05	1161.96	-41580	-34624	-1900	4.005	4.005	-30876	10833	19247	40441	33580	10213	43792	No	23.05	Si
SLU 64	5.25	-2132.74	-44950	-37431	-1906	4.005	4.005	-33378	10833	20370	40441	33580	10213	43792	No	22.98	Si
SLU 64	7.05	1266	-39862	-33193	-1906	4.005	4.005	-29600	10833	18675	40441	33580	10213	43792	No	22.98	Si
SLU 84	5.25	-2155	-52942	-44086	-1888	4.005	4.005	-39313	10833	23032	40441	33580	10213	43792	No	23.2	Si
SLU 84	7.05	1211.25	-47854	-39848	-1888	4.005	4.005	-35534	10833	21337	40441	33580	10213	43792	No	23.2	Si
SLU 79	5.25	-2329.48	-51853	-43179	-1897	4.005	4.005	-38505	10833	22669	40441	33580	10213	43792	No	23.08	Si
SLU 79	7.05	1053.94	-46765	-38942	-1897	4.005	4.005	-34726	10833	20975	40441	33580	10213	43792	No	23.08	Si
SLU 77	5.25	-2315.1	-52622	-43819	-1910	4.005	4.005	-39075	10833	22925	40441	33580	10213	43792	No	22.93	Si
SLU 77	7.05	1090.85	-47533	-39582	-1910	4.005	4.005	-35297	10833	21230	40441	33580	10213	43792	No	22.93	Si
SLU 81	5.25	-2105.22	-52099	-43384	-1946	4.005	4.005	-38687	10833	22751	40441	33580	10213	43792	No	22.51	Si
SLU 81	7.05	1365.79	-47011	-39146	-1946	4.005	4.005	-34908	10833	21056	40441	33580	10213	43792	No	22.51	Si
SLU 83	5.25	-2213.22	-53049	-44174	-1927	4.005	4.005	-39392	10833	23067	40441	33580	10213	43792	No	22.72	Si
SLU 83	7.05	1224.83	-47960	-39937	-1927	4.005	4.005	-35614	10833	21373	40441	33580	10213	43792	No	22.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	5.25	-11734.28	-29280	-24382	-11827	4.005	4.005	-21742	14765	17850	40441	50370	10213	58291		4.93	Si
SLD 1	7.05	9180.42	-25319	-21083	-11545	4.005	4.005	-18801	14177	16531	40441	50370	10213	56972		4.93	Si
SLV 3	5.25	-19740.27	-32163	-26782	-19339	4.005	4.005	-23883	15193	18810	40441	50370	10213	59251		3.06	Si
SLV 3	7.05	14435.41	-28107	-23405	-18925	4.005	4.005	-20871	14591	17459	40441	50370	10213	57900		3.06	Si
SLV 13	5.25	13107.14	-35736	-29758	13218	4.005	4.005	-26536	15724	20000	40441	50370	10213	60441		4.57	Si
SLV 13	7.05	-10098.73	-32000	-26647	12804	4.005	4.005	-23762	15169	18756	40441	50370	10213	59197		4.62	Si
SLV 15	5.25	10693.84	-41788	-34797	11483	4.005	4.005	-31030	16250	22016	40441	50370	10213	60582		5.28	Si
SLV 15	7.05	-9433.04	-38012	-31653	11044	4.005	4.005	-28227	16062	20758	40441	50370	10213	60582		5.49	Si
SLV 16	5.25	14131.47	-42843	-35676	14727	4.005	4.005	-31813	16250	22367	40441	50370	10213	60582		4.11	Si
SLV 16	7.05	-11835.38	-39067	-32532	14289	4.005	4.005	-29010	16219	21110	40441	50370	10213	60582		4.24	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	5.25	16544.76	-36791	-30636	16463	4.005	4.005	-27319	15881	20351	40441	50370	10213	60582		3.68	Si
SLV 14	7.05	-12501.08	-33055	-27525	16048	4.005	4.005	-24546	15326	19107	40441	50370	10213	59548		3.71	Si
SLV 1	5.25	-17326.98	-26110	-21743	-17604	4.005	4.005	-19389	14294	16794	40441	50370	10213	57235		3.25	Si
SLV 1	7.05	13769.72	-22095	-18399	-17165	4.005	4.005	-16407	13698	15457	40441	50370	10213	55898		3.26	Si
SLD 3	5.25	-13146.73	-32822	-27332	-12846	4.005	4.005	-24373	15291	19030	40441	50370	10213	59471		4.63	Si
SLD 3	7.05	9573.35	-28838	-24014	-12578	4.005	4.005	-21414	14699	17703	40441	50370	10213	58144		4.62	Si
SLV 4	5.25	-16302.65	-33217	-27661	-16095	4.005	4.005	-24666	15350	19161	40441	50370	10213	59602		3.7	Si
SLV 4	7.05	12033.07	-29162	-24284	-15681	4.005	4.005	-21655	14748	17811	40441	50370	10213	58252		3.71	Si
SLV 2	5.25	-13889.35	-27165	-22621	-14359	4.005	4.005	-20172	14451	17146	40441	50370	10213	57587		4.01	Si
SLV 2	7.05	11367.37	-23150	-19277	-13921	4.005	4.005	-17190	13855	15808	40441	50370	10213	56249		4.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	18255	-20471	413.53	2523.34	6.1	Si
SLV 6	179667	0.38	18888	-21181	413.53	2598.58	6.28	Si
SLV 9	179667	0.38	20900	-23437	413.53	2832.15	6.85	Si
SLV 1	179667	0.38	21270	-23853	413.53	2874.25	6.95	Si
SLV 10	179667	0.38	21533	-24147	413.53	2903.94	7.02	Si
SLV 2	179667	0.38	22211	-24907	413.53	2979.89	7.21	Si
SLV 3	179667	0.38	26632	-29865	413.53	3451.98	8.35	Si
SLV 4	179667	0.38	27573	-30920	413.53	3547.25	8.58	Si
SLV 13	179667	0.38	30087	-33740	413.53	3792.99	9.17	Si
SLV 14	179667	0.38	31028	-34795	413.53	3881.57	9.39	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-34920	-43415	-1715	0.583	4116.3	0.96	8.82798	4.54183	Si
SLV 16	-30854	-41460	-512	0.682	3703	0.955	10.37268	5.32179	Si
SLV 11	-34459	-42689	-1715	0.589	4069.5	0.959	8.93177	4.54183	Si
SLV 15	-30169	-40382	-512	0.695	3633.4	0.955	10.5796	5.32179	Si
SLV 8	-33084	-40097	-1716	0.61	3929.7	0.958	9.25625	4.54183	Si
SLV 7	-32623	-39372	-1716	0.617	3882.9	0.957	9.3711	4.54183	Si
SLV 14	-25437	-36315	518	0.802	3152.8	0.949	12.28106	5.32179	Si
SLV 13	-24752	-35238	519	0.82	3083.3	0.948	12.5763	5.32179	Si
SLV 4	-24735	-30401	-516	0.821	3081.6	0.948	12.58534	5.32179	Si
SLV 3	-24051	-29323	-515	0.84	3012.2	0.947	12.89673	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	29.264	SLU 50	Si
V_SLU	22.507	SLU 81	Si
PF_SLV	2.903	SLV 1	Si
V_SLV	3.059	SLV 3	Si
PFFP_SLV	6.102	SLV 5	Si
R_SLV	1.944	SLV 12	Si

Maschio 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L5	L6	1.995	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	5.25	-1968.08	-20195	-0.0000762	0.0003743	0.0035	1.995	12991.29	15877.95	15877.95	8.07	No	Si
SLU 69	7.05	-738.85	-17620	-0.0000566	0.0003743	0.0035	1.995	12130.41	14766.2	14766.2	19.99	No	Si
SLU 50	5.25	-1770.22	-16599	-0.0000627	0.0003743	0.0035	1.995	11724.71	14179.09	14179.09	8.01	No	Si
SLU 50	7.05	-549.01	-14065	-0.000044	0.0003743	0.0035	1.995	10560.28	12608.67	12608.67	22.97	No	Si
SLU 48	5.25	-1791.28	-17022	-0.0000642	0.0003743	0.0035	1.995	11897.35	14431.78	14431.78	8.06	No	Si
SLU 48	7.05	-561.36	-14489	-0.0000454	0.0003743	0.0035	1.995	10770.53	12878.41	12878.41	22.94	No	Si
SLU 72	5.25	-1914.63	-19792	-0.0000743	0.0003743	0.0035	1.995	12871.78	15696.5	15696.5	8.2	No	Si
SLU 72	7.05	-732.06	-17216	-0.0000553	0.0003743	0.0035	1.995	11974.45	14548.73	14548.73	19.87	No	Si
SLU 71	5.25	-1947.02	-19772	-0.0000746	0.0003743	0.0035	1.995	12865.78	15687.67	15687.67	8.06	No	Si
SLU 71	7.05	-726.5	-17196	-0.0000552	0.0003743	0.0035	1.995	11966.65	14536.78	14536.78	20.01	No	Si
SLU 45	5.25	-1731.27	-16859	-0.0000631	0.0003743	0.0035	1.995	11831.51	14333.96	14333.96	8.28	No	Si
SLU 45	7.05	-524.59	-14325	-0.0000446	0.0003743	0.0035	1.995	10690.19	12775.93	12775.93	24.35	No	Si
SLU 51	5.25	-1737.83	-16618	-0.0000624	0.0003743	0.0035	1.995	11732.93	14190.84	14190.84	8.17	No	Si
SLU 51	7.05	-554.57	-14085	-0.0000441	0.0003743	0.0035	1.995	10570.25	12621.61	12621.61	22.76	No	Si
SLU 70	5.25	-1935.69	-20215	-0.0000759	0.0003743	0.0035	1.995	12997	15886.92	15886.92	8.21	No	Si
SLU 70	7.05	-744.41	-17639	-0.0000567	0.0003743	0.0035	1.995	12137.91	14774.32	14774.32	19.85	No	Si
SLU 66	5.25	-1908.08	-20032	-0.0000751	0.0003743	0.0035	1.995	12943.63	15804.22	15804.22	8.28	No	Si
SLU 66	7.05	-702.08	-17456	-0.0000558	0.0003743	0.0035	1.995	12068	14687.13	14687.13	20.92	No	Si
SLU 49	5.25	-1758.88	-17042	-0.000064	0.0003743	0.0035	1.995	11905.27	14443.67	14443.67	8.21	No	Si
SLU 49	7.05	-566.92	-14508	-0.0000455	0.0003743	0.0035	1.995	10780.21	12890.86	12890.86	22.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	5.25	-5352.69	-4312	-0.0008475	0.0005615	0.0035	1.596		5174.04	5174.04	0.97		No
SLV 1	7.05	2893.33	-2252	-0.0046502	0.0005615	0.0035	1.596		2401.94	2401.94	0.83		No
SLD 1	5.25	-3960.74	-8151	-0.0000579	0.0005615	0.0035	1.995		8578.5	8578.5	2.17		Si
SLD 1	7.05	1682.5	-6135	-0.00003	0.0005615	0.0035	1.995		5982.55	5982.55	3.56		Si
SLV 7	5.25	-5640.61	-10540	-0.0000845	0.0005615	0.0035	1.995		10566.58	10566.58	1.87		Si
SLV 7	7.05	1014.73	-8525	-0.0000312	0.0005615	0.0035	1.995		8060.75	8060.75	7.94		Si
SLD 3	5.25	-4887.58	-7906	-0.0000768	0.0005615	0.0035	1.596		8369.46	8369.46	1.71		Si
SLD 3	7.05	1803.9	-5883	-0.0000303	0.0005615	0.0035	1.995		5756.29	5756.29	3.19		Si
SLV 8	5.25	-4935.01	-12215	-0.0000757	0.0005615	0.0035	1.995		11917.46	11917.46	2.41		Si
SLV 8	7.05	547.94	-10199	-0.0000321	0.0005615	0.0035	1.995		9395.74	9395.74	17.15		Si
SLV 2	5.25	-4304.48	-6800	-0.0000682	0.0005615	0.0035	1.596		7401.07	7401.07	1.72		Si
SLV 2	7.05	2199.9	-4740	-0.0000317	0.0005615	0.0035	1.995		4723.8	4723.8	2.15		Si
SLD 2	5.25	-3295.75	-9730	-0.0000535	0.0005615	0.0035	1.995		9905.34	9905.34	3.01		Si
SLD 2	7.05	1242.58	-7714	-0.0000308	0.0005615	0.0035	1.995		7366.44	7366.44	5.93		Si
SLV 4	5.25	-5887.04	-6380	-0.0002745	0.0005615	0.0035	1.596		7034.79	7034.79	1.19		Si
SLV 4	7.05	2405.82	-4311	-0.000035	0.0005615	0.0035	1.995		4329.23	4329.23	1.8		Si
SLV 3	5.25	-6935.24	-3892	-0.0023403	0.0005615	0.0035	1.596		4792.85	4792.85	0.69		No
SLV 3	7.05	3099.26	-1823	-0.0090056	0.0005615	0.0035	1.596		1989.2	1989.2	0.64		No
SLD 4	5.25	-4222.58	-9484	-0.0000626	0.0005615	0.0035	1.995		9697.77	9697.77	2.3		Si
SLD 4	7.05	1363.98	-7462	-0.0000311	0.0005615	0.0035	1.995		7147.25	7147.25	5.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	5.25	-1968.08	-20195	-16817	-722	1.995	1.995	-30105	10833	6277	40441	16727	5087	21814	No	30.23	Si
SLU 69	7.05	-738.85	-17620	-14672	-722	1.995	1.995	-26266	10447	5835	40441	16727	5087	21814	No	30.23	Si
SLU 70	5.25	-1935.69	-20215	-16833	-700	1.995	1.995	-30135	10833	6281	40441	16727	5087	21814	No	31.14	Si
SLU 70	7.05	-744.41	-17639	-14689	-700	1.995	1.995	-26295	10450	5838	40441	16727	5087	21814	No	31.14	Si
SLU 72	5.25	-1914.63	-19792	-16481	-696	1.995	1.995	-29504	10833	6187	40441	16727	5087	21814	No	31.36	Si
SLU 72	7.05	-732.06	-17216	-14336	-696	1.995	1.995	-25664	10366	5791	40441	16727	5087	21814	No	31.36	Si
SLU 49	5.25	-1758.88	-17042	-14191	-701	1.995	1.995	-25404	10332	5771	40441	16727	5087	21814	No	31.13	Si
SLU 49	7.05	-566.92	-14508	-12081	-701	1.995	1.995	-21628	9828	5490	40441	16727	5087	21814	No	31.13	Si
SLU 50	5.25	-1770.22	-16599	-13822	-717	1.995	1.995	-24744	10244	5722	40441	16727	5087	21814	No	30.43	Si
SLU 50	7.05	-549.01	-14065	-11712	-717	1.995	1.995	-20967	9740	5441	40441	16727	5087	21814	No	30.43	Si
SLU 71	5.25	-1947.02	-19772	-16464	-717	1.995	1.995	-29474	10833	6183	40441	16727	5087	21814	No	30.44	Si
SLU 71	7.05	-726.5	-17196	-14320	-717	1.995	1.995	-25635	10362	5788	40441	16727	5087	21814	No	30.44	Si
SLU 45	5.25	-1731.27	-16859	-14038	-709	1.995	1.995	-25131	10295	5751	40441	16727	5087	21814	No	30.77	Si
SLU 45	7.05	-524.59	-14325	-11929	-709	1.995	1.995	-21355	9792	5470	40441	16727	5087	21814	No	30.77	Si
SLU 66	5.25	-1908.08	-20032	-16681	-709	1.995	1.995	-29862	10833	6241	40441	16727	5087	21814	No	30.78	Si
SLU 66	7.05	-702.08	-17456	-14536	-709	1.995	1.995	-26022	10414	5817	40441	16727	5087	21814	No	30.78	Si
SLU 51	5.25	-1737.83	-16618	-13838	-696	1.995	1.995	-24773	10248	5724	40441	16727	5087	21814	No	31.35	Si
SLU 51	7.05	-554.57	-14085	-11729	-696	1.995	1.995	-20997	9744	5443	40441	16727	5087	21814	No	31.35	Si
SLU 48	5.25	-1791.28	-17022	-14174	-722	1.995	1.995	-25375	10328	5769	40441	16727	5087	21814	No	30.22	Si
SLU 48	7.05	-561.36	-14489	-12065	-722	1.995	1.995	-21598	9824	5488	40441	16727	5087	21814	No	30.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	5.25	-4887.58	-7906	-6583	-3854	1.596	1.1378	0	0	0	40441	20072	4070	24142		6.26	Si
SLD 3	7.05	1803.9	-5883	-4899	-3714	1.995	1.995	-8771	12171	6799	40441	25090	5087	30178		8.12	Si
SLV 3	5.25	-6935.24	-3892	-3241	-5780	1.596	0	0	0	0	40441	20072	4070	24142		4.18	Si
SLV 3	7.05	3099.26	-1823	-1518	-5562	1.596	0	0	0	0	40441	20072	4070	24142		4.34	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	5.25	-4304.48	-6800	-5663	-3824	1.596	1.0936	0	0	0	40441	20072	4070	24142		6.31	Si
SLV 2	7.05	2199.9	-4740	-3947	-3600	1.995	1.6003	-7067	11830	5301	40441	25090	5087	30178		8.38	Si
SLV 1	5.25	-5352.69	-4312	-3591	-4791	1.596	0	0	0	0	40441	20072	4070	24142		5.04	Si
SLV 1	7.05	2893.33	-2252	-1876	-4568	1.596	0	0	0	0	40441	20072	4070	24142		5.29	Si
SLV 4	5.25	-5887.04	-6380	-5313	-4813	1.596	0.2244	0	0	0	40441	20072	4070	24142		5.02	Si
SLV 4	7.05	2405.82	-4311	-3590	-4594	1.995	1.3182	-6426	11702	4319	40441	25090	5087	30178		6.57	Si
SLD 1	5.25	-3960.74	-8151	-6788	-3274	1.995	1.5348	-15908	13598	5844	40441	25090	5087	30178		9.22	Si
SLD 1	7.05	1682.5	-6135	-5109	-3132	1.995	1.995	-9146	12246	6841	40441	25090	5087	30178		9.64	Si
SLV 14	5.25	4180.21	-26033	-21678	4757	1.995	1.995	-38808	16250	9077	40441	25090	5087	30178		6.34	Si
SLV 14	7.05	-4118.54	-24159	-20117	4538	1.995	1.995	-36014	16250	9077	40441	25090	5087	30178		6.65	Si
SLV 16	5.25	2597.65	-25613	-21328	3768	1.995	1.995	-38182	16250	9077	40441	25090	5087	30178		8.01	Si
SLV 16	7.05	-3912.61	-23729	-19760	3544	1.995	1.995	-35373	16250	9077	40441	25090	5087	30178		8.51	Si
SLV 7	5.25	-5640.61	-10540	-8777	-3773	1.995	1.387	-22857	14989	5821	40441	25090	5087	30178		8	Si
SLV 7	7.05	1014.73	-8525	-7099	-3715	1.995	1.995	-12708	12958	7238	40441	25090	5087	30178		8.12	Si
SLV 13	5.25	3132	-23545	-19606	3789	1.995	1.995	-35099	16250	9077	40441	25090	5087	30178		7.96	Si
SLV 13	7.05	-3425.11	-21671	-18045	3571	1.995	1.995	-32305	16250	9077	40441	25090	5087	30178		8.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.38	4814	-2689	205.99	364.61	1.77	Si
SLV 1	179667	0.38	5595	-3126	205.99	421.54	2.05	Si
SLV 4	179667	0.38	9268	-5177	205.99	680.82	3.31	Si
SLV 2	179667	0.38	10049	-5614	205.99	734.19	3.56	Si
SLV 7	179667	0.38	16784	-9376	205.99	1168.34	5.67	Si
SLV 5	179667	0.38	19388	-10830	205.99	1323.74	6.43	Si
SLV 8	179667	0.38	19783	-11051	205.99	1346.67	6.54	Si
SLV 6	179667	0.38	22386	-12505	205.99	1494.08	7.25	Si
SLV 11	179667	0.38	27202	-15195	205.99	1748.37	8.49	Si
SLV 9	179667	0.38	29805	-16649	205.99	1875.99	9.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-17888	-27273	-266	0.599	2100.6	0.96	9.06602	5.32179	Si
SLV 14	-17786	-28472	225	0.604	2090.3	0.96	9.14391	5.32179	Si
SLV 15	-16305	-24135	-266	0.648	1939.7	0.957	9.8374	5.32179	Si
SLV 13	-16203	-25334	225	0.654	1929.3	0.957	9.92658	5.32179	Si
SLV 12	-13601	-16598	-823	0.719	1664.9	0.951	10.98268	4.54183	Si
SLV 10	-13261	-20594	814	0.735	1630.4	0.95	11.23699	4.54183	Si
SLV 11	-12536	-14485	-823	0.769	1556.8	0.948	11.79164	4.54183	Si
SLV 9	-12196	-18481	815	0.788	1522.3	0.947	12.08616	4.54183	Si
SLV 8	-10046	-9085	-809	0.924	1304.4	0.94	14.29106	4.54183	Si
SLV 6	-9706	-13081	828	0.949	1270	0.938	14.69164	4.54183	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.01	SLU 50	Si
V_SLU	30.223	SLU 48	Si
PF_SLV	0.642	SLV 3	No
V_SLV	4.177	SLV 3	Si
PFFP_SLV	1.77	SLV 3	Si
R_SLV	1.704	SLV 16	Si

Maschio 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-24.614	1.141	L5	L6	12.352	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	4.35	-61084.66	-204374	-0.0001021	0.0004492	0.0035	12.3515	651736.66	1014288.22	1014288.22	16.6	No	Si
SLU 81	6.85	-48061.23	-180774	-0.0000877	0.0004492	0.0035	12.3515	638827.54	939576.26	939576.26	19.55	No	Si
SLU 83	4.35	-62805.95	-208294	-0.0001044	0.0004492	0.0035	12.3515	652304.35	1026071.07	1026071.07	16.34	No	Si
SLU 83	6.85	-50295.06	-184737	-0.0000901	0.0004492	0.0035	12.3515	642132.08	952638.02	952638.02	18.94	No	Si
SLU 79	4.35	-61926.83	-205714	-0.0001029	0.0004492	0.0035	12.3515	651981.18	1018314.97	1018314.97	16.44	No	Si
SLU 79	6.85	-51034.57	-181497	-0.0000887	0.0004492	0.0035	12.3515	639464.48	941958.6	941958.6	18.46	No	Si
SLU 75	4.35	-61104.2	-203856	-0.0001018	0.0004492	0.0035	12.3515	651628.16	1012732.69	1012732.69	16.57	No	Si
SLU 75	6.85	-49555.11	-179552	-0.0000874	0.0004492	0.0035	12.3515	637715.31	935546.11	935546.11	18.88	No	Si
SLU 76	4.35	-60704.66	-201867	-0.0001008	0.0004492	0.0035	12.3515	651137.99	1006751.04	1006751.04	16.58	No	Si
SLU 76	6.85	-49304.11	-177518	-0.0000864	0.0004492	0.0035	12.3515	635767.73	928839.98	928839.98	18.84	No	Si
SLU 77	4.35	-62526.02	-207733	-0.0001041	0.0004492	0.0035	12.3515	652250.62	1024384.19	1024384.19	16.38	No	Si
SLU 77	6.85	-51486.91	-183525	-0.0000898	0.0004492	0.0035	12.3515	641169.84	948641.99	948641.99	18.42	No	Si
SLU 84	4.35	-63105.42	-208338	-0.0001045	0.0004492	0.0035	12.3515	652308.15	1026202.42	1026202.42	16.26	No	Si
SLU 84	6.85	-50597.07	-184726	-0.0000901	0.0004492	0.0035	12.3515	642124.05	952603.91	952603.91	18.83	No	Si
SLU 80	4.35	-62226.3	-205757	-0.000103	0.0004492	0.0035	12.3515	651988.28	1018446.32	1018446.32	16.37	No	Si
SLU 80	6.85	-51336.59	-181487	-0.0000888	0.0004492	0.0035	12.3515	639455.47	941924.49	941924.49	18.35	No	Si
SLU 78	4.35	-62825.49	-207776	-0.0001042	0.0004492	0.0035	12.3515	652255.14	1024515.54	1024515.54	16.31	No	Si
SLU 78	6.85	-51788.93	-183514	-0.0000898	0.0004492	0.0035	12.3515	641161.44	948607.88	948607.88	18.32	No	Si
SLU 82	4.35	-61384.13	-204418	-0.0001022	0.0004492	0.0035	12.3515	651745.47	1014419.57	1014419.57	16.53	No	Si
SLU 82	6.85	-48363.25	-180764	-0.0000877	0.0004492	0.0035	12.3515	638818.31	939542.14	939542.14	19.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	4.35	-120095.95	-122112	-0.0000742	0.0006738	0.0035	12.3515		746640.29	746640.29	6.22		Si
SLV 14	6.85	-31620.83	-98654	-0.0000461	0.0006738	0.0035	12.3515		634079.96	634079.96	20.05		Si
SLD 14	4.35	-90963.53	-128472	-0.000071	0.0006738	0.0035	12.3515		776305.23	776305.23	8.53		Si
SLD 14	6.85	-31677.14	-106421	-0.0000494	0.0006738	0.0035	12.3515		672370.4	672370.4	21.23		Si
SLD 13	4.35	-90614.53	-128824	-0.0000711	0.0006738	0.0035	12.3515		777949.69	777949.69	8.59		Si
SLD 13	6.85	-30764.94	-106456	-0.0000492	0.0006738	0.0035	12.3515		672539.85	672539.85	21.86		Si
SLV 10	4.35	-72331.9	-140988	-0.0000725	0.0006738	0.0035	12.3515		832765.23	832765.23	11.51		Si
SLV 10	6.85	-44451.54	-116078	-0.0000561	0.0006738	0.0035	12.3515		718495.71	718495.71	16.16		Si
SLV 15	4.35	-114208.95	-118450	-0.0000714	0.0006738	0.0035	12.3515		729562.33	729562.33	6.39		Si
SLV 15	6.85	-22541.64	-97253	-0.0000437	0.0006738	0.0035	12.3515		627175.43	627175.43	27.82		Si
SLV 16	4.35	-114759.07	-117895	-0.0000713	0.0006738	0.0035	12.3515		726970.24	726970.24	6.33		Si
SLV 16	6.85	-23979.49	-97199	-0.000044	0.0006738	0.0035	12.3515		626908.34	626908.34	26.14		Si
SLD 16	4.35	-87843.32	-126002	-0.0000693	0.0006738	0.0035	12.3515		764786.26	764786.26	8.71		Si
SLD 16	6.85	-27214.98	-105572	-0.0000482	0.0006738	0.0035	12.3515		668181.67	668181.67	24.55		Si
SLV 13	4.35	-119545.83	-122667	-0.0000744	0.0006738	0.0035	12.3515		749232.38	749232.38	6.27		Si
SLV 13	6.85	-30182.98	-98708	-0.0000459	0.0006738	0.0035	12.3515		634347.05	634347.05	21.02		Si
SLD 15	4.35	-87494.31	-126355	-0.0000693	0.0006738	0.0035	12.3515		766430.72	766430.72	8.76		Si
SLD 15	6.85	-26302.79	-105606	-0.000048	0.0006738	0.0035	12.3515		668351.11	668351.11	25.41		Si
SLV 9	4.35	-71961.58	-141362	-0.0000726	0.0006738	0.0035	12.3515		834410.96	834410.96	11.6		Si
SLV 9	6.85	-43483.64	-116114	-0.0000559	0.0006738	0.0035	12.3515		718665.84	718665.84	16.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	4.35	-47802.64	-170780	-121830	-8321	12.3515	12.3515	-35227	10833	68709	115546	124287	62993	184254	No	22.14	Si
SLU 48	6.85	-42886.44	-144041	-102755	-8299	12.3515	12.3515	-29711	10833	61079	115546	124287	62993	176625	No	21.28	Si
SLU 49	4.35	-48102.11	-170824	-121861	-8434	12.3515	12.3515	-35236	10833	68721	115546	124287	62993	184267	No	21.85	Si
SLU 49	6.85	-43188.46	-144030	-102748	-8412	12.3515	12.3515	-29709	10833	61076	115546	124287	62993	176622	No	21	Si
SLU 64	4.35	-52416.62	-182707	-130339	-8551	12.3515	12.3515	-37687	10833	72112	115546	124287	62993	187280	No	21.9	Si
SLU 64	6.85	-43080.22	-156768	-111835	-8527	12.3515	12.3515	-32337	10833	64711	115546	124287	62993	180256	No	21.14	Si
SLU 45	4.35	-46081.34	-166860	-119034	-8518	12.3515	12.3515	-34418	10833	67590	115546	124287	62993	183136	No	21.5	Si
SLU 45	6.85	-40652.62	-140078	-99929	-8496	12.3515	12.3515	-28894	10833	59948	115546	124287	62993	175494	No	20.66	Si
SLU 46	4.35	-46380.82	-166904	-119065	-8631	12.3515	12.3515	-34427	10833	67603	115546	124287	62993	183148	No	21.22	Si
SLU 46	6.85	-40954.64	-140068	-99921	-8610	12.3515	12.3515	-28892	10833	59945	115546	124287	62993	175491	No	20.38	Si
SLU 43	4.35	-43760.86	-160921	-114797	-8637	12.3515	12.3515	-33193	10833	65896	115546	124287	62993	181441	No	21.01	Si
SLU 43	6.85	-37966.46	-134089	-95656	-8616	12.3515	12.3515	-27659	10833	58239	115546	124287	62993	173785	No	20.17	Si
SLU 51	4.35	-47502.91	-168804	-120421	-8356	12.3515	12.3515	-34820	10833	68145	115546	124287	62993	183691	No	21.98	Si
SLU 51	6.85	-42736.12	-142003	-101302	-8334	12.3515	12.3515	-29291	10833	60498	115546	124287	62993	176043	No	21.12	Si
SLU 65	4.35	-52915.74	-182779	-130390	-8740	12.3515	12.3515	-37702	10833	72133	115546	124287	62993	187280	No	21.43	Si
SLU 65	6.85	-43583.58	-156751	-111822	-8716	12.3515	12.3515	-32333	10833	64706	115546	124287	62993	180251	No	20.68	Si
SLU 47	4.35	-45981.27	-164914	-117645	-8629	12.3515	12.3515	-34017	10833	67035	115546	124287	62993	182580	No	21.16	Si
SLU 47	6.85	-40703.64	-138034	-98470	-8608	12.3515	12.3515	-28472	10833	59365	115546	124287	62993	174911	No	20.32	Si
SLU 44	4.35	-44259.98	-160994	-114849	-8826	12.3515	12.3515	-33208	10833	65916	115546	124287	62993	181462	No	20.56	Si
SLU 44	6.85	-38469.82	-134072	-95643	-8805	12.3515	12.3515	-27655	10833	58234	115546	124287	62993	173780	No	19.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	4.35	39242.39	-157510	-112364	44013	12.3515	12.3515	-32490	16250	74912	115546	186431	62993	190457		4.33	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	6.85	-35838.88	-142108	-101376	41131	12.3515	12.3515	-29313	16250	70517	115546	186431	62993	186062		4.52	Si
SLV 3	4.35	39792.51	-158066	-112761	43374	12.3515	12.3515	-32605	16250	75070	115546	186431	62993	190616		4.39	Si
SLV 3	6.85	-34401.03	-142162	-101415	40492	12.3515	12.3515	-29324	16250	70532	115546	186431	62993	186078		4.6	Si
SLV 13	4.35	-119545.83	-122667	-87508	-56622	12.3515	12.3515	-25303	16250	64970	115546	186431	62993	180515		3.19	Si
SLV 13	6.85	-30182.98	-98708	-70416	-53704	12.3515	12.3515	-20361	16250	58133	115546	186431	62993	173679		3.23	Si
SLD 13	4.35	-90614.53	-128824	-91900	-38380	12.3515	12.3515	-26573	16250	66726	115546	186431	62993	182272		4.75	Si
SLD 13	6.85	-30764.94	-106456	-75943	-36488	12.3515	12.3515	-21959	16250	60344	115546	186431	62993	175889		4.82	Si
SLV 1	4.35	34455.63	-162283	-115769	38083	12.3515	12.3515	-33474	16250	76274	115546	186431	62993	191819		5.04	Si
SLV 1	6.85	-42042.37	-143617	-102453	35175	12.3515	12.3515	-29624	16250	70947	115546	186431	62993	186493		5.3	Si
SLV 16	4.35	-114759.07	-117895	-84103	-50693	12.3515	12.3515	-24318	16250	63608	115546	186431	62993	179153		3.53	Si
SLV 16	6.85	-23979.49	-97199	-69339	-47748	12.3515	12.3515	-20049	16250	57702	115546	186431	62993	173248		3.63	Si
SLV 2	4.35	33905.51	-161728	-115373	38722	12.3515	12.3515	-33360	16250	76115	115546	186431	62993	191661		4.95	Si
SLV 2	6.85	-43480.22	-143562	-102414	35813	12.3515	12.3515	-29613	16250	70932	115546	186431	62993	186477		5.21	Si
SLV 15	4.35	-114208.95	-118450	-84500	-51331	12.3515	12.3515	-24433	16250	63766	115546	186431	62993	179312		3.49	Si
SLV 15	6.85	-22541.64	-97253	-69378	-48387	12.3515	12.3515	-20060	16250	57718	115546	186431	62993	173263		3.58	Si
SLV 14	4.35	-120095.95	-122112	-87112	-55983	12.3515	12.3515	-25188	16250	64811	115546	186431	62993	180357		3.22	Si
SLV 14	6.85	-31620.83	-98654	-70377	-53065	12.3515	12.3515	-20349	16250	58118	115546	186431	62993	173663		3.27	Si
SLD 14	4.35	-90963.53	-128472	-91649	-37974	12.3515	12.3515	-26500	16250	66626	115546	186431	62993	182171		4.8	Si
SLD 14	6.85	-31677.14	-106421	-75918	-36083	12.3515	12.3515	-21952	16250	60334	115546	186431	62993	175880		4.87	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-103145	0.38	1308.24	12090.52	17054.74	14572.63	11.14	Si
SLV 15	-103341	0.38	1308.24	12109.03	17083.42	14596.22	11.16	Si
SLV 14	-105317	0.38	1308.24	12294.58	17372.38	14833.48	11.34	Si
SLV 13	-105513	0.38	1308.24	12312.9	17401.06	14856.98	11.36	Si
SLV 12	-115946	0.38	1308.24	13263.19	18915.56	16089.38	12.3	Si
SLV 11	-116078	0.38	1308.24	13274.91	18934.54	16104.72	12.31	Si
SLV 10	-123185	0.38	1308.24	13894.36	19956.74	16925.55	12.94	Si
SLV 9	-123317	0.38	1308.24	13905.65	19975.73	16940.69	12.95	Si
SLV 8	-129062	0.38	1308.24	14389.7	20798.41	17594.06	13.45	Si
SLV 7	-129194	0.38	1308.24	14400.65	20817.15	17608.9	13.46	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-129083	-162283	-588	0.533	14871	0.965	8.03427	5.32179	Si
SLV 2	-129034	-161728	-590	0.534	14866	0.965	8.0367	5.32179	Si
SLV 3	-126889	-158066	326	0.543	14647.7	0.964	8.18541	5.32179	Si
SLV 4	-126840	-157510	323	0.543	14642.7	0.964	8.18848	5.32179	Si
SLV 5	-120778	-153247	-1569	0.557	14025.9	0.963	8.40769	4.54183	Si
SLV 6	-120745	-152873	-1571	0.557	14022.6	0.963	8.40953	4.54183	Si
SLV 13	-98064	-122667	-346	0.676	11715.9	0.956	10.27309	5.32179	Si
SLV 14	-98014	-122112	-349	0.676	11710.9	0.956	10.27727	5.32179	Si
SLV 7	-113464	-139190	1476	0.588	13281.9	0.961	8.89541	4.54183	Si
SLV 8	-113431	-138816	1474	0.588	13278.5	0.961	8.8979	4.54183	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.262	SLU 84	Si
V_SLU	19.736	SLU 44	Si
PF_SLV	6.217	SLV 14	Si
V_SLV	3.188	SLV 13	Si
PFFP_SLV	11.139	SLV 16	Si
R_SLV	1.51	SLV 1	Si

Maschio 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L5	L6	0.676	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	4.35	-31.14	-13655	-0.0001124	0.0004492	0.0035	0.6764	1892.92	3273.73	3273.73	105.13	No	Si
SLU 83	6.85	123.32	-12685	-0.0001109	0.0004492	0.0035	0.6764	1938.25	3083.46	3083.46	25	No	Si
SLU 18	4.35	-42.06	-9960	-0.0000805	0.0004492	0.0035	0.6764	1918.54	2723.82	2723.82	64.76	No	Si
SLU 18	6.85	109.67	-9158	-0.0000787	0.0004492	0.0035	0.6764	1871.37	2458.51	2458.51	22.42	No	Si
SLU 41	4.35	-41	-11666	-0.0000952	0.0004492	0.0035	0.6764	1956.29	2992.81	2992.81	72.99	No	Si
SLU 41	6.85	121.22	-10959	-0.0000952	0.0004492	0.0035	0.6764	1950.97	2793.13	2793.13	23.04	No	Si
SLU 21	4.35	-26.41	-10198	-0.0000813	0.0004492	0.0035	0.6764	1928.91	2761.34	2761.34	104.56	No	Si
SLU 21	6.85	96.54	-9438	-0.0000801	0.0004492	0.0035	0.6764	1890.01	2510.64	2510.64	26.01	No	Si
SLU 62	4.35	-32.8	-12203	-0.0000994	0.0004492	0.0035	0.6764	1950.58	3077.48	3077.48	93.82	No	Si
SLU 62	6.85	113.73	-11144	-0.0000963	0.0004492	0.0035	0.6764	1953.77	2827.44	2827.44	24.86	No	Si
SLU 39	4.35	-40.4	-11412	-0.0000929	0.0004492	0.0035	0.6764	1956.06	2952.84	2952.84	73.09	No	Si
SLU 39	6.85	119.26	-10699	-0.0000928	0.0004492	0.0035	0.6764	1945.33	2744.8	2744.8	23.02	No	Si
SLU 20	4.35	-42.67	-10214	-0.0000827	0.0004492	0.0035	0.6764	1929.53	2763.78	2763.78	64.78	No	Si
SLU 20	6.85	111.63	-9418	-0.0000811	0.0004492	0.0035	0.6764	1888.73	2506.84	2506.84	22.46	No	Si
SLU 60	4.35	-32.2	-11949	-0.000097	0.0004492	0.0035	0.6764	1954.32	3037.52	3037.52	94.34	No	Si
SLU 60	6.85	111.77	-10884	-0.0000938	0.0004492	0.0035	0.6764	1949.53	2779.11	2779.11	24.87	No	Si
SLU 81	4.35	-30.53	-13401	-0.00011	0.0004492	0.0035	0.6764	1907.42	3245.16	3245.16	106.28	No	Si
SLU 81	6.85	121.36	-12425	-0.0001084	0.0004492	0.0035	0.6764	1945.74	3050.13	3050.13	25.13	No	Si
SLU 19	4.35	-25.8	-9945	-0.0000791	0.0004492	0.0035	0.6764	1917.81	2721.37	2721.37	105.47	No	Si
SLU 19	6.85	94.58	-9178	-0.0000778	0.0004492	0.0035	0.6764	1872.8	2462.3	2462.3	26.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	4.35	1780.2	-7191	-0.0003101	0.0006738	0.0035	0.6764		2125.94	2125.94	1.19		Si
SLV 5	6.85	-1645.02	-9921	-0.0002109	0.0006738	0.0035	0.6764		2911.5	2911.5	1.77		Si
SLV 6	4.35	1812.14	-7178	-0.0003322	0.0006738	0.0035	0.6764		2122.64	2122.64	1.17		Si
SLV 6	6.85	-1675.08	-9950	-0.0002152	0.0006738	0.0035	0.6764		2917.89	2917.89	1.74		Si
SLV 3	4.35	1543.02	-7523	-0.0002065	0.0006738	0.0035	0.6764		2206.6	2206.6	1.43		Si
SLV 3	6.85	-1349.53	-7691	-0.0001686	0.0006738	0.0035	0.6764		2389.42	2389.42	1.77		Si
SLV 1	4.35	2265.35	-6755	-0.0088897	0.0006738	0.0035	0.5411		2019.85	2019.85	0.89		No
SLV 1	6.85	-2051.82	-8694	-0.0003378	0.0006738	0.0035	0.5411		2631	2631	1.28		Si
SLV 15	4.35	-2273.02	-11342	-0.0003248	0.0006738	0.0035	0.5411		3213.11	3213.11	1.41		Si
SLV 15	6.85	2174.56	-7831	-0.000655	0.0006738	0.0035	0.6764		2281.35	2281.35	1.05		Si
SLV 2	4.35	2312.79	-6735	-0.0100723	0.0006738	0.0035	0.5411		2014.95	2014.95	0.87		No
SLV 2	6.85	-2096.48	-8736	-0.0003579	0.0006738	0.0035	0.5411		2640.98	2640.98	1.26		Si
SLV 11	4.35	-1772.37	-10899	-0.0002303	0.0006738	0.0035	0.6764		3121.92	3121.92	1.76		Si
SLV 11	6.85	1753.17	-6618	-0.0003669	0.0006738	0.0035	0.6764		1986.58	1986.58	1.13		Si
SLV 4	4.35	1590.46	-7503	-0.0002189	0.0006738	0.0035	0.6764		2201.71	2201.71	1.38		Si
SLV 4	6.85	-1394.19	-7733	-0.0001755	0.0006738	0.0035	0.6764		2399.89	2399.89	1.72		Si
SLV 12	4.35	-1740.43	-10885	-0.0002257	0.0006738	0.0035	0.6764		3119.01	3119.01	1.79		Si
SLV 12	6.85	1723.1	-6646	-0.0003347	0.0006738	0.0035	0.6764		1993.45	1993.45	1.16		Si
SLV 16	4.35	-2225.57	-11322	-0.000313	0.0006738	0.0035	0.5411		3209.03	3209.03	1.44		Si
SLV 16	6.85	2129.9	-7873	-0.0005346	0.0006738	0.0035	0.6764		2291.56	2291.56	1.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	4.35	72.8	-11958	-8530	48	0.6764	0.6764	-45043	10833	3004	115546	6806	3449	10255	No	214.82	Si
SLU 68	6.85	6.47	-11076	-7902	57	0.6764	0.6764	-41722	10833	2836	115546	6806	3449	10255	No	180.21	Si
SLU 18	4.35	-42.06	-9960	-7105	-54	0.6764	0.6764	-37519	10833	2624	115546	6806	3449	10255	No	189.61	Si
SLU 18	6.85	109.67	-9158	-6533	-48	0.6764	0.6764	-34496	10833	2471	115546	6806	3449	10255	No	212.43	Si
SLU 44	4.35	71.74	-10252	-7314	42	0.6764	0.6764	-38619	10833	2680	115546	6806	3449	10255	No	243.98	Si
SLU 44	6.85	-5.08	-9275	-6616	50	0.6764	0.6764	-34937	10833	2494	115546	6806	3449	10255	No	206.87	Si
SLU 47	4.35	71.13	-10506	-7495	41	0.6764	0.6764	-39573	10833	2728	115546	6806	3449	10255	No	247.33	Si
SLU 47	6.85	-3.12	-9535	-6802	49	0.6764	0.6764	-35917	10833	2543	115546	6806	3449	10255	No	208.2	Si
SLU 60	4.35	-32.2	-11949	-8524	-52	0.6764	0.6764	-45011	10833	3002	115546	6806	3449	10255	No	197.34	Si
SLU 60	6.85	111.77	-10884	-7764	-45	0.6764	0.6764	-40997	10833	2800	115546	6806	3449	10255	No	228.96	Si
SLU 65	4.35	73.4	-11704	-8350	48	0.6764	0.6764	-44089	10833	2956	115546	6806	3449	10255	No	212.29	Si
SLU 65	6.85	4.51	-10816	-7716	57	0.6764	0.6764	-40742	10833	2787	115546	6806	3449	10255	No	179.22	Si
SLU 23	4.35	63.54	-9716	-6931	46	0.6764	0.6764	-36597	10833	2577	115546	6806	3449	10255	No	222.03	Si
SLU 23	6.85	2.41	-9090	-6485	54	0.6764	0.6764	-34241	10833	2459	115546	6806	3449	10255	No	190.84	Si
SLU 20	4.35	-42.67	-10214	-7286	-55	0.6764	0.6764	-38473	10833	2672	115546	6806	3449	10255	No	187.63	Si
SLU 20	6.85	111.63	-9418	-6719	-49	0.6764	0.6764	-35476	10833	2521	115546	6806	3449	10255	No	211.05	Si
SLU 62	4.35	-32.8	-12203	-8705	-53	0.6764	0.6764	-45965	10833	3051	115546	6806	3449	10255	No	195.2	Si
SLU 62	6.85	113.73	-11144	-7950	-45	0.6764	0.6764	-41977	10833	2849	115546	6806	3449	10255	No	227.36	Si
SLU 26	4.35	62.93	-9969	-7112	46	0.6764	0.6764	-37551	10833	2626	115546	6806	3449	10255	No	224.8	Si
SLU 26	6.85	4.37	-9350	-6670	53	0.6764	0.6764	-35221	10833	2508	115546	6806	3449	10255	No	191.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	4.35	-1550.69	-10573	-7543	-1378	0.6764	0.5746	-39829	16250	3105	115546	10209	3449	13658		9.91	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	6.85	1472.28	-8835	-6302	-1128	0.6764	0.5146	-33278	16250	2775	115546	10209	3449	13658		12.11	Si
SLV 5	4.35	1780.2	-7191	-5130	1690	0.6764	0.2719	-27089	16250	2462	115546	10209	3449	13658		8.08	Si
SLV 5	6.85	-1645.02	-9921	-7078	1631	0.6764	0.5171	-50162	16250	2981	115546	10209	3449	13658		8.37	Si
SLV 11	4.35	-1772.37	-10899	-7775	-1713	0.6764	0.5267	-54247	16250	3167	115546	10209	3449	13658		7.97	Si
SLV 11	6.85	1753.17	-6618	-4721	-1642	0.6764	0.2198	-80486	16250	2353	115546	10209	3449	13658		8.32	Si
SLV 15	4.35	-2273.02	-11342	-8091	-2090	0.5411	0.4133	0	0	0	115546	8167	2760	10927		5.23	Si
SLV 15	6.85	2174.56	-7831	-5586	-1844	0.6764	0.1815	-121204	16250	2584	115546	10209	3449	13658		7.41	Si
SLV 6	4.35	1812.14	-7178	-5120	1718	0.6764	0.2572	-27038	16250	2459	115546	10209	3449	13658		7.95	Si
SLV 6	6.85	-1675.08	-9950	-7098	1659	0.6764	0.5095	-51089	16250	2987	115546	10209	3449	13658		8.23	Si
SLV 1	4.35	2265.35	-6755	-4819	2053	0.5411	0.0084	0	0	0	115546	8167	2760	10927		5.32	Si
SLV 1	6.85	-2051.82	-8694	-6202	1820	0.5411	0.3066	0	0	0	115546	8167	2760	10927		6	Si
SLV 2	4.35	2312.79	-6735	-4804	2095	0.5411	0	0	0	0	115546	8167	2760	10927		5.22	Si
SLV 2	6.85	-2096.48	-8736	-6232	1862	0.5411	0.2946	0	0	0	115546	8167	2760	10927		5.87	Si
SLV 4	4.35	1590.46	-7503	-5353	1383	0.6764	0.3786	-28263	16250	2521	115546	10209	3449	13658		9.88	Si
SLV 4	6.85	-1394.19	-7733	-5516	1146	0.6764	0.4737	-42480	16250	2565	115546	10209	3449	13658		11.92	Si
SLV 16	4.35	-2225.57	-11322	-8077	-2049	0.5411	0.4248	0	0	0	115546	8167	2760	10927		5.33	Si
SLV 16	6.85	2129.9	-7873	-5616	-1803	0.6764	0.203	-106593	16250	2592	115546	10209	3449	13658		7.58	Si
SLV 12	4.35	-1740.43	-10885	-7765	-1685	0.6764	0.5349	-53281	16250	3165	115546	10209	3449	13658		8.11	Si
SLV 12	6.85	1723.1	-6646	-4741	-1613	0.6764	0.2368	-74693	16250	2358	115546	10209	3449	13658		8.47	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-7250	0.38	71.64	802.99	1147.61	975.3	13.61	Si
SLV 11	-7250	0.38	71.64	803.02	1147.67	975.35	13.61	Si
SLV 8	-7274	0.38	71.64	804.94	1151.07	978	13.65	Si
SLV 12	-7274	0.38	71.64	804.97	1151.13	978.05	13.65	Si
SLV 3	-7906	0.38	71.64	854.7	1242.33	1048.52	14.64	Si
SLV 15	-7907	0.38	71.64	854.81	1242.53	1048.67	14.64	Si
SLV 4	-7941	0.38	71.64	857.41	1247.46	1052.43	14.69	Si
SLV 16	-7943	0.38	71.64	857.51	1247.66	1052.59	14.69	Si
SLV 1	-8473	0.38	71.64	896.66	1324.22	1110.44	15.5	Si
SLV 13	-8474	0.38	71.64	896.76	1324.42	1110.59	15.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-6630	-10573	14	0.566	769.7	0.963	8.53978	5.32179	Si
SLV 14	-6620	-10553	14	0.567	768.7	0.963	8.55086	5.32179	Si
SLV 15	-6165	-11342	28	0.6	722.4	0.961	9.07388	5.32179	Si
SLV 16	-6156	-11322	28	0.601	721.4	0.961	9.08654	5.32179	Si
SLV 9	-6553	-8337	-16	0.571	761.9	0.963	8.62443	4.54183	Si
SLV 10	-6547	-8323	-16	0.572	761.2	0.963	8.63213	4.54183	Si
SLV 5	-6024	-7191	-27	0.612	708.1	0.96	9.26393	4.54183	Si
SLV 6	-6018	-7178	-27	0.613	707.4	0.96	9.27292	4.54183	Si
SLV 1	-4867	-6755	-23	0.734	590.5	0.953	11.18831	5.32179	Si
SLV 2	-4857	-6735	-23	0.735	589.5	0.953	11.20817	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	22.418	SLU 18	Si
V_SLU	179.219	SLU 65	Si
PF_SLV	0.871	SLV 2	No
V_SLV	5.215	SLV 2	Si
PFFP_SLV	13.614	SLV 7	Si
R_SLV	1.605	SLV 13	Si

Maschio 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L5	L6	1.944	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	4.35	1522.4	-38436	-0.0001223	0.0004492	0.0035	1.9436	15762.22	26184.06	26184.06	17.2	No	Si
SLU 79	6.85	970.12	-31099	-0.0000937	0.0004492	0.0035	1.9436	16088.07	22846.03	22846.03	23.55	No	Si
SLU 37	4.35	1359.59	-32801	-0.0001026	0.0004492	0.0035	1.9436	16152.65	23761.16	23761.16	17.48	No	Si
SLU 37	6.85	757.9	-26779	-0.0000788	0.0004492	0.0035	1.9436	15543.88	20522.58	20522.58	27.08	No	Si
SLU 39	4.35	1376.96	-32606	-0.0001022	0.0004492	0.0035	1.9436	16149.55	23656.62	23656.62	17.18	No	Si
SLU 39	6.85	744.33	-26589	-0.0000781	0.0004492	0.0035	1.9436	15507.44	20420.44	20420.44	27.43	No	Si
SLU 22	4.35	1224.77	-28196	-0.0000872	0.0004492	0.0035	1.9436	15782.56	21284.88	21284.88	17.38	No	Si
SLU 22	6.85	655.13	-22581	-0.0000656	0.0004492	0.0035	1.9436	14492.71	18145.17	18145.17	27.7	No	Si
SLU 41	4.35	1391.11	-33365	-0.0001047	0.0004492	0.0035	1.9436	16155.38	24064.65	24064.65	17.3	No	Si
SLU 41	6.85	764.49	-27285	-0.0000803	0.0004492	0.0035	1.9436	15635.85	20794.79	20794.79	27.2	No	Si
SLU 74	4.35	1511.5	-38039	-0.0001209	0.0004492	0.0035	1.9436	15820.22	26036.51	26036.51	17.23	No	Si
SLU 74	6.85	963.76	-30731	-0.0000925	0.0004492	0.0035	1.9436	16062.97	22648.13	22648.13	23.5	No	Si
SLU 77	4.35	1525.64	-38797	-0.0001236	0.0004492	0.0035	1.9436	15705.58	26317.95	26317.95	17.25	No	Si
SLU 77	6.85	983.92	-31427	-0.0000948	0.0004492	0.0035	1.9436	16107.1	23022.47	23022.47	23.4	No	Si
SLU 83	4.35	1553.91	-39001	-0.0001245	0.0004492	0.0035	1.9436	15671.99	26393.4	26393.4	16.99	No	Si
SLU 83	6.85	976.72	-31605	-0.0000953	0.0004492	0.0035	1.9436	16116.12	23118.23	23118.23	23.67	No	Si
SLU 32	4.35	1348.69	-32403	-0.0001013	0.0004492	0.0035	1.9436	16145.13	23547.24	23547.24	17.46	No	Si
SLU 32	6.85	751.54	-26411	-0.0000776	0.0004492	0.0035	1.9436	15472.32	20324.68	20324.68	27.04	No	Si
SLU 81	4.35	1539.77	-38242	-0.0001219	0.0004492	0.0035	1.9436	15791.14	26111.96	26111.96	16.96	No	Si
SLU 81	6.85	956.55	-30909	-0.000093	0.0004492	0.0035	1.9436	16075.61	22743.89	22743.89	23.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	4.35	7435.19	-22852	-0.0001226	0.0006738	0.0035	1.9436		19028.25	19028.25	2.56		Si
SLV 7	6.85	-2847.68	-15548	-0.0000631	0.0006738	0.0035	1.9436		15556.74	15556.74	5.46		Si
SLD 4	4.35	7584.7	-25247	-0.0001311	0.0006738	0.0035	1.9436		20715.54	20715.54	2.73		Si
SLD 4	6.85	-3330.83	-17546	-0.0000726	0.0006738	0.0035	1.9436		17092.79	17092.79	5.13		Si
SLV 4	4.35	11356.08	-24780	-0.0001726	0.0006738	0.0035	1.9436		20386.73	20386.73	1.8		Si
SLV 4	6.85	-5634.38	-15700	-0.000087	0.0006738	0.0035	1.9436		15675.69	15675.69	2.78		Si
SLV 2	4.35	9203.63	-26564	-0.0001498	0.0006738	0.0035	1.9436		21643.15	21643.15	2.35		Si
SLV 2	6.85	-4557.62	-18059	-0.0000843	0.0006738	0.0035	1.9436		17473.08	17473.08	3.83		Si
SLV 8	4.35	7373.87	-22902	-0.0001222	0.0006738	0.0035	1.9436		19063.33	19063.33	2.59		Si
SLV 8	6.85	-2837.22	-15607	-0.0000632	0.0006738	0.0035	1.9436		15603.56	15603.56	5.5		Si
SLV 1	4.35	9294.72	-26490	-0.0001505	0.0006738	0.0035	1.9436		21591.03	21591.03	2.32		Si
SLV 1	6.85	-4573.16	-17970	-0.0000841	0.0006738	0.0035	1.9436		17407.12	17407.12	3.81		Si
SLV 14	4.35	-9391.48	-27176	-0.0001534	0.0006738	0.0035	1.9436		23831.34	23831.34	2.54		Si
SLV 14	6.85	7030.71	-25701	-0.0001276	0.0006738	0.0035	1.9436		21035.49	21035.49	2.99		Si
SLV 13	4.35	-9300.39	-27102	-0.0001523	0.0006738	0.0035	1.9436		23782.46	23782.46	2.56		Si
SLV 13	6.85	7015.17	-25612	-0.0001272	0.0006738	0.0035	1.9436		20972.82	20972.82	2.99		Si
SLV 3	4.35	11447.17	-24707	-0.0001739	0.0006738	0.0035	1.9436		20334.61	20334.61	1.78		Si
SLV 3	6.85	-5649.92	-15611	-0.0000869	0.0006738	0.0035	1.9436		15606.13	15606.13	2.76		Si
SLD 3	4.35	7642.49	-25200	-0.0001314	0.0006738	0.0035	1.9436		20682.48	20682.48	2.71		Si
SLD 3	6.85	-3340.69	-17490	-0.0000725	0.0006738	0.0035	1.9436		17050.94	17050.94	5.1		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	4.35	1459.81	-38067	-27156	1990	1.9436	1.9436	-49900	10833	9337	115546	19558	9913	29470	No	14.81	Si
SLU 75	6.85	986.93	-30773	-21953	-542	1.9436	1.9436	-40338	10833	7950	115546	19558	9913	29470	No	54.38	Si
SLU 83	4.35	1553.91	-39001	-27822	2074	1.9436	1.9436	-51123	10833	9515	115546	19558	9913	29470	No	14.21	Si
SLU 83	6.85	976.72	-31605	-22546	-492	1.9436	1.9436	-41429	10833	8108	115546	19558	9913	29470	No	59.87	Si
SLU 81	4.35	1539.77	-38242	-27281	2050	1.9436	1.9436	-50129	10833	9370	115546	19558	9913	29470	No	14.38	Si
SLU 81	6.85	956.55	-30909	-22050	-489	1.9436	1.9436	-40516	10833	7976	115546	19558	9913	29470	No	60.32	Si
SLU 74	4.35	1511.5	-38039	-27136	2027	1.9436	1.9436	-49862	10833	9332	115546	19558	9913	29470	No	14.54	Si
SLU 74	6.85	963.76	-30731	-21923	-523	1.9436	1.9436	-40283	10833	7942	115546	19558	9913	29470	No	56.37	Si
SLU 78	4.35	1473.95	-38826	-27697	2015	1.9436	1.9436	-50894	10833	9482	115546	19558	9913	29470	No	14.63	Si
SLU 78	6.85	1007.09	-31469	-22449	-546	1.9436	1.9436	-41251	10833	8082	115546	19558	9913	29470	No	54.01	Si
SLU 77	4.35	1525.64	-38797	-27677	2052	1.9436	1.9436	-50857	10833	9476	115546	19558	9913	29470	No	14.36	Si
SLU 77	6.85	983.92	-31427	-22419	-526	1.9436	1.9436	-41196	10833	8074	115546	19558	9913	29470	No	55.98	Si
SLU 84	4.35	1502.22	-39029	-27842	2037	1.9436	1.9436	-51161	10833	9520	115546	19558	9913	29470	No	14.47	Si
SLU 84	6.85	999.88	-31647	-22576	-511	1.9436	1.9436	-41484	10833	8116	115546	19558	9913	29470	No	57.63	Si
SLU 80	4.35	1470.7	-38465	-27440	2004	1.9436	1.9436	-50421	10833	9413	115546	19558	9913	29470	No	14.71	Si
SLU 80	6.85	993.29	-31141	-22215	-532	1.9436	1.9436	-40821	10833	8020	115546	19558	9913	29470	No	55.35	Si
SLU 82	4.35	1488.08	-38270	-27301	2013	1.9436	1.9436	-50166	10833	9376	115546	19558	9913	29470	No	14.64	Si
SLU 82	6.85	979.72	-30951	-22080	-508	1.9436	1.9436	-40572	10833	7984	115546	19558	9913	29470	No	58.05	Si
SLU 79	4.35	1522.4	-38436	-27420	2041	1.9436	1.9436	-50383	10833	9407	115546	19558	9913	29470	No	14.44	Si
SLU 79	6.85	970.12	-31099	-22185	-513	1.9436	1.9436	-40765	10833	8012	115546	19558	9913	29470	No	57.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	4.35	7584.7	-25247	-18011	6913	1.9436	1.9436	-33095	16250	8844	115546	29337	9913	39249		5.68	Si
SLD 4	6.85	-3330.83	-17546	-12517	3037	1.9436	1.9436	-23000	16250	8844	115546	29337	9913	39249		12.92	Si
SLD 3	4.35	7642.49	-25200	-17977	6946	1.9436	1.9436	-33033	16250	8844	115546	29337	9913	39249		5.65	Si
SLD 3	6.85	-3340.69	-17490	-12477	3043	1.9436	1.9436	-22926	16250	8844	115546	29337	9913	39249		12.9	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	4.35	11356.08	-24780	-17678	10078	1.9436	1.5406	-32483	16250	7858	115546	29337	9913	39249		3.89	Si
SLV 4	6.85	-5634.38	-15700	-11200	5026	1.9436	1.8388	-21964	16250	8366	115546	29337	9913	39249		7.81	Si
SLV 3	4.35	11447.17	-24707	-17625	10131	1.9436	1.5255	-32386	16250	7844	115546	29337	9913	39249		3.87	Si
SLV 3	6.85	-5649.92	-15611	-11136	5035	1.9436	1.8297	-21947	16250	8325	115546	29337	9913	39249		7.79	Si
SLV 8	4.35	7373.87	-22902	-16338	6424	1.9436	1.9436	-30021	16250	8844	115546	29337	9913	39249		6.11	Si
SLV 8	6.85	-2837.22	-15607	-11134	2454	1.9436	1.9436	-20459	16250	8844	115546	29337	9913	39249		15.99	Si
SLV 14	4.35	-9391.48	-27176	-19387	-7348	1.9436	1.8787	-37540	16250	8548	115546	29337	9913	39249		5.34	Si
SLV 14	6.85	7030.71	-25701	-18335	-5913	1.9436	1.9436	-33690	16250	8844	115546	29337	9913	39249		6.64	Si
SLV 7	4.35	7435.19	-22852	-16302	6460	1.9436	1.9394	-29955	16250	8824	115546	29337	9913	39249		6.08	Si
SLV 7	6.85	-2847.68	-15548	-11091	2460	1.9436	1.9436	-20380	16250	8844	115546	29337	9913	39249		15.95	Si
SLV 1	4.35	9294.72	-26490	-18897	8524	1.9436	1.8628	-34724	16250	8476	115546	29337	9913	39249		4.6	Si
SLV 1	6.85	-4573.16	-17970	-12819	4208	1.9436	1.9436	-23556	16250	8844	115546	29337	9913	39249		9.33	Si
SLV 13	4.35	-9300.39	-27102	-19334	-7295	1.9436	1.886	-37288	16250	8581	115546	29337	9913	39249		5.38	Si
SLV 13	6.85	7015.17	-25612	-18271	-5904	1.9436	1.9436	-33574	16250	8844	115546	29337	9913	39249		6.65	Si
SLV 2	4.35	9203.63	-26564	-18950	8471	1.9436	1.876	-34821	16250	8536	115546	29337	9913	39249		4.63	Si
SLV 2	6.85	-4557.62	-18059	-12883	4198	1.9436	1.9436	-23672	16250	8844	115546	29337	9913	39249		9.35	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-21126	0.38	205.86	2331.18	3413.13	2872.16	13.95	Si
SLV 8	-21175	0.38	205.86	2335.2	3420.27	2877.73	13.98	Si
SLV 11	-21310	0.38	205.86	2345.99	3439.51	2892.75	14.05	Si
SLV 12	-21360	0.38	205.86	2349.98	3446.65	2898.32	14.08	Si
SLV 3	-22977	0.38	205.86	2475.76	3678.43	3077.09	14.95	Si
SLV 4	-23051	0.38	205.86	2481.34	3689.03	3085.18	14.99	Si
SLV 15	-23591	0.38	205.86	2521.56	3766.4	3143.98	15.27	Si
SLV 16	-23665	0.38	205.86	2527.01	3777	3152.01	15.31	Si
SLV 1	-24758	0.38	205.86	2605.78	3930.33	3268.06	15.87	Si
SLV 2	-24832	0.38	205.86	2610.99	3940.53	3275.76	15.91	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-19647	-25319	117	0.548	2272.4	0.964	8.25691	5.32179	Si
SLV 16	-19601	-25393	117	0.549	2267.7	0.964	8.27387	5.32179	Si
SLV 13	-19506	-27102	-149	0.55	2258	0.964	8.28661	5.32179	Si
SLV 14	-19460	-27176	-149	0.551	2253.4	0.964	8.30378	5.32179	Si
SLV 3	-16816	-24707	147	0.624	1984.4	0.959	9.44787	5.32179	Si
SLV 4	-16771	-24780	147	0.625	1979.8	0.959	9.47054	5.32179	Si
SLV 1	-16675	-26490	-119	0.63	1970.1	0.959	9.54085	5.32179	Si
SLV 2	-16630	-26564	-119	0.631	1965.4	0.959	9.56397	5.32179	Si
SLV 11	-18813	-23036	438	0.553	2187.5	0.963	8.34342	4.54183	Si
SLV 12	-18782	-23086	438	0.553	2184.4	0.963	8.35544	4.54183	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.958	SLU 81	Si
V_SLU	14.206	SLU 83	Si
PF_SLV	1.776	SLV 3	Si
V_SLV	3.874	SLV 3	Si
PFFP_SLV	13.952	SLV 7	Si
R_SLV	1.552	SLV 15	Si

Maschio 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L5	L6	1.55	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	4.35	738.91	-25064	-0.0000965	0.0004492	0.0035	1.55	10243.69	14669.57	14669.57	19.85	No	Si
SLU 45	6.45	-825.81	-21053	-0.0000825	0.0004492	0.0035	1.55	9838.42	13982	13982	16.93	No	Si
SLU 43	4.35	756.07	-24178	-0.0000934	0.0004492	0.0035	1.55	10194.65	14277.54	14277.54	18.88	No	Si
SLU 43	6.45	-845.08	-20237	-0.0000797	0.0004492	0.0035	1.55	9698.56	13607.12	13607.12	16.1	No	Si
SLU 64	4.35	756.98	-27290	-0.0001055	0.0004492	0.0035	1.55	10265.65	15597.49	15597.49	20.6	No	Si
SLU 64	6.45	-845.33	-23578	-0.0000924	0.0004492	0.0035	1.55	10148.43	15056.97	15056.97	17.81	No	Si
SLU 47	4.35	749.47	-24777	-0.0000956	0.0004492	0.0035	1.55	10230.31	14542.51	14542.51	19.4	No	Si
SLU 47	6.45	-813.68	-20798	-0.0000814	0.0004492	0.0035	1.55	9796.82	13867.35	13867.35	17.04	No	Si
SLU 48	4.35	717.8	-25659	-0.0000985	0.0004492	0.0035	1.55	10263.73	14932.61	14932.61	20.8	No	Si
SLU 48	6.45	-800.81	-21588	-0.0000842	0.0004492	0.0035	1.55	9919.73	14211.91	14211.91	17.75	No	Si
SLU 50	4.35	713.84	-25367	-0.0000973	0.0004492	0.0035	1.55	10255.19	14803.62	14803.62	20.74	No	Si
SLU 50	6.45	-795.09	-21308	-0.000083	0.0004492	0.0035	1.55	9878.31	14091.84	14091.84	17.72	No	Si
SLU 46	4.35	747.62	-25067	-0.0000967	0.0004492	0.0035	1.55	10243.8	14670.73	14670.73	19.62	No	Si
SLU 46	6.45	-821.96	-21068	-0.0000825	0.0004492	0.0035	1.55	9840.82	13988.45	13988.45	17.02	No	Si
SLU 49	4.35	726.5	-25661	-0.0000987	0.0004492	0.0035	1.55	10263.79	14933.77	14933.77	20.56	No	Si
SLU 49	6.45	-796.97	-21603	-0.0000842	0.0004492	0.0035	1.55	9921.89	14218.36	14218.36	17.84	No	Si
SLU 51	4.35	722.54	-25370	-0.0000975	0.0004492	0.0035	1.55	10255.28	14804.77	14804.77	20.49	No	Si
SLU 51	6.45	-791.24	-21323	-0.000083	0.0004492	0.0035	1.55	9880.59	14098.29	14098.29	17.82	No	Si
SLU 44	4.35	770.58	-24182	-0.0000936	0.0004492	0.0035	1.55	10194.95	14279.47	14279.47	18.53	No	Si
SLU 44	6.45	-838.67	-20262	-0.0000797	0.0004492	0.0035	1.55	9703.15	13618.75	13618.75	16.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	4.35	4066.68	-18329	-0.000114	0.0006738	0.0035	1.55		12173.53	12173.53	2.99		Si
SLD 4	6.45	-3746.54	-15463	-0.0000993	0.0006738	0.0035	1.55		11712.82	11712.82	3.13		Si
SLV 4	4.35	6025.33	-16865	-0.0001417	0.0006738	0.0035	1.55		11331.08	11331.08	1.88		Si
SLV 4	6.45	-5505.03	-13940	-0.0001276	0.0006738	0.0035	1.55		10808.83	10808.83	1.96		Si
SLV 1	4.35	6270.35	-17496	-0.000148	0.0006738	0.0035	1.55		11694.47	11694.47	1.87		Si
SLV 1	6.45	-5358.85	-14895	-0.0001246	0.0006738	0.0035	1.55		11375.69	11375.69	2.12		Si
SLD 3	4.35	4044.26	-18314	-0.0001136	0.0006738	0.0035	1.55		12164.69	12164.69	3.01		Si
SLD 3	6.45	-3750.71	-15447	-0.0000993	0.0006738	0.0035	1.55		11703.08	11703.08	3.12		Si
SLD 2	4.35	4230.54	-18714	-0.0001176	0.0006738	0.0035	1.55		12395.04	12395.04	2.93		Si
SLD 2	6.45	-3656.46	-16038	-0.0001001	0.0006738	0.0035	1.55		12053.9	12053.9	3.3		Si
SLV 16	4.35	-5151.07	-24302	-0.0001516	0.0006738	0.0035	1.55		16442.9	16442.9	3.19		Si
SLV 16	6.45	4100.88	-21332	-0.0001256	0.0006738	0.0035	1.55		13900.48	13900.48	3.39		Si
SLD 1	4.35	4208.12	-18699	-0.0001173	0.0006738	0.0035	1.55		12386.2	12386.2	2.94		Si
SLD 1	6.45	-3660.63	-16021	-0.0001001	0.0006738	0.0035	1.55		12044.17	12044.17	3.29		Si
SLV 15	4.35	-5186.42	-24278	-0.0001521	0.0006738	0.0035	1.55		16430.83	16430.83	3.17		Si
SLV 15	6.45	4094.31	-21306	-0.0001254	0.0006738	0.0035	1.55		13885.6	13885.6	3.39		Si
SLV 3	4.35	5989.98	-16840	-0.0001409	0.0006738	0.0035	1.55		11317.14	11317.14	1.89		Si
SLV 3	6.45	-5511.59	-13914	-0.0001278	0.0006738	0.0035	1.55		10793.48	10793.48	1.96		Si
SLV 2	4.35	6305.7	-17521	-0.0001488	0.0006738	0.0035	1.55		11708.41	11708.41	1.86		Si
SLV 2	6.45	-5352.28	-14921	-0.0001245	0.0006738	0.0035	1.55		11391.04	11391.04	2.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	4.35	726.5	-25661	-18306	529	1.55	1.55	-42180	10833	6553	115546	15597	7905	23502	No	44.43	Si
SLU 49	6.45	-796.97	-21603	-15411	524	1.55	1.55	-35510	10833	5781	115546	15597	7905	23502	No	44.84	Si
SLU 44	4.35	770.58	-24182	-17251	585	1.55	1.55	-39749	10833	6272	115546	15597	7905	23502	No	40.17	Si
SLU 44	6.45	-838.67	-20262	-14455	580	1.55	1.55	-33306	10833	5526	115546	15597	7905	23502	No	40.5	Si
SLU 67	4.35	748.52	-28179	-20102	484	1.55	1.55	-46318	10833	7032	115546	15597	7905	23502	No	48.53	Si
SLU 67	6.45	-822.21	-24409	-17412	479	1.55	1.55	-40121	10833	6315	115546	15597	7905	23502	No	49.08	Si
SLU 65	4.35	771.49	-27295	-19471	533	1.55	1.55	-44865	10833	6864	115546	15597	7905	23502	No	44.06	Si
SLU 65	6.45	-838.92	-23603	-16838	528	1.55	1.55	-38797	10833	6161	115546	15597	7905	23502	No	44.51	Si
SLU 51	4.35	722.54	-25370	-18098	534	1.55	1.55	-41701	10833	6497	115546	15597	7905	23502	No	44.02	Si
SLU 51	6.45	-791.24	-21323	-15212	529	1.55	1.55	-35050	10833	5728	115546	15597	7905	23502	No	44.42	Si
SLU 46	4.35	747.62	-25067	-17882	536	1.55	1.55	-41203	10833	6440	115546	15597	7905	23502	No	43.86	Si
SLU 46	6.45	-821.96	-21068	-15029	531	1.55	1.55	-34629	10833	5679	115546	15597	7905	23502	No	44.25	Si
SLU 68	4.35	750.37	-27889	-19895	526	1.55	1.55	-45842	10833	6977	115546	15597	7905	23502	No	44.64	Si
SLU 68	6.45	-813.93	-24139	-17220	521	1.55	1.55	-39678	10833	6263	115546	15597	7905	23502	No	45.1	Si
SLU 47	4.35	749.47	-24777	-17675	578	1.55	1.55	-40726	10833	6385	115546	15597	7905	23502	No	40.65	Si
SLU 47	6.45	-813.68	-20798	-14837	573	1.55	1.55	-34186	10833	5628	115546	15597	7905	23502	No	40.99	Si
SLU 43	4.35	756.07	-24178	-17248	492	1.55	1.55	-39742	10833	6271	115546	15597	7905	23502	No	47.78	Si
SLU 43	6.45	-845.08	-20237	-14437	487	1.55	1.55	-33265	10833	5521	115546	15597	7905	23502	No	48.23	Si
SLU 72	4.35	723.45	-28482	-20318	482	1.55	1.55	-46816	10833	7089	115546	15597	7905	23502	No	48.73	Si
SLU 72	6.45	-791.49	-24664	-17595	477	1.55	1.55	-40541	10833	6363	115546	15597	7905	23502	No	49.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	4.35	2715.29	-20885	-14899	6179	1.55	1.55	-34329	16250	7053	115546	23395	7905	31300		5.07	Si
SLV 6	6.45	-1813.09	-18648	-13303	6102	1.55	1.55	-30652	16250	7053	115546	23395	7905	31300		5.13	Si
SLV 5	4.35	2691.49	-20869	-14887	6112	1.55	1.55	-34303	16250	7053	115546	23395	7905	31300		5.12	Si
SLV 5	6.45	-1817.51	-18631	-13291	6035	1.55	1.55	-30624	16250	7053	115546	23395	7905	31300		5.19	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	4.35	-5151.07	-24302	-17336	-6946	1.55	1.55	-39946	16250	7130	115546	23395	7905	31300		4.51	Si
SLV 16	6.45	4100.88	-21332	-15218	-6644	1.55	1.55	-35064	16250	7053	115546	23395	7905	31300		4.71	Si
SLV 2	4.35	6305.7	-17521	-12499	7672	1.55	1.2453	-28799	16250	5840	115546	23395	7905	31300		4.08	Si
SLV 2	6.45	-5352.28	-14921	-10644	7361	1.55	1.2489	-30880	16250	5682	115546	23395	7905	31300		4.25	Si
SLV 12	4.35	-1572.2	-20930	-14931	-5486	1.55	1.55	-34402	16250	7053	115546	23395	7905	31300		5.71	Si
SLV 12	6.45	559.54	-17596	-12553	-5417	1.55	1.55	-28923	16250	7053	115546	23395	7905	31300		5.78	Si
SLV 4	4.35	6025.33	-16865	-12031	5272	1.55	1.2532	-27721	16250	5715	115546	23395	7905	31300		5.94	Si
SLV 4	6.45	-5505.03	-13940	-9945	4949	1.55	1.1403	-31610	16250	5188	115546	23395	7905	31300		6.32	Si
SLV 15	4.35	-5186.42	-24278	-17319	-7045	1.55	1.55	-39906	16250	7125	115546	23395	7905	31300		4.44	Si
SLV 15	6.45	4094.31	-21306	-15199	-6743	1.55	1.55	-35021	16250	7053	115546	23395	7905	31300		4.64	Si
SLV 11	4.35	-1596	-20913	-14919	-5552	1.55	1.55	-34376	16250	7053	115546	23395	7905	31300		5.64	Si
SLV 11	6.45	555.12	-17579	-12540	-5483	1.55	1.55	-28895	16250	7053	115546	23395	7905	31300		5.71	Si
SLV 3	4.35	5989.98	-16840	-12013	5173	1.55	1.2579	-27681	16250	5724	115546	23395	7905	31300		6.05	Si
SLV 3	6.45	-5511.59	-13914	-9926	4850	1.55	1.1367	-31652	16250	5172	115546	23395	7905	31300		6.45	Si
SLV 1	4.35	6270.35	-17496	-12481	7573	1.55	1.2499	-28759	16250	5835	115546	23395	7905	31300		4.13	Si
SLV 1	6.45	-5358.85	-14895	-10626	7263	1.55	1.2457	-30906	16250	5668	115546	23395	7905	31300		4.31	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-14199	0.38	164.17	1633.04	2337.95	1985.5	12.09	Si
SLV 4	-14225	0.38	164.17	1635.37	2341.68	1988.53	12.11	Si
SLV 1	-15180	0.38	164.17	1719.64	2479.35	2099.49	12.79	Si
SLV 2	-15206	0.38	164.17	1721.88	2483.07	2102.48	12.81	Si
SLV 7	-15639	0.38	164.17	1759	2545.5	2152.25	13.11	Si
SLV 8	-15656	0.38	164.17	1760.48	2548.01	2154.24	13.12	Si
SLV 11	-17850	0.38	164.17	1938.24	2864.06	2401.15	14.63	Si
SLV 12	-17868	0.38	164.17	1939.58	2866.56	2403.07	14.64	Si
SLV 5	-18908	0.38	164.17	2017.92	3016.41	2517.16	15.33	Si
SLV 6	-18926	0.38	164.17	2019.2	3018.91	2519.05	15.34	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-16285	-24934	27	0.534	1875	0.965	8.03613	5.32179	Si
SLV 15	-16332	-24278	2	0.534	1879.7	0.965	8.03727	5.32179	Si
SLV 14	-16260	-24958	28	0.534	1872.4	0.965	8.04639	5.32179	Si
SLV 16	-16307	-24302	3	0.534	1877.2	0.965	8.04751	5.32179	Si
SLV 11	-14782	-20913	-41	0.579	1722	0.962	8.74108	4.54183	Si
SLV 12	-14765	-20930	-40	0.579	1720.3	0.962	8.75062	4.54183	Si
SLV 9	-14625	-23100	44	0.584	1706.1	0.962	8.8209	4.54183	Si
SLV 10	-14608	-23116	44	0.584	1704.4	0.962	8.82941	4.54183	Si
SLV 3	-11759	-16840	-36	0.703	1414.6	0.955	10.70132	5.32179	Si
SLV 4	-11733	-16865	-35	0.705	1412	0.955	10.72279	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.102	SLU 43	Si
V_SLU	40.172	SLU 44	Si
PF_SLV	1.857	SLV 2	Si
V_SLV	4.08	SLV 2	Si
PFFP_SLV	12.094	SLV 3	Si
R_SLV	1.51	SLV 13	Si

Maschio 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L5	L6	3.97	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	4.35	11328.07	-59368	-0.0001037	0.0004492	0.0035	3.97	66335.68	90737.21	90737.21	8.01	No	Si
SLU 78	6.45	7906.68	-53677	-0.0000876	0.0004492	0.0035	3.97	64441.19	84371.93	84371.93	10.67	No	Si
SLU 76	4.35	11112.55	-57814	-0.0001008	0.0004492	0.0035	3.97	65912.44	88999.56	88999.56	8.01	No	Si
SLU 76	6.45	7594.89	-52104	-0.0000846	0.0004492	0.0035	3.97	63750.53	82612.43	82612.43	10.88	No	Si
SLU 77	4.35	11324.68	-59387	-0.0001037	0.0004492	0.0035	3.97	66340.62	90759.36	90759.36	8.01	No	Si
SLU 77	6.45	7897.16	-53695	-0.0000876	0.0004492	0.0035	3.97	64448.53	84391.65	84391.65	10.69	No	Si
SLU 84	4.35	11360.13	-59555	-0.000104	0.0004492	0.0035	3.97	66382.05	90947.17	90947.17	8.01	No	Si
SLU 84	6.45	8005.67	-54161	-0.0000885	0.0004492	0.0035	3.97	64639.09	84913.13	84913.13	10.61	No	Si
SLU 81	4.35	11233.94	-58647	-0.0001024	0.0004492	0.0035	3.97	66148.23	89931.61	89931.61	8.01	No	Si
SLU 81	6.45	7758.46	-53238	-0.0000866	0.0004492	0.0035	3.97	64255.92	83881.42	83881.42	10.81	No	Si
SLU 75	4.35	11205.27	-58440	-0.000102	0.0004492	0.0035	3.97	66091.41	89699.5	89699.5	8.01	No	Si
SLU 75	6.45	7668.99	-52737	-0.0000857	0.0004492	0.0035	3.97	64037.17	83320.5	83320.5	10.86	No	Si
SLU 83	4.35	11356.74	-59575	-0.0001041	0.0004492	0.0035	3.97	66386.88	90969.32	90969.32	8.01	No	Si
SLU 83	6.45	7996.15	-54178	-0.0000885	0.0004492	0.0035	3.97	64646.17	84932.85	84932.85	10.62	No	Si
SLU 73	4.35	10989.76	-56886	-0.0000991	0.0004492	0.0035	3.97	65626.04	87961.84	87961.84	8	No	Si
SLU 73	6.45	7357.2	-51164	-0.0000827	0.0004492	0.0035	3.97	63303.28	81561	81561	11.09	No	Si
SLU 82	4.35	11237.33	-58628	-0.0001023	0.0004492	0.0035	3.97	66142.86	89909.46	89909.46	8	No	Si
SLU 82	6.45	7767.98	-53221	-0.0000866	0.0004492	0.0035	3.97	64248.36	83861.7	83861.7	10.8	No	Si
SLU 74	4.35	11201.88	-58460	-0.000102	0.0004492	0.0035	3.97	66096.88	89721.65	89721.65	8.01	No	Si
SLU 74	6.45	7659.47	-52755	-0.0000857	0.0004492	0.0035	3.97	64044.98	83340.23	83340.23	10.88	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	4.35	13523.48	-31297	-0.0000658	0.0006738	0.0035	3.97		56912.19	56912.19	4.21		Si
SLV 1	6.45	-3001.75	-24026	-0.0000357	0.0006738	0.0035	3.97		52643.44	52643.44	17.54		Si
SLV 14	4.35	2390.21	-50184	-0.0000688	0.0006738	0.0035	3.97		84489.99	84489.99	35.35		Si
SLV 14	6.45	13210.36	-47640	-0.0000873	0.0006738	0.0035	3.97		80774.32	80774.32	6.11		Si
SLV 2	4.35	13413.53	-31247	-0.0000655	0.0006738	0.0035	3.97		56840.1	56840.1	4.24		Si
SLV 2	6.45	-3067.69	-23979	-0.0000358	0.0006738	0.0035	3.97		52565.14	52565.14	17.14		Si
SLD 3	4.35	11508.31	-34387	-0.0000659	0.0006738	0.0035	3.97		61424.36	61424.36	5.34		Si
SLD 3	6.45	-418.72	-27999	-0.0000358	0.0006738	0.0035	3.97		59267.78	59267.78	141.54		Si
SLV 13	4.35	2500.15	-50234	-0.0000691	0.0006738	0.0035	3.97		84562.08	84562.08	33.82		Si
SLV 13	6.45	13276.3	-47686	-0.0000875	0.0006738	0.0035	3.97		80842.6	80842.6	6.09		Si
SLV 3	4.35	13522.32	-30884	-0.0000652	0.0006738	0.0035	3.97		56309.95	56309.95	4.16		Si
SLV 3	6.45	-3395.41	-23651	-0.000036	0.0006738	0.0035	3.97		52016.19	52016.19	15.32		Si
SLD 2	4.35	11437.49	-34601	-0.000066	0.0006738	0.0035	3.97		61736.08	61736.08	5.4		Si
SLD 2	6.45	-227.72	-28191	-0.0000357	0.0006738	0.0035	3.97		59573.52	59573.52	261.61		Si
SLV 4	4.35	13412.38	-30835	-0.0000649	0.0006738	0.0035	3.97		56237.86	56237.86	4.19		Si
SLV 4	6.45	-3461.35	-23605	-0.0000361	0.0006738	0.0035	3.97		51937.89	51937.89	15.01		Si
SLD 1	4.35	11507.24	-34632	-0.0000662	0.0006738	0.0035	3.97		61781.82	61781.82	5.37		Si
SLD 1	6.45	-185.88	-28221	-0.0000356	0.0006738	0.0035	3.97		59620.71	59620.71	320.74		Si
SLD 4	4.35	11438.56	-34356	-0.0000657	0.0006738	0.0035	3.97		61378.63	61378.63	5.37		Si
SLD 4	6.45	-460.56	-27969	-0.0000359	0.0006738	0.0035	3.97		59220.59	59220.59	128.58		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	4.35	9784.29	-49420	-35255	3194	3.97	3.97	-31715	10833	20523	115546	39948	20247	60195	No	18.85	Si
SLU 49	6.45	5708.91	-42414	-30257	3178	3.97	3.97	-27219	10833	18524	115546	39948	20247	60195	No	18.94	Si
SLU 45	4.35	9658.09	-48512	-34607	3265	3.97	3.97	-31133	10833	20264	115546	39948	20247	60195	No	18.44	Si
SLU 45	6.45	5461.71	-41492	-29599	3250	3.97	3.97	-26628	10833	18261	115546	39948	20247	60195	No	18.52	Si
SLU 51	4.35	9689.3	-48807	-34818	3195	3.97	3.97	-31322	10833	20348	115546	39948	20247	60195	No	18.84	Si
SLU 51	6.45	5628.48	-41793	-29814	3180	3.97	3.97	-26821	10833	18347	115546	39948	20247	60195	No	18.93	Si
SLU 43	4.35	9440.31	-46971	-33508	3332	3.97	3.97	-30144	10833	19824	115546	39948	20247	60195	No	18.06	Si
SLU 43	6.45	5143.58	-39930	-28485	3318	3.97	3.97	-25626	10833	17815	115546	39948	20247	60195	No	18.14	Si
SLU 48	4.35	9780.89	-49439	-35269	3199	3.97	3.97	-31728	10833	20528	115546	39948	20247	60195	No	18.82	Si
SLU 48	6.45	5699.4	-42432	-30270	3183	3.97	3.97	-27231	10833	18529	115546	39948	20247	60195	No	18.91	Si
SLU 64	4.35	10401.14	-52887	-37729	2514	3.97	3.97	-33941	10833	21512	115546	39948	20247	60195	No	23.94	Si
SLU 64	6.45	6368.06	-46421	-33116	2497	3.97	3.97	-29791	10833	19667	115546	39948	20247	60195	No	24.11	Si
SLU 44	4.35	9445.97	-46938	-33485	3324	3.97	3.97	-30123	10833	19815	115546	39948	20247	60195	No	18.11	Si
SLU 44	6.45	5159.44	-39901	-28464	3309	3.97	3.97	-25607	10833	17807	115546	39948	20247	60195	No	18.19	Si
SLU 50	4.35	9685.91	-48827	-34832	3200	3.97	3.97	-31335	10833	20354	115546	39948	20247	60195	No	18.81	Si
SLU 50	6.45	5618.96	-41810	-29827	3185	3.97	3.97	-26832	10833	18352	115546	39948	20247	60195	No	18.9	Si
SLU 47	4.35	9568.77	-47866	-34147	3258	3.97	3.97	-30718	10833	20080	115546	39948	20247	60195	No	18.48	Si
SLU 47	6.45	5397.13	-40841	-29135	3243	3.97	3.97	-26210	10833	18075	115546	39948	20247	60195	No	18.56	Si
SLU 46	4.35	9661.49	-48492	-34593	3260	3.97	3.97	-31120	10833	20258	115546	39948	20247	60195	No	18.46	Si
SLU 46	6.45	5471.23	-41474	-29587	3245	3.97	3.97	-26616	10833	18256	115546	39948	20247	60195	No	18.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	4.35	11438.56	-34356	-24509	7734	3.97	3.97	-22048	16250	19435	115546	59922	20247	80169		10.37	Si
SLD 4	6.45	-460.56	-27969	-19953	7236	3.97	3.97	-17949	16090	17886	115546	59922	20247	80169		11.08	Si
SLD 2	4.35	11437.49	-34601	-24683	7665	3.97	3.97	-22205	16250	19505	115546	59922	20247	80169		10.46	Si
SLD 2	6.45	-227.72	-28191	-20111	7195	3.97	3.97	-18092	16118	17917	115546	59922	20247	80169		11.14	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	4.35	13412.38	-30835	-21997	11048	3.97	3.97	-19788	16250	18431	115546	59922	20247	80169		7.26	Si
SLV 4	6.45	-3461.35	-23605	-16839	10282	3.97	3.97	-15148	15530	17263	115546	59922	20247	80169		7.8	Si
SLV 2	4.35	13413.53	-31247	-22291	10931	3.97	3.97	-20053	16250	18548	115546	59922	20247	80169		7.33	Si
SLV 2	6.45	-3067.69	-23979	-17106	10213	3.97	3.97	-15389	15578	17316	115546	59922	20247	80169		7.85	Si
SLV 3	4.35	13522.32	-30884	-22032	11071	3.97	3.97	-19820	16250	18445	115546	59922	20247	80169		7.24	Si
SLV 3	6.45	-3395.41	-23651	-16872	10306	3.97	3.97	-15178	15536	17269	115546	59922	20247	80169		7.78	Si
SLV 13	4.35	2500.15	-50234	-35836	-7325	3.97	3.97	-32238	16250	23966	115546	59922	20247	80169		10.95	Si
SLV 13	6.45	13276.3	-47686	-34018	-6586	3.97	3.97	-30603	16250	23239	115546	59922	20247	80169		12.17	Si
SLD 3	4.35	11508.31	-34387	-24531	7749	3.97	3.97	-22068	16250	19444	115546	59922	20247	80169		10.35	Si
SLD 3	6.45	-418.72	-27999	-19974	7251	3.97	3.97	-17968	16094	17890	115546	59922	20247	80169		11.06	Si
SLV 14	4.35	2390.21	-50184	-35800	-7348	3.97	3.97	-32206	16250	23952	115546	59922	20247	80169		10.91	Si
SLV 14	6.45	13210.36	-47640	-33985	-6609	3.97	3.97	-30573	16250	23226	115546	59922	20247	80169		12.13	Si
SLV 1	4.35	13523.48	-31297	-22326	10954	3.97	3.97	-20085	16250	18562	115546	59922	20247	80169		7.32	Si
SLV 1	6.45	-3001.75	-24026	-17140	10237	3.97	3.97	-15419	15584	17323	115546	59922	20247	80169		7.83	Si
SLD 1	4.35	11507.24	-34632	-24706	7679	3.97	3.97	-22225	16250	19514	115546	59922	20247	80169		10.44	Si
SLD 1	6.45	-185.88	-28221	-20132	7210	3.97	3.97	-18111	16122	17921	115546	59922	20247	80169		11.12	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-24319	0.38	420.49	2998.3	4219.36	3608.83	8.58	Si
SLV 3	-24366	0.38	420.49	3003.28	4226.37	3614.83	8.6	Si
SLV 2	-24691	0.38	420.49	3037.83	4274.79	3656.31	8.7	Si
SLV 1	-24738	0.38	420.49	3042.79	4281.73	3662.26	8.71	Si
SLV 8	-32172	0.38	420.49	3792.84	5374.61	4583.73	10.9	Si
SLV 7	-32204	0.38	420.49	3795.86	5379.21	4587.53	10.91	Si
SLV 6	-33411	0.38	420.49	3910.48	5555.59	4733.04	11.26	Si
SLV 5	-33443	0.38	420.49	3913.44	5560.19	4736.82	11.26	Si
SLV 12	-39268	0.38	420.49	4437.94	6402.92	5420.43	12.89	Si
SLV 11	-39300	0.38	420.49	4440.64	6407.44	5424.04	12.9	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-36707	-50234	-309	0.589	4293.2	0.961	8.90658	5.32179	Si
SLV 15	-36714	-49821	257	0.59	4293.9	0.961	8.92477	5.32179	Si
SLV 14	-36619	-50184	-308	0.59	4284.3	0.961	8.92566	5.32179	Si
SLV 16	-36627	-49772	257	0.592	4285	0.961	8.9433	5.32179	Si
SLV 9	-32213	-44079	-951	0.64	3836.2	0.957	9.72128	4.54183	Si
SLV 11	-32238	-42704	935	0.64	3838.7	0.957	9.72178	4.54183	Si
SLV 10	-32154	-44046	-951	0.641	3830.2	0.957	9.73717	4.54183	Si
SLV 12	-32179	-42671	935	0.641	3832.7	0.957	9.73721	4.54183	Si
SLV 7	-28406	-37023	950	0.712	3449.3	0.953	10.85708	4.54183	Si
SLV 5	-28381	-38398	-936	0.713	3446.8	0.953	10.87208	4.54183	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.001	SLU 82	Si
V_SLU	18.063	SLU 43	Si
PF_SLV	4.164	SLV 3	Si
V_SLV	7.241	SLV 3	Si
PFFP_SLV	8.582	SLV 4	Si
R_SLV	1.674	SLV 13	Si

Maschio 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	L5	Z medio 611 cm	1.281	0.28	1.76	1.76	1.76			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	4.35	-600.28	-16885	-0.0000922	0.0003743	0.0035	1.2809	5813.4	7499.74	7499.74	12.49	No	Si
SLU 74	6.11	140.99	-13671	-0.0000647	0.0003743	0.0035	1.2809	5477.42	6495.62	6495.62	46.07	No	Si
SLU 78	4.35	-612.7	-17149	-0.000094	0.0003743	0.0035	1.2809	5824.9	7561.46	7561.46	12.34	No	Si
SLU 78	6.11	137.41	-13900	-0.0000657	0.0003743	0.0035	1.2809	5513.44	6552.99	6552.99	47.69	No	Si
SLU 76	4.35	-611.49	-16885	-0.0000925	0.0003743	0.0035	1.2809	5813.41	7499.79	7499.79	12.26	No	Si
SLU 76	6.11	147.12	-13653	-0.0000647	0.0003743	0.0035	1.2809	5474.64	6491.33	6491.33	44.12	No	Si
SLU 75	4.35	-610.11	-16954	-0.0000928	0.0003743	0.0035	1.2809	5816.63	7515.69	7515.69	12.32	No	Si
SLU 75	6.11	145.88	-13720	-0.000065	0.0003743	0.0035	1.2809	5485.33	6507.93	6507.93	44.61	No	Si
SLU 80	4.35	-607.51	-17035	-0.0000932	0.0003743	0.0035	1.2809	5820.24	7534.69	7534.69	12.4	No	Si
SLU 80	6.11	135.39	-13800	-0.0000652	0.0003743	0.0035	1.2809	5498.04	6528.04	6528.04	48.21	No	Si
SLU 82	4.35	-630.13	-17312	-0.0000953	0.0003743	0.0035	1.2809	5830.75	7599.79	7599.79	12.06	No	Si
SLU 82	6.11	205.79	-14030	-0.0000679	0.0003743	0.0035	1.2809	5533.01	6585.67	6585.67	32	No	Si
SLU 81	4.35	-620.29	-17243	-0.0000947	0.0003743	0.0035	1.2809	5828.39	7583.54	7583.54	12.23	No	Si
SLU 81	6.11	200.9	-13981	-0.0000676	0.0003743	0.0035	1.2809	5525.64	6573.23	6573.23	32.72	No	Si
SLU 84	4.35	-632.71	-17508	-0.0000965	0.0003743	0.0035	1.2809	5836.57	7646.41	7646.41	12.09	No	Si
SLU 84	6.11	197.33	-14210	-0.0000687	0.0003743	0.0035	1.2809	5559.16	6631.19	6631.19	33.61	No	Si
SLU 73	4.35	-608.91	-16690	-0.0000914	0.0003743	0.0035	1.2809	5803.32	7454.65	7454.65	12.24	No	Si
SLU 73	6.11	155.58	-13473	-0.000064	0.0003743	0.0035	1.2809	5444.97	6446.64	6446.64	41.44	No	Si
SLU 83	4.35	-622.87	-17439	-0.0000958	0.0003743	0.0035	1.2809	5834.68	7630	7630	12.25	No	Si
SLU 83	6.11	192.44	-14161	-0.0000683	0.0003743	0.0035	1.2809	5552.1	6618.68	6618.68	34.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	4.35	-1402.44	-19287	-0.0001176	0.0005615	0.0035	1.2809		9421.75	9421.75	6.72		Si
SLV 9	6.11	377.35	-14667	-0.000072	0.0005615	0.0035	1.2809		7516.49	7516.49	19.92		Si
SLV 5	4.35	-1430.54	-18738	-0.0001153	0.0005615	0.0035	1.2809		9246.06	9246.06	6.46		Si
SLV 5	6.11	603.6	-14645	-0.0000768	0.0005615	0.0035	1.2809		7508.42	7508.42	12.44		Si
SLD 5	4.35	-1008.84	-15769	-0.000091	0.0005615	0.0035	1.2809		8333.9	8333.9	8.26		Si
SLD 5	6.11	380	-12436	-0.0000617	0.0005615	0.0035	1.2809		6686.33	6686.33	17.6		Si
SLV 7	4.35	593.03	-3977	-0.0000282	0.0005615	0.0035	1.2809		2498.8	2498.8	4.21		Si
SLV 7	6.11	-332.57	-3908	-0.0000228	0.0005615	0.0035	1.2809		2725.73	2725.73	8.2		Si
SLV 6	4.35	-1442.09	-18716	-0.0001155	0.0005615	0.0035	1.2809		9239.02	9239.02	6.41		Si
SLV 6	6.11	652.3	-14726	-0.0000782	0.0005615	0.0035	1.2809		7538.95	7538.95	11.56		Si
SLV 12	4.35	609.58	-4504	-0.0000308	0.0005615	0.0035	1.2809		2796.41	2796.41	4.59		Si
SLV 12	6.11	-510.13	-4010	-0.0000267	0.0005615	0.0035	1.2809		2783.71	2783.71	5.46		Si
SLV 11	4.35	621.13	-4526	-0.0000311	0.0005615	0.0035	1.2809		2808.89	2808.89	4.52		Si
SLV 11	6.11	-558.83	-3929	-0.0000273	0.0005615	0.0035	1.2809		2737.85	2737.85	4.9		Si
SLD 6	4.35	-1015.84	-15756	-0.0000911	0.0005615	0.0035	1.2809		8329.7	8329.7	8.2		Si
SLD 6	6.11	409.55	-12485	-0.0000625	0.0005615	0.0035	1.2809		6704.34	6704.34	16.37		Si
SLV 8	4.35	581.48	-3955	-0.0000278	0.0005615	0.0035	1.2809		2486.08	2486.08	4.28		Si
SLV 8	6.11	-283.88	-3989	-0.0000222	0.0005615	0.0035	1.2809		2771.57	2771.57	9.76		Si
SLV 10	4.35	-1413.99	-19265	-0.0001177	0.0005615	0.0035	1.2809		9414.62	9414.62	6.66		Si
SLV 10	6.11	426.04	-14748	-0.0000735	0.0005615	0.0035	1.2809		7547.03	7547.03	17.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	4.35	-600.28	-16885	-14060	-2054	1.2809	1.2809	-39204	10833	5350	19031	10740	3266	14006	No	6.82	Si
SLU 74	6.11	140.99	-13671	-11384	413	1.2809	1.2809	-31740	10833	4570	19031	10740	3266	14006	No	33.94	Si
SLU 78	4.35	-612.7	-17149	-14281	-2086	1.2809	1.2809	-39817	10833	5414	19031	10740	3266	14006	No	6.71	Si
SLU 78	6.11	137.41	-13900	-11575	430	1.2809	1.2809	-32273	10833	4626	19031	10740	3266	14006	No	32.56	Si
SLU 76	4.35	-611.49	-16885	-14061	-2106	1.2809	1.2809	-39204	10833	5350	19031	10740	3266	14006	No	6.65	Si
SLU 76	6.11	147.12	-13653	-11369	365	1.2809	1.2809	-31700	10833	4566	19031	10740	3266	14006	No	38.35	Si
SLU 73	4.35	-608.91	-16690	-13898	-2119	1.2809	1.2809	-38750	10833	5302	19031	10740	3266	14006	No	6.61	Si
SLU 73	6.11	155.58	-13473	-11219	314	1.2809	1.2809	-31282	10833	4522	19031	10740	3266	14006	No	44.55	Si
SLU 82	4.35	-630.13	-17312	-14416	-2175	1.2809	1.2809	-40195	10833	5453	19031	10740	3266	14006	No	6.44	Si
SLU 82	6.11	205.79	-14030	-11683	286	1.2809	1.2809	-32575	10833	4657	19031	10740	3266	14006	No	48.92	Si
SLU 75	4.35	-610.11	-16954	-14118	-2100	1.2809	1.2809	-39363	10833	5366	19031	10740	3266	14006	No	6.67	Si
SLU 75	6.11	145.88	-13720	-11425	379	1.2809	1.2809	-31855	10833	4582	19031	10740	3266	14006	No	36.93	Si
SLU 84	4.35	-632.71	-17508	-14579	-2161	1.2809	1.2809	-40649	10833	5500	19031	10740	3266	14006	No	6.48	Si
SLU 84	6.11	197.33	-14210	-11833	337	1.2809	1.2809	-32993	10833	4701	19031	10740	3266	14006	No	41.54	Si
SLU 83	4.35	-622.87	-17439	-14522	-2115	1.2809	1.2809	-40490	10833	5484	19031	10740	3266	14006	No	6.62	Si
SLU 83	6.11	192.44	-14161	-11792	371	1.2809	1.2809	-32879	10833	4689	19031	10740	3266	14006	No	37.8	Si
SLU 80	4.35	-607.51	-17035	-14185	-2061	1.2809	1.2809	-39552	10833	5386	19031	10740	3266	14006	No	6.8	Si
SLU 80	6.11	135.39	-13800	-11492	438	1.2809	1.2809	-32042	10833	4602	19031	10740	3266	14006	No	31.95	Si
SLU 81	4.35	-620.29	-17243	-14359	-2129	1.2809	1.2809	-40035	10833	5436	19031	10740	3266	14006	No	6.58	Si
SLU 81	6.11	200.9	-13981	-11642	320	1.2809	1.2809	-32460	10833	4646	19031	10740	3266	14006	No	43.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	4.35	-1413.99	-19265	-16042	-5510	1.2809	1.2809	-44729	16250	6555	19031	16109	3266	19376		3.52	Si
SLV 10	6.11	426.04	-14748	-12281	-2950	1.2809	1.2809	-34241	16250	5828	19031	16109	3266	19376		6.57	Si
SLV 6	4.35	-1442.09	-18716	-15585	-7328	1.2809	1.2809	-43455	16250	6422	19031	16109	3266	19376		2.64	Si
SLV 6	6.11	652.3	-14726	-12263	-4741	1.2809	1.2809	-34191	16250	5828	19031	16109	3266	19376		4.09	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	4.35	-1015.84	-15756	-13120	-4932	1.2809	1.2809	-36582	16250	5828	19031	16109	3266	19376		3.93	Si
SLD 6	6.11	409.55	-12485	-10397	-2686	1.2809	1.2809	-28988	16214	5815	19031	16109	3266	19376		7.21	Si
SLV 15	4.35	-51.54	-10338	-8608	3357	1.2809	1.2809	-24002	15217	5458	19031	16109	3266	19376		5.77	Si
SLV 15	6.11	-506.95	-7693	-6406	4815	1.2809	1.2809	-17861	13989	5017	19031	16109	3266	19376		4.02	Si
SLV 11	4.35	621.13	-4526	-3769	4498	1.2809	1.2809	-10508	12518	4490	19031	16109	3266	19376		4.31	Si
SLV 11	6.11	-558.83	-3929	-3272	5434	1.2809	1.2809	-9122	12241	4390	19031	16109	3266	19376		3.57	Si
SLV 12	4.35	609.58	-4504	-3750	4092	1.2809	1.2809	-10457	12508	4486	19031	16109	3266	19376		4.74	Si
SLV 12	6.11	-510.13	-4010	-3339	5052	1.2809	1.2809	-9310	12279	4404	19031	16109	3266	19376		3.83	Si
SLV 5	4.35	-1430.54	-18738	-15604	-6922	1.2809	1.2809	-43507	16250	6427	19031	16109	3266	19376		2.8	Si
SLV 5	6.11	603.6	-14645	-12195	-4359	1.2809	1.2809	-34003	16250	5828	19031	16109	3266	19376		4.45	Si
SLV 1	4.35	-752.27	-12937	-10773	-5584	1.2809	1.2809	-30038	16250	5828	19031	16109	3266	19376		3.47	Si
SLV 1	6.11	528.08	-10843	-9029	-3555	1.2809	1.2809	-25174	15452	5542	19031	16109	3266	19376		5.45	Si
SLV 2	4.35	-769.42	-12904	-10746	-6187	1.2809	1.2809	-29961	16250	5828	19031	16109	3266	19376		3.13	Si
SLV 2	6.11	600.42	-10963	-9129	-4122	1.2809	1.2809	-25453	15507	5562	19031	16109	3266	19376		4.7	Si
SLV 9	4.35	-1402.44	-19287	-16061	-5104	1.2809	1.2809	-44781	16250	6560	19031	16109	3266	19376		3.8	Si
SLV 9	6.11	377.35	-14667	-12213	-2568	1.2809	1.2809	-34053	16250	5828	19031	16109	3266	19376		7.55	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.23 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.36	11238	-4031	31.64	522.75	16.52	Si
SLV 8	179667	0.36	11376	-4080	31.64	528.66	16.71	Si
SLV 11	179667	0.36	11777	-4224	31.64	545.73	17.25	Si
SLV 12	179667	0.36	11915	-4273	31.64	551.59	17.43	Si
SLV 3	179667	0.36	23280	-8349	31.64	990.71	31.31	Si
SLV 4	179667	0.36	23485	-8423	31.64	997.86	31.54	Si
SLV 15	179667	0.36	25076	-8994	31.64	1052.35	33.26	Si
SLV 16	179667	0.36	25281	-9067	31.64	1059.26	33.48	Si
SLV 1	179667	0.36	34169	-12255	31.64	1331.79	42.09	Si
SLV 2	179667	0.36	34374	-12328	31.64	1337.47	42.27	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.23 Wa = 0.05 Ta = 0.0185

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-14726	-18716	-59	0.549	1588.6	0.982	8.12222	3.38591	Si
SLV 10	-14748	-19265	-29	0.55	1590.7	0.982	8.14148	3.38591	Si
SLV 5	-14645	-18738	-60	0.552	1580.3	0.982	8.15937	3.38591	Si
SLV 9	-14667	-19287	-30	0.553	1582.5	0.982	8.17868	3.38591	Si
SLV 14	-11034	-14733	34	0.701	1212.4	0.977	10.41935	3.50711	Si
SLV 2	-10963	-12904	-66	0.702	1205.1	0.977	10.43654	3.50711	Si
SLV 13	-10914	-14766	34	0.707	1200.1	0.977	10.51933	3.50711	Si
SLV 1	-10843	-12937	-67	0.708	1192.9	0.977	10.53537	3.50711	Si
SLV 16	-7813	-10305	58	0.936	884.3	0.969	14.04001	3.50711	Si
SLV 4	-7741	-8476	-42	0.946	877	0.969	14.18257	3.50711	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.061	SLU 82	Si
V_SLU	6.44	SLU 82	Si
PF_SLV	4.214	SLV 7	Si
V_SLV	2.644	SLV 6	Si
PFFP_SLV	16.521	SLV 7	Si
R_SLV	2.399	SLV 6	Si

Maschio 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	Z medio 611 cm	L6	1.281	0.28	1.79	1.79	1.79			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 58	6.11	-118.69	-11523	-0.0000536	0.0003743	0.0035	1.2809	5051.03	6029	6029	50.8	No	Si
SLU 58	7.9	-393.62	-9936	-0.0000519	0.0003743	0.0035	1.2809	4632.01	5504.22	5504.22	13.98	No	Si
SLU 56	6.11	-120.59	-11621	-0.0000541	0.0003743	0.0035	1.2809	5074.02	6058.41	6058.41	50.24	No	Si
SLU 56	7.9	-393.45	-10032	-0.0000523	0.0003743	0.0035	1.2809	4659.79	5542.36	5542.36	14.09	No	Si
SLU 62	6.11	-186.11	-11745	-0.0000561	0.0003743	0.0035	1.2809	5102.51	6095.68	6095.68	32.75	No	Si
SLU 62	7.9	-389.71	-10139	-0.0000528	0.0003743	0.0035	1.2809	4690.44	5585.13	5585.13	14.33	No	Si
SLU 50	6.11	15.84	-10592	-0.0000469	0.0003743	0.0035	1.2809	4815.74	5366.97	5366.97	338.89	No	Si
SLU 50	7.9	-367.63	-9029	-0.000047	0.0003743	0.0035	1.2809	4352.73	5133.37	5133.37	13.96	No	Si
SLU 48	6.11	13.94	-10690	-0.0000473	0.0003743	0.0035	1.2809	4841.94	5404.48	5404.48	387.81	No	Si
SLU 48	7.9	-367.46	-9125	-0.0000474	0.0003743	0.0035	1.2809	4383.56	5174.19	5174.19	14.08	No	Si
SLU 77	6.11	-154.19	-12884	-0.000061	0.0003743	0.0035	1.2809	5340.08	6451.36	6451.36	41.84	No	Si
SLU 77	7.9	-420.41	-11184	-0.0000585	0.0003743	0.0035	1.2809	4968.92	5928.52	5928.52	14.1	No	Si
SLU 83	6.11	-219.71	-13008	-0.0000631	0.0003743	0.0035	1.2809	5363.09	6491.19	6491.19	29.54	No	Si
SLU 83	7.9	-416.67	-11291	-0.0000589	0.0003743	0.0035	1.2809	4995.24	5960	5960	14.3	No	Si
SLU 71	6.11	-17.76	-11855	-0.000053	0.0003743	0.0035	1.2809	5127.43	6129.08	6129.08	345.02	No	Si
SLU 71	7.9	-394.6	-10181	-0.0000531	0.0003743	0.0035	1.2809	4702.39	5602.02	5602.02	14.2	No	Si
SLU 79	6.11	-152.29	-12786	-0.0000605	0.0003743	0.0035	1.2809	5321.43	6419.93	6419.93	42.16	No	Si
SLU 79	7.9	-420.59	-11088	-0.000058	0.0003743	0.0035	1.2809	4945.01	5900.49	5900.49	14.03	No	Si
SLU 69	6.11	-19.67	-11953	-0.0000535	0.0003743	0.0035	1.2809	5149.28	6159.02	6159.02	313.19	No	Si
SLU 69	7.9	-394.42	-10277	-0.0000535	0.0003743	0.0035	1.2809	4729.36	5640.56	5640.56	14.3	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	6.11	1156.95	-3781	-0.0000405	0.0005615	0.0035	1.2809		2385.71	2385.71	2.06		Si
SLV 11	7.9	-972.06	-3945	-0.0000358	0.0005615	0.0035	1.2809		2746.91	2746.91	2.83		Si
SLV 12	6.11	1054.54	-3872	-0.0000376	0.0005615	0.0035	1.2809		2438.14	2438.14	2.31		Si
SLV 12	7.9	-912.22	-3988	-0.0000346	0.0005615	0.0035	1.2809		2771.29	2771.29	3.04		Si
SLV 15	6.11	1088.34	-7203	-0.0000523	0.0005615	0.0035	1.2809		4180.97	4180.97	3.84		Si
SLV 15	7.9	-961.25	-6677	-0.0000474	0.0005615	0.0035	1.2809		4243.62	4243.62	4.41		Si
SLD 12	6.11	603.84	-5932	-0.0000369	0.0005615	0.0035	1.2809		3579.55	3579.55	5.93		Si
SLD 12	7.9	-658.96	-5472	-0.000036	0.0005615	0.0035	1.2809		3599.11	3599.11	5.46		Si
SLD 11	6.11	665.99	-5877	-0.0000379	0.0005615	0.0035	1.2809		3550.71	3550.71	5.33		Si
SLD 11	7.9	-695.27	-5446	-0.0000366	0.0005615	0.0035	1.2809		3584.81	3584.81	5.16		Si
SLV 2	6.11	-1207.82	-10465	-0.0000698	0.0005615	0.0035	1.2809		6115.4	6115.4	5.06		Si
SLV 2	7.9	397.49	-8426	-0.0000438	0.0005615	0.0035	1.2809		4756.83	4756.83	11.97		Si
SLV 16	6.11	936.21	-7339	-0.0000498	0.0005615	0.0035	1.2809		4244.3	4244.3	4.53		Si
SLV 16	7.9	-872.36	-6740	-0.0000459	0.0005615	0.0035	1.2809		4277.32	4277.32	4.9		Si
SLV 1	6.11	-1055.69	-10330	-0.000066	0.0005615	0.0035	1.2809		6053.17	6053.17	5.73		Si
SLV 1	7.9	308.6	-8362	-0.0000417	0.0005615	0.0035	1.2809		4726.46	4726.46	15.32		Si
SLV 7	6.11	680.66	-3821	-0.0000292	0.0005615	0.0035	1.2809		2408.69	2408.69	3.54		Si
SLV 7	7.9	-684.02	-3792	-0.0000292	0.0005615	0.0035	1.2809		2659.83	2659.83	3.89		Si
SLV 8	6.11	578.25	-3912	-0.0000276	0.0005615	0.0035	1.2809		2461.12	2461.12	4.26		Si
SLV 8	7.9	-624.19	-3835	-0.0000282	0.0005615	0.0035	1.2809		2684.25	2684.25	4.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 71	6.11	-17.76	-11855	-9872	223	1.2809	1.2809	-27524	10614	4061	19031	10740	3266	14006	No	62.69	Si
SLU 71	7.9	-394.6	-10181	-8478	1960	1.2809	1.2809	-23638	10096	3662	19031	10740	3266	14006	No	7.15	Si
SLU 77	6.11	-154.19	-12884	-10729	77	1.2809	1.2809	-29915	10833	4306	19031	10740	3266	14006	No	182.13	Si
SLU 77	7.9	-420.41	-11184	-9313	2060	1.2809	1.2809	-25967	10407	3901	19031	10740	3266	14006	No	6.8	Si
SLU 81	6.11	-229.47	-12830	-10684	-70	1.2809	1.2809	-29789	10833	4293	19031	10740	3266	14006	No	199.44	Si
SLU 81	7.9	-401.62	-11105	-9247	1945	1.2809	1.2809	-25783	10382	3882	19031	10740	3266	14006	No	7.2	Si
SLU 74	6.11	-163.96	-12707	-10581	26	1.2809	1.2809	-29502	10833	4264	19031	10740	3266	14006	No	530.44	Si
SLU 74	7.9	-405.36	-10998	-9158	1984	1.2809	1.2809	-25535	10349	3857	19031	10740	3266	14006	No	7.06	Si
SLU 83	6.11	-219.71	-13008	-10832	-20	1.2809	1.2809	-30202	10833	4336	19031	10740	3266	14006	No	709.98	Si
SLU 83	7.9	-416.67	-11291	-9402	2022	1.2809	1.2809	-26215	10440	3927	19031	10740	3266	14006	No	6.93	Si
SLU 79	6.11	-152.29	-12786	-10647	89	1.2809	1.2809	-29687	10833	4283	19031	10740	3266	14006	No	158.14	Si
SLU 79	7.9	-420.59	-11088	-9233	2057	1.2809	1.2809	-25745	10377	3878	19031	10740	3266	14006	No	6.81	Si
SLU 84	6.11	-233.36	-13053	-10870	-89	1.2809	1.2809	-30307	10833	4347	19031	10740	3266	14006	No	156.92	Si
SLU 84	7.9	-404.65	-11318	-9424	1966	1.2809	1.2809	-26277	10448	3933	19031	10740	3266	14006	No	7.12	Si
SLU 78	6.11	-167.85	-12930	-10767	7	1.2809	1.2809	-30020	10833	4317	19031	10740	3266	14006	No	1899.18	Si
SLU 78	7.9	-408.38	-11211	-9335	2004	1.2809	1.2809	-26029	10415	3907	19031	10740	3266	14006	No	6.99	Si
SLU 69	6.11	-19.67	-11953	-9953	212	1.2809	1.2809	-27752	10645	4084	19031	10740	3266	14006	No	66.14	Si
SLU 69	7.9	-394.42	-10277	-8558	1963	1.2809	1.2809	-23861	10126	3685	19031	10740	3266	14006	No	7.13	Si
SLU 80	6.11	-165.94	-12832	-10685	19	1.2809	1.2809	-29792	10833	4294	19031	10740	3266	14006	No	735.61	Si
SLU 80	7.9	-408.56	-11115	-9256	2001	1.2809	1.2809	-25807	10385	3885	19031	10740	3266	14006	No	7	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	6.11	531.94	-10196	-8491	2793	1.2809	1.2809	-23674	15151	5434	19031	16109	3266	19376		6.94	Si
SLV 13	7.9	-651.5	-8873	-7389	3710	1.2809	1.2809	-20602	14537	5214	19031	16109	3266	19376		5.22	Si
SLV 1	6.11	-1055.69	-10330	-8602	-4296	1.2809	1.2809	-23983	15213	5456	19031	16109	3266	19376		4.51	Si
SLV 1	7.9	308.6	-8362	-6963	-2102	1.2809	1.2809	-19414	14300	5129	19031	16109	3266	19376		9.22	Si
SLV 5	6.11	-1174.02	-13797	-11489	-4643	1.2809	1.2809	-32033	16250	5828	19031	16109	3266	19376		4.17	Si
SLV 5	7.9	348.46	-11114	-9255	-2126	1.2809	1.2809	-25805	15578	5587	19031	16109	3266	19376		9.11	Si
SLV 6	6.11	-1276.43	-13888	-11565	-5104	1.2809	1.2809	-32245	16250	5828	19031	16109	3266	19376		3.8	Si
SLV 6	7.9	408.29	-11157	-9291	-2483	1.2809	1.2809	-25905	15598	5594	19031	16109	3266	19376		7.8	Si
SLV 2	6.11	-1207.82	-10465	-8714	-4982	1.2809	1.2809	-24298	15276	5479	19031	16109	3266	19376		3.89	Si
SLV 2	7.9	397.49	-8426	-7016	-2631	1.2809	1.2809	-19563	14329	5139	19031	16109	3266	19376		7.36	Si
SLV 11	6.11	1156.95	-3781	-3148	5243	1.2809	1.0033	-8778	12172	3419	19031	16109	3266	19376		3.7	Si
SLV 11	7.9	-972.06	-3945	-3285	5252	1.2809	1.1821	-9160	12249	4054	19031	16109	3266	19376		3.69	Si
SLD 15	6.11	659.71	-7875	-6557	3239	1.2809	1.2809	-18283	14073	5047	19031	16109	3266	19376		5.98	Si
SLD 15	7.9	-708.21	-7053	-5873	3908	1.2809	1.2809	-16376	13692	4911	19031	16109	3266	19376		4.96	Si
SLV 12	6.11	1054.54	-3872	-3224	4782	1.2809	1.1042	-8989	12215	3777	19031	16109	3266	19376		4.05	Si
SLV 12	7.9	-912.22	-3988	-3321	4895	1.2809	1.2351	-9259	12269	4243	19031	16109	3266	19376		3.96	Si
SLV 15	6.11	1088.34	-7203	-5998	5121	1.2809	1.2809	-16725	13762	4936	19031	16109	3266	19376		3.78	Si
SLV 15	7.9	-961.25	-6677	-5560	5400	1.2809	1.2809	-15502	13517	4848	19031	16109	3266	19376		3.59	Si
SLV 16	6.11	936.21	-7339	-6111	4436	1.2809	1.2809	-17039	13825	4958	19031	16109	3266	19376		4.37	Si
SLV 16	7.9	-872.36	-6740	-5613	4871	1.2809	1.2809	-15650	13547	4859	19031	16109	3266	19376		3.98	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.005 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.39	9175	-3290	36.23	432.99	11.95	Si
SLV 12	179667	0.39	9714	-3484	36.23	456.71	12.61	Si
SLV 7	179667	0.39	10647	-3819	36.23	497.33	13.73	Si
SLV 8	179667	0.39	11186	-4012	36.23	520.53	14.37	Si
SLV 15	179667	0.39	16128	-5784	36.23	724.27	19.99	Si
SLV 16	179667	0.39	16928	-6071	36.23	755.77	20.86	Si
SLV 3	179667	0.39	21036	-7545	36.23	910.75	25.14	Si
SLV 4	179667	0.39	21837	-7832	36.23	939.67	25.94	Si
SLV 13	179667	0.39	23672	-8490	36.23	1004.36	27.72	Si
SLV 14	179667	0.39	24473	-8777	36.23	1031.89	28.48	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.005 Wa = 0.05 Ta = 0.0191

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-11311	-13848	-18	0.686	1242.1	0.977	10.1955	3.66543	Si
SLV 9	-11268	-13757	-18	0.688	1237.7	0.977	10.22921	3.66543	Si
SLV 6	-11157	-13888	-56	0.69	1226.4	0.977	10.26812	3.66543	Si
SLV 5	-11114	-13797	-56	0.693	1222	0.977	10.30255	3.66543	Si
SLV 14	-8937	-10332	51	0.834	1000.3	0.972	12.46221	3.8014	Si
SLV 13	-8873	-10196	51	0.839	993.8	0.972	12.54047	3.8014	Si
SLV 2	-8426	-10465	-76	0.874	948.2	0.971	13.08213	3.8014	Si
SLV 1	-8362	-10330	-76	0.88	941.7	0.971	13.17005	3.8014	Si
SLV 16	-6740	-7339	73	1.058	776.7	0.965	15.92898	3.8014	Si
SLV 15	-6677	-7203	73	1.066	770.2	0.965	16.06305	3.8014	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.963	SLU 50	Si
V_SLU	6.798	SLU 77	Si
PF_SLV	2.062	SLV 11	Si
V_SLV	3.588	SLV 15	Si
PFFP_SLV	11.952	SLV 11	Si
R_SLV	2.782	SLV 10	Si

Maschio 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.404	-11.003	-0.749	L5	L6	2.656	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	4.35	2083.74	-33037	-0.0000843	0.0003743	0.0035	2.6557	24724.21	30418.49	30418.49	14.6	No	Si
SLU 66	7.9	-408.18	-20624	-0.0000455	0.0003743	0.0035	2.6557	19924.86	23959.38	23959.38	58.7	No	Si
SLU 72	4.35	2075.78	-33292	-0.0000849	0.0003743	0.0035	2.6557	24766.26	30556.89	30556.89	14.72	No	Si
SLU 72	7.9	-361.72	-20901	-0.0000459	0.0003743	0.0035	2.6557	20090.62	24192.46	24192.46	66.88	No	Si
SLU 45	4.35	1944.28	-29470	-0.0000745	0.0003743	0.0035	2.6557	23898.55	28512.7	28512.7	14.66	No	Si
SLU 45	7.9	-279.14	-18340	-0.0000397	0.0003743	0.0035	2.6557	18452.69	22011.04	22011.04	78.85	No	Si
SLU 69	4.35	2135.66	-33490	-0.0000858	0.0003743	0.0035	2.6557	24797.13	30664.04	30664.04	14.36	No	Si
SLU 69	7.9	-406.08	-20995	-0.0000464	0.0003743	0.0035	2.6557	20146.68	24269.16	24269.16	59.76	No	Si
SLU 48	4.35	1996.2	-29923	-0.0000759	0.0003743	0.0035	2.6557	24028.13	28750.79	28750.79	14.4	No	Si
SLU 48	7.9	-277.03	-18711	-0.0000406	0.0003743	0.0035	2.6557	18704.24	22339.74	22339.74	80.64	No	Si
SLU 50	4.35	1990.47	-29688	-0.0000753	0.0003743	0.0035	2.6557	23961.88	28627.21	28627.21	14.38	No	Si
SLU 50	7.9	-264.39	-18522	-0.0000401	0.0003743	0.0035	2.6557	18577.18	22173.49	22173.49	83.87	No	Si
SLU 51	4.35	1936.32	-29726	-0.0000751	0.0003743	0.0035	2.6557	23972.58	28646.89	28646.89	14.79	No	Si
SLU 51	7.9	-232.67	-18616	-0.0000401	0.0003743	0.0035	2.6557	18640.61	22256.43	22256.43	95.66	No	Si
SLU 49	4.35	1942.06	-29960	-0.0000757	0.0003743	0.0035	2.6557	24038.52	28770.55	28770.55	14.81	No	Si
SLU 49	7.9	-245.31	-18804	-0.0000406	0.0003743	0.0035	2.6557	18767.05	22421.38	22421.38	91.4	No	Si
SLU 71	4.35	2129.93	-33255	-0.0000851	0.0003743	0.0035	2.6557	24760.24	30536.59	30536.59	14.34	No	Si
SLU 71	7.9	-393.43	-20807	-0.0000459	0.0003743	0.0035	2.6557	20034.71	24113.9	24113.9	61.29	No	Si
SLU 70	4.35	2081.52	-33527	-0.0000856	0.0003743	0.0035	2.6557	24802.83	30684.41	30684.41	14.74	No	Si
SLU 70	7.9	-374.36	-21089	-0.0000464	0.0003743	0.0035	2.6557	20201.98	24341.53	24341.53	65.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	4.35	5214.07	-23625	-0.0000743	0.0005615	0.0035	2.6557		26621.45	26621.45	5.11		Si
SLD 8	7.9	-899.48	-11445	-0.0000273	0.0005615	0.0035	2.6557		15863.51	15863.51	17.64		Si
SLV 11	4.35	7980.9	-22324	-0.0000848	0.0005615	0.0035	2.6557		25288.34	25288.34	3.17		Si
SLV 11	7.9	-1131.18	-9356	-0.000024	0.0005615	0.0035	2.6557		13471.07	13471.07	11.91		Si
SLV 6	4.35	-5012.55	-27492	-0.0000822	0.0005615	0.0035	2.6557		31836.79	31836.79	6.35		Si
SLV 6	7.9	492.58	-21473	-0.0000467	0.0005615	0.0035	2.6557		24422.66	24422.66	49.58		Si
SLV 7	4.35	7915.53	-22524	-0.000085	0.0005615	0.0035	2.6557		25491.67	25491.67	3.22		Si
SLV 7	7.9	-1303.85	-8588	-0.0000232	0.0005615	0.0035	2.6557		12576.88	12576.88	9.65		Si
SLD 11	4.35	5288.69	-23386	-0.0000741	0.0005615	0.0035	2.6557		26375.39	26375.39	4.99		Si
SLD 11	7.9	-788.53	-11886	-0.0000277	0.0005615	0.0035	2.6557		16356.83	16356.83	20.74		Si
SLV 8	4.35	7863.18	-22711	-0.0000852	0.0005615	0.0035	2.6557		25683.54	25683.54	3.27		Si
SLV 8	7.9	-1301.21	-8668	-0.0000233	0.0005615	0.0035	2.6557		12669.5	12669.5	9.74		Si
SLD 12	4.35	5256.92	-23499	-0.0000742	0.0005615	0.0035	2.6557		26492.47	26492.47	5.04		Si
SLD 12	7.9	-786.93	-11935	-0.0000278	0.0005615	0.0035	2.6557		16411.11	16411.11	20.85		Si
SLD 7	4.35	5245.84	-23511	-0.0000742	0.0005615	0.0035	2.6557		26504.26	26504.26	5.05		Si
SLD 7	7.9	-901.08	-11396	-0.0000272	0.0005615	0.0035	2.6557		15809.49	15809.49	17.55		Si
SLV 5	4.35	-4960.2	-27305	-0.0000815	0.0005615	0.0035	2.6557		31670.73	31670.73	6.38		Si
SLV 5	7.9	489.95	-21393	-0.0000465	0.0005615	0.0035	2.6557		24341.7	24341.7	49.68		Si
SLV 12	4.35	7928.55	-22512	-0.000085	0.0005615	0.0035	2.6557		25479.93	25479.93	3.21		Si
SLV 12	7.9	-1128.55	-9436	-0.0000241	0.0005615	0.0035	2.6557		13564.4	13564.4	12.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	4.35	1976.99	-36084	-30048	5587	2.6557	2.6557	-40409	10833	11669	40441	22266	6772	29038	No	5.2	Si
SLU 79	7.9	-539.67	-22495	-18732	3065	2.6557	2.6557	-25192	10303	8283	40441	22266	6772	29038	No	9.48	Si
SLU 84	4.35	1805.38	-36881	-30711	5677	2.6557	2.6557	-41302	10833	11867	40441	22266	6772	29038	No	5.12	Si
SLU 84	7.9	-572.72	-22942	-19104	3120	2.6557	2.6557	-25692	10370	8394	40441	22266	6772	29038	No	9.31	Si
SLU 78	4.35	1928.58	-36356	-30274	5552	2.6557	2.6557	-40714	10833	11736	40441	22266	6772	29038	No	5.23	Si
SLU 78	7.9	-520.59	-22777	-18967	3024	2.6557	2.6557	-25508	10345	8353	40441	22266	6772	29038	No	9.6	Si
SLU 80	4.35	1922.85	-36121	-30079	5521	2.6557	2.6557	-40451	10833	11678	40441	22266	6772	29038	No	5.26	Si
SLU 80	7.9	-507.95	-22589	-18810	2998	2.6557	2.6557	-25297	10317	8306	40441	22266	6772	29038	No	9.69	Si
SLU 75	4.35	1876.66	-35903	-29897	5480	2.6557	2.6557	-40207	10833	11624	40441	22266	6772	29038	No	5.3	Si
SLU 75	7.9	-522.7	-22406	-18658	2967	2.6557	2.6557	-25092	10290	8261	40441	22266	6772	29038	No	9.79	Si
SLU 77	4.35	1982.73	-36319	-30243	5618	2.6557	2.6557	-40672	10833	11727	40441	22266	6772	29038	No	5.17	Si
SLU 77	7.9	-552.31	-22684	-18889	3091	2.6557	2.6557	-25403	10331	8330	40441	22266	6772	29038	No	9.4	Si
SLU 82	4.35	1753.45	-36428	-30334	5604	2.6557	2.6557	-40794	10833	11754	40441	22266	6772	29038	No	5.18	Si
SLU 82	7.9	-574.83	-22571	-18795	3062	2.6557	2.6557	-25276	10315	8302	40441	22266	6772	29038	No	9.48	Si
SLU 83	4.35	1859.52	-36844	-30680	5743	2.6557	2.6557	-41260	10833	11858	40441	22266	6772	29038	No	5.06	Si
SLU 83	7.9	-604.44	-22848	-19026	3186	2.6557	2.6557	-25587	10356	8371	40441	22266	6772	29038	No	9.11	Si
SLU 74	4.35	1930.8	-35866	-29866	5545	2.6557	2.6557	-40165	10833	11614	40441	22266	6772	29038	No	5.24	Si
SLU 74	7.9	-554.41	-22313	-18580	3033	2.6557	2.6557	-24987	10276	8237	40441	22266	6772	29038	No	9.57	Si
SLU 81	4.35	1807.6	-36391	-30303	5670	2.6557	2.6557	-40752	10833	11745	40441	22266	6772	29038	No	5.12	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.9	-606.55	-22477	-18717	3129	2.6557	2.6557	-25171	10301	8278	40441	22266	6772	29038	No	9.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	4.35	7915.53	-22524	-18756	10368	2.6557	2.6557	-25223	15461	11497	40441	33399	6772	40171		3.87	Si
SLV 7	7.9	-1303.85	-8588	-7151	5157	2.6557	2.6557	-9617	12340	9176	40441	33399	6772	40171		7.79	Si
SLD 7	4.35	5245.84	-23511	-19578	7654	2.6557	2.6557	-26329	15682	11661	40441	33399	6772	40171		5.25	Si
SLD 7	7.9	-901.08	-11396	-9490	3799	2.6557	2.6557	-12762	12969	9644	40441	33399	6772	40171		10.57	Si
SLD 11	4.35	5288.69	-23386	-19474	7378	2.6557	2.6557	-26189	15654	11640	40441	33399	6772	40171		5.44	Si
SLD 11	7.9	-788.53	-11886	-9898	4375	2.6557	2.6557	-13311	13079	9725	40441	33399	6772	40171		9.18	Si
SLD 8	4.35	5214.07	-23625	-19673	7689	2.6557	2.6557	-26457	15708	11680	40441	33399	6772	40171		5.22	Si
SLD 8	7.9	-899.48	-11445	-9530	3719	2.6557	2.6557	-12817	12980	9652	40441	33399	6772	40171		10.8	Si
SLD 12	4.35	5256.92	-23499	-19568	7413	2.6557	2.6557	-26316	15680	11659	40441	33399	6772	40171		5.42	Si
SLD 12	7.9	-786.93	-11935	-9938	4295	2.6557	2.6557	-13365	13090	9733	40441	33399	6772	40171		9.35	Si
SLV 3	4.35	3345.47	-24384	-20305	6383	2.6557	2.6557	-27306	15878	11807	40441	33399	6772	40171		6.29	Si
SLV 3	7.9	-878.11	-12154	-10121	1621	2.6557	2.6557	-13611	13139	9770	40441	33399	6772	40171		24.78	Si
SLV 12	4.35	7928.55	-22512	-18746	9994	2.6557	2.6557	-25210	15459	11495	40441	33399	6772	40171		4.02	Si
SLV 12	7.9	-1128.55	-9436	-7858	5925	2.6557	2.6557	-10567	12530	9317	40441	33399	6772	40171		6.78	Si
SLV 4	4.35	3267.7	-24662	-20537	6469	2.6557	2.6557	-27618	15940	11853	40441	33399	6772	40171		6.21	Si
SLV 4	7.9	-874.19	-12273	-10220	1426	2.6557	2.6557	-13744	13165	9790	40441	33399	6772	40171		28.17	Si
SLV 8	4.35	7863.18	-22711	-18912	10426	2.6557	2.6557	-25433	15503	11528	40441	33399	6772	40171		3.85	Si
SLV 8	7.9	-1301.21	-8668	-7218	5026	2.6557	2.6557	-9707	12358	9189	40441	33399	6772	40171		7.99	Si
SLV 11	4.35	7980.9	-22324	-18590	9936	2.6557	2.6557	-25000	15417	11464	40441	33399	6772	40171		4.04	Si
SLV 11	7.9	-1131.18	-9356	-7791	6057	2.6557	2.6557	-10478	12512	9304	40441	33399	6772	40171		6.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.38	20543	-15276	281.28	1850.91	6.58	Si
SLV 8	179667	0.38	20560	-15288	281.28	1852.19	6.58	Si
SLV 11	179667	0.38	21851	-16248	281.28	1949.26	6.93	Si
SLV 12	179667	0.38	21868	-16261	281.28	1950.5	6.93	Si
SLV 3	179667	0.38	23000	-17102	281.28	2033.71	7.23	Si
SLV 4	179667	0.38	23024	-17121	281.28	2035.52	7.24	Si
SLV 1	179667	0.38	26416	-19643	281.28	2274.3	8.09	Si
SLV 2	179667	0.38	26441	-19661	281.28	2276	8.09	Si
SLV 15	179667	0.38	27359	-20343	281.28	2337.86	8.31	Si
SLV 16	179667	0.38	27383	-20362	281.28	2339.53	8.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-18676	-25433	689	0.72	2274.2	0.952	10.98421	5.32179	Si
SLV 13	-18557	-25154	689	0.724	2262.2	0.952	11.04553	5.32179	Si
SLV 10	-22242	-27293	200	0.641	2636.7	0.958	9.72326	4.54183	Si
SLV 9	-22162	-27105	200	0.643	2628.5	0.958	9.75407	4.54183	Si
SLV 6	-21473	-27492	-210	0.66	2558.5	0.957	10.02256	4.54183	Si
SLV 5	-21393	-27305	-210	0.662	2550.4	0.957	10.05559	4.54183	Si
SLV 2	-16114	-26097	-677	0.815	2014.2	0.947	12.50256	5.32179	Si
SLV 1	-15996	-25818	-677	0.82	2002.2	0.947	12.5832	5.32179	Si
SLV 16	-14834	-23999	699	0.871	1884.4	0.944	13.41271	5.32179	Si
SLV 15	-14715	-23720	699	0.877	1872.3	0.944	13.50586	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.337	SLU 71	Si
V_SLU	5.057	SLU 83	Si
PF_SLV	3.169	SLV 11	Si
V_SLV	3.853	SLV 8	Si
PFFP_SLV	6.58	SLV 7	Si
R_SLV	2.064	SLV 14	Si

Maschio 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.661	L5	L6	5.52	0.2	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	4.35	-26173.87	-40315	-0.0000866	0.0004492	0.0035	5.52	78015.43	111845.37	111845.37	4.27	No	Si
SLU 40	7.9	1957.7	-29637	-0.0000385	0.0004492	0.0035	5.52	63826.95	74670.4	74670.4	38.14	No	Si
SLU 84	4.35	-30446.72	-48784	-0.0001049	0.0004492	0.0035	5.52	85950.76	127838.65	127838.65	4.2	No	Si
SLU 84	7.9	1830.79	-35781	-0.0000461	0.0004492	0.0035	5.52	72560.19	86887.82	86887.82	47.46	No	Si
SLU 61	4.35	-26901.04	-42446	-0.0000907	0.0004492	0.0035	5.52	80288.61	116018.42	116018.42	4.31	No	Si
SLU 61	7.9	1267.21	-30688	-0.0000389	0.0004492	0.0035	5.52	65430.71	76760.76	76760.76	60.57	No	Si
SLU 75	4.35	-29504.97	-47766	-0.0001021	0.0004492	0.0035	5.52	85151.97	125939.75	125939.75	4.27	No	Si
SLU 75	7.9	1610.15	-35064	-0.0000449	0.0004492	0.0035	5.52	71620.71	85462.16	85462.16	53.08	No	Si
SLU 31	4.35	-25314.76	-38697	-0.0000831	0.0004492	0.0035	5.52	76165.12	108618.04	108618.04	4.29	No	Si
SLU 31	7.9	1768.04	-28447	-0.0000367	0.0004492	0.0035	5.52	61956.68	72303.77	72303.77	40.89	No	Si
SLU 81	4.35	-29719.18	-48000	-0.0001027	0.0004492	0.0035	5.52	85339.29	126376.13	126376.13	4.25	No	Si
SLU 81	7.9	1781.93	-34952	-0.000045	0.0004492	0.0035	5.52	71472.9	85240.74	85240.74	47.84	No	Si
SLU 83	4.35	-29819.76	-49083	-0.0001044	0.0004492	0.0035	5.52	86176.82	128395.14	128395.14	4.31	No	Si
SLU 83	7.9	1737.85	-35917	-0.0000462	0.0004492	0.0035	5.52	72736.34	87158.74	87158.74	50.15	No	Si
SLU 73	4.35	-29487.04	-46083	-0.0000996	0.0004492	0.0035	5.52	83738.84	122801.51	122801.51	4.16	No	Si
SLU 73	7.9	1685.21	-33626	-0.0000432	0.0004492	0.0035	5.52	69673.31	82603.19	82603.19	49.02	No	Si
SLU 76	4.35	-29587.62	-47166	-0.0001013	0.0004492	0.0035	5.52	84661.28	124820.52	124820.52	4.22	No	Si
SLU 76	7.9	1641.13	-34591	-0.0000443	0.0004492	0.0035	5.52	70989.1	84521.19	84521.19	51.5	No	Si
SLU 82	4.35	-30346.14	-47702	-0.0001032	0.0004492	0.0035	5.52	85100.01	125819.64	125819.64	4.15	No	Si
SLU 82	7.9	1874.87	-34816	-0.000045	0.0004492	0.0035	5.52	71291.37	84969.82	84969.82	45.32	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	4.35	-72484.17	-9265	-0.0017627	0.0006738	0.0035	4.416		42694.12	42694.12	0.59		No
SLV 6	7.9	2327.9	-11523	-0.0000166	0.0006738	0.0035	5.52		33344.09	33344.09	14.32		Si
SLV 5	4.35	-71353.3	-9636	-0.0016974	0.0006738	0.0035	4.416		43642.77	43642.77	0.61		No
SLV 5	7.9	1988.75	-11655	-0.0000163	0.0006738	0.0035	5.52		33680.29	33680.29	16.94		Si
SLV 14	4.35	-44260.46	-24720	-0.0001164	0.0006738	0.0035	4.416		80503.15	80503.15	1.82		Si
SLV 14	7.9	1581.77	-20940	-0.0000269	0.0006738	0.0035	5.52		56794.87	56794.87	35.91		Si
SLD 6	4.35	-50487.09	-19133	-0.0003483	0.0006738	0.0035	4.416		67180.91	67180.91	1.33		Si
SLD 6	7.9	1674.04	-16628	-0.0000218	0.0006738	0.0035	5.52		46200.68	46200.68	27.6		Si
SLV 9	4.35	-75794.66	-9091	-0.0019228	0.0006738	0.0035	4.416		42251.03	42251.03	0.56		No
SLV 9	7.9	2071.63	-12114	-0.000017	0.0006738	0.0035	5.52		34858.83	34858.83	16.83		Si
SLD 10	4.35	-53336.73	-18787	-0.0004675	0.0006738	0.0035	4.416		66336.15	66336.15	1.24		Si
SLD 10	7.9	1723.53	-16924	-0.0000223	0.0006738	0.0035	5.52		46936.21	46936.21	27.23		Si
SLV 10	4.35	-76925.53	-8719	-0.0019911	0.0006738	0.0035	4.416		41302.37	41302.37	0.54		No
SLV 10	7.9	2410.77	-11983	-0.0000172	0.0006738	0.0035	5.52		34522.64	34522.64	14.32		Si
SLV 13	4.35	-42580.51	-25273	-0.000107	0.0006738	0.0035	4.416		81785.84	81785.84	1.92		Si
SLV 13	7.9	1077.96	-21135	-0.0000265	0.0006738	0.0035	5.52		57263.95	57263.95	53.12		Si
SLD 9	4.35	-52650.47	-19012	-0.0004284	0.0006738	0.0035	4.416		66886.74	66886.74	1.27		Si
SLD 9	7.9	1517.72	-17004	-0.0000221	0.0006738	0.0035	5.52		47133.88	47133.88	31.06		Si
SLD 5	4.35	-49800.83	-19358	-0.0003131	0.0006738	0.0035	4.416		67731.5	67731.5	1.36		Si
SLD 5	7.9	1468.23	-16708	-0.0000217	0.0006738	0.0035	5.52		46398.35	46398.35	31.6		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	4.35	-26507.18	-42771	-27374	-6467	5.52	5.52	-24795	10833	17327	115546	39675	28152	67827	No	10.49	Si
SLU 65	7.9	1098.09	-31061	-19879	-6464	5.52	5.52	-18007	10734	14329	115546	39675	28152	67827	No	10.49	Si
SLU 84	4.35	-30446.72	-48784	-31222	-6777	5.52	5.52	-28281	10833	18866	115546	39675	28152	67827	No	10.01	Si
SLU 84	7.9	1830.79	-35781	-22900	-6778	5.52	5.52	-20742	10833	15537	115546	39675	28152	67827	No	10.01	Si
SLU 81	4.35	-29719.18	-48000	-30720	-6524	5.52	5.52	-27826	10833	18665	115546	39675	28152	67827	No	10.4	Si
SLU 81	7.9	1781.93	-34952	-22370	-6526	5.52	5.52	-20262	10833	15325	115546	39675	28152	67827	No	10.39	Si
SLU 82	4.35	-30346.14	-47702	-30529	-6853	5.52	5.52	-27653	10833	18589	115546	39675	28152	67827	No	9.9	Si
SLU 82	7.9	1874.87	-34816	-22282	-6855	5.52	5.52	-20183	10833	15290	115546	39675	28152	67827	No	9.9	Si
SLU 80	4.35	-29270.22	-48447	-31006	-6520	5.52	5.52	-28085	10833	18780	115546	39675	28152	67827	No	10.4	Si
SLU 80	7.9	1535.08	-35646	-22813	-6520	5.52	5.52	-20664	10833	15503	115546	39675	28152	67827	No	10.4	Si
SLU 83	4.35	-29819.76	-49083	-31413	-6448	5.52	5.52	-28454	10833	18942	115546	39675	28152	67827	No	10.52	Si
SLU 83	7.9	1737.85	-35917	-22987	-6450	5.52	5.52	-20821	10833	15572	115546	39675	28152	67827	No	10.52	Si
SLU 75	4.35	-29504.97	-47766	-30570	-6684	5.52	5.52	-27690	10833	18605	115546	39675	28152	67827	No	10.15	Si
SLU 75	7.9	1610.15	-35064	-22441	-6684	5.52	5.52	-20327	10833	15354	115546	39675	28152	67827	No	10.15	Si
SLU 76	4.35	-29587.62	-47166	-30186	-6815	5.52	5.52	-27343	10833	18452	115546	39675	28152	67827	No	9.95	Si
SLU 76	7.9	1641.13	-34591	-22138	-6815	5.52	5.52	-20053	10833	15232	115546	39675	28152	67827	No	9.95	Si
SLU 73	4.35	-29487.04	-46083	-29493	-6891	5.52	5.52	-26715	10833	18174	115546	39675	28152	67827	No	9.84	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.9	1685.21	-33626	-21521	-6891	5.52	5.52	-19493	10833	14986	115546	39675	28152	67827	No	9.84	Si
SLU 78	4.35	-29605.55	-48849	-31263	-6608	5.52	5.52	-28318	10833	18882	115546	39675	28152	67827	No	10.26	Si
SLU 78	7.9	1566.07	-36028	-23058	-6608	5.52	5.52	-20886	10833	15600	115546	39675	28152	67827	No	10.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	4.35	-52650.47	-19012	-12168	-20365	4.416	0	0	0	0	115546	47610	22522	70132		3.44	Si
SLD 9	7.9	1517.72	-17004	-10883	-19152	5.52	5.52	-9857	14471	15977	115546	59513	28152	87665		4.58	Si
SLV 5	4.35	-71353.3	-9636	-6167	-29373	4.416	0	0	0	0	115546	47610	22522	70132		2.39	Si
SLV 5	7.9	1988.75	-11655	-7459	-27267	5.52	5.52	-6756	13851	15292	115546	59513	28152	87665		3.22	Si
SLV 8	4.35	36433.53	-57059	-36518	22371	5.52	5.52	-33078	16250	24173	115546	59513	28152	87665		3.92	Si
SLV 8	7.9	-552.18	-35673	-22830	20287	5.52	5.52	-20680	16250	18698	115546	59513	28152	87665		4.32	Si
SLV 10	4.35	-76925.53	-8719	-5580	-32068	4.416	0	0	0	0	115546	47610	22522	70132		2.19	Si
SLV 10	7.9	2410.77	-11983	-7669	-29981	5.52	5.52	-6947	13889	15334	115546	59513	28152	87665		2.92	Si
SLD 5	4.35	-49800.83	-19358	-12389	-19027	4.416	0.5623	0	0	0	115546	47610	22522	70132		3.69	Si
SLD 5	7.9	1468.23	-16708	-10693	-17800	5.52	5.52	-9686	14437	15939	115546	59513	28152	87665		4.92	Si
SLD 6	4.35	-50487.09	-19133	-12245	-19392	4.416	0.3637	0	0	0	115546	47610	22522	70132		3.62	Si
SLD 6	7.9	1674.04	-16628	-10642	-18165	5.52	5.52	-9640	14428	15928	115546	59513	28152	87665		4.83	Si
SLD 10	4.35	-53336.73	-18787	-12023	-20730	4.416	0	0	0	0	115546	47610	22522	70132		3.38	Si
SLD 10	7.9	1723.53	-16924	-10832	-19517	5.52	5.52	-9811	14462	15966	115546	59513	28152	87665		4.49	Si
SLV 7	4.35	37564.4	-57431	-36756	22973	5.52	5.52	-33293	16250	24268	115546	59513	28152	87665		3.82	Si
SLV 7	7.9	-891.33	-35804	-22914	20887	5.52	5.52	-20756	16250	18732	115546	59513	28152	87665		4.2	Si
SLV 6	4.35	-72484.17	-9265	-5929	-29974	4.416	0	0	0	0	115546	47610	22522	70132		2.34	Si
SLV 6	7.9	2327.9	-11523	-7375	-27868	5.52	5.52	-6680	13836	15275	115546	59513	28152	87665		3.15	Si
SLV 9	4.35	-75794.66	-9091	-5818	-31467	4.416	0	0	0	0	115546	47610	22522	70132		2.23	Si
SLV 9	7.9	2071.63	-12114	-7753	-29381	5.52	5.52	-7023	13905	15351	115546	59513	28152	87665		2.98	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-5139	0.38	427.79	500.85	1096.19	798.52	1.87	Si
SLV 9	-5511	0.38	427.79	536.08	1140.17	838.13	1.96	Si
SLV 6	-5713	0.38	427.79	555.16	1163.97	859.57	2.01	Si
SLV 5	-6085	0.38	427.79	590.18	1207.62	898.9	2.1	Si
SLV 14	-21147	0.38	427.79	1893.7	2931.86	2412.78	5.64	Si
SLV 13	-21700	0.38	427.79	1937.25	2993.03	2465.14	5.76	Si
SLV 2	-23060	0.38	427.79	2043.22	3143.86	2593.54	6.06	Si
SLV 1	-23613	0.38	427.79	2085.72	3205.18	2645.45	6.18	Si
SLV 16	-35520	0.38	427.79	2928.45	4514.34	3721.4	8.7	Si
SLV 15	-36072	0.38	427.79	2964.15	4574.24	3769.2	8.81	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.04 Ta = 0.1052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-28380	-39611	1152	0.967	3442.8	0.953	14.7439	6.61291	Si
SLV 16	-28185	-39058	1152	0.973	3423	0.953	14.83558	6.61291	Si
SLV 7	-35804	-57431	-643	0.803	4197.5	0.961	12.14179	5.24345	Si
SLV 8	-35673	-57059	-643	0.805	4184.2	0.961	12.18244	5.24345	Si
SLV 11	-36264	-56885	98	0.807	4244.3	0.961	12.20841	5.24345	Si
SLV 3	-26847	-41430	-1319	1.009	3287.1	0.951	15.41355	6.61291	Si
SLV 12	-36132	-56513	98	0.81	4230.9	0.961	12.24879	5.24345	Si
SLV 4	-26652	-40877	-1319	1.015	3267.3	0.951	15.51455	6.61291	Si
SLV 13	-21135	-25273	1313	1.236	2707.6	0.942	19.06681	6.61291	Si
SLV 14	-20940	-24720	1313	1.246	2687.9	0.942	19.22253	6.61291	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.146	SLU 82	Si
V_SLU	9.843	SLU 73	Si
PF_SLV	0.537	SLV 10	No
V_SLV	2.187	SLV 10	Si
PFFP_SLV	1.867	SLV 10	Si
R_SLV	2.23	SLV 15	Si

Maschio 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L5	L6	1.559	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	4.35	356.88	-14993	-0.0000601	0.0003743	0.0035	1.5594	7747.58	8985.56	8985.56	25.18	No	Si
SLU 81	6.45	-2795.56	-17352	-0.0001081	0.0003743	0.0035	1.5594	8248.66	10277.13	10277.13	3.68	No	Si
SLU 73	4.35	371.27	-14575	-0.0000586	0.0003743	0.0035	1.5594	7638.39	8775.43	8775.43	23.64	No	Si
SLU 73	6.45	-2665.03	-16876	-0.0001038	0.0003743	0.0035	1.5594	8163.28	10097.65	10097.65	3.79	No	Si
SLU 75	4.35	346.1	-14857	-0.0000594	0.0003743	0.0035	1.5594	7712.78	8917.07	8917.07	25.76	No	Si
SLU 75	6.45	-2674.35	-17187	-0.0001054	0.0003743	0.0035	1.5594	8219.91	10214.37	10214.37	3.82	No	Si
SLU 39	4.35	398.07	-12525	-0.0000509	0.0003743	0.0035	1.5594	7014.51	7773.6	7773.6	19.53	No	Si
SLU 39	6.45	-2526.15	-14801	-0.0000922	0.0003743	0.0035	1.5594	7698.29	9358.92	9358.92	3.7	No	Si
SLU 42	4.35	394.02	-12778	-0.0000518	0.0003743	0.0035	1.5594	7099.35	7894.7	7894.7	20.04	No	Si
SLU 42	6.45	-2552.37	-15087	-0.0000939	0.0003743	0.0035	1.5594	7771.35	9456.53	9456.53	3.71	No	Si
SLU 84	4.35	352.83	-15246	-0.0000611	0.0003743	0.0035	1.5594	7810.56	9113.48	9113.48	25.83	No	Si
SLU 84	6.45	-2821.78	-17638	-0.0001099	0.0003743	0.0035	1.5594	8296.13	10386.73	10386.73	3.68	No	Si
SLU 40	4.35	417.54	-12574	-0.0000513	0.0003743	0.0035	1.5594	7030.96	7796.77	7796.77	18.67	No	Si
SLU 40	6.45	-2558.28	-14885	-0.0000931	0.0003743	0.0035	1.5594	7719.99	9387.38	9387.38	3.67	No	Si
SLU 82	4.35	376.35	-15041	-0.0000606	0.0003743	0.0035	1.5594	7759.83	9010.04	9010.04	23.94	No	Si
SLU 82	6.45	-2827.69	-17436	-0.000109	0.0003743	0.0035	1.5594	8262.87	10309.1	10309.1	3.65	No	Si
SLU 41	4.35	374.55	-12729	-0.0000513	0.0003743	0.0035	1.5594	7083.25	7871.41	7871.41	21.02	No	Si
SLU 41	6.45	-2520.23	-15003	-0.000093	0.0003743	0.0035	1.5594	7750.25	9427.8	9427.8	3.74	No	Si
SLU 83	4.35	333.36	-15197	-0.0000606	0.0003743	0.0035	1.5594	7798.65	9088.89	9088.89	27.26	No	Si
SLU 83	6.45	-2789.64	-17554	-0.000109	0.0003743	0.0035	1.5594	8282.52	10354.48	10354.48	3.71	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	4.35	-4263.39	-12411	-0.0001075	0.0005615	0.0035	1.5594		8970.92	8970.92	2.1		Si
SLV 15	6.45	2929.04	-6657	-0.000072	0.0005615	0.0035	1.5594		4923.36	4923.36	1.68		Si
SLV 1	4.35	4020.43	-8611	-0.0001037	0.0005615	0.0035	1.5594		6056.92	6056.92	1.51		Si
SLV 1	6.45	-5654.62	-16177	-0.0001466	0.0005615	0.0035	1.5594		10994.72	10994.72	1.94		Si
SLV 4	4.35	3646.6	-5451	-0.0002005	0.0005615	0.0035	1.5594		4119.56	4119.56	1.13		Si
SLV 4	6.45	-4617.98	-12069	-0.0001155	0.0005615	0.0035	1.5594		8773.65	8773.65	1.9		Si
SLV 6	4.35	3161.22	-13817	-0.0000935	0.0005615	0.0035	1.5594		9201.36	9201.36	2.91		Si
SLV 6	6.45	-5795.89	-20615	-0.0001635	0.0005615	0.0035	1.5594		13050.43	13050.43	2.25		Si
SLD 4	4.35	2430.69	-7276	-0.0000594	0.0005615	0.0035	1.5594		5283.61	5283.61	2.17		Si
SLD 4	6.45	-3613.04	-12079	-0.0000939	0.0005615	0.0035	1.5594		8779.15	8779.15	2.43		Si
SLV 11	4.35	-2778.18	-6815	-0.000067	0.0005615	0.0035	1.5594		5531.44	5531.44	1.99		Si
SLV 11	6.45	2401.74	-2874	-0.0027357	0.0005615	0.0035	1.2475		2300.84	2300.84	0.96		No
SLV 2	4.35	4646.44	-8221	-0.0001498	0.0005615	0.0035	1.5594		5830.05	5830.05	1.25		Si
SLV 2	6.45	-6323.19	-16831	-0.0001648	0.0005615	0.0035	1.5594		11323.08	11323.08	1.79		Si
SLD 2	4.35	3015.91	-8899	-0.0000743	0.0005615	0.0035	1.5594		6225.88	6225.88	2.06		Si
SLD 2	6.45	-4611.7	-14867	-0.0001209	0.0005615	0.0035	1.5594		10318.13	10318.13	2.24		Si
SLV 3	4.35	3020.59	-5840	-0.0000824	0.0005615	0.0035	1.5594		4385.24	4385.24	1.45		Si
SLV 3	6.45	-3949.41	-11415	-0.0000987	0.0005615	0.0035	1.5594		8399.26	8399.26	2.13		Si
SLV 12	4.35	-2356.78	-6553	-0.0000566	0.0005615	0.0035	1.5594		5359.58	5359.58	2.27		Si
SLV 12	6.45	1951.69	-3314	-0.0000634	0.0005615	0.0035	1.5594		2618.62	2618.62	1.34		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.35	352.83	-15246	-12695	2365	1.5594	1.5594	-29075	10821	4787	40441	13075	3977	17052	No	7.21	Si
SLU 84	6.45	-2821.78	-17638	-14687	5010	1.5594	1.5594	-33637	10833	5318	40441	13075	3977	17052	No	3.4	Si
SLU 74	4.35	326.63	-14809	-12331	2328	1.5594	1.5594	-28241	10710	4690	40441	13075	3977	17052	No	7.32	Si
SLU 74	6.45	-2642.21	-17103	-14242	4893	1.5594	1.5594	-32617	10833	5199	40441	13075	3977	17052	No	3.48	Si
SLU 82	4.35	376.35	-15041	-12525	2380	1.5594	1.5594	-28685	10769	4741	40441	13075	3977	17052	No	7.16	Si
SLU 82	6.45	-2827.69	-17436	-14519	5021	1.5594	1.5594	-33252	10833	5273	40441	13075	3977	17052	No	3.4	Si
SLU 78	4.35	322.58	-15061	-12542	2346	1.5594	1.5594	-28723	10774	4746	40441	13075	3977	17052	No	7.27	Si
SLU 78	6.45	-2668.43	-17389	-14480	4941	1.5594	1.5594	-33162	10833	5262	40441	13075	3977	17052	No	3.45	Si
SLU 81	4.35	356.88	-14993	-12485	2347	1.5594	1.5594	-28593	10757	4730	40441	13075	3977	17052	No	7.27	Si
SLU 81	6.45	-2795.56	-17352	-14449	4962	1.5594	1.5594	-33092	10833	5254	40441	13075	3977	17052	No	3.44	Si
SLU 73	4.35	371.27	-14575	-12137	2363	1.5594	1.5594	-27795	10651	4650	40441	13075	3977	17052	No	7.22	Si
SLU 73	6.45	-2665.03	-16876	-14053	4926	1.5594	1.5594	-32184	10833	5149	40441	13075	3977	17052	No	3.46	Si
SLU 83	4.35	333.36	-15197	-12655	2331	1.5594	1.5594	-28982	10809	4776	40441	13075	3977	17052	No	7.31	Si
SLU 83	6.45	-2789.64	-17554	-14618	4952	1.5594	1.5594	-33478	10833	5299	40441	13075	3977	17052	No	3.44	Si
SLU 76	4.35	347.75	-14779	-12307	2347	1.5594	1.5594	-28185	10702	4683	40441	13075	3977	17052	No	7.26	Si
SLU 76	6.45	-2659.11	-17078	-14221	4916	1.5594	1.5594	-32570	10833	5194	40441	13075	3977	17052	No	3.47	Si
SLU 77	4.35	303.11	-15013	-12501	2312	1.5594	1.5594	-28631	10762	4735	40441	13075	3977	17052	No	7.37	Si
SLU 77	6.45	-2636.3	-17305	-14410	4883	1.5594	1.5594	-33002	10833	5244	40441	13075	3977	17052	No	3.49	Si
SLU 75	4.35	346.1	-14857	-12372	2361	1.5594	1.5594	-28334	10722	4700	40441	13075	3977	17052	No	7.22	Si
SLU 75	6.45	-2674.35	-17187	-14312	4952	1.5594	1.5594	-32777	10833	5218	40441	13075	3977	17052	No	3.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	4.35	4646.44	-8221	-6846	8471	1.5594	0.6436	-15679	13552	3928	40441	19612	3977	23589		2.78	Si
SLV 2	6.45	-6323.19	-16831	-14015	11740	1.5594	1.2121	-42296	16250	5839	40441	19612	3977	23589		2.01	Si
SLV 3	4.35	3020.59	-5840	-4863	5719	1.5594	0.7875	-11137	12644	3399	40441	19612	3977	23589		4.12	Si
SLV 3	6.45	-3949.41	-11415	-9505	7377	1.5594	1.3012	-26449	15707	5722	40441	19612	3977	23589		3.2	Si
SLV 4	4.35	3646.6	-5451	-4539	6689	1.5594	0.3321	-50219	16250	3312	40441	19612	3977	23589		3.53	Si
SLV 4	6.45	-4617.98	-12069	-10050	8563	1.5594	1.1913	-30622	16250	5420	40441	19612	3977	23589		2.75	Si
SLV 5	4.35	2739.82	-14079	-11724	5903	1.5594	1.5594	-26850	15787	6893	40441	19612	3977	23589		4	Si
SLV 5	6.45	-5345.85	-20174	-16799	10118	1.5594	1.5442	-38474	16250	7026	40441	19612	3977	23589		2.33	Si
SLD 6	4.35	1994.7	-12311	-10251	4605	1.5594	1.5594	-23478	15112	6599	40441	19612	3977	23589		5.12	Si
SLD 6	6.45	-4159.03	-16981	-14141	7896	1.5594	1.5594	-32385	16250	7095	40441	19612	3977	23589		2.99	Si
SLV 1	4.35	4020.43	-8611	-7170	7501	1.5594	0.9384	-16421	13701	4014	40441	19612	3977	23589		3.14	Si
SLV 1	6.45	-5654.62	-16177	-13471	10554	1.5594	1.2905	-38068	16250	5872	40441	19612	3977	23589		2.24	Si
SLV 6	4.35	3161.22	-13817	-11506	6556	1.5594	1.5594	-26350	15687	6849	40441	19612	3977	23589		3.6	Si
SLV 6	6.45	-5795.89	-20615	-17166	10916	1.5594	1.4957	-41978	16250	6805	40441	19612	3977	23589		2.16	Si
SLD 1	4.35	2618.76	-9146	-7616	5339	1.5594	1.4802	-17443	13905	5763	40441	19612	3977	23589		4.42	Si
SLD 1	6.45	-4187.55	-14452	-12034	7882	1.5594	1.4699	-29705	16250	6688	40441	19612	3977	23589		2.99	Si
SLD 2	4.35	3015.91	-8899	-7411	5955	1.5594	1.3225	-16972	13811	5114	40441	19612	3977	23589		3.96	Si
SLD 2	6.45	-4611.7	-14867	-12380	8635	1.5594	1.4085	-31933	16250	6409	40441	19612	3977	23589		2.73	Si
SLD 5	4.35	1738.97	-12470	-10384	4209	1.5594	1.5594	-23781	15173	6625	40441	19612	3977	23589		5.6	Si
SLD 5	6.45	-3885.92	-16714	-13918	7411	1.5594	1.5594	-31875	16250	7095	40441	19612	3977	23589		3.18	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	7294	-3185	161.02	424.61	2.64	Si
SLV 12	179667	0.38	8303	-3625	161.02	479.96	2.98	Si
SLV 7	179667	0.38	10556	-4609	161.02	600.7	3.73	Si
SLV 8	179667	0.38	11565	-5050	161.02	653.41	4.06	Si
SLV 15	179667	0.38	15959	-6968	161.02	873.64	5.43	Si
SLV 16	179667	0.38	17457	-7623	161.02	945.17	5.87	Si
SLV 3	179667	0.38	26832	-11716	161.02	1352.05	8.4	Si
SLV 13	179667	0.38	26858	-11727	161.02	1353.08	8.4	Si
SLV 4	179667	0.38	28330	-12370	161.02	1410.55	8.76	Si
SLV 14	179667	0.38	28356	-12381	161.02	1411.54	8.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-11120	-15181	-59	0.739	1351.1	0.953	11.27144	5.32179	Si
SLV 14	-10880	-14792	-59	0.753	1326.7	0.952	11.49051	5.32179	Si
SLV 9	-11819	-16050	-185	0.692	1422.1	0.955	10.53913	4.54183	Si
SLV 10	-11657	-15788	-184	0.701	1405.6	0.954	10.66815	4.54183	Si
SLV 15	-9283	-12411	51	0.86	1164.6	0.946	13.21071	5.32179	Si
SLV 16	-9043	-12021	52	0.879	1140.2	0.945	13.51339	5.32179	Si
SLV 5	-10614	-14079	-183	0.758	1299.7	0.951	11.58479	4.54183	Si
SLV 6	-10452	-13817	-182	0.768	1283.3	0.951	11.74217	4.54183	Si
SLV 1	-7104	-8611	-51	1.07	943.8	0.936	16.62477	5.32179	Si
SLV 2	-6864	-8221	-50	1.101	919.6	0.934	17.11741	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.646	SLU 82	Si
V_SLU	3.396	SLU 82	Si
PF_SLV	0.958	SLV 11	No
V_SLV	2.009	SLV 2	Si
PFFP_SLV	2.637	SLV 11	Si
R_SLV	2.118	SLV 13	Si

Maschio 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L5	L6	4.31	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	4.35	5967.66	-28764	-0.0000791	0.0004492	0.0035	4.31	37803.18	52838.71	52838.71	8.85	No	Si
SLU 69	7.9	3256.83	-20019	-0.0000511	0.0004492	0.0035	4.31	31426.6	39305.53	39305.53	12.07	No	Si
SLU 48	4.35	5338.71	-25187	-0.000069	0.0004492	0.0035	4.31	35735.82	47304.31	47304.31	8.86	No	Si
SLU 48	7.9	2832.39	-17509	-0.0000444	0.0004492	0.0035	4.31	28770.8	35421.51	35421.51	12.51	No	Si
SLU 58	4.35	5672.3	-27637	-0.0000756	0.0004492	0.0035	4.31	37232.64	51095.39	51095.39	9.01	No	Si
SLU 58	7.9	2998.45	-18946	-0.000048	0.0004492	0.0035	4.31	30337.24	37646.48	37646.48	12.56	No	Si
SLU 66	4.35	5822.67	-28322	-0.0000776	0.0004492	0.0035	4.31	37588.35	52155.27	52155.27	8.96	No	Si
SLU 66	7.9	3072.39	-19571	-0.0000496	0.0004492	0.0035	4.31	30980.19	38613.22	38613.22	12.57	No	Si
SLU 72	4.35	5829.17	-28537	-0.0000782	0.0004492	0.0035	4.31	37694.06	52487.02	52487.02	9	No	Si
SLU 72	7.9	3257.87	-19744	-0.0000505	0.0004492	0.0035	4.31	31153.96	38880.56	38880.56	11.93	No	Si
SLU 71	4.35	5925.53	-28468	-0.0000783	0.0004492	0.0035	4.31	37660.33	52380.26	52380.26	8.84	No	Si
SLU 71	7.9	3235.26	-19716	-0.0000504	0.0004492	0.0035	4.31	31125.85	38837.14	38837.14	12	No	Si
SLU 79	4.35	6301.25	-31214	-0.0000859	0.0004492	0.0035	4.31	38787.8	56629.8	56629.8	8.99	No	Si
SLU 79	7.9	3422.89	-21456	-0.0000548	0.0004492	0.0035	4.31	32782.07	41530.49	41530.49	12.13	No	Si
SLU 77	4.35	6343.38	-31510	-0.0000868	0.0004492	0.0035	4.31	38883.09	57088.25	57088.25	9	No	Si
SLU 77	7.9	3444.47	-21759	-0.0000555	0.0004492	0.0035	4.31	33052.02	41998.88	41998.88	12.19	No	Si
SLU 50	4.35	5296.58	-24891	-0.0000682	0.0004492	0.0035	4.31	35531.03	46845.85	46845.85	8.84	No	Si
SLU 50	7.9	2810.82	-17206	-0.0000436	0.0004492	0.0035	4.31	28425.64	34953.13	34953.13	12.44	No	Si
SLU 45	4.35	5193.71	-24746	-0.0000675	0.0004492	0.0035	4.31	35428.65	46620.86	46620.86	8.98	No	Si
SLU 45	7.9	2647.94	-17061	-0.0000429	0.0004492	0.0035	4.31	28258.75	34729.21	34729.21	13.12	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	4.35	11347.8	-11937	-0.0000583	0.0006738	0.0035	4.31		25825.12	25825.12	2.28		Si
SLV 8	7.9	1401.23	-9480	-0.000023	0.0006738	0.0035	4.31		21087.23	21087.23	15.05		Si
SLV 3	4.35	7147.33	-16030	-0.0000532	0.0006738	0.0035	4.31		33498.26	33498.26	4.69		Si
SLV 3	7.9	2784.24	-10778	-0.0000296	0.0006738	0.0035	4.31		23601.28	23601.28	8.48		Si
SLD 8	4.35	8436.27	-15748	-0.0000564	0.0006738	0.0035	4.31		32979.9	32979.9	3.91		Si
SLD 8	7.9	1730.67	-11487	-0.0000281	0.0006738	0.0035	4.31		24967.93	24967.93	14.43		Si
SLD 11	4.35	8244.34	-16570	-0.0000576	0.0006738	0.0035	4.31		34494.96	34494.96	4.18		Si
SLD 11	7.9	1338.26	-12396	-0.0000288	0.0006738	0.0035	4.31		26699.48	26699.48	19.95		Si
SLV 12	4.35	10931.77	-13413	-0.0000589	0.0006738	0.0035	4.31		28628.23	28628.23	2.62		Si
SLV 12	7.9	818.26	-10903	-0.0000243	0.0006738	0.0035	4.31		23843.58	23843.58	29.14		Si
SLV 11	4.35	11042.78	-13229	-0.000059	0.0006738	0.0035	4.31		28282.47	28282.47	2.56		Si
SLV 11	7.9	777.97	-10899	-0.0000242	0.0006738	0.0035	4.31		23834.85	23834.85	30.64		Si
SLD 7	4.35	8503.64	-15637	-0.0000563	0.0006738	0.0035	4.31		32773.56	32773.56	3.85		Si
SLD 7	7.9	1706.23	-11485	-0.000028	0.0006738	0.0035	4.31		24962.71	24962.71	14.63		Si
SLV 7	4.35	11458.81	-11753	-0.0000586	0.0006738	0.0035	4.31		25473.6	25473.6	2.22		Si
SLV 7	7.9	1360.95	-9475	-0.0000229	0.0006738	0.0035	4.31		21078.5	21078.5	15.49		Si
SLV 4	4.35	6982.42	-16304	-0.0000533	0.0006738	0.0035	4.31		34003.37	34003.37	4.87		Si
SLV 4	7.9	2844.08	-10785	-0.0000298	0.0006738	0.0035	4.31		23614.25	23614.25	8.3		Si
SLD 12	4.35	8176.97	-16682	-0.0000576	0.0006738	0.0035	4.31		34701.3	34701.3	4.24		Si
SLD 12	7.9	1362.7	-12399	-0.0000289	0.0006738	0.0035	4.31		26704.69	26704.69	19.6		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	4.35	6317.28	-31949	-17714	4452	4.31	4.31	-29358	10833	10571	115546	21685	21981	43666	No	9.81	Si
SLU 83	7.9	3318.86	-21755	-12062	4432	4.31	4.31	-19990	10833	8310	115546	21685	21981	43666	No	9.85	Si
SLU 82	4.35	6075.92	-31576	-17508	4203	4.31	4.31	-29015	10833	10488	115546	21685	21981	43666	No	10.39	Si
SLU 82	7.9	3157.01	-21336	-11830	4290	4.31	4.31	-19605	10833	8217	115546	21685	21981	43666	No	10.18	Si
SLU 81	4.35	6172.28	-31507	-17469	4511	4.31	4.31	-28952	10833	10473	115546	21685	21981	43666	No	9.68	Si
SLU 81	7.9	3134.41	-21307	-11814	4492	4.31	4.31	-19579	10833	8211	115546	21685	21981	43666	No	9.72	Si
SLU 77	4.35	6343.38	-31510	-17471	4361	4.31	4.31	-28954	10833	10474	115546	21685	21981	43666	No	10.01	Si
SLU 77	7.9	3444.47	-21759	-12064	4342	4.31	4.31	-19994	10833	8311	115546	21685	21981	43666	No	10.06	Si
SLU 64	4.35	5635.54	-27584	-15294	4274	4.31	4.31	-25347	10833	9603	115546	21685	21981	43666	No	10.22	Si
SLU 64	7.9	2866.36	-18821	-10435	4258	4.31	4.31	-17294	10639	7660	115546	21685	21981	43666	No	10.26	Si
SLU 74	4.35	6198.38	-31068	-17226	4421	4.31	4.31	-28548	10833	10376	115546	21685	21981	43666	No	9.88	Si
SLU 74	7.9	3260.02	-21312	-11816	4402	4.31	4.31	-19583	10833	8212	115546	21685	21981	43666	No	9.92	Si
SLU 79	4.35	6301.25	-31214	-17307	4321	4.31	4.31	-28682	10833	10408	115546	21685	21981	43666	No	10.11	Si
SLU 79	7.9	3422.89	-21456	-11897	4302	4.31	4.31	-19716	10833	8244	115546	21685	21981	43666	No	10.15	Si
SLU 62	4.35	5688.32	-28373	-15731	4318	4.31	4.31	-26071	10833	9778	115546	21685	21981	43666	No	10.11	Si
SLU 62	7.9	2894.42	-19245	-10670	4301	4.31	4.31	-17684	10691	7754	115546	21685	21981	43666	No	10.15	Si
SLU 53	4.35	5569.43	-27492	-15243	4288	4.31	4.31	-25262	10833	9583	115546	21685	21981	43666	No	10.18	Si
SLU 53	7.9	2835.58	-18802	-10425	4271	4.31	4.31	-17277	10637	7655	115546	21685	21981	43666	No	10.22	Si
SLU 60	4.35	5543.33	-27931	-15486	4378	4.31	4.31	-25665	10833	9680	115546	21685	21981	43666	No	9.97	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	7.9	2709.97	-18798	-10422	4361	4.31	4.31	-17273	10636	7654	115546	21685	21981	43666	No	10.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	4.35	8244.34	-16570	-9188	14248	4.31	4.31	-15226	15545	9380	115546	32527	21981	54508		3.83	Si
SLD 11	7.9	1338.26	-12396	-6873	13481	4.31	4.31	-11390	14778	8917	115546	32527	21981	54508		4.04	Si
SLV 11	4.35	11042.78	-13229	-7335	21938	4.31	3.9608	-12156	14931	8279	115546	32527	21981	54508		2.48	Si
SLV 11	7.9	777.97	-10899	-6043	20646	4.31	4.31	-10014	14503	8751	115546	32527	21981	54508		2.64	Si
SLV 7	4.35	11458.81	-11753	-6516	20984	4.31	3.54	-10799	14660	7835	115546	32527	21981	54508		2.6	Si
SLV 7	7.9	1360.95	-9475	-5254	19789	4.31	4.31	-8707	14241	8593	115546	32527	21981	54508		2.75	Si
SLV 12	4.35	10931.77	-13413	-7437	21750	4.31	4.02	-12325	14965	8422	115546	32527	21981	54508		2.51	Si
SLV 12	7.9	818.26	-10903	-6045	20459	4.31	4.31	-10019	14504	8752	115546	32527	21981	54508		2.66	Si
SLV 5	4.35	-2323.47	-29021	-16091	-15138	4.31	4.31	-26667	16250	11665	115546	32527	21981	54508		3.6	Si
SLV 5	7.9	3512.18	-17944	-9949	-13872	4.31	4.31	-16488	15798	9532	115546	32527	21981	54508		3.93	Si
SLV 8	4.35	11347.8	-11937	-6619	20795	4.31	3.6131	-10969	14694	7876	115546	32527	21981	54508		2.62	Si
SLV 8	7.9	1401.23	-9480	-5256	19602	4.31	4.31	-8711	14242	8594	115546	32527	21981	54508		2.78	Si
SLV 6	4.35	-2434.48	-29206	-16193	-15326	4.31	4.31	-26837	16250	11706	115546	32527	21981	54508		3.56	Si
SLV 6	7.9	3552.47	-17948	-9952	-14060	4.31	4.31	-16492	15798	9533	115546	32527	21981	54508		3.88	Si
SLV 10	4.35	-2850.51	-30682	-17012	-14372	4.31	4.31	-28193	16250	12033	115546	32527	21981	54508		3.79	Si
SLV 10	7.9	2969.49	-19371	-10741	-13202	4.31	4.31	-17800	16060	9691	115546	32527	21981	54508		4.13	Si
SLD 12	4.35	8176.97	-16682	-9250	14134	4.31	4.31	-15329	15566	9392	115546	32527	21981	54508		3.86	Si
SLD 12	7.9	1362.7	-12399	-6875	13368	4.31	4.31	-11393	14779	8917	115546	32527	21981	54508		4.08	Si
SLV 9	4.35	-2739.5	-30497	-16909	-14183	4.31	4.31	-28024	16250	11992	115546	32527	21981	54508		3.84	Si
SLV 9	7.9	2929.21	-19367	-10738	-13015	4.31	4.31	-17796	16059	9690	115546	32527	21981	54508		4.19	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-11377	0.38	242.16	714.47	1262.24	988.35	4.08	Si
SLV 8	-11447	0.38	242.16	718.35	1268.14	993.24	4.1	Si
SLV 3	-12936	0.38	242.16	799.6	1393.84	1096.72	4.53	Si
SLV 4	-13040	0.38	242.16	805.15	1402.43	1103.79	4.56	Si
SLV 11	-13841	0.38	242.16	847.64	1468.3	1157.97	4.78	Si
SLV 12	-13911	0.38	242.16	851.3	1474.03	1162.67	4.8	Si
SLV 1	-16751	0.38	242.16	994.96	1707.74	1351.35	5.58	Si
SLV 2	-16855	0.38	242.16	1000.02	1716.22	1358.12	5.61	Si
SLV 15	-21150	0.38	242.16	1197.38	2065.47	1631.43	6.74	Si
SLV 16	-21254	0.38	242.16	1201.86	2073.78	1637.82	6.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-18069	-26405	325	1.216	2141.6	0.958	18.44238	9.26435	Si
SLV 13	-18062	-26131	325	1.216	2141	0.958	18.44874	9.26435	Si
SLV 16	-15528	-21224	282	1.393	1883.4	0.953	21.23337	9.26435	Si
SLV 15	-15522	-20950	282	1.393	1882.8	0.953	21.2418	9.26435	Si
SLV 2	-13325	-21484	-283	1.591	1659.7	0.948	24.39656	9.26435	Si
SLV 1	-13318	-21210	-283	1.592	1659.1	0.948	24.40754	9.26435	Si
SLV 10	-19371	-30682	163	1.15	2274.1	0.96	17.40823	6.57091	Si
SLV 9	-19367	-30497	163	1.151	2273.6	0.96	17.41202	6.57091	Si
SLV 6	-17948	-29206	-19	1.239	2129.4	0.958	18.79037	6.57091	Si
SLV 5	-17944	-29021	-19	1.239	2128.9	0.958	18.79469	6.57091	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.84	SLU 71	Si
V_SLU	9.679	SLU 81	Si
PF_SLV	2.223	SLV 7	Si
V_SLV	2.485	SLV 11	Si
PFFP_SLV	4.081	SLV 7	Si
R_SLV	1.991	SLV 14	Si

Maschio 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L5	L6	1.141	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 68	5.25	357.66	-11540	-0.000068	0.0003743	0.0035	1.1406	4245.33	4996.32	4996.32	13.97	No	Si
SLU 68	7.05	-1271.51	-9722	-0.0000833	0.0003743	0.0035	1.1406	3886.5	4704.36	4704.36	3.7	No	Si
SLU 73	5.25	325.16	-12539	-0.0000728	0.0003743	0.0035	1.1406	4393.25	5223.2	5223.2	16.06	No	Si
SLU 73	7.05	-1350.05	-10585	-0.0000907	0.0003743	0.0035	1.1406	4071.44	4933.79	4933.79	3.65	No	Si
SLU 65	5.25	368.84	-11387	-0.0000675	0.0003743	0.0035	1.1406	4219.62	4950.39	4950.39	13.42	No	Si
SLU 65	7.05	-1264.09	-9607	-0.0000825	0.0003743	0.0035	1.1406	3859.97	4668.39	4668.39	3.69	No	Si
SLU 76	5.25	313.98	-12692	-0.0000734	0.0003743	0.0035	1.1406	4412.77	5258.61	5258.61	16.75	No	Si
SLU 76	7.05	-1357.46	-10700	-0.0000917	0.0003743	0.0035	1.1406	4094.04	4962.44	4962.44	3.66	No	Si
SLU 75	5.25	309.43	-12797	-0.0000739	0.0003743	0.0035	1.1406	4425.68	5282.99	5282.99	17.07	No	Si
SLU 75	7.05	-1364.89	-10797	-0.0000925	0.0003743	0.0035	1.1406	4112.76	4986.8	4986.8	3.65	No	Si
SLU 84	5.25	277.57	-13160	-0.0000751	0.0003743	0.0035	1.1406	4467.43	5368.16	5368.16	19.34	No	Si
SLU 84	7.05	-1377.74	-11072	-0.0000945	0.0003743	0.0035	1.1406	4164.06	5056.71	5056.71	3.67	No	Si
SLU 78	5.25	298.24	-12950	-0.0000745	0.0003743	0.0035	1.1406	4443.82	5318.73	5318.73	17.83	No	Si
SLU 78	7.05	-1372.3	-10912	-0.0000934	0.0003743	0.0035	1.1406	4134.5	5015.84	5015.84	3.66	No	Si
SLU 82	5.25	288.76	-13007	-0.0000745	0.0003743	0.0035	1.1406	4450.41	5332.16	5332.16	18.47	No	Si
SLU 82	7.05	-1370.32	-10957	-0.0000936	0.0003743	0.0035	1.1406	4142.96	5027.37	5027.37	3.67	No	Si
SLU 80	5.25	285.1	-12819	-0.0000733	0.0003743	0.0035	1.1406	4428.32	5288.07	5288.07	18.55	No	Si
SLU 80	7.05	-1348.32	-10767	-0.0000918	0.0003743	0.0035	1.1406	4107.02	4979.27	4979.27	3.69	No	Si
SLU 67	5.25	353.11	-11644	-0.0000685	0.0003743	0.0035	1.1406	4262.47	5019.71	5019.71	14.22	No	Si
SLU 67	7.05	-1278.93	-9819	-0.0000841	0.0003743	0.0035	1.1406	3908.55	4733.76	4733.76	3.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	5.25	-1846.63	-4287	-0.0001157	0.0005615	0.0035	0.9125		2612.04	2612.04	1.41		Si
SLV 7	7.05	1107.29	-838	-0.0133442	0.0005615	0.0035	0.9125		542.3	542.3	0.49		No
SLV 12	5.25	-3260.77	-6284	-0.0005345	0.0005615	0.0035	0.9125		3566.08	3566.08	1.09		Si
SLV 12	7.05	1918.43	-606	-0.0335458	0.0005615	0.0035	0.9125		414.03	414.03	0.22		No
SLV 15	5.25	-3971.04	-11739	-0.0002073	0.0005615	0.0035	0.9125		5842.15	5842.15	1.47		Si
SLV 15	7.05	1826.23	-4183	-0.0001193	0.0005615	0.0035	1.1406		2298.52	2298.52	1.26		Si
SLD 2	5.25	2848.77	-6794	-0.0001804	0.0005615	0.0035	1.1406		3459.28	3459.28	1.21		Si
SLD 2	7.05	-2643.38	-9162	-0.0001245	0.0005615	0.0035	1.1406		4827.7	4827.7	1.83		Si
SLV 11	5.25	-3675.13	-6572	-0.0013778	0.0005615	0.0035	0.9125		3698.86	3698.86	1.01		Si
SLV 11	7.05	2195.25	-296	-0.0436421	0.0005615	0.0035	0.9125		240.81	240.81	0.11		No
SLV 3	5.25	2123.97	-4124	-0.0003413	0.0005615	0.0035	1.1406		2269.05	2269.05	1.07		Si
SLV 3	7.05	-1800.31	-5990	-0.0000822	0.0005615	0.0035	1.1406		3429.78	3429.78	1.91		Si
SLV 4	5.25	2739.52	-3696	-0.0165099	0.0005615	0.0035	0.9125		2054.7	2054.7	0.75		No
SLV 4	7.05	-2211.54	-6450	-0.000107	0.0005615	0.0035	0.9125		3643	3643	1.65		Si
SLV 8	5.25	-1432.27	-4000	-0.000069	0.0005615	0.0035	0.9125		2468.11	2468.11	1.72		Si
SLV 8	7.05	830.47	-1148	-0.0034771	0.0005615	0.0035	0.9125		713.35	713.35	0.86		No
SLV 1	5.25	3785.06	-6208	-0.0121801	0.0005615	0.0035	0.9125		3210.97	3210.97	0.85		No
SLV 1	7.05	-3262.18	-9928	-0.000162	0.0005615	0.0035	0.9125		5138.64	5138.64	1.58		Si
SLV 2	5.25	4400.61	-5781	-0.0282804	0.0005615	0.0035	0.9125		3031.61	3031.61	0.69		No
SLV 2	7.05	-3673.4	-10388	-0.0001942	0.0005615	0.0035	0.9125		5323.8	5323.8	1.45		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	5.25	341.92	-11797	-9824	786	1.1406	1.1406	-30760	10833	3644	40441	9563	2908	12472	No	15.86	Si
SLU 70	7.05	-1286.35	-9933	-8272	1178	1.1406	1.1406	-25900	10398	3321	40441	9563	2908	12472	No	10.59	Si
SLU 76	5.25	313.98	-12692	-10569	778	1.1406	1.1406	-33094	10833	3843	40441	9563	2908	12472	No	16.04	Si
SLU 76	7.05	-1357.46	-10700	-8910	1156	1.1406	1.1406	-27900	10664	3406	40441	9563	2908	12472	No	10.79	Si
SLU 78	5.25	298.24	-12950	-10784	755	1.1406	1.1406	-33766	10833	3900	40441	9563	2908	12472	No	16.52	Si
SLU 78	7.05	-1372.3	-10912	-9086	1165	1.1406	1.1406	-28452	10738	3448	40441	9563	2908	12472	No	10.71	Si
SLU 75	5.25	309.43	-12797	-10656	776	1.1406	1.1406	-33367	10833	3866	40441	9563	2908	12472	No	16.07	Si
SLU 75	7.05	-1364.89	-10797	-8991	1160	1.1406	1.1406	-28152	10698	3422	40441	9563	2908	12472	No	10.76	Si
SLU 73	5.25	325.16	-12539	-10442	798	1.1406	1.1406	-32696	10833	3809	40441	9563	2908	12472	No	15.62	Si
SLU 73	7.05	-1350.05	-10585	-8815	1150	1.1406	1.1406	-27601	10625	3393	40441	9563	2908	12472	No	10.84	Si
SLU 67	5.25	353.11	-11644	-9696	807	1.1406	1.1406	-30362	10833	3611	40441	9563	2908	12472	No	15.45	Si
SLU 67	7.05	-1278.93	-9819	-8176	1172	1.1406	1.1406	-25601	10358	3308	40441	9563	2908	12472	No	10.64	Si
SLU 72	5.25	328.78	-11666	-9715	758	1.1406	1.1406	-30419	10833	3615	40441	9563	2908	12472	No	16.44	Si
SLU 72	7.05	-1262.36	-9789	-8151	1151	1.1406	1.1406	-25523	10348	3305	40441	9563	2908	12472	No	10.83	Si
SLU 65	5.25	368.84	-11387	-9482	830	1.1406	1.1406	-29690	10833	3553	40441	9563	2908	12472	No	15.03	Si
SLU 65	7.05	-1264.09	-9607	-8000	1163	1.1406	1.1406	-25049	10284	3284	40441	9563	2908	12472	No	10.72	Si
SLU 69	5.25	315.39	-11758	-9791	742	1.1406	1.1406	-30658	10833	3636	40441	9563	2908	12472	No	16.8	Si
SLU 69	7.05	-1261.5	-9862	-8212	1144	1.1406	1.1406	-25714	10373	3313	40441	9563	2908	12472	No	10.9	Si
SLU 68	5.25	357.66	-11540	-9609	809	1.1406	1.1406	-30089	10833	3587	40441	9563	2908	12472	No	15.42	Si
SLU 68	7.05	-1271.51	-9722	-8095	1169	1.1406	1.1406	-25349	10324	3297	40441	9563	2908	12472	No	10.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	5.25	4104.7	-10948	-9116	6766	1.1406	0.5861	-28546	16126	3968	40441	14345	2908	17253		2.55	Si
SLV 6	7.05	-4042.42	-14275	-11887	5201	1.1406	0.8613	-50795	16250	4707	40441	14345	2908	17253		3.32	Si
SLD 2	5.25	2848.77	-6794	-5658	4882	1.1406	0.453	-17716	13960	3046	40441	14345	2908	17253		3.53	Si
SLD 2	7.05	-2643.38	-9162	-7629	3253	1.1406	0.8453	-32803	16250	3846	40441	14345	2908	17253		5.3	Si
SLV 11	5.25	-3675.13	-6572	-5473	-5721	0.9125	0.0332	0	0	0	40441	11476	2327	13803		2.41	Si
SLV 11	7.05	2195.25	-296	-247	-3578	0.9125	0	0	0	0	40441	11476	2327	13803		3.86	Si
SLV 1	5.25	3785.06	-6208	-5170	6435	0.9125	0	0	0	0	40441	11476	2327	13803		2.14	Si
SLV 1	7.05	-3262.18	-9928	-8267	4122	0.9125	0.7251	0	0	0	40441	11476	2327	13803		3.35	Si
SLV 4	5.25	2739.52	-3696	-3078	4822	0.9125	0	0	0	0	40441	11476	2327	13803		2.86	Si
SLV 4	7.05	-2211.54	-6450	-5371	2667	0.9125	0.6823	0	0	0	40441	11476	2327	13803		5.18	Si
SLV 15	5.25	-3971.04	-11739	-9775	-6400	0.9125	0.6961	0	0	0	40441	11476	2327	13803		2.16	Si
SLV 15	7.05	1826.23	-4183	-3483	-3092	1.1406	0.401	-10906	12598	2466	40441	14345	2908	17253		5.58	Si
SLV 2	5.25	4400.61	-5781	-4814	7445	0.9125	0	0	0	0	40441	11476	2327	13803		1.85	Si
SLV 2	7.05	-3673.4	-10388	-8650	4715	0.9125	0.65	0	0	0	40441	11476	2327	13803		2.93	Si
SLV 12	5.25	-3260.77	-6284	-5233	-5041	0.9125	0.1542	0	0	0	40441	11476	2327	13803		2.74	Si
SLV 12	7.05	1918.43	-606	-505	-3178	0.9125	0	0	0	0	40441	11476	2327	13803		4.34	Si
SLV 16	5.25	-3355.49	-11312	-9420	-5390	1.1406	0.821	-41954	16250	4049	40441	14345	2908	17253		3.2	Si
SLV 16	7.05	1415	-4643	-3867	-2499	1.1406	0.7966	-12107	12838	2864	40441	14345	2908	17253		6.9	Si
SLV 5	5.25	3690.34	-11236	-9356	6086	1.1406	0.7255	-29296	16250	4032	40441	14345	2908	17253		2.83	Si
SLV 5	7.05	-3765.6	-13965	-11629	4801	1.1406	0.9019	-47301	16250	4638	40441	14345	2908	17253		3.59	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.38	10071	-3216	117.77	420.6	3.57	Si
SLV 8	179667	0.38	11005	-3515	117.77	456.58	3.88	Si
SLV 3	179667	0.38	11410	-3644	117.77	472.03	4.01	Si
SLV 7	179667	0.38	11906	-3802	117.77	490.82	4.17	Si
SLV 2	179667	0.38	16609	-5304	117.77	661.85	5.62	Si
SLV 1	179667	0.38	17948	-5732	117.77	708.15	6.01	Si
SLV 12	179667	0.38	18156	-5798	117.77	715.24	6.07	Si
SLV 11	179667	0.38	19056	-6086	117.77	745.71	6.33	Si
SLV 6	179667	0.38	32798	-10475	117.77	1151.5	9.78	Si
SLV 5	179667	0.38	33699	-10762	117.77	1174.24	9.97	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-10275	-16795	-274	0.586	1205.9	0.961	8.86534	4.54183	Si
SLV 5	-10042	-16408	-276	0.597	1182.2	0.96	9.04429	4.54183	Si
SLV 10	-9703	-15979	-292	0.613	1147.7	0.959	9.29845	4.54183	Si
SLV 9	-9469	-15593	-294	0.626	1123.9	0.958	9.49742	4.54183	Si
SLV 2	-8118	-12558	-48	0.74	986.6	0.953	11.2825	5.32179	Si
SLV 1	-7771	-11985	-51	0.767	951.4	0.951	11.71844	5.32179	Si
SLV 14	-6209	-9839	-110	0.916	792.9	0.943	14.12007	5.32179	Si
SLV 13	-5862	-9265	-112	0.96	757.7	0.941	14.83059	5.32179	Si
SLV 4	-5647	-8031	126	0.987	736	0.939	15.28118	5.32179	Si
SLV 3	-5300	-7457	124	1.04	700.9	0.937	16.13585	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.654	SLU 75	Si
V_SLU	10.588	SLU 70	Si
PF_SLV	0.11	SLV 11	No
V_SLV	1.854	SLV 2	Si
PFFP_SLV	3.571	SLV 4	Si
R_SLV	1.952	SLV 6	Si

Maschio 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L5	L6	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 63	4.35	-5798.72	-35978	-0.0000863	0.0004492	0.0035	4.67	46173.96	80012.88	80012.88	13.8	No	Si
SLU 63	7.9	-3397.91	-22879	-0.0000524	0.0004492	0.0035	4.67	38122.28	58636.29	58636.29	17.26	No	Si
SLU 75	4.35	-6250.6	-39527	-0.0000953	0.0004492	0.0035	4.67	46628.51	85233.5	85233.5	13.64	No	Si
SLU 75	7.9	-3824.11	-25329	-0.0000585	0.0004492	0.0035	4.67	40391	62900.02	62900.02	16.45	No	Si
SLU 73	4.35	-6245.43	-38189	-0.0000923	0.0004492	0.0035	4.67	46543.67	83292.23	83292.23	13.34	No	Si
SLU 73	7.9	-3870.68	-23989	-0.0000559	0.0004492	0.0035	4.67	39193.63	60625.16	60625.16	15.66	No	Si
SLU 82	4.35	-6445.42	-39632	-0.0000961	0.0004492	0.0035	4.67	46630.73	85377.34	85377.34	13.25	No	Si
SLU 82	7.9	-4124.56	-24788	-0.0000582	0.0004492	0.0035	4.67	39920.14	61981.43	61981.43	15.03	No	Si
SLU 84	4.35	-6455.12	-40543	-0.0000981	0.0004492	0.0035	4.67	46623.03	86631.06	86631.06	13.42	No	Si
SLU 84	7.9	-3970.97	-25836	-0.0000599	0.0004492	0.0035	4.67	40816.97	63761.39	63761.39	16.06	No	Si
SLU 52	4.35	-5589.02	-33624	-0.0000806	0.0004492	0.0035	4.67	45466.32	76478.09	76478.09	13.68	No	Si
SLU 52	7.9	-3297.62	-21031	-0.0000484	0.0004492	0.0035	4.67	36179.51	55301.62	55301.62	16.77	No	Si
SLU 83	4.35	-6352.48	-40706	-0.0000982	0.0004492	0.0035	4.67	46616.55	86854.57	86854.57	13.67	No	Si
SLU 83	7.9	-3961.2	-25931	-0.0000601	0.0004492	0.0035	4.67	40894.47	63921.45	63921.45	16.14	No	Si
SLU 76	4.35	-6255.13	-39101	-0.0000944	0.0004492	0.0035	4.67	46612.84	84643.86	84643.86	13.53	No	Si
SLU 76	7.9	-3717.09	-25037	-0.0000576	0.0004492	0.0035	4.67	40139.44	62405.12	62405.12	16.79	No	Si
SLU 61	4.35	-5789.02	-35066	-0.0000842	0.0004492	0.0035	4.67	45938.35	78661.25	78661.25	13.59	No	Si
SLU 61	7.9	-3551.5	-21830	-0.0000507	0.0004492	0.0035	4.67	37044.15	56743.71	56743.71	15.98	No	Si
SLU 81	4.35	-6342.78	-39794	-0.0000961	0.0004492	0.0035	4.67	46632.92	85600.86	85600.86	13.5	No	Si
SLU 81	7.9	-4114.79	-24882	-0.0000583	0.0004492	0.0035	4.67	40003.41	62141.49	62141.49	15.1	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	4.35	-10264.5	-20656	-0.0000644	0.0006738	0.0035	4.67		55658.38	55658.38	5.42		Si
SLD 9	7.9	-4432.25	-12738	-0.0000345	0.0006738	0.0035	4.67		39961.02	39961.02	9.02		Si
SLV 6	4.35	-12938.44	-12952	-0.000057	0.0006738	0.0035	4.67		40402.44	40402.44	3.12		Si
SLV 6	7.9	-4652.67	-7748	-0.0000255	0.0006738	0.0035	4.67		29575.9	29575.9	6.36		Si
SLV 5	4.35	-12660.79	-13468	-0.0000568	0.0006738	0.0035	4.67		41470.01	41470.01	3.28		Si
SLV 5	7.9	-4689.94	-7864	-0.0000258	0.0006738	0.0035	4.67		29823.23	29823.23	6.36		Si
SLV 14	4.35	-10281.09	-27102	-0.0000774	0.0006738	0.0035	4.67		67582.46	67582.46	6.57		Si
SLV 14	7.9	-5020.16	-17331	-0.0000448	0.0006738	0.0035	4.67		49170.99	49170.99	9.79		Si
SLD 10	4.35	-10432.99	-20342	-0.0000642	0.0006738	0.0035	4.67		55071.91	55071.91	5.28		Si
SLD 10	7.9	-4409.63	-12668	-0.0000343	0.0006738	0.0035	4.67		39815.46	39815.46	9.03		Si
SLD 6	4.35	-9282.33	-18728	-0.0000581	0.0006738	0.0035	4.67		51922.11	51922.11	5.59		Si
SLD 6	7.9	-3747.55	-11574	-0.0000306	0.0006738	0.0035	4.67		37554.47	37554.47	10.02		Si
SLD 5	4.35	-9113.84	-19042	-0.0000583	0.0006738	0.0035	4.67		52539.27	52539.27	5.76		Si
SLD 5	7.9	-3770.17	-11645	-0.0000308	0.0006738	0.0035	4.67		37700.03	37700.03	10		Si
SLV 10	4.35	-14742.36	-15467	-0.0000662	0.0006738	0.0035	4.67		45499.26	45499.26	3.09		Si
SLV 10	7.9	-5679.17	-9460	-0.0000313	0.0006738	0.0035	4.67		33182.82	33182.82	5.84		Si
SLV 13	4.35	-9868.64	-27869	-0.0000779	0.0006738	0.0035	4.67		68942.95	68942.95	6.99		Si
SLV 13	7.9	-5075.53	-17504	-0.0000453	0.0006738	0.0035	4.67		49510.44	49510.44	9.75		Si
SLV 9	4.35	-14464.72	-15983	-0.0000661	0.0006738	0.0035	4.67		46516.25	46516.25	3.22		Si
SLV 9	7.9	-5716.44	-9576	-0.0000316	0.0006738	0.0035	4.67		33422.69	33422.69	5.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	4.35	-6196.4	-40121	-22245	-4329	4.67	4.67	-34025	10833	12675	115546	23496	23817	47313	No	10.93	Si
SLU 80	7.9	-3556.99	-26149	-14498	-2077	4.67	4.67	-22176	10833	9576	115546	23496	23817	47313	No	22.77	Si
SLU 70	4.35	-5633.99	-37326	-20696	-4399	4.67	4.67	-31654	10833	12055	115546	23496	23817	47313	No	10.76	Si
SLU 70	7.9	-3062.94	-24660	-13673	-2125	4.67	4.67	-20913	10833	9246	115546	23496	23817	47313	No	22.26	Si
SLU 68	4.35	-5628.82	-35988	-19954	-4404	4.67	4.67	-30520	10833	11758	115546	23496	23817	47313	No	10.74	Si
SLU 68	7.9	-3109.5	-23320	-12930	-2321	4.67	4.67	-19776	10833	8949	115546	23496	23817	47313	No	20.39	Si
SLU 49	4.35	-4977.59	-32760	-18164	-4391	4.67	4.67	-27782	10833	11042	115546	23496	23817	47313	No	10.77	Si
SLU 49	7.9	-2489.88	-21702	-12033	-2281	4.67	4.67	-18405	10787	8590	115546	23496	23817	47313	No	20.75	Si
SLU 78	4.35	-6260.3	-40439	-22422	-4317	4.67	4.67	-34294	10833	12745	115546	23496	23817	47313	No	10.96	Si
SLU 78	7.9	-3670.52	-26377	-14625	-2072	4.67	4.67	-22369	10833	9627	115546	23496	23817	47313	No	22.84	Si
SLU 59	4.35	-5540	-35555	-19714	-4322	4.67	4.67	-30153	10833	11662	115546	23496	23817	47313	No	10.95	Si
SLU 59	7.9	-2983.93	-23191	-12858	-2233	4.67	4.67	-19667	10833	8920	115546	23496	23817	47313	No	21.19	Si
SLU 76	4.35	-6255.13	-39101	-21680	-4323	4.67	4.67	-33160	10833	12448	115546	23496	23817	47313	No	10.94	Si
SLU 76	7.9	-3717.09	-25037	-13882	-2267	4.67	4.67	-21233	10833	9329	115546	23496	23817	47313	No	20.87	Si
SLU 51	4.35	-4913.69	-32443	-17988	-4404	4.67	4.67	-27513	10833	10972	115546	23496	23817	47313	No	10.74	Si
SLU 51	7.9	-2376.34	-21474	-11906	-2286	4.67	4.67	-18211	10761	8539	115546	23496	23817	47313	No	20.69	Si
SLU 72	4.35	-5570.09	-37008	-20519	-4411	4.67	4.67	-31385	10833	11984	115546	23496	23817	47313	No	10.73	Si
SLU 72	7.9	-2949.4	-24431	-13546	-2131	4.67	4.67	-20719	10833	9195	115546	23496	23817	47313	No	22.21	Si
SLU 47	4.35	-4972.41	-31423	-17422	-4397	4.67	4.67	-26648	10833	10746	115546	23496	23817	47313	No	10.76	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	7.9	-2536.44	-20362	-11290	-2476	4.67	4.67	-17268	10636	8293	115546	23496	23817	47313	No	19.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	4.35	4209.81	-40684	-22558	13214	4.67	4.67	-34502	16250	14688	115546	35244	23817	59061		4.47	Si
SLV 12	7.9	-400.46	-26323	-14595	16855	4.67	4.67	-22323	16250	11503	115546	35244	23817	59061		3.5	Si
SLD 5	4.35	-9113.84	-19042	-10558	-12556	4.67	4.67	-16148	15730	10284	115546	35244	23817	59061		4.7	Si
SLD 5	7.9	-3770.17	-11645	-6457	-12289	4.67	4.67	-9875	14475	9464	115546	35244	23817	59061		4.81	Si
SLV 10	4.35	-14742.36	-15467	-8576	-17480	4.67	4.1456	-14880	15476	9095	115546	35244	23817	59061		3.38	Si
SLV 10	7.9	-5679.17	-9460	-5245	-19795	4.67	4.67	-8022	14104	9222	115546	35244	23817	59061		2.98	Si
SLV 8	4.35	6013.74	-38169	-21163	11641	4.67	4.67	-32369	16250	14130	115546	35244	23817	59061		5.07	Si
SLV 8	7.9	626.05	-24611	-13646	16504	4.67	4.67	-20871	16250	11123	115546	35244	23817	59061		3.58	Si
SLV 5	4.35	-12660.79	-13468	-7468	-19224	4.67	4.1849	-12807	15061	8824	115546	35244	23817	59061		3.07	Si
SLV 5	7.9	-4689.94	-7864	-4360	-19903	4.67	4.67	-6669	13834	9045	115546	35244	23817	59061		2.97	Si
SLV 9	4.35	-14464.72	-15983	-8862	-17651	4.67	4.2901	-14849	15470	9291	115546	35244	23817	59061		3.35	Si
SLV 9	7.9	-5716.44	-9576	-5309	-19553	4.67	4.67	-8121	14124	9234	115546	35244	23817	59061		3.02	Si
SLV 11	4.35	4487.46	-41201	-22844	13043	4.67	4.67	-34940	16250	14802	115546	35244	23817	59061		4.53	Si
SLV 11	7.9	-437.73	-26439	-14659	17096	4.67	4.67	-22422	16250	11529	115546	35244	23817	59061		3.45	Si
SLD 6	4.35	-9282.33	-18728	-10384	-12452	4.67	4.67	-15883	15677	10249	115546	35244	23817	59061		4.74	Si
SLD 6	7.9	-3747.55	-11574	-6417	-12436	4.67	4.67	-9816	14463	9456	115546	35244	23817	59061		4.75	Si
SLV 7	4.35	6291.38	-38686	-21449	11470	4.67	4.67	-32807	16250	14245	115546	35244	23817	59061		5.15	Si
SLV 7	7.9	588.77	-24727	-13710	16746	4.67	4.67	-20970	16250	11149	115546	35244	23817	59061		3.53	Si
SLV 6	4.35	-12938.44	-12952	-7181	-19053	4.67	4.0081	-12874	15075	8538	115546	35244	23817	59061		3.1	Si
SLV 6	7.9	-4652.67	-7748	-4296	-20145	4.67	4.67	-6570	13814	9032	115546	35244	23817	59061		2.93	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-11594	0.38	262.39	733.08	1296.86	1014.97	3.87	Si
SLV 5	-11987	0.38	262.39	755.15	1329.99	1042.57	3.97	Si
SLV 10	-12857	0.38	262.39	803.44	1403.49	1103.46	4.21	Si
SLV 9	-13250	0.38	262.39	824.93	1436.65	1130.79	4.31	Si
SLV 2	-17462	0.38	262.39	1044.22	1784.21	1414.22	5.39	Si
SLV 1	-18045	0.38	262.39	1072.94	1832.25	1452.6	5.54	Si
SLV 14	-21671	0.38	262.39	1242.65	2129.19	1685.92	6.43	Si
SLV 13	-22255	0.38	262.39	1268.5	2175.89	1722.19	6.56	Si
SLV 4	-23836	0.38	262.39	1336.62	2302.62	1819.62	6.93	Si
SLV 3	-24419	0.38	262.39	1361	2349.39	1855.2	7.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-22563	-35434	424	1.068	2624.1	0.963	16.12761	9.26435	Si
SLV 16	-22390	-34667	424	1.076	2606.5	0.962	16.24295	9.26435	Si
SLV 11	-26439	-41201	106	0.937	3018.6	0.967	14.07906	6.57091	Si
SLV 12	-26323	-40684	106	0.941	3006.7	0.967	14.1371	6.57091	Si
SLV 13	-17504	-27869	438	1.338	2109.7	0.955	20.37629	9.26435	Si
SLV 14	-17331	-27102	438	1.35	2092.2	0.954	20.56178	9.26435	Si
SLV 3	-16855	-27051	-439	1.383	2043.8	0.953	21.0918	9.26435	Si
SLV 7	-24727	-38686	-153	0.994	2844.3	0.965	14.96136	6.57091	Si
SLV 8	-24611	-38169	-153	0.998	2832.5	0.965	15.02714	6.57091	Si
SLV 4	-16683	-26284	-439	1.396	2026.3	0.953	21.29067	9.26435	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.246	SLU 82	Si
V_SLU	10.727	SLU 72	Si
PF_SLV	3.086	SLV 10	Si
V_SLV	2.932	SLV 6	Si
PFFP_SLV	3.868	SLV 6	Si
R_SLV	1.741	SLV 15	Si

Maschio 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L5	L6	0.565	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	6.35	-30.05	-6006	-0.0000647	0.0003743	0.0035	0.565	1064.04	1301.07	1301.07	43.3	No	Si
SLU 72	7.15	-438.25	-5789	-0.0001104	0.0003743	0.0035	0.565	1047.6	1268.66	1268.66	2.89	No	Si
SLU 73	6.35	-39.8	-6557	-0.0000722	0.0003743	0.0035	0.565	1098.27	1364.97	1364.97	34.3	No	Si
SLU 73	7.15	-466.06	-6349	-0.0001212	0.0003743	0.0035	0.565	1086.57	1344.57	1344.57	2.88	No	Si
SLU 69	6.35	-28.5	-6068	-0.0000652	0.0003743	0.0035	0.565	1068.37	1309.62	1309.62	45.95	No	Si
SLU 69	7.15	-442.78	-5867	-0.000112	0.0003743	0.0035	0.565	1053.68	1280.48	1280.48	2.89	No	Si
SLU 75	6.35	-44.72	-6709	-0.0000746	0.0003743	0.0035	0.565	1105.81	1380.11	1380.11	30.86	No	Si
SLU 75	7.15	-470.95	-6490	-0.0001238	0.0003743	0.0035	0.565	1094.66	1358.32	1358.32	2.88	No	Si
SLU 64	6.35	-16.47	-5818	-0.000061	0.0003743	0.0035	0.565	1049.89	1273.06	1273.06	77.3	No	Si
SLU 64	7.15	-436.32	-5660	-0.0001085	0.0003743	0.0035	0.565	1037.06	1249.29	1249.29	2.86	No	Si
SLU 68	6.35	-25.5	-5941	-0.0000634	0.0003743	0.0035	0.565	1059.27	1291.67	1291.67	50.65	No	Si
SLU 68	7.15	-441.47	-5733	-0.0001101	0.0003743	0.0035	0.565	1043.08	1260.19	1260.19	2.85	No	Si
SLU 70	6.35	-30.43	-6092	-0.0000657	0.0003743	0.0035	0.565	1070.08	1312.99	1312.99	43.15	No	Si
SLU 70	7.15	-446.36	-5874	-0.0001125	0.0003743	0.0035	0.565	1054.22	1281.57	1281.57	2.87	No	Si
SLU 66	6.35	-22.68	-5986	-0.0000636	0.0003743	0.0035	0.565	1062.56	1298.15	1298.15	57.25	No	Si
SLU 66	7.15	-443.6	-5806	-0.0001113	0.0003743	0.0035	0.565	1048.94	1271.21	1271.21	2.87	No	Si
SLU 65	6.35	-19.68	-5859	-0.0000618	0.0003743	0.0035	0.565	1053.09	1279.31	1279.31	65.02	No	Si
SLU 65	7.15	-442.29	-5672	-0.0001094	0.0003743	0.0035	0.565	1038.06	1251.07	1251.07	2.83	No	Si
SLU 67	6.35	-24.6	-6011	-0.0000641	0.0003743	0.0035	0.565	1064.34	1301.66	1301.66	52.91	No	Si
SLU 67	7.15	-447.18	-5813	-0.0001118	0.0003743	0.0035	0.565	1049.5	1272.3	1272.3	2.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	6.35	227.26	-5067	-0.0000738	0.0005615	0.0035	0.565		1217.72	1217.72	5.36		Si
SLV 5	7.15	-1011.4	-4458	-0.0003749	0.0005615	0.0035	0.452		1154.46	1154.46	1.14		Si
SLV 3	6.35	441.06	-1651	-0.0005543	0.0005615	0.0035	0.452		459.82	459.82	1.04		Si
SLV 3	7.15	-728.26	-2904	-0.0004006	0.0005615	0.0035	0.452		813.17	813.17	1.12		Si
SLD 4	6.35	357	-2426	-0.0000655	0.0005615	0.0035	0.565		651.78	651.78	1.83		Si
SLD 4	7.15	-695.07	-3362	-0.0001764	0.0005615	0.0035	0.452		917.86	917.86	1.32		Si
SLV 6	6.35	311.37	-4784	-0.0000798	0.0005615	0.0035	0.565		1156.4	1156.4	3.71		Si
SLV 6	7.15	-1118.78	-4379	-0.0017158	0.0005615	0.0035	0.452		1137.85	1137.85	1.02		Si
SLV 2	6.35	637.61	-1969	-0.0103182	0.0005615	0.0035	0.452		539.66	539.66	0.85		No
SLV 2	7.15	-1213.7	-3062	-0.0075655	0.0005615	0.0035	0.452		849.95	849.95	0.7		No
SLV 1	6.35	512.66	-2389	-0.000136	0.0005615	0.0035	0.565		642.76	642.76	1.25		Si
SLV 1	7.15	-1054.19	-3180	-0.0047791	0.0005615	0.0035	0.452		877.19	877.19	0.83		No
SLV 4	6.35	566.02	-1231	-0.0188626	0.0005615	0.0035	0.452		351.81	351.81	0.62		No
SLV 4	7.15	-887.77	-2786	-0.0030832	0.0005615	0.0035	0.452		785.54	785.54	0.88		No
SLD 6	6.35	184.99	-4620	-0.0000645	0.0005615	0.0035	0.565		1120.11	1120.11	6.05		Si
SLD 6	7.15	-803.09	-4353	-0.0001773	0.0005615	0.0035	0.452		1132.43	1132.43	1.41		Si
SLD 2	6.35	398.88	-2859	-0.0000735	0.0005615	0.0035	0.565		743.85	743.85	1.86		Si
SLD 2	7.15	-885.85	-3523	-0.0005879	0.0005615	0.0035	0.452		953.59	953.59	1.08		Si
SLD 1	6.35	319.6	-3125	-0.0000633	0.0005615	0.0035	0.565		799.27	799.27	2.5		Si
SLD 1	7.15	-784.65	-3598	-0.0002315	0.0005615	0.0035	0.452		970.18	970.18	1.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	6.35	-39.8	-6557	-5460	178	0.565	0.565	-34515	10833	1964	40441	4737	1441	6178	No	34.68	Si
SLU 73	7.15	-466.06	-6349	-5287	538	0.565	0.565	-33418	10833	1917	40441	4737	1441	6178	No	11.47	Si
SLU 83	6.35	-51.04	-6897	-5743	132	0.565	0.565	-36304	10833	2039	40441	4737	1441	6178	No	46.79	Si
SLU 83	7.15	-469.45	-6688	-5569	556	0.565	0.565	-35203	10833	1993	40441	4737	1441	6178	No	11.12	Si
SLU 81	6.35	-45.22	-6815	-5675	147	0.565	0.565	-35873	10833	2021	40441	4737	1441	6178	No	41.95	Si
SLU 81	7.15	-470.28	-6627	-5518	562	0.565	0.565	-34882	10833	1979	40441	4737	1441	6178	No	11	Si
SLU 78	6.35	-50.55	-6790	-5655	151	0.565	0.565	-35743	10833	2016	40441	4737	1441	6178	No	40.89	Si
SLU 78	7.15	-470.13	-6551	-5455	537	0.565	0.565	-34482	10833	1962	40441	4737	1441	6178	No	11.5	Si
SLU 84	6.35	-52.97	-6922	-5764	137	0.565	0.565	-36434	10833	2045	40441	4737	1441	6178	No	45.04	Si
SLU 84	7.15	-473.03	-6695	-5575	550	0.565	0.565	-35241	10833	1994	40441	4737	1441	6178	No	11.24	Si
SLU 75	6.35	-44.72	-6709	-5586	166	0.565	0.565	-35312	10833	1997	40441	4737	1441	6178	No	37.15	Si
SLU 75	7.15	-470.95	-6490	-5404	543	0.565	0.565	-34161	10833	1949	40441	4737	1441	6178	No	11.38	Si
SLU 77	6.35	-48.63	-6766	-5634	146	0.565	0.565	-35613	10833	2010	40441	4737	1441	6178	No	42.32	Si
SLU 77	7.15	-466.55	-6544	-5449	543	0.565	0.565	-34444	10833	1961	40441	4737	1441	6178	No	11.37	Si
SLU 82	6.35	-47.14	-6840	-5696	152	0.565	0.565	-36003	10833	2027	40441	4737	1441	6178	No	40.54	Si
SLU 82	7.15	-473.86	-6634	-5524	555	0.565	0.565	-34920	10833	1981	40441	4737	1441	6178	No	11.12	Si
SLU 74	6.35	-42.8	-6684	-5566	161	0.565	0.565	-35182	10833	1992	40441	4737	1441	6178	No	38.33	Si
SLU 74	7.15	-467.37	-6483	-5398	549	0.565	0.565	-34123	10833	1947	40441	4737	1441	6178	No	11.25	Si
SLU 79	6.35	-48.25	-6680	-5562	139	0.565	0.565	-35160	10833	1991	40441	4737	1441	6178	No	44.39	Si
SLU 79	7.15	-458.44	-6459	-5378	537	0.565	0.565	-33997	10833	1942	40441	4737	1441	6178	No	11.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	6.35	311.37	-4784	-3984	2292	0.565	0.565	-25183	15453	2445	40441	7106	1441	8547		3.73	Si
SLV 6	7.15	-1118.78	-4379	-3646	595	0.452	0.081	0	0	0	40441	5685	1153	6837		11.49	Si
SLV 15	6.35	-671.36	-7038	-5860	-2667	0.565	0.5613	-37044	16250	2554	40441	7106	1441	8547		3.2	Si
SLV 15	7.15	554.86	-5694	-4741	-319	0.565	0.5551	-29970	16250	2526	40441	7106	1441	8547		26.76	Si
SLV 3	6.35	441.06	-1651	-1375	1678	0.452	0.046	0	0	0	40441	5685	1153	6837		4.07	Si
SLV 3	7.15	-728.26	-2904	-2418	958	0.452	0.0952	0	0	0	40441	5685	1153	6837		7.14	Si
SLV 4	6.35	566.02	-1231	-1025	2172	0.452	0	0	0	0	40441	5685	1153	6837		3.15	Si
SLV 4	7.15	-887.77	-2786	-2320	1144	0.452	0	0	0	0	40441	5685	1153	6837		5.97	Si
SLV 1	6.35	512.66	-2389	-1989	2472	0.565	0.2037	-12575	12932	1292	40441	7106	1441	8547		3.46	Si
SLV 1	7.15	-1054.19	-3180	-2648	925	0.452	0	0	0	0	40441	5685	1153	6837		7.39	Si
SLV 2	6.35	637.61	-1969	-1640	2967	0.452	0	0	0	0	40441	5685	1153	6837		2.3	Si
SLV 2	7.15	-1213.7	-3062	-2549	1111	0.452	0	0	0	0	40441	5685	1153	6837		6.15	Si
SLD 2	6.35	398.88	-2859	-2380	1930	0.565	0.4289	-15046	13426	1612	40441	7106	1441	8547		4.43	Si
SLD 2	7.15	-885.85	-3523	-2934	855	0.452	0.0932	0	0	0	40441	5685	1153	6837		8	Si
SLV 5	6.35	227.26	-5067	-4219	1959	0.565	0.565	-26671	15751	2492	40441	7106	1441	8547		4.36	Si
SLV 5	7.15	-1011.4	-4458	-3712	470	0.452	0.1669	0	0	0	40441	5685	1153	6837		14.56	Si
SLV 16	6.35	-546.4	-6618	-5510	-2173	0.565	0.565	-34832	16250	2571	40441	7106	1441	8547		3.93	Si
SLV 16	7.15	395.35	-5576	-4643	-133	0.565	0.565	-29349	16250	2571	40441	7106	1441	8547		64.43	Si
SLV 11	6.35	-345.12	-4222	-3516	-1993	0.565	0.565	-22225	14862	2351	40441	7106	1441	8547		4.29	Si
SLV 11	7.15	459.95	-4377	-3645	197	0.565	0.5322	-23038	15024	2239	40441	7106	1441	8547		43.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	6507	-1029	58.34	137.97	2.37	Si
SLV 7	179667	0.38	6995	-1107	58.34	147.83	2.53	Si
SLV 4	179667	0.38	10466	-1656	58.34	215.91	3.7	Si
SLV 12	179667	0.38	10990	-1739	58.34	225.88	3.87	Si
SLV 3	179667	0.38	11192	-1771	58.34	229.71	3.94	Si
SLV 11	179667	0.38	11478	-1816	58.34	235.11	4.03	Si
SLV 2	179667	0.38	18444	-2918	58.34	359.16	6.16	Si
SLV 1	179667	0.38	19170	-3033	58.34	371.28	6.36	Si
SLV 16	179667	0.38	25409	-4020	58.34	469.12	8.04	Si
SLV 15	179667	0.38	26134	-4134	58.34	479.77	8.22	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-3634	-4337	-26	0.805	449.4	0.949	12.32067	5.32179	Si
SLV 14	-3579	-4500	-25	0.815	443.8	0.949	12.49024	5.32179	Si
SLV 15	-3164	-2446	-52	0.895	401.8	0.944	13.78719	5.32179	Si
SLV 16	-3109	-2609	-51	0.909	396.2	0.943	14.00287	5.32179	Si
SLV 9	-3656	-6538	14	0.803	451.7	0.949	12.29857	4.54183	Si
SLV 10	-3619	-6648	15	0.81	447.9	0.949	12.40634	4.54183	Si
SLV 5	-3213	-6511	23	0.892	406.7	0.945	13.726	4.54183	Si
SLV 6	-3176	-6620	23	0.9	403	0.944	13.86217	4.54183	Si
SLV 1	-2158	-4246	2	1.238	299.9	0.929	19.37116	5.32179	Si
SLV 2	-2103	-4409	3	1.263	294.4	0.928	19.78499	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.829	SLU 65	Si
V_SLU	11.001	SLU 81	Si
PF_SLV	0.622	SLV 4	No
V_SLV	2.305	SLV 2	Si
PFFP_SLV	2.365	SLV 8	Si
R_SLV	2.315	SLV 13	Si

Maschio 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L5	L6	2.325	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	6.35	2377	-19885	-0.000064	0.0003743	0.0035	2.325	16180.98	18134.33	18134.33	7.63	No	Si
SLU 69	7.15	1432.96	-17516	-0.0000514	0.0003743	0.0035	2.325	14981.23	16477.73	16477.73	11.5	No	Si
SLU 81	6.35	2603.61	-22030	-0.0000714	0.0003743	0.0035	2.325	17097.58	19687.37	19687.37	7.56	No	Si
SLU 81	7.15	1669.74	-19599	-0.0000585	0.0003743	0.0035	2.325	16046.46	17931.01	17931.01	10.74	No	Si
SLU 77	6.35	2577.28	-21897	-0.0000709	0.0003743	0.0035	2.325	17045.37	19589.81	19589.81	7.6	No	Si
SLU 77	7.15	1675.72	-19465	-0.0000582	0.0003743	0.0035	2.325	15982.53	17836.2	17836.2	10.64	No	Si
SLU 83	6.35	2616.37	-22230	-0.0000721	0.0003743	0.0035	2.325	17174.76	19834.16	19834.16	7.58	No	Si
SLU 83	7.15	1712.7	-19794	-0.0000593	0.0003743	0.0035	2.325	16138.52	18069.58	18069.58	10.55	No	Si
SLU 71	6.35	2343.01	-19556	-0.0000628	0.0003743	0.0035	2.325	16025.96	17900.48	17900.48	7.64	No	Si
SLU 71	7.15	1408.86	-17206	-0.0000504	0.0003743	0.0035	2.325	14809.24	16264.69	16264.69	11.54	No	Si
SLU 64	6.35	2317.5	-19156	-0.0000616	0.0003743	0.0035	2.325	15832.71	17618.37	17618.37	7.6	No	Si
SLU 64	7.15	1322.94	-16815	-0.0000488	0.0003743	0.0035	2.325	14588.34	15998.61	15998.61	12.09	No	Si
SLU 74	6.35	2564.52	-21697	-0.0000702	0.0003743	0.0035	2.325	16965.85	19443.8	19443.8	7.58	No	Si
SLU 74	7.15	1632.76	-19270	-0.0000574	0.0003743	0.0035	2.325	15888.22	17698.39	17698.39	10.84	No	Si
SLU 79	6.35	2543.29	-21567	-0.0000697	0.0003743	0.0035	2.325	16913.59	19349	19349	7.61	No	Si
SLU 79	7.15	1651.62	-19154	-0.0000572	0.0003743	0.0035	2.325	15831.78	17617.05	17617.05	10.67	No	Si
SLU 66	6.35	2364.25	-19685	-0.0000633	0.0003743	0.0035	2.325	16087.36	17992.27	17992.27	7.61	No	Si
SLU 66	7.15	1390	-17321	-0.0000506	0.0003743	0.0035	2.325	14873.58	16343.75	16343.75	11.76	No	Si
SLU 82	6.35	2601.64	-22231	-0.000072	0.0003743	0.0035	2.325	17175.18	19834.96	19834.96	7.62	No	Si
SLU 82	7.15	1664.94	-19770	-0.0000589	0.0003743	0.0035	2.325	16127.42	18052.74	18052.74	10.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	6.35	832.85	-17279	-0.0000457	0.0005615	0.0035	2.325		17378.5	17378.5	20.87		Si
SLV 13	7.15	4300.43	-16613	-0.0000657	0.0005615	0.0035	2.325		16785.84	16785.84	3.9		Si
SLV 16	6.35	399.15	-11368	-0.0000287	0.0005615	0.0035	2.325		12233.22	12233.22	30.65		Si
SLV 16	7.15	3890.17	-11431	-0.0000501	0.0005615	0.0035	2.325		12286.73	12286.73	3.16		Si
SLV 7	6.35	774.71	-3465	-0.0000124	0.0005615	0.0035	2.325		4182.74	4182.74	5.4		Si
SLV 7	7.15	1003.03	-3409	-0.0000136	0.0005615	0.0035	2.325		4120.83	4120.83	4.11		Si
SLV 12	6.35	289.93	-3737	-0.0000102	0.0005615	0.0035	2.325		4480.49	4480.49	15.45		Si
SLV 12	7.15	2312.02	-4249	-0.0000243	0.0005615	0.0035	2.325		5037.93	5037.93	2.18		Si
SLD 11	6.35	762.06	-7978	-0.0000229	0.0005615	0.0035	2.325		8969.58	8969.58	11.77		Si
SLD 11	7.15	2148.59	-7754	-0.0000306	0.0005615	0.0035	2.325		8739.3	8739.3	4.07		Si
SLV 15	6.35	89.24	-10601	-0.000025	0.0005615	0.0035	2.325		11582.35	11582.35	129.79		Si
SLV 15	7.15	4675.2	-11144	-0.0000544	0.0005615	0.0035	2.325		12043.2	12043.2	2.58		Si
SLD 15	6.35	720.24	-12271	-0.0000328	0.0005615	0.0035	2.325		13002.51	13002.51	18.05		Si
SLD 15	7.15	3357.18	-11938	-0.0000481	0.0005615	0.0035	2.325		12718.58	12718.58	3.79		Si
SLD 16	6.35	916.85	-12757	-0.0000352	0.0005615	0.0035	2.325		13419.6	13419.6	14.64		Si
SLD 16	7.15	2859.14	-12121	-0.0000455	0.0005615	0.0035	2.325		12874.09	12874.09	4.5		Si
SLV 11	6.35	81.31	-3220	-0.0000078	0.0005615	0.0035	2.325		3913.14	3913.14	48.13		Si
SLV 11	7.15	2840.46	-4055	-0.0000312	0.0005615	0.0035	2.325		4828.65	4828.65	1.7		Si
SLV 4	6.35	2710.49	-12184	-0.0000447	0.0005615	0.0035	2.325		12928.05	12928.05	4.77		Si
SLV 4	7.15	-2234.61	-9276	-0.0000348	0.0005615	0.0035	2.325		11519.4	11519.4	5.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	6.35	2314.21	-19491	-16230	3164	2.325	2.325	-24931	10269	6685	40441	19494	5929	25423	No	8.04	Si
SLU 65	7.15	1314.94	-17101	-14240	2462	2.325	2.325	-21874	9861	6420	40441	19494	5929	25423	No	10.33	Si
SLU 73	6.35	2514.49	-21503	-17906	3202	2.325	2.325	-27505	10612	6908	40441	19494	5929	25423	No	7.94	Si
SLU 73	7.15	1557.7	-19050	-15863	2505	2.325	2.325	-24367	10193	6636	40441	19494	5929	25423	No	10.15	Si
SLU 67	6.35	2362.27	-19886	-16559	3140	2.325	2.325	-25437	10336	6729	40441	19494	5929	25423	No	8.1	Si
SLU 67	7.15	1385.2	-17493	-14566	2446	2.325	2.325	-22375	9928	6463	40441	19494	5929	25423	No	10.39	Si
SLU 68	6.35	2326.97	-19691	-16397	3133	2.325	2.325	-25187	10303	6707	40441	19494	5929	25423	No	8.12	Si
SLU 68	7.15	1357.9	-17296	-14403	2431	2.325	2.325	-22124	9894	6441	40441	19494	5929	25423	No	10.46	Si
SLU 81	6.35	2603.61	-22030	-18345	3136	2.325	2.325	-28179	10702	6981	40441	19494	5929	25423	No	8.11	Si
SLU 81	7.15	1669.74	-19599	-16320	2484	2.325	2.325	-25069	10287	6697	40441	19494	5929	25423	No	10.24	Si
SLU 75	6.35	2562.55	-21898	-18235	3179	2.325	2.325	-28010	10679	6952	40441	19494	5929	25423	No	8	Si
SLU 75	7.15	1627.96	-19441	-16189	2489	2.325	2.325	-24868	10260	6679	40441	19494	5929	25423	No	10.21	Si
SLU 76	6.35	2527.24	-21702	-18072	3171	2.325	2.325	-27760	10646	6930	40441	19494	5929	25423	No	8.02	Si
SLU 76	7.15	1600.67	-19245	-16025	2474	2.325	2.325	-24617	10227	6658	40441	19494	5929	25423	No	10.28	Si
SLU 82	6.35	2601.64	-22231	-18512	3186	2.325	2.325	-28436	10736	7026	40441	19494	5929	25423	No	7.98	Si
SLU 82	7.15	1664.94	-19770	-16463	2508	2.325	2.325	-25289	10316	6716	40441	19494	5929	25423	No	10.14	Si
SLU 84	6.35	2614.39	-22431	-18678	3155	2.325	2.325	-28692	10770	7070	40441	19494	5929	25423	No	8.06	Si
SLU 84	7.15	1707.9	-19966	-16626	2477	2.325	2.325	-25539	10350	6738	40441	19494	5929	25423	No	10.26	Si
SLU 78	6.35	2575.3	-22098	-18401	3148	2.325	2.325	-28266	10713	6996	40441	19494	5929	25423	No	8.08	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	7.15	1670.93	-19636	-16351	2458	2.325	2.325	-25118	10293	6701	40441	19494	5929	25423	No	10.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	6.35	2626.48	-16706	-13911	7531	2.325	2.325	-21369	14690	9563	40441	29241	5929	35170		4.67	Si
SLD 1	7.15	-793.33	-13769	-11465	5779	2.325	2.325	-17612	13939	9074	40441	29241	5929	35170		6.09	Si
SLV 15	6.35	89.24	-10601	-8827	-8076	2.325	2.325	-13560	13129	8547	40441	29241	5929	35170		4.35	Si
SLV 15	7.15	4675.2	-11144	-9280	-6059	2.325	2.2289	-14254	13268	8280	40441	29241	5929	35170		5.8	Si
SLV 2	6.35	3454.1	-18862	-15707	12723	2.325	2.325	-24127	15242	9923	40441	29241	5929	35170		2.76	Si
SLV 2	7.15	-2609.38	-14745	-12279	9713	2.325	2.325	-18861	14189	9237	40441	29241	5929	35170		3.62	Si
SLV 3	6.35	2400.57	-11417	-9507	7334	2.325	2.325	-14603	13337	8683	40441	29241	5929	35170		4.8	Si
SLV 3	7.15	-1449.58	-8989	-7485	5927	2.325	2.325	-11498	12716	8278	40441	29241	5929	35170		5.93	Si
SLV 1	6.35	3144.18	-18095	-15068	10589	2.325	2.325	-23146	15046	9795	40441	29241	5929	35170		3.32	Si
SLV 1	7.15	-1824.35	-14458	-12040	8089	2.325	2.325	-18494	14115	9189	40441	29241	5929	35170		4.35	Si
SLV 5	6.35	3253.41	-25726	-21423	9342	2.325	2.325	-32907	16250	10579	40441	29241	5929	35170		3.76	Si
SLV 5	7.15	-246.2	-21641	-18020	6681	2.325	2.325	-27681	15953	10385	40441	29241	5929	35170		5.26	Si
SLV 4	6.35	2710.49	-12184	-10145	9468	2.325	2.325	-15584	13534	8810	40441	29241	5929	35170		3.71	Si
SLV 4	7.15	-2234.61	-9276	-7724	7552	2.325	2.325	-11865	12790	8326	40441	29241	5929	35170		4.66	Si
SLV 6	6.35	3462.03	-26243	-21853	10779	2.325	2.325	-33568	16250	10579	40441	29241	5929	35170		3.26	Si
SLV 6	7.15	-774.65	-21834	-18181	7774	2.325	2.325	-27928	16002	10418	40441	29241	5929	35170		4.52	Si
SLD 6	6.35	2781.28	-21485	-17891	7416	2.325	2.325	-27482	15913	10359	40441	29241	5929	35170		4.74	Si
SLD 6	7.15	-82.78	-18136	-15102	5419	2.325	2.325	-23198	15056	9802	40441	29241	5929	35170		6.49	Si
SLD 2	6.35	2823.1	-17192	-14316	8885	2.325	2.325	-21991	14815	9644	40441	29241	5929	35170		3.96	Si
SLD 2	7.15	-1291.36	-13951	-11617	6810	2.325	2.325	-17845	13986	9105	40441	29241	5929	35170		5.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.38	5614	-3655	240.06	492.88	2.05	Si
SLV 11	179667	0.38	5953	-3875	240.06	521.42	2.17	Si
SLV 8	179667	0.38	6165	-4014	240.06	539.21	2.25	Si
SLV 12	179667	0.38	6504	-4234	240.06	567.52	2.36	Si
SLV 3	179667	0.38	15801	-10286	240.06	1291.09	5.38	Si
SLV 4	179667	0.38	16619	-10819	240.06	1349.83	5.62	Si
SLV 15	179667	0.38	16930	-11021	240.06	1371.94	5.71	Si
SLV 16	179667	0.38	17748	-11554	240.06	1429.58	5.96	Si
SLV 1	179667	0.38	24985	-16266	240.06	1904.61	7.93	Si
SLV 2	179667	0.38	25804	-16798	240.06	1954.38	8.14	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-17651	-20477	-644	0.673	2123.3	0.955	10.23934	4.54183	Si
SLV 9	-17493	-20361	-644	0.678	2107.2	0.955	10.32053	4.54183	Si
SLV 6	-17174	-19409	-542	0.694	2074.7	0.954	10.56992	4.54183	Si
SLV 5	-17015	-19293	-542	0.699	2058.6	0.954	10.65604	4.54183	Si
SLV 14	-13656	-15723	-351	0.852	1717.5	0.946	13.09715	5.32179	Si
SLV 13	-13421	-15552	-351	0.865	1693.7	0.945	13.29571	5.32179	Si
SLV 2	-12062	-12163	-10	0.968	1556	0.941	14.95059	5.32179	Si
SLV 1	-11827	-11991	-10	0.984	1532.3	0.94	15.20535	5.32179	Si
SLV 16	-9720	-10557	3	1.153	1319.1	0.932	17.97227	5.32179	Si
SLV 15	-9485	-10385	3	1.176	1295.3	0.931	18.34451	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.562	SLU 81	Si
V_SLU	7.939	SLU 73	Si
PF_SLV	1.7	SLV 11	Si
V_SLV	2.764	SLV 2	Si
PFFP_SLV	2.053	SLV 7	Si
R_SLV	2.254	SLV 10	Si

Maschio 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L5	L6	2.09	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	5.25	99.46	-14171	-0.0000384	0.0003743	0.0035	2.09	11286.59	12423.42	12423.42	124.9	No	Si
SLU 40	7.05	1358.24	-15193	-0.0000513	0.0003743	0.0035	2.09	11827.98	13024.49	13024.49	9.59	No	Si
SLU 41	5.25	35.55	-14176	-0.0000379	0.0003743	0.0035	2.09	11289.44	12426.46	12426.46	349.56	No	Si
SLU 41	7.05	1407.21	-15338	-0.0000522	0.0003743	0.0035	2.09	11901.96	13110.92	13110.92	9.32	No	Si
SLU 83	5.25	150.86	-16720	-0.0000461	0.0003743	0.0035	2.09	12569.06	13943.34	13943.34	92.43	No	Si
SLU 83	7.05	1521.82	-17656	-0.00006	0.0003743	0.0035	2.09	12982.91	14519.25	14519.25	9.54	No	Si
SLU 39	5.25	37.36	-14025	-0.0000375	0.0003743	0.0035	2.09	11206.18	12338.47	12338.47	330.26	No	Si
SLU 39	7.05	1386.22	-15165	-0.0000515	0.0003743	0.0035	2.09	11813.99	13008.28	13008.28	9.38	No	Si
SLU 82	5.25	214.77	-16715	-0.0000466	0.0003743	0.0035	2.09	12566.66	13940.16	13940.16	64.91	No	Si
SLU 82	7.05	1472.85	-17511	-0.0000592	0.0003743	0.0035	2.09	12920.74	14429.25	14429.25	9.8	No	Si
SLU 81	5.25	152.67	-16569	-0.0000457	0.0003743	0.0035	2.09	12499.29	13851.25	13851.25	90.73	No	Si
SLU 81	7.05	1500.83	-17483	-0.0000593	0.0003743	0.0035	2.09	12908.97	14412.36	14412.36	9.6	No	Si
SLU 42	5.25	97.65	-14322	-0.0000388	0.0003743	0.0035	2.09	11369.07	12511.67	12511.67	128.12	No	Si
SLU 42	7.05	1379.22	-15365	-0.000052	0.0003743	0.0035	2.09	11915.79	13127.2	13127.2	9.52	No	Si
SLU 84	5.25	212.96	-16866	-0.0000471	0.0003743	0.0035	2.09	12635.65	14032.52	14032.52	65.89	No	Si
SLU 84	7.05	1493.83	-17683	-0.0000599	0.0003743	0.0035	2.09	12994.52	14536.19	14536.19	9.73	No	Si
SLU 37	5.25	91.57	-13763	-0.0000372	0.0003743	0.0035	2.09	11059.94	12177.2	12177.2	132.98	No	Si
SLU 37	7.05	1305.85	-14710	-0.0000495	0.0003743	0.0035	2.09	11576.86	12739.11	12739.11	9.76	No	Si
SLU 35	5.25	103.75	-13987	-0.0000379	0.0003743	0.0035	2.09	11185.04	12316.31	12316.31	118.71	No	Si
SLU 35	7.05	1322.29	-14960	-0.0000504	0.0003743	0.0035	2.09	11707.64	12886.23	12886.23	9.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	5.25	-2052.74	-61	-0.0009442	0.0005615	0.0035	1.672		1189.51	1189.51	0.58		No
SLV 7	7.05	2614.41	-6286	-0.0000357	0.0005615	0.0035	2.09		6439.12	6439.12	2.46		Si
SLV 1	5.25	3373.56	-13078	-0.0000597	0.0005615	0.0035	2.09		12150.47	12150.47	3.6		Si
SLV 1	7.05	-2342.11	-8276	-0.0000386	0.0005615	0.0035	2.09		9115.3	9115.3	3.89		Si
SLV 15	5.25	-3732.21	-8852	-0.0000513	0.0005615	0.0035	2.09		9621.28	9621.28	2.58		Si
SLV 15	7.05	4931.95	-15433	-0.0000785	0.0005615	0.0035	2.09		13971.3	13971.3	2.83		Si
SLV 2	5.25	4218.18	-13743	-0.0000681	0.0005615	0.0035	2.09		12660.43	12660.43	3		Si
SLV 2	7.05	-3209.57	-7450	-0.0000436	0.0005615	0.0035	2.09		8358.17	8358.17	2.6		Si
SLV 4	5.25	2524.24	-7332	-0.0000374	0.0005615	0.0035	2.09		7407.92	7407.92	2.93		Si
SLV 4	7.05	-1804.6	-5050	-0.000026	0.0005615	0.0035	2.09		6117.03	6117.03	3.39		Si
SLD 11	5.25	-2106.49	-5117	-0.0000287	0.0005615	0.0035	2.09		6180.84	6180.84	2.93		Si
SLD 11	7.05	2970.11	-10191	-0.0000485	0.0005615	0.0035	2.09		9965.14	9965.14	3.36		Si
SLV 11	5.25	-3676.29	-716	-0.0014614	0.0005615	0.0035	1.672		1859.92	1859.92	0.51		No
SLV 11	7.05	4375.14	-9153	-0.0000587	0.0005615	0.0035	2.09		9051.43	9051.43	2.07		Si
SLV 8	5.25	-1484.19	-508	-0.0003686	0.0005615	0.0035	1.672		1648.61	1648.61	1.11		Si
SLV 8	7.05	2030.48	-5730	-0.0000295	0.0005615	0.0035	2.09		5916.5	5916.5	2.91		Si
SLV 12	5.25	-3107.74	-1164	-0.0008602	0.0005615	0.0035	1.672		2312.73	2312.73	0.74		No
SLV 12	7.05	3791.21	-8596	-0.0000515	0.0005615	0.0035	2.09		8555.41	8555.41	2.26		Si
SLV 16	5.25	-2887.59	-9516	-0.0000461	0.0005615	0.0035	2.09		10209.6	10209.6	3.54		Si
SLV 16	7.05	4064.49	-14606	-0.0000693	0.0005615	0.0035	2.09		13327.52	13327.52	3.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	5.25	220.87	-16379	-13639	-2600	2.09	2.09	-23307	10052	5882	40441	17524	5330	22853	No	8.79	Si
SLU 74	7.05	1415.92	-17105	-14244	-2598	2.09	2.09	-24340	10190	5963	40441	17524	5330	22853	No	8.79	Si
SLU 83	5.25	150.86	-16720	-13923	-2820	2.09	2.09	-23791	10117	5920	40441	17524	5330	22853	No	8.1	Si
SLU 83	7.05	1521.82	-17656	-14702	-2818	2.09	2.09	-25124	10294	6024	40441	17524	5330	22853	No	8.11	Si
SLU 82	5.25	214.77	-16715	-13918	-2682	2.09	2.09	-23784	10116	5920	40441	17524	5330	22853	No	8.52	Si
SLU 82	7.05	1472.85	-17511	-14581	-2669	2.09	2.09	-24917	10267	6008	40441	17524	5330	22853	No	8.56	Si
SLU 79	5.25	206.88	-16306	-13578	-2608	2.09	2.09	-23203	10038	5874	40441	17524	5330	22853	No	8.76	Si
SLU 79	7.05	1420.46	-17028	-14180	-2606	2.09	2.09	-24230	10175	5955	40441	17524	5330	22853	No	8.77	Si
SLU 41	5.25	35.55	-14176	-11805	-2615	2.09	2.09	-20172	9634	5638	40441	17524	5330	22853	No	8.74	Si
SLU 41	7.05	1407.21	-15338	-12772	-2614	2.09	2.09	-21825	9854	5767	40441	17524	5330	22853	No	8.74	Si
SLU 77	5.25	219.06	-16530	-13765	-2625	2.09	2.09	-23522	10081	5899	40441	17524	5330	22853	No	8.71	Si
SLU 77	7.05	1436.9	-17278	-14387	-2623	2.09	2.09	-24585	10222	5982	40441	17524	5330	22853	No	8.71	Si
SLU 78	5.25	281.16	-16676	-13887	-2512	2.09	2.09	-23730	10108	5915	40441	17524	5330	22853	No	9.1	Si
SLU 78	7.05	1408.92	-17305	-14410	-2499	2.09	2.09	-24624	10228	5985	40441	17524	5330	22853	No	9.14	Si
SLU 81	5.25	152.67	-16569	-13797	-2795	2.09	2.09	-23576	10088	5903	40441	17524	5330	22853	No	8.18	Si
SLU 81	7.05	1500.83	-17483	-14559	-2793	2.09	2.09	-24878	10262	6005	40441	17524	5330	22853	No	8.18	Si
SLU 39	5.25	37.36	-14025	-11679	-2590	2.09	2.09	-19957	9605	5621	40441	17524	5330	22853	No	8.82	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	7.05	1386.22	-15165	-12628	-2589	2.09	2.09	-21580	9822	5748	40441	17524	5330	22853	No	8.83	Si
SLU 84	5.25	212.96	-16866	-14044	-2707	2.09	2.09	-23999	10144	5936	40441	17524	5330	22853	No	8.44	Si
SLU 84	7.05	1493.83	-17683	-14725	-2694	2.09	2.09	-25162	10299	6027	40441	17524	5330	22853	No	8.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	5.25	-3107.74	-1164	-969	-9498	1.672	0	0	0	0	40441	21028	4264	25292		2.66	Si
SLV 12	7.05	3791.21	-8596	-7158	-9381	2.09	1.812	-12232	12863	6526	40441	26285	5330	31615		3.37	Si
SLV 15	5.25	-3732.21	-8852	-7371	-10077	2.09	1.8701	-14153	13247	6937	40441	26285	5330	31615		3.14	Si
SLV 15	7.05	4931.95	-15433	-12851	-9621	2.09	2.09	-21960	14809	8666	40441	26285	5330	31615		3.29	Si
SLV 6	5.25	4162.27	-21879	-18219	7548	2.09	2.09	-31132	16250	9510	40441	26285	5330	31615		4.19	Si
SLV 6	7.05	-2652.76	-13730	-11433	7434	2.09	2.09	-19537	14324	8382	40441	26285	5330	31615		4.25	Si
SLV 7	5.25	-2052.74	-61	-51	-7407	1.672	0	0	0	0	40441	21028	4264	25292		3.41	Si
SLV 7	7.05	2614.41	-6286	-5234	-7566	2.09	1.8873	-8945	12206	6450	40441	26285	5330	31615		4.18	Si
SLV 11	5.25	-3676.29	-716	-596	-10720	1.672	0	0	0	0	40441	21028	4264	25292		2.36	Si
SLV 11	7.05	4375.14	-9153	-7622	-10603	2.09	1.701	-13024	13021	6202	40441	26285	5330	31615		2.98	Si
SLV 8	5.25	-1484.19	-508	-423	-6184	1.672	0	0	0	0	40441	21028	4264	25292		4.09	Si
SLV 8	7.05	2030.48	-5730	-4771	-6344	2.09	2.0719	-8153	12047	6989	40441	26285	5330	31615		4.98	Si
SLD 15	5.25	-2254.11	-9904	-8247	-6904	2.09	2.09	-14092	13235	7745	40441	26285	5330	31615		4.58	Si
SLD 15	7.05	3426.16	-14057	-11706	-6610	2.09	2.09	-20003	14417	8437	40441	26285	5330	31615		4.78	Si
SLV 2	5.25	4218.18	-13743	-11444	6904	2.09	2.09	-19556	14328	8385	40441	26285	5330	31615		4.58	Si
SLV 2	7.05	-3209.57	-7450	-6204	6452	2.09	1.8426	-12093	12835	6622	40441	26285	5330	31615		4.9	Si
SLD 11	5.25	-2106.49	-5117	-4261	-7040	2.09	1.9	-8032	12023	6396	40441	26285	5330	31615		4.49	Si
SLD 11	7.05	2970.11	-10191	-8486	-6964	2.09	2.09	-14501	13317	7793	40441	26285	5330	31615		4.54	Si
SLV 16	5.25	-2887.59	-9516	-7924	-8260	2.09	2.09	-13541	13125	7681	40441	26285	5330	31615		3.83	Si
SLV 16	7.05	4064.49	-14606	-12163	-7805	2.09	2.09	-20784	14573	8528	40441	26285	5330	31615		4.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	7808	-4569	215.8	606.97	2.81	Si
SLV 7	179667	0.38	8079	-4728	215.8	626.88	2.9	Si
SLV 4	179667	0.38	10926	-6394	215.8	831.1	3.85	Si
SLV 12	179667	0.38	11199	-6554	215.8	850.25	3.94	Si
SLV 3	179667	0.38	11329	-6630	215.8	859.3	3.98	Si
SLV 11	179667	0.38	11471	-6713	215.8	869.18	4.03	Si
SLV 2	179667	0.38	17047	-9976	215.8	1240.7	5.75	Si
SLV 1	179667	0.38	17450	-10212	215.8	1266.26	5.87	Si
SLV 16	179667	0.38	22231	-13010	215.8	1556.22	7.21	Si
SLV 15	179667	0.38	22634	-13245	215.8	1579.53	7.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-14545	-16599	94	0.753	1774.3	0.952	11.50194	5.32179	Si
SLV 14	-14128	-16707	95	0.772	1732	0.951	11.79754	5.32179	Si
SLV 9	-14900	-20630	-361	0.722	1810.4	0.953	11.0182	4.54183	Si
SLV 15	-12284	-11127	348	0.85	1544.8	0.946	13.05395	5.32179	Si
SLV 10	-14620	-20703	-361	0.734	1781.9	0.952	11.20335	4.54183	Si
SLV 16	-11868	-11234	349	0.874	1502.6	0.944	13.44879	5.32179	Si
SLV 5	-13002	-18599	-497	0.8	1617.6	0.948	12.27094	4.54183	Si
SLV 6	-12722	-18672	-497	0.815	1589.2	0.947	12.50598	4.54183	Si
SLV 1	-8218	-9827	-360	1.175	1133.3	0.93	18.36302	5.32179	Si
SLV 2	-7802	-9935	-360	1.224	1091.4	0.928	19.17154	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.317	SLU 41	Si
V_SLU	8.104	SLU 83	Si
PF_SLV	0.506	SLV 11	No
V_SLV	2.359	SLV 11	Si
PFFP_SLV	2.813	SLV 8	Si
R_SLV	2.161	SLV 13	Si

Maschio 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.158	5.951	L5	L6	2.305	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 18	5.25	-538.31	-16196	-0.0000426	0.0003743	0.0035	2.305	14065.36	16889.24	16889.24	31.37	No	Si
SLU 18	7.05	-913.75	-17200	-0.0000477	0.0003743	0.0035	2.305	14634.17	17630.41	17630.41	19.29	No	Si
SLU 82	5.25	-783.95	-21977	-0.0000596	0.0003743	0.0035	2.305	16857.03	20667.19	20667.19	26.36	No	Si
SLU 82	7.05	-1184.72	-23368	-0.0000663	0.0003743	0.0035	2.305	17353.97	21344.78	21344.78	18.02	No	Si
SLU 52	5.25	-534.47	-18675	-0.0000491	0.0003743	0.0035	2.305	15406.19	18688.82	18688.82	34.97	No	Si
SLU 52	7.05	-1043.55	-19618	-0.000055	0.0003743	0.0035	2.305	15859.59	19325.27	19325.27	18.52	No	Si
SLU 44	5.25	-353.87	-17246	-0.0000441	0.0003743	0.0035	2.305	14659.36	17663.26	17663.26	49.91	No	Si
SLU 44	7.05	-943.32	-17886	-0.0000497	0.0003743	0.0035	2.305	15002.39	18124.87	18124.87	19.21	No	Si
SLU 81	5.25	-750.25	-22139	-0.0000599	0.0003743	0.0035	2.305	16918.35	20744.39	20744.39	27.65	No	Si
SLU 81	7.05	-1201.92	-23525	-0.0000668	0.0003743	0.0035	2.305	17405.72	21423.15	21423.15	17.82	No	Si
SLU 64	5.25	-492.24	-20097	-0.0000526	0.0003743	0.0035	2.305	16077.59	19647.9	19647.9	39.92	No	Si
SLU 64	7.05	-1058.73	-21049	-0.000059	0.0003743	0.0035	2.305	16488.12	20233.35	20233.35	19.11	No	Si
SLU 43	5.25	-297.69	-17516	-0.0000445	0.0003743	0.0035	2.305	14805.82	17856.96	17856.96	59.98	No	Si
SLU 43	7.05	-971.99	-18147	-0.0000506	0.0003743	0.0035	2.305	15138.41	18313.5	18313.5	18.84	No	Si
SLU 61	5.25	-589.41	-19396	-0.0000514	0.0003743	0.0035	2.305	15755.48	19176.55	19176.55	32.54	No	Si
SLU 61	7.05	-1097.98	-20466	-0.0000576	0.0003743	0.0035	2.305	16240.33	19898.07	19898.07	18.12	No	Si
SLU 73	5.25	-729.02	-21256	-0.0000573	0.0003743	0.0035	2.305	16572.98	20328.84	20328.84	27.89	No	Si
SLU 73	7.05	-1130.29	-22521	-0.0000635	0.0003743	0.0035	2.305	17059.48	20928.4	20928.4	18.52	No	Si
SLU 60	5.25	-555.7	-19558	-0.0000516	0.0003743	0.0035	2.305	15831.45	19284.74	19284.74	34.7	No	Si
SLU 60	7.05	-1115.18	-20622	-0.0000582	0.0003743	0.0035	2.305	16308.04	19997.38	19997.38	17.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	5.25	2421.41	-10939	-0.0000404	0.0005615	0.0035	2.305		11737.81	11737.81	4.85		Si
SLV 1	7.05	-2949.12	-15667	-0.0000555	0.0005615	0.0035	2.305		17386.92	17386.92	5.9		Si
SLV 10	5.25	-3796.35	8	-0.0015139	0.0005615	0.0035	1.844		1555.7	1555.7	0.41		No
SLV 10	7.05	1031.18	177	-0.0055523	0.0005615	0.0035	2.305		0	0	0		No
SLV 6	5.25	-2025.19	185	0.0100221	0.0005615	0.0035	1.844		0	0	0		No
SLV 6	7.05	-178.46	-1600	-0.0000047	0.0005615	0.0035	2.305		3359.85	3359.85	18.83		Si
SLV 13	5.25	-3482.47	-11528	-0.0000485	0.0005615	0.0035	2.305		13601.94	13601.94	3.91		Si
SLV 13	7.05	1083.01	-9744	-0.0000293	0.0005615	0.0035	2.305		10648.2	10648.2	9.83		Si
SLD 9	5.25	-2020.92	-6714	-0.0000277	0.0005615	0.0035	2.305		8828.78	8828.78	4.37		Si
SLD 9	7.05	-25.42	-7345	-0.0000172	0.0005615	0.0035	2.305		9475.73	9475.73	372.8		Si
SLD 14	5.25	-2975.44	-12556	-0.0000479	0.0005615	0.0035	2.305		14562.67	14562.67	4.89		Si
SLD 14	7.05	894.49	-10929	-0.000031	0.0005615	0.0035	2.305		11729.76	11729.76	13.11		Si
SLV 14	5.25	-4504.05	-10609	-0.0000527	0.0005615	0.0035	2.305		12707.92	12707.92	2.82		Si
SLV 14	7.05	1888.67	-7651	-0.0000292	0.0005615	0.0035	2.305		8551.58	8551.58	4.53		Si
SLD 10	5.25	-2438.24	-6339	-0.0000294	0.0005615	0.0035	2.305		8435.17	8435.17	3.46		Si
SLD 10	7.05	303.69	-6491	-0.0000168	0.0005615	0.0035	2.305		7358.74	7358.74	24.23		Si
SLV 9	5.25	-3108.67	-610	-0.0007443	0.0005615	0.0035	1.844		2256.83	2256.83	0.73		No
SLV 9	7.05	488.85	-1232	-0.0000057	0.0005615	0.0035	2.305		1671.45	1671.45	3.42		Si
SLV 5	5.25	-1337.51	-433	-0.0002326	0.0005615	0.0035	1.844		2058.46	2058.46	1.54		Si
SLV 5	7.05	-720.79	-3009	-0.0000112	0.0005615	0.0035	2.305		4906.15	4906.15	6.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	5.25	-776	-23188	-19309	2751	2.305	2.305	-29918	10833	7220	40441	19326	5878	25204	No	9.16	Si
SLU 78	7.05	-1014.05	-24571	-20461	2755	2.305	2.305	-31703	10833	7527	40441	19326	5878	25204	No	9.15	Si
SLU 75	5.25	-755.65	-22376	-18633	2769	2.305	2.305	-28870	10794	7040	40441	19326	5878	25204	No	9.1	Si
SLU 75	7.05	-1086.88	-23707	-19741	2773	2.305	2.305	-30587	10833	7335	40441	19326	5878	25204	No	9.09	Si
SLU 74	5.25	-721.95	-22538	-18768	2794	2.305	2.305	-29079	10822	7076	40441	19326	5878	25204	No	9.02	Si
SLU 74	7.05	-1104.08	-23864	-19872	2798	2.305	2.305	-30790	10833	7370	40441	19326	5878	25204	No	9.01	Si
SLU 77	5.25	-742.29	-23350	-19444	2776	2.305	2.305	-30127	10833	7256	40441	19326	5878	25204	No	9.08	Si
SLU 77	7.05	-1031.25	-24728	-20592	2780	2.305	2.305	-31905	10833	7562	40441	19326	5878	25204	No	9.07	Si
SLU 83	5.25	-770.59	-22950	-19111	2853	2.305	2.305	-29611	10833	7167	40441	19326	5878	25204	No	8.83	Si
SLU 83	7.05	-1129.09	-24389	-20309	2857	2.305	2.305	-31468	10833	7487	40441	19326	5878	25204	No	8.82	Si
SLU 73	5.25	-729.02	-21256	-17700	2765	2.305	2.305	-27425	10601	6842	40441	19326	5878	25204	No	9.11	Si
SLU 73	7.05	-1130.29	-22521	-18753	2769	2.305	2.305	-29057	10819	7072	40441	19326	5878	25204	No	9.1	Si
SLU 79	5.25	-713.54	-23149	-19277	2771	2.305	2.305	-29868	10833	7212	40441	19326	5878	25204	No	9.1	Si
SLU 79	7.05	-1013.29	-24511	-20411	2775	2.305	2.305	-31625	10833	7514	40441	19326	5878	25204	No	9.08	Si
SLU 82	5.25	-783.95	-21977	-18300	2846	2.305	2.305	-28355	10725	6951	40441	19326	5878	25204	No	8.86	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	7.05	-1184.72	-23368	-19459	2850	2.305	2.305	-30150	10833	7260	40441	19326	5878	25204	No	8.84	Si
SLU 84	5.25	-804.3	-22788	-18976	2828	2.305	2.305	-29402	10833	7131	40441	19326	5878	25204	No	8.91	Si
SLU 84	7.05	-1111.88	-24233	-20179	2832	2.305	2.305	-31266	10833	7452	40441	19326	5878	25204	No	8.9	Si
SLU 81	5.25	-750.25	-22139	-18435	2871	2.305	2.305	-28564	10753	6987	40441	19326	5878	25204	No	8.78	Si
SLU 81	7.05	-1201.92	-23525	-19589	2875	2.305	2.305	-30352	10833	7295	40441	19326	5878	25204	No	8.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	5.25	1433.7	-12745	-10613	5575	2.305	2.305	-16444	13706	8846	40441	28989	5878	34867		6.25	Si
SLD 1	7.05	-2196.8	-16030	-13348	5322	2.305	2.305	-20682	14553	9393	40441	28989	5878	34867		6.55	Si
SLD 3	5.25	2200.46	-18045	-15026	6129	2.305	2.305	-23282	15073	9728	40441	28989	5878	34867		5.69	Si
SLD 3	7.05	-2542.45	-21169	-17628	5846	2.305	2.305	-27313	15879	10248	40441	28989	5878	34867		5.96	Si
SLV 8	5.25	2333.69	-29990	-24973	4547	2.305	2.305	-38694	16250	10488	40441	28989	5878	34867		7.67	Si
SLV 8	7.05	-2136.82	-30866	-25703	4344	2.305	2.305	-39825	16250	10488	40441	28989	5878	34867		8.03	Si
SLV 7	5.25	3021.38	-30609	-25488	5736	2.305	2.305	-39492	16250	10488	40441	28989	5878	34867		6.08	Si
SLV 7	7.05	-2679.15	-32275	-26876	5533	2.305	2.305	-41642	16250	10488	40441	28989	5878	34867		6.3	Si
SLD 4	5.25	1552.35	-17462	-14541	5009	2.305	2.305	-22530	14923	9631	40441	28989	5878	34867		6.96	Si
SLD 4	7.05	-2031.34	-19841	-16522	4726	2.305	2.305	-25600	15537	10027	40441	28989	5878	34867		7.38	Si
SLD 2	5.25	785.59	-12162	-10128	4455	2.305	2.305	-15692	13555	8748	40441	28989	5878	34867		7.83	Si
SLD 2	7.05	-1685.68	-14702	-12243	4202	2.305	2.305	-18969	14211	9171	40441	28989	5878	34867		8.3	Si
SLV 3	5.25	3729.08	-19992	-16647	8476	2.305	2.305	-25794	15575	10052	40441	28989	5878	34867		4.11	Si
SLV 3	7.05	-3536.63	-24447	-20357	8037	2.305	2.305	-31542	16250	10488	40441	28989	5878	34867		4.34	Si
SLV 2	5.25	1399.82	-10020	-8344	5768	2.305	2.305	-12928	13002	8392	40441	28989	5878	34867		6.05	Si
SLV 2	7.05	-2143.47	-13575	-11304	5376	2.305	2.305	-17514	13920	8984	40441	28989	5878	34867		6.49	Si
SLV 4	5.25	2707.49	-19073	-15882	6710	2.305	2.305	-24608	15338	9899	40441	28989	5878	34867		5.2	Si
SLV 4	7.05	-2730.98	-22355	-18615	6270	2.305	2.305	-28842	16185	10446	40441	28989	5878	34867		5.56	Si
SLV 1	5.25	2421.41	-10939	-9109	7534	2.305	2.305	-14114	13239	8545	40441	28989	5878	34867		4.63	Si
SLV 1	7.05	-2949.12	-15667	-13046	7142	2.305	2.305	-20214	14459	9332	40441	28989	5878	34867		4.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	0	237	238	0	0	No, Trazione
SLV 6	179667	0.38	0	-868	238	0	0	No, e>t/2
SLV 9	179667	0.38	0	-905	238	0	0	No, e>t/2
SLV 5	179667	0.38	3115	-2011	238	275.74	1.16	Si
SLV 14	179667	0.38	13848	-8938	238	1137.81	4.78	Si
SLV 13	179667	0.38	16477	-10635	238	1328.2	5.58	Si
SLV 2	179667	0.38	19556	-12621	238	1540.73	6.47	Si
SLV 1	179667	0.38	22185	-14318	238	1713.37	7.2	Si
SLV 16	179667	0.38	28113	-18144	238	2072.59	8.71	Si
SLV 15	179667	0.38	30743	-19841	238	2218.6	9.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-23861	-30463	810	0.511	2752	0.965	7.69521	4.54183	Si
SLV 11	-22789	-30145	837	0.53	2642.9	0.963	7.99591	4.54183	Si
SLV 8	-22776	-29605	808	0.531	2641.5	0.963	8.01768	4.54183	Si
SLV 3	-19148	-20332	205	0.644	2272.6	0.958	9.77056	5.32179	Si
SLV 12	-21704	-29287	836	0.552	2532.5	0.962	8.34751	4.54183	Si
SLV 4	-17535	-19057	203	0.694	2108.6	0.955	10.55918	5.32179	Si
SLV 15	-15576	-19271	296	0.761	1909.5	0.951	11.63548	5.32179	Si
SLV 16	-13963	-17997	294	0.834	1745.8	0.947	12.80165	5.32179	Si
SLV 1	-13811	-11151	-286	0.842	1730.4	0.947	12.93221	5.32179	Si
SLV 2	-12198	-9877	-288	0.933	1566.9	0.942	14.39659	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.824	SLU 81	Si
V_SLU	8.767	SLU 81	Si
PF_SLV	0	SLV 6	No
V_SLV	4.113	SLV 3	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.694	SLV 7	Si

Maschio 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L5	L6	1.83	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	5.25	812.27	-12885	-0.0000476	0.0003743	0.0035	1.83	8877.73	9739.51	9739.51	11.99	No	Si
SLU 41	7.05	1229.25	-13255	-0.0000532	0.0003743	0.0035	1.83	9046.79	9935.38	9935.38	8.08	No	Si
SLU 45	5.25	1166.17	-12335	-0.0000494	0.0003743	0.0035	1.83	8617.64	9451.42	9451.42	8.1	No	Si
SLU 45	7.05	722.21	-11319	-0.0000415	0.0003743	0.0035	1.83	8109.79	8840.02	8840.02	12.24	No	Si
SLU 42	5.25	777.24	-12782	-0.0000469	0.0003743	0.0035	1.83	8830.14	9685.64	9685.64	12.46	No	Si
SLU 42	7.05	1246.97	-13236	-0.0000533	0.0003743	0.0035	1.83	9037.96	9924.98	9924.98	7.96	No	Si
SLU 48	5.25	1191.48	-12780	-0.0000512	0.0003743	0.0035	1.83	8829.23	9684.61	9684.61	8.13	No	Si
SLU 48	7.05	767.62	-11801	-0.0000435	0.0003743	0.0035	1.83	8355.06	9175.19	9175.19	11.95	No	Si
SLU 84	5.25	1036.98	-15049	-0.0000572	0.0003743	0.0035	1.83	9797.47	10903.29	10903.29	10.51	No	Si
SLU 84	7.05	1330.21	-15155	-0.0000607	0.0003743	0.0035	1.83	9838.55	10962	10962	8.24	No	Si
SLU 39	5.25	786.96	-12439	-0.0000458	0.0003743	0.0035	1.83	8667.78	9505.78	9505.78	12.08	No	Si
SLU 39	7.05	1183.84	-12774	-0.0000511	0.0003743	0.0035	1.83	8826.09	9681.07	9681.07	8.18	No	Si
SLU 36	5.25	838.65	-12996	-0.0000482	0.0003743	0.0035	1.83	8929.09	9798.25	9798.25	11.68	No	Si
SLU 36	7.05	1204.03	-13293	-0.000053	0.0003743	0.0035	1.83	9063.99	9955.73	9955.73	8.27	No	Si
SLU 43	5.25	1132.11	-11729	-0.0000471	0.0003743	0.0035	1.83	8319.23	9134.49	9134.49	8.07	No	Si
SLU 43	7.05	663.63	-10673	-0.0000388	0.0003743	0.0035	1.83	7767.96	8370.01	8370.01	12.61	No	Si
SLU 40	5.25	751.93	-12337	-0.0000451	0.0003743	0.0035	1.83	8618.59	9452.44	9452.44	12.57	No	Si
SLU 40	7.05	1201.56	-12754	-0.0000512	0.0003743	0.0035	1.83	8816.93	9670.77	9670.77	8.05	No	Si
SLU 50	5.25	1182.74	-12621	-0.0000505	0.0003743	0.0035	1.83	8754.36	9600.95	9600.95	8.12	No	Si
SLU 50	7.05	754.46	-11636	-0.0000429	0.0003743	0.0035	1.83	8272.18	9071.2	9071.2	12.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	5.25	-2079.18	-6537	-0.0000392	0.0005615	0.0035	1.83		6439.46	6439.46	3.1		Si
SLV 14	7.05	3206.22	-10704	-0.0000635	0.0005615	0.0035	1.83		8784.87	8784.87	2.74		Si
SLV 3	5.25	3790.74	-13866	-0.0000798	0.0005615	0.0035	1.83		10956.66	10956.66	2.89		Si
SLV 3	7.05	-1758.62	-8764	-0.0000429	0.0005615	0.0035	1.83		8183.77	8183.77	4.65		Si
SLV 10	5.25	-2376.4	1507	0.141981	0.0005615	0.0035	1.464		0	0	0		No
SLV 10	7.05	2818.13	-5187	-0.0000504	0.0005615	0.0035	1.83		4679.58	4679.58	1.66		Si
SLV 9	5.25	-1846.71	977	0.0925196	0.0005615	0.0035	1.464		0	0	0		No
SLV 9	7.05	2400.45	-4773	-0.0000416	0.0005615	0.0035	1.83		4336.19	4336.19	1.81		Si
SLV 6	5.25	-1287.61	1614	0.1497759	0.0005615	0.0035	1.464		0	0	0		No
SLV 6	7.05	1758.88	-3810	-0.0000299	0.0005615	0.0035	1.83		3529.96	3529.96	2.01		Si
SLV 5	5.25	-757.92	1084	0.100326	0.0005615	0.0035	1.464		0	0	0		No
SLV 5	7.05	1341.2	-3396	-0.0000231	0.0005615	0.0035	1.83		3176.92	3176.92	2.37		Si
SLV 1	5.25	2336.98	-6967	-0.0000432	0.0005615	0.0035	1.83		6118.96	6118.96	2.62		Si
SLV 1	7.05	-945.1	-5498	-0.0000251	0.0005615	0.0035	1.83		5605.84	5605.84	5.93		Si
SLV 13	5.25	-1292.31	-7324	-0.000034	0.0005615	0.0035	1.83		7069.45	7069.45	5.47		Si
SLV 13	7.05	2585.74	-10088	-0.0000553	0.0005615	0.0035	1.83		8370.39	8370.39	3.24		Si
SLV 4	5.25	3003.87	-13078	-0.0000691	0.0005615	0.0035	1.83		10408.85	10408.85	3.47		Si
SLV 4	7.05	-1138.14	-9380	-0.0000388	0.0005615	0.0035	1.83		8647.79	8647.79	7.6		Si
SLD 10	5.25	-1071.62	-3346	-0.0000199	0.0005615	0.0035	1.83		3812.84	3812.84	3.56		Si
SLD 10	7.05	1981.41	-7122	-0.00004	0.0005615	0.0035	1.83		6242.1	6242.1	3.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	5.25	838.65	-12996	-10822	-1199	1.83	1.83	-21120	9761	5001	40441	15344	4667	20010	No	16.68	Si
SLU 36	7.05	1204.03	-13293	-11070	-1200	1.83	1.83	-21603	9825	5034	40441	15344	4667	20010	No	16.67	Si
SLU 34	5.25	781.23	-12323	-10261	-1213	1.83	1.83	-20026	9615	4926	40441	15344	4667	20010	No	16.5	Si
SLU 34	7.05	1157.26	-12635	-10521	-1214	1.83	1.83	-20533	9682	4961	40441	15344	4667	20010	No	16.49	Si
SLU 42	5.25	777.24	-12782	-10644	-1337	1.83	1.83	-20773	9714	4978	40441	15344	4667	20010	No	14.97	Si
SLU 42	7.05	1246.97	-13236	-11021	-1338	1.83	1.83	-21509	9812	5028	40441	15344	4667	20010	No	14.96	Si
SLU 84	5.25	1036.98	-15049	-12531	-1302	1.83	1.83	-24456	10205	5229	40441	15344	4667	20010	No	15.37	Si
SLU 84	7.05	1330.21	-15155	-12620	-1303	1.83	1.83	-24629	10228	5241	40441	15344	4667	20010	No	15.35	Si
SLU 83	5.25	1072.01	-15151	-12616	-1231	1.83	1.83	-24622	10227	5241	40441	15344	4667	20010	No	16.26	Si
SLU 83	7.05	1312.49	-15175	-12636	-1232	1.83	1.83	-24661	10233	5243	40441	15344	4667	20010	No	16.24	Si
SLU 40	5.25	751.93	-12337	-10273	-1307	1.83	1.83	-20048	9618	4928	40441	15344	4667	20010	No	15.31	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	7.05	1201.56	-12754	-10621	-1308	1.83	1.83	-20727	9708	4974	40441	15344	4667	20010	No	15.29	Si
SLU 41	5.25	812.27	-12885	-10729	-1265	1.83	1.83	-20939	9736	4989	40441	15344	4667	20010	No	15.82	Si
SLU 41	7.05	1229.25	-13255	-11038	-1266	1.83	1.83	-21541	9817	5030	40441	15344	4667	20010	No	15.8	Si
SLU 82	5.25	1011.67	-14603	-12160	-1273	1.83	1.83	-23731	10109	5180	40441	15344	4667	20010	No	15.72	Si
SLU 82	7.05	1284.8	-14674	-12219	-1274	1.83	1.83	-23847	10124	5188	40441	15344	4667	20010	No	15.71	Si
SLU 39	5.25	786.96	-12439	-10358	-1236	1.83	1.83	-20215	9640	4939	40441	15344	4667	20010	No	16.19	Si
SLU 39	7.05	1183.84	-12774	-10637	-1237	1.83	1.83	-20759	9712	4977	40441	15344	4667	20010	No	16.18	Si
SLU 81	5.25	1046.7	-14705	-12245	-1201	1.83	1.83	-23898	10131	5191	40441	15344	4667	20010	No	16.66	Si
SLU 81	7.05	1267.08	-14693	-12235	-1203	1.83	1.83	-23879	10128	5190	40441	15344	4667	20010	No	16.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	5.25	-2079.18	-6537	-5444	-6145	1.83	1.7908	-10624	12541	6289	40441	23015	4667	27682		4.5	Si
SLV 14	7.05	3206.22	-10704	-8914	-5706	1.83	1.83	-17396	13896	7120	40441	23015	4667	27682		4.85	Si
SLV 9	5.25	-1846.71	977	814	-6316	1.464	0	0	0	0	40441	18412	3733	22145		3.51	Si
SLV 9	7.05	2400.45	-4773	-3974	-6193	1.83	1.2361	-7756	11968	4142	40441	23015	4667	27682		4.47	Si
SLV 8	5.25	3558.27	-21380	-17803	5278	1.83	1.83	-34745	16250	8327	40441	23015	4667	27682		5.24	Si
SLV 8	7.05	-952.86	-14696	-12237	5153	1.83	1.83	-23883	15193	7785	40441	23015	4667	27682		5.37	Si
SLV 3	5.25	3790.74	-13866	-11546	5107	1.83	1.83	-22533	14923	7647	40441	23015	4667	27682		5.42	Si
SLV 3	7.05	-1758.62	-8764	-7298	4666	1.83	1.83	-14243	13265	6797	40441	23015	4667	27682		5.93	Si
SLV 13	5.25	-1292.31	-7324	-6099	-4651	1.83	1.83	-11903	12797	6557	40441	23015	4667	27682		5.95	Si
SLV 13	7.05	2585.74	-10088	-8401	-4212	1.83	1.83	-16395	13696	7018	40441	23015	4667	27682		6.57	Si
SLV 5	5.25	-757.92	1084	903	-4345	1.464	0.6482	0	0	0	40441	18412	3733	22145		5.1	Si
SLV 5	7.05	1341.2	-3396	-2828	-4488	1.83	1.56	-5518	11520	5032	40441	23015	4667	27682		6.17	Si
SLV 7	5.25	4087.96	-21910	-18245	6284	1.83	1.83	-35606	16250	8327	40441	23015	4667	27682		4.41	Si
SLV 7	7.05	-1370.53	-14281	-11892	6159	1.83	1.83	-23209	15058	7716	40441	23015	4667	27682		4.49	Si
SLV 10	5.25	-2376.4	1507	1255	-7322	1.464	0	0	0	0	40441	18412	3733	22145		3.02	Si
SLV 10	7.05	2818.13	-5187	-4319	-7199	1.83	1.1151	-8430	12103	3779	40441	23015	4667	27682		3.85	Si
SLD 10	5.25	-1071.62	-3346	-2786	-4569	1.83	1.7843	-5438	11504	5747	40441	23015	4667	27682		6.06	Si
SLD 10	7.05	1981.41	-7122	-5931	-4489	1.83	1.83	-11574	12732	6524	40441	23015	4667	27682		6.17	Si
SLV 6	5.25	-1287.61	1614	1344	-5351	1.464	0.3522	0	0	0	40441	18412	3733	22145		4.14	Si
SLV 6	7.05	1758.88	-3810	-3173	-5494	1.83	1.3601	-6192	11655	4439	40441	23015	4667	27682		5.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	3124	-1601	188.95	219.51	1.16	Si
SLV 6	179667	0.38	3189	-1634	188.95	223.98	1.19	Si
SLV 9	179667	0.38	4758	-2438	188.95	330.66	1.75	Si
SLV 10	179667	0.38	4823	-2471	188.95	335.03	1.77	Si
SLV 1	179667	0.38	12341	-6324	188.95	813.76	4.31	Si
SLV 2	179667	0.38	12438	-6373	188.95	819.56	4.34	Si
SLV 13	179667	0.38	17787	-9114	188.95	1127.37	5.97	Si
SLV 14	179667	0.38	17884	-9164	188.95	1132.67	5.99	Si
SLV 3	179667	0.38	21889	-11216	188.95	1345.17	7.12	Si
SLV 4	179667	0.38	21986	-11265	188.95	1350.1	7.15	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-13390	-19353	313	0.707	1620	0.954	10.77301	4.54183	Si
SLV 11	-13239	-19474	313	0.714	1604.7	0.953	10.88093	4.54183	Si
SLV 8	-12887	-18226	419	0.723	1569	0.952	11.02886	4.54183	Si
SLV 7	-12737	-18346	419	0.73	1553.7	0.952	11.14344	4.54183	Si
SLV 16	-10698	-13856	-65	0.873	1346.8	0.946	13.41329	5.32179	Si
SLV 15	-10475	-14035	-66	0.888	1324.1	0.945	13.66054	5.32179	Si
SLV 4	-9023	-10099	289	0.983	1177.1	0.939	15.20854	5.32179	Si
SLV 3	-8800	-10278	289	1.003	1154.4	0.938	15.53901	5.32179	Si
SLV 14	-7857	-8043	-283	1.099	1059.2	0.933	17.11305	5.32179	Si
SLV 13	-7634	-8222	-284	1.125	1036.6	0.932	17.53215	5.32179	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.959	SLU 42	Si
V_SLU	14.96	SLU 42	Si
PF_SLV	0	SLV 5	No
V_SLV	3.024	SLV 10	Si
PFFP_SLV	1.162	SLV 5	Si
R_SLV	2.372	SLV 12	Si

Maschio 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L5	L6	9.12	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	4.35	-16010.56	-88044	-0.000062	0.0003743	0.0035	9.12	265518.46	326916.01	326916.01	20.42	No	Si
SLU 52	7.9	-6647.08	-60662	-0.0000396	0.0003743	0.0035	9.12	212075.42	254820.62	254820.62	38.34	No	Si
SLU 61	4.35	-16632.19	-92011	-0.0000651	0.0003743	0.0035	9.12	271079.89	334598.09	334598.09	20.12	No	Si
SLU 61	7.9	-7319.47	-63292	-0.0000416	0.0003743	0.0035	9.12	218351.19	262826.44	262826.44	35.91	No	Si
SLU 84	4.35	-16721.28	-105688	-0.000075	0.0003743	0.0035	9.12	286021.97	359986.62	359986.62	21.53	No	Si
SLU 84	7.9	-6739.93	-73523	-0.0000481	0.0003743	0.0035	9.12	240453.61	292047.22	292047.22	43.33	No	Si
SLU 63	4.35	-15686.55	-93621	-0.0000658	0.0003743	0.0035	9.12	273180.47	337640.86	337640.86	21.52	No	Si
SLU 63	7.9	-6263.65	-64820	-0.0000422	0.0003743	0.0035	9.12	221883.93	267452.36	267452.36	42.7	No	Si
SLU 81	4.35	-17007.56	-104196	-0.000074	0.0003743	0.0035	9.12	284711.29	357267.14	357267.14	21.01	No	Si
SLU 81	7.9	-7800.76	-72053	-0.0000476	0.0003743	0.0035	9.12	237503.14	288005.27	288005.27	36.92	No	Si
SLU 60	4.35	-15972.84	-92130	-0.0000649	0.0003743	0.0035	9.12	271238.44	334823.72	334823.72	20.96	No	Si
SLU 60	7.9	-7324.48	-63349	-0.0000417	0.0003743	0.0035	9.12	218484.54	262999.3	262999.3	35.91	No	Si
SLU 19	4.35	-14035.35	-76923	-0.0000535	0.0003743	0.0035	9.12	246984.46	301386.14	301386.14	21.47	No	Si
SLU 19	7.9	-6269.47	-52963	-0.0000345	0.0003743	0.0035	9.12	192311.13	230607.89	230607.89	36.78	No	Si
SLU 82	4.35	-17666.91	-104077	-0.0000742	0.0003743	0.0035	9.12	284603.19	357049.32	357049.32	20.21	No	Si
SLU 82	7.9	-7795.75	-71996	-0.0000476	0.0003743	0.0035	9.12	237387.2	287848.5	287848.5	36.92	No	Si
SLU 10	4.35	-13413.72	-72956	-0.0000506	0.0003743	0.0035	9.12	239323.45	290486.84	290486.84	21.66	No	Si
SLU 10	7.9	-5597.08	-50332	-0.0000326	0.0003743	0.0035	9.12	185082.27	222173.02	222173.02	39.69	No	Si
SLU 73	4.35	-17045.28	-100110	-0.0000711	0.0003743	0.0035	9.12	280720.9	349755.56	349755.56	20.52	No	Si
SLU 73	7.9	-7123.37	-69366	-0.0000455	0.0003743	0.0035	9.12	231914.53	280613.89	280613.89	39.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	4.35	-104034.83	-73116	-0.0000866	0.0005615	0.0035	9.12		310940.09	310940.09	2.99		Si
SLV 10	7.9	-31425.25	-48840	-0.0000413	0.0005615	0.0035	9.12		225930.74	225930.74	7.19		Si
SLV 11	4.35	77515.86	-80176	-0.0000803	0.0005615	0.0035	9.12		310942.41	310942.41	4.01		Si
SLV 11	7.9	18539.16	-54034	-0.0000394	0.0005615	0.0035	9.12		220026.15	220026.15	11.87		Si
SLV 12	4.35	76919.01	-80093	-0.00008	0.0005615	0.0035	9.12		310645.01	310645.01	4.04		Si
SLV 12	7.9	20260.49	-54102	-0.0000402	0.0005615	0.0035	9.12		220256.5	220256.5	10.87		Si
SLV 6	4.35	-99199.41	-60069	-0.0000761	0.0005615	0.0035	9.12		266460.28	266460.28	2.69		Si
SLV 6	7.9	-27792.03	-43154	-0.0000364	0.0005615	0.0035	9.12		204355.61	204355.61	7.35		Si
SLD 5	4.35	-62026.84	-63952	-0.0000632	0.0005615	0.0035	9.12		279921.59	279921.59	4.51		Si
SLD 5	7.9	-19084.06	-45241	-0.0000342	0.0005615	0.0035	9.12		212353.79	212353.79	11.13		Si
SLD 6	4.35	-62389.04	-63902	-0.0000633	0.0005615	0.0035	9.12		279745.56	279745.56	4.48		Si
SLD 6	7.9	-18039.47	-45283	-0.0000338	0.0005615	0.0035	9.12		212512.62	212512.62	11.78		Si
SLV 8	4.35	81754.43	-67046	-0.0000733	0.0005615	0.0035	9.12		264656.06	264656.06	3.24		Si
SLV 8	7.9	23893.71	-48415	-0.0000381	0.0005615	0.0035	9.12		201138.74	201138.74	8.42		Si
SLV 5	4.35	-98602.57	-60152	-0.0000759	0.0005615	0.0035	9.12		266747.09	266747.09	2.71		Si
SLV 5	7.9	-29513.37	-43086	-0.000037	0.0005615	0.0035	9.12		204095.54	204095.54	6.92		Si
SLV 7	4.35	82351.27	-67129	-0.0000736	0.0005615	0.0035	9.12		264945.49	264945.49	3.22		Si
SLV 7	7.9	22172.38	-48347	-0.0000373	0.0005615	0.0035	9.12		200911.19	200911.19	9.06		Si
SLV 9	4.35	-103437.99	-73199	-0.0000864	0.0005615	0.0035	9.12		311214.6	311214.6	3.01		Si
SLV 9	7.9	-33146.59	-48772	-0.000042	0.0005615	0.0035	9.12		225685.53	225685.53	6.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	4.35	-15225.75	-102960	-85736	856	9.12	9.12	-33575	10833	46586	40441	76466	23256	87027	No	101.71	Si
SLU 74	7.9	-6347.07	-71972	-59932	861	9.12	9.12	-23470	10074	36265	40441	76466	23256	76706	No	89.07	Si
SLU 66	4.35	-12749.63	-93889	-78182	782	9.12	9.12	-30617	10833	43565	40441	76466	23256	84006	No	107.37	Si
SLU 66	7.9	-4785.96	-65923	-54895	788	9.12	9.12	-21497	9811	34250	40441	76466	23256	74691	No	94.8	Si
SLU 41	4.35	-13465.08	-90719	-75543	777	9.12	9.12	-29583	10833	42509	40441	76466	23256	82950	No	106.7	Si
SLU 41	7.9	-5694.94	-63251	-52670	782	9.12	9.12	-20626	9695	33360	40441	76466	23256	73801	No	94.38	Si
SLU 32	4.35	-12628.91	-87872	-73172	810	9.12	9.12	-28654	10765	41561	40441	76466	23256	82001	No	101.28	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 32	7.9	-5297.08	-61643	-51331	814	9.12	9.12	-20101	9625	32824	40441	76466	23256	73265	No	89.99	Si
SLU 24	4.35	-10152.79	-78801	-65619	736	9.12	9.12	-25696	10371	38539	40441	76466	23256	78980	No	107.26	Si
SLU 24	7.9	-3735.97	-55594	-46294	741	9.12	9.12	-18129	9362	30810	40441	76466	23256	71251	No	96.17	Si
SLU 83	4.35	-16061.93	-105807	-88107	823	9.12	9.12	-34503	10833	47534	40441	76466	23256	87975	No	106.83	Si
SLU 83	7.9	-6744.94	-73580	-61271	829	9.12	9.12	-23994	10144	36801	40441	76466	23256	77241	No	93.18	Si
SLU 22	4.35	-10873.4	-76150	-63411	734	9.12	9.12	-24832	10255	37656	40441	76466	23256	78097	No	106.42	Si
SLU 22	7.9	-4520.61	-53082	-44202	738	9.12	9.12	-17310	9252	29973	40441	76466	23256	70414	No	95.39	Si
SLU 81	4.35	-17007.56	-104196	-86766	885	9.12	9.12	-33978	10833	46998	40441	76466	23256	87439	No	98.85	Si
SLU 81	7.9	-7800.76	-72053	-60000	890	9.12	9.12	-23496	10077	36292	40441	76466	23256	76733	No	86.23	Si
SLU 64	4.35	-13470.25	-91238	-75975	780	9.12	9.12	-29752	10833	42682	40441	76466	23256	83123	No	106.58	Si
SLU 64	7.9	-5570.61	-63412	-52804	785	9.12	9.12	-20678	9702	33414	40441	76466	23256	73855	No	94.06	Si
SLU 39	4.35	-14410.72	-89108	-74202	839	9.12	9.12	-29058	10819	41972	40441	76466	23256	82413	No	98.28	Si
SLU 39	7.9	-6750.77	-61724	-51398	843	9.12	9.12	-20128	9628	32851	40441	76466	23256	73292	No	86.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	4.35	-62389.04	-63902	-53212	-29479	9.12	9.12	-20838	14584	39723	40441	114699	23256	80164		2.72	Si
SLD 6	7.9	-18039.47	-45283	-37708	-27732	9.12	9.12	-14766	13370	34142	40441	114699	23256	74582		2.69	Si
SLV 11	4.35	77515.86	-80176	-66764	51666	9.12	9.12	-26145	15646	45144	40441	114699	23256	85585		1.66	Si
SLV 11	7.9	18539.16	-54034	-44994	48721	9.12	9.12	-17620	13941	36436	40441	114699	23256	76877		1.58	Si
SLV 8	4.35	81754.43	-67046	-55830	45033	9.12	9.12	-21863	14789	40771	40441	114699	23256	81212		1.8	Si
SLV 8	7.9	23893.71	-48415	-40316	42274	9.12	9.12	-15788	13574	34663	40441	114699	23256	75104		1.78	Si
SLV 10	4.35	-104034.83	-73116	-60885	-48734	9.12	9.12	-23843	15185	42792	40441	114699	23256	83233		1.71	Si
SLV 10	7.9	-31425.25	-48840	-40670	-45967	9.12	9.12	-15926	13602	34734	40441	114699	23256	75175		1.64	Si
SLV 12	4.35	76919.01	-80093	-66695	46842	9.12	9.12	-26118	15640	45116	40441	114699	23256	85557		1.83	Si
SLV 12	7.9	20260.49	-54102	-45051	43898	9.12	9.12	-17642	13945	36459	40441	114699	23256	76900		1.75	Si
SLV 9	4.35	-103437.99	-73199	-60954	-43911	9.12	9.12	-23870	15191	42820	40441	114699	23256	83261		1.9	Si
SLV 9	7.9	-33146.59	-48772	-40613	-41144	9.12	9.12	-15904	13598	34723	40441	114699	23256	75164		1.83	Si
SLV 7	4.35	82351.27	-67129	-55899	49857	9.12	9.12	-21890	14795	40798	40441	114699	23256	81239		1.63	Si
SLV 7	7.9	22172.38	-48347	-40259	47098	9.12	9.12	-15766	13570	34652	40441	114699	23256	75093		1.59	Si
SLV 5	4.35	-98602.57	-60152	-50090	-45719	9.12	8.7624	-20621	14541	38475	40441	114699	23256	78915		1.73	Si
SLV 5	7.9	-29513.37	-43086	-35878	-42767	9.12	9.12	-14050	13227	33776	40441	114699	23256	74217		1.74	Si
SLD 11	4.35	40705.48	-76344	-63572	30602	9.12	9.12	-24895	15396	43867	40441	114699	23256	84308		2.76	Si
SLD 11	7.9	8786.6	-51905	-43222	28862	9.12	9.12	-16926	13802	35727	40441	114699	23256	76168		2.64	Si
SLV 6	4.35	-99199.41	-60069	-50020	-50543	9.12	8.7257	-20679	14552	38447	40441	114699	23256	78888		1.56	Si
SLV 6	7.9	-27792.03	-43154	-35935	-47591	9.12	9.12	-14072	13231	33787	40441	114699	23256	74228		1.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.38	16823	-42960	941.67	5351.84	5.68	Si
SLV 2	179667	0.38	16841	-43004	941.67	5356.67	5.69	Si
SLV 3	179667	0.38	17623	-45002	941.67	5573.28	5.92	Si
SLV 4	179667	0.38	17640	-45046	941.67	5578.04	5.92	Si
SLV 5	179667	0.38	19838	-50659	941.67	6171	6.55	Si
SLV 6	179667	0.38	19850	-50689	941.67	6174.08	6.56	Si
SLV 7	179667	0.38	22504	-57467	941.67	6859.84	7.28	Si
SLV 8	179667	0.38	22516	-57497	941.67	6862.78	7.29	Si
SLV 9	179667	0.38	23220	-59295	941.67	7039.12	7.48	Si
SLV 10	179667	0.38	23232	-59325	941.67	7042.02	7.48	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-58911	-92853	2227	0.775	7279.6	0.949	11.8624	5.32179	Si
SLV 15	-58809	-92976	2227	0.776	7269.3	0.949	11.88022	5.32179	Si
SLV 14	-57332	-90760	2230	0.792	7119.4	0.948	12.1457	5.32179	Si
SLV 13	-57231	-90883	2230	0.794	7109.1	0.948	12.16442	5.32179	Si
SLV 12	-54102	-80093	674	0.857	6791.6	0.946	13.15764	4.54183	Si
SLV 11	-54034	-80176	673	0.857	6784.7	0.946	13.17207	4.54183	Si
SLV 4	-39956	-49362	-2200	1.065	5359.1	0.934	16.56903	5.32179	Si
SLV 3	-39855	-49486	-2200	1.067	5348.8	0.934	16.60444	5.32179	Si
SLV 10	-48840	-73116	685	0.932	6258.2	0.942	14.37275	4.54183	Si
SLV 9	-48772	-73199	685	0.933	6251.3	0.942	14.39006	4.54183	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.118	SLU 61	Si
V_SLU	86.233	SLU 81	Si
PF_SLV	2.686	SLV 6	Si
V_SLV	1.56	SLV 6	Si
PFFP_SLV	5.683	SLV 1	Si
R_SLV	2.229	SLV 16	Si

Maschio 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	-3.169	-24.614	5.951	L6	L7	9.121	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	7.9	-9017.16	-67995	-0.0000454	0.0003743	0.0035	9.1207	228990.99	276868.5	276868.5	30.7	No	Si
SLU 81	11.45	-3894.54	-35771	-0.0000228	0.0003743	0.0035	9.1207	140685.02	171495	171495	44.03	No	Si
SLU 61	7.9	-8623.89	-60086	-0.0000401	0.0003743	0.0035	9.1207	210689.31	253071.51	253071.51	29.35	No	Si
SLU 61	11.45	-3358.69	-31298	-0.0000198	0.0003743	0.0035	9.1207	125547.01	154623.88	154623.88	46.04	No	Si
SLU 62	7.9	-8391.89	-61808	-0.0000411	0.0003743	0.0035	9.1207	214860.73	258351.78	258351.78	30.79	No	Si
SLU 62	11.45	-3648.59	-32846	-0.0000209	0.0003743	0.0035	9.1207	130865.26	160419.4	160419.4	43.97	No	Si
SLU 18	7.9	-7112.5	-50084	-0.000033	0.0003743	0.0035	9.1207	184403.29	221348.29	221348.29	31.12	No	Si
SLU 18	11.45	-3033.56	-26092	-0.0000165	0.0003743	0.0035	9.1207	107046.25	134720.73	134720.73	44.41	No	Si
SLU 63	7.9	-8511.55	-61773	-0.0000411	0.0003743	0.0035	9.1207	214778.37	258246.67	258246.67	30.34	No	Si
SLU 63	11.45	-3389.92	-32818	-0.0000208	0.0003743	0.0035	9.1207	130769.35	160313.57	160313.57	47.29	No	Si
SLU 84	7.9	-9024.48	-69649	-0.0000465	0.0003743	0.0035	9.1207	232538.95	281418.02	281418.02	31.18	No	Si
SLU 84	11.45	-3667.1	-37263	-0.0000236	0.0003743	0.0035	9.1207	145577.32	176743.78	176743.78	48.2	No	Si
SLU 82	7.9	-9136.82	-67961	-0.0000454	0.0003743	0.0035	9.1207	228916.1	276773.75	276773.75	30.29	No	Si
SLU 82	11.45	-3635.87	-35743	-0.0000227	0.0003743	0.0035	9.1207	140592	171390.45	171390.45	47.14	No	Si
SLU 60	7.9	-8504.23	-60120	-0.00004	0.0003743	0.0035	9.1207	210773.71	253177.48	253177.48	29.77	No	Si
SLU 60	11.45	-3617.36	-31326	-0.0000199	0.0003743	0.0035	9.1207	125644.42	154728.72	154728.72	42.77	No	Si
SLU 19	7.9	-7232.16	-50049	-0.000033	0.0003743	0.0035	9.1207	184306.78	221229.17	221229.17	30.59	No	Si
SLU 19	11.45	-2774.88	-26063	-0.0000164	0.0003743	0.0035	9.1207	106943.68	134610.05	134610.05	48.51	No	Si
SLU 52	7.9	-8137.5	-57774	-0.0000384	0.0003743	0.0035	9.1207	204926.66	245914.83	245914.83	30.22	No	Si
SLU 52	11.45	-2955.01	-30209	-0.000019	0.0003743	0.0035	9.1207	121758.92	150598.16	150598.16	50.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	7.9	30243.13	-44142	-0.0000379	0.0005615	0.0035	9.1207		186943.97	186943.97	6.18		Si
SLV 12	11.45	-5761.68	-24742	-0.0000166	0.0005615	0.0035	9.1207		131566.16	131566.16	22.83		Si
SLV 5	7.9	-41741.7	-48320	-0.0000451	0.0005615	0.0035	9.1207		224077.94	224077.94	5.37		Si
SLV 5	11.45	769.4	-24278	-0.0000145	0.0005615	0.0035	9.1207		109146.28	109146.28	141.86		Si
SLV 7	7.9	27538.35	-49786	-0.0000404	0.0005615	0.0035	9.1207		205745.46	205745.46	7.47		Si
SLV 7	11.45	-5265.08	-25507	-0.0000169	0.0005615	0.0035	9.1207		134746.99	134746.99	25.59		Si
SLV 11	7.9	30780.89	-44301	-0.0000382	0.0005615	0.0035	9.1207		187468.54	187468.54	6.09		Si
SLV 11	11.45	-3694.63	-24762	-0.0000159	0.0005615	0.0035	9.1207		131647.44	131647.44	35.63		Si
SLV 10	7.9	-39036.92	-42676	-0.0000405	0.0005615	0.0035	9.1207		202549.01	202549.01	5.19		Si
SLV 10	11.45	272.8	-23513	-0.0000138	0.0005615	0.0035	9.1207		105998.96	105998.96	388.55		Si
SLD 6	7.9	-27138.91	-47465	-0.0000388	0.0005615	0.0035	9.1207		220915.49	220915.49	8.14		Si
SLD 6	11.45	-1812.67	-24360	-0.0000149	0.0005615	0.0035	9.1207		129979.92	129979.92	71.71		Si
SLV 6	7.9	-42279.46	-48162	-0.0000452	0.0005615	0.0035	9.1207		223508.36	223508.36	5.29		Si
SLV 6	11.45	-1297.65	-24259	-0.0000146	0.0005615	0.0035	9.1207		129558.86	129558.86	99.84		Si
SLV 8	7.9	27000.59	-49628	-0.00004	0.0005615	0.0035	9.1207		205214.51	205214.51	7.6		Si
SLV 8	11.45	-7332.13	-25488	-0.0000177	0.0005615	0.0035	9.1207		134665.47	134665.47	18.37		Si
SLV 9	7.9	-38499.16	-42835	-0.0000404	0.0005615	0.0035	9.1207		203153.5	203153.5	5.28		Si
SLV 9	11.45	2339.85	-23533	-0.0000146	0.0005615	0.0035	9.1207		106080.07	106080.07	45.34		Si
SLD 5	7.9	-26812.58	-47561	-0.0000387	0.0005615	0.0035	9.1207		221280.04	221280.04	8.25		Si
SLD 5	11.45	-558.28	-24372	-0.0000144	0.0005615	0.0035	9.1207		130029.19	130029.19	232.91		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 34	7.9	-7146.36	-57301	-47715	-990	9.1207	9.1207	-18684	9436	31379	40441	76472	23258	71820	No	72.57	Si
SLU 34	11.45	-2679.62	-30941	-25765	-881	9.1207	9.1207	-10089	8290	22599	40441	76472	23258	63040	No	71.57	Si
SLU 13	7.9	-6633.44	-49425	-41157	-1072	9.1207	9.1207	-16116	9093	28756	40441	76472	23258	69197	No	64.58	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 13	11.45	-2402.44	-26495	-22063	-962	9.1207	9.1207	-8639	8096	21119	40441	76472	23258	61560	No	63.96	Si
SLU 47	7.9	-6704.11	-54122	-45068	-951	9.1207	9.1207	-17648	9297	30321	40441	76472	23258	70761	No	74.44	Si
SLU 47	11.45	-2446.7	-29234	-24344	-841	9.1207	9.1207	-9532	8215	22031	40441	76472	23258	62472	No	74.27	Si
SLU 63	7.9	-8511.55	-61773	-51440	-956	9.1207	9.1207	-20142	9630	32869	40441	76472	23258	73310	No	76.68	Si
SLU 63	11.45	-3389.92	-32818	-27328	-891	9.1207	9.1207	-10701	8371	23224	40441	76472	23258	63665	No	71.44	Si
SLU 59	7.9	-7833.05	-61173	-50939	-922	9.1207	9.1207	-19947	9604	32669	40441	76472	23258	73110	No	79.31	Si
SLU 59	11.45	-3189.92	-33268	-27703	-856	9.1207	9.1207	-10848	8391	23375	40441	76472	23258	63816	No	74.56	Si
SLU 76	7.9	-8538.09	-67337	-56073	-1063	9.1207	9.1207	-21957	9872	34722	40441	76472	23258	75163	No	70.73	Si
SLU 76	11.45	-3263.42	-36175	-30123	-954	9.1207	9.1207	-11795	8517	24343	40441	76472	23258	64784	No	67.91	Si
SLU 73	7.9	-8650.43	-65650	-54667	-1014	9.1207	9.1207	-21406	9799	34160	40441	76472	23258	74601	No	73.59	Si
SLU 73	11.45	-3232.19	-34655	-28857	-906	9.1207	9.1207	-11300	8451	23836	40441	76472	23258	64277	No	70.95	Si
SLU 55	7.9	-8025.16	-59462	-49515	-1145	9.1207	9.1207	-19389	9530	32099	40441	76472	23258	72540	No	63.38	Si
SLU 55	11.45	-2986.24	-31729	-26422	-1036	9.1207	9.1207	-10346	8324	22862	40441	76472	23258	63303	No	61.13	Si
SLU 52	7.9	-8137.5	-57774	-48110	-1096	9.1207	9.1207	-18838	9456	31537	40441	76472	23258	71978	No	65.7	Si
SLU 52	11.45	-2955.01	-30209	-25156	-988	9.1207	9.1207	-9850	8258	22356	40441	76472	23258	62797	No	63.59	Si
SLU 10	7.9	-6745.77	-47738	-39752	-1023	9.1207	9.1207	-15566	9020	28194	40441	76472	23258	68635	No	67.11	Si
SLU 10	11.45	-2371.2	-24975	-20797	-914	9.1207	9.1207	-8144	8030	20613	40441	76472	23258	61053	No	66.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	7.9	-42279.46	-48162	-40105	-34878	9.1207	9.1207	-15704	13557	34623	40441	114708	23258	75064		2.15	Si
SLV 6	11.45	-1297.65	-24259	-20200	-30559	9.1207	9.1207	-7910	11999	30642	40441	114708	23258	71083		2.33	Si
SLV 10	7.9	-39036.92	-42676	-35537	-34562	9.1207	9.1207	-13915	13200	33709	40441	114708	23258	74150		2.15	Si
SLV 10	11.45	272.8	-23513	-19580	-30176	9.1207	9.1207	-7667	11950	30518	40441	114708	23258	70959		2.35	Si
SLV 12	7.9	30243.13	-44142	-36758	38082	9.1207	9.1207	-14393	13295	33954	40441	114708	23258	74395		1.95	Si
SLV 12	11.45	-5761.68	-24742	-20603	33759	9.1207	9.1207	-8068	12030	30723	40441	114708	23258	71164		2.11	Si
SLV 7	7.9	27538.35	-49786	-41457	34199	9.1207	9.1207	-16234	13663	35023	40441	114708	23258	75464		2.21	Si
SLV 7	11.45	-5265.08	-25507	-21240	29810	9.1207	9.1207	-8317	12080	30850	40441	114708	23258	71291		2.39	Si
SLV 11	7.9	30780.89	-44301	-36890	34515	9.1207	9.1207	-14445	13306	33980	40441	114708	23258	74421		2.16	Si
SLV 11	11.45	-3694.63	-24762	-20620	30193	9.1207	9.1207	-8074	12031	30726	40441	114708	23258	71167		2.36	Si
SLD 9	7.9	-24807.43	-44156	-36769	-22416	9.1207	9.1207	-14398	13296	33956	40441	114708	23258	74397		3.32	Si
SLD 9	11.45	408.46	-23948	-19942	-19833	9.1207	9.1207	-7809	11978	30590	40441	114708	23258	71031		3.58	Si
SLV 9	7.9	-38499.16	-42835	-35669	-38130	9.1207	9.1207	-13967	13210	33736	40441	114708	23258	74177		1.95	Si
SLV 9	11.45	2339.85	-23533	-19596	-33742	9.1207	9.1207	-7673	11951	30521	40441	114708	23258	70962		2.1	Si
SLV 8	7.9	27000.59	-49628	-41326	37766	9.1207	9.1207	-16182	13653	34970	40441	114708	23258	75411		2	Si
SLV 8	11.45	-7332.13	-25488	-21224	33376	9.1207	9.1207	-8311	12079	30847	40441	114708	23258	71288		2.14	Si
SLV 5	7.9	-41741.7	-48320	-40237	-38445	9.1207	9.1207	-15756	13568	34649	40441	114708	23258	75090		1.95	Si
SLV 5	11.45	769.4	-24278	-20217	-34125	9.1207	9.1207	-7916	12000	30645	40441	114708	23258	71086		2.08	Si
SLD 5	7.9	-26812.58	-47561	-39605	-22618	9.1207	9.1207	-15508	13518	34523	40441	114708	23258	74964		3.31	Si
SLD 5	11.45	-558.28	-24372	-20295	-20077	9.1207	9.1207	-7947	12006	30661	40441	114708	23258	71102		3.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.45	11768	-30053	1132.74	3883.16	3.43	Si
SLV 13	179667	0.45	11820	-30185	1132.74	3898.81	3.44	Si
SLV 16	179667	0.45	11911	-30419	1132.74	3926.49	3.47	Si
SLV 15	179667	0.45	11963	-30551	1132.74	3942.1	3.48	Si
SLV 10	179667	0.45	12812	-32719	1132.74	4196.32	3.7	Si
SLV 9	179667	0.45	12847	-32808	1132.74	4206.69	3.71	Si
SLV 12	179667	0.45	13290	-33940	1132.74	4338.05	3.83	Si
SLV 11	179667	0.45	13325	-34029	1132.74	4348.33	3.84	Si
SLV 6	179667	0.45	13843	-35351	1132.74	4500.6	3.97	Si
SLV 5	179667	0.45	13878	-35440	1132.74	4510.79	3.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-25951	-55711	-2580	1.475	3949.5	0.917	23.38947	6.13636	Si
SLV 4	-25922	-55476	-2580	1.476	3946.6	0.917	23.40996	6.13636	Si
SLV 1	-25582	-55271	-2572	1.491	3912.6	0.916	23.65693	6.13636	Si
SLV 2	-25553	-55036	-2572	1.492	3909.7	0.916	23.67789	6.13636	Si
SLV 15	-23467	-37426	2566	1.588	3701.4	0.913	25.29371	6.13636	Si
SLV 16	-23438	-37191	2566	1.59	3698.5	0.913	25.31781	6.13636	Si
SLV 13	-23098	-36987	2574	1.606	3664.6	0.912	25.5974	6.13636	Si
SLV 14	-23069	-36751	2574	1.608	3661.7	0.912	25.62208	6.13636	Si
SLV 7	-25507	-49786	-789	1.547	3905.1	0.916	24.55164	5.23702	Si
SLV 8	-25488	-49628	-789	1.548	3903.1	0.916	24.56633	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	29.345	SLU 61	Si
V_SLU	61.126	SLU 55	Si
PF_SLV	5.189	SLV 10	Si
V_SLV	1.945	SLV 9	Si
PFFP_SLV	3.428	SLV 14	Si
R_SLV	3.812	SLV 3	Si

Maschio 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L6	L7	1.837	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	8.8	-204.23	-7842	-0.0000252	0.0003743	0.0035	1.8365	6122.77	7274.43	7274.43	35.62	No	Si
SLU 39	10.6	-1047.58	-8075	-0.0000342	0.0003743	0.0035	1.8365	6271.35	7445.13	7445.13	7.11	No	Si
SLU 40	8.8	-176.25	-7813	-0.0000248	0.0003743	0.0035	1.8365	6103.53	7252.29	7252.29	41.15	No	Si
SLU 40	10.6	-1063.6	-8101	-0.0000345	0.0003743	0.0035	1.8365	6287.9	7463.68	7463.68	7.02	No	Si
SLU 33	8.8	-240.34	-8220	-0.0000267	0.0003743	0.0035	1.8365	6362.86	7547.62	7547.62	31.4	No	Si
SLU 33	10.6	-1028.81	-8391	-0.000035	0.0003743	0.0035	1.8365	6470.53	7667.9	7667.9	7.45	No	Si
SLU 31	8.8	-200.98	-7635	-0.0000245	0.0003743	0.0035	1.8365	5988.84	7121.43	7121.43	35.43	No	Si
SLU 31	10.6	-987.74	-7777	-0.0000327	0.0003743	0.0035	1.8365	6080.47	7225.82	7225.82	7.32	No	Si
SLU 81	8.8	-347.99	-9394	-0.0000314	0.0003743	0.0035	1.8365	7078.74	8369.58	8369.58	24.05	No	Si
SLU 81	10.6	-1117.71	-9262	-0.0000387	0.0003743	0.0035	1.8365	7000.44	8275.73	8275.73	7.4	No	Si
SLU 41	8.8	-214.58	-8233	-0.0000265	0.0003743	0.0035	1.8365	6371.06	7556.8	7556.8	35.22	No	Si
SLU 41	10.6	-1070.44	-8514	-0.0000359	0.0003743	0.0035	1.8365	6546.64	7752.65	7752.65	7.24	No	Si
SLU 84	8.8	-330.36	-9755	-0.0000324	0.0003743	0.0035	1.8365	7288.59	8614.72	8614.72	26.08	No	Si
SLU 84	10.6	-1156.59	-9727	-0.0000406	0.0003743	0.0035	1.8365	7272.52	8596.19	8596.19	7.43	No	Si
SLU 34	8.8	-211.33	-8026	-0.0000258	0.0003743	0.0035	1.8365	6239.97	7409.93	7409.93	35.06	No	Si
SLU 34	10.6	-1010.6	-8216	-0.0000343	0.0003743	0.0035	1.8365	6360.34	7544.81	7544.81	7.47	No	Si
SLU 42	8.8	-186.6	-8203	-0.0000261	0.0003743	0.0035	1.8365	6352.24	7535.73	7535.73	40.38	No	Si
SLU 42	10.6	-1086.46	-8540	-0.0000361	0.0003743	0.0035	1.8365	6562.78	7770.68	7770.68	7.15	No	Si
SLU 82	8.8	-320.01	-9365	-0.0000311	0.0003743	0.0035	1.8365	7061.13	8348.38	8348.38	26.09	No	Si
SLU 82	10.6	-1133.73	-9288	-0.0000389	0.0003743	0.0035	1.8365	7015.91	8294.18	8294.18	7.32	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	8.8	1017.46	-3558	-0.0000198	0.0005615	0.0035	1.8365		3328.49	3328.49	3.27		Si
SLD 6	10.6	-1551.09	-6186	-0.0000328	0.0005615	0.0035	1.8365		6178.51	6178.51	3.98		Si
SLV 5	8.8	2409.76	-1077	-0.0113433	0.0005615	0.0035	1.4692		1160.91	1160.91	0.48		No
SLV 5	10.6	-2551.3	-6692	-0.0000448	0.0005615	0.0035	1.8365		6588.44	6588.44	2.58		Si
SLV 10	8.8	1467.38	-1604	-0.000282	0.0005615	0.0035	1.4692		1629.26	1629.26	1.11		Si
SLV 10	10.6	-1472.37	-5495	-0.00003	0.0005615	0.0035	1.8365		5623.62	5623.62	3.82		Si
SLV 2	8.8	862.2	-4818	-0.0000221	0.0005615	0.0035	1.8365		4391.3	4391.3	5.09		Si
SLV 2	10.6	-1937.18	-6894	-0.0000387	0.0005615	0.0035	1.8365		6753.46	6753.46	3.49		Si
SLV 1	8.8	1500.73	-4449	-0.0000272	0.0005615	0.0035	1.8365		4082.56	4082.56	2.72		Si
SLV 1	10.6	-2500.57	-7664	-0.0000466	0.0005615	0.0035	1.8365		7357.24	7357.24	2.94		Si
SLV 16	8.8	-2227.47	-8968	-0.0000479	0.0005615	0.0035	1.8365		8373.94	8373.94	3.76		Si
SLV 16	10.6	1217.19	-4678	-0.0000251	0.0005615	0.0035	1.8365		4274.55	4274.55	3.51		Si
SLD 5	8.8	1278.3	-3407	-0.0000222	0.0005615	0.0035	1.8365		3199.6	3199.6	2.5		Si
SLD 5	10.6	-1781.24	-6500	-0.000036	0.0005615	0.0035	1.8365		6432.8	6432.8	3.61		Si
SLV 9	8.8	1897.21	-1355	-0.0049368	0.0005615	0.0035	1.4692		1409.26	1409.26	0.74		No
SLV 9	10.6	-1851.62	-6013	-0.0000352	0.0005615	0.0035	1.8365		6039.08	6039.08	3.26		Si
SLV 6	8.8	1979.93	-1325	-0.0059386	0.0005615	0.0035	1.4692		1382.42	1382.42	0.7		No
SLV 6	10.6	-2172.05	-6174	-0.000039	0.0005615	0.0035	1.8365		6168.86	6168.86	2.84		Si
SLV 12	8.8	-3136.49	-12340	-0.0000677	0.0005615	0.0035	1.8365		10842.77	10842.77	3.46		Si
SLV 12	10.6	1267.92	-5650	-0.0000285	0.0005615	0.0035	1.8365		5078.43	5078.43	4.01		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	8.8	-330.36	-9755	-8123	1634	1.8365	1.8365	-15796	9051	4654	40441	15398	4683	20082	No	12.29	Si
SLU 84	10.6	-1156.59	-9727	-8100	1633	1.8365	1.8365	-15751	9045	4651	40441	15398	4683	20082	No	12.3	Si
SLU 39	8.8	-204.23	-7842	-6531	1512	1.8365	1.8365	-12700	8638	4442	40441	15398	4683	20082	No	13.28	Si
SLU 39	10.6	-1047.58	-8075	-6724	1511	1.8365	1.8365	-13076	8688	4468	40441	15398	4683	20082	No	13.29	Si
SLU 76	8.8	-355.08	-9578	-7975	1503	1.8365	1.8365	-15509	9012	4634	40441	15398	4683	20082	No	13.36	Si
SLU 76	10.6	-1080.73	-9403	-7830	1502	1.8365	1.8365	-15226	8975	4615	40441	15398	4683	20082	No	13.37	Si
SLU 78	8.8	-394.45	-10162	-8462	1520	1.8365	1.8365	-16455	9139	4699	40441	15398	4683	20082	No	13.21	Si
SLU 78	10.6	-1121.8	-10017	-8342	1519	1.8365	1.8365	-16221	9107	4683	40441	15398	4683	20082	No	13.22	Si
SLU 81	8.8	-347.99	-9394	-7823	1549	1.8365	1.8365	-15213	8973	4614	40441	15398	4683	20082	No	12.96	Si
SLU 81	10.6	-1117.71	-9262	-7713	1549	1.8365	1.8365	-14998	8944	4599	40441	15398	4683	20082	No	12.97	Si
SLU 83	8.8	-358.34	-9785	-8148	1581	1.8365	1.8365	-15845	9057	4657	40441	15398	4683	20082	No	12.7	Si
SLU 83	10.6	-1140.57	-9701	-8078	1580	1.8365	1.8365	-15709	9039	4648	40441	15398	4683	20082	No	12.71	Si
SLU 40	8.8	-176.25	-7813	-6506	1565	1.8365	1.8365	-12651	8631	4438	40441	15398	4683	20082	No	12.83	Si
SLU 40	10.6	-1063.6	-8101	-6746	1564	1.8365	1.8365	-13118	8694	4471	40441	15398	4683	20082	No	12.84	Si
SLU 42	8.8	-186.6	-8203	-6831	1597	1.8365	1.8365	-13283	8716	4482	40441	15398	4683	20082	No	12.58	Si
SLU 42	10.6	-1086.46	-8540	-7111	1596	1.8365	1.8365	-13829	8788	4519	40441	15398	4683	20082	No	12.58	Si
SLU 41	8.8	-214.58	-8233	-6855	1544	1.8365	1.8365	-13331	8722	4485	40441	15398	4683	20082	No	13.01	Si
SLU 41	10.6	-1070.44	-8514	-7090	1543	1.8365	1.8365	-13787	8783	4516	40441	15398	4683	20082	No	13.01	Si
SLU 82	8.8	-320.01	-9365	-7798	1602	1.8365	1.8365	-15164	8966	4611	40441	15398	4683	20082	No	12.53	Si
SLU 82	10.6	-1133.73	-9288	-7734	1602	1.8365	1.8365	-15041	8950	4602	40441	15398	4683	20082	No	12.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	8.8	1467.38	-1604	-1335	4382	1.4692	0.0097	0	0	0	40441	18478	3747	22225		5.07	Si
SLV 10	10.6	-1472.37	-5495	-4576	4581	1.8365	1.8365	-8898	12196	6272	40441	23098	4683	27781		6.07	Si
SLV 1	8.8	1500.73	-4449	-3705	4925	1.8365	1.7428	-7204	11857	5786	40441	23098	4683	27781		5.64	Si
SLV 1	10.6	-2500.57	-7664	-6382	4518	1.8365	1.7759	-12410	12899	6414	40441	23098	4683	27781		6.15	Si
SLV 5	8.8	2409.76	-1077	-896	6492	1.4692	0	0	0	0	40441	18478	3747	22225		3.42	Si
SLV 5	10.6	-2551.3	-6692	-5572	6434	1.8365	1.611	-12426	12902	5820	40441	23098	4683	27781		4.32	Si
SLV 11	8.8	-2706.66	-12091	-10069	-4069	1.8365	1.8365	-19580	14333	7370	40441	23098	4683	27781		6.83	Si
SLV 11	10.6	888.67	-6168	-5136	-4012	1.8365	1.8365	-9988	12414	6384	40441	23098	4683	27781		6.92	Si
SLV 6	8.8	1979.93	-1325	-1103	5651	1.4692	0	0	0	0	40441	18478	3747	22225		3.93	Si
SLV 6	10.6	-2172.05	-6174	-5141	5593	1.8365	1.6994	-10854	12587	5989	40441	23098	4683	27781		4.97	Si
SLD 5	8.8	1278.3	-3407	-2837	4170	1.8365	1.6292	-5517	11520	5255	40441	23098	4683	27781		6.66	Si
SLD 5	10.6	-1781.24	-6500	-5413	4126	1.8365	1.8365	-10526	12522	6439	40441	23098	4683	27781		6.73	Si
SLV 9	8.8	1897.21	-1355	-1128	5222	1.4692	0	0	0	0	40441	18478	3747	22225		4.26	Si
SLV 9	10.6	-1851.62	-6013	-5007	5421	1.8365	1.831	-9737	12364	6339	40441	23098	4683	27781		5.12	Si
SLV 12	8.8	-3136.49	-12340	-10276	-4910	1.8365	1.8365	-19982	14413	7412	40441	23098	4683	27781		5.66	Si
SLV 12	10.6	1267.92	-5650	-4705	-4852	1.8365	1.8365	-9149	12247	6298	40441	23098	4683	27781		5.73	Si
SLV 8	8.8	-2623.94	-12061	-10044	-3640	1.8365	1.8365	-19531	14323	7365	40441	23098	4683	27781		7.63	Si
SLV 8	10.6	568.23	-6329	-5270	-3839	1.8365	1.8365	-10248	12466	6411	40441	23098	4683	27781		7.24	Si
SLV 2	8.8	862.2	-4818	-4012	3677	1.8365	1.8365	-7802	11977	6159	40441	23098	4683	27781		7.56	Si
SLV 2	10.6	-1937.18	-6894	-5741	3270	1.8365	1.8365	-11164	12650	6505	40441	23098	4683	27781		8.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	8240	-4237	228.09	561.24	2.46	Si
SLV 9	179667	0.45	8652	-4449	228.09	587.56	2.58	Si
SLV 6	179667	0.45	8877	-4565	228.09	601.95	2.64	Si
SLV 5	179667	0.45	9288	-4776	228.09	628.02	2.75	Si
SLV 14	179667	0.45	10296	-5295	228.09	691.28	3.03	Si
SLV 13	179667	0.45	10907	-5609	228.09	729.14	3.2	Si
SLV 2	179667	0.45	12419	-6386	228.09	821.37	3.6	Si
SLV 16	179667	0.45	12781	-6572	228.09	843.12	3.7	Si
SLV 1	179667	0.45	13030	-6700	228.09	858.01	3.76	Si
SLV 15	179667	0.45	13391	-6886	228.09	879.55	3.86	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-5497	-5909	-317	1.449	822.4	0.919	22.92452	6.13636	Si
SLV 3	-5611	-8445	-114	1.455	833.9	0.919	22.99469	6.13636	Si
SLV 2	-5075	-5777	-317	1.537	780.2	0.915	24.40776	6.13636	Si
SLV 4	-5189	-8312	-114	1.542	791.7	0.916	24.4576	6.13636	Si
SLV 15	-4950	-7027	323	1.565	767.8	0.914	24.86957	6.13636	Si
SLV 13	-4836	-4491	120	1.623	756.4	0.914	25.82144	6.13636	Si
SLV 16	-4529	-6894	322	1.669	725.7	0.911	26.62812	6.13636	Si
SLV 7	-5444	-10885	276	1.465	817.2	0.918	23.18967	5.23702	Si
SLV 11	-5246	-10460	407	1.487	797.3	0.917	23.57601	5.23702	Si
SLV 14	-4414	-4358	119	1.733	714.3	0.91	27.68314	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.017	SLU 40	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	12.29	SLU 84	Si
PF_SLV	0.482	SLV 5	No
V_SLV	3.424	SLV 5	Si
PFFP_SLV	2.461	SLV 10	Si
R_SLV	3.736	SLV 1	Si

Maschio 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.878	5.951	L6	L7	2.26	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	8.8	-149.09	-13198	-0.0000331	0.0003743	0.0035	2.26	11858.88	14038.16	14038.16	94.16	No	Si
SLU 51	10.6	1066.01	-10427	-0.0000321	0.0003743	0.0035	2.26	9875.3	10362.31	10362.31	9.72	No	Si
SLU 47	8.8	-224.41	-12839	-0.0000327	0.0003743	0.0035	2.26	11616.77	13744.1	13744.1	61.25	No	Si
SLU 47	10.6	992.44	-10067	-0.0000307	0.0003743	0.0035	2.26	9598.22	10055.11	10055.11	10.13	No	Si
SLU 43	8.8	-352.57	-12620	-0.000033	0.0003743	0.0035	2.26	11467.43	13566.7	13566.7	38.48	No	Si
SLU 43	10.6	981.18	-9849	-0.0000301	0.0003743	0.0035	2.26	9427.64	9869.48	9869.48	10.06	No	Si
SLU 48	8.8	-164.66	-13602	-0.0000343	0.0003743	0.0035	2.26	12125.53	14368.62	14368.62	87.26	No	Si
SLU 48	10.6	1095.37	-10831	-0.0000333	0.0003743	0.0035	2.26	10181.23	10710.04	10710.04	9.78	No	Si
SLU 9	8.8	-59.49	-10777	-0.0000264	0.0003743	0.0035	2.26	10140.87	12018.69	12018.69	202.03	No	Si
SLU 9	10.6	850.62	-8631	-0.0000261	0.0003743	0.0035	2.26	8446.49	8849.43	8849.43	10.4	No	Si
SLU 8	8.8	-82.14	-10837	-0.0000267	0.0003743	0.0035	2.26	10186.27	12070.25	12070.25	146.96	No	Si
SLU 8	10.6	877.33	-8692	-0.0000265	0.0003743	0.0035	2.26	8496.45	8899.52	8899.52	10.14	No	Si
SLU 50	8.8	-171.74	-13259	-0.0000334	0.0003743	0.0035	2.26	11899.15	14087.86	14087.86	82.03	No	Si
SLU 50	10.6	1092.71	-10487	-0.0000324	0.0003743	0.0035	2.26	9921.45	10414.18	10414.18	9.53	No	Si
SLU 45	8.8	-255.07	-13283	-0.0000341	0.0003743	0.0035	2.26	11915.31	14107.87	14107.87	55.31	No	Si
SLU 45	10.6	1039.6	-10511	-0.0000321	0.0003743	0.0035	2.26	9939.97	10435.05	10435.05	10.04	No	Si
SLU 49	8.8	-142.01	-13542	-0.000034	0.0003743	0.0035	2.26	12085.99	14319.67	14319.67	100.83	No	Si
SLU 49	10.6	1068.66	-10770	-0.000033	0.0003743	0.0035	2.26	10135.81	10657.83	10657.83	9.97	No	Si
SLU 46	8.8	-232.43	-13223	-0.0000338	0.0003743	0.0035	2.26	11875.09	14058.13	14058.13	60.48	No	Si
SLU 46	10.6	1012.9	-10451	-0.0000318	0.0003743	0.0035	2.26	9893.87	10383.15	10383.15	10.25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	8.8	-1985.91	-17022	-0.0000542	0.0005615	0.0035	2.26		18007.19	18007.19	9.07		Si
SLV 11	10.6	3513.69	-14869	-0.0000587	0.0005615	0.0035	2.26		14775.13	14775.13	4.21		Si
SLV 9	8.8	1068.66	-4721	-0.0000177	0.0005615	0.0035	2.26		5409.56	5409.56	5.06		Si
SLV 9	10.6	-1507.51	-2491	-0.0000167	0.0005615	0.0035	2.26		4088.69	4088.69	2.71		Si
SLV 1	8.8	2614.68	-7956	-0.0000354	0.0005615	0.0035	2.26		8701.79	8701.79	3.33		Si
SLV 1	10.6	-1867.38	-5887	-0.0000255	0.0005615	0.0035	2.26		7640.68	7640.68	4.09		Si
SLV 6	8.8	1458.25	-5038	-0.0000209	0.0005615	0.0035	2.26		5738.96	5738.96	3.94		Si
SLV 6	10.6	-1973.54	-2870	-0.0000229	0.0005615	0.0035	1.808		4494.97	4494.97	2.28		Si
SLV 12	8.8	-2720.94	-17751	-0.000061	0.0005615	0.0035	2.26		18617.55	18617.55	6.84		Si
SLV 12	10.6	3973.36	-15598	-0.0000636	0.0005615	0.0035	2.26		15400.32	15400.32	3.88		Si
SLV 14	8.8	-2225.97	-10414	-0.000039	0.0005615	0.0035	2.26		12102.3	12102.3	5.44		Si
SLV 14	10.6	1901.17	-8138	-0.0000313	0.0005615	0.0035	2.26		8882.62	8882.62	4.67		Si
SLV 15	8.8	-2050.42	-13021	-0.0000444	0.0005615	0.0035	2.26		14522.16	14522.16	7.08		Si
SLV 15	10.6	2724.67	-10768	-0.0000431	0.0005615	0.0035	2.26		11333.16	11333.16	4.16		Si
SLV 16	8.8	-3142.34	-14104	-0.0000543	0.0005615	0.0035	2.26		15493.84	15493.84	4.93		Si
SLV 16	10.6	3407.53	-11852	-0.0000502	0.0005615	0.0035	2.26		12230.25	12230.25	3.59		Si
SLV 5	8.8	2193.28	-4309	-0.0000246	0.0005615	0.0035	2.26		4975.96	4975.96	2.27		Si
SLV 5	10.6	-2433.22	-2141	-0.0001252	0.0005615	0.0035	1.808		3711.5	3711.5	1.53		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	8.8	333.63	-5451	-0.0000149	0.0005615	0.0035	2.26		6165.63	6165.63	18.48		Si
SLV 10	10.6	-1047.83	-3220	-0.000014	0.0005615	0.0035	2.26		4868.8	4868.8	4.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	8.8	-279.86	-16298	-13572	-757	2.26	2.26	-21447	9804	6204	40441	18949	5763	24712	No	32.65	Si
SLU 83	10.6	1040.42	-13475	-11221	-757	2.26	2.26	-17732	9309	5891	40441	18949	5763	24712	No	32.65	Si
SLU 43	8.8	-352.57	-12620	-10509	-765	2.26	2.26	-16607	9159	5796	40441	18949	5763	24712	No	32.29	Si
SLU 43	10.6	981.18	-9849	-8201	-765	2.26	2.26	-12960	8672	5488	40441	18949	5763	24712	No	32.29	Si
SLU 62	8.8	-311.1	-14437	-12022	-752	2.26	2.26	-18998	9478	5997	40441	18949	5763	24712	No	32.86	Si
SLU 62	10.6	998.56	-11665	-9714	-752	2.26	2.26	-15351	8991	5690	40441	18949	5763	24712	No	32.86	Si
SLU 74	8.8	-258.09	-16193	-13484	-753	2.26	2.26	-21308	9786	6192	40441	18949	5763	24712	No	32.84	Si
SLU 74	10.6	1054.59	-13369	-11133	-753	2.26	2.26	-17592	9290	5879	40441	18949	5763	24712	No	32.84	Si
SLU 82	8.8	-347.63	-15919	-13256	-749	2.26	2.26	-20948	9737	6162	40441	18949	5763	24712	No	33.01	Si
SLU 82	10.6	957.95	-13095	-10904	-749	2.26	2.26	-17232	9242	5848	40441	18949	5763	24712	No	33.01	Si
SLU 64	8.8	-321.32	-14482	-12059	-770	2.26	2.26	-19057	9485	6002	40441	18949	5763	24712	No	32.09	Si
SLU 64	10.6	1023.04	-11658	-9708	-770	2.26	2.26	-15341	8990	5689	40441	18949	5763	24712	No	32.09	Si
SLU 53	8.8	-289.34	-14332	-11934	-748	2.26	2.26	-18859	9459	5986	40441	18949	5763	24712	No	33.05	Si
SLU 53	10.6	1012.73	-11560	-9626	-748	2.26	2.26	-15212	8973	5678	40441	18949	5763	24712	No	33.05	Si
SLU 60	8.8	-401.52	-14118	-11756	-771	2.26	2.26	-18578	9422	5962	40441	18949	5763	24712	No	32.04	Si
SLU 60	10.6	942.79	-11346	-9448	-771	2.26	2.26	-14931	8935	5654	40441	18949	5763	24712	No	32.04	Si
SLU 81	8.8	-370.27	-15979	-13306	-776	2.26	2.26	-21027	9748	6169	40441	18949	5763	24712	No	31.84	Si
SLU 81	10.6	984.65	-13155	-10955	-776	2.26	2.26	-17311	9253	5855	40441	18949	5763	24712	No	31.84	Si
SLU 66	8.8	-223.83	-15145	-12611	-748	2.26	2.26	-19929	9602	6076	40441	18949	5763	24712	No	33.02	Si
SLU 66	10.6	1081.46	-12321	-10260	-748	2.26	2.26	-16213	9106	5762	40441	18949	5763	24712	No	33.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	8.8	-2050.42	-13021	-10843	-2798	2.26	2.26	-17135	13844	8760	40441	28423	5763	34186		12.22	Si
SLV 15	10.6	2724.67	-10768	-8967	-2443	2.26	2.26	-14170	13251	8385	40441	28423	5763	34186		14	Si
SLV 12	8.8	-2720.94	-17751	-14782	-3749	2.26	2.26	-23359	15089	9548	40441	28423	5763	34186		9.12	Si
SLV 12	10.6	3973.36	-15598	-12989	-3654	2.26	2.26	-20526	14522	9189	40441	28423	5763	34186		9.36	Si
SLD 12	8.8	-1734.62	-14976	-12471	-2478	2.26	2.26	-19707	14358	9086	40441	28423	5763	34186		13.8	Si
SLD 12	10.6	2673.02	-12822	-10677	-2415	2.26	2.26	-16873	13791	8727	40441	28423	5763	34186		14.15	Si
SLV 5	8.8	2193.28	-4309	-3588	2564	2.26	1.863	-5670	11551	6025	40441	28423	5763	34186		13.33	Si
SLV 5	10.6	-2433.22	-2141	-1782	2468	1.808	0	0	0	0	40441	22739	4610	27349		11.08	Si
SLV 11	8.8	-1985.91	-17022	-14175	-3085	2.26	2.26	-22400	14897	9427	40441	28423	5763	34186		11.08	Si
SLV 11	10.6	3513.69	-14869	-12382	-2990	2.26	2.26	-19566	14330	9068	40441	28423	5763	34186		11.43	Si
SLV 16	8.8	-3142.34	-14104	-11745	-3784	2.26	2.26	-18560	14129	8941	40441	28423	5763	34186		9.03	Si
SLV 16	10.6	3407.53	-11852	-9869	-3429	2.26	2.26	-15596	13536	8565	40441	28423	5763	34186		9.97	Si
SLV 1	8.8	2614.68	-7956	-6625	2599	2.26	2.26	-10469	12511	7917	40441	28423	5763	34186		13.15	Si
SLV 1	10.6	-1867.38	-5887	-4902	2244	2.26	2.26	-7747	11966	7572	40441	28423	5763	34186		15.24	Si
SLV 14	8.8	-2225.97	-10414	-8672	-2455	2.26	2.26	-13704	13158	8326	40441	28423	5763	34186		13.92	Si
SLV 14	10.6	1901.17	-8138	-6777	-2093	2.26	2.26	-10709	12559	7947	40441	28423	5763	34186		16.34	Si
SLD 16	8.8	-2044.58	-12861	-10710	-2581	2.26	2.26	-16924	13802	8734	40441	28423	5763	34186		13.25	Si
SLD 16	10.6	2404.72	-10654	-8871	-2347	2.26	2.26	-14019	13221	8366	40441	28423	5763	34186		14.57	Si
SLV 8	8.8	-1596.32	-17339	-14438	-2528	2.26	2.26	-22817	14980	9479	40441	28423	5763	34186		13.52	Si
SLV 8	10.6	3047.66	-15248	-12697	-2648	2.26	2.26	-20065	14430	9131	40441	28423	5763	34186		12.91	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.45	5275	-3338	280.68	451.2	1.61	Si
SLV 9	179667	0.45	5807	-3675	280.68	494.88	1.76	Si
SLV 6	179667	0.45	6428	-4067	280.68	545.47	1.94	Si
SLV 10	179667	0.45	6959	-4404	280.68	588.44	2.1	Si
SLV 1	179667	0.45	11225	-7103	280.68	921.32	3.28	Si
SLV 2	179667	0.45	12937	-8186	280.68	1049	3.74	Si
SLV 13	179667	0.45	12997	-8224	280.68	1053.41	3.75	Si
SLV 14	179667	0.45	14709	-9308	280.68	1177.57	4.2	Si
SLV 3	179667	0.45	17095	-10818	280.68	1344.98	4.79	Si
SLV 4	179667	0.45	18808	-11901	280.68	1461	5.21	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-11119	-19204	967	0.938	1451.1	0.939	14.51934	5.23702	Si
SLV 7	-10853	-17991	967	0.957	1424.3	0.938	14.82133	5.23702	Si
SLV 12	-10800	-20539	1015	0.957	1418.8	0.938	14.82561	5.23702	Si
SLV 11	-10534	-19326	1015	0.976	1392	0.937	15.14226	5.23702	Si
SLV 4	-8827	-12429	217	1.197	1219.5	0.93	18.71451	6.13636	Si
SLV 3	-8432	-10627	217	1.241	1179.7	0.928	19.43655	6.13636	Si
SLV 16	-7763	-16879	378	1.306	1112.3	0.924	20.54178	6.13636	Si
SLV 15	-7369	-15077	378	1.36	1072.7	0.922	21.42798	6.13636	Si
SLV 2	-6487	-7704	-377	1.496	984.3	0.917	23.71594	6.13636	Si
SLV 1	-6093	-5902	-377	1.567	944.9	0.914	24.90537	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.531	SLU 50	Si
V_SLU	31.844	SLU 81	Si
PF_SLV	1.525	SLV 5	Si
V_SLV	9.035	SLV 16	Si
PFFP_SLV	1.608	SLV 5	Si
R_SLV	2.772	SLV 8	Si

Maschio 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L6	L7	2.137	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	8.8	490.44	-10422	-0.0000302	0.0003743	0.0035	2.1365	9228.17	9715.44	9715.44	19.81	No	Si
SLU 41	10.6	-1448.49	-10588	-0.0000377	0.0003743	0.0035	2.1365	9344.9	11149.02	11149.02	7.7	No	Si
SLU 40	8.8	489.56	-10034	-0.0000292	0.0003743	0.0035	2.1365	8953.17	9395.63	9395.63	19.19	No	Si
SLU 40	10.6	-1474.14	-10131	-0.0000367	0.0003743	0.0035	2.1365	9022.78	10784.72	10784.72	7.32	No	Si
SLU 39	8.8	535.07	-9987	-0.0000294	0.0003743	0.0035	2.1365	8919.61	9357.18	9357.18	17.49	No	Si
SLU 39	10.6	-1491.61	-10152	-0.0000368	0.0003743	0.0035	2.1365	9037.66	10801.38	10801.38	7.24	No	Si
SLU 73	8.8	360.53	-11720	-0.0000328	0.0003743	0.0035	2.1365	10110.96	10806.3	10806.3	29.97	No	Si
SLU 73	10.6	-1498.02	-11220	-0.0000398	0.0003743	0.0035	2.1365	9777.98	11659.32	11659.32	7.78	No	Si
SLU 82	8.8	474.2	-11980	-0.0000343	0.0003743	0.0035	2.1365	10280.35	11028.07	11028.07	23.26	No	Si
SLU 82	10.6	-1624.14	-11697	-0.0000421	0.0003743	0.0035	2.1365	10095.58	12037.5	12037.5	7.41	No	Si
SLU 42	8.8	444.93	-10468	-0.00003	0.0003743	0.0035	2.1365	9261.03	9754.31	9754.31	21.92	No	Si
SLU 42	10.6	-1431.02	-10568	-0.0000375	0.0003743	0.0035	2.1365	9330.34	11132.29	11132.29	7.78	No	Si
SLU 31	8.8	375.9	-9774	-0.0000276	0.0003743	0.0035	2.1365	8766.08	9182.91	9182.91	24.43	No	Si
SLU 31	10.6	-1348.01	-9655	-0.0000344	0.0003743	0.0035	2.1365	8679.01	10397.47	10397.47	7.71	No	Si
SLU 83	8.8	475.08	-12367	-0.0000354	0.0003743	0.0035	2.1365	10528.9	11360.82	11360.82	23.91	No	Si
SLU 83	10.6	-1598.49	-12154	-0.0000432	0.0003743	0.0035	2.1365	10392.61	12380.87	12380.87	7.75	No	Si
SLU 81	8.8	519.71	-11933	-0.0000345	0.0003743	0.0035	2.1365	10249.98	10987.96	10987.96	21.14	No	Si
SLU 81	10.6	-1641.61	-11717	-0.0000423	0.0003743	0.0035	2.1365	10109.31	12053.3	12053.3	7.34	No	Si
SLU 84	8.8	429.57	-12414	-0.0000352	0.0003743	0.0035	2.1365	10558.55	11401.08	11401.08	26.54	No	Si
SLU 84	10.6	-1581.02	-12133	-0.000043	0.0003743	0.0035	2.1365	10379.19	12365.1	12365.1	7.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	8.8	2016.22	-7854	-0.0000339	0.0005615	0.0035	2.1365		8077.99	8077.99	4.01		Si
SLV 3	10.6	-3054.47	-9819	-0.0000466	0.0005615	0.0035	2.1365		10875.59	10875.59	3.56		Si
SLV 8	8.8	3714.17	-3557	-0.0004664	0.0005615	0.0035	2.1365		3921.8	3921.8	1.06		Si
SLV 8	10.6	-3659.31	-9163	-0.0000494	0.0005615	0.0035	2.1365		10289.08	10289.08	2.81		Si
SLV 12	8.8	2951.46	-3022	-0.0001248	0.0005615	0.0035	2.1365		3383.64	3383.64	1.15		Si
SLV 12	10.6	-2558.94	-7752	-0.0000375	0.0005615	0.0035	2.1365		8987.61	8987.61	3.51		Si
SLV 4	8.8	2684.85	-7658	-0.0000382	0.0005615	0.0035	2.1365		7895.02	7895.02	2.94		Si
SLV 4	10.6	-3720.58	-10688	-0.0000538	0.0005615	0.0035	2.1365		11657.39	11657.39	3.13		Si
SLD 12	8.8	1802.48	-5229	-0.0000256	0.0005615	0.0035	2.1365		5575.49	5575.49	3.09		Si
SLD 12	10.6	-1883.06	-7746	-0.0000327	0.0005615	0.0035	2.1365		8982.43	8982.43	4.77		Si
SLV 13	8.8	-2264.79	-9077	-0.0000389	0.0005615	0.0035	2.1365		10212.29	10212.29	4.51		Si
SLV 13	10.6	1754.58	-4887	-0.0000244	0.0005615	0.0035	2.1365		5240.53	5240.53	2.99		Si
SLD 7	8.8	2009.88	-5645	-0.0000282	0.0005615	0.0035	2.1365		5979.49	5979.49	2.98		Si
SLD 7	10.6	-2310.38	-8280	-0.0000372	0.0005615	0.0035	2.1365		9484.3	9484.3	4.11		Si
SLV 11	8.8	2501.36	-3154	-0.0000411	0.0005615	0.0035	2.1365		3516.97	3516.97	1.41		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	10.6	-2110.54	-7167	-0.0000328	0.0005615	0.0035	2.1365		8441.72	8441.72	4		Si
SLD 8	8.8	2283.02	-5565	-0.0000301	0.0005615	0.0035	2.1365		5901.81	5901.81	2.59		Si
SLD 8	10.6	-2582.48	-8635	-0.00004	0.0005615	0.0035	2.1365		9812.78	9812.78	3.8		Si
SLV 7	8.8	3264.07	-3689	-0.000074	0.0005615	0.0035	2.1365		4053.6	4053.6	1.24		Si
SLV 7	10.6	-3210.91	-8579	-0.0000445	0.0005615	0.0035	2.1365		9760.62	9760.62	3.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	8.8	519.71	-11933	-9937	2731	2.1365	2.1365	-16610	9159	5479	40441	17914	5448	23362	No	8.55	Si
SLU 81	10.6	-1641.61	-11717	-9757	2731	2.1365	2.1365	-16310	9119	5455	40441	17914	5448	23362	No	8.55	Si
SLU 39	8.8	535.07	-9987	-8316	2514	2.1365	2.1365	-13902	8798	5263	40441	17914	5448	23362	No	9.29	Si
SLU 39	10.6	-1491.61	-10152	-8454	2514	2.1365	2.1365	-14132	8829	5282	40441	17914	5448	23362	No	9.29	Si
SLU 75	8.8	345.6	-12320	-10259	2449	2.1365	2.1365	-17149	9231	5522	40441	17914	5448	23362	No	9.54	Si
SLU 75	10.6	-1515.52	-11900	-9909	2438	2.1365	2.1365	-16564	9153	5476	40441	17914	5448	23362	No	9.58	Si
SLU 74	8.8	391.11	-12273	-10220	2519	2.1365	2.1365	-17083	9222	5517	40441	17914	5448	23362	No	9.28	Si
SLU 74	10.6	-1532.99	-11921	-9927	2518	2.1365	2.1365	-16593	9157	5478	40441	17914	5448	23362	No	9.28	Si
SLU 77	8.8	346.48	-12707	-10582	2471	2.1365	2.1365	-17688	9303	5565	40441	17914	5448	23362	No	9.45	Si
SLU 77	10.6	-1489.87	-12357	-10290	2470	2.1365	2.1365	-17200	9238	5526	40441	17914	5448	23362	No	9.46	Si
SLU 82	8.8	474.2	-11980	-9976	2662	2.1365	2.1365	-16675	9168	5484	40441	17914	5448	23362	No	8.78	Si
SLU 82	10.6	-1624.14	-11697	-9740	2651	2.1365	2.1365	-16281	9115	5453	40441	17914	5448	23362	No	8.81	Si
SLU 83	8.8	475.08	-12367	-10298	2684	2.1365	2.1365	-17215	9240	5528	40441	17914	5448	23362	No	8.7	Si
SLU 83	10.6	-1598.49	-12154	-10120	2683	2.1365	2.1365	-16917	9200	5504	40441	17914	5448	23362	No	8.71	Si
SLU 41	8.8	490.44	-10422	-8678	2466	2.1365	2.1365	-14506	8879	5311	40441	17914	5448	23362	No	9.47	Si
SLU 41	10.6	-1448.49	-10588	-8817	2466	2.1365	2.1365	-14739	8910	5330	40441	17914	5448	23362	No	9.47	Si
SLU 40	8.8	489.56	-10034	-8355	2444	2.1365	2.1365	-13967	8807	5268	40441	17914	5448	23362	No	9.56	Si
SLU 40	10.6	-1474.14	-10131	-8437	2433	2.1365	2.1365	-14102	8825	5279	40441	17914	5448	23362	No	9.6	Si
SLU 84	8.8	429.57	-12414	-10337	2614	2.1365	2.1365	-17280	9248	5533	40441	17914	5448	23362	No	8.94	Si
SLU 84	10.6	-1581.02	-12133	-10103	2603	2.1365	2.1365	-16888	9196	5501	40441	17914	5448	23362	No	8.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	8.8	2283.02	-5565	-4634	5845	2.1365	1.974	-7746	11966	6614	40441	26871	5448	32319		5.53	Si
SLD 8	10.6	-2582.48	-8635	-7191	5776	2.1365	2.1365	-12020	12821	7670	40441	26871	5448	32319		5.59	Si
SLD 4	8.8	1731.87	-7985	-6650	4909	2.1365	2.1365	-11115	12640	7561	40441	26871	5448	32319		6.58	Si
SLD 4	10.6	-2694.13	-9613	-8005	4565	2.1365	2.1365	-13380	13093	7833	40441	26871	5448	32319		7.08	Si
SLD 7	8.8	2009.88	-5645	-4700	5285	2.1365	2.1365	-7857	11988	7172	40441	26871	5448	32319		6.12	Si
SLD 7	10.6	-2310.38	-8280	-6895	5216	2.1365	2.1365	-11526	12722	7611	40441	26871	5448	32319		6.2	Si
SLV 4	8.8	2684.85	-7658	-6377	6961	2.1365	2.1365	-10660	12549	7507	40441	26871	5448	32319		4.64	Si
SLV 4	10.6	-3720.58	-10688	-8900	6434	2.1365	2.1365	-14877	13392	8012	40441	26871	5448	32319		5.02	Si
SLV 7	8.8	3264.07	-3689	-3072	7846	2.1365	0.5502	-20136	14444	3699	40441	26871	5448	32319		4.12	Si
SLV 7	10.6	-3210.91	-8579	-7144	7747	2.1365	2.0819	-12325	12882	7509	40441	26871	5448	32319		4.17	Si
SLV 8	8.8	3714.17	-3557	-2962	8770	2.1365	0.0722	-94833	16250	3670	40441	26871	5448	32319		3.69	Si
SLV 8	10.6	-3659.31	-9163	-7630	8671	2.1365	2.0068	-13664	13149	7389	40441	26871	5448	32319		3.73	Si
SLV 9	8.8	-3294.11	-13178	-10974	-5593	2.1365	2.1365	-18343	14085	8426	40441	26871	5448	32319		5.78	Si
SLV 9	10.6	1693.3	-6412	-5339	-5495	2.1365	2.1365	-8925	12202	7299	40441	26871	5448	32319		5.88	Si
SLV 3	8.8	2016.22	-7854	-6540	5588	2.1365	2.1365	-10932	12603	7540	40441	26871	5448	32319		5.78	Si
SLV 3	10.6	-3054.47	-9819	-8177	5061	2.1365	2.1365	-13668	13150	7867	40441	26871	5448	32319		6.39	Si
SLV 12	8.8	2951.46	-3022	-2516	7009	2.1365	0.2745	-32906	16250	3551	40441	26871	5448	32319		4.61	Si
SLV 12	10.6	-2558.94	-7752	-6455	7238	2.1365	2.1365	-10790	12575	7523	40441	26871	5448	32319		4.47	Si
SLV 11	8.8	2501.36	-3154	-2626	6085	2.1365	0.8252	-4390	11295	3580	40441	26871	5448	32319		5.31	Si
SLV 11	10.6	-2110.54	-7167	-5968	6314	2.1365	2.1365	-9976	12412	7425	40441	26871	5448	32319		5.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	9411	-5630	265.35	739.61	2.79	Si
SLV 11	179667	0.45	9672	-5786	265.35	758.72	2.86	Si
SLV 16	179667	0.45	10152	-6073	265.35	793.75	2.99	Si
SLV 12	179667	0.45	10171	-6084	265.35	795.09	3	Si
SLV 13	179667	0.45	11111	-6647	265.35	862.86	3.25	Si
SLV 7	179667	0.45	11491	-6874	265.35	890	3.35	Si
SLV 14	179667	0.45	11852	-7090	265.35	915.62	3.45	Si
SLV 8	179667	0.45	11990	-7173	265.35	925.37	3.49	Si
SLV 9	179667	0.45	15338	-9176	265.35	1155.6	4.36	Si
SLV 3	179667	0.45	15476	-9258	265.35	1164.83	4.39	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-7551	-9879	517	1.261	1072.9	0.925	19.80425	6.13636	Si
SLV 2	-7625	-12026	203	1.285	1080.3	0.926	20.16447	6.13636	Si
SLV 3	-7075	-9583	518	1.326	1025.1	0.923	20.8784	6.13636	Si
SLV 1	-7149	-11731	204	1.35	1032.5	0.923	21.24974	6.13636	Si
SLV 6	-6786	-12825	-416	1.38	996	0.921	21.77693	5.23702	Si
SLV 8	-6540	-5667	631	1.394	971.4	0.92	22.02672	5.23702	Si
SLV 5	-6466	-12626	-416	1.431	963.9	0.919	22.63421	5.23702	Si
SLV 14	-5205	-7288	-519	1.664	837.9	0.911	26.5518	6.13636	Si
SLV 7	-6220	-5468	632	1.447	939.3	0.918	22.91877	5.23702	Si
SLV 10	-6060	-11403	-633	1.475	923.3	0.916	23.39062	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.241	SLU 39	Si
V_SLU	8.553	SLU 81	Si
PF_SLV	1.056	SLV 8	Si
V_SLV	3.685	SLV 8	Si
PFFP_SLV	2.787	SLV 15	Si
R_SLV	3.227	SLV 4	Si

Maschio 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L6	L7	2.285	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	9.9	-920.29	-13284	-0.000038	0.0003743	0.0035	2.285	12081.65	14283.3	14283.3	15.52	No	Si
SLU 82	10.7	-1118.42	-11206	-0.0000339	0.0003743	0.0035	2.285	10600.1	12536.06	12536.06	11.21	No	Si
SLU 39	9.9	-789.27	-11250	-0.0000319	0.0003743	0.0035	2.285	10633.62	12575.07	12575.07	15.93	No	Si
SLU 39	10.7	-1013.14	-9632	-0.0000293	0.0003743	0.0035	2.285	9376.99	11148.73	11148.73	11	No	Si
SLU 74	9.9	-916.46	-13395	-0.0000382	0.0003743	0.0035	2.285	12157.08	14376.48	14376.48	15.69	No	Si
SLU 74	10.7	-1095.63	-11281	-0.000034	0.0003743	0.0035	2.285	10656.37	12601.61	12601.61	11.5	No	Si
SLU 83	9.9	-906.11	-13437	-0.0000383	0.0003743	0.0035	2.285	12185.18	14411.16	14411.16	15.9	No	Si
SLU 83	10.7	-1119.67	-11335	-0.0000343	0.0003743	0.0035	2.285	10696.51	12648.59	12648.59	11.3	No	Si
SLU 40	9.9	-786.34	-11333	-0.0000321	0.0003743	0.0035	2.285	10695.37	12647.26	12647.26	16.08	No	Si
SLU 40	10.7	-992.52	-9693	-0.0000293	0.0003743	0.0035	2.285	9426.09	11204.85	11204.85	11.29	No	Si
SLU 41	9.9	-772.15	-11487	-0.0000324	0.0003743	0.0035	2.285	10809.42	12781.7	12781.7	16.55	No	Si
SLU 41	10.7	-993.76	-9822	-0.0000297	0.0003743	0.0035	2.285	9529.35	11323.64	11323.64	11.39	No	Si
SLU 84	9.9	-903.18	-13520	-0.0000385	0.0003743	0.0035	2.285	12240.59	14479.51	14479.51	16.03	No	Si
SLU 84	10.7	-1099.05	-11396	-0.0000343	0.0003743	0.0035	2.285	10741.96	12702	12702	11.56	No	Si
SLU 18	9.9	-661.64	-9661	-0.0000271	0.0003743	0.0035	2.285	9400.59	11175.68	11175.68	16.89	No	Si
SLU 18	10.7	-840.89	-8119	-0.0000245	0.0003743	0.0035	2.285	8119.61	9762.01	9762.01	11.61	No	Si
SLU 81	9.9	-923.22	-13201	-0.0000378	0.0003743	0.0035	2.285	12025.56	14214.53	14214.53	15.4	No	Si
SLU 81	10.7	-1139.04	-11145	-0.0000339	0.0003743	0.0035	2.285	10554.24	12482.9	12482.9	10.96	No	Si
SLU 60	9.9	-795.59	-11611	-0.0000329	0.0003743	0.0035	2.285	10901.29	12891.1	12891.1	16.2	No	Si
SLU 60	10.7	-966.79	-9632	-0.000029	0.0003743	0.0035	2.285	9377.14	11148.91	11148.91	11.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	9.9	-414.53	-3923	-0.0000116	0.0005615	0.0035	2.285		5673.13	5673.13	13.69		Si
SLV 12	10.7	-1753.21	-3868	-0.0000198	0.0005615	0.0035	2.285		5614.86	5614.86	3.2		Si
SLV 7	9.9	-190.4	-4047	-0.0000105	0.0005615	0.0035	2.285		5804.56	5804.56	30.49		Si
SLV 7	10.7	-2472.21	-4204	-0.0000269	0.0005615	0.0035	2.285		5971.01	5971.01	2.42		Si
SLV 11	9.9	-581.97	-4204	-0.0000133	0.0005615	0.0035	2.285		5970.46	5970.46	10.26		Si
SLV 11	10.7	-1324.69	-3890	-0.000017	0.0005615	0.0035	2.285		5638.71	5638.71	4.26		Si
SLV 4	9.9	236.36	-7054	-0.0000179	0.0005615	0.0035	2.285		7895.99	7895.99	33.41		Si
SLV 4	10.7	-3362.08	-6949	-0.0000377	0.0005615	0.0035	2.285		8821.82	8821.82	2.62		Si
SLD 4	9.9	-98.11	-7862	-0.000019	0.0005615	0.0035	2.285		9734.26	9734.26	99.22		Si
SLD 4	10.7	-2377.79	-7197	-0.0000315	0.0005615	0.0035	2.285		9068.99	9068.99	3.81		Si
SLV 8	9.9	-22.96	-3766	-0.0000089	0.0005615	0.0035	2.285		5506.23	5506.23	239.77		Si
SLV 8	10.7	-2900.73	-4182	-0.0000332	0.0005615	0.0035	1.828		5947.29	5947.29	2.05		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	9.9	32.22	-10087	-0.0000239	0.0005615	0.0035	2.285		10909.45	10909.45	338.58		Si
SLV 2	10.7	-2520.83	-9012	-0.0000368	0.0005615	0.0035	2.285		10887.09	10887.09	4.32		Si
SLD 8	9.9	-270.92	-5948	-0.0000155	0.0005615	0.0035	2.285		7788.58	7788.58	28.75		Si
SLD 8	10.7	-2027.19	-5556	-0.0000253	0.0005615	0.0035	2.285		7378.2	7378.2	3.64		Si
SLV 3	9.9	-12.38	-7471	-0.0000175	0.0005615	0.0035	2.285		9342.4	9342.4	754.53		Si
SLV 3	10.7	-2725.49	-6983	-0.0000331	0.0005615	0.0035	2.285		8855.03	8855.03	3.25		Si
SLD 7	9.9	-372.53	-6119	-0.0000165	0.0005615	0.0035	2.285		7967.83	7967.83	21.39		Si
SLD 7	10.7	-1767.15	-5570	-0.0000238	0.0005615	0.0035	2.285		7392.42	7392.42	4.18		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	9.9	-689.18	-10824	-9013	-1082	2.285	2.285	-14088	8823	5645	40441	19158	5827	24985	No	23.09	Si
SLU 51	10.7	-683.09	-8727	-7267	-768	2.285	2.285	-11358	8459	5412	40441	19158	5827	24985	No	32.53	Si
SLU 48	9.9	-723.23	-11102	-9245	-1026	2.285	2.285	-14450	8871	5676	40441	19158	5827	24985	No	24.35	Si
SLU 48	10.7	-746.97	-9016	-7507	-734	2.285	2.285	-11734	8509	5444	40441	19158	5827	24985	No	34.03	Si
SLU 72	9.9	-816.8	-12414	-10337	-1101	2.285	2.285	-16157	9099	5821	40441	19158	5827	24985	No	22.69	Si
SLU 72	10.7	-855.34	-10239	-8526	-806	2.285	2.285	-13327	8721	5580	40441	19158	5827	24985	No	30.98	Si
SLU 70	9.9	-847.93	-12775	-10638	-1101	2.285	2.285	-16627	9161	5861	40441	19158	5827	24985	No	22.69	Si
SLU 70	10.7	-898.6	-10590	-8818	-809	2.285	2.285	-13782	8782	5619	40441	19158	5827	24985	No	30.89	Si
SLU 68	9.9	-831.97	-12233	-10186	-1064	2.285	2.285	-15921	9067	5801	40441	19158	5827	24985	No	23.49	Si
SLU 68	10.7	-860.96	-10090	-8402	-800	2.285	2.285	-13132	8695	5563	40441	19158	5827	24985	No	31.24	Si
SLU 69	9.9	-850.86	-12692	-10569	-1046	2.285	2.285	-16519	9147	5852	40441	19158	5827	24985	No	23.89	Si
SLU 69	10.7	-919.22	-10528	-8767	-772	2.285	2.285	-13703	8772	5612	40441	19158	5827	24985	No	32.34	Si
SLU 47	9.9	-704.34	-10643	-8863	-1044	2.285	2.285	-13852	8791	5625	40441	19158	5827	24985	No	23.93	Si
SLU 47	10.7	-688.71	-8577	-7142	-761	2.285	2.285	-11163	8433	5395	40441	19158	5827	24985	No	32.82	Si
SLU 71	9.9	-819.73	-12331	-10268	-1046	2.285	2.285	-16049	9084	5812	40441	19158	5827	24985	No	23.89	Si
SLU 71	10.7	-875.96	-10178	-8476	-770	2.285	2.285	-13247	8711	5573	40441	19158	5827	24985	No	32.45	Si
SLU 49	9.9	-720.31	-11185	-9314	-1082	2.285	2.285	-14558	8885	5685	40441	19158	5827	24985	No	23.09	Si
SLU 49	10.7	-726.35	-9077	-7558	-770	2.285	2.285	-11814	8520	5451	40441	19158	5827	24985	No	32.43	Si
SLU 67	9.9	-865.05	-12538	-10441	-1026	2.285	2.285	-16319	9120	5835	40441	19158	5827	24985	No	24.34	Si
SLU 67	10.7	-917.97	-10399	-8660	-778	2.285	2.285	-13535	8749	5598	40441	19158	5827	24985	No	32.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	9.9	-22.96	-3766	-3136	5952	2.285	2.285	-4901	11397	7292	40441	28738	5827	34564		5.81	Si
SLV 8	10.7	-2900.73	-4182	-3482	4080	1.828	1.3465	0	0	0	40441	22990	4661	27652		6.78	Si
SLV 9	9.9	-1262.42	-14316	-11921	-7238	2.285	2.285	-18633	14143	9049	40441	28738	5827	34564		4.78	Si
SLV 9	10.7	1479.47	-10766	-8965	-5101	2.285	2.285	-14012	13219	8458	40441	28738	5827	34564		6.78	Si
SLD 9	9.9	-1014.46	-12133	-10104	-4582	2.285	2.285	-15792	13575	8685	40441	28738	5827	34564		7.54	Si
SLD 9	10.7	605.93	-9391	-7820	-3258	2.285	2.285	-12223	12861	8229	40441	28738	5827	34564		10.61	Si
SLV 15	9.9	-1317.61	-7995	-6657	-4635	2.285	2.285	-10405	12498	7996	40441	28738	5827	34564		7.46	Si
SLV 15	10.7	1099.57	-5936	-4943	-3693	2.285	2.285	-7725	11962	7653	40441	28738	5827	34564		9.36	Si
SLV 13	9.9	-1521.74	-11028	-9183	-7430	2.285	2.285	-14354	13287	8501	40441	28738	5827	34564		4.65	Si
SLV 13	10.7	1940.82	-7998	-6660	-5562	2.285	2.285	-10410	12499	7997	40441	28738	5827	34564		6.21	Si
SLV 14	9.9	-1273.01	-10611	-8836	-5718	2.285	2.285	-13810	13179	8432	40441	28738	5827	34564		6.05	Si
SLV 14	10.7	1304.23	-7965	-6632	-4267	2.285	2.285	-10366	12490	7991	40441	28738	5827	34564		8.1	Si
SLV 10	9.9	-1094.98	-14035	-11687	-6085	2.285	2.285	-18267	14070	9002	40441	28738	5827	34564		5.68	Si
SLV 10	10.7	1050.95	-10743	-8946	-4230	2.285	2.285	-13983	13213	8454	40441	28738	5827	34564		8.17	Si
SLV 4	9.9	236.36	-7054	-5874	6144	2.285	2.285	-9180	12253	7839	40441	28738	5827	34564		5.63	Si
SLV 4	10.7	-3362.08	-6949	-5787	4540	2.285	1.9761	-10509	12519	6927	40441	28738	5827	34564		7.61	Si
SLV 7	9.9	-190.4	-4047	-3370	4799	2.285	2.285	-5267	11470	7339	40441	28738	5827	34564		7.2	Si
SLV 7	10.7	-2472.21	-4204	-3501	3208	2.285	1.6634	-7541	11925	5554	40441	28738	5827	34564		10.77	Si
SLD 13	9.9	-1187.28	-10220	-8510	-4877	2.285	2.285	-13301	13077	8367	40441	28738	5827	34564		7.09	Si
SLD 13	10.7	956.53	-7750	-6454	-3668	2.285	2.285	-10087	12434	7955	40441	28738	5827	34564		9.42	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.45	6169	-3947	283.78	530.25	1.87	Si
SLV 11	179667	0.45	6282	-4019	283.78	539.51	1.9	Si
SLV 8	179667	0.45	6691	-4281	283.78	573.07	2.02	Si
SLV 7	179667	0.45	6804	-4353	283.78	582.26	2.05	Si
SLV 16	179667	0.45	9941	-6360	283.78	832.44	2.93	Si
SLV 15	179667	0.45	10108	-6467	283.78	845.44	2.98	Si
SLV 4	179667	0.45	11681	-7473	283.78	966.24	3.4	Si
SLV 3	179667	0.45	11848	-7580	283.78	978.9	3.45	Si
SLV 14	179667	0.45	13719	-8777	283.78	1118.43	3.94	Si
SLV 13	179667	0.45	13886	-8884	283.78	1130.7	3.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-8538	-13159	-831	1.181	1194.1	0.928	18.50678	5.23702	Si
SLV 6	-8501	-13210	-832	1.185	1190.3	0.928	18.57322	5.23702	Si
SLV 9	-8434	-12213	-759	1.2	1183.5	0.927	18.80418	5.23702	Si
SLV 10	-8396	-12264	-759	1.204	1179.8	0.927	18.87242	5.23702	Si
SLV 1	-6939	-11040	-358	1.437	1033.3	0.919	22.72312	6.13636	Si
SLV 2	-6884	-11116	-359	1.446	1027.8	0.919	22.86746	6.13636	Si
SLV 13	-6591	-7887	-116	1.522	998.4	0.917	24.1129	6.13636	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-6536	-7963	-117	1.531	992.9	0.917	24.27258	6.13636	Si
SLV 3	-5457	-8288	120	1.745	885.2	0.91	27.88007	6.13636	Si
SLV 4	-5402	-8364	119	1.758	879.8	0.909	28.09412	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.959	SLU 81	Si
V_SLU	22.685	SLU 70	Si
PF_SLV	2.05	SLV 8	Si
V_SLV	4.652	SLV 13	Si
PFFP_SLV	1.868	SLV 12	Si
R_SLV	3.534	SLV 5	Si

Maschio 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L6	L7	0.58	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	9.9	60.74	-3484	-0.0000393	0.0003743	0.0035	0.58	797.54	865.62	865.62	14.25	No	Si
SLU 65	10.7	217.92	-3150	-0.0000518	0.0003743	0.0035	0.58	739.4	789.27	789.27	3.62	No	Si
SLU 44	9.9	50.86	-3027	-0.0000337	0.0003743	0.0035	0.58	717.07	761.54	761.54	14.97	No	Si
SLU 44	10.7	187.42	-2695	-0.000044	0.0003743	0.0035	0.58	654.15	687.91	687.91	3.67	No	Si
SLU 67	9.9	66.88	-3641	-0.0000415	0.0003743	0.0035	0.58	823.42	899.09	899.09	13.44	No	Si
SLU 67	10.7	224.75	-3292	-0.000054	0.0003743	0.0035	0.58	764.52	821.58	821.58	3.66	No	Si
SLU 70	9.9	69.29	-3691	-0.0000422	0.0003743	0.0035	0.58	831.5	909.31	909.31	13.12	No	Si
SLU 70	10.7	226.87	-3336	-0.0000547	0.0003743	0.0035	0.58	772.18	831.69	831.69	3.67	No	Si
SLU 23	9.9	51.3	-2906	-0.0000325	0.0003743	0.0035	0.58	694.62	734.55	734.55	14.32	No	Si
SLU 23	10.7	183.57	-2648	-0.0000431	0.0003743	0.0035	0.58	644.9	677.6	677.6	3.69	No	Si
SLU 72	9.9	66.11	-3586	-0.0000408	0.0003743	0.0035	0.58	814.37	887.51	887.51	13.42	No	Si
SLU 72	10.7	220.67	-3237	-0.000053	0.0003743	0.0035	0.58	755.02	809.22	809.22	3.67	No	Si
SLU 66	9.9	67.69	-3643	-0.0000416	0.0003743	0.0035	0.58	823.73	899.48	899.48	13.29	No	Si
SLU 66	10.7	222.52	-3291	-0.0000538	0.0003743	0.0035	0.58	764.43	821.47	821.47	3.69	No	Si
SLU 68	9.9	63.16	-3535	-0.00004	0.0003743	0.0035	0.58	805.9	876.54	876.54	13.88	No	Si
SLU 68	10.7	220.04	-3194	-0.0000525	0.0003743	0.0035	0.58	747.27	799.26	799.26	3.63	No	Si
SLU 64	9.9	62.1	-3488	-0.0000394	0.0003743	0.0035	0.58	798.08	866.32	866.32	13.95	No	Si
SLU 64	10.7	214.19	-3149	-0.0000514	0.0003743	0.0035	0.58	739.24	789.08	789.08	3.68	No	Si
SLU 47	9.9	53.28	-3077	-0.0000344	0.0003743	0.0035	0.58	726.22	772.81	772.81	14.51	No	Si
SLU 47	10.7	189.54	-2739	-0.0000447	0.0003743	0.0035	0.58	662.72	697.59	697.59	3.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	9.9	-397.26	-412	-0.0027246	0.0005615	0.0035	0.464		187.65	187.65	0.47		No
SLV 13	10.7	651.08	-1557	-0.0170343	0.0005615	0.0035	0.464		448.59	448.59	0.69		No
SLV 14	9.9	-283.23	-858	-0.0004419	0.0005615	0.0035	0.464		311.28	311.28	1.1		Si
SLV 14	10.7	531.49	-1678	-0.0064172	0.0005615	0.0035	0.464		480.46	480.46	0.9		No
SLV 16	9.9	-181.94	-1093	-0.0000315	0.0005615	0.0035	0.464		374.73	374.73	2.06		Si
SLV 16	10.7	364.45	-1743	-0.0000796	0.0005615	0.0035	0.58		497.18	497.18	1.36		Si
SLD 9	9.9	-136.74	-1995	-0.0000315	0.0005615	0.0035	0.58		610.8	610.8	4.47		Si
SLD 9	10.7	412.89	-2182	-0.0000801	0.0005615	0.0035	0.58		609.6	609.6	1.48		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	9.9	-173.73	-1382	-0.0000299	0.0005615	0.0035	0.58		451.28	451.28	2.6		Si
SLD 15	10.7	369.27	-1899	-0.0000731	0.0005615	0.0035	0.58		537.54	537.54	1.46		Si
SLV 15	9.9	-295.96	-646	-0.0009236	0.0005615	0.0035	0.464		252.91	252.91	0.85		No
SLV 15	10.7	484.04	-1621	-0.0037807	0.0005615	0.0035	0.464		465.51	465.51	0.96		No
SLD 13	9.9	-233.04	-1245	-0.0000435	0.0005615	0.0035	0.464		414.93	414.93	1.78		Si
SLD 13	10.7	467.06	-1861	-0.0001924	0.0005615	0.0035	0.58		527.81	527.81	1.13		Si
SLV 10	9.9	-181.77	-1864	-0.0000346	0.0005615	0.0035	0.58		577.54	577.54	3.18		Si
SLV 10	10.7	501.88	-2122	-0.0001557	0.0005615	0.0035	0.58		594.5	594.5	1.18		Si
SLV 9	9.9	-258.52	-1564	-0.0000451	0.0005615	0.0035	0.464		499.27	499.27	1.93		Si
SLV 9	10.7	582.38	-2040	-0.0037805	0.0005615	0.0035	0.464		573.79	573.79	0.99		No
SLD 14	9.9	-160.7	-1528	-0.0000294	0.0005615	0.0035	0.58		489.83	489.83	3.05		Si
SLD 14	10.7	391.19	-1938	-0.0000813	0.0005615	0.0035	0.58		547.69	547.69	1.4		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	9.9	85.16	-3945	-3285	77	0.58	0.58	-20229	9642	1566	40441	4863	1479	6342	No	81.86	Si
SLU 79	10.7	222.27	-3577	-2979	-156	0.58	0.58	-18343	9390	1525	40441	4863	1479	6342	No	40.65	Si
SLU 77	9.9	88.35	-4051	-3373	80	0.58	0.58	-20770	9714	1578	40441	4863	1479	6342	No	79.4	Si
SLU 77	10.7	228.48	-3676	-3061	-159	0.58	0.58	-18847	9457	1536	40441	4863	1479	6342	No	40	Si
SLU 80	9.9	84.35	-3943	-3284	71	0.58	0.58	-20219	9640	1566	40441	4863	1479	6342	No	88.86	Si
SLU 80	10.7	224.51	-3578	-2979	-158	0.58	0.58	-18346	9391	1525	40441	4863	1479	6342	No	40.21	Si
SLU 76	9.9	81.4	-3892	-3241	63	0.58	0.58	-19956	9605	1560	40441	4863	1479	6342	No	100.32	Si
SLU 76	10.7	223.88	-3534	-2943	-157	0.58	0.58	-18122	9361	1520	40441	4863	1479	6342	No	40.29	Si
SLU 84	9.9	89.76	-4046	-3369	95	0.58	0.58	-20748	9711	1577	40441	4863	1479	6342	No	67.08	Si
SLU 84	10.7	224.03	-3680	-3064	-159	0.58	0.58	-18868	9460	1536	40441	4863	1479	6342	No	39.94	Si
SLU 75	9.9	85.12	-3999	-3330	70	0.58	0.58	-20503	9678	1572	40441	4863	1479	6342	No	91.01	Si
SLU 75	10.7	228.59	-3632	-3024	-159	0.58	0.58	-18624	9428	1531	40441	4863	1479	6342	No	39.93	Si
SLU 83	9.9	90.57	-4048	-3371	101	0.58	0.58	-20758	9712	1577	40441	4863	1479	6342	No	63.01	Si
SLU 83	10.7	221.8	-3679	-3064	-157	0.58	0.58	-18866	9460	1536	40441	4863	1479	6342	No	40.38	Si
SLU 82	9.9	87.35	-3996	-3328	90	0.58	0.58	-20491	9677	1571	40441	4863	1479	6342	No	70.11	Si
SLU 82	10.7	221.91	-3636	-3028	-157	0.58	0.58	-18642	9430	1531	40441	4863	1479	6342	No	40.31	Si
SLU 74	9.9	85.93	-4001	-3331	76	0.58	0.58	-20513	9680	1572	40441	4863	1479	6342	No	83.69	Si
SLU 74	10.7	226.36	-3632	-3024	-157	0.58	0.58	-18621	9427	1531	40441	4863	1479	6342	No	40.37	Si
SLU 78	9.9	87.53	-4049	-3371	74	0.58	0.58	-20760	9712	1577	40441	4863	1479	6342	No	85.97	Si
SLU 78	10.7	230.71	-3676	-3061	-160	0.58	0.58	-18850	9458	1536	40441	4863	1479	6342	No	39.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	9.9	384.85	-4511	-3756	1507	0.58	0.58	-23128	15042	2443	40441	7294	1479	8773		5.82	Si
SLV 3	10.7	-213.17	-3161	-2632	138	0.58	0.58	-16207	13658	2218	40441	7294	1479	8773		63.52	Si
SLD 13	9.9	-233.04	-1245	-1036	-1193	0.464	0.3083	0	0	0	40441	5836	1183	7019		5.89	Si
SLD 13	10.7	467.06	-1861	-1550	-361	0.58	0.1172	-48460	16250	1195	40441	7294	1479	8773		24.3	Si
SLV 4	9.9	498.87	-4957	-4128	1954	0.58	0.5681	-25417	15500	2465	40441	7294	1479	8773		4.49	Si
SLV 4	10.7	-332.77	-3282	-2733	279	0.58	0.5658	-16829	13782	2184	40441	7294	1479	8773		31.4	Si
SLV 2	9.9	397.57	-4722	-3932	1389	0.58	0.58	-24215	15260	2478	40441	7294	1479	8773		6.32	Si
SLV 2	10.7	-165.73	-3218	-2679	199	0.58	0.58	-16499	13716	2228	40441	7294	1479	8773		44.01	Si
SLV 15	9.9	-295.96	-646	-538	-1344	0.464	0	0	0	0	40441	5836	1183	7019		5.22	Si
SLV 15	10.7	484.04	-1621	-1350	-423	0.464	0	0	0	0	40441	5836	1183	7019		16.59	Si
SLV 8	9.9	360.14	-3805	-3169	1542	0.58	0.58	-19511	14319	2325	40441	7294	1479	8773		5.69	Si
SLV 8	10.7	-264.07	-2799	-2330	153	0.58	0.58	-14350	13287	2158	40441	7294	1479	8773		57.25	Si
SLV 9	9.9	-258.52	-1564	-1302	-1497	0.464	0.374	0	0	0	40441	5836	1183	7019		4.69	Si
SLV 9	10.7	582.38	-2040	-1699	-377	0.464	0.0137	0	0	0	40441	5836	1183	7019		18.62	Si
SLV 13	9.9	-397.26	-412	-343	-1909	0.464	0	0	0	0	40441	5836	1183	7019		3.68	Si
SLV 13	10.7	651.08	-1557	-1296	-503	0.464	0	0	0	0	40441	5836	1183	7019		13.95	Si
SLV 7	9.9	283.38	-3505	-2918	1241	0.58	0.58	-17970	14011	2275	40441	7294	1479	8773		7.07	Si
SLV 7	10.7	-183.57	-2717	-2262	58	0.58	0.58	-13931	13203	2144	40441	7294	1479	8773		150.85	Si
SLV 14	9.9	-283.23	-858	-714	-1462	0.464	0	0	0	0	40441	5836	1183	7019		4.8	Si
SLV 14	10.7	531.49	-1678	-1398	-362	0.464	0	0	0	0	40441	5836	1183	7019		19.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	6740	-1095	72.03	146.47	2.03	Si
SLV 16	179667	0.45	7755	-1259	72.03	167.37	2.32	Si
SLV 13	179667	0.45	7935	-1289	72.03	171.04	2.37	Si
SLV 14	179667	0.45	8951	-1454	72.03	191.57	2.66	Si
SLV 11	179667	0.45	9170	-1489	72.03	195.97	2.72	Si
SLV 12	179667	0.45	9854	-1600	72.03	209.58	2.91	Si
SLV 7	179667	0.45	12306	-1999	72.03	257.25	3.57	Si
SLV 8	179667	0.45	12990	-2110	72.03	270.22	3.75	Si
SLV 9	179667	0.45	13155	-2136	72.03	273.32	3.79	Si
SLV 10	179667	0.45	13838	-2247	72.03	286.12	3.97	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2078	-2678	-40	1.287	294	0.926	20.19722	6.13636	Si
SLV 4	-2019	-1715	-9	1.328	288.1	0.925	20.86821	6.13636	Si
SLV 1	-1959	-2741	-39	1.347	282.1	0.924	21.19485	6.13636	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-1900	-1778	-8	1.391	276.2	0.922	21.92519	6.13636	Si
SLV 6	-1671	-3701	-66	1.507	253.2	0.917	23.87457	5.23702	Si
SLV 5	-1591	-3744	-66	1.562	245.2	0.915	24.81123	5.23702	Si
SLV 8	-1475	-491	37	1.666	233.6	0.912	26.53641	5.23702	Si
SLV 7	-1395	-533	37	1.733	225.7	0.91	27.67678	5.23702	Si
SLV 10	-1280	-3606	-58	1.83	214.2	0.907	29.32411	5.23702	Si
SLV 9	-1200	-3648	-58	1.913	206.3	0.905	30.73845	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.622	SLU 65	Si
V_SLU	39.571	SLU 78	Si
PF_SLV	0.472	SLV 13	No
V_SLV	3.676	SLV 13	Si
PFFP_SLV	2.033	SLV 15	Si
R_SLV	3.291	SLV 2	Si

Maschio 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L6	L7	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	7.9	-4909.26	-24357	-0.0000593	0.0004492	0.0035	4.6702	39535.12	61252.72	61252.72	12.48	No	Si
SLU 84	11.45	-1023.82	-14396	-0.0000296	0.0004492	0.0035	4.6702	27558.89	42859.18	42859.18	41.86	No	Si
SLU 52	7.9	-4341.94	-20016	-0.000049	0.0004492	0.0035	4.6702	35028.83	53471.51	53471.51	12.32	No	Si
SLU 52	11.45	-750.3	-11558	-0.0000235	0.0004492	0.0035	4.6702	23083.87	37203.8	37203.8	49.59	No	Si
SLU 82	7.9	-4941.27	-23570	-0.0000578	0.0004492	0.0035	4.6702	38799.67	59886.02	59886.02	12.12	No	Si
SLU 82	11.45	-1033.75	-13634	-0.0000281	0.0004492	0.0035	4.6702	26403.56	41397.79	41397.79	40.05	No	Si
SLU 61	7.9	-4487.72	-20797	-0.000051	0.0004492	0.0035	4.6702	35920.47	54880.62	54880.62	12.23	No	Si
SLU 61	11.45	-821.06	-11945	-0.0000244	0.0004492	0.0035	4.6702	23722.31	37986.22	37986.22	46.27	No	Si
SLU 60	7.9	-4436.89	-20876	-0.000051	0.0004492	0.0035	4.6702	36009.03	55023.73	55023.73	12.4	No	Si
SLU 60	11.45	-864.72	-11967	-0.0000245	0.0004492	0.0035	4.6702	23758.2	38030.53	38030.53	43.98	No	Si
SLU 81	7.9	-4890.44	-23649	-0.0000578	0.0004492	0.0035	4.6702	38875.38	60029.13	60029.13	12.27	No	Si
SLU 81	11.45	-1077.41	-13656	-0.0000283	0.0004492	0.0035	4.6702	26437.29	41442.1	41442.1	38.46	No	Si
SLU 75	7.9	-4813.3	-23910	-0.0000582	0.0004492	0.0035	4.6702	39121.58	60493.16	60493.16	12.57	No	Si
SLU 75	11.45	-1079.5	-14251	-0.0000295	0.0004492	0.0035	4.6702	27340.3	42580.08	42580.08	39.44	No	Si
SLU 83	7.9	-4858.42	-24437	-0.0000594	0.0004492	0.0035	4.6702	39607.18	61387.31	61387.31	12.64	No	Si
SLU 83	11.45	-1067.48	-14418	-0.0000298	0.0004492	0.0035	4.6702	27591.64	42901.14	42901.14	40.19	No	Si
SLU 73	7.9	-4795.49	-22789	-0.0000558	0.0004492	0.0035	4.6702	38034.58	58476.91	58476.91	12.19	No	Si
SLU 73	11.45	-962.99	-13247	-0.0000272	0.0004492	0.0035	4.6702	25803.38	40615.38	40615.38	42.18	No	Si
SLU 76	7.9	-4763.47	-23577	-0.0000573	0.0004492	0.0035	4.6702	38805.96	59897.89	59897.89	12.57	No	Si
SLU 76	11.45	-953.06	-14009	-0.0000287	0.0004492	0.0035	4.6702	26975.96	42118.37	42118.37	44.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	7.9	-9365.74	-8401	-0.0000401	0.0006738	0.0035	4.6702		30968.71	30968.71	3.31		Si
SLV 9	11.45	2249.18	-6706	-0.0000178	0.0006738	0.0035	4.6702		17251.3	17251.3	7.67		Si
SLD 10	7.9	-7028.48	-11491	-0.0000384	0.0006738	0.0035	4.6702		37382.76	37382.76	5.32		Si
SLD 10	11.45	808.16	-7667	-0.0000161	0.0006738	0.0035	4.6702		19336.5	19336.5	23.93		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	7.9	-9247.42	-10439	-0.000042	0.0006738	0.0035	4.6702		35208.18	35208.18	3.81		Si
SLV 5	11.45	2734.54	-8100	-0.0000216	0.0006738	0.0035	4.6702		20267.1	20267.1	7.41		Si
SLV 14	7.9	-5569.4	-10639	-0.0000332	0.0006738	0.0035	4.6702		35621.54	35621.54	6.4		Si
SLV 14	11.45	-859.64	-6302	-0.0000137	0.0006738	0.0035	4.6702		26477.07	26477.07	30.8		Si
SLD 9	7.9	-6854.91	-11580	-0.0000382	0.0006738	0.0035	4.6702		37566.2	37566.2	5.48		Si
SLD 9	11.45	1016.27	-7799	-0.0000169	0.0006738	0.0035	4.6702		19622.71	19622.71	19.31		Si
SLV 10	7.9	-9651.74	-8254	-0.0000413	0.0006738	0.0035	4.6702		30657.01	30657.01	3.18		Si
SLV 10	11.45	1906.24	-6489	-0.0000165	0.0006738	0.0035	4.6702		16779.35	16779.35	8.8		Si
SLV 13	7.9	-5144.52	-10856	-0.0000326	0.0006738	0.0035	4.6702		36070.6	36070.6	7.01		Si
SLV 13	11.45	-350.2	-6625	-0.0000131	0.0006738	0.0035	4.6702		27174.7	27174.7	77.6		Si
SLD 6	7.9	-6955.9	-12795	-0.0000408	0.0006738	0.0035	4.6702		40079.1	40079.1	5.76		Si
SLD 6	11.45	1118.16	-8558	-0.0000185	0.0006738	0.0035	4.6702		21245.95	21245.95	19		Si
SLV 6	7.9	-9533.43	-10293	-0.0000426	0.0006738	0.0035	4.6702		34905.89	34905.89	3.66		Si
SLV 6	11.45	2391.6	-7883	-0.0000203	0.0006738	0.0035	4.6702		19802.3	19802.3	8.28		Si
SLD 5	7.9	-6782.34	-12884	-0.0000405	0.0006738	0.0035	4.6702		40262.54	40262.54	5.94		Si
SLD 5	11.45	1326.27	-8690	-0.0000193	0.0006738	0.0035	4.6702		21528.01	21528.01	16.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	7.9	-3940.53	-19439	-10778	-2424	4.6702	4.6702	-16484	10531	8088	115546	23497	23818	47314	No	19.52	Si
SLU 46	11.45	-769.62	-11692	-6483	-1220	4.6702	4.6702	-9915	9655	6370	115546	23497	23818	47314	No	38.77	Si
SLU 49	7.9	-3908.51	-20226	-11214	-2452	4.6702	4.6702	-17152	10620	8263	115546	23497	23818	47314	No	19.3	Si
SLU 49	11.45	-759.69	-12454	-6905	-1181	4.6702	4.6702	-10561	9741	6539	115546	23497	23818	47314	No	40.07	Si
SLU 68	7.9	-4344.25	-21878	-12131	-2325	4.6702	4.6702	-18553	10807	8629	115546	23497	23818	47314	No	20.35	Si
SLU 68	11.45	-855.87	-13139	-7285	-997	4.6702	4.6702	-11142	9819	6691	115546	23497	23818	47314	No	47.48	Si
SLU 48	7.9	-3857.68	-20305	-11258	-2311	4.6702	4.6702	-17219	10629	8280	115546	23497	23818	47314	No	20.47	Si
SLU 48	11.45	-803.35	-12476	-6917	-1033	4.6702	4.6702	-10580	9744	6544	115546	23497	23818	47314	No	45.82	Si
SLU 47	7.9	-3890.7	-19105	-10593	-2544	4.6702	4.6702	-16202	10494	8014	115546	23497	23818	47314	No	18.6	Si
SLU 47	11.45	-643.18	-11450	-6349	-1360	4.6702	4.6702	-9710	9628	6316	115546	23497	23818	47314	No	34.79	Si
SLU 55	7.9	-4309.92	-20804	-11535	-2332	4.6702	4.6702	-17642	10686	8391	115546	23497	23818	47314	No	20.29	Si
SLU 55	11.45	-740.37	-12320	-6831	-1090	4.6702	4.6702	-10448	9726	6509	115546	23497	23818	47314	No	43.4	Si
SLU 50	7.9	-3773.96	-20025	-11103	-2336	4.6702	4.6702	-16981	10598	8218	115546	23497	23818	47314	No	20.25	Si
SLU 50	11.45	-706.02	-12249	-6792	-1073	4.6702	4.6702	-10387	9718	6493	115546	23497	23818	47314	No	44.08	Si
SLU 51	7.9	-3824.79	-19945	-11059	-2477	4.6702	4.6702	-16914	10589	8200	115546	23497	23818	47314	No	19.1	Si
SLU 51	11.45	-662.36	-12227	-6779	-1222	4.6702	4.6702	-10369	9716	6489	115546	23497	23818	47314	No	38.73	Si
SLU 52	7.9	-4341.94	-20016	-11098	-2304	4.6702	4.6702	-16974	10597	8216	115546	23497	23818	47314	No	20.53	Si
SLU 52	11.45	-750.3	-11558	-6408	-1130	4.6702	4.6702	-9801	9640	6340	115546	23497	23818	47314	No	41.88	Si
SLU 44	7.9	-3922.71	-18318	-10157	-2516	4.6702	4.6702	-15534	10405	7839	115546	23497	23818	47314	No	18.81	Si
SLU 44	11.45	-653.11	-10688	-5926	-1400	4.6702	4.6702	-9064	9542	6239	115546	23497	23818	47314	No	33.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	7.9	2723.17	-24002	-13308	11923	4.6702	4.6702	-20354	16250	10988	115546	35245	23818	59063		4.95	Si
SLV 8	11.45	-3655.18	-12146	-6734	12128	4.6702	4.6702	-10300	14560	9520	115546	35245	23818	59063		4.87	Si
SLV 12	7.9	2604.86	-21964	-12178	11810	4.6702	4.6702	-18626	16225	10608	115546	35245	23818	59063		5	Si
SLV 12	11.45	-4140.54	-10752	-5962	12208	4.6702	4.6702	-9118	14324	9365	115546	35245	23818	59063		4.84	Si
SLV 9	7.9	-9365.74	-8401	-4658	-15070	4.6702	3.6605	-9122	14325	7528	115546	35245	23818	59063		3.92	Si
SLV 9	11.45	2249.18	-6706	-3718	-13349	4.6702	4.6702	-5687	13637	8916	115546	35245	23818	59063		4.42	Si
SLD 10	7.9	-7028.48	-11491	-6371	-9409	4.6702	4.6702	-9744	14449	9447	115546	35245	23818	59063		6.28	Si
SLD 10	11.45	808.16	-7667	-4251	-7952	4.6702	4.6702	-6502	13800	9023	115546	35245	23818	59063		7.43	Si
SLV 6	7.9	-9533.43	-10293	-5707	-14842	4.6702	4.2266	-9680	14436	8542	115546	35245	23818	59063		3.98	Si
SLV 6	11.45	2391.6	-7883	-4371	-13248	4.6702	4.6702	-6685	13837	9047	115546	35245	23818	59063		4.46	Si
SLD 9	7.9	-6854.91	-11580	-6420	-9479	4.6702	4.6702	-9820	14464	9457	115546	35245	23818	59063		6.23	Si
SLD 9	11.45	1016.27	-7799	-4324	-8061	4.6702	4.6702	-6614	13823	9038	115546	35245	23818	59063		7.33	Si
SLV 11	7.9	2890.87	-22110	-12259	11694	4.6702	4.6702	-18750	16250	10625	115546	35245	23818	59063		5.05	Si
SLV 11	11.45	-3797.6	-10970	-6082	12028	4.6702	4.6702	-9302	14360	9389	115546	35245	23818	59063		4.91	Si
SLV 7	7.9	3009.18	-24148	-13389	11807	4.6702	4.6702	-20478	16250	11021	115546	35245	23818	59063		5	Si
SLV 7	11.45	-3312.24	-12364	-6855	11948	4.6702	4.6702	-10485	14597	9544	115546	35245	23818	59063		4.94	Si
SLV 10	7.9	-9651.74	-8254	-4577	-14955	4.6702	3.4973	-9382	14377	7496	115546	35245	23818	59063		3.95	Si
SLV 10	11.45	1906.24	-6489	-3598	-13168	4.6702	4.6702	-5503	13601	8892	115546	35245	23818	59063		4.49	Si
SLV 5	7.9	-9247.42	-10439	-5788	-14958	4.6702	4.3477	-9548	14410	8771	115546	35245	23818	59063		3.95	Si
SLV 5	11.45	2734.54	-8100	-4491	-13429	4.6702	4.6702	-6869	13874	9071	115546	35245	23818	59063		4.4	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-7814	0.45	315.61	511.31	974.41	742.86	2.35	Si
SLV 9	-8013	0.45	315.61	523.4	991.43	757.41	2.4	Si
SLV 14	-8863	0.45	315.61	574.52	1064.15	819.33	2.6	Si
SLV 13	-9158	0.45	315.61	592.1	1089.45	840.77	2.66	Si
SLV 6	-9517	0.45	315.61	613.31	1120.17	866.74	2.75	Si
SLV 5	-9716	0.45	315.61	625	1137.14	881.07	2.79	Si
SLV 16	-11507	0.45	315.61	728.13	1289.48	1008.81	3.2	Si
SLV 15	-11802	0.45	315.61	744.8	1314.42	1029.61	3.26	Si
SLV 2	-14541	0.45	315.61	894.37	1543.47	1218.92	3.86	Si
SLV 1	-14837	0.45	315.61	909.99	1567.77	1238.88	3.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-12551	-21764	-365	1.789	1607	0.942	27.59813	10.68239	Si
SLV 4	-12228	-21546	-365	1.829	1574.2	0.941	28.24437	10.68239	Si
SLV 1	-11272	-17651	-384	1.957	1477.4	0.938	30.32402	10.68239	Si
SLV 2	-10949	-17434	-384	2.005	1444.8	0.937	31.10629	10.68239	Si
SLV 7	-12364	-24148	-79	1.832	1588	0.942	28.2734	7.57668	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-12146	-24002	-79	1.86	1566	0.941	28.72175	7.57668	Si
SLV 15	-7904	-14969	384	2.611	1137.5	0.924	41.07596	10.68239	Si
SLV 16	-7581	-14752	384	2.697	1105.1	0.922	42.51631	10.68239	Si
SLV 11	-10970	-22110	145	2.021	1446.9	0.937	31.3387	7.57668	Si
SLV 12	-10752	-21964	145	2.054	1424.9	0.936	31.89155	7.57668	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.12	SLU 82	Si
V_SLU	18.601	SLU 47	Si
PF_SLV	3.176	SLV 10	Si
V_SLV	3.919	SLV 9	Si
PFFP_SLV	2.354	SLV 10	Si
R_SLV	2.584	SLV 3	Si

Maschio 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.811	-19.618	6.521	L6	L7	0.71	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	7.9	317.83	-3350	-0.0000469	0.0003743	0.0035	0.71	992.48	1047.54	1047.54	3.3	No	Si
SLU 44	11.45	161.73	-3276	-0.0000358	0.0003743	0.0035	0.71	974.84	1028.3	1028.3	6.36	No	Si
SLU 65	7.9	354.7	-3796	-0.0000532	0.0003743	0.0035	0.71	1094.84	1165.64	1165.64	3.29	No	Si
SLU 65	11.45	179	-3780	-0.0000412	0.0003743	0.0035	0.71	1091.21	1161.25	1161.25	6.49	No	Si
SLU 52	7.9	325.52	-3438	-0.0000482	0.0003743	0.0035	0.71	1013.21	1070.55	1070.55	3.29	No	Si
SLU 52	11.45	170.56	-3523	-0.0000385	0.0003743	0.0035	0.71	1032.9	1092.82	1092.82	6.41	No	Si
SLU 60	7.9	340.01	-3561	-0.0000502	0.0003743	0.0035	0.71	1041.69	1102.9	1102.9	3.24	No	Si
SLU 60	11.45	169.68	-3607	-0.0000391	0.0003743	0.0035	0.71	1052.32	1115.19	1115.19	6.57	No	Si
SLU 61	7.9	333.29	-3510	-0.0000493	0.0003743	0.0035	0.71	1029.91	1089.41	1089.41	3.27	No	Si
SLU 61	11.45	172.48	-3620	-0.0000394	0.0003743	0.0035	0.71	1055.21	1118.55	1118.55	6.49	No	Si
SLU 43	7.9	329.02	-3435	-0.0000484	0.0003743	0.0035	0.71	1012.53	1069.79	1069.79	3.25	No	Si
SLU 43	11.45	157.08	-3255	-0.0000354	0.0003743	0.0035	0.71	969.77	1022.83	1022.83	6.51	No	Si
SLU 73	7.9	362.38	-3884	-0.0000545	0.0003743	0.0035	0.71	1114.2	1189.3	1189.3	3.28	No	Si
SLU 73	11.45	187.82	-4026	-0.0000438	0.0003743	0.0035	0.71	1144.92	1227.81	1227.81	6.54	No	Si
SLU 81	7.9	376.87	-4006	-0.0000566	0.0003743	0.0035	0.71	1140.76	1222.53	1222.53	3.24	No	Si
SLU 81	11.45	186.95	-4110	-0.0000445	0.0003743	0.0035	0.71	1162.85	1250.85	1250.85	6.69	No	Si
SLU 82	7.9	370.16	-3956	-0.0000557	0.0003743	0.0035	0.71	1129.78	1208.69	1208.69	3.27	No	Si
SLU 82	11.45	189.74	-4123	-0.0000448	0.0003743	0.0035	0.71	1165.51	1254.31	1254.31	6.61	No	Si
SLU 64	7.9	365.89	-3881	-0.0000547	0.0003743	0.0035	0.71	1113.57	1188.52	1188.52	3.25	No	Si
SLU 64	11.45	174.34	-3759	-0.0000407	0.0003743	0.0035	0.71	1086.51	1155.59	1155.59	6.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	7.9	-211.48	248	0.062874	0.0005615	0.0035	0.568		0	0	0		No
SLD 5	11.45	208.48	-3206	-0.0000377	0.0005615	0.0035	0.71		1077.35	1077.35	5.17		Si
SLV 10	7.9	-319.78	2982	0.7281033	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	11.45	258.09	-2616	-0.0000363	0.0005615	0.0035	0.71		897.74	897.74	3.48		Si
SLV 5	7.9	-547.83	2505	0.6171214	0.0005615	0.0035	0.568		0	0	0		No
SLV 5	11.45	261.99	-3425	-0.000043	0.0005615	0.0035	0.71		1140.27	1140.27	4.35		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	7.9	-481.09	2655	0.6523397	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	11.45	255.07	-3191	-0.0000406	0.0005615	0.0035	0.71		1073.07	1073.07	4.21		Si
SLV 9	7.9	-386.52	2832	0.6932367	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	11.45	265.02	-2850	-0.0000386	0.0005615	0.0035	0.71		970.08	970.08	3.66		Si
SLV 14	7.9	381.17	-558	-0.0082361	0.0005615	0.0035	0.568		225.47	225.47	0.59		No
SLV 14	11.45	170.89	-1770	-0.0000241	0.0005615	0.0035	0.71		629.3	629.3	3.68		Si
SLD 10	7.9	-68.18	546	0.1335044	0.0005615	0.0035	0.568		0	0	0		No
SLD 10	11.45	206.15	-2696	-0.0000336	0.0005615	0.0035	0.71		922.48	922.48	4.47		Si
SLV 13	7.9	282.02	-782	-0.0004551	0.0005615	0.0035	0.568		302	302	1.07		Si
SLV 13	11.45	181.18	-2117	-0.0000274	0.0005615	0.0035	0.71		741.08	741.08	4.09		Si
SLD 9	7.9	-108.68	455	0.112196	0.0005615	0.0035	0.568		0	0	0		No
SLD 9	11.45	210.35	-2838	-0.0000349	0.0005615	0.0035	0.71		966.33	966.33	4.59		Si
SLD 6	7.9	-170.98	339	0.0847949	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	11.45	204.28	-3063	-0.0000363	0.0005615	0.0035	0.71		1034.62	1034.62	5.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 71	7.9	394.76	-4468	-3721	739	0.71	0.71	-18716	9440	1877	40441	5953	1811	7763	No	10.5	Si
SLU 71	11.45	198.37	-4370	-3639	-695	0.71	0.71	-18303	9385	1866	40441	5953	1811	7763	No	11.18	Si
SLU 83	7.9	391.31	-4300	-3581	732	0.71	0.71	-18012	9346	1858	40441	5953	1811	7763	No	10.61	Si
SLU 83	11.45	198.96	-4416	-3677	-720	0.71	0.71	-18497	9411	1871	40441	5953	1811	7763	No	10.79	Si
SLU 70	7.9	392.94	-4455	-3710	734	0.71	0.71	-18661	9433	1875	40441	5953	1811	7763	No	10.58	Si
SLU 70	11.45	201.91	-4423	-3683	-709	0.71	0.71	-18528	9415	1872	40441	5953	1811	7763	No	10.96	Si
SLU 80	7.9	395.74	-4505	-3751	742	0.71	0.71	-18871	9461	1881	40441	5953	1811	7763	No	10.46	Si
SLU 80	11.45	209.99	-4629	-3854	-744	0.71	0.71	-19388	9529	1894	40441	5953	1811	7763	No	10.43	Si
SLU 69	7.9	399.65	-4506	-3752	750	0.71	0.71	-18874	9461	1881	40441	5953	1811	7763	No	10.35	Si
SLU 69	11.45	199.12	-4411	-3673	-700	0.71	0.71	-18475	9408	1870	40441	5953	1811	7763	No	11.09	Si
SLU 78	7.9	400.62	-4543	-3783	753	0.71	0.71	-19029	9482	1885	40441	5953	1811	7763	No	10.31	Si
SLU 78	11.45	210.73	-4669	-3888	-750	0.71	0.71	-19559	9552	1899	40441	5953	1811	7763	No	10.36	Si
SLU 84	7.9	384.59	-4249	-3538	716	0.71	0.71	-17798	9318	1852	40441	5953	1811	7763	No	10.85	Si
SLU 84	11.45	201.76	-4429	-3688	-729	0.71	0.71	-18550	9418	1872	40441	5953	1811	7763	No	10.66	Si
SLU 77	7.9	407.34	-4594	-3825	769	0.71	0.71	-19242	9510	1891	40441	5953	1811	7763	No	10.1	Si
SLU 77	11.45	207.94	-4657	-3878	-741	0.71	0.71	-19506	9545	1898	40441	5953	1811	7763	No	10.48	Si
SLU 79	7.9	402.45	-4556	-3794	758	0.71	0.71	-19084	9489	1886	40441	5953	1811	7763	No	10.24	Si
SLU 79	11.45	207.2	-4616	-3844	-736	0.71	0.71	-19335	9522	1893	40441	5953	1811	7763	No	10.55	Si
SLU 74	7.9	392.9	-4300	-3581	734	0.71	0.71	-18012	9346	1858	40441	5953	1811	7763	No	10.57	Si
SLU 74	11.45	195.92	-4351	-3623	-707	0.71	0.71	-18226	9375	1864	40441	5953	1811	7763	No	10.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	7.9	1032.19	-8480	-7061	2226	0.71	0.6998	-35520	16250	3184	40441	8929	1811	10740		4.82	Si
SLV 11	11.45	10.6	-2511	-2091	77	0.71	0.71	-10518	12520	2489	40441	8929	1811	10740		139.37	Si
SLV 12	7.9	1098.93	-8330	-6936	2312	0.71	0.6692	-34890	16250	3045	40441	8929	1811	10740		4.64	Si
SLV 12	11.45	3.68	-2277	-1896	99	0.71	0.71	-9537	12324	2450	40441	8929	1811	10740		109.03	Si
SLD 12	7.9	762.58	-6073	-5057	1569	0.71	0.6883	-25436	15504	2988	40441	8929	1811	10740		6.85	Si
SLD 12	11.45	57.19	-2496	-2079	-140	0.71	0.71	-10457	12508	2487	40441	8929	1811	10740		76.48	Si
SLD 8	7.9	659.78	-6280	-5229	1448	0.71	0.71	-26304	15678	3117	40441	8929	1811	10740		7.42	Si
SLD 8	11.45	55.32	-2864	-2385	-167	0.71	0.71	-11996	12816	2548	40441	8929	1811	10740		64.2	Si
SLV 6	7.9	-481.09	2655	2211	-1221	0.568	0.5214	0	0	0	40441	7144	1448	8592		7.03	Si
SLV 6	11.45	255.07	-3191	-2657	-1038	0.71	0.71	-13366	13090	2602	40441	8929	1811	10740		10.34	Si
SLD 11	7.9	722.08	-6164	-5133	1517	0.71	0.71	-25819	15580	3097	40441	8929	1811	10740		7.08	Si
SLD 11	11.45	61.39	-2638	-2197	-153	0.71	0.71	-11052	12627	2510	40441	8929	1811	10740		69.99	Si
SLV 7	7.9	870.87	-8808	-7334	2036	0.71	0.71	-36892	16250	3231	40441	8929	1811	10740		5.27	Si
SLV 7	11.45	7.58	-3086	-2570	35	0.71	0.71	-12926	13002	2585	40441	8929	1811	10740		303.02	Si
SLV 5	7.9	-547.83	2505	2086	-1308	0.568	0.4088	0	0	0	40441	7144	1448	8592		6.57	Si
SLV 5	11.45	261.99	-3425	-2852	-1060	0.71	0.71	-14347	13286	2641	40441	8929	1811	10740		10.14	Si
SLV 9	7.9	-386.52	2832	2358	-1118	0.568	0.6556	0	0	0	40441	7144	1448	8592		7.69	Si
SLV 9	11.45	265.02	-2850	-2373	-1018	0.71	0.71	-11938	12804	2546	40441	8929	1811	10740		10.55	Si
SLV 8	7.9	937.61	-8657	-7209	2122	0.71	0.71	-36262	16250	3231	40441	8929	1811	10740		5.06	Si
SLV 8	11.45	0.66	-2852	-2375	57	0.71	0.71	-11945	12806	2546	40441	8929	1811	10740		188.81	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	0	-334	88.18	0	0	No, e>t/2
SLV 9	179667	0.45	0	-527	88.18	0	0	No, e>t/2
SLV 6	179667	0.45	4003	-796	88.18	108.49	1.23	Si
SLV 5	179667	0.45	4973	-989	88.18	133.9	1.52	Si
SLV 14	179667	0.45	5960	-1185	88.18	159.4	1.81	Si
SLV 13	179667	0.45	7401	-1471	88.18	196	2.22	Si
SLV 16	179667	0.45	12149	-2415	88.18	311.24	3.53	Si
SLV 15	179667	0.45	13590	-2702	88.18	344.58	3.91	Si
SLV 2	179667	0.45	13696	-2723	88.18	347.01	3.94	Si
SLV 1	179667	0.45	15137	-3009	88.18	379.54	4.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-4034	-1873	-185	0.859	510.7	0.944	13.22247	6.13636	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3932	-5267	-170	0.881	500.4	0.944	13.56674	6.13636	Si
SLV 2	-3686	-1650	-185	0.925	475.4	0.941	14.29117	6.13636	Si
SLV 4	-3584	-5043	-170	0.95	465.1	0.94	14.69171	6.13636	Si
SLV 5	-3425	2505	-78	1.009	449	0.938	15.62594	5.23702	Si, Trazione
SLV 6	-3191	2655	-78	1.068	425.3	0.935	16.59555	5.23702	Si, Trazione
SLV 7	-3086	-8808	-29	1.11	414.7	0.934	17.27447	5.23702	Si
SLV 8	-2852	-8657	-29	1.182	391.1	0.931	18.4574	5.23702	Si
SLV 9	-2850	2832	28	1.183	390.9	0.931	18.46981	5.23702	Si, Trazione
SLV 13	-2117	-782	169	1.436	317.2	0.918	22.71898	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.244	SLU 60	Si
V_SLU	10.099	SLU 77	Si
PF_SLV	0	SLD 5	No
V_SLV	4.644	SLV 12	Si
PFFP_SLV	0	SLV 9	No
R_SLV	2.155	SLV 1	Si

Maschio 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.263	-3.169	-17.313	-3.169	L6	L7	1.05	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	8.8	-272.27	-5876	-0.0000391	0.0003743	0.0035	1.05	2479.36	2892.82	2892.82	10.62	No	Si
SLU 65	10.6	638.11	-4604	-0.0000432	0.0003743	0.0035	1.05	2045.44	2146.45	2146.45	3.36	No	Si
SLU 23	8.8	-244.96	-4810	-0.0000323	0.0003743	0.0035	1.05	2119.51	2472.83	2472.83	10.09	No	Si
SLU 23	10.6	543.29	-3870	-0.0000362	0.0003743	0.0035	1.05	1769.04	1859.3	1859.3	3.42	No	Si
SLU 64	8.8	-256.11	-5836	-0.0000384	0.0003743	0.0035	1.05	2466.56	2877.68	2877.68	11.24	No	Si
SLU 64	10.6	621.91	-4550	-0.0000424	0.0003743	0.0035	1.05	2025.62	2124.87	2124.87	3.42	No	Si
SLU 68	8.8	-268.29	-5986	-0.0000396	0.0003743	0.0035	1.05	2514.28	2934.29	2934.29	10.94	No	Si
SLU 68	10.6	644.73	-4690	-0.0000439	0.0003743	0.0035	1.05	2076.49	2180.58	2180.58	3.38	No	Si
SLU 67	8.8	-268.77	-6122	-0.0000404	0.0003743	0.0035	1.05	2556.82	2985.11	2985.11	11.11	No	Si
SLU 67	10.6	657.37	-4825	-0.0000045	0.0003743	0.0035	1.05	2124.82	2234.58	2234.58	3.4	No	Si
SLU 70	8.8	-264.8	-6233	-0.0000409	0.0003743	0.0035	1.05	2590.8	3025.95	3025.95	11.43	No	Si
SLU 70	10.6	663.99	-4911	-0.0000457	0.0003743	0.0035	1.05	2155.21	2269.08	2269.08	3.42	No	Si
SLU 69	8.8	-255.1	-6209	-0.0000404	0.0003743	0.0035	1.05	2583.42	3017.07	3017.07	11.83	No	Si
SLU 69	10.6	654.27	-4878	-0.0000452	0.0003743	0.0035	1.05	2143.68	2255.94	2255.94	3.45	No	Si
SLU 26	8.8	-240.99	-4920	-0.0000328	0.0003743	0.0035	1.05	2158.56	2517.84	2517.84	10.45	No	Si
SLU 26	10.6	549.91	-3956	-0.0000369	0.0003743	0.0035	1.05	1802.31	1892.37	1892.37	3.44	No	Si
SLU 72	8.8	-257.86	-6081	-0.0000398	0.0003743	0.0035	1.05	2543.79	2969.51	2969.51	11.52	No	Si
SLU 72	10.6	644.86	-4754	-0.0000442	0.0003743	0.0035	1.05	2099.5	2206.14	2206.14	3.42	No	Si
SLU 66	8.8	-259.07	-6098	-0.0000399	0.0003743	0.0035	1.05	2549.36	2976.17	2976.17	11.49	No	Si
SLU 66	10.6	647.65	-4792	-0.0000445	0.0003743	0.0035	1.05	2113.2	2221.48	2221.48	3.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	8.8	-2101.87	-2818	-0.0024928	0.0005615	0.0035	0.84		1645.01	1645.01	0.78		No
SLV 14	10.6	1824.42	-4310	-0.0001682	0.0005615	0.0035	1.05		2167.12	2167.12	1.19		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	8.8	1820.89	-3933	-0.0002739	0.0005615	0.0035	1.05		1997.56	1997.56	1.1		Si
SLV 8	10.6	-1190.3	-750	-0.0020338	0.0005615	0.0035	0.84		632.4	632.4	0.53		No
SLV 13	8.8	-2589.9	-2307	-0.0059171	0.0005615	0.0035	0.84		1400.59	1400.59	0.54		No
SLV 13	10.6	2178.58	-4469	-0.0009929	0.0005615	0.0035	0.84		2234.06	2234.06	1.03		Si
SLV 9	8.8	-2159.99	-5032	-0.0002114	0.0005615	0.0035	0.84		2654.77	2654.77	1.23		Si
SLV 9	10.6	2101.89	-6168	-0.0001286	0.0005615	0.0035	1.05		2900.1	2900.1	1.38		Si
SLV 15	8.8	-1816.31	-1452	-0.0036791	0.0005615	0.0035	0.84		984.02	984.02	0.54		No
SLV 15	10.6	1477.58	-2903	-0.0010697	0.0005615	0.0035	0.84		1518.18	1518.18	1.03		Si
SLD 15	8.8	-1240.89	-2566	-0.0002026	0.0005615	0.0035	0.84		1525.72	1525.72	1.23		Si
SLD 15	10.6	1125.36	-3141	-0.0000691	0.0005615	0.0035	1.05		1630.69	1630.69	1.45		Si
SLV 7	8.8	1492.37	-3589	-0.000126	0.0005615	0.0035	1.05		1839.65	1839.65	1.23		Si
SLV 7	10.6	-951.89	-858	-0.0011399	0.0005615	0.0035	0.84		686.62	686.62	0.72		No
SLD 13	8.8	-1693.77	-3067	-0.0006888	0.0005615	0.0035	0.84		1762.11	1762.11	1.04		Si
SLD 13	10.6	1535.68	-4058	-0.0001043	0.0005615	0.0035	1.05		2054.28	2054.28	1.34		Si
SLV 4	8.8	2250.8	-6658	-0.0001379	0.0005615	0.0035	1.05		3094.19	3094.19	1.37		Si
SLV 4	10.6	-1266.98	-2449	-0.0003238	0.0005615	0.0035	0.84		1469.09	1469.09	1.16		Si
SLV 16	8.8	-1328.28	-1963	-0.0009505	0.0005615	0.0035	0.84		1235.07	1235.07	0.93		No
SLV 16	10.6	1123.42	-2743	-0.0000884	0.0005615	0.0035	1.05		1442.43	1442.43	1.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	8.8	-268.77	-6122	-5098	-676	1.05	1.05	-17341	9257	2721	40441	8804	2678	11481	No	16.99	Si
SLU 67	10.6	657.37	-4825	-4018	-338	1.05	1.05	-13666	8767	2577	40441	8804	2678	11481	No	33.94	Si
SLU 75	8.8	-222.14	-6536	-5442	-647	1.05	1.05	-18511	9413	2767	40441	8804	2678	11481	No	17.74	Si
SLU 75	10.6	654.06	-5173	-4308	-237	1.05	1.05	-14652	8898	2616	40441	8804	2678	11481	No	48.53	Si
SLU 70	8.8	-264.8	-6233	-5190	-665	1.05	1.05	-17653	9298	2734	40441	8804	2678	11481	No	17.27	Si
SLU 70	10.6	663.99	-4911	-4089	-348	1.05	1.05	-13909	8799	2587	40441	8804	2678	11481	No	33	Si
SLU 65	8.8	-272.27	-5876	-4893	-678	1.05	1.05	-16643	9164	2694	40441	8804	2678	11481	No	16.93	Si
SLU 65	10.6	638.11	-4604	-3834	-325	1.05	1.05	-13041	8683	2553	40441	8804	2678	11481	No	35.37	Si
SLU 66	8.8	-259.07	-6098	-5078	-661	1.05	1.05	-17273	9247	2719	40441	8804	2678	11481	No	17.37	Si
SLU 66	10.6	647.65	-4792	-3991	-328	1.05	1.05	-13574	8754	2574	40441	8804	2678	11481	No	35.05	Si
SLU 72	8.8	-257.86	-6081	-5063	-646	1.05	1.05	-17222	9241	2717	40441	8804	2678	11481	No	17.78	Si
SLU 72	10.6	644.86	-4754	-3959	-337	1.05	1.05	-13465	8740	2570	40441	8804	2678	11481	No	34.11	Si
SLU 73	8.8	-225.64	-6289	-5237	-649	1.05	1.05	-17814	9320	2740	40441	8804	2678	11481	No	17.68	Si
SLU 73	10.6	634.8	-4952	-4124	-223	1.05	1.05	-14027	8815	2592	40441	8804	2678	11481	No	51.52	Si
SLU 68	8.8	-268.29	-5986	-4985	-667	1.05	1.05	-16956	9205	2706	40441	8804	2678	11481	No	17.21	Si
SLU 68	10.6	644.73	-4690	-3906	-334	1.05	1.05	-13284	8716	2562	40441	8804	2678	11481	No	34.36	Si
SLU 69	8.8	-255.1	-6209	-5170	-650	1.05	1.05	-17585	9289	2731	40441	8804	2678	11481	No	17.67	Si
SLU 69	10.6	654.27	-4878	-4062	-337	1.05	1.05	-13817	8787	2583	40441	8804	2678	11481	No	34.05	Si
SLU 64	8.8	-256.11	-5836	-4860	-653	1.05	1.05	-16530	9148	2690	40441	8804	2678	11481	No	17.58	Si
SLU 64	10.6	621.91	-4550	-3789	-307	1.05	1.05	-12887	8663	2547	40441	8804	2678	11481	No	37.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	8.8	-2589.9	-2307	-1921	-4479	0.84	0	0	0	0	40441	10564	2142	12706		2.84	Si
SLV 13	10.6	2178.58	-4469	-3722	-1868	0.84	0.1126	0	0	0	40441	10564	2142	12706		6.8	Si
SLD 14	8.8	-1384.15	-3391	-2824	-2486	0.84	0.3505	0	0	0	40441	10564	2142	12706		5.11	Si
SLD 14	10.6	1310.99	-3957	-3295	-1001	1.05	0.581	-11207	12658	2294	40441	13206	2678	15883		15.87	Si
SLD 9	8.8	-1366.92	-4762	-3965	-2325	0.84	0.7138	0	0	0	40441	10564	2142	12706		5.46	Si
SLD 9	10.6	1440.72	-5047	-4203	-1323	1.05	0.7187	-14296	13276	2672	40441	13206	2678	15883		12.01	Si
SLV 4	8.8	2250.8	-6658	-5544	3561	1.05	0.5608	-18858	14188	2894	40441	13206	2678	15883		4.46	Si
SLV 4	10.6	-1266.98	-2449	-2039	1469	0.84	0.023	0	0	0	40441	10564	2142	12706		8.65	Si
SLV 14	8.8	-2101.87	-2818	-2347	-3676	0.84	0	0	0	0	40441	10564	2142	12706		3.46	Si
SLV 14	10.6	1824.42	-4310	-3589	-1493	1.05	0.305	-43066	16250	2372	40441	13206	2678	15883		10.64	Si
SLV 16	8.8	-1328.28	-1963	-1635	-2531	0.84	0	0	0	0	40441	10564	2142	12706		5.02	Si
SLV 16	10.6	1123.42	-2743	-2284	-625	1.05	0.3462	-7768	11970	2024	40441	13206	2678	15883		25.4	Si
SLV 9	8.8	-2159.99	-5032	-4190	-3553	0.84	0.2872	0	0	0	40441	10564	2142	12706		3.58	Si
SLV 9	10.6	2101.89	-6168	-5136	-2086	1.05	0.5527	-17471	13911	2785	40441	13206	2678	15883		7.62	Si
SLD 13	8.8	-1693.77	-3067	-2554	-2995	0.84	0	0	0	0	40441	10564	2142	12706		4.24	Si
SLD 13	10.6	1535.68	-4058	-3379	-1239	1.05	0.4397	-11494	12715	2316	40441	13206	2678	15883		12.82	Si
SLV 10	8.8	-1831.47	-5376	-4476	-3012	0.84	0.5529	0	0	0	40441	10564	2142	12706		4.22	Si
SLV 10	10.6	1863.49	-6061	-5047	-1833	1.05	0.6526	-17166	13850	2761	40441	13206	2678	15883		8.66	Si
SLV 15	8.8	-1816.31	-1452	-1209	-3334	0.84	0	0	0	0	40441	10564	2142	12706		3.81	Si
SLV 15	10.6	1477.58	-2903	-2417	-1001	0.84	0.0478	0	0	0	40441	10564	2142	12706		12.7	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	0	-885	130.4	0	0	No, e>t/2
SLV 16	179667	0.45	4751	-1397	130.4	189.45	1.45	Si
SLV 11	179667	0.45	5500	-1617	130.4	218.22	1.67	Si
SLV 13	179667	0.45	5919	-1740	130.4	234.17	1.8	Si
SLV 12	179667	0.45	6670	-1961	130.4	262.56	2.01	Si
SLV 14	179667	0.45	7657	-2251	130.4	299.37	2.3	Si
SLV 7	179667	0.45	10296	-3027	130.4	395.2	3.03	Si
SLV 8	179667	0.45	11466	-3371	130.4	436.51	3.35	Si
SLV 9	179667	0.45	15189	-4466	130.4	562.99	4.32	Si
SLV 10	179667	0.45	16359	-4810	130.4	601.22	4.61	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-4319	-6945	-39	1.161	588.6	0.932	18.1056	6.13636	Si
SLV 9	-5018	-8635	-96	1.02	659.2	0.938	15.8028	5.23702	Si
SLV 14	-4090	-6572	-39	1.212	565.5	0.929	18.94805	6.13636	Si
SLV 10	-4864	-8385	-95	1.046	643.7	0.936	16.22845	5.23702	Si
SLV 5	-4634	-8038	-90	1.088	620.4	0.935	16.92231	5.23702	Si
SLV 6	-4480	-7788	-89	1.118	604.9	0.933	17.41226	5.23702	Si
SLV 15	-3304	-4847	15	1.435	486.4	0.921	22.64583	6.13636	Si
SLV 16	-3075	-4475	15	1.514	463.5	0.918	23.97326	6.13636	Si
SLV 1	-3040	-4956	-20	1.526	460	0.917	24.17352	6.13636	Si
SLV 2	-2812	-4584	-19	1.617	437.1	0.914	25.6984	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.364	SLU 65	Si
V_SLU	16.93	SLU 65	Si
PF_SLV	0.531	SLV 8	No
V_SLV	2.837	SLV 13	Si
PFFP_SLV	0	SLV 15	No
R_SLV	2.951	SLV 13	Si

Maschio 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L6	L7	3.211	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	7.9	2408.25	-10502	-0.0000415	0.0004492	0.0035	3.2107	13635.6	16376.68	16376.68	6.8	No	Si
SLU 50	10	18.26	-7494	-0.0000205	0.0004492	0.0035	3.2107	10389.49	12219.17	12219.17	669.12	No	Si
SLU 44	7.9	2289.05	-10120	-0.0000397	0.0004492	0.0035	3.2107	13252.28	15857.21	15857.21	6.93	No	Si
SLU 44	10	-97.53	-7134	-0.0000199	0.0004492	0.0035	3.2107	9964.64	16393.96	16393.96	168.1	No	Si
SLU 60	7.9	2561.93	-11466	-0.0000451	0.0004492	0.0035	3.2107	14564.34	17669.13	17669.13	6.9	No	Si
SLU 60	10	-19.68	-8119	-0.0000222	0.0004492	0.0035	3.2107	11107.33	17763.33	17763.33	902.74	No	Si
SLU 45	7.9	2423.19	-10489	-0.0000415	0.0004492	0.0035	3.2107	13622.83	16359.43	16359.43	6.75	No	Si
SLU 45	10	-115.19	-7455	-0.0000209	0.0004492	0.0035	3.2107	10343.95	16841.04	16841.04	146.2	No	Si
SLU 1	7.9	1896.95	-8127	-0.000032	0.0004492	0.0035	3.2107	11116.18	13109.04	13109.04	6.91	No	Si
SLU 1	10	-130.7	-5700	-0.0000161	0.0004492	0.0035	3.2107	8200.21	14387.59	14387.59	110.08	No	Si
SLU 64	7.9	2584.78	-11494	-0.0000453	0.0004492	0.0035	3.2107	14590.55	17706.74	17706.74	6.85	No	Si
SLU 64	10	-40.68	-8182	-0.0000225	0.0004492	0.0035	3.2107	11177.66	17849.9	17849.9	438.79	No	Si
SLU 46	7.9	2354.18	-10513	-0.0000412	0.0004492	0.0035	3.2107	13646.16	16390.97	16390.97	6.96	No	Si
SLU 46	10	-31.31	-7532	-0.0000206	0.0004492	0.0035	3.2107	10433.05	16947.11	16947.11	541.29	No	Si
SLU 48	7.9	2425.28	-10700	-0.0000421	0.0004492	0.0035	3.2107	13830.65	16641.96	16641.96	6.86	No	Si
SLU 48	10	12.61	-7699	-0.000021	0.0004492	0.0035	3.2107	10627.54	12509.87	12509.87	992.42	No	Si
SLU 53	7.9	2533.69	-11459	-0.0000449	0.0004492	0.0035	3.2107	14557.75	17659.69	17659.69	6.97	No	Si
SLU 53	10	37.17	-8234	-0.0000226	0.0004492	0.0035	3.2107	11237.15	13258.46	13258.46	356.72	No	Si
SLU 43	7.9	2404.08	-10080	-0.0000402	0.0004492	0.0035	3.2107	13212.48	15803.63	15803.63	6.57	No	Si
SLU 43	10	-237.34	-7007	-0.0000202	0.0004492	0.0035	3.2107	9812.98	16217.19	16217.19	68.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	7.9	7117.21	-6995	-0.0000705	0.0006738	0.0035	3.2107		11643.51	11643.51	1.64		Si
SLV 7	10	-5576.21	-925	-0.000329	0.0006738	0.0035	2.5686		7319.99	7319.99	1.31		Si
SLD 11	7.9	4996.01	-7218	-0.0000462	0.0006738	0.0035	3.2107		11968.43	11968.43	2.4		Si
SLD 11	10	-3250.83	-2557	-0.0000428	0.0006738	0.0035	2.5686		9796.2	9796.2	3.01		Si
SLV 15	7.9	3583.01	-6750	-0.0000366	0.0006738	0.0035	3.2107		11285.91	11285.91	3.15		Si
SLV 15	10	-1552.73	-2954	-0.0000157	0.0006738	0.0035	3.2107		10393.41	10393.41	6.69		Si
SLV 11	7.9	7136.52	-6134	-0.0000828	0.0006738	0.0035	3.2107		10384.66	10384.66	1.46		Si
SLV 11	10	-5533.15	18	-0.0003485	0.0006738	0.0035	2.5686		5872.63	5872.63	1.06		Si
SLD 8	7.9	4957.9	-7715	-0.0000469	0.0006738	0.0035	3.2107		12684.33	12684.33	2.56		Si
SLD 8	10	-3344.08	-3149	-0.0000335	0.0006738	0.0035	2.5686		10686.57	10686.57	3.2		Si
SLV 8	7.9	7072.23	-6912	-0.0000704	0.0006738	0.0035	3.2107		11522.5	11522.5	1.63		Si
SLV 8	10	-5683.49	-909	-0.0003371	0.0006738	0.0035	2.5686		7294.97	7294.97	1.28		Si
SLD 12	7.9	4968.71	-7168	-0.000046	0.0006738	0.0035	3.2107		11896.18	11896.18	2.39		Si
SLD 12	10	-3315.93	-2547	-0.0000463	0.0006738	0.0035	2.5686		9781.3	9781.3	2.95		Si
SLV 16	7.9	3516.19	-6627	-0.0000359	0.0006738	0.0035	3.2107		11106.15	11106.15	3.16		Si
SLV 16	10	-1712.11	-2930	-0.0000165	0.0006738	0.0035	3.2107		10356.94	10356.94	6.05		Si
SLV 12	7.9	7091.54	-6052	-0.0000833	0.0006738	0.0035	3.2107		10263.66	10263.66	1.45		Si
SLV 12	10	-5640.43	34	-0.0003561	0.0006738	0.0035	2.5686		5847.41	5847.41	1.04		Si
SLD 7	7.9	4985.19	-7765	-0.0000472	0.0006738	0.0035	3.2107		12756.57	12756.57	2.56		Si
SLD 7	10	-3278.98	-3159	-0.0000322	0.0006738	0.0035	2.5686		10701.46	10701.46	3.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.9	2742.63	-12880	-7141	2079	3.2107	3.2107	-15887	10452	4932	115546	16154	16375	32528	No	15.65	Si
SLU 81	10	176.98	-9294	-5153	2068	3.2107	3.2107	-11464	9862	4433	115546	16154	16375	32528	No	15.73	Si
SLU 73	7.9	2580.25	-12503	-6933	1786	3.2107	3.2107	-15423	10390	4856	115546	16154	16375	32528	No	18.21	Si
SLU 73	10	251.49	-9088	-5039	1897	3.2107	3.2107	-11210	9828	4418	115546	16154	16375	32528	No	17.15	Si
SLU 64	7.9	2584.78	-11494	-6373	1897	3.2107	3.2107	-14178	10224	4654	115546	16154	16375	32528	No	17.14	Si
SLU 64	10	-40.68	-8182	-4536	1888	3.2107	3.2107	-10092	9679	4351	115546	16154	16375	32528	No	17.23	Si
SLU 74	7.9	2714.39	-12873	-7137	1945	3.2107	3.2107	-15879	10451	4930	115546	16154	16375	32528	No	16.73	Si
SLU 74	10	233.82	-9409	-5217	1934	3.2107	3.2107	-11607	9881	4441	115546	16154	16375	32528	No	16.82	Si
SLU 82	7.9	2673.61	-12903	-7154	1936	3.2107	3.2107	-15916	10456	4937	115546	16154	16375	32528	No	16.8	Si
SLU 82	10	260.86	-9371	-5196	1997	3.2107	3.2107	-11559	9874	4439	115546	16154	16375	32528	No	16.29	Si
SLU 61	7.9	2492.91	-11490	-6371	1874	3.2107	3.2107	-14173	10223	4653	115546	16154	16375	32528	No	17.36	Si
SLU 61	10	64.21	-8196	-4544	1937	3.2107	3.2107	-10109	9681	4352	115546	16154	16375	32528	No	16.79	Si
SLU 62	7.9	2564.02	-11677	-6474	1932	3.2107	3.2107	-14404	10254	4691	115546	16154	16375	32528	No	16.84	Si
SLU 62	10	108.12	-8363	-4637	1922	3.2107	3.2107	-10316	9709	4364	115546	16154	16375	32528	No	16.92	Si
SLU 83	7.9	2744.72	-13091	-7258	1994	3.2107	3.2107	-16147	10486	4974	115546	16154	16375	32528	No	16.32	Si
SLU 83	10	304.78	-9538	-5289	1982	3.2107	3.2107	-11765	9902	4451	115546	16154	16375	32528	No	16.41	Si
SLU 84	7.9	2675.7	-13114	-7271	1851	3.2107	3.2107	-16176	10490	4979	115546	16154	16375	32528	No	17.57	Si
SLU 84	10	388.66	-9615	-5331	1912	3.2107	3.2107	-11860	9915	4457	115546	16154	16375	32528	No	17.01	Si
SLU 60	7.9	2561.93	-11466	-6357	2017	3.2107	3.2107	-14144	10219	4648	115546	16154	16375	32528	No	16.13	Si
SLU 60	10	-19.68	-8119	-4502	2007	3.2107	3.2107	-10015	9669	4346	115546	16154	16375	32528	No	16.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	7.9	4957.9	-7715	-4278	6166	3.2107	2.8882	-9517	14403	5824	115546	24231	16375	40605		6.59	Si
SLD 8	10	-3344.08	-3149	-1746	5640	2.5686	1.6304	0	0	0	115546	19385	13100	32484		5.76	Si
SLV 7	7.9	7117.21	-6995	-3878	9507	3.2107	1.7635	-8628	14226	4926	115546	24231	16375	40605		4.27	Si
SLV 7	10	-5576.21	-925	-513	8616	2.5686	0	0	0	0	115546	19385	13100	32484		3.77	Si
SLV 12	7.9	7091.54	-6052	-3355	9567	3.2107	1.3005	-7465	13993	4737	115546	24231	16375	40605		4.24	Si
SLV 12	10	-5640.43	34	19	8697	2.5686	0	0	0	0	115546	19385	13100	32484		3.74	Si
SLV 5	7.9	-3131.25	-11565	-6412	-6602	3.2107	3.2107	-14265	15353	6901	115546	24231	16375	40605		6.15	Si
SLV 5	10	5578.47	-12550	-6958	-5747	3.2107	3.2107	-15480	15596	7010	115546	24231	16375	40605		7.07	Si
SLD 12	7.9	4968.71	-7168	-3974	6216	3.2107	2.7364	-8842	14268	5466	115546	24231	16375	40605		6.53	Si
SLD 12	10	-3315.93	-2547	-1412	5703	2.5686	0.9097	0	0	0	115546	19385	13100	32484		5.7	Si
SLV 8	7.9	7072.23	-6912	-3832	9486	3.2107	1.7465	-8526	14205	4909	115546	24231	16375	40605		4.28	Si
SLV 8	10	-5683.49	-909	-504	8596	2.5686	0	0	0	0	115546	19385	13100	32484		3.78	Si
SLD 7	7.9	4985.19	-7765	-4306	6179	3.2107	2.8901	-9579	14416	5833	115546	24231	16375	40605		6.57	Si
SLD 7	10	-3278.98	-3159	-1752	5653	2.5686	1.7022	0	0	0	115546	19385	13100	32484		5.75	Si
SLV 11	7.9	7136.52	-6134	-3401	9588	3.2107	1.3259	-7567	14013	4753	115546	24231	16375	40605		4.24	Si
SLV 11	10	-5533.15	18	10	8718	2.5686	0	0	0	0	115546	19385	13100	32484		3.73	Si
SLD 11	7.9	4996.01	-7218	-4002	6229	3.2107	2.7396	-8903	14281	5477	115546	24231	16375	40605		6.52	Si
SLD 11	10	-3250.83	-2557	-1417	5716	2.5686	1.0013	0	0	0	115546	19385	13100	32484		5.68	Si
SLV 6	7.9	-3176.23	-11482	-6366	-6623	3.2107	3.2107	-14163	15333	6892	115546	24231	16375	40605		6.13	Si
SLV 6	10	5471.19	-12534	-6949	-5768	3.2107	3.2107	-15460	15592	7009	115546	24231	16375	40605		7.04	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-852	0.45	216.98	0	272.46	136.23	0.63	No
SLV 11	-890	0.45	216.98	0	275.96	137.98	0.64	No
SLV 8	-1758	0.45	216.98	0	354.93	177.46	0.82	No
SLV 7	-1796	0.45	216.98	0	358.32	179.16	0.83	No
SLV 16	-3588	0.45	216.98	240.22	516.64	378.43	1.74	Si
SLV 15	-3644	0.45	216.98	243.82	521.56	382.69	1.76	Si
SLV 4	-6606	0.45	216.98	425.35	777.36	601.35	2.77	Si
SLV 3	-6663	0.45	216.98	428.66	782.19	605.42	2.79	Si
SLV 14	-6846	0.45	216.98	439.41	797.88	618.65	2.85	Si
SLV 13	-6903	0.45	216.98	442.7	802.71	622.7	2.87	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-5562	-10989	-305	2.557	794.9	0.925	40.19826	10.68239	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-5458	-10866	-305	2.595	784.5	0.924	40.83071	10.68239	Si
SLV 3	-4564	-9618	-276	2.984	694.8	0.917	47.31687	10.68239	Si
SLV 4	-4461	-9495	-276	3.036	684.4	0.916	48.18923	10.68239	Si
SLV 5	-6083	-11565	-135	2.404	847.4	0.928	37.63807	7.57668	Si
SLV 6	-6013	-11482	-135	2.426	840.4	0.928	38.00635	7.57668	Si
SLV 13	-3774	-8121	276	3.434	616	0.909	54.88482	10.68239	Si
SLV 14	-3670	-7998	276	3.503	605.7	0.908	56.05302	10.68239	Si
SLV 9	-5547	-10704	40	2.601	793.4	0.924	40.88535	7.57668	Si
SLV 10	-5477	-10622	40	2.627	786.4	0.924	41.31715	7.57668	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.574	SLU 43	Si
V_SLU	15.649	SLU 81	Si
PF_SLV	1.037	SLV 12	Si
V_SLV	3.726	SLV 11	Si
PFFP_SLV	0.628	SLV 12	No
R_SLV	3.763	SLV 1	Si

Maschio 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.363	-3.169	L6	L7	1.61	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	7.9	-1458.93	-8902	-0.0000495	0.0003743	0.0035	1.61	5776.21	6822.39	6822.39	4.68	No	Si
SLU 82	10	2092.52	-10652	-0.0000647	0.0003743	0.0035	1.61	6584.78	7197.69	7197.69	3.44	No	Si
SLU 40	7.9	-1328.71	-7293	-0.0000418	0.0003743	0.0035	1.61	4937.83	5854.96	5854.96	4.41	No	Si
SLU 40	10	1892.8	-9116	-0.0000561	0.0003743	0.0035	1.61	5880.91	6324.44	6324.44	3.34	No	Si
SLU 42	7.9	-1315.68	-7516	-0.0000425	0.0003743	0.0035	1.61	5059.54	5989.76	5989.76	4.55	No	Si
SLU 42	10	1887.28	-9292	-0.0000567	0.0003743	0.0035	1.61	5965.48	6437.6	6437.6	3.41	No	Si
SLU 81	7.9	-1454.33	-8855	-0.0000493	0.0003743	0.0035	1.61	5753.12	6795.35	6795.35	4.67	No	Si
SLU 81	10	2081.08	-10606	-0.0000644	0.0003743	0.0035	1.61	6564.7	7176.05	7176.05	3.45	No	Si
SLU 83	7.9	-1441.3	-9078	-0.0000499	0.0003743	0.0035	1.61	5862.6	6924.79	6924.79	4.8	No	Si
SLU 83	10	2075.56	-10781	-0.000065	0.0003743	0.0035	1.61	6640.1	7257.87	7257.87	3.5	No	Si
SLU 31	7.9	-1271.79	-7151	-0.0000405	0.0003743	0.0035	1.61	4859.39	5767.05	5767.05	4.53	No	Si
SLU 31	10	1752.46	-8849	-0.0000532	0.0003743	0.0035	1.61	5749.99	6152.57	6152.57	3.51	No	Si
SLU 41	7.9	-1311.08	-7469	-0.0000422	0.0003743	0.0035	1.61	5034.18	5961.43	5961.43	4.55	No	Si
SLU 41	10	1875.84	-9245	-0.0000563	0.0003743	0.0035	1.61	5943.18	6407.59	6407.59	3.42	No	Si
SLU 19	7.9	-1006.66	-6684	-0.0000354	0.0003743	0.0035	1.61	4597.22	5466.7	5466.7	5.43	No	Si
SLU 19	10	1555.67	-7737	-0.0000464	0.0003743	0.0035	1.61	5178.21	5451.31	5451.31	3.5	No	Si
SLU 84	7.9	-1445.89	-9125	-0.0000502	0.0003743	0.0035	1.61	5885.32	6952.04	6952.04	4.81	No	Si
SLU 84	10	2087	-10827	-0.0000653	0.0003743	0.0035	1.61	6659.9	7279.61	7279.61	3.49	No	Si
SLU 39	7.9	-1324.12	-7246	-0.0000416	0.0003743	0.0035	1.61	4912.1	5826.85	5826.85	4.4	No	Si
SLU 39	10	1881.36	-9070	-0.0000558	0.0003743	0.0035	1.61	5858.33	6294.51	6294.51	3.35	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	7.9	-3223.03	-2769	-0.0010647	0.0005615	0.0035	1.288		2817.1	2817.1	0.87		No
SLV 16	10	2971.9	-7554	-0.0000672	0.0005615	0.0035	1.61		5670.61	5670.61	1.91		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	7.9	-2810.01	-3812	-0.0001812	0.0005615	0.0035	1.288		3585.68	3585.68	1.28		Si
SLD 15	10	2721.75	-7923	-0.0000626	0.0005615	0.0035	1.61		5888.86	5888.86	2.16		Si
SLV 11	7.9	-1376.81	-1269	-0.0003192	0.0005615	0.0035	1.288		1673.73	1673.73	1.22		Si
SLV 11	10	990.44	-3455	-0.0000236	0.0005615	0.0035	1.61		2818.68	2818.68	2.85		Si
SLV 13	7.9	-4219.07	-4766	-0.0008055	0.0005615	0.0035	1.288		4285.24	4285.24	1.02		Si
SLV 13	10	4217.95	-10949	-0.0000978	0.0005615	0.0035	1.61		7717.23	7717.23	1.83		Si
SLV 4	7.9	2350.85	-7932	-0.0000566	0.0005615	0.0035	1.61		5894.53	5894.53	2.51		Si
SLV 4	10	-1725.99	-3629	-0.0000394	0.0005615	0.0035	1.288		3451.55	3451.55	2		Si
SLV 15	7.9	-3855.35	-2281	-0.0022132	0.0005615	0.0035	1.288		2448.68	2448.68	0.64		No
SLV 15	10	3529.26	-8171	-0.000081	0.0005615	0.0035	1.61		6035.98	6035.98	1.71		Si
SLV 14	7.9	-3586.75	-5254	-0.0001614	0.0005615	0.0035	1.288		4628.39	4628.39	1.29		Si
SLV 14	10	3660.59	-10332	-0.0000851	0.0005615	0.0035	1.61		7339	7339	2		Si
SLD 16	7.9	-2408.86	-4122	-0.0000681	0.0005615	0.0035	1.288		3813.32	3813.32	1.58		Si
SLD 16	10	2368.15	-7531	-0.0000557	0.0005615	0.0035	1.61		5657.42	5657.42	2.39		Si
SLD 13	7.9	-3022.28	-5268	-0.0000841	0.0005615	0.0035	1.288		4638.57	4638.57	1.53		Si
SLD 13	10	3124.86	-9550	-0.0000735	0.0005615	0.0035	1.61		6863.25	6863.25	2.2		Si
SLD 14	7.9	-2621.13	-5577	-0.0000606	0.0005615	0.0035	1.288		4857.77	4857.77	1.85		Si
SLD 14	10	2771.26	-9158	-0.0000667	0.0005615	0.0035	1.61		6627.03	6627.03	2.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.9	-1454.33	-8855	-7374	-2539	1.61	1.61	-16357	9125	4114	40441	13499	4106	17605	No	6.93	Si
SLU 81	10	2081.08	-10606	-8831	-4053	1.61	1.61	-19590	9557	4308	40441	13499	4106	17605	No	4.34	Si
SLU 82	7.9	-1458.93	-8902	-7413	-2543	1.61	1.61	-16444	9137	4119	40441	13499	4106	17605	No	6.92	Si
SLU 82	10	2092.52	-10652	-8870	-4075	1.61	1.61	-19676	9568	4313	40441	13499	4106	17605	No	4.32	Si
SLU 75	7.9	-1404.83	-9094	-7573	-2512	1.61	1.61	-16799	9184	4140	40441	13499	4106	17605	No	7.01	Si
SLU 75	10	1979.15	-10746	-8949	-4073	1.61	1.61	-19851	9591	4324	40441	13499	4106	17605	No	4.32	Si
SLU 76	7.9	-1388.97	-8983	-7480	-2468	1.61	1.61	-16593	9157	4128	40441	13499	4106	17605	No	7.13	Si
SLU 76	10	1946.66	-10560	-8794	-3990	1.61	1.61	-19507	9545	4303	40441	13499	4106	17605	No	4.41	Si
SLU 77	7.9	-1387.2	-9271	-7720	-2481	1.61	1.61	-17125	9228	4160	40441	13499	4106	17605	No	7.1	Si
SLU 77	10	1962.19	-10875	-9056	-4021	1.61	1.61	-20089	9623	4338	40441	13499	4106	17605	No	4.38	Si
SLU 84	7.9	-1445.89	-9125	-7599	-2517	1.61	1.61	-16856	9192	4144	40441	13499	4106	17605	No	6.99	Si
SLU 84	10	2087	-10827	-9016	-4044	1.61	1.61	-20000	9611	4333	40441	13499	4106	17605	No	4.35	Si
SLU 78	7.9	-1391.8	-9317	-7759	-2485	1.61	1.61	-17211	9239	4165	40441	13499	4106	17605	No	7.08	Si
SLU 78	10	1973.63	-10922	-9095	-4042	1.61	1.61	-20175	9634	4343	40441	13499	4106	17605	No	4.35	Si
SLU 74	7.9	-1400.23	-9047	-7534	-2507	1.61	1.61	-16712	9173	4135	40441	13499	4106	17605	No	7.02	Si
SLU 74	10	1967.71	-10700	-8910	-4051	1.61	1.61	-19765	9580	4319	40441	13499	4106	17605	No	4.35	Si
SLU 83	7.9	-1441.3	-9078	-7560	-2513	1.61	1.61	-16770	9180	4139	40441	13499	4106	17605	No	7.01	Si
SLU 83	10	2075.56	-10781	-8977	-4022	1.61	1.61	-19914	9600	4328	40441	13499	4106	17605	No	4.38	Si
SLU 73	7.9	-1402	-8760	-7294	-2494	1.61	1.61	-16181	9102	4103	40441	13499	4106	17605	No	7.06	Si
SLU 73	10	1952.18	-10385	-8648	-4020	1.61	1.61	-19183	9502	4284	40441	13499	4106	17605	No	4.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	7.9	-4219.07	-4766	-3969	-7047	1.288	0	0	0	0	40441	16199	3284	19483		2.76	Si
SLV 13	10	4217.95	-10949	-9117	-7208	1.61	1.2593	-20225	14462	5099	40441	20248	4106	24354		3.38	Si
SLV 15	7.9	-3855.35	-2281	-1899	-6611	1.288	0	0	0	0	40441	16199	3284	19483		2.95	Si
SLV 15	10	3529.26	-8171	-6804	-5801	1.61	1.1192	-15092	13435	4210	40441	20248	4106	24354		4.2	Si
SLV 9	7.9	-2589.22	-9552	-7954	-4178	1.61	1.6018	-17644	13946	6255	40441	20248	4106	24354		5.83	Si
SLV 9	10	3286.08	-12716	-10589	-6443	1.61	1.61	-23489	15114	6814	40441	20248	4106	24354		3.78	Si
SLD 13	7.9	-3022.28	-5268	-4387	-5120	1.288	0.6939	0	0	0	40441	16199	3284	19483		3.81	Si
SLD 13	10	3124.86	-9550	-7952	-5576	1.61	1.4333	-17640	13945	5596	40441	20248	4106	24354		4.37	Si
SLV 16	7.9	-3223.03	-2769	-2305	-5609	1.288	0	0	0	0	40441	16199	3284	19483		3.47	Si
SLV 16	10	2971.9	-7554	-6290	-4851	1.61	1.2347	-13953	13207	4566	40441	20248	4106	24354		5.02	Si
SLV 10	7.9	-2163.57	-9880	-8227	-3504	1.61	1.61	-18251	14067	6341	40441	20248	4106	24354		6.95	Si
SLV 10	10	2910.89	-12301	-10243	-5803	1.61	1.61	-22722	14961	6744	40441	20248	4106	24354		4.2	Si
SLD 14	7.9	-2621.13	-5577	-4644	-4485	1.288	1.0051	0	0	0	40441	16199	3284	19483		4.34	Si
SLD 14	10	2771.26	-9158	-7626	-4973	1.61	1.5072	-16917	13800	5824	40441	20248	4106	24354		4.9	Si
SLD 15	7.9	-2810.01	-3812	-3174	-4863	1.288	0.2037	0	0	0	40441	16199	3284	19483		4.01	Si
SLD 15	10	2721.75	-7923	-6597	-4752	1.61	1.3844	-14635	13344	5172	40441	20248	4106	24354		5.13	Si
SLV 14	7.9	-3586.75	-5254	-4375	-6046	1.288	0.3668	0	0	0	40441	16199	3284	19483		3.22	Si
SLV 14	10	3660.59	-10332	-8604	-6258	1.61	1.3521	-19086	14234	5389	40441	20248	4106	24354		3.89	Si
SLD 16	7.9	-2408.86	-4122	-3432	-4228	1.288	0.6617	0	0	0	40441	16199	3284	19483		4.61	Si
SLD 16	10	2368.15	-7531	-6271	-4149	1.61	1.4717	-13912	13199	5439	40441	20248	4106	24354		5.87	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.45	4464	-2012	199.95	273.51	1.37	Si
SLV 7	179667	0.45	5173	-2332	199.95	315.43	1.58	Si
SLV 12	179667	0.45	6388	-2880	199.95	386.29	1.93	Si
SLV 11	179667	0.45	7097	-3199	199.95	427.07	2.14	Si
SLV 4	179667	0.45	9142	-4121	199.95	542.42	2.71	Si
SLV 3	179667	0.45	10195	-4596	199.95	600.47	3	Si
SLV 2	179667	0.45	15222	-6862	199.95	864.95	4.33	Si
SLV 16	179667	0.45	15554	-7012	199.95	881.66	4.41	Si
SLV 1	179667	0.45	16275	-7337	199.95	917.71	4.59	Si
SLV 15	179667	0.45	16607	-7486	199.95	934.12	4.67	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-5738	-10417	-55	1.3	813.3	0.926	20.40267	6.13636	Si
SLV 1	-5439	-9929	-54	1.354	783.3	0.924	21.31336	6.13636	Si
SLV 6	-5894	-11429	-241	1.247	829	0.927	19.55931	5.23702	Si
SLV 4	-4773	-7932	94	1.489	716.4	0.918	23.56534	6.13636	Si
SLV 5	-5693	-11101	-240	1.281	808.8	0.925	20.12499	5.23702	Si
SLV 3	-4475	-7445	95	1.562	686.5	0.916	24.79046	6.13636	Si
SLV 10	-5105	-9880	-252	1.391	749.7	0.921	21.95603	5.23702	Si
SLV 9	-4904	-9552	-252	1.434	729.5	0.919	22.67318	5.23702	Si
SLV 14	-3107	-5254	-92	2.02	550.8	0.902	32.54037	6.13636	Si
SLV 13	-2809	-4766	-91	2.16	521.5	0.899	34.9048	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.341	SLU 40	Si
V_SLU	4.321	SLU 82	Si
PF_SLV	0.635	SLV 15	No
V_SLV	2.765	SLV 13	Si
PFFP_SLV	1.368	SLV 8	Si
R_SLV	3.325	SLV 2	Si

Maschio 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.521	L6	L7	4.315	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	7.9	-5682.83	-17667	-0.0000531	0.0004492	0.0035	4.315	28993.97	44697.45	44697.45	7.87	No	Si
SLU 81	10	-8715.83	-14413	-0.000055	0.0004492	0.0035	4.315	25023.86	38977.49	38977.49	4.47	No	Si
SLU 84	7.9	-5816.28	-17916	-0.0000541	0.0004492	0.0035	4.315	29272.07	45110.47	45110.47	7.76	No	Si
SLU 84	10	-8901.81	-14662	-0.0000561	0.0004492	0.0035	4.315	25349.31	39415.6	39415.6	4.43	No	Si
SLU 79	7.9	-5457.61	-18074	-0.0000534	0.0004492	0.0035	4.315	29446.47	45372.27	45372.27	8.31	No	Si
SLU 79	10	-8864.78	-14819	-0.0000563	0.0004492	0.0035	4.315	25553.73	39693.31	39693.31	4.48	No	Si
SLU 82	7.9	-5805.32	-17516	-0.0000532	0.0004492	0.0035	4.315	28822.96	44440.29	44440.29	7.66	No	Si
SLU 82	10	-8581.8	-14261	-0.0000543	0.0004492	0.0035	4.315	24824.03	38710.86	38710.86	4.51	No	Si
SLU 42	7.9	-5028.06	-15027	-0.0000454	0.0004492	0.0035	4.315	25820.34	40058.52	40058.52	7.97	No	Si
SLU 42	10	-7932.99	-12427	-0.0000484	0.0004492	0.0035	4.315	22296.71	35443.9	35443.9	4.47	No	Si
SLU 41	7.9	-4905.57	-15178	-0.0000454	0.0004492	0.0035	4.315	26013.39	40325.14	40325.14	8.22	No	Si
SLU 41	10	-8067.01	-12578	-0.0000491	0.0004492	0.0035	4.315	22512.78	35725.8	35725.8	4.43	No	Si
SLU 83	7.9	-5693.78	-18068	-0.000054	0.0004492	0.0035	4.315	29439.54	45361.83	45361.83	7.97	No	Si
SLU 83	10	-9035.83	-14813	-0.0000568	0.0004492	0.0035	4.315	25545.6	39682.23	39682.23	4.39	No	Si
SLU 35	7.9	-4752.81	-15328	-0.0000453	0.0004492	0.0035	4.315	26202.73	40588.45	40588.45	8.54	No	Si
SLU 35	10	-8047.18	-12728	-0.0000493	0.0004492	0.0035	4.315	22724.85	36004.18	36004.18	4.47	No	Si
SLU 77	7.9	-5541.03	-18217	-0.0000539	0.0004492	0.0035	4.315	29603.61	45610.05	45610.05	8.23	No	Si
SLU 77	10	-9016	-14963	-0.0000571	0.0004492	0.0035	4.315	25738.13	39945.53	39945.53	4.43	No	Si
SLU 78	7.9	-5663.52	-18066	-0.000054	0.0004492	0.0035	4.315	29437.47	45358.69	45358.69	8.01	No	Si
SLU 78	10	-8881.98	-14811	-0.0000564	0.0004492	0.0035	4.315	25543.16	39678.91	39678.91	4.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	7.9	-12549.58	-4645	-0.0002703	0.0006738	0.0035	3.452		20698.05	20698.05	1.65		Si
SLD 5	10	-113.35	-2227	-0.0000047	0.0006738	0.0035	4.315		15804.87	15804.87	139.44		Si
SLV 2	7.9	-11038.74	-7098	-0.0000687	0.0006738	0.0035	3.452		25573.18	25573.18	2.32		Si
SLV 2	10	-2852.9	-4661	-0.0000173	0.0006738	0.0035	4.315		20730.88	20730.88	7.27		Si
SLV 6	7.9	-18636.23	764	-0.0006933	0.0006738	0.0035	3.452		9651.6	9651.6	0.52		No
SLV 6	10	3532.46	3152	-0.0051899	0.0006738	0.0035	4.315		0	0	0		No
SLD 9	7.9	-11343.55	-5247	-0.0001654	0.0006738	0.0035	3.452		21901.46	21901.46	1.93		Si
SLD 9	10	-113.72	-2829	-0.0000059	0.0006738	0.0035	4.315		17030.03	17030.03	149.75		Si
SLV 5	7.9	-18698.49	834	-0.0006966	0.0006738	0.0035	3.452		9507.32	9507.32	0.51		No
SLV 5	10	3670.42	3222	-0.0053965	0.0006738	0.0035	4.315		0	0	0		No
SLV 1	7.9	-11131.23	-6995	-0.0000718	0.0006738	0.0035	3.452		25369.75	25369.75	2.28		Si
SLV 1	10	-2647.96	-4558	-0.0000165	0.0006738	0.0035	4.315		20522.34	20522.34	7.75		Si
SLD 6	7.9	-12511.8	-4687	-0.0002657	0.0006738	0.0035	3.452		20783.24	20783.24	1.66		Si
SLD 6	10	-197.07	-2269	-0.0000051	0.0006738	0.0035	4.315		15890.93	15890.93	80.64		Si
SLV 9	7.9	-16814.98	-108	-0.0006031	0.0006738	0.0035	3.452		11458.84	11458.84	0.68		No
SLV 9	10	3668.28	2281	-0.0041448	0.0006738	0.0035	4.315		0	0	0		No
SLV 10	7.9	-16752.72	-178	-0.0005995	0.0006738	0.0035	3.452		11603.12	11603.12	0.69		No
SLV 10	10	3530.32	2212	-0.0039149	0.0006738	0.0035	4.315		0	0	0		No
SLD 10	7.9	-11305.77	-5290	-0.0001601	0.0006738	0.0035	3.452		21985.67	21985.67	1.94		Si
SLD 10	10	-197.44	-2871	-0.0000063	0.0006738	0.0035	4.315		17116.09	17116.09	86.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	7.9	-5693.78	-18068	-10018	1613	4.315	4.315	-16583	10544	7497	115546	21710	22006	43716	No	27.1	Si
SLU 83	10	-9035.83	-14813	-8213	1613	4.315	4.315	-13596	10146	6775	115546	21710	22006	43716	No	27.1	Si
SLU 84	7.9	-5816.28	-17916	-9934	1491	4.315	4.315	-16444	10526	7463	115546	21710	22006	43716	No	29.32	Si
SLU 84	10	-8901.81	-14662	-8129	1491	4.315	4.315	-13457	10128	6741	115546	21710	22006	43716	No	29.32	Si
SLU 74	7.9	-5530.07	-17817	-9879	1530	4.315	4.315	-16353	10514	7441	115546	21710	22006	43716	No	28.58	Si
SLU 74	10	-8695.99	-14562	-8074	1530	4.315	4.315	-13366	10115	6719	115546	21710	22006	43716	No	28.58	Si
SLU 35	7.9	-4752.81	-15328	-8499	1585	4.315	4.315	-14068	10209	6889	115546	21710	22006	43716	No	27.58	Si
SLU 35	10	-8047.18	-12728	-7057	1585	4.315	4.315	-11682	9891	6312	115546	21710	22006	43716	No	27.58	Si
SLU 79	7.9	-5457.61	-18074	-10021	1644	4.315	4.315	-16589	10545	7498	115546	21710	22006	43716	No	26.58	Si
SLU 79	10	-8864.78	-14819	-8217	1644	4.315	4.315	-13602	10147	6776	115546	21710	22006	43716	No	26.58	Si
SLU 41	7.9	-4905.57	-15178	-8416	1522	4.315	4.315	-13931	10191	6856	115546	21710	22006	43716	No	28.72	Si
SLU 41	10	-8067.01	-12578	-6974	1522	4.315	4.315	-11544	9873	6279	115546	21710	22006	43716	No	28.72	Si
SLU 37	7.9	-4669.4	-15185	-8419	1553	4.315	4.315	-13937	10192	6857	115546	21710	22006	43716	No	28.15	Si
SLU 37	10	-7895.96	-12584	-6977	1553	4.315	4.315	-11550	9873	6281	115546	21710	22006	43716	No	28.15	Si
SLU 80	7.9	-5580.11	-17923	-9937	1522	4.315	4.315	-16450	10527	7464	115546	21710	22006	43716	No	28.72	Si
SLU 80	10	-8730.76	-14668	-8133	1522	4.315	4.315	-13463	10128	6743	115546	21710	22006	43716	No	28.72	Si
SLU 78	7.9	-5663.52	-18066	-10017	1555	4.315	4.315	-16581	10544	7496	115546	21710	22006	43716	No	28.12	Si
SLU 78	10	-8881.98	-14811	-8212	1555	4.315	4.315	-13594	10146	6774	115546	21710	22006	43716	No	28.12	Si
SLU 77	7.9	-5541.03	-18217	-10101	1677	4.315	4.315	-16720	10563	7530	115546	21710	22006	43716	No	26.07	Si
SLU 77	10	-9016	-14963	-8296	1677	4.315	4.315	-13733	10164	6808	115546	21710	22006	43716	No	26.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	7.9	5040.68	-20254	-11230	7694	4.315	4.315	-18590	16218	9797	115546	32565	22006	54571		7.09	Si
SLD 12	10	-10841.21	-17751	-9842	7378	4.315	4.315	-16292	15758	9520	115546	32565	22006	54571		7.4	Si
SLV 6	7.9	-18636.23	764	424	-10733	3.452	0	0	0	0	115546	26052	17605	43657		4.07	Si
SLV 6	10	3532.46	3152	1748	-10198	4.315	3.1107	96150	13456	5860	115546	32565	22006	54571		5.35	Si
SLV 9	7.9	-16814.98	-108	-60	-9934	3.452	0	0	0	0	115546	26052	17605	43657		4.39	Si
SLV 9	10	3668.28	2281	1265	-9399	4.315	1.6484	72175	16250	5235	115546	32565	22006	54571		5.81	Si
SLV 8	7.9	9306.07	-24791	-13745	11608	4.315	4.315	-22753	16250	10733	115546	32565	22006	54571		4.7	Si
SLV 8	10	-14622.84	-22259	-12342	11074	4.315	4.315	-20430	16250	10171	115546	32565	22006	54571		4.93	Si
SLD 11	7.9	5002.89	-20212	-11207	7636	4.315	4.315	-18551	16210	9793	115546	32565	22006	54571		7.15	Si
SLD 11	10	-10757.49	-17709	-9819	7320	4.315	4.315	-16253	15751	9515	115546	32565	22006	54571		7.45	Si
SLV 10	7.9	-16752.72	-178	-99	-9838	3.452	0	0	0	0	115546	26052	17605	43657		4.44	Si
SLV 10	10	3530.32	2212	1226	-9304	4.315	1.6836	71342	16250	5235	115546	32565	22006	54571		5.87	Si
SLV 5	7.9	-18698.49	834	462	-10829	3.452	0	0	0	0	115546	26052	17605	43657		4.03	Si
SLV 5	10	3670.42	3222	1786	-10294	4.315	3.0549	97311	13047	5580	115546	32565	22006	54571		5.3	Si
SLV 11	7.9	11127.32	-25663	-14229	12408	4.315	4.315	-23554	16250	10926	115546	32565	22006	54571		4.4	Si
SLV 11	10	-14487.01	-23130	-12825	11873	4.315	4.315	-21229	16250	10364	115546	32565	22006	54571		4.6	Si
SLV 7	7.9	9243.81	-24721	-13707	11513	4.315	4.315	-22690	16250	10717	115546	32565	22006	54571		4.74	Si
SLV 7	10	-14484.88	-22189	-12303	10979	4.315	4.315	-20366	16250	10156	115546	32565	22006	54571		4.97	Si
SLV 12	7.9	11189.58	-25733	-14268	12504	4.315	4.315	-23618	16250	10941	115546	32565	22006	54571		4.36	Si
SLV 12	10	-14624.97	-23200	-12863	11969	4.315	4.315	-21293	16250	10380	115546	32565	22006	54571		4.56	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	1821	0.45	291.61	0	0	0	0	No
SLV 6	2693	0.45	291.61	0	0	0	0	No
SLV 5	2763	0.45	291.61	0	0	0	0	No
SLV 10	1751	0.45	291.61	0	0	0	0	No
SLV 1	-5033	0.45	291.61	336.29	717.93	527.11	1.81	Si
SLV 2	-5136	0.45	291.61	342.87	726.95	534.91	1.83	Si
SLV 13	-8172	0.45	291.61	529.8	989.44	759.62	2.6	Si
SLV 14	-8275	0.45	291.61	535.97	998.29	767.13	2.63	Si
SLD 5	-2696	0.19	120.67	184.14	511.04	347.59	2.88	Si
SLD 6	-2738	0.19	120.67	186.95	514.84	350.89	2.91	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-8231	-17904	417	2.368	1144.5	0.929	37.05691	10.68239	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-8210	-17801	417	2.373	1142.4	0.928	37.13783	10.68239	Si
SLV 12	-11491	-25733	121	1.819	1474.1	0.942	28.06929	7.57668	Si
SLV 11	-11477	-25663	121	1.821	1472.7	0.942	28.10022	7.57668	Si
SLV 8	-11065	-24791	-130	1.878	1430.9	0.941	29.01708	7.57668	Si
SLV 7	-11050	-24721	-130	1.88	1429.5	0.94	29.05016	7.57668	Si
SLV 4	-6808	-14765	-420	2.75	1001.3	0.921	43.40114	10.68239	Si
SLV 3	-6787	-14661	-420	2.756	999.2	0.921	43.51173	10.68239	Si
SLV 14	-5007	-10238	420	3.459	821.4	0.909	55.31193	10.68239	Si
SLV 13	-4986	-10134	420	3.469	819.3	0.909	55.4897	10.68239	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.392	SLU 83	Si
V_SLU	26.073	SLU 77	Si
PF_SLV	0	SLV 5	No
V_SLV	4.032	SLV 5	Si
PFFP_SLV	0	SLV 5	No
R_SLV	3.469	SLV 16	Si

Maschio 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L6	Z medio 959 cm	1.281	0.28	1.69	1.69	1.69			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	7.9	-589.43	-8539	-0.0000494	0.0003743	0.0035	1.2809	4190.07	4926.34	4926.34	8.36	No	Si
SLU 31	9.59	702.74	-6033	-0.00004	0.0003743	0.0035	1.2809	3225.26	3395.84	3395.84	4.83	No	Si
SLU 19	7.9	-506.98	-7758	-0.0000439	0.0003743	0.0035	1.2809	3913.02	4580.31	4580.31	9.03	No	Si
SLU 19	9.59	645.87	-5575	-0.0000368	0.0003743	0.0035	1.2809	3025.45	3178.91	3178.91	4.92	No	Si
SLU 40	7.9	-626.5	-8876	-0.0000518	0.0003743	0.0035	1.2809	4302.95	5068.68	5068.68	8.09	No	Si
SLU 40	9.59	794.05	-6298	-0.0000431	0.0003743	0.0035	1.2809	3337.97	3523.42	3523.42	4.44	No	Si
SLU 82	7.9	-696.07	-10453	-0.0000609	0.0003743	0.0035	1.2809	4778.24	5711.78	5711.78	8.21	No	Si
SLU 82	9.59	835.9	-7453	-0.0000494	0.0003743	0.0035	1.2809	3799.01	4091.96	4091.96	4.9	No	Si
SLU 33	7.9	-603.62	-8847	-0.0000511	0.0003743	0.0035	1.2809	4293.4	5056.44	5056.44	8.38	No	Si
SLU 33	9.59	705.07	-6315	-0.0000414	0.0003743	0.0035	1.2809	3345.15	3531.69	3531.69	5.01	No	Si
SLU 39	7.9	-621.87	-8845	-0.0000515	0.0003743	0.0035	1.2809	4292.64	5055.48	5055.48	8.13	No	Si
SLU 39	9.59	783.91	-6294	-0.0000429	0.0003743	0.0035	1.2809	3336.15	3521.33	3521.33	4.49	No	Si
SLU 42	7.9	-632.4	-9094	-0.0000529	0.0003743	0.0035	1.2809	4373.78	5161.16	5161.16	8.16	No	Si
SLU 42	9.59	785.18	-6507	-0.0000439	0.0003743	0.0035	1.2809	3424.59	3624.24	3624.24	4.62	No	Si
SLU 18	7.9	-502.35	-7727	-0.0000437	0.0003743	0.0035	1.2809	3901.49	4566.4	4566.4	9.09	No	Si
SLU 18	9.59	635.73	-5571	-0.0000365	0.0003743	0.0035	1.2809	3023.52	3176.87	3176.87	5	No	Si
SLU 41	7.9	-627.77	-9063	-0.0000527	0.0003743	0.0035	1.2809	4363.71	5147.83	5147.83	8.2	No	Si
SLU 41	9.59	775.04	-6502	-0.0000437	0.0003743	0.0035	1.2809	3422.8	3622.13	3622.13	4.67	No	Si
SLU 81	7.9	-691.44	-10422	-0.0000607	0.0003743	0.0035	1.2809	4769.67	5699.32	5699.32	8.24	No	Si
SLU 81	9.59	825.76	-7449	-0.0000492	0.0003743	0.0035	1.2809	3797.36	4089.77	4089.77	4.95	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	7.9	-828.66	-7787	-0.0000497	0.0005615	0.0035	1.2809		4816.92	4816.92	5.81		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	9.59	1342.6	-3372	-0.0000503	0.0005615	0.0035	1.2809		2150.49	2150.49	1.6		Si
SLD 15	7.9	-505.84	-6361	-0.0000368	0.0005615	0.0035	1.2809		4077.91	4077.91	8.06		Si
SLD 15	9.59	912.59	-2962	-0.0000317	0.0005615	0.0035	1.2809		1910.04	1910.04	2.09		Si
SLV 16	7.9	-476.05	-5829	-0.0000339	0.0005615	0.0035	1.2809		3795.51	3795.51	7.97		Si
SLV 16	9.59	969.29	-2216	-0.0000391	0.0005615	0.0035	1.2809		1467.44	1467.44	1.51		Si
SLD 9	7.9	-1044.16	-9465	-0.0000617	0.0005615	0.0035	1.2809		5645.21	5645.21	5.41		Si
SLD 9	9.59	1367.49	-5125	-0.0000495	0.0005615	0.0035	1.2809		3142.68	3142.68	2.3		Si
SLV 13	7.9	-1077.05	-8286	-0.000057	0.0005615	0.0035	1.2809		5068.89	5068.89	4.71		Si
SLV 13	9.59	1895.75	-2452	-0.0064945	0.0005615	0.0035	1.0247		1608.43	1608.43	0.85		No
SLV 15	7.9	-525.36	-5849	-0.000035	0.0005615	0.0035	1.2809		3806.15	3806.15	7.24		Si
SLV 15	9.59	1161.26	-1749	-0.0008703	0.0005615	0.0035	1.0247		1185.96	1185.96	1.02		Si
SLV 10	7.9	-1436.44	-11138	-0.0000777	0.0005615	0.0035	1.2809		6424.8	6424.8	4.47		Si
SLV 10	9.59	1880.88	-5571	-0.0000673	0.0005615	0.0035	1.2809		3387.71	3387.71	1.8		Si
SLV 9	7.9	-1469.63	-11151	-0.0000785	0.0005615	0.0035	1.2809		6430.68	6430.68	4.38		Si
SLV 9	9.59	2010.11	-5257	-0.000075	0.0005615	0.0035	1.2809		3215.37	3215.37	1.6		Si
SLV 14	7.9	-1027.74	-8267	-0.0000559	0.0005615	0.0035	1.2809		5059.17	5059.17	4.92		Si
SLV 14	9.59	1703.78	-2918	-0.0002079	0.0005615	0.0035	1.2809		1884.63	1884.63	1.11		Si
SLD 14	7.9	-797.38	-7775	-0.000049	0.0005615	0.0035	1.2809		4810.77	4810.77	6.03		Si
SLD 14	9.59	1220.81	-3668	-0.0000428	0.0005615	0.0035	1.2809		2320.78	2320.78	1.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.9	-659	-10116	-8424	-3374	1.2809	1.2809	-23488	10076	3862	16652	10740	3266	14006	No	4.15	Si
SLU 73	9.59	744.59	-7187	-5985	-2155	1.2809	1.2809	-16687	9169	3289	16652	10740	3266	14006	No	6.5	Si
SLU 77	7.9	-674.45	-10611	-8836	-3405	1.2809	1.2809	-24636	10229	3987	16652	10740	3266	14006	No	4.11	Si
SLU 77	9.59	727.91	-7674	-6390	-2093	1.2809	1.2809	-17817	9320	3343	16652	10740	3266	14006	No	6.69	Si
SLU 75	7.9	-673.18	-10424	-8680	-3434	1.2809	1.2809	-24203	10171	3940	16652	10740	3266	14006	No	4.08	Si
SLU 75	9.59	746.92	-7470	-6220	-2158	1.2809	1.2809	-17344	9257	3320	16652	10740	3266	14006	No	6.49	Si
SLU 76	7.9	-664.89	-10334	-8605	-3386	1.2809	1.2809	-23993	10144	3917	16652	10740	3266	14006	No	4.14	Si
SLU 76	9.59	735.72	-7396	-6158	-2115	1.2809	1.2809	-17171	9234	3312	16652	10740	3266	14006	No	6.62	Si
SLU 83	7.9	-697.34	-10640	-8860	-3527	1.2809	1.2809	-24703	10238	3995	16652	10740	3266	14006	No	3.97	Si
SLU 83	9.59	816.89	-7657	-6376	-2296	1.2809	1.2809	-17778	9315	3341	16652	10740	3266	14006	No	6.1	Si
SLU 74	7.9	-668.55	-10393	-8654	-3393	1.2809	1.2809	-24130	10162	3932	16652	10740	3266	14006	No	4.13	Si
SLU 74	9.59	736.78	-7466	-6217	-2133	1.2809	1.2809	-17334	9256	3320	16652	10740	3266	14006	No	6.57	Si
SLU 78	7.9	-679.08	-10642	-8862	-3446	1.2809	1.2809	-24708	10239	3995	16652	10740	3266	14006	No	4.06	Si
SLU 78	9.59	738.05	-7678	-6394	-2119	1.2809	1.2809	-17828	9321	3343	16652	10740	3266	14006	No	6.61	Si
SLU 81	7.9	-691.44	-10422	-8678	-3515	1.2809	1.2809	-24197	10171	3940	16652	10740	3266	14006	No	3.98	Si
SLU 81	9.59	825.76	-7449	-6203	-2336	1.2809	1.2809	-17294	9250	3318	16652	10740	3266	14006	No	6	Si
SLU 84	7.9	-701.97	-10671	-8886	-3568	1.2809	1.2809	-24776	10248	4002	16652	10740	3266	14006	No	3.93	Si
SLU 84	9.59	827.03	-7661	-6380	-2322	1.2809	1.2809	-17788	9316	3341	16652	10740	3266	14006	No	6.03	Si
SLU 82	7.9	-696.07	-10453	-8705	-3556	1.2809	1.2809	-24270	10180	3947	16652	10740	3266	14006	No	3.94	Si
SLU 82	9.59	835.9	-7453	-6206	-2362	1.2809	1.2809	-17304	9252	3318	16652	10740	3266	14006	No	5.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	7.9	-910.84	-9480	-7894	-5100	1.2809	1.2809	-22010	14819	5315	16652	16110	3266	19376		3.8	Si
SLD 5	9.59	977.41	-6173	-5141	-3478	1.2809	1.2809	-14333	13283	4764	16652	16110	3266	19376		5.57	Si
SLV 6	7.9	-1228.15	-11159	-9292	-6954	1.2809	1.2809	-25909	15598	5594	16652	16110	3266	19376		2.79	Si
SLV 6	9.59	1271.31	-7207	-6002	-4763	1.2809	1.2809	-16733	13763	4936	16652	16110	3266	19376		4.07	Si
SLV 5	7.9	-1261.34	-11172	-9303	-7238	1.2809	1.2809	-25939	15604	5597	16652	16110	3266	19376		2.68	Si
SLV 5	9.59	1400.54	-6893	-5740	-5121	1.2809	1.2809	-16005	13618	4884	16652	16110	3266	19376		3.78	Si
SLV 13	7.9	-1077.05	-8286	-6900	-6492	1.2809	1.2809	-19239	14264	5116	16652	16110	3266	19376		2.98	Si
SLV 13	9.59	1895.75	-2452	-2042	-5802	1.0247	0	0	0	0	16652	12888	2613	15501		2.67	Si
SLV 14	7.9	-1027.74	-8267	-6884	-6070	1.2809	1.2809	-19194	14255	5113	16652	16110	3266	19376		3.19	Si
SLV 14	9.59	1703.78	-2918	-2430	-5270	1.2809	0.1699	-51865	16250	2700	16652	16110	3266	19352		3.67	Si
SLD 6	7.9	-890.7	-9472	-7887	-4927	1.2809	1.2809	-21992	14815	5313	16652	16110	3266	19376		3.93	Si
SLD 6	9.59	898.99	-6364	-5299	-3261	1.2809	1.2809	-14775	13372	4796	16652	16110	3266	19376		5.94	Si
SLD 9	7.9	-1044.16	-9465	-7882	-6028	1.2809	1.2809	-21977	14812	5312	16652	16110	3266	19376		3.21	Si
SLD 9	9.59	1367.49	-5125	-4268	-4594	1.2809	1.1209	-11900	12797	4016	16652	16110	3266	19376		4.22	Si
SLD 10	7.9	-1024.02	-9458	-7875	-5855	1.2809	1.2809	-21958	14808	5311	16652	16110	3266	19376		3.31	Si
SLD 10	9.59	1289.07	-5316	-4427	-4376	1.2809	1.1939	-12342	12885	4307	16652	16110	3266	19376		4.43	Si
SLV 9	7.9	-1469.63	-11151	-9286	-8688	1.2809	1.2809	-25891	15595	5593	16652	16110	3266	19376		2.23	Si
SLV 9	9.59	2010.11	-5257	-4377	-6864	1.2809	0.7742	-12205	12858	3290	16652	16110	3266	19376		2.82	Si
SLV 10	7.9	-1436.44	-11138	-9275	-8404	1.2809	1.2809	-25861	15589	5591	16652	16110	3266	19376		2.31	Si
SLV 10	9.59	1880.88	-5571	-4639	-6505	1.2809	0.9085	-12934	13004	3369	16652	16110	3266	19376		2.98	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.745 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.43	8695	-3119	35.35	411.75	11.65	Si
SLV 12	179667	0.43	9225	-3308	35.35	435.2	12.31	Si
SLV 15	179667	0.43	10043	-3602	35.35	471.13	13.33	Si
SLV 16	179667	0.43	10829	-3884	35.35	505.2	14.29	Si
SLV 7	179667	0.43	11609	-4164	35.35	538.59	15.24	Si
SLV 8	179667	0.43	12138	-4353	35.35	561.03	15.87	Si
SLV 13	179667	0.43	14222	-5101	35.35	647.62	18.32	Si
SLV 14	179667	0.43	15008	-5383	35.35	679.54	19.22	Si
SLV 3	179667	0.43	19755	-7085	35.35	863.62	24.43	Si
SLV 4	179667	0.43	20541	-7367	35.35	892.68	25.25	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.745 Wa = 0.05 Ta = 0.017

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-8373	-8336	-34	0.891	937.8	0.972	13.31827	4.02355	Si
SLV 1	-7906	-8355	-35	0.935	890.3	0.971	14.00317	4.02355	Si
SLV 4	-7670	-5898	-74	0.955	866.3	0.97	14.31104	4.02355	Si
SLV 3	-7204	-5917	-75	1.007	818.8	0.968	15.12099	4.02355	Si
SLV 6	-7207	-11159	52	1.01	819.1	0.968	15.15821	3.89551	Si
SLV 5	-6893	-11172	52	1.049	787.1	0.967	15.76619	3.89551	Si
SLV 10	-5571	-11138	87	1.252	652.6	0.961	18.93941	3.89551	Si
SLV 9	-5257	-11151	87	1.316	620.7	0.959	19.93576	3.89551	Si
SLV 8	-4865	-3033	-79	1.406	580.9	0.957	21.36368	3.89551	Si
SLV 7	-4551	-3046	-80	1.488	548.9	0.954	22.65329	3.89551	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.437	SLU 40	Si
V_SLU	3.925	SLU 84	Si
PF_SLV	0.848	SLV 13	No
V_SLV	2.23	SLV 9	Si
PFFP_SLV	11.648	SLV 11	Si
R_SLV	3.31	SLV 2	Si

Maschio 179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 959 cm	L7	1.281	0.28	1.86	1.86	1.86			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	9.59	-447.9	-4726	-0.0000289	0.0003743	0.0035	1.2809	2635.08	3108.06	3108.06	6.94	No	Si
SLU 19	11.45	151.3	-3484	-0.0000176	0.0003743	0.0035	1.2809	2018.63	2168.89	2168.89	14.34	No	Si
SLU 82	9.59	-548.3	-6474	-0.0000389	0.0003743	0.0035	1.2809	3411.35	3985.4	3985.4	7.27	No	Si
SLU 82	11.45	204.76	-4822	-0.0000245	0.0003743	0.0035	1.2809	2680.46	2829.16	2829.16	13.82	No	Si
SLU 42	9.59	-517.76	-5556	-0.0000341	0.0003743	0.0035	1.2809	3017.11	3534.41	3534.41	6.83	No	Si
SLU 42	11.45	178.22	-4259	-0.0000215	0.0003743	0.0035	1.2809	2409.33	2573.52	2573.52	14.44	No	Si
SLU 18	9.59	-441.72	-4722	-0.0000288	0.0003743	0.0035	1.2809	2632.96	3105.78	3105.78	7.03	No	Si
SLU 18	11.45	141.2	-3483	-0.0000174	0.0003743	0.0035	1.2809	2018	2168.22	2168.22	15.36	No	Si
SLU 41	9.59	-511.58	-5552	-0.0000339	0.0003743	0.0035	1.2809	3015.12	3532.23	3532.23	6.9	No	Si
SLU 41	11.45	168.13	-4257	-0.0000213	0.0003743	0.0035	1.2809	2408.74	2572.98	2572.98	15.3	No	Si
SLU 39	9.59	-517.06	-5342	-0.0000331	0.0003743	0.0035	1.2809	2920.55	3427.18	3427.18	6.63	No	Si
SLU 39	11.45	200.97	-4036	-0.0000209	0.0003743	0.0035	1.2809	2299.31	2469.22	2469.22	12.29	No	Si
SLU 81	9.59	-542.12	-6470	-0.0000387	0.0003743	0.0035	1.2809	3409.5	3983.29	3983.29	7.35	No	Si
SLU 81	11.45	194.67	-4821	-0.0000243	0.0003743	0.0035	1.2809	2679.89	2828.61	2828.61	14.53	No	Si
SLU 20	9.59	-436.24	-4932	-0.0000296	0.0003743	0.0035	1.2809	2732.11	3213.94	3213.94	7.37	No	Si
SLU 20	11.45	108.36	-3704	-0.0000177	0.0003743	0.0035	1.2809	2131.72	2289.45	2289.45	21.13	No	Si
SLU 21	9.59	-442.42	-4937	-0.0000297	0.0003743	0.0035	1.2809	2734.19	3216.24	3216.24	7.27	No	Si
SLU 21	11.45	118.46	-3705	-0.0000179	0.0003743	0.0035	1.2809	2132.34	2290.11	2290.11	19.33	No	Si
SLU 40	9.59	-523.24	-5346	-0.0000332	0.0003743	0.0035	1.2809	2922.57	3429.53	3429.53	6.55	No	Si
SLU 40	11.45	211.07	-4038	-0.0000211	0.0003743	0.0035	1.2809	2299.91	2469.84	2469.84	11.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	9.59	-412.02	-2355	-0.0000177	0.0005615	0.0035	1.2809		1822.33	1822.33	4.42		Si
SLV 16	11.45	501.52	-2412	-0.0000197	0.0005615	0.0035	1.2809		1584.63	1584.63	3.16		Si
SLV 4	9.59	189.41	-6757	-0.0000322	0.0005615	0.0035	1.2809		3973.55	3973.55	20.98		Si
SLV 4	11.45	-817.86	-4172	-0.0000334	0.0005615	0.0035	1.2809		2875.86	2875.86	3.52		Si
SLV 13	9.59	-680.59	-2638	-0.0000244	0.0005615	0.0035	1.2809		1988.51	1988.51	2.92		Si
SLV 13	11.45	984.18	-2733	-0.0000348	0.0005615	0.0035	1.2809		1775.85	1775.85	1.8		Si
SLV 8	9.59	223.8	-4397	-0.0000227	0.0005615	0.0035	1.2809		2736.15	2736.15	12.23		Si
SLV 8	11.45	-732.54	-2994	-0.0000268	0.0005615	0.0035	1.2809		2197.44	2197.44	3		Si
SLV 10	9.59	-680.36	-5246	-0.0000354	0.0005615	0.0035	1.2809		3475.27	3475.27	5.11		Si
SLV 10	11.45	804.4	-4006	-0.0000325	0.0005615	0.0035	1.2809		2515.51	2515.51	3.13		Si
SLV 7	9.59	189.17	-4149	-0.000021	0.0005615	0.0035	1.2809		2596.35	2596.35	13.72		Si
SLV 7	11.45	-638.08	-2899	-0.0000244	0.0005615	0.0035	1.2809		2141.53	2141.53	3.36		Si
SLV 9	9.59	-714.99	-4998	-0.000035	0.0005615	0.0035	1.2809		3340.16	3340.16	4.67		Si
SLV 9	11.45	898.86	-3911	-0.000034	0.0005615	0.0035	1.2809		2460.87	2460.87	2.74		Si
SLV 14	9.59	-629.14	-3006	-0.0000247	0.0005615	0.0035	1.2809		2204.49	2204.49	3.5		Si
SLV 14	11.45	843.86	-2874	-0.0000295	0.0005615	0.0035	1.2809		1858.76	1858.76	2.2		Si
SLD 13	9.59	-517.76	-3361	-0.000024	0.0005615	0.0035	1.2809		2413.72	2413.72	4.66		Si
SLD 13	11.45	649.69	-2979	-0.000025	0.0005615	0.0035	1.2809		1920.32	1920.32	2.96		Si
SLV 15	9.59	-463.47	-1987	-0.0000172	0.0005615	0.0035	1.2809		1602.89	1602.89	3.46		Si
SLV 15	11.45	641.84	-2271	-0.0000224	0.0005615	0.0035	1.2809		1500.3	1500.3	2.34		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	9.59	-465.33	-6612	-5506	-2002	1.2809	1.2809	-15353	8991	3225	19031	10740	3266	14006	No	7	Si
SLU 76	11.45	150.48	-4973	-4141	-586	1.2809	1.2809	-11547	8484	3043	19031	10740	3266	14006	No	23.91	Si
SLU 42	9.59	-517.76	-5556	-4627	-2052	1.2809	1.2809	-12901	8665	3108	19031	10740	3266	14006	No	6.83	Si
SLU 42	11.45	178.22	-4259	-3546	-729	1.2809	1.2809	-9887	8263	2963	19031	10740	3266	14006	No	19.2	Si
SLU 40	9.59	-523.24	-5346	-4452	-2101	1.2809	1.2809	-12412	8599	3084	19031	10740	3266	14006	No	6.67	Si
SLU 40	11.45	211.07	-4038	-3362	-838	1.2809	1.2809	-9374	8194	2939	19031	10740	3266	14006	No	16.72	Si
SLU 75	9.59	-466.12	-6688	-5569	-2024	1.2809	1.2809	-15527	9015	3233	19031	10740	3266	14006	No	6.92	Si
SLU 75	11.45	158.4	-5053	-4208	-604	1.2809	1.2809	-11732	8509	3052	19031	10740	3266	14006	No	23.19	Si
SLU 84	9.59	-542.83	-6685	-5567	-2178	1.2809	1.2809	-15521	9014	3233	19031	10740	3266	14006	No	6.43	Si
SLU 84	11.45	171.92	-5043	-4199	-693	1.2809	1.2809	-11709	8506	3051	19031	10740	3266	14006	No	20.23	Si
SLU 81	9.59	-542.12	-6470	-5388	-2172	1.2809	1.2809	-15022	8947	3209	19031	10740	3266	14006	No	6.45	Si
SLU 81	11.45	194.67	-4821	-4014	-765	1.2809	1.2809	-11193	8437	3026	19031	10740	3266	14006	No	18.32	Si
SLU 73	9.59	-470.8	-6402	-5331	-2051	1.2809	1.2809	-14864	8926	3201	19031	10740	3266	14006	No	6.83	Si
SLU 73	11.45	183.32	-4752	-3957	-694	1.2809	1.2809	-11033	8416	3018	19031	10740	3266	14006	No	20.17	Si
SLU 39	9.59	-517.06	-5342	-4448	-2045	1.2809	1.2809	-12402	8598	3084	19031	10740	3266	14006	No	6.85	Si
SLU 39	11.45	200.97	-4036	-3361	-801	1.2809	1.2809	-9371	8194	2939	19031	10740	3266	14006	No	17.48	Si
SLU 82	9.59	-548.3	-6474	-5391	-2228	1.2809	1.2809	-15032	8949	3209	19031	10740	3266	14006	No	6.29	Si
SLU 82	11.45	204.76	-4822	-4015	-801	1.2809	1.2809	-11196	8437	3026	19031	10740	3266	14006	No	17.49	Si
SLU 83	9.59	-536.65	-6680	-5563	-2123	1.2809	1.2809	-15511	9013	3232	19031	10740	3266	14006	No	6.6	Si
SLU 83	11.45	161.83	-5042	-4198	-656	1.2809	1.2809	-11706	8505	3050	19031	10740	3266	14006	No	21.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	9.59	-534.56	-6319	-5262	-4074	1.2809	1.2809	-14671	13351	4788	19031	16110	3266	19376		4.76	Si
SLV 5	11.45	503.04	-4439	-3697	-1636	1.2809	1.2809	-10307	12478	4475	19031	16110	3266	19376		11.84	Si
SLV 6	9.59	-499.93	-6567	-5468	-3717	1.2809	1.2809	-15246	13466	4830	19031	16110	3266	19376		5.21	Si
SLV 6	11.45	408.58	-4534	-3776	-1286	1.2809	1.2809	-10528	12522	4491	19031	16110	3266	19376		15.06	Si
SLV 14	9.59	-629.14	-3006	-2503	-4860	1.2809	1.2809	-6979	11812	4237	19031	16110	3266	19376		3.99	Si
SLV 14	11.45	843.86	-2874	-2393	-3342	1.2809	1.0406	-6673	11751	3424	19031	16110	3266	19376		5.8	Si
SLV 13	9.59	-680.59	-2638	-2196	-5390	1.2809	1.1472	-6851	11787	3786	19031	16110	3266	19376		3.59	Si
SLV 13	11.45	984.18	-2733	-2276	-3861	1.2809	0.841	-6346	11686	2752	19031	16110	3266	19376		5.02	Si
SLV 9	9.59	-714.99	-4998	-4162	-5800	1.2809	1.2809	-11604	12738	4568	19031	16110	3266	19376		3.34	Si
SLV 9	11.45	898.86	-3911	-3257	-3265	1.2809	1.2319	-9081	12233	4220	19031	16110	3266	19376		5.93	Si
SLD 14	9.59	-485.13	-3594	-2993	-3474	1.2809	1.2809	-8345	12086	4335	19031	16110	3266	19376		5.58	Si
SLD 14	11.45	560.67	-3069	-2555	-2211	1.2809	1.2809	-7125	11842	4247	19031	16110	3266	19376		8.76	Si
SLD 13	9.59	-517.76	-3361	-2798	-3810	1.2809	1.2809	-7803	11977	4296	19031	16110	3266	19376		5.09	Si
SLD 13	11.45	649.69	-2979	-2481	-2540	1.2809	1.2671	-6917	11800	4187	19031	16110	3266	19376		7.63	Si
SLD 10	9.59	-503.76	-4983	-4149	-3712	1.2809	1.2809	-11569	12730	4566	19031	16110	3266	19376		5.22	Si
SLD 10	11.45	514.38	-3762	-3133	-1864	1.2809	1.2809	-8735	12164	4363	19031	16110	3266	19376		10.4	Si
SLV 10	9.59	-680.36	-5246	-4368	-5443	1.2809	1.2809	-12180	12853	4610	19031	16110	3266	19376		3.56	Si
SLV 10	11.45	804.4	-4006	-3336	-2916	1.2809	1.2809	-9302	12277	4403	19031	16110	3266	19376		6.65	Si
SLD 9	9.59	-524.78	-4832	-4024	-3929	1.2809	1.2809	-11219	12661	4541	19031	16110	3266	19376		4.93	Si
SLD 9	11.45	571.71	-3704	-3085	-2076	1.2809	1.2809	-8601	12137	4353	19031	16110	3266	19376		9.33	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.52 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.47	7909	-2837	46.6	376.57	8.08	Si
SLV 12	179667	0.47	8052	-2888	46.6	383	8.22	Si
SLV 7	179667	0.47	9077	-3255	46.6	428.67	9.2	Si
SLV 15	179667	0.47	9122	-3272	46.6	430.68	9.24	Si
SLV 8	179667	0.47	9220	-3307	46.6	434.99	9.34	Si
SLV 16	179667	0.47	9335	-3348	46.6	440.06	9.44	Si
SLV 13	179667	0.47	11359	-4074	46.6	527.95	11.33	Si
SLV 14	179667	0.47	11572	-4150	46.6	537.01	11.53	Si
SLV 3	179667	0.47	13014	-4668	46.6	597.77	12.83	Si
SLV 4	179667	0.47	13226	-4744	46.6	606.6	13.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.

- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.52 Wa = 0.05 Ta = 0.0206

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-4634	-7408	-68	1.445	566.1	0.952	22.07259	4.39838	Si
SLV 1	-4493	-7040	-69	1.483	551.7	0.951	22.67743	4.39838	Si
SLV 6	-4534	-6567	36	1.478	555.9	0.951	22.59488	4.22829	Si
SLV 5	-4439	-6319	35	1.505	546.3	0.95	23.01906	4.22829	Si
SLV 4	-4172	-6757	-105	1.57	519.1	0.948	24.07772	4.39838	Si
SLV 3	-4031	-6389	-105	1.616	504.8	0.947	24.80853	4.39838	Si
SLV 10	-4006	-5246	88	1.628	502.3	0.946	24.99836	4.22829	Si
SLV 9	-3911	-4998	87	1.661	492.7	0.945	25.52654	4.22829	Si
SLV 14	-2874	-3006	106	2.128	387.7	0.933	33.14312	4.39838	Si
SLV 8	-2994	-4397	-87	2.066	399.8	0.935	32.10761	4.22829	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.554	SLU 40	Si
V_SLU	6.288	SLU 82	Si
PF_SLV	1.804	SLV 13	Si
V_SLV	3.341	SLV 9	Si
PFFP_SLV	8.082	SLV 11	Si
R_SLV	5.018	SLV 2	Si

Maschio 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	-0.354	Z medio 874 cm	L7	3.051	0.28	2.705	1.86	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	9.59	1019.37	-15550	-0.0000315	0.0003743	0.0035	3.0507	19477.61	20578.84	20578.84	20.19	No	Si
SLU 41	11.45	320.56	-10664	-0.00002	0.0003743	0.0035	3.0507	14271.87	15056.37	15056.37	46.97	No	Si
SLU 18	9.59	801.62	-13002	-0.000026	0.0003743	0.0035	3.0507	16866.97	17650.55	17650.55	22.02	No	Si
SLU 18	11.45	346.97	-8791	-0.0000167	0.0003743	0.0035	3.0507	12053.49	12879.8	12879.8	37.12	No	Si
SLU 19	9.59	818.88	-13111	-0.0000263	0.0003743	0.0035	3.0507	16983.92	17774.31	17774.31	21.71	No	Si
SLU 19	11.45	375.62	-8872	-0.0000169	0.0003743	0.0035	3.0507	12152.37	12985.4	12985.4	34.57	No	Si
SLU 34	9.59	915.14	-15383	-0.0000309	0.0003743	0.0035	3.0507	19314.21	20384.56	20384.56	22.27	No	Si
SLU 34	11.45	243.83	-10538	-0.0000195	0.0003743	0.0035	3.0507	14125.98	14918.5	14918.5	61.18	No	Si
SLU 40	9.59	1005.83	-15166	-0.0000308	0.0003743	0.0035	3.0507	19099.32	20131.47	20131.47	20.01	No	Si
SLU 40	11.45	360.57	-10345	-0.0000195	0.0003743	0.0035	3.0507	13903.13	14709.41	14709.41	40.79	No	Si
SLU 84	9.59	1080.02	-18506	-0.0000374	0.0003743	0.0035	3.0507	22221.38	24114.02	24114.02	22.33	No	Si
SLU 84	11.45	333.97	-12616	-0.0000236	0.0003743	0.0035	3.0507	16451.59	17216.07	17216.07	51.55	No	Si
SLU 42	9.59	1036.63	-15659	-0.0000318	0.0003743	0.0035	3.0507	19584.77	20707.12	20707.12	19.98	No	Si
SLU 42	11.45	349.21	-10746	-0.0000202	0.0003743	0.0035	3.0507	14365.4	15145.18	15145.18	43.37	No	Si
SLU 21	9.59	849.68	-13604	-0.0000273	0.0003743	0.0035	3.0507	17504.91	18333.56	18333.56	21.58	No	Si
SLU 21	11.45	364.27	-9272	-0.0000176	0.0003743	0.0035	3.0507	12635.32	13506.4	13506.4	37.08	No	Si
SLU 39	9.59	988.57	-15057	-0.0000305	0.0003743	0.0035	3.0507	18990.27	20004.07	20004.07	20.24	No	Si
SLU 39	11.45	331.91	-10264	-0.0000193	0.0003743	0.0035	3.0507	13808.45	14621.12	14621.12	44.05	No	Si
SLU 20	9.59	832.42	-13495	-0.000027	0.0003743	0.0035	3.0507	17389.86	18208.93	18208.93	21.87	No	Si
SLU 20	11.45	335.61	-9191	-0.0000174	0.0003743	0.0035	3.0507	12537.58	13400.24	13400.24	39.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	9.59	-249	-4516	-0.0000087	0.0005615	0.0035	3.0507		9225.66	9225.66	37.05		Si
SLV 7	11.45	-1448.34	-2676	-0.0000095	0.0005615	0.0035	3.0507		6563.51	6563.51	4.53		Si
SLD 7	9.59	48.11	-7910	-0.000014	0.0005615	0.0035	3.0507		11962.83	11962.83	248.63		Si
SLD 7	11.45	-844.92	-5115	-0.0000117	0.0005615	0.0035	3.0507		10084.22	10084.22	11.94		Si
SLD 11	9.59	353.36	-7366	-0.000014	0.0005615	0.0035	3.0507		11205.11	11205.11	31.71		Si
SLD 11	11.45	-787.39	-4639	-0.0000107	0.0005615	0.0035	3.0507		9402.4	9402.4	11.94		Si
SLV 11	9.59	231.8	-3673	-0.0000071	0.0005615	0.0035	3.0507		5945.17	5945.17	25.65		Si
SLV 11	11.45	-1359.05	-1932	-0.0000082	0.0005615	0.0035	3.0507		5475.98	5475.98	4.03		Si
SLV 15	9.59	1224.2	-8651	-0.0000193	0.0005615	0.0035	3.0507		12983.51	12983.51	10.61		Si
SLV 15	11.45	-247.26	-5403	-0.0000102	0.0005615	0.0035	3.0507		10492.9	10492.9	42.44		Si
SLD 8	9.59	-28.85	-7944	-0.0000139	0.0005615	0.0035	3.0507		14024.84	14024.84	486.06		Si
SLD 8	11.45	-862.9	-5123	-0.0000118	0.0005615	0.0035	3.0507		10095.43	10095.43	11.7		Si
SLV 12	9.59	104.97	-3728	-0.0000068	0.0005615	0.0035	3.0507		6025.97	6025.97	57.41		Si
SLV 12	11.45	-1388.67	-1945	-0.0000084	0.0005615	0.0035	3.0507		5494.83	5494.83	3.96		Si
SLV 13	9.59	1567.64	-13773	-0.0000297	0.0005615	0.0035	3.0507		19801.02	19801.02	12.63		Si
SLV 13	11.45	610.26	-9125	-0.000018	0.0005615	0.0035	3.0507		13632.73	13632.73	22.34		Si
SLV 8	9.59	-375.83	-4571	-0.0000092	0.0005615	0.0035	3.0507		9305.45	9305.45	24.76		Si
SLV 8	11.45	-1477.96	-2688	-0.0000097	0.0005615	0.0035	3.0507		6582.28	6582.28	4.45		Si
SLD 12	9.59	276.39	-7400	-0.0000138	0.0005615	0.0035	3.0507		11252.38	11252.38	40.71		Si
SLD 12	11.45	-805.36	-4647	-0.0000108	0.0005615	0.0035	3.0507		9413.59	9413.59	11.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	9.59	438.25	-15454	-12869	682	3.0507	3.0507	-15066	8953	9260	30925	25578	7779	33358	No	48.92	Si
SLU 45	11.45	-119.52	-10433	-8687	534	3.0507	3.0507	-10170	8300	7587	30925	25578	7779	33358	No	62.45	Si
SLU 70	9.59	673.25	-18112	-15082	-69	3.0507	3.0507	-17657	9299	10145	30925	25578	7779	33358	No	485.63	Si
SLU 70	11.45	-117.28	-12387	-10315	631	3.0507	3.0507	-12076	8555	8238	30925	25578	7779	33358	No	52.87	Si
SLU 71	9.59	650.23	-17727	-14761	183	3.0507	3.0507	-17281	9249	10016	30925	25578	7779	33358	No	182.3	Si
SLU 71	11.45	-121.02	-12061	-10043	677	3.0507	3.0507	-11757	8512	8129	30925	25578	7779	33358	No	49.26	Si
SLU 69	9.59	655.99	-18003	-14991	106	3.0507	3.0507	-17550	9284	10108	30925	25578	7779	33358	No	313.42	Si
SLU 69	11.45	-145.94	-12306	-10247	688	3.0507	3.0507	-11997	8544	8211	30925	25578	7779	33358	No	48.47	Si
SLU 66	9.59	625.19	-17510	-14580	189	3.0507	3.0507	-17069	9220	9944	30925	25578	7779	33358	No	176.48	Si
SLU 66	11.45	-134.58	-11906	-9914	639	3.0507	3.0507	-11607	8492	8078	30925	25578	7779	33358	No	52.18	Si
SLU 72	9.59	667.5	-17836	-14852	8	3.0507	3.0507	-17388	9263	10053	30925	25578	7779	33358	No	4243.46	Si
SLU 72	11.45	-92.36	-12142	-10111	620	3.0507	3.0507	-11837	8523	8156	30925	25578	7779	33358	No	53.82	Si
SLU 27	9.59	612.6	-15156	-12620	-218	3.0507	3.0507	-14774	8914	9160	30925	25578	7779	33358	No	153.27	Si
SLU 27	11.45	-130.69	-10436	-8690	607	3.0507	3.0507	-10174	8301	7588	30925	25578	7779	33358	No	54.99	Si
SLU 36	9.59	940.18	-16079	-13389	-600	3.0507	3.0507	-15675	9034	9468	30925	25578	7779	33358	No	55.62	Si
SLU 36	11.45	188.44	-11129	-9267	283	3.0507	3.0507	-10849	8391	7819	30925	25578	7779	33358	No	117.67	Si
SLU 50	9.59	463.29	-15672	-13050	676	3.0507	3.0507	-15278	8981	9332	30925	25578	7779	33358	No	49.36	Si
SLU 50	11.45	-105.97	-10587	-8816	572	3.0507	3.0507	-10321	8321	7638	30925	25578	7779	33358	No	58.32	Si
SLU 43	9.59	401.7	-14686	-12229	841	3.0507	3.0507	-14316	8853	9003	30925	25578	7779	33358	No	39.66	Si
SLU 43	11.45	-83.25	-9787	-8150	474	3.0507	3.0507	-9541	8217	7372	30925	25578	7779	33358	No	70.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	9.59	-375.83	-4571	-3807	16582	3.0507	3.0507	-4456	11308	9659	30925	38367	7779	40585		2.45	Si
SLV 8	11.45	-1477.96	-2688	-2239	4160	3.0507	2.9268	-2734	10964	8985	30925	38367	7779	39910		9.59	Si
SLV 10	9.59	1249.76	-20801	-17321	-16044	3.0507	3.0507	-20278	14472	13096	30925	38367	7779	44022		2.74	Si
SLV 10	11.45	1469.72	-14350	-11950	-3487	3.0507	3.0507	-13989	13215	11288	30925	38367	7779	42213		12.11	Si
SLD 8	9.59	-28.85	-7944	-6615	9866	3.0507	3.0507	-7744	11966	10221	30925	38367	7779	41146		4.17	Si
SLD 8	11.45	-862.9	-5123	-4266	2583	3.0507	3.0507	-4994	11415	9751	30925	38367	7779	40676		15.75	Si
SLV 7	9.59	-249	-4516	-3760	16678	3.0507	3.0507	-4402	11297	9650	30925	38367	7779	40575		2.43	Si
SLV 7	11.45	-1448.34	-2676	-2228	4180	3.0507	2.952	-2608	10938	9041	30925	38367	7779	39967		9.56	Si
SLV 9	9.59	1376.59	-20745	-17275	-15948	3.0507	3.0507	-20224	14461	13078	30925	38367	7779	44003		2.76	Si
SLV 9	11.45	1499.34	-14337	-11939	-3467	3.0507	3.0507	-13977	13212	11286	30925	38367	7779	42211		12.17	Si
SLV 5	9.59	895.79	-21588	-17977	-14751	3.0507	3.0507	-21045	14626	13359	30925	38367	7779	44284		3	Si
SLV 5	11.45	1410.05	-15081	-12558	-3069	3.0507	3.0507	-14702	13357	11409	30925	38367	7779	42335		13.79	Si
SLV 11	9.59	231.8	-3673	-3058	15482	3.0507	3.0507	-3580	11133	9510	30925	38367	7779	40435		2.61	Si
SLV 11	11.45	-1359.05	-1932	-1609	3782	3.0507	2.4654	-2332	10883	7513	30925	38367	7779	38438		10.16	Si
SLD 7	9.59	48.11	-7910	-6587	9925	3.0507	3.0507	-7711	11959	10215	30925	38367	7779	41141		4.15	Si
SLD 7	11.45	-844.92	-5115	-4259	2595	3.0507	3.0507	-4986	11414	9750	30925	38367	7779	40675		15.68	Si
SLV 6	9.59	768.96	-21644	-18023	-14848	3.0507	3.0507	-21100	14637	13377	30925	38367	7779	44303		2.98	Si
SLV 6	11.45	1380.43	-15094	-12569	-3089	3.0507	3.0507	-14714	13360	11412	30925	38367	7779	42337		13.7	Si
SLV 12	9.59	104.97	-3728	-3105	15385	3.0507	3.0507	-3635	11144	9519	30925	38367	7779	40444		2.63	Si
SLV 12	11.45	-1388.67	-1945	-1619	3762	3.0507	2.4337	-2378	10892	7422	30925	38367	7779	38348		10.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.52 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.47	4255	-3635	234.71	494.67	2.11	Si
SLV 12	179667	0.47	4317	-3687	234.71	501.64	2.14	Si
SLV 7	179667	0.47	5485	-4686	234.71	632.42	2.69	Si
SLV 8	179667	0.47	5547	-4738	234.71	639.27	2.72	Si
SLV 15	179667	0.47	8044	-6871	234.71	911.33	3.88	Si
SLV 16	179667	0.47	8136	-6950	234.71	921.14	3.92	Si
SLV 3	179667	0.47	12145	-10375	234.71	1336.92	5.7	Si
SLV 4	179667	0.47	12237	-10453	234.71	1346.14	5.74	Si
SLV 13	179667	0.47	12536	-10708	234.71	1376.04	5.86	Si
SLV 14	179667	0.47	12627	-10786	234.71	1385.2	5.9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.52 Wa = 0.05 Ta = 0.0436

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-15094	-21644	-485	1.028	1863.4	0.949	15.7285	4.67734	Si
SLV 5	-15081	-21588	-485	1.028	1862.1	0.949	15.74036	4.67734	Si
SLV 10	-14350	-20801	291	1.084	1788	0.948	16.61783	4.67734	Si
SLV 9	-14337	-20745	292	1.084	1786.6	0.948	16.63067	4.67734	Si
SLV 2	-11623	-16666	-1317	1.214	1511.5	0.94	18.77949	5.10285	Si
SLV 1	-11604	-16583	-1317	1.216	1509.5	0.939	18.80619	5.10285	Si
SLV 14	-9144	-13856	1272	1.475	1260.9	0.93	23.05197	5.10285	Si
SLV 13	-9125	-13773	1272	1.477	1258.9	0.93	23.09174	5.10285	Si
SLV 4	-7901	-11544	-1254	1.654	1135.7	0.924	26.01742	5.10285	Si
SLV 3	-7882	-11461	-1254	1.657	1133.8	0.924	26.069	5.10285	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.975	SLU 42	Si
V_SLU	39.663	SLU 43	Si
PF_SLV	3.957	SLV 12	Si
V_SLV	2.433	SLV 7	Si
PFFP_SLV	2.108	SLV 11	Si
R_SLV	3.363	SLV 6	Si

Maschio 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-0.354	-13.753	0.051	L6	L7	0.405	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	7.9	342.28	-3580	-0.0001372	0.0003743	0.0035	0.4049	500.06	567.58	567.58	1.66	No	Si
SLU 60	10	81.26	-2859	-0.0000565	0.0003743	0.0035	0.4049	435.52	473.64	473.64	5.83	No	Si
SLU 18	7.9	286.91	-2803	-0.000111	0.0003743	0.0035	0.4049	429.76	466.58	466.58	1.63	No	Si
SLU 18	10	81.57	-2490	-0.000051	0.0003743	0.0035	0.4049	395.41	427.69	427.69	5.24	No	Si
SLU 81	7.9	348.51	-3792	-0.0001412	0.0003743	0.0035	0.4049	515.55	594.48	594.48	1.71	No	Si
SLU 81	10	134.57	-3611	-0.0000802	0.0003743	0.0035	0.4049	502.45	571.78	571.78	4.25	No	Si
SLU 63	7.9	336.45	-3634	-0.0001351	0.0003743	0.0035	0.4049	504.18	574.86	574.86	1.71	No	Si
SLU 63	10	101.7	-3129	-0.0000652	0.0003743	0.0035	0.4049	461.85	508.29	508.29	5	No	Si
SLU 61	7.9	334.91	-3550	-0.0001339	0.0003743	0.0035	0.4049	497.72	563.53	563.53	1.68	No	Si
SLU 61	10	89.99	-2957	-0.0000599	0.0003743	0.0035	0.4049	445.33	486.06	486.06	5.4	No	Si
SLU 19	7.9	279.54	-2773	-0.0001077	0.0003743	0.0035	0.4049	426.58	462.77	462.77	1.66	No	Si
SLU 19	10	90.3	-2588	-0.0000543	0.0003743	0.0035	0.4049	406.48	439.68	439.68	4.87	No	Si
SLU 62	7.9	343.82	-3665	-0.0001383	0.0003743	0.0035	0.4049	506.44	578.95	578.95	1.68	No	Si
SLU 62	10	92.96	-3032	-0.0000617	0.0003743	0.0035	0.4049	452.63	495.68	495.68	5.33	No	Si
SLU 39	7.9	293.14	-3015	-0.000114	0.0003743	0.0035	0.4049	451	493.5	493.5	1.68	No	Si
SLU 39	10	134.88	-3242	-0.0000743	0.0003743	0.0035	0.4049	472.08	522.97	522.97	3.88	No	Si
SLU 20	7.9	288.44	-2888	-0.0001117	0.0003743	0.0035	0.4049	438.43	477.28	477.28	1.65	No	Si
SLU 20	10	93.27	-2663	-0.0000561	0.0003743	0.0035	0.4049	414.75	448.97	448.97	4.81	No	Si
SLU 21	7.9	281.07	-2858	-0.0001084	0.0003743	0.0035	0.4049	435.35	473.43	473.43	1.68	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 21	10	102	-2760	-0.0000595	0.0003743	0.0035	0.4049	425.23	461.16	461.16	4.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	7.9	-502.86	966	0.7368357	0.0005615	0.0035	0.324		0	0	0		No
SLV 10	10	888.9	-10891	-0.0004743	0.0005615	0.0035	0.4049		1215.97	1215.97	1.37		Si
SLV 5	7.9	-426.92	393	0.2874712	0.0005615	0.0035	0.324		0	0	0		No
SLV 5	10	828.33	-10424	-0.000424	0.0005615	0.0035	0.4049		1210.27	1210.27	1.46		Si
SLV 7	7.9	927.89	-6738	-0.0007042	0.0005615	0.0035	0.4049		975.15	975.15	1.05		Si
SLV 7	10	-729.96	6120	4.5557283	0.0005615	0.0035	0.324		0	0	0		No
SLV 3	7.9	541.05	-4886	-0.000221	0.0005615	0.0035	0.4049		782.03	782.03	1.45		Si
SLV 3	10	-252.78	865	0.6513586	0.0005615	0.0035	0.324		0	0	0		No
SLD 12	7.9	585.07	-4787	-0.0002549	0.0005615	0.0035	0.4049		769.18	769.18	1.31		Si
SLD 12	10	-357.49	2311	1.7245938	0.0005615	0.0035	0.324		0	0	0		No
SLV 12	7.9	851.95	-6165	-0.0005421	0.0005615	0.0035	0.4049		923.43	923.43	1.08		Si
SLV 12	10	-669.39	5654	4.2082707	0.0005615	0.0035	0.324		0	0	0		No
SLV 9	7.9	-501.5	940	0.7175714	0.0005615	0.0035	0.324		0	0	0		No
SLV 9	10	886.25	-10881	-0.0004722	0.0005615	0.0035	0.4049		1215.93	1215.93	1.37		Si
SLV 11	7.9	853.31	-6191	-0.0005403	0.0005615	0.0035	0.4049		925.78	925.78	1.08		Si
SLV 11	10	-672.04	5663	4.2153133	0.0005615	0.0035	0.324		0	0	0		No
SLV 4	7.9	539.03	-4848	-0.0002202	0.0005615	0.0035	0.4049		777.02	777.02	1.44		Si
SLV 4	10	-248.84	851	0.6409159	0.0005615	0.0035	0.324		0	0	0		No
SLV 6	7.9	-428.28	419	0.3101092	0.0005615	0.0035	0.324		0	0	0		No
SLV 6	10	830.98	-10434	-0.0004257	0.0005615	0.0035	0.4049		1210.76	1210.76	1.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 38	7.9	260.27	-3162	-2633	742	0.4049	0.3605	-23223	10041	1066	40441	3395	1033	4428	No	5.96	Si
SLU 38	10	160.52	-3565	-2969	-1338	0.4049	0.4049	-26184	10436	1183	40441	3395	1033	4428	No	3.31	Si
SLU 36	7.9	259.62	-3195	-2660	741	0.4049	0.3636	-23462	10073	1073	40441	3395	1033	4428	No	5.97	Si
SLU 36	10	167.05	-3659	-3047	-1394	0.4049	0.4049	-26873	10527	1194	40441	3395	1033	4428	No	3.18	Si
SLU 84	7.9	342.68	-3846	-3203	970	0.4049	0.3401	-28246	10711	1218	40441	3395	1033	4428	No	4.56	Si
SLU 84	10	155.01	-3882	-3232	-1283	0.4049	0.4049	-28508	10746	1226	40441	3395	1033	4428	No	3.45	Si
SLU 35	7.9	266.99	-3225	-2685	763	0.4049	0.359	-23685	10102	1080	40441	3395	1033	4428	No	5.8	Si
SLU 35	10	158.32	-3561	-2966	-1316	0.4049	0.4049	-26156	10432	1183	40441	3395	1033	4428	No	3.36	Si
SLU 80	7.9	315.64	-3939	-3280	920	0.4049	0.367	-28929	10802	1239	40441	3395	1033	4428	No	4.81	Si
SLU 80	10	160.21	-3934	-3276	-1317	0.4049	0.4049	-28895	10797	1238	40441	3395	1033	4428	No	3.36	Si
SLU 34	7.9	253.82	-3057	-2546	721	0.4049	0.3583	-22454	9938	1043	40441	3395	1033	4428	No	6.14	Si
SLU 34	10	154.64	-3458	-2879	-1291	0.4049	0.4049	-25394	10330	1171	40441	3395	1033	4428	No	3.43	Si
SLU 33	7.9	258.09	-3110	-2590	735	0.4049	0.3585	-22841	9990	1054	40441	3395	1033	4428	No	6.03	Si
SLU 33	10	155.35	-3486	-2903	-1295	0.4049	0.4049	-25605	10358	1174	40441	3395	1033	4428	No	3.42	Si
SLU 77	7.9	322.36	-4002	-3332	941	0.4049	0.3657	-29390	10833	1252	40441	3395	1033	4428	No	4.71	Si
SLU 77	10	158.01	-3931	-3273	-1295	0.4049	0.4049	-28868	10793	1237	40441	3395	1033	4428	No	3.42	Si
SLU 78	7.9	314.99	-3971	-3307	919	0.4049	0.3695	-29168	10833	1246	40441	3395	1033	4428	No	4.82	Si
SLU 78	10	166.75	-4028	-3354	-1373	0.4049	0.4049	-29585	10833	1258	40441	3395	1033	4428	No	3.23	Si
SLU 42	7.9	287.3	-3069	-2556	793	0.4049	0.3266	-22541	9950	1045	40441	3395	1033	4428	No	5.59	Si
SLU 42	10	155.31	-3512	-2925	-1304	0.4049	0.4049	-25796	10384	1177	40441	3395	1033	4428	No	3.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	7.9	853.31	-6191	-5155	2635	0.4049	0.1939	-45469	16250	1921	40441	5093	1033	6125		2.32	Si
SLV 11	10	-672.04	5663	4716	6094	0.324	0.2514	0	0	0	40441	4074	826	4900		0.8	No
SLD 9	7.9	-207.85	-635	-529	-657	0.324	0	0	0	0	40441	4074	826	4900		7.45	Si
SLD 9	10	553.38	-7372	-6139	-4853	0.4049	0.3822	-54145	16250	2183	40441	5093	1033	6125		1.26	Si
SLV 6	7.9	-428.28	419	349	-1341	0.324	0	0	0	0	40441	4074	826	4900		3.65	Si
SLV 6	10	830.98	-10434	-8688	-7349	0.4049	0.3685	-76626	16250	2863	40441	5093	1033	6125		0.83	No
SLV 9	7.9	-501.5	940	782	-1570	0.324	0	0	0	0	40441	4074	826	4900		3.12	Si
SLV 9	10	886.25	-10881	-9061	-7823	0.4049	0.3631	-79914	16250	2962	40441	5093	1033	6125		0.78	No
SLD 10	7.9	-208.68	-619	-515	-660	0.324	0	0	0	0	40441	4074	826	4900		7.43	Si
SLD 10	10	554.99	-7378	-6144	-4872	0.4049	0.3817	-54187	16250	2184	40441	5093	1033	6125		1.26	Si
SLV 7	7.9	927.89	-6738	-5611	2868	0.4049	0.1943	-49485	16250	2042	40441	5093	1033	6125		2.14	Si
SLV 7	10	-729.96	6120	5096	6598	0.324	0.2496	0	0	0	40441	4074	826	4900		0.74	No
SLV 10	7.9	-502.86	966	804	-1574	0.324	0	0	0	0	40441	4074	826	4900		3.11	Si
SLV 10	10	888.9	-10891	-9069	-7853	0.4049	0.3625	-79983	16250	2964	40441	5093	1033	6125		0.78	No
SLV 5	7.9	-426.92	393	327	-1337	0.324	0	0	0	0	40441	4074	826	4900		3.66	Si
SLV 5	10	828.33	-10424	-8680	-7318	0.4049	0.369	-76558	16250	2860	40441	5093	1033	6125		0.84	No
SLV 8	7.9	926.53	-6712	-5589	2864	0.4049	0.1933	-49294	16250	2036	40441	5093	1033	6125		2.14	Si
SLV 8	10	-727.31	6111	5088	6568	0.324	0.2503	0	0	0	40441	4074	826	4900		0.75	No
SLV 12	7.9	851.95	-6165	-5134	2631	0.4049	0.1928	-45279	16250	1915	40441	5093	1033	6125		2.33	Si
SLV 12	10	-669.39	5654	4708	6063	0.324	0.2522	0	0	0	40441	4074	826	4900		0.81	No

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.45	0	-291	51.59	0	0	No, e>t/2
SLV 11	179667	0.45	0	3106	51.59	0	0	No, Trazione
SLV 7	179667	0.45	0	3367	51.59	0	0	No, Trazione
SLV 12	179667	0.45	0	3111	51.59	0	0	No, Trazione
SLV 3	179667	0.45	0	-298	51.59	0	0	No, e>t/2
SLV 8	179667	0.45	0	3372	51.59	0	0	No, Trazione
SLV 16	179667	0.45	10240	-1161	51.59	151.64	2.94	Si
SLV 15	179667	0.45	10305	-1168	51.59	152.54	2.96	Si
SLV 2	179667	0.45	32562	-3692	51.59	406.67	7.88	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	32627	-3699	51.59	407.26	7.89	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-1616	-4886	-278	1.056	221.9	0.93	16.495	6.13636	Si
SLV 4	-1579	-4848	-278	1.075	218.3	0.929	16.81029	6.13636	Si
SLV 7	-1900	-6738	-79	1.016	250.7	0.937	15.75977	5.23702	Si
SLV 8	-1876	-6712	-79	1.027	248.2	0.936	15.93488	5.23702	Si
SLV 11	-1674	-6191	106	1.111	227.8	0.932	17.33505	5.23702	Si
SLV 12	-1649	-6165	106	1.124	225.4	0.931	17.54873	5.23702	Si
SLV 1	-1140	-2747	-264	1.388	174.1	0.916	22.01071	6.13636	Si
SLV 2	-1103	-2709	-264	1.421	170.5	0.915	22.57403	6.13636	Si
SLV 15	-860	-3064	339	1.634	146.3	0.906	26.22848	6.13636	Si
SLV 16	-824	-3025	339	1.683	142.7	0.904	27.05398	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.626	SLU 18	Si
V_SLU	3.177	SLU 36	Si
PF_SLV	0	SLD 7	No
V_SLV	0.743	SLV 7	No
PFFP_SLV	0	SLV 12	No
R_SLV	2.688	SLV 3	Si

Maschio 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L6	L7	2.015	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	8.8	-76.16	-13335	-0.0000373	0.0003743	0.0035	2.015	10316.22	12261.29	12261.29	160.99	No	Si
SLU 39	10.6	1195.72	-11405	-0.0000411	0.0003743	0.0035	2.015	9208.84	9854.63	9854.63	8.24	No	Si
SLU 83	8.8	1.64	-16140	-0.000045	0.0003743	0.0035	2.015	11692.03	12967.55	12967.55	7907.51	No	Si
SLU 83	10.6	1380.61	-13661	-0.0000494	0.0003743	0.0035	2.015	10489.94	11533.5	11533.5	8.35	No	Si
SLU 41	8.8	-74.15	-13976	-0.0000392	0.0003743	0.0035	2.015	10654.78	12696.97	12696.97	171.23	No	Si
SLU 41	10.6	1258.38	-12045	-0.0000435	0.0003743	0.0035	2.015	9590.79	10358.73	10358.73	8.23	No	Si
SLU 38	8.8	-48.71	-14106	-0.0000394	0.0003743	0.0035	2.015	10721.69	12783.32	12783.32	262.42	No	Si
SLU 38	10.6	1253.07	-12175	-0.0000438	0.0003743	0.0035	2.015	9666.5	10461.86	10461.86	8.35	No	Si
SLU 34	8.8	-67.04	-13454	-0.0000376	0.0003743	0.0035	2.015	10380.25	12343.62	12343.62	184.12	No	Si
SLU 34	10.6	1196.95	-11524	-0.0000415	0.0003743	0.0035	2.015	9280.93	9947.69	9947.69	8.31	No	Si
SLU 82	8.8	-24.84	-15483	-0.0000432	0.0003743	0.0035	2.015	11394.56	13670.54	13670.54	550.29	No	Si
SLU 82	10.6	1327.75	-13004	-0.000047	0.0003743	0.0035	2.015	10135.33	11122.97	11122.97	8.38	No	Si
SLU 40	8.8	-100.63	-13319	-0.0000375	0.0003743	0.0035	2.015	10307.44	12250.06	12250.06	121.73	No	Si
SLU 40	10.6	1205.52	-11388	-0.0000411	0.0003743	0.0035	2.015	9198.95	9841.93	9841.93	8.16	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	8.8	-22.83	-16124	-0.0000451	0.0003743	0.0035	2.015	11684.85	14069.86	14069.86	616.33	No	Si
SLU 84	10.6	1390.41	-13644	-0.0000494	0.0003743	0.0035	2.015	10481.34	11524.33	11524.33	8.29	No	Si
SLU 42	8.8	-98.62	-13960	-0.0000393	0.0003743	0.0035	2.015	10646.36	12686.11	12686.11	128.64	No	Si
SLU 42	10.6	1268.18	-12029	-0.0000435	0.0003743	0.0035	2.015	9581.27	10345.83	10345.83	8.16	No	Si
SLU 31	8.8	-69.05	-12814	-0.0000358	0.0003743	0.0035	2.015	10029.97	11905.03	11905.03	172.4	No	Si
SLU 31	10.6	1134.3	-10883	-0.000039	0.0003743	0.0035	2.015	8887.26	9449.73	9449.73	8.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	8.8	-2603.25	-8802	-0.0000444	0.0005615	0.0035	2.015		9218.14	9218.14	3.54		Si
SLV 6	10.6	2281.68	-6831	-0.0000363	0.0005615	0.0035	2.015		6669.81	6669.81	2.92		Si
SLV 3	8.8	-2502.65	-13967	-0.0000584	0.0005615	0.0035	2.015		13412.35	13412.35	5.36		Si
SLV 3	10.6	3645.55	-12053	-0.0000622	0.0005615	0.0035	2.015		10870.47	10870.47	2.98		Si
SLV 16	8.8	4012.45	-8396	-0.0000576	0.0005615	0.0035	2.015		8040.13	8040.13	2		Si
SLV 16	10.6	-2552.74	-6554	-0.0000379	0.0005615	0.0035	2.015		7259.21	7259.21	2.84		Si
SLV 1	8.8	-3796.59	-12655	-0.0000653	0.0005615	0.0035	2.015		12388.73	12388.73	3.26		Si
SLV 1	10.6	4176.72	-10704	-0.0000633	0.0005615	0.0035	2.015		9882.57	9882.57	2.37		Si
SLV 14	8.8	2718.51	-7084	-0.0000407	0.0005615	0.0035	2.015		6893.98	6893.98	2.54		Si
SLV 14	10.6	-2021.56	-5204	-0.0000299	0.0005615	0.0035	2.015		6042.09	6042.09	2.99		Si
SLV 15	8.8	3143.84	-9163	-0.0000498	0.0005615	0.0035	2.015		8697.19	8697.19	2.77		Si
SLV 15	10.6	-1842.98	-7321	-0.0000341	0.0005615	0.0035	2.015		7937.52	7937.52	4.31		Si
SLV 2	8.8	-2927.98	-11888	-0.0000558	0.0005615	0.0035	2.015		11781.06	11781.06	4.02		Si
SLV 2	10.6	3466.97	-9937	-0.0000547	0.0005615	0.0035	2.015		9323.99	9323.99	2.69		Si
SLV 12	8.8	3403.82	-11733	-0.0000593	0.0005615	0.0035	2.015		10634.98	10634.98	3.12		Si
SLV 12	10.6	-1135.47	-9910	-0.0000356	0.0005615	0.0035	2.015		10162.18	10162.18	8.95		Si
SLD 1	8.8	-2343.08	-11909	-0.0000511	0.0005615	0.0035	2.015		11798.13	11798.13	5.04		Si
SLD 1	10.6	2943.06	-9982	-0.0000505	0.0005615	0.0035	2.015		9357.91	9357.91	3.18		Si
SLV 5	8.8	-3187.96	-9318	-0.0000506	0.0005615	0.0035	2.015		9657.5	9657.5	3.03		Si
SLV 5	10.6	2759.45	-7348	-0.0000417	0.0005615	0.0035	2.015		7126.72	7126.72	2.58		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	8.8	27.08	-16270	-13548	-718	2.015	2.015	-24013	10146	5724	40441	16895	5138	22033	No	30.7	Si
SLU 80	10.6	1375.3	-13790	-11484	-718	2.015	2.015	-20354	9658	5449	40441	16895	5138	22033	No	30.7	Si
SLU 41	8.8	-74.15	-13976	-11638	-717	2.015	2.015	-20627	9695	5470	40441	16895	5138	22033	No	30.75	Si
SLU 41	10.6	1258.38	-12045	-10030	-717	2.015	2.015	-17778	9315	5255	40441	16895	5138	22033	No	30.75	Si
SLU 77	8.8	64.33	-16618	-13838	-703	2.015	2.015	-24526	10215	5763	40441	16895	5138	22033	No	31.34	Si
SLU 77	10.6	1385.96	-14138	-11773	-703	2.015	2.015	-20867	9727	5488	40441	16895	5138	22033	No	31.34	Si
SLU 36	8.8	-35.93	-14437	-12022	-704	2.015	2.015	-21308	9786	5521	40441	16895	5138	22033	No	31.31	Si
SLU 36	10.6	1273.53	-12507	-10414	-704	2.015	2.015	-18459	9406	5307	40441	16895	5138	22033	No	31.31	Si
SLU 82	8.8	-24.84	-15483	-12893	-720	2.015	2.015	-22852	9991	5637	40441	16895	5138	22033	No	30.59	Si
SLU 82	10.6	1327.75	-13004	-10828	-720	2.015	2.015	-19192	9503	5362	40441	16895	5138	22033	No	30.59	Si
SLU 83	8.8	1.64	-16140	-13440	-735	2.015	2.015	-23821	10121	5710	40441	16895	5138	22033	No	29.98	Si
SLU 83	10.6	1380.61	-13661	-11375	-735	2.015	2.015	-20162	9633	5435	40441	16895	5138	22033	No	29.98	Si
SLU 84	8.8	-22.83	-16124	-13426	-754	2.015	2.015	-23797	10117	5708	40441	16895	5138	22033	No	29.23	Si
SLU 84	10.6	1390.41	-13644	-11362	-754	2.015	2.015	-20138	9629	5433	40441	16895	5138	22033	No	29.23	Si
SLU 78	8.8	39.86	-16601	-13824	-722	2.015	2.015	-24502	10211	5761	40441	16895	5138	22033	No	30.52	Si
SLU 78	10.6	1395.76	-14122	-11760	-722	2.015	2.015	-20843	9723	5486	40441	16895	5138	22033	No	30.52	Si
SLU 40	8.8	-100.63	-13319	-11091	-702	2.015	2.015	-19658	9565	5397	40441	16895	5138	22033	No	31.39	Si
SLU 40	10.6	1205.52	-11388	-9483	-702	2.015	2.015	-16808	9186	5182	40441	16895	5138	22033	No	31.39	Si
SLU 42	8.8	-98.62	-13960	-11624	-736	2.015	2.015	-20603	9692	5468	40441	16895	5138	22033	No	29.95	Si
SLU 42	10.6	1268.18	-12029	-10017	-736	2.015	2.015	-17754	9312	5254	40441	16895	5138	22033	No	29.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	8.8	-1634.04	-13200	-10992	-2642	2.015	2.015	-19482	14313	8075	40441	25342	5138	30480		11.54	Si
SLV 4	10.6	2935.79	-11286	-9398	-2312	2.015	2.015	-16658	13748	7757	40441	25342	5138	30480		13.19	Si
SLV 1	8.8	-3796.59	-12655	-10538	-4515	2.015	2.015	-18678	14152	7985	40441	25342	5138	30480		6.75	Si
SLV 1	10.6	4176.72	-10704	-8913	-4184	2.015	1.8519	-15798	13576	7040	40441	25342	5138	30480		7.29	Si
SLV 2	8.8	-2927.98	-11888	-9900	-3638	2.015	2.015	-17546	13926	7857	40441	25342	5138	30480		8.38	Si
SLV 2	10.6	3466.97	-9937	-8275	-3307	2.015	1.9758	-14666	13350	7385	40441	25342	5138	30480		9.22	Si
SLV 14	8.8	2718.51	-7084	-5899	2785	2.015	1.8713	-10456	12508	6554	40441	25342	5138	30480		10.95	Si
SLV 14	10.6	-2021.56	-5204	-4334	2454	2.015	1.8572	-8361	12089	6286	40441	25342	5138	30480		12.42	Si
SLV 15	8.8	3143.84	-9163	-7630	2905	2.015	1.9932	-13524	13121	7323	40441	25342	5138	30480		10.49	Si
SLV 15	10.6	-1842.98	-7321	-6096	2573	2.015	2.015	-10805	12578	7096	40441	25342	5138	30480		11.85	Si
SLV 5	8.8	-3187.96	-9318	-7759	-3287	2.015	1.9961	-13753	13167	7359	40441	25342	5138	30480		9.27	Si
SLV 5	10.6	2759.45	-7348	-6118	-3185	2.015	1.8958	-10844	12586	6681	40441	25342	5138	30480		9.57	Si
SLV 16	8.8	4012.45	-8396	-6992	3781	2.015	1.5888	-12392	12895	5737	40441	25342	5138	30480		8.06	Si
SLV 16	10.6	-2552.74	-6554	-5457	3450	2.015	1.854	-10559	12528	6504	40441	25342	5138	30480		8.84	Si
SLD 1	8.8	-2343.08	-11909	-9917	-2988	2.015	2.015	-17577	13932	7861	40441	25342	5138	30480		10.2	Si
SLD 1	10.6	2943.06	-9982	-8312	-2771	2.015	2.015	-14733	13363	7540	40441	25342	5138	30480		11	Si
SLV 3	8.8	-2502.65	-13967	-11630	-3519	2.015	2.015	-20614	14539	8203	40441	25342	5138	30480		8.66	Si
SLV 3	10.6	3645.55	-12053	-10037	-3188	2.015	2.015	-17789	13975	7884	40441	25342	5138	30480		9.56	Si
SLV 6	8.8	-2603.25	-8802	-7330	-2697	2.015	2.015	-12991	13015	7343	40441	25342	5138	30480		11.3	Si
SLV 6	10.6	2281.68	-6831	-5689	-2595	2.015	2.015	-10083	12433	7015	40441	25342	5138	30480		11.75	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.45	10704	-6039	250.25	786.24	3.14	Si
SLV 10	179667	0.45	11142	-6286	250.25	815.87	3.26	Si
SLV 9	179667	0.45	12057	-6802	250.25	877.16	3.51	Si
SLV 13	179667	0.45	12063	-6806	250.25	877.59	3.51	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.45	13076	-7378	250.25	944.42	3.77	Si
SLV 6	179667	0.45	13699	-7729	250.25	984.97	3.94	Si
SLV 15	179667	0.45	14435	-8144	250.25	1032.43	4.13	Si
SLV 5	179667	0.45	14614	-8245	250.25	1043.84	4.17	Si
SLV 12	179667	0.45	19048	-10747	250.25	1316.91	5.26	Si
SLV 2	179667	0.45	19226	-10848	250.25	1327.47	5.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-9819	-10044	-830	0.948	1284.3	0.939	14.6809	5.23702	Si
SLV 7	-9799	-13188	-829	0.95	1282.2	0.938	14.70866	5.23702	Si
SLV 12	-9789	-9038	-830	0.95	1281.3	0.938	14.71944	5.23702	Si
SLV 8	-9769	-12182	-829	0.952	1279.2	0.938	14.74734	5.23702	Si
SLV 15	-7614	-6161	-251	1.222	1061.5	0.928	19.13853	6.13636	Si
SLV 16	-7569	-4667	-251	1.228	1057	0.928	19.23209	6.13636	Si
SLV 3	-7545	-16640	-247	1.231	1054.6	0.928	19.28839	6.13636	Si
SLV 4	-7501	-15146	-247	1.237	1050.1	0.928	19.3834	6.13636	Si
SLV 13	-5697	-5767	246	1.525	868.9	0.916	24.19275	6.13636	Si
SLV 14	-5652	-4273	246	1.534	864.4	0.916	24.34232	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.158	SLU 42	Si
V_SLU	29.226	SLU 84	Si
PF_SLV	2.004	SLV 16	Si
V_SLV	6.75	SLV 1	Si
PFFP_SLV	3.142	SLV 14	Si
R_SLV	2.803	SLV 11	Si

Maschio 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L6	L7	4.025	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	8.8	-1282.3	-38444	-0.0000573	0.0003743	0.0035	4.025	51446.49	62963.22	62963.22	49.1	No	Si
SLU 80	10.6	826.6	-33917	-0.0000493	0.0003743	0.0035	4.025	48081.25	53725.28	53725.28	65	No	Si
SLU 38	8.8	-1147.18	-33348	-0.0000491	0.0003743	0.0035	4.025	47607.24	57793.42	57793.42	50.38	No	Si
SLU 38	10.6	747.11	-29816	-0.000043	0.0003743	0.0035	4.025	44411.91	48773.12	48773.12	65.28	No	Si
SLU 76	8.8	-1201.46	-36927	-0.0000547	0.0003743	0.0035	4.025	50398.38	61706.31	61706.31	51.36	No	Si
SLU 76	10.6	874.14	-32399	-0.0000471	0.0003743	0.0035	4.025	46792.08	51876.69	51876.69	59.35	No	Si
SLU 37	8.8	-1129.92	-33409	-0.0000492	0.0003743	0.0035	4.025	47658.92	57864.88	57864.88	51.21	No	Si
SLU 37	10.6	729.26	-29877	-0.000043	0.0003743	0.0035	4.025	44471.21	48846	48846	66.98	No	Si
SLU 36	8.8	-1140.7	-34139	-0.0000503	0.0003743	0.0035	4.025	48262.86	58718.75	58718.75	51.48	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 36	10.6	792.82	-30607	-0.0000442	0.0003743	0.0035	4.025	45165.54	49715.25	49715.25	62.71	No	Si
SLU 84	8.8	-1229.84	-38188	-0.0000568	0.0003743	0.0035	4.025	51274.89	62747.95	62747.95	51.02	No	Si
SLU 84	10.6	916.22	-33660	-0.0000491	0.0003743	0.0035	4.025	47868.88	53410.7	53410.7	58.29	No	Si
SLU 79	8.8	-1265.04	-38506	-0.0000573	0.0003743	0.0035	4.025	51487.2	63014.87	63014.87	49.81	No	Si
SLU 79	10.6	808.76	-33978	-0.0000494	0.0003743	0.0035	4.025	48131.71	53800.64	53800.64	66.52	No	Si
SLU 78	8.8	-1275.83	-39235	-0.0000585	0.0003743	0.0035	4.025	51960.69	63633.34	63633.34	49.88	No	Si
SLU 78	10.6	872.31	-34708	-0.0000506	0.0003743	0.0035	4.025	48721.07	54699.44	54699.44	62.71	No	Si
SLU 72	8.8	-1189.25	-35597	-0.0000527	0.0003743	0.0035	4.025	49414.13	60452.8	60452.8	50.83	No	Si
SLU 72	10.6	700.66	-31070	-0.0000447	0.0003743	0.0035	4.025	45596.73	50270.43	50270.43	71.75	No	Si
SLU 77	8.8	-1258.57	-39297	-0.0000586	0.0003743	0.0035	4.025	51999.69	63685.79	63685.79	50.6	No	Si
SLU 77	10.6	854.46	-34770	-0.0000507	0.0003743	0.0035	4.025	48769.83	54775.38	54775.38	64.11	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	8.8	-10050.05	-25559	-0.0000551	0.0005615	0.0035	4.025		50178.09	50178.09	4.99		Si
SLV 2	10.6	10453.92	-22120	-0.000051	0.0005615	0.0035	4.025		40262.84	40262.84	3.85		Si
SLV 1	8.8	-12838.82	-25919	-0.0000614	0.0005615	0.0035	4.025		50729.37	50729.37	3.95		Si
SLV 1	10.6	13051.15	-22480	-0.0000568	0.0005615	0.0035	4.025		40799.5	40799.5	3.13		Si
SLV 13	8.8	7621.52	-21030	-0.0000436	0.0005615	0.0035	4.025		38644.38	38644.38	5.07		Si
SLV 13	10.6	-8166.08	-17533	-0.0000398	0.0005615	0.0035	4.025		37004.41	37004.41	4.53		Si
SLV 5	8.8	-6317.29	-20445	-0.0000401	0.0005615	0.0035	4.025		41940.8	41940.8	6.64		Si
SLV 5	10.6	6530.41	-16969	-0.0000357	0.0005615	0.0035	4.025		32406.8	32406.8	4.96		Si
SLV 16	8.8	11349.15	-23845	-0.0000553	0.0005615	0.0035	4.025		42841.88	42841.88	3.77		Si
SLV 16	10.6	-11903.08	-20362	-0.0000514	0.0005615	0.0035	4.025		41801.42	41801.42	3.51		Si
SLV 4	8.8	-9111.2	-28733	-0.0000578	0.0005615	0.0035	4.025		55083.02	55083.02	6.05		Si
SLV 4	10.6	9314.15	-25309	-0.0000532	0.0005615	0.0035	4.025		45048.69	45048.69	4.84		Si
SLV 14	8.8	10410.29	-20670	-0.0000488	0.0005615	0.0035	4.025		38111.55	38111.55	3.66		Si
SLV 14	10.6	-10763.31	-17173	-0.0000446	0.0005615	0.0035	4.025		36400.85	36400.85	3.38		Si
SLV 15	8.8	8560.38	-24205	-0.0000501	0.0005615	0.0035	4.025		43383.14	43383.14	5.07		Si
SLV 15	10.6	-9305.85	-20723	-0.0000466	0.0005615	0.0035	4.025		42404.05	42404.05	4.56		Si
SLV 3	8.8	-11899.96	-29094	-0.0000641	0.0005615	0.0035	4.025		55645.9	55645.9	4.68		Si
SLV 3	10.6	11911.38	-25669	-0.0000591	0.0005615	0.0035	4.025		45593.72	45593.72	3.83		Si
SLD 1	8.8	-8422.44	-25631	-0.0000518	0.0005615	0.0035	4.025		50289.77	50289.77	5.97		Si
SLD 1	10.6	8514.53	-22182	-0.0000471	0.0005615	0.0035	4.025		40354.88	40354.88	4.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	8.8	-1137.49	-36711	-30570	-1225	4.025	4.025	-27125	10561	17653	40441	33747	10264	44011	No	35.93	Si
SLU 82	10.6	951.86	-32183	-26800	-1225	4.025	4.025	-23780	10115	16145	40441	33747	10264	44011	No	35.93	Si
SLU 75	8.8	-1183.48	-37759	-31442	-1226	4.025	4.025	-27899	10664	18002	40441	33747	10264	44011	No	35.89	Si
SLU 75	10.6	907.95	-33231	-27672	-1226	4.025	4.025	-24554	10218	16494	40441	33747	10264	44011	No	35.89	Si
SLU 78	8.8	-1275.83	-39235	-32672	-1258	4.025	4.025	-28990	10810	18494	40441	33747	10264	44011	No	34.99	Si
SLU 78	10.6	872.31	-34708	-28902	-1258	4.025	4.025	-25645	10364	16986	40441	33747	10264	44011	No	34.99	Si
SLU 83	8.8	-1212.58	-38249	-31851	-1237	4.025	4.025	-28261	10713	18165	40441	33747	10264	44011	No	35.58	Si
SLU 83	10.6	898.37	-33722	-28081	-1237	4.025	4.025	-24916	10267	16657	40441	33747	10264	44011	No	35.58	Si
SLU 80	8.8	-1282.3	-38444	-32013	-1236	4.025	4.025	-28406	10732	18230	40441	33747	10264	44011	No	35.61	Si
SLU 80	10.6	826.6	-33917	-28243	-1236	4.025	4.025	-25061	10286	16722	40441	33747	10264	44011	No	35.61	Si
SLU 74	8.8	-1166.22	-37820	-31493	-1207	4.025	4.025	-27944	10670	18022	40441	33747	10264	44011	No	36.47	Si
SLU 74	10.6	890.1	-33293	-27723	-1207	4.025	4.025	-24599	10224	16514	40441	33747	10264	44011	No	36.47	Si
SLU 84	8.8	-1229.84	-38188	-31799	-1257	4.025	4.025	-28216	10707	18145	40441	33747	10264	44011	No	35.03	Si
SLU 84	10.6	916.22	-33660	-28029	-1257	4.025	4.025	-24871	10261	16637	40441	33747	10264	44011	No	35.03	Si
SLU 77	8.8	-1258.57	-39297	-32723	-1238	4.025	4.025	-29036	10816	18514	40441	33747	10264	44011	No	35.54	Si
SLU 77	10.6	854.46	-34770	-28953	-1238	4.025	4.025	-25690	10370	17006	40441	33747	10264	44011	No	35.54	Si
SLU 79	8.8	-1265.04	-38506	-32064	-1216	4.025	4.025	-28451	10738	18251	40441	33747	10264	44011	No	36.18	Si
SLU 79	10.6	808.76	-33978	-28294	-1216	4.025	4.025	-25106	10292	16743	40441	33747	10264	44011	No	36.18	Si
SLU 76	8.8	-1201.46	-36927	-30749	-1217	4.025	4.025	-27284	10582	17725	40441	33747	10264	44011	No	36.15	Si
SLU 76	10.6	874.14	-32399	-26979	-1217	4.025	4.025	-23939	10136	16217	40441	33747	10264	44011	No	36.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	8.8	7621.52	-21030	-17512	9126	4.025	4.025	-15539	13524	15242	40441	50621	10264	55683		6.1	Si
SLV 13	10.6	-8166.08	-17533	-14600	8413	4.025	4.025	-12955	13008	14660	40441	50621	10264	55101		6.55	Si
SLV 3	8.8	-11899.96	-29094	-24227	-13683	4.025	4.025	-21497	14716	17828	40441	50621	10264	58269		4.26	Si
SLV 3	10.6	11911.38	-25669	-21375	-12970	4.025	4.025	-18966	14210	16688	40441	50621	10264	57129		4.4	Si
SLV 2	8.8	-10050.05	-25559	-21283	-11879	4.025	4.025	-18885	14194	16651	40441	50621	10264	57092		4.81	Si
SLV 2	10.6	10453.92	-22120	-18420	-11092	4.025	4.025	-16344	13685	15506	40441	50621	10264	55947		5.04	Si
SLV 1	8.8	-12838.82	-25919	-21583	-14871	4.025	4.025	-19151	14247	16771	40441	50621	10264	57212		3.85	Si
SLV 1	10.6	13051.15	-22480	-18720	-14084	4.025	4.025	-16610	13739	15626	40441	50621	10264	56067		3.98	Si
SLD 1	8.8	-8422.44	-25631	-21344	-9737	4.025	4.025	-18938	14204	16675	40441	50621	10264	57116		5.87	Si
SLD 1	10.6	8514.53	-22182	-18471	-9227	4.025	4.025	-16390	13695	15526	40441	50621	10264	55967		6.07	Si
SLV 16	8.8	11349.15	-23845	-19856	13307	4.025	4.025	-17619	13940	16080	40441	50621	10264	56521		4.25	Si
SLV 16	10.6	-11903.08	-20362	-16956	12520	4.025	4.025	-15045	13426	15131	40441	50621	10264	55572		4.44	Si
SLD 3	8.8	-7867.01	-27490	-22891	-9036	4.025	4.025	-20312	14479	17294	40441	50621	10264	57735		6.39	Si
SLD 3	10.6	7845.81	-24051	-20028	-8574	4.025	4.025	-17771	13971	16149	40441	50621	10264	56590		6.6	Si
SLV 4	8.8	-9111.2	-28733	-23927	-10691	4.025	4.025	-21230	14663	17708	40441	50621	10264	58149		5.44	Si
SLV 4	10.6	9314.15	-25309	-21075	-9978	4.025	4.025	-18700	14157	16568	40441	50621	10264	57009		5.71	Si
SLV 14	8.8	10410.29	-20670	-17212	12119	4.025	4.025	-15273	13471	15182	40441	50621	10264	55623		4.59	Si
SLV 14	10.6	-10763.31	-17173	-14300	11406	4.025	4.025	-12689	12954	14600	40441	50621	10264	55041		4.83	Si
SLV 15	8.8	8560.38	-24205	-20156	10315	4.025	4.025	-17885	13994	16200	40441	50621	10264	56641		5.49	Si
SLV 15	10.6	-9305.85	-20723	-17256	9527	4.025	4.025	-15311	13479	15191	40441	50621	10264	55632		5.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	15052	-16963	499.88	2140.79	4.28	Si
SLV 9	179667	0.45	15267	-17206	499.88	2167.99	4.34	Si
SLV 6	179667	0.45	16376	-18455	499.88	2306.69	4.61	Si
SLV 5	179667	0.45	16591	-18698	499.88	2333.3	4.67	Si
SLV 14	179667	0.45	16774	-18904	499.88	2355.89	4.71	Si
SLV 13	179667	0.45	17093	-19264	499.88	2395.12	4.79	Si
SLV 16	179667	0.45	19619	-22110	499.88	2697.78	5.4	Si
SLV 15	179667	0.45	19938	-22470	499.88	2735.14	5.47	Si
SLV 2	179667	0.45	21187	-23878	499.88	2879.09	5.76	Si
SLV 1	179667	0.45	21506	-24238	499.88	2915.42	5.83	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-18427	-29978	-581	1.046	2445.3	0.936	16.23931	6.13636	Si
SLV 4	-18267	-29506	-581	1.053	2429.1	0.936	16.35947	6.13636	Si
SLV 7	-19733	-31678	-2070	0.926	2577.4	0.939	14.3316	5.23702	Si
SLV 8	-19625	-31360	-2070	0.93	2566.5	0.939	14.39839	5.23702	Si
SLV 11	-18969	-29643	-2098	0.954	2500.1	0.937	14.80174	5.23702	Si
SLV 12	-18862	-29325	-2098	0.959	2489.3	0.937	14.87322	5.23702	Si
SLV 1	-16521	-26420	667	1.137	2252.7	0.932	17.73683	6.13636	Si
SLV 2	-16362	-25947	668	1.146	2236.6	0.931	17.88115	6.13636	Si
SLV 15	-15880	-23194	-674	1.173	2188.1	0.93	18.32645	6.13636	Si
SLV 16	-15721	-22722	-674	1.182	2172	0.93	18.48093	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	49.102	SLU 80	Si
V_SLU	34.993	SLU 78	Si
PF_SLV	3.126	SLV 1	Si
V_SLV	3.847	SLV 1	Si
PFFP_SLV	4.283	SLV 10	Si
R_SLV	2.646	SLV 3	Si

Maschio 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L6	L7	4.005	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	8.8	-1458.94	-27591	-0.0000414	0.0003743	0.0035	4.005	41898.79	50212.9	50212.9	34.42	No	Si
SLU 45	10.6	228.19	-23489	-0.0000328	0.0003743	0.0035	4.005	37359.83	40327.38	40327.38	176.73	No	Si
SLU 48	8.8	-1556.12	-28570	-0.0000431	0.0003743	0.0035	4.005	42894.68	51512.95	51512.95	33.1	No	Si
SLU 48	10.6	-76.94	-24476	-0.0000339	0.0003743	0.0035	4.005	38505.91	45984.63	45984.63	597.69	No	Si
SLU 71	8.8	-1683.92	-32449	-0.0000492	0.0003743	0.0035	4.005	46511.21	56362.22	56362.22	33.47	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	10.6	-123.8	-28283	-0.0000396	0.0003743	0.0035	4.005	42606.01	51142.22	51142.22	413.09	No	Si
SLU 43	8.8	-1386.51	-25741	-0.0000385	0.0003743	0.0035	4.005	39924.52	47736.53	47736.53	34.43	No	Si
SLU 43	10.6	485.92	-21624	-0.0000306	0.0003743	0.0035	4.005	35101.07	37363.88	37363.88	76.89	No	Si
SLU 8	8.8	-1288.09	-23011	-0.0000343	0.0003743	0.0035	4.005	36792.44	43891.22	43891.22	34.07	No	Si
SLU 8	10.6	-236.32	-19843	-0.0000276	0.0003743	0.0035	4.005	32830.16	39229.85	39229.85	166	No	Si
SLU 51	8.8	-1542.19	-27686	-0.0000417	0.0003743	0.0035	4.005	41997.13	50342.1	50342.1	32.64	No	Si
SLU 51	10.6	-133.34	-23585	-0.0000327	0.0003743	0.0035	4.005	37472.85	44706.39	44706.39	335.28	No	Si
SLU 49	8.8	-1517.44	-28558	-0.0000043	0.0003743	0.0035	4.005	42882.44	51497.21	51497.21	33.94	No	Si
SLU 49	10.6	-85.95	-24463	-0.0000339	0.0003743	0.0035	4.005	38490.97	45965.78	45965.78	534.78	No	Si
SLU 72	8.8	-1645.23	-32437	-0.0000491	0.0003743	0.0035	4.005	46500.63	56347.33	56347.33	34.25	No	Si
SLU 72	10.6	-132.82	-28270	-0.0000396	0.0003743	0.0035	4.005	42592.82	51125.3	51125.3	384.93	No	Si
SLU 50	8.8	-1580.88	-27698	-0.0000418	0.0003743	0.0035	4.005	42009.75	50358.72	50358.72	31.85	No	Si
SLU 50	10.6	-124.33	-23598	-0.0000327	0.0003743	0.0035	4.005	37488.19	44725.01	44725.01	359.74	No	Si
SLU 47	8.8	-1419.22	-26699	-0.00004	0.0003743	0.0035	4.005	40962.21	49011.15	49011.15	34.53	No	Si
SLU 47	10.6	165.77	-22590	-0.0000313	0.0003743	0.0035	4.005	36285.39	38889.18	38889.18	234.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	8.8	10517.84	-26911	-0.0000584	0.0005615	0.0035	4.005		47209.02	47209.02	4.49		Si
SLV 14	10.6	-10973.87	-23522	-0.0000545	0.0005615	0.0035	4.005		46664.05	46664.05	4.25		Si
SLV 2	8.8	-8475.94	-19656	-0.0000437	0.0005615	0.0035	4.005		40386.93	40386.93	4.76		Si
SLV 2	10.6	9065	-16499	-0.0000405	0.0005615	0.0035	4.005		31422.83	31422.83	3.47		Si
SLV 4	8.8	-10202.82	-20452	-0.0000484	0.0005615	0.0035	4.005		41734.39	41734.39	4.09		Si
SLV 4	10.6	9403.71	-17396	-0.0000424	0.0005615	0.0035	4.005		32956.32	32956.32	3.5		Si
SLD 3	8.8	-8479.76	-20863	-0.0000455	0.0005615	0.0035	4.005		42401.41	42401.41	5		Si
SLD 3	10.6	7622.78	-17794	-0.0000393	0.0005615	0.0035	4.005		33620.16	33620.16	4.41		Si
SLV 13	8.8	7974.12	-26019	-0.0000518	0.0005615	0.0035	4.005		45857.12	45857.12	5.75		Si
SLV 13	10.6	-8642.94	-22679	-0.0000484	0.0005615	0.0035	4.005		45304.14	45304.14	5.24		Si
SLD 1	8.8	-7469.92	-20397	-0.0000427	0.0005615	0.0035	4.005		41641.97	41641.97	5.57		Si
SLD 1	10.6	7428.22	-17266	-0.0000382	0.0005615	0.0035	4.005		32732.79	32732.79	4.41		Si
SLV 1	8.8	-11019.65	-18764	-0.0000477	0.0005615	0.0035	4.005		38878.45	38878.45	3.53		Si
SLV 1	10.6	11395.93	-15657	-0.0000442	0.0005615	0.0035	4.005		29967.81	29967.81	2.63		Si
SLV 3	8.8	-12746.54	-19560	-0.0000524	0.0005615	0.0035	4.005		40223.24	40223.24	3.16		Si
SLV 3	10.6	11734.64	-16554	-0.0000461	0.0005615	0.0035	4.005		31517.13	31517.13	2.69		Si
SLD 4	8.8	-6865.99	-21429	-0.0000429	0.0005615	0.0035	4.005		43302.14	43302.14	6.31		Si
SLD 4	10.6	6144.01	-18328	-0.0000371	0.0005615	0.0035	4.005		34443.59	34443.59	5.61		Si
SLV 16	8.8	8790.95	-27707	-0.000056	0.0005615	0.0035	4.005		48419.69	48419.69	5.51		Si
SLV 16	10.6	-10635.16	-24419	-0.000055	0.0005615	0.0035	4.005		48121.78	48121.78	4.52		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	8.8	-1386.51	-25741	-21435	-1134	4.005	4.005	-19114	9493	13972	40441	33580	10213	43792	No	38.61	Si
SLU 43	10.6	485.92	-21624	-18007	-1243	4.005	4.005	-16058	9085	12601	40441	33580	10213	43792	No	35.22	Si
SLU 74	8.8	-1531.14	-35228	-29335	-1117	4.005	4.005	-26159	10432	17132	40441	33580	10213	43792	No	39.2	Si
SLU 74	10.6	250.8	-31079	-25880	-1259	4.005	4.005	-23078	10021	15750	40441	33580	10213	43792	No	34.78	Si
SLU 73	8.8	-1394.23	-33358	-27777	-1167	4.005	4.005	-24770	10247	16509	40441	33580	10213	43792	No	37.52	Si
SLU 73	10.6	493.51	-29192	-24309	-1302	4.005	4.005	-21677	9835	15121	40441	33580	10213	43792	No	33.62	Si
SLU 65	8.8	-1425.07	-30471	-25374	-1163	4.005	4.005	-22627	9961	15547	40441	33580	10213	43792	No	37.65	Si
SLU 65	10.6	471.42	-26287	-21889	-1289	4.005	4.005	-19520	9547	14154	40441	33580	10213	43792	No	33.97	Si
SLU 64	8.8	-1489.55	-30491	-25391	-1208	4.005	4.005	-22642	9963	15554	40441	33580	10213	43792	No	36.26	Si
SLU 64	10.6	486.45	-26309	-21908	-1335	4.005	4.005	-19536	9549	14161	40441	33580	10213	43792	No	32.81	Si
SLU 60	8.8	-1342.45	-29864	-24868	-1140	4.005	4.005	-22176	9901	15345	40441	33580	10213	43792	No	38.42	Si
SLU 60	10.6	517.48	-25774	-21463	-1262	4.005	4.005	-19139	9496	13983	40441	33580	10213	43792	No	34.69	Si
SLU 82	8.8	-1406.8	-34603	-28814	-1187	4.005	4.005	-25695	10370	16924	40441	33580	10213	43792	No	36.9	Si
SLU 82	10.6	508.99	-30446	-25352	-1326	4.005	4.005	-22608	9959	15539	40441	33580	10213	43792	No	33.02	Si
SLU 81	8.8	-1445.49	-34615	-28824	-1213	4.005	4.005	-25704	10372	16928	40441	33580	10213	43792	No	36.09	Si
SLU 81	10.6	518.01	-30459	-25363	-1354	4.005	4.005	-22618	9960	15543	40441	33580	10213	43792	No	32.35	Si
SLU 66	8.8	-1561.98	-32342	-26931	-1113	4.005	4.005	-24016	10147	16170	40441	33580	10213	43792	No	39.34	Si
SLU 66	10.6	228.71	-28174	-23460	-1246	4.005	4.005	-20921	9734	14782	40441	33580	10213	43792	No	35.15	Si
SLU 83	8.8	-1542.67	-35594	-29639	-1103	4.005	4.005	-26431	10469	17254	40441	33580	10213	43792	No	39.7	Si
SLU 83	10.6	212.88	-31446	-26185	-1246	4.005	4.005	-23350	10058	15872	40441	33580	10213	43792	No	35.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	8.8	-10202.82	-20452	-17031	-11430	4.005	4.005	-15187	13454	15087	40441	50370	10213	55528		4.86	Si
SLV 4	10.6	9403.71	-17396	-14486	-11016	4.005	4.005	-12918	13000	14578	40441	50370	10213	55019		4.99	Si
SLD 3	8.8	-8479.76	-20863	-17373	-9306	4.005	4.005	-15492	13515	15156	40441	50370	10213	55597		5.97	Si
SLD 3	10.6	7622.78	-17794	-14817	-9109	4.005	4.005	-13213	13059	14645	40441	50370	10213	55086		6.05	Si
SLV 15	8.8	6247.24	-26815	-22329	8381	4.005	4.005	-19912	14399	17029	40441	50370	10213	57470		6.86	Si
SLV 15	10.6	-8304.22	-23577	-19633	7740	4.005	4.005	-17507	13918	15950	40441	50370	10213	56391		7.29	Si
SLV 16	8.8	8790.95	-27707	-23072	11078	4.005	4.005	-20574	14531	17326	40441	50370	10213	57767		5.21	Si
SLV 16	10.6	-10635.16	-24419	-20334	10498	4.005	4.005	-18133	14043	16231	40441	50370	10213	56672		5.4	Si
SLD 1	8.8	-7469.92	-20397	-16985	-8592	4.005	4.005	-15146	13446	15078	40441	50370	10213	55519		6.46	Si
SLD 1	10.6	7428.22	-17266	-14377	-8374	4.005	4.005	-12821	12981	14557	40441	50370	10213	54998		6.57	Si
SLV 3	8.8	-12746.54	-19560	-16288	-14127	4.005	4.005	-14525	13322	14939	40441	50370	10213	55380		3.92	Si
SLV 3	10.6	11734.64	-16554	-13785	-13774	4.005	3.8809	-12293	12875	13991	40441	50370	10213	54432		3.95	Si
SLV 1	8.8	-11019.65	-18764	-15625	-12907	4.005	4.005	-13934	13203	14806	40441	50370	10213	55247		4.28	Si
SLV 1	10.6	11395.93	-15657	-13038	-12519	4.005	3.824	-11626	12742	13643	40441	50370	10213	54084		4.32	Si
SLV 2	8.8	-8475.94	-19656	-16368	-10209	4.005	4.005	-14596	13336	14955	40441	50370	10213	55396		5.43	Si
SLV 2	10.6	9065	-16499	-13739	-9761	4.005	4.005	-12252	12867	14429	40441	50370	10213	54870		5.62	Si
SLV 14	8.8	10517.84	-26911	-22409	12299	4.005	4.005	-19983	14413	17061	40441	50370	10213	57502		4.68	Si
SLV 14	10.6	-10973.87	-23522	-19587	11754	4.005	4.005	-17466	13910	15932	40441	50370	10213	56373		4.8	Si
SLV 13	8.8	7974.12	-26019	-21667	9602	4.005	4.005	-19321	14281	16764	40441	50370	10213	57205		5.96	Si
SLV 13	10.6	-8642.94	-22679	-18885	8995	4.005	4.005	-16841	13785	15651	40441	50370	10213	56092		6.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	15481	-17360	497.4	2184.02	4.39	Si
SLV 3	179667	0.45	16214	-18182	497.4	2275.27	4.57	Si
SLV 2	179667	0.45	16232	-18202	497.4	2277.44	4.58	Si
SLV 5	179667	0.45	16945	-19002	497.4	2365.12	4.75	Si
SLV 4	179667	0.45	16965	-19025	497.4	2367.57	4.76	Si
SLV 6	179667	0.45	17451	-19569	497.4	2426.62	4.88	Si
SLV 9	179667	0.45	18829	-21114	497.4	2591.57	5.21	Si
SLV 10	179667	0.45	19334	-21681	497.4	2651.11	5.33	Si
SLV 7	179667	0.45	19390	-21744	497.4	2657.64	5.34	Si
SLV 8	179667	0.45	19896	-22311	497.4	2716.6	5.46	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-18069	-28159	-640	1.055	2406.3	0.935	16.39681	6.13636	Si
SLV 15	-17548	-27186	-640	1.08	2353.6	0.934	16.80769	6.13636	Si
SLV 14	-17542	-27478	581	1.084	2352.9	0.934	16.85625	6.13636	Si
SLV 13	-17021	-26505	581	1.11	2300.3	0.933	17.28979	6.13636	Si
SLV 12	-17111	-25837	-2047	1.034	2309.4	0.933	16.11016	5.23702	Si
SLV 11	-16760	-25182	-2046	1.052	2273.9	0.932	16.39244	5.23702	Si
SLV 8	-15835	-23302	-2031	1.101	2180.6	0.93	17.19977	5.23702	Si
SLV 7	-15484	-22647	-2030	1.12	2145.2	0.929	17.52246	5.23702	Si
SLV 4	-13816	-19709	-587	1.307	1977.2	0.924	20.5446	6.13636	Si
SLV 10	-15353	-23567	2025	1.128	2131.9	0.929	17.651	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	31.855	SLU 50	Si
V_SLU	32.353	SLU 81	Si
PF_SLV	2.63	SLV 1	Si
V_SLV	3.92	SLV 3	Si
PFFP_SLV	4.391	SLV 1	Si
R_SLV	2.672	SLV 16	Si

Maschio 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L6	L7	1.995	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	8.8	-648.29	-11543	-0.0000374	0.0003743	0.0035	1.995	9177	10880.95	10880.95	16.78	No	Si
SLU 37	10.6	-715.21	-9664	-0.0000324	0.0003743	0.0035	1.995	8001.46	9500.66	9500.66	13.28	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	8.8	-791.63	-13418	-0.0000442	0.0003743	0.0035	1.995	10226.47	12177.49	12177.49	15.38	No	Si
SLU 80	10.6	-764.51	-11005	-0.0000368	0.0003743	0.0035	1.995	8853.07	10497.85	10497.85	13.73	No	Si
SLU 84	8.8	-801.59	-13776	-0.0000453	0.0003743	0.0035	1.995	10413.19	12418.21	12418.21	15.49	No	Si
SLU 84	10.6	-782.39	-11363	-0.000038	0.0003743	0.0035	1.995	9070.15	10752.49	10752.49	13.74	No	Si
SLU 38	8.8	-641.65	-11538	-0.0000373	0.0003743	0.0035	1.995	9173.95	10877.25	10877.25	16.95	No	Si
SLU 38	10.6	-720.82	-9658	-0.0000325	0.0003743	0.0035	1.995	7998.08	9496.81	9496.81	13.18	No	Si
SLU 45	8.8	-751.99	-10797	-0.000036	0.0003743	0.0035	1.995	8725.21	10349.62	10349.62	13.76	No	Si
SLU 45	10.6	-431.36	-8430	-0.0000265	0.0003743	0.0035	1.995	7162.57	8549.37	8549.37	19.82	No	Si
SLU 43	8.8	-731.48	-10242	-0.0000343	0.0003743	0.0035	1.995	8376.24	9937.85	9937.85	13.59	No	Si
SLU 43	10.6	-373.01	-7875	-0.0000245	0.0003743	0.0035	1.995	6767.5	8111.62	8111.62	21.75	No	Si
SLU 36	8.8	-668.58	-11975	-0.0000388	0.0003743	0.0035	1.995	9429.69	11191.37	11191.37	16.74	No	Si
SLU 36	10.6	-736.83	-10095	-0.0000339	0.0003743	0.0035	1.995	8282.63	9826.91	9826.91	13.34	No	Si
SLU 41	8.8	-658.25	-11901	-0.0000385	0.0003743	0.0035	1.995	9387.3	11139.35	11139.35	16.92	No	Si
SLU 41	10.6	-733.09	-10022	-0.0000336	0.0003743	0.0035	1.995	8235.41	9771.09	9771.09	13.33	No	Si
SLU 42	8.8	-651.61	-11896	-0.0000384	0.0003743	0.0035	1.995	9384.32	11135.69	11135.69	17.09	No	Si
SLU 42	10.6	-738.7	-10017	-0.0000337	0.0003743	0.0035	1.995	8232.09	9767.18	9767.18	13.22	No	Si
SLU 35	8.8	-675.22	-11980	-0.0000389	0.0003743	0.0035	1.995	9432.66	11195.01	11195.01	16.58	No	Si
SLU 35	10.6	-731.23	-10101	-0.0000338	0.0003743	0.0035	1.995	8285.93	9830.83	9830.83	13.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	8.8	-2013.49	-7744	-0.0000372	0.0005615	0.0035	1.995		8228.73	8228.73	4.09		Si
SLD 3	10.6	1460.62	-5927	-0.0000276	0.0005615	0.0035	1.995		5795.79	5795.79	3.97		Si
SLV 15	8.8	842.21	-11558	-0.0000383	0.0005615	0.0035	1.995		10377.86	10377.86	12.32		Si
SLV 15	10.6	-2527.87	-9620	-0.0000468	0.0005615	0.0035	1.995		9812.51	9812.51	3.88		Si
SLV 2	8.8	-2050.7	-6848	-0.000035	0.0005615	0.0035	1.995		7442.4	7442.4	3.63		Si
SLV 2	10.6	1697.11	-5094	-0.0000272	0.0005615	0.0035	1.995		5045.15	5045.15	2.97		Si
SLV 16	8.8	1341.81	-12285	-0.0000445	0.0005615	0.0035	1.995		10909.49	10909.49	8.13		Si
SLV 16	10.6	-3133.68	-10347	-0.0000539	0.0005615	0.0035	1.995		10412.35	10412.35	3.32		Si
SLV 13	8.8	1129.59	-10755	-0.0000384	0.0005615	0.0035	1.995		9795.69	9795.69	8.67		Si
SLV 13	10.6	-2763.55	-8853	-0.0000465	0.0005615	0.0035	1.995		9164.95	9164.95	3.32		Si
SLD 14	8.8	804.99	-10662	-0.0000355	0.0005615	0.0035	1.995		9728.53	9728.53	12.09		Si
SLD 14	10.6	-2291.38	-8786	-0.0000424	0.0005615	0.0035	1.995		9109.14	9109.14	3.98		Si
SLV 3	8.8	-2837.69	-6923	-0.0000423	0.0005615	0.0035	1.995		7508.43	7508.43	2.65		Si
SLV 3	10.6	2538.6	-5133	-0.0000365	0.0005615	0.0035	1.995		5080.83	5080.83	2		Si
SLV 14	8.8	1629.19	-11482	-0.0000446	0.0005615	0.0035	1.995		10322.95	10322.95	6.34		Si
SLV 14	10.6	-3369.36	-9580	-0.0000537	0.0005615	0.0035	1.995		9779.15	9779.15	2.9		Si
SLV 4	8.8	-2338.08	-7651	-0.0000396	0.0005615	0.0035	1.995		8147.45	8147.45	3.48		Si
SLV 4	10.6	1932.79	-5861	-0.0000313	0.0005615	0.0035	1.995		5736.1	5736.1	2.97		Si
SLV 1	8.8	-2550.31	-6120	-0.0000377	0.0005615	0.0035	1.995		6809.21	6809.21	2.67		Si
SLV 1	10.6	2302.92	-4366	-0.0000331	0.0005615	0.0035	1.995		4380.42	4380.42	1.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	8.8	-751.99	-10797	-8991	-211	1.995	1.995	-16095	9090	5078	40441	16727	5087	21814	No	103.5	Si
SLU 45	10.6	-431.36	-8430	-7020	-211	1.995	1.995	-12567	8620	4815	40441	16727	5087	21814	No	103.5	Si
SLU 64	8.8	-802.85	-12074	-10054	-181	1.995	1.995	-17999	9344	5220	40441	16727	5087	21814	No	120.22	Si
SLU 64	10.6	-533.73	-9661	-8045	-181	1.995	1.995	-14401	8865	4952	40441	16727	5087	21814	No	120.22	Si
SLU 46	8.8	-745.34	-10792	-8986	-204	1.995	1.995	-16087	9089	5077	40441	16727	5087	21814	No	106.95	Si
SLU 46	10.6	-436.97	-8425	-7016	-204	1.995	1.995	-12559	8619	4815	40441	16727	5087	21814	No	106.95	Si
SLU 47	8.8	-713.99	-10351	-8620	-193	1.995	1.995	-15431	9002	5028	40441	16727	5087	21814	No	112.81	Si
SLU 47	10.6	-424.69	-7984	-6649	-193	1.995	1.995	-11903	8531	4766	40441	16727	5087	21814	No	112.81	Si
SLU 48	8.8	-745.57	-10915	-9089	-184	1.995	1.995	-16271	9114	5091	40441	16727	5087	21814	No	118.76	Si
SLU 48	10.6	-473.69	-8548	-7118	-184	1.995	1.995	-12743	8644	4828	40441	16727	5087	21814	No	118.76	Si
SLU 43	8.8	-731.48	-10242	-8528	-232	1.995	1.995	-15267	8980	5016	40441	16727	5087	21814	No	94.11	Si
SLU 43	10.6	-373.01	-7875	-6558	-232	1.995	1.995	-11739	8510	4754	40441	16727	5087	21814	No	94.11	Si
SLU 49	8.8	-738.93	-10910	-9085	-177	1.995	1.995	-16263	9113	5090	40441	16727	5087	21814	No	123.33	Si
SLU 49	10.6	-479.3	-8543	-7114	-177	1.995	1.995	-12735	8642	4828	40441	16727	5087	21814	No	123.33	Si
SLU 50	8.8	-718.65	-10478	-8725	-178	1.995	1.995	-15620	9027	5043	40441	16727	5087	21814	No	122.81	Si
SLU 50	10.6	-457.67	-8111	-6754	-178	1.995	1.995	-12092	8557	4780	40441	16727	5087	21814	No	122.81	Si
SLU 44	8.8	-720.41	-10233	-8521	-220	1.995	1.995	-15254	8978	5015	40441	16727	5087	21814	No	98.95	Si
SLU 44	10.6	-382.35	-7866	-6550	-220	1.995	1.995	-11726	8508	4753	40441	16727	5087	21814	No	98.95	Si
SLU 51	8.8	-712	-10473	-8721	-171	1.995	1.995	-15612	9026	5042	40441	16727	5087	21814	No	127.7	Si
SLU 51	10.6	-463.28	-8106	-6750	-171	1.995	1.995	-12084	8556	4779	40441	16727	5087	21814	No	127.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	8.8	-2013.49	-7744	-6448	-2063	1.995	1.995	-11544	12725	7108	40441	25090	5087	30178		14.63	Si
SLD 3	10.6	1460.62	-5927	-4936	-1822	1.995	1.995	-8836	12184	6806	40441	25090	5087	30178		16.56	Si
SLV 1	8.8	-2550.31	-6120	-5096	-2871	1.995	1.7424	-10497	12516	6106	40441	25090	5087	30178		10.51	Si
SLV 1	10.6	2302.92	-4366	-3636	-2488	1.995	1.4103	-6509	11718	4627	40441	25090	5087	30178		12.13	Si
SLV 15	8.8	842.21	-11558	-9624	1997	1.995	1.995	-17230	13863	7744	40441	25090	5087	30178		15.11	Si
SLV 15	10.6	-2527.87	-9620	-8010	1615	1.995	1.995	-14340	13285	7421	40441	25090	5087	30178		18.69	Si
SLV 4	8.8	-2338.08	-7651	-6371	-2563	1.995	1.995	-11405	12698	7093	40441	25090	5087	30178		11.77	Si
SLV 4	10.6	1932.79	-5861	-4881	-2189	1.995	1.995	-8737	12164	6795	40441	25090	5087	30178		13.78	Si
SLV 14	8.8	1629.19	-11482	-9562	2918	1.995	1.995	-17117	13840	7731	40441	25090	5087	30178		10.34	Si
SLV 14	10.6	-3369.36	-9580	-7977	2544	1.995	1.9374	-14281	13273	7200	40441	25090	5087	30178		11.86	Si
SLV 2	8.8	-2050.7	-6848	-5702	-2257	1.995	1.995	-10208	12458	6959	40441	25090	5087	30178		13.37	Si
SLV 2	10.6	1697.11	-5094	-4242	-1874	1.995	1.993	-7594	11935	6660	40441	25090	5087	30178		16.1	Si
SLV 16	8.8	1341.81	-12285	-10230	2611	1.995	1.995	-18314	14079	7865	40441	25090	5087	30178		11.56	Si
SLV 16	10.6	-3133.68	-10347	-8616	2229	1.995	1.995	-15425	13502	7542	40441	25090	5087	30178		13.54	Si
SLD 1	8.8	-1845.75	-7272	-6055	-1883	1.995	1.995	-10840	12585	7030	40441	25090	5087	30178		16.03	Si
SLD 1	10.6	1322.53	-5477	-4561	-1638	1.995	1.995	-8165	12050	6731	40441	25090	5087	30178		18.43	Si
SLV 13	8.8	1129.59	-10755	-8956	2304	1.995	1.995	-16033	13623	7610	40441	25090	5087	30178		13.1	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	10.6	-2763.55	-8853	-7372	1930	1.995	1.995	-13197	13056	7293	40441	25090	5087	30178		15.64	Si
SLV 3	8.8	-2837.69	-6923	-5765	-3178	1.995	1.7628	-11744	12766	6301	40441	25090	5087	30178		9.5	Si
SLV 3	10.6	2538.6	-5133	-4275	-2804	1.995	1.5089	-7653	11947	5048	40441	25090	5087	30178		10.76	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	9414	-5259	247.77	690.81	2.79	Si
SLV 2	179667	0.45	10716	-5986	247.77	779.24	3.15	Si
SLV 3	179667	0.45	10815	-6041	247.77	785.87	3.17	Si
SLV 5	179667	0.45	10925	-6103	247.77	793.26	3.2	Si
SLV 6	179667	0.45	11802	-6592	247.77	851.62	3.44	Si
SLV 4	179667	0.45	12117	-6769	247.77	872.43	3.52	Si
SLV 9	179667	0.45	13439	-7507	247.77	958.5	3.87	Si
SLV 10	179667	0.45	14316	-7997	247.77	1014.61	4.09	Si
SLV 7	179667	0.45	15595	-8711	247.77	1095.06	4.42	Si
SLV 8	179667	0.45	16472	-9201	247.77	1149.23	4.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-7550	-11389	-851	1.156	1052.1	0.928	18.10418	5.23702	Si
SLV 11	-7445	-10512	-851	1.169	1041.5	0.928	18.31522	5.23702	Si
SLV 8	-7433	-8538	-864	1.169	1040.3	0.928	18.31678	5.23702	Si
SLV 16	-6553	-14505	-236	1.364	951.8	0.922	21.48473	6.13636	Si
SLV 7	-7327	-7661	-864	1.182	1029.7	0.927	18.53318	5.23702	Si
SLV 15	-6396	-13202	-236	1.389	936.1	0.921	21.90744	6.13636	Si
SLV 4	-6162	-5001	-280	1.423	912.5	0.92	22.48441	6.13636	Si
SLV 3	-6005	-3698	-281	1.451	896.8	0.919	22.94977	6.13636	Si
SLV 14	-5559	-14142	278	1.537	852.2	0.916	24.39368	6.13636	Si
SLV 13	-5402	-12839	278	1.57	836.5	0.915	24.94298	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.175	SLU 38	Si
V_SLU	94.111	SLU 43	Si
PF_SLV	1.902	SLV 1	Si
V_SLV	9.497	SLV 3	Si
PFFP_SLV	2.788	SLV 1	Si
R_SLV	3.457	SLV 12	Si

Maschio 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-24.614	1.141	L6	L7	12.352	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	7.9	-53445.69	-116971	-0.0000595	0.0004492	0.0035	12.3515	522427.34	696546.23	696546.23	13.03	No	Si
SLU 49	10.4	-52944.4	-95078	-0.0000498	0.0004492	0.0035	12.3515	455067.27	599289.54	599289.54	11.32	No	Si
SLU 70	7.9	-61194.71	-129499	-0.0000668	0.0004492	0.0035	12.3515	554671.45	748767.64	748767.64	12.24	No	Si
SLU 70	10.4	-57721.46	-109296	-0.000057	0.0004492	0.0035	12.3515	500407.9	662834.54	662834.54	11.48	No	Si
SLU 48	7.9	-53050.89	-116961	-0.0000594	0.0004492	0.0035	12.3515	522399.52	696504.18	696504.18	13.13	No	Si
SLU 48	10.4	-52560.72	-95076	-0.0000497	0.0004492	0.0035	12.3515	455061.84	599281.95	599281.95	11.4	No	Si
SLU 72	7.9	-60365.25	-127376	-0.0000657	0.0004492	0.0035	12.3515	549529.19	739916.48	739916.48	12.26	No	Si
SLU 72	10.4	-57219.83	-107008	-0.0000559	0.0004492	0.0035	12.3515	493511.66	652634.28	652634.28	11.41	No	Si
SLU 50	7.9	-52221.43	-114838	-0.0000583	0.0004492	0.0035	12.3515	516479.05	687543.29	687543.29	13.17	No	Si
SLU 50	10.4	-52059.09	-92789	-0.0000486	0.0004492	0.0035	12.3515	447214.8	588416.98	588416.98	11.3	No	Si
SLU 51	7.9	-52616.23	-114848	-0.0000584	0.0004492	0.0035	12.3515	516507.5	687588.28	687588.28	13.07	No	Si
SLU 51	10.4	-52442.77	-92790	-0.0000487	0.0004492	0.0035	12.3515	447220.34	588424.57	588424.57	11.22	No	Si
SLU 71	7.9	-59970.45	-127366	-0.0000656	0.0004492	0.0035	12.3515	549504.44	739874.42	739874.42	12.34	No	Si
SLU 71	10.4	-56836.15	-107007	-0.0000558	0.0004492	0.0035	12.3515	493506.79	652627.15	652627.15	11.48	No	Si
SLU 69	7.9	-60799.91	-129489	-0.0000667	0.0004492	0.0035	12.3515	554647.33	748725.59	748725.59	12.31	No	Si
SLU 69	10.4	-57337.78	-109294	-0.0000569	0.0004492	0.0035	12.3515	500403.13	662827.41	662827.41	11.56	No	Si
SLU 9	7.9	-44089.71	-93559	-0.0000473	0.0004492	0.0035	12.3515	449875.47	592077.27	592077.27	13.43	No	Si
SLU 9	10.4	-43849.98	-77140	-0.0000402	0.0004492	0.0035	12.3515	389432.45	514091.81	514091.81	11.72	No	Si
SLU 47	7.9	-49670.86	-110719	-0.0000559	0.0004492	0.0035	12.3515	504620.17	669179.05	669179.05	13.47	No	Si
SLU 47	10.4	-48016.45	-88432	-0.0000459	0.0004492	0.0035	12.3515	431846.23	567723.56	567723.56	11.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	7.9	-60258.58	-76431	-0.0000426	0.0006738	0.0035	12.3515		521659.53	521659.53	8.66		Si
SLV 15	10.4	6589.41	-58873	-0.0000248	0.0006738	0.0035	12.3515		354408.69	354408.69	53.78		Si
SLV 13	7.9	-73362.41	-78690	-0.0000462	0.0006738	0.0035	12.3515		533393.73	533393.73	7.27		Si
SLV 13	10.4	-9658.38	-60061	-0.0000259	0.0006738	0.0035	12.3515		435570.15	435570.15	45.1		Si
SLV 14	7.9	-74146.26	-78652	-0.0000463	0.0006738	0.0035	12.3515		533195.55	533195.55	7.19		Si
SLV 14	10.4	-10370.68	-60225	-0.0000261	0.0006738	0.0035	12.3515		436462.85	436462.85	42.09		Si
SLV 5	7.9	-53707.52	-98255	-0.0000504	0.0006738	0.0035	12.3515		632115.34	632115.34	11.77		Si
SLV 5	10.4	-72468.15	-81295	-0.0000471	0.0006738	0.0035	12.3515		546927.47	546927.47	7.55		Si
SLV 2	7.9	-20191.2	-104707	-0.0000464	0.0006738	0.0035	12.3515		663919.42	663919.42	32.88		Si
SLV 2	10.4	-77659.31	-90719	-0.0000521	0.0006738	0.0035	12.3515		594966.54	594966.54	7.66		Si
SLV 6	7.9	-54235.18	-98229	-0.0000505	0.0006738	0.0035	12.3515		631988.73	631988.73	11.65		Si
SLV 6	10.4	-72947.64	-81405	-0.0000472	0.0006738	0.0035	12.3515		547499.23	547499.23	7.51		Si
SLV 9	7.9	-69894.04	-90438	-0.0000504	0.0006738	0.0035	12.3515		593584.31	593584.31	8.49		Si
SLV 9	10.4	-52281.56	-72147	-0.0000393	0.0006738	0.0035	12.3515		499407.72	499407.72	9.55		Si
SLV 16	7.9	-61042.43	-76393	-0.0000428	0.0006738	0.0035	12.3515		521461.34	521461.34	8.54		Si
SLV 16	10.4	5877.11	-59037	-0.0000247	0.0006738	0.0035	12.3515		355291.51	355291.51	60.45		Si
SLV 10	7.9	-70421.69	-90413	-0.0000505	0.0006738	0.0035	12.3515		593457.71	593457.71	8.43		Si
SLV 10	10.4	-52761.05	-72257	-0.0000394	0.0006738	0.0035	12.3515		499979.47	499979.47	9.48		Si
SLV 1	7.9	-19407.35	-104745	-0.0000462	0.0006738	0.0035	12.3515		664107.49	664107.49	34.22		Si
SLV 1	10.4	-76947.01	-90555	-0.0000519	0.0006738	0.0035	12.3515		594160.51	594160.51	7.72		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	7.9	-53553.3	-119095	-84959	-3327	12.3515	12.3515	-24566	10833	53961	115546	124287	62993	169507	No	50.94	Si
SLU 64	10.4	-47471.96	-98288	-70116	-3316	12.3515	12.3515	-20274	10833	48024	115546	124287	62993	163569	No	49.33	Si
SLU 44	7.9	-46462.29	-106584	-76034	-4282	12.3515	12.3515	-21985	10833	50391	115546	124287	62993	165937	No	38.75	Si
SLU 44	10.4	-43334.36	-84072	-59975	-4272	12.3515	12.3515	-17342	10646	43968	115546	124287	62993	159513	No	37.34	Si
SLU 1	7.9	-37277.76	-85279	-60836	-2966	12.3515	12.3515	-17591	10679	44312	115546	124287	62993	159857	No	53.89	Si
SLU 1	10.4	-34102.11	-68419	-48808	-2958	12.3515	12.3515	-14113	10215	39501	115546	124287	62993	155047	No	52.41	Si
SLU 2	7.9	-37935.76	-85295	-60848	-3116	12.3515	12.3515	-17594	10679	44317	115546	124287	62993	159862	No	51.3	Si
SLU 2	10.4	-34741.57	-68421	-48810	-3108	12.3515	12.3515	-14113	10215	39502	115546	124287	62993	155047	No	49.88	Si
SLU 46	7.9	-50237.12	-112836	-80494	-3644	12.3515	12.3515	-23275	10833	52175	115546	124287	62993	167721	No	46.03	Si
SLU 46	10.4	-48262.3	-90718	-64716	-3634	12.3515	12.3515	-18713	10828	45864	115546	124287	62993	161410	No	44.42	Si
SLU 51	7.9	-52616.23	-114848	-81930	-3044	12.3515	12.3515	-23690	10833	52749	115546	124287	62993	168295	No	55.28	Si
SLU 51	10.4	-52442.77	-92790	-66194	-3035	12.3515	12.3515	-19140	10833	46455	115546	124287	62993	162001	No	53.38	Si
SLU 65	7.9	-54211.31	-119112	-84971	-3477	12.3515	12.3515	-24569	10833	53966	115546	124287	62993	169511	No	48.75	Si
SLU 65	10.4	-48111.42	-98290	-70118	-3466	12.3515	12.3515	-20274	10833	48025	115546	124287	62993	163570	No	47.2	Si
SLU 47	7.9	-49670.86	-110719	-78984	-3693	12.3515	12.3515	-22838	10833	51571	115546	124287	62993	167117	No	45.25	Si
SLU 47	10.4	-48016.45	-88432	-63085	-3683	12.3515	12.3515	-18241	10765	45212	115546	124287	62993	160757	No	43.64	Si
SLU 45	7.9	-49842.32	-112826	-80487	-3554	12.3515	12.3515	-23273	10833	52172	115546	124287	62993	167718	No	47.19	Si
SLU 45	10.4	-47878.63	-90717	-64715	-3544	12.3515	12.3515	-18712	10828	45864	115546	124287	62993	161409	No	45.54	Si
SLU 43	7.9	-45804.28	-106567	-76022	-4132	12.3515	12.3515	-21982	10833	50386	115546	124287	62993	165932	No	40.16	Si
SLU 43	10.4	-42694.9	-84069	-59973	-4122	12.3515	12.3515	-17341	10645	43967	115546	124287	62993	159512	No	38.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	7.9	-60258.58	-76431	-54524	-35918	12.3515	12.3515	-15765	15653	54135	115546	186431	62993	169681		4.72	Si
SLV 15	10.4	6589.41	-58873	-41999	-32323	12.3515	12.3515	-12144	14929	51630	115546	186431	62993	167176		5.17	Si
SLV 14	7.9	-74146.26	-78652	-56108	-40904	12.3515	12.3515	-16224	15745	54452	115546	186431	62993	169998		4.16	Si
SLV 14	10.4	-10370.68	-60225	-42963	-37273	12.3515	12.3515	-12423	14985	51823	115546	186431	62993	167369		4.49	Si
SLD 13	7.9	-60626.33	-82837	-59094	-26566	12.3515	12.3515	-17087	15917	55049	115546	186431	62993	170595		6.42	Si
SLD 13	10.4	-18232.64	-65296	-46580	-24188	12.3515	12.3515	-13469	15194	52546	115546	186431	62993	168092		6.95	Si
SLV 13	7.9	-73362.41	-78690	-56135	-40558	12.3515	12.3515	-16231	15746	54458	115546	186431	62993	170003		4.19	Si
SLV 13	10.4	-9658.38	-60061	-42846	-36927	12.3515	12.3515	-12389	14978	51800	115546	186431	62993	167345		4.53	Si
SLV 3	7.9	-6303.52	-102486	-73111	36186	12.3515	12.3515	-21140	16250	59211	115546	186431	62993	174757		4.83	Si
SLV 3	10.4	-60699.22	-89367	-63752	32573	12.3515	12.3515	-18434	16187	55981	115546	186431	62993	171526		5.27	Si
SLV 4	7.9	-7087.38	-102448	-73084	35840	12.3515	12.3515	-21132	16250	59200	115546	186431	62993	174746		4.88	Si
SLV 4	10.4	-61411.52	-89531	-63869	32227	12.3515	12.3515	-18468	16194	56004	115546	186431	62993	171550		5.32	Si
SLV 16	7.9	-61042.43	-76393	-54497	-36264	12.3515	12.3515	-15758	15652	54130	115546	186431	62993	169675		4.68	Si
SLV 16	10.4	5877.11	-59037	-42115	-32669	12.3515	12.3515	-12178	14936	51653	115546	186431	62993	167199		5.12	Si
SLV 1	7.9	-19407.35	-104745	-74723	31546	12.3515	12.3515	-21606	16250	59856	115546	186431	62993	175401		5.56	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	10.4	-76947.01	-90555	-64600	27969	12.3515	12.3515	-18679	16236	56150	115546	186431	62993	171696		6.14	Si
SLD 14	7.9	-61123.61	-82812	-59076	-26786	12.3515	12.3515	-17082	15916	55046	115546	186431	62993	170591		6.37	Si
SLD 14	10.4	-18684.54	-65399	-46654	-24407	12.3515	12.3515	-13490	15198	52561	115546	186431	62993	168107		6.89	Si
SLV 2	7.9	-20191.2	-104707	-74695	31200	12.3515	12.3515	-21598	16250	59845	115546	186431	62993	175390		5.62	Si
SLV 2	10.4	-77659.31	-90719	-64717	27623	12.3515	12.3515	-18713	16243	56174	115546	186431	62993	171719		6.22	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 15	-63849	0.45	1573.57	8038.47	11261.26	9649.86	6.13	Si
SLV 16	-63963	0.45	1573.57	8051.25	11278.18	9664.72	6.14	Si
SLV 13	-65485	0.45	1573.57	8220.81	11503.55	9862.18	6.27	Si
SLV 14	-65600	0.45	1573.57	8233.51	11520.49	9877	6.28	Si
SLV 11	-72333	0.45	1573.57	8971.06	12519.37	10745.21	6.83	Si
SLV 12	-72410	0.45	1573.57	8979.37	12530.81	10755.09	6.83	Si
SLV 9	-77788	0.45	1573.57	9553.81	13327.48	11440.65	7.27	Si
SLV 10	-77865	0.45	1573.57	9561.94	13338.81	11450.38	7.28	Si
SLV 7	-81226	0.45	1573.57	9914.39	13833.9	11874.14	7.55	Si
SLV 8	-81303	0.45	1573.57	9922.4	13845.24	11883.82	7.55	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-78908	-104707	-850	0.806	9770	0.949	12.34595	6.13636	Si
SLV 1	-78726	-104745	-848	0.808	9751.5	0.949	12.37122	6.13636	Si
SLV 4	-77360	-102448	312	0.826	9613	0.948	12.65438	6.13636	Si
SLV 3	-77178	-102486	314	0.827	9594.5	0.948	12.68011	6.13636	Si
SLV 6	-73585	-98229	-2021	0.84	9229.9	0.946	12.90778	5.23702	Si
SLV 5	-73462	-98255	-2020	0.842	9217.4	0.946	12.92673	5.23702	Si
SLV 14	-58624	-78652	-324	1.037	7714	0.937	16.07357	6.13636	Si
SLV 13	-58442	-78690	-322	1.039	7695.6	0.937	16.1167	6.13636	Si
SLV 8	-68426	-90699	1852	0.895	8706.7	0.944	13.77923	5.23702	Si
SLV 7	-68303	-90725	1854	0.896	8694.3	0.943	13.80036	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.22	SLU 51	Si
V_SLU	37.338	SLU 44	Si
PF_SLV	7.191	SLV 14	Si
V_SLV	4.156	SLV 14	Si
PFFP_SLV	6.132	SLV 15	Si
R_SLV	2.012	SLV 2	Si

Maschio 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L6	L7	0.676	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	7.9	-71	-7021	-0.0000582	0.0004492	0.0035	0.6764	1654	2131.4	2131.4	30.02	No	Si
SLU 19	10.4	116.67	-6155	-0.0000544	0.0004492	0.0035	0.6764	1527.9	1791.01	1791.01	15.35	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	7.9	-93.61	-9950	-0.0000843	0.0004492	0.0035	0.6764	1918.04	2722.13	2722.13	29.08	No	Si
SLU 83	10.4	152.57	-8825	-0.0000791	0.0004492	0.0035	0.6764	1846.31	2396.75	2396.75	15.71	No	Si
SLU 60	7.9	-84.91	-8454	-0.000071	0.0004492	0.0035	0.6764	1814.52	2444.57	2444.57	28.79	No	Si
SLU 60	10.4	132.89	-7335	-0.0000652	0.0004492	0.0035	0.6764	1694.32	2074.34	2074.34	15.61	No	Si
SLU 39	7.9	-89.46	-8174	-0.000069	0.0004492	0.0035	0.6764	1787.82	2384.95	2384.95	26.66	No	Si
SLU 39	10.4	144.3	-7284	-0.0000656	0.0004492	0.0035	0.6764	1687.97	2062.09	2062.09	14.29	No	Si
SLU 21	7.9	-74.24	-7359	-0.0000611	0.0004492	0.0035	0.6764	1697.24	2207.49	2207.49	29.74	No	Si
SLU 21	10.4	120.6	-6500	-0.0000575	0.0004492	0.0035	0.6764	1580.77	1873.85	1873.85	15.54	No	Si
SLU 41	7.9	-92.7	-8511	-0.000072	0.0004492	0.0035	0.6764	1819.68	2456.74	2456.74	26.5	No	Si
SLU 41	10.4	148.22	-7629	-0.0000687	0.0004492	0.0035	0.6764	1729.45	2144.93	2144.93	14.47	No	Si
SLU 40	7.9	-76.46	-8179	-0.0000681	0.0004492	0.0035	0.6764	1788.35	2386.09	2386.09	31.21	No	Si
SLU 40	10.4	132.43	-7300	-0.0000648	0.0004492	0.0035	0.6764	1689.95	2065.9	2065.9	15.6	No	Si
SLU 18	7.9	-84	-7016	-0.0000591	0.0004492	0.0035	0.6764	1653.29	2130.2	2130.2	25.36	No	Si
SLU 18	10.4	128.54	-6139	-0.0000551	0.0004492	0.0035	0.6764	1525.38	1787.2	1787.2	13.9	No	Si
SLU 81	7.9	-90.37	-9612	-0.0000811	0.0004492	0.0035	0.6764	1900.37	2668.87	2668.87	29.53	No	Si
SLU 81	10.4	148.65	-8480	-0.0000759	0.0004492	0.0035	0.6764	1816.89	2332.66	2332.66	15.69	No	Si
SLU 20	7.9	-87.24	-7354	-0.000062	0.0004492	0.0035	0.6764	1696.58	2206.28	2206.28	25.29	No	Si
SLU 20	10.4	132.46	-6484	-0.0000582	0.0004492	0.0035	0.6764	1578.41	1870.04	1870.04	14.12	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	7.9	1979.47	-5702	-0.0088862	0.0006738	0.0035	0.5411		1764.16	1764.16	0.89		No
SLV 1	10.4	-1757.28	-6230	-0.0004658	0.0006738	0.0035	0.5411		2017.1	2017.1	1.15		Si
SLV 16	7.9	-2031.04	-7553	-0.0004675	0.0006738	0.0035	0.5411		2355.11	2355.11	1.16		Si
SLV 16	10.4	1869.72	-5352	-0.0085515	0.0006738	0.0035	0.5411		1679.09	1679.09	0.9		No
SLV 4	7.9	1381.38	-5301	-0.0002579	0.0006738	0.0035	0.6764		1666.68	1666.68	1.21		Si
SLV 4	10.4	-1186.65	-5285	-0.0001653	0.0006738	0.0035	0.5411		1763.25	1763.25	1.49		Si
SLV 15	7.9	-2059.62	-7576	-0.0005	0.0006738	0.0035	0.5411		2360.79	2360.79	1.15		Si
SLV 15	10.4	1895.4	-5356	-0.0091088	0.0006738	0.0035	0.5411		1679.9	1679.9	0.89		No
SLV 2	7.9	2008.05	-5680	-0.0096648	0.0006738	0.0035	0.5411		1758.62	1758.62	0.88		No
SLV 2	10.4	-1782.96	-6226	-0.0005164	0.0006738	0.0035	0.5411		2016.23	2016.23	1.13		Si
SLV 3	7.9	1352.8	-5324	-0.0002356	0.0006738	0.0035	0.6764		1672.23	1672.23	1.24		Si
SLV 3	10.4	-1160.96	-5288	-0.0001578	0.0006738	0.0035	0.5411		1764.15	1764.15	1.52		Si
SLV 5	7.9	1520.9	-6928	-0.0002144	0.0006738	0.0035	0.6764		2062	2062	1.36		Si
SLV 5	10.4	-1387.45	-7351	-0.0001763	0.0006738	0.0035	0.6764		2304.82	2304.82	1.66		Si
SLV 6	7.9	1540.14	-6913	-0.0002209	0.0006738	0.0035	0.6764		2058.27	2058.27	1.34		Si
SLV 6	10.4	-1404.73	-7349	-0.0001795	0.0006738	0.0035	0.5411		2304.27	2304.27	1.64		Si
SLV 12	7.9	-1572.47	-6327	-0.0002666	0.0006738	0.0035	0.5411		2042.52	2042.52	1.3		Si
SLV 12	10.4	1499.89	-4231	-0.0070253	0.0006738	0.0035	0.5411		1369.42	1369.42	0.91		No
SLV 11	7.9	-1591.71	-6343	-0.0002762	0.0006738	0.0035	0.5411		2046.52	2046.52	1.29		Si
SLV 11	10.4	1517.18	-4233	-0.0074113	0.0006738	0.0035	0.5411		1370.07	1370.07	0.9		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 62	7.9	-88.15	-8792	-6272	-75	0.6764	0.6764	-33117	10833	2402	115546	6806	3449	10255	No	136	Si
SLU 62	10.4	136.81	-7680	-5479	-90	0.6764	0.6764	-28931	10833	2190	115546	6806	3449	10255	No	114.34	Si
SLU 39	7.9	-89.46	-8174	-5831	-78	0.6764	0.6764	-30789	10833	2284	115546	6806	3449	10255	No	131.41	Si
SLU 39	10.4	144.3	-7284	-5196	-94	0.6764	0.6764	-27439	10833	2115	115546	6806	3449	10255	No	109.46	Si
SLU 83	7.9	-93.61	-9950	-7098	-81	0.6764	0.6764	-37478	10833	2622	115546	6806	3449	10255	No	126.86	Si
SLU 83	10.4	152.57	-8825	-6296	-97	0.6764	0.6764	-33243	10833	2408	115546	6806	3449	10255	No	106.03	Si
SLU 84	7.9	-80.61	-9955	-7102	-70	0.6764	0.6764	-37499	10833	2623	115546	6806	3449	10255	No	146.53	Si
SLU 84	10.4	140.71	-8841	-6307	-86	0.6764	0.6764	-33303	10833	2411	115546	6806	3449	10255	No	119.35	Si
SLU 18	7.9	-84	-7016	-5005	-73	0.6764	0.6764	-26428	10833	2064	115546	6806	3449	10255	No	141.24	Si
SLU 18	10.4	128.54	-6139	-4380	-87	0.6764	0.6764	-23126	10833	2052	115546	6806	3449	10255	No	118.33	Si
SLU 42	7.9	-79.7	-8517	-6076	-69	0.6764	0.6764	-32081	10833	2349	115546	6806	3449	10255	No	147.77	Si
SLU 42	10.4	136.36	-7645	-5454	-85	0.6764	0.6764	-28798	10833	2184	115546	6806	3449	10255	No	120.52	Si
SLU 60	7.9	-84.91	-8454	-6031	-73	0.6764	0.6764	-31845	10833	2338	115546	6806	3449	10255	No	140.11	Si
SLU 60	10.4	132.89	-7335	-5233	-88	0.6764	0.6764	-27631	10833	2125	115546	6806	3449	10255	No	117.2	Si
SLU 81	7.9	-90.37	-9612	-6857	-79	0.6764	0.6764	-36206	10833	2558	115546	6806	3449	10255	No	130.43	Si
SLU 81	10.4	148.65	-8480	-6050	-95	0.6764	0.6764	-31944	10833	2343	115546	6806	3449	10255	No	108.49	Si
SLU 20	7.9	-87.24	-7354	-5246	-75	0.6764	0.6764	-27700	10833	2128	115546	6806	3449	10255	No	137.07	Si
SLU 20	10.4	132.46	-6484	-4626	-89	0.6764	0.6764	-24425	10833	2052	115546	6806	3449	10255	No	115.42	Si
SLU 41	7.9	-92.7	-8511	-6072	-80	0.6764	0.6764	-32061	10833	2348	115546	6806	3449	10255	No	127.79	Si
SLU 41	10.4	148.22	-7629	-5443	-96	0.6764	0.6764	-28738	10833	2181	115546	6806	3449	10255	No	106.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	7.9	-2059.62	-7576	-5404	-1803	0.5411	0.199	0	0	0	115546	8167	2760	10927		6.06	Si
SLV 15	10.4	1895.4	-5356	-3821	-1486	0.5411	0	0	0	0	115546	8167	2760	10927		7.35	Si
SLV 6	7.9	1540.14	-6913	-4931	1327	0.6764	0.3462	-26040	16250	2409	115546	10209	3449	13658		10.3	Si
SLV 6	10.4	-1404.73	-7349	-5243	1239	0.5411	0.4411	0	0	0	115546	8167	2760	10927		8.82	Si
SLV 2	7.9	2008.05	-5680	-4052	1757	0.5411	0	0	0	0	115546	8167	2760	10927		6.22	Si
SLV 2	10.4	-1782.96	-6226	-4442	1430	0.5411	0.1555	0	0	0	115546	8167	2760	10927		7.64	Si
SLV 14	7.9	-1404.38	-7931	-5658	-1245	0.6764	0.4834	-42704	16250	2603	115546	10209	3449	13658		10.97	Si
SLV 14	10.4	1273.41	-6294	-4490	-918	0.6764	0.4076	-23708	16250	2291	115546	10209	3449	13658		14.88	Si
SLV 12	7.9	-1572.47	-6327	-4514	-1356	0.5411	0.269	0	0	0	115546	8167	2760	10927		8.06	Si
SLV 12	10.4	1499.89	-4231	-3018	-1280	0.5411	0	0	0	0	115546	8167	2760	10927		8.54	Si
SLV 16	7.9	-2031.04	-7553	-5388	-1779	0.5411	0.2078	0	0	0	115546	8167	2760	10927		6.14	Si
SLV 16	10.4	1869.72	-5352	-3818	-1462	0.5411	0	0	0	0	115546	8167	2760	10927		7.47	Si
SLV 13	7.9	-1432.96	-7954	-5674	-1268	0.6764	0.4741	-43687	16250	2607	115546	10209	3449	13658		10.77	Si
SLV 13	10.4	1299.09	-6297	-4492	-941	0.6764	0.3957	-23721	16250	2292	115546	10209	3449	13658		14.51	Si
SLV 5	7.9	1520.9	-6928	-4942	1311	0.6764	0.356	-26098	16250	2412	115546	10209	3449	13658		10.42	Si
SLV 5	10.4	-1387.45	-7351	-5244	1224	0.6764	0.4483	-42662	16250	2492	115546	10209	3449	13658		11.16	Si
SLV 11	7.9	-1591.71	-6343	-4525	-1372	0.5411	0.2617	0	0	0	115546	8167	2760	10927		7.97	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	10.4	1517.18	-4233	-3020	-1295	0.5411	0	0	0	0	115546	8167	2760	10927		8.44	Si
SLV 1	7.9	1979.47	-5702	-4068	1734	0.5411	0	0	0	0	115546	8167	2760	10927		6.3	Si
SLV 1	10.4	-1757.28	-6230	-4444	1406	0.5411	0.1683	0	0	0	115546	8167	2760	10927		7.77	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-4260	0.45	86.17	523.24	708.57	615.91	7.15	Si
SLV 7	-4263	0.45	86.17	523.47	708.89	616.18	7.15	Si
SLV 12	-4328	0.45	86.17	530.32	718.62	624.47	7.25	Si
SLV 11	-4330	0.45	86.17	530.54	718.94	624.74	7.25	Si
SLV 4	-5446	0.45	86.17	642.77	884.81	763.79	8.86	Si
SLV 3	-5449	0.45	86.17	643.08	885.27	764.17	8.87	Si
SLV 16	-5669	0.45	86.17	664.07	917.75	790.91	9.18	Si
SLV 15	-5673	0.45	86.17	664.37	918.22	791.29	9.18	Si
SLV 2	-6529	0.45	86.17	742.13	1043.44	892.78	10.36	Si
SLV 1	-6532	0.45	86.17	742.4	1043.9	893.15	10.37	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-4000	-7576	101	0.848	502.4	0.946	13.02291	6.13636	Si
SLV 13	-3984	-7954	107	0.849	500.8	0.946	13.0476	6.13636	Si
SLV 16	-3971	-7553	101	0.853	499.5	0.946	13.10543	6.13636	Si
SLV 14	-3955	-7931	107	0.854	497.9	0.946	13.13058	6.13636	Si
SLV 3	-3576	-5324	-77	0.935	459.4	0.942	14.43483	6.13636	Si
SLV 1	-3560	-5702	-71	0.94	457.8	0.942	14.51414	6.13636	Si
SLV 4	-3547	-5301	-77	0.942	456.5	0.941	14.53611	6.13636	Si
SLV 2	-3531	-5680	-71	0.947	454.9	0.941	14.61641	6.13636	Si
SLV 11	-3866	-6343	31	0.888	488.8	0.945	13.65444	5.23702	Si
SLV 12	-3846	-6327	31	0.891	486.8	0.945	13.71448	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.904	SLU 18	Si
V_SLU	106.034	SLU 83	Si
PF_SLV	0.876	SLV 2	No
V_SLV	6.062	SLV 15	Si
PFFP_SLV	7.148	SLV 8	Si
R_SLV	2.122	SLV 15	Si

Maschio 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L6	L7	1.944	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	7.9	1510.6	-19782	-0.000065	0.0004492	0.0035	1.9436	13505.51	16194.29	16194.29	10.72	No	Si
SLU 40	10.4	-174.74	-15451	-0.0000416	0.0004492	0.0035	1.9436	11526.68	15020.5	15020.5	85.96	No	Si
SLU 32	7.9	1507.03	-20497	-0.0000671	0.0004492	0.0035	1.9436	13779.4	16692.5	16692.5	11.08	No	Si
SLU 32	10.4	-167.08	-16120	-0.0000433	0.0004492	0.0035	1.9436	11868.11	15495.6	15495.6	92.75	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	7.9	1692.2	-23594	-0.0000777	0.0004492	0.0035	1.9436	14793.45	18809.88	18809.88	11.12	No	Si
SLU 82	10.4	-127.29	-18201	-0.0000487	0.0004492	0.0035	1.9436	12846.61	16947.01	16947.01	133.14	No	Si
SLU 39	7.9	1545.6	-19802	-0.0000654	0.0004492	0.0035	1.9436	13513.42	16208.29	16208.29	10.49	No	Si
SLU 39	10.4	-186.02	-15459	-0.0000417	0.0004492	0.0035	1.9436	11530.68	15025.97	15025.97	80.77	No	Si
SLU 41	7.9	1565	-20662	-0.000068	0.0004492	0.0035	1.9436	13840.5	16807.51	16807.51	10.74	No	Si
SLU 41	10.4	-186.76	-16272	-0.0000439	0.0004492	0.0035	1.9436	11943.96	15603.7	15603.7	83.55	No	Si
SLU 81	7.9	1727.2	-23614	-0.0000781	0.0004492	0.0035	1.9436	14799.12	18820.69	18820.69	10.9	No	Si
SLU 81	10.4	-138.57	-18209	-0.0000488	0.0004492	0.0035	1.9436	12850	16952.14	16952.14	122.34	No	Si
SLU 31	7.9	1426.25	-19228	-0.0000627	0.0004492	0.0035	1.9436	13282.96	15808.13	15808.13	11.08	No	Si
SLU 31	10.4	-153.12	-14940	-0.00004	0.0004492	0.0035	1.9436	11256.81	14657.25	14657.25	95.72	No	Si
SLU 22	7.9	1342.22	-18000	-0.0000585	0.0004492	0.0035	1.9436	12757.7	14952.24	14952.24	11.14	No	Si
SLU 22	10.4	-139.04	-13771	-0.0000367	0.0004492	0.0035	1.9436	10611.5	13790.15	13790.15	99.18	No	Si
SLU 42	7.9	1530	-20642	-0.0000677	0.0004492	0.0035	1.9436	13833.1	16793.5	16793.5	10.98	No	Si
SLU 42	10.4	-175.48	-16265	-0.0000438	0.0004492	0.0035	1.9436	11940.14	15598.23	15598.23	88.89	No	Si
SLU 83	7.9	1746.61	-24474	-0.0000808	0.0004492	0.0035	1.9436	15030.42	19283.06	19283.06	11.04	No	Si
SLU 83	10.4	-139.31	-19022	-0.0000511	0.0004492	0.0035	1.9436	13197.9	17493.83	17493.83	125.58	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	7.9	-7131.26	-18224	-0.0001078	0.0006738	0.0035	1.9436		17595.42	17595.42	2.47		Si
SLV 14	10.4	5697.71	-17126	-0.0000912	0.0006738	0.0035	1.9436		14994.27	14994.27	2.63		Si
SLD 3	7.9	6375.71	-15536	-0.0000944	0.0006738	0.0035	1.9436		13874.13	13874.13	2.18		Si
SLD 3	10.4	-3704.76	-9663	-0.0000547	0.0006738	0.0035	1.9436		10801.32	10801.32	2.92		Si
SLV 3	7.9	9405.8	-14968	-0.0001541	0.0006738	0.0035	1.9436		13473.8	13473.8	1.43		Si
SLV 3	10.4	-5796.43	-8021	-0.0001095	0.0006738	0.0035	1.5549		9384.82	9384.82	1.62		Si
SLD 4	7.9	6277.99	-15493	-0.0000932	0.0006738	0.0035	1.9436		13843.61	13843.61	2.21		Si
SLD 4	10.4	-3664.48	-9654	-0.0000543	0.0006738	0.0035	1.9436		10793.01	10793.01	2.95		Si
SLV 4	7.9	9251.76	-14900	-0.0001498	0.0006738	0.0035	1.9436		13425.69	13425.69	1.45		Si
SLV 4	10.4	-5732.95	-8006	-0.0001064	0.0006738	0.0035	1.5549		9371.73	9371.73	1.63		Si
SLV 8	7.9	6055.31	-16732	-0.0000935	0.0006738	0.0035	1.9436		14716.87	14716.87	2.43		Si
SLV 8	10.4	-2759.55	-10932	-0.00005	0.0006738	0.0035	1.9436		11850.65	11850.65	4.29		Si
SLV 13	7.9	-6977.22	-18292	-0.0001064	0.0006738	0.0035	1.9436		17646.05	17646.05	2.53		Si
SLV 13	10.4	5634.23	-17141	-0.0000907	0.0006738	0.0035	1.9436		15004.96	15004.96	2.66		Si
SLV 2	7.9	7595.21	-14466	-0.0001116	0.0006738	0.0035	1.9436		13092.94	13092.94	1.72		Si
SLV 2	10.4	-5062.43	-8183	-0.0000781	0.0006738	0.0035	1.5549		9524.3	9524.3	1.88		Si
SLV 1	7.9	7749.25	-14534	-0.0001144	0.0006738	0.0035	1.9436		13147.61	13147.61	1.7		Si
SLV 1	10.4	-5125.91	-8198	-0.0000798	0.0006738	0.0035	1.5549		9537.4	9537.4	1.86		Si
SLV 7	7.9	6159	-16778	-0.0000947	0.0006738	0.0035	1.9436		14749.25	14749.25	2.39		Si
SLV 7	10.4	-2802.28	-10943	-0.0000503	0.0006738	0.0035	1.9436		11859.05	11859.05	4.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	7.9	1688.64	-24309	-17341	1882	1.9436	1.9436	-31865	10833	6720	115546	19558	9913	29470	No	15.66	Si
SLU 74	10.4	-119.62	-18870	-13461	736	1.9436	1.9436	-24735	10833	5896	115546	19558	9913	29470	No	40.03	Si
SLU 82	7.9	1692.2	-23594	-16831	1857	1.9436	1.9436	-30928	10833	6584	115546	19558	9913	29470	No	15.87	Si
SLU 82	10.4	-127.29	-18201	-12984	764	1.9436	1.9436	-23859	10833	5896	115546	19558	9913	29470	No	38.59	Si
SLU 80	7.9	1669.99	-24773	-17672	1878	1.9436	1.9436	-32473	10833	6808	115546	19558	9913	29470	No	15.69	Si
SLU 80	10.4	-114.67	-19322	-13784	764	1.9436	1.9436	-25327	10833	5896	115546	19558	9913	29470	No	38.56	Si
SLU 81	7.9	1727.2	-23614	-16846	1883	1.9436	1.9436	-30954	10833	6588	115546	19558	9913	29470	No	15.65	Si
SLU 81	10.4	-138.57	-18209	-12990	774	1.9436	1.9436	-23869	10833	5896	115546	19558	9913	29470	No	38.09	Si
SLU 84	7.9	1711.6	-24454	-17445	1891	1.9436	1.9436	-32055	10833	6748	115546	19558	9913	29470	No	15.59	Si
SLU 84	10.4	-128.03	-19015	-13565	796	1.9436	1.9436	-24925	10833	5896	115546	19558	9913	29470	No	37.02	Si
SLU 77	7.9	1708.04	-25169	-17955	1916	1.9436	1.9436	-32992	10833	6884	115546	19558	9913	29470	No	15.38	Si
SLU 77	10.4	-120.36	-19683	-14042	769	1.9436	1.9436	-25802	10833	5896	115546	19558	9913	29470	No	38.33	Si
SLU 78	7.9	1673.04	-25149	-17940	1890	1.9436	1.9436	-32965	10833	6880	115546	19558	9913	29470	No	15.59	Si
SLU 78	10.4	-109.08	-19676	-14036	759	1.9436	1.9436	-25792	10833	5896	115546	19558	9913	29470	No	38.85	Si
SLU 75	7.9	1653.64	-24289	-17327	1856	1.9436	1.9436	-31838	10833	6716	115546	19558	9913	29470	No	15.88	Si
SLU 75	10.4	-108.34	-18862	-13456	726	1.9436	1.9436	-24725	10833	5896	115546	19558	9913	29470	No	40.59	Si
SLU 79	7.9	1704.99	-24793	-17687	1904	1.9436	1.9436	-32499	10833	6812	115546	19558	9913	29470	No	15.48	Si
SLU 79	10.4	-125.95	-19329	-13789	774	1.9436	1.9436	-25337	10833	5896	115546	19558	9913	29470	No	38.05	Si
SLU 83	7.9	1746.61	-24474	-17459	1917	1.9436	1.9436	-32081	10833	6751	115546	19558	9913	29470	No	15.38	Si
SLU 83	10.4	-139.31	-19022	-13570	806	1.9436	1.9436	-24935	10833	5896	115546	19558	9913	29470	No	36.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	7.9	-7131.26	-18224	-13001	-6047	1.9436	1.7415	-26946	16250	7924	115546	29337	9913	39249		6.49	Si
SLV 14	10.4	5697.71	-17126	-12217	-4289	1.9436	1.9174	-22449	16250	8724	115546	29337	9913	39249		9.15	Si
SLV 4	7.9	9251.76	-14900	-10629	8514	1.9436	1.0526	-19531	16250	5978	115546	29337	9913	39249		4.61	Si
SLV 4	10.4	-5732.95	-8006	-5711	5069	1.5549	0.7673	0	0	0	115546	23469	7930	31399		6.19	Si
SLV 1	7.9	7749.25	-14534	-10368	7361	1.9436	1.3159	-19051	16250	5987	115546	29337	9913	39249		5.33	Si
SLV 1	10.4	-5125.91	-8198	-5848	4586	1.5549	1.0397	0	0	0	115546	23469	7930	31399		6.85	Si
SLV 2	7.9	7595.21	-14466	-10319	7243	1.9436	1.3403	-18962	16250	6098	115546	29337	9913	39249		5.42	Si
SLV 2	10.4	-5062.43	-8183	-5838	4540	1.5549	1.0595	0	0	0	115546	23469	7930	31399		6.92	Si
SLV 3	7.9	9405.8	-14968	-10678	8633	1.9436	1.0302	-19620	16250	5991	115546	29337	9913	39249		4.55	Si
SLV 3	10.4	-5796.43	-8021	-5722	5115	1.5549	0.7476	0	0	0	115546	23469	7930	31399		6.14	Si
SLD 4	7.9	6277.99	-15493	-11052	5875	1.9436	1.6998	-20308	16250	7734	115546	29337	9913	39249		6.68	Si
SLD 4	10.4	-3664.48	-9654	-6887	3374	1.9436	1.7767	-13920	15284	7603	115546	29337	9913	39249		11.63	Si
SLV 7	7.9	6159	-16778	-11969	5445	1.9436	1.8142	-21993	16250	8255	115546	29337	9913	39249		7.21	Si
SLV 7	10.4	-2802.28	-10943	-7806	2634	1.9436	1.9436	-14344	15369	8364	115546	29337	9913	39249		14.9	Si
SLD 3	7.9	6375.71	-15536	-11083	5950	1.9436	1.6843	-20365	16250	7664	115546	29337	9913	39249		6.6	Si
SLD 3	10.4	-3704.76	-9663	-6894	3403	1.9436	1.7653	-14022	15304	7565	115546	29337	9913	39249		11.53	Si
SLV 8	7.9	6055.31	-16732	-11936	5366	1.9436	1.8298	-21933	16250	8325	115546	29337	9913	39249		7.32	Si
SLV 8	10.4	-2759.55	-10932	-7799	2604	1.9436	1.9436	-14331	15366	8363	115546	29337	9913	39249		15.08	Si
SLV 13	7.9	-6977.22	-18292	-13049	-5929	1.9436	1.7712	-26606	16250	8059	115546	29337	9913	39249		6.62	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	10.4	5634.23	-17141	-12228	-4243	1.9436	1.9294	-22469	16250	8779	115546	29337	9913	39249		9.25	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-13232	0.45	247.62	1606.74	2261.73	1934.23	7.81	Si
SLV 1	-13306	0.45	247.62	1614.37	2272.75	1943.56	7.85	Si
SLV 4	-13712	0.45	247.62	1655.78	2333.01	1994.4	8.05	Si
SLV 3	-13786	0.45	247.62	1663.31	2344.03	2003.67	8.09	Si
SLV 6	-13831	0.45	247.62	1667.84	2350.69	2009.27	8.11	Si
SLV 5	-13881	0.45	247.62	1672.89	2358.11	2015.5	8.14	Si
SLV 10	-14814	0.45	247.62	1765.93	2496.65	2131.29	8.61	Si
SLV 9	-14864	0.45	247.62	1770.85	2503.99	2137.42	8.63	Si
SLV 8	-15431	0.45	247.62	1826.11	2587.27	2206.69	8.91	Si
SLV 7	-15481	0.45	247.62	1830.93	2594.6	2212.77	8.94	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-14788	-18726	164	0.694	1778.2	0.955	10.56481	6.13636	Si
SLV 16	-14678	-18658	164	0.699	1767	0.955	10.63431	6.13636	Si
SLV 13	-13545	-18292	-176	0.747	1651.9	0.952	11.39964	6.13636	Si
SLV 14	-13435	-18224	-176	0.752	1640.7	0.952	11.48146	6.13636	Si
SLV 11	-14647	-17906	566	0.675	1763.9	0.955	10.28053	5.23702	Si
SLV 12	-14573	-17860	566	0.678	1756.4	0.955	10.32628	5.23702	Si
SLV 7	-13299	-16778	571	0.732	1626.9	0.951	11.18328	5.23702	Si
SLV 8	-13225	-16732	571	0.735	1619.4	0.951	11.23792	5.23702	Si
SLV 3	-10294	-14968	179	0.938	1322.1	0.942	14.46853	6.13636	Si
SLV 4	-10184	-14900	179	0.946	1310.9	0.941	14.60277	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.487	SLU 39	Si
V_SLU	15.376	SLU 83	Si
PF_SLV	1.432	SLV 3	Si
V_SLV	4.547	SLV 3	Si
PFFP_SLV	7.811	SLV 2	Si
R_SLV	1.722	SLV 15	Si

Maschio 191

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L6	L7	1.55	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	7.9	431.7	-16459	-0.0000603	0.0004492	0.0035	1.55	8796.68	10716.56	10716.56	24.82	No	Si
SLU 64	10	-286.16	-14339	-0.0000509	0.0004492	0.0035	1.55	8107.93	10654.36	10654.36	37.23	No	Si
SLU 46	7.9	447.93	-15799	-0.0000582	0.0004492	0.0035	1.55	8596.16	10340.67	10340.67	23.09	No	Si
SLU 46	10	-289.13	-13217	-0.000047	0.0004492	0.0035	1.55	7690.14	10032	10032	34.7	No	Si
SLU 51	7.9	395.12	-16150	-0.0000587	0.0004492	0.0035	1.55	8704.55	10540.88	10540.88	26.68	No	Si
SLU 51	10	-213.62	-13496	-0.000047	0.0004492	0.0035	1.55	7797.34	10190.59	10190.59	47.7	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	7.9	446.36	-15513	-0.0000571	0.0004492	0.0035	1.55	8505.6	10178.29	10178.29	22.8	No	Si
SLU 47	10	-280.3	-12919	-0.0000459	0.0004492	0.0035	1.55	7573.04	9862.49	9862.49	35.19	No	Si
SLU 65	7.9	435.46	-16438	-0.0000602	0.0004492	0.0035	1.55	8790.62	10704.84	10704.84	24.58	No	Si
SLU 65	10	-277.59	-14353	-0.0000508	0.0004492	0.0035	1.55	8112.89	10661.8	10661.8	38.41	No	Si
SLU 45	7.9	445.68	-15811	-0.0000582	0.0004492	0.0035	1.55	8600.03	10347.7	10347.7	23.22	No	Si
SLU 45	10	-294.26	-13209	-0.000047	0.0004492	0.0035	1.55	7686.89	10027.25	10027.25	34.08	No	Si
SLU 44	7.9	496.09	-14884	-0.0000556	0.0004492	0.0035	1.55	8297.58	9820.39	9820.39	19.8	No	Si
SLU 44	10	-350.4	-12337	-0.0000448	0.0004492	0.0035	1.55	7336.71	9531.21	9531.21	27.2	No	Si
SLU 2	7.9	366.49	-11855	-0.0000434	0.0004492	0.0035	1.55	7133.5	8096.24	8096.24	22.09	No	Si
SLU 2	10	-248.36	-10025	-0.0000356	0.0004492	0.0035	1.55	6300.51	8163.66	8163.66	32.87	No	Si
SLU 1	7.9	362.72	-11875	-0.0000434	0.0004492	0.0035	1.55	7142.32	8107.96	8107.96	22.35	No	Si
SLU 1	10	-256.92	-10011	-0.0000357	0.0004492	0.0035	1.55	6293.79	8155.24	8155.24	31.74	No	Si
SLU 43	7.9	492.33	-14905	-0.0000556	0.0004492	0.0035	1.55	8304.58	9832.11	9832.11	19.97	No	Si
SLU 43	10	-358.96	-12323	-0.0000449	0.0004492	0.0035	1.55	7330.93	9523.28	9523.28	26.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.9	4585.62	-10054	-0.0001085	0.0006738	0.0035	1.55		7399.52	7399.52	1.61		Si
SLV 3	10	-4343.81	-8070	-0.0001172	0.0006738	0.0035	1.24		7079.47	7079.47	1.63		Si
SLV 15	7.9	-3940.76	-15206	-0.0001009	0.0006738	0.0035	1.55		11560.06	11560.06	2.93		Si
SLV 15	10	3602.51	-13359	-0.0000899	0.0006738	0.0035	1.55		9315.11	9315.11	2.59		Si
SLV 4	7.9	4525.52	-10018	-0.0001065	0.0006738	0.0035	1.55		7376.18	7376.18	1.63		Si
SLV 4	10	-4248.53	-8017	-0.0001123	0.0006738	0.0035	1.24		7044.68	7044.68	1.66		Si
SLV 14	7.9	-3960.58	-14949	-0.0001003	0.0006738	0.0035	1.55		11407.77	11407.77	2.88		Si
SLV 14	10	3937.93	-13803	-0.0000963	0.0006738	0.0035	1.55		9570.09	9570.09	2.43		Si
SLV 2	7.9	4565.81	-9797	-0.0001091	0.0006738	0.0035	1.55		7231.72	7231.72	1.58		Si
SLV 2	10	-4008.38	-8513	-0.0000954	0.0006738	0.0035	1.24		7370.85	7370.85	1.84		Si
SLV 16	7.9	-4000.86	-15170	-0.0001016	0.0006738	0.0035	1.55		11538.88	11538.88	2.88		Si
SLV 16	10	3697.79	-13307	-0.0000911	0.0006738	0.0035	1.55		9284.67	9284.67	2.51		Si
SLV 13	7.9	-3900.48	-14985	-0.0000996	0.0006738	0.0035	1.55		11428.96	11428.96	2.93		Si
SLV 13	10	3842.65	-13856	-0.000095	0.0006738	0.0035	1.55		9600.53	9600.53	2.5		Si
SLD 1	7.9	3064.35	-10793	-0.0000741	0.0006738	0.0035	1.55		7839.02	7839.02	2.56		Si
SLD 1	10	-2696.5	-9395	-0.0000645	0.0006738	0.0035	1.55		7950.12	7950.12	2.95		Si
SLD 2	7.9	3026.22	-10770	-0.0000735	0.0006738	0.0035	1.55		7826	7826	2.59		Si
SLD 2	10	-2636.05	-9361	-0.0000635	0.0006738	0.0035	1.55		7928.06	7928.06	3.01		Si
SLV 1	7.9	4625.9	-9833	-0.0001113	0.0006738	0.0035	1.55		7255.07	7255.07	1.57		Si
SLV 1	10	-4103.67	-8566	-0.0000988	0.0006738	0.0035	1.24		7405.64	7405.64	1.8		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	7.9	445.68	-15811	-11279	436	1.55	1.55	-25989	10833	4702	115546	15597	7905	23502	No	53.93	Si
SLU 45	10	-294.26	-13209	-9423	436	1.55	1.55	-21711	10833	4702	115546	15597	7905	23502	No	53.87	Si
SLU 50	7.9	392.86	-16163	-11530	419	1.55	1.55	-26567	10833	4746	115546	15597	7905	23502	No	56.13	Si
SLU 50	10	-218.76	-13487	-9621	419	1.55	1.55	-22169	10833	4702	115546	15597	7905	23502	No	56.07	Si
SLU 49	7.9	398.2	-16427	-11719	446	1.55	1.55	-27002	10833	4796	115546	15597	7905	23502	No	52.69	Si
SLU 49	10	-219.02	-13799	-9844	446	1.55	1.55	-22682	10833	4702	115546	15597	7905	23502	No	52.64	Si
SLU 46	7.9	447.93	-15799	-11270	468	1.55	1.55	-25968	10833	4702	115546	15597	7905	23502	No	50.21	Si
SLU 46	10	-289.13	-13217	-9429	469	1.55	1.55	-21725	10833	4702	115546	15597	7905	23502	No	50.16	Si
SLU 65	7.9	435.46	-16438	-11727	452	1.55	1.55	-27020	10833	4798	115546	15597	7905	23502	No	52.03	Si
SLU 65	10	-277.59	-14353	-10239	452	1.55	1.55	-23593	10833	4702	115546	15597	7905	23502	No	51.97	Si
SLU 47	7.9	446.36	-15513	-11067	495	1.55	1.55	-25499	10833	4702	115546	15597	7905	23502	No	47.52	Si
SLU 47	10	-280.3	-12919	-9216	495	1.55	1.55	-21235	10833	4702	115546	15597	7905	23502	No	47.48	Si
SLU 51	7.9	395.12	-16150	-11521	451	1.55	1.55	-26547	10833	4744	115546	15597	7905	23502	No	52.11	Si
SLU 51	10	-213.62	-13496	-9627	451	1.55	1.55	-22183	10833	4702	115546	15597	7905	23502	No	52.06	Si
SLU 68	7.9	385.73	-17067	-12175	430	1.55	1.55	-28054	10833	4918	115546	15597	7905	23502	No	54.7	Si
SLU 68	10	-207.49	-14935	-10655	430	1.55	1.55	-24550	10833	4702	115546	15597	7905	23502	No	54.63	Si
SLU 44	7.9	496.09	-14884	-10618	517	1.55	1.55	-24466	10833	4702	115546	15597	7905	23502	No	45.49	Si
SLU 44	10	-350.4	-12337	-8801	517	1.55	1.55	-20278	10833	4702	115546	15597	7905	23502	No	45.45	Si
SLU 43	7.9	492.33	-14905	-10633	463	1.55	1.55	-24499	10833	4702	115546	15597	7905	23502	No	50.78	Si
SLU 43	10	-358.96	-12323	-8791	463	1.55	1.55	-20255	10833	4702	115546	15597	7905	23502	No	50.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	7.9	1678.84	-11373	-8113	4424	1.55	1.55	-18694	16239	7048	115546	23395	7905	31300		7.08	Si
SLV 5	10	-1026.72	-10988	-7839	4292	1.55	1.55	-18061	16112	6993	115546	23395	7905	31300		7.29	Si
SLV 1	7.9	4625.9	-9833	-7015	5917	1.55	0.9137	-16163	15733	4378	115546	23395	7905	31300		5.29	Si
SLV 1	10	-4103.67	-8566	-6111	5489	1.24	0.8879	0	0	0	115546	18716	6324	25040		4.56	Si
SLV 2	7.9	4565.81	-9797	-6989	5849	1.55	0.9269	-16104	15721	4371	115546	23395	7905	31300		5.35	Si
SLV 2	10	-4008.38	-8513	-6073	5422	1.24	0.9125	0	0	0	115546	18716	6324	25040		4.62	Si
SLV 12	7.9	-1053.8	-13630	-9724	-3856	1.55	1.55	-22405	16250	7053	115546	23395	7905	31300		8.12	Si
SLV 12	10	620.84	-10885	-7765	-3723	1.55	1.55	-17892	16078	6978	115546	23395	7905	31300		8.41	Si
SLD 1	7.9	3064.35	-10793	-7699	3838	1.55	1.4732	-17741	16048	6620	115546	23395	7905	31300		8.15	Si
SLD 1	10	-2696.5	-9395	-6702	3563	1.55	1.4639	-16467	15793	6474	115546	23395	7905	31300		8.79	Si
SLV 16	7.9	-4000.86	-15170	-10822	-5348	1.55	1.5338	-24935	16250	6979	115546	23395	7905	31300		5.85	Si
SLV 16	10	3697.79	-13307	-9493	-4920	1.55	1.4913	-21872	16250	6786	115546	23395	7905	31300		6.36	Si
SLV 15	7.9	-3940.76	-15206	-10847	-5281	1.55	1.5475	-24994	16250	7041	115546	23395	7905	31300		5.93	Si
SLV 15	10	3602.51	-13359	-9530	-4853	1.55	1.516	-21959	16250	6898	115546	23395	7905	31300		6.45	Si
SLV 4	7.9	4525.52	-10018	-7147	4242	1.55	0.9698	-16467	15793	4413	115546	23395	7905	31300		7.38	Si
SLV 4	10	-4248.53	-8017	-5719	3817	1.24	0.7352	0	0	0	115546	18716	6324	25040		6.56	Si
SLV 6	7.9	1638.39	-11349	-8096	4379	1.55	1.55	-18654	16231	7044	115546	23395	7905	31300		7.15	Si
SLV 6	10	-962.58	-10952	-7813	4247	1.55	1.55	-18003	16101	6988	115546	23395	7905	31300		7.37	Si
SLV 3	7.9	4585.62	-10054	-7172	4310	1.55	0.9567	-16526	15805	4420	115546	23395	7905	31300		7.26	Si
SLV 3	10	-4343.81	-8070	-5757	3885	1.24	0.7102	0	0	0	115546	18716	6324	25040		6.45	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-8300	0.45	197.47	1040.8	1463.56	1252.18	6.34	Si
SLV 3	-8353	0.45	197.47	1046.66	1471.52	1259.09	6.38	Si
SLV 2	-8798	0.45	197.47	1095.43	1538.28	1316.86	6.67	Si
SLV 1	-8850	0.45	197.47	1101.2	1546.24	1323.72	6.7	Si
SLV 8	-9574	0.45	197.47	1179.05	1655.05	1417.05	7.18	Si
SLV 7	-9610	0.45	197.47	1182.84	1660.39	1421.61	7.2	Si
SLV 12	-11156	0.45	197.47	1342.75	1890.23	1616.49	8.19	Si
SLV 11	-11191	0.45	197.47	1346.34	1895.53	1620.93	8.21	Si
SLV 6	-11231	0.45	197.47	1350.34	1901.45	1625.89	8.23	Si
SLV 5	-11267	0.45	197.47	1353.92	1906.74	1630.33	8.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-9935	-15206	15	0.812	1229.4	0.949	12.43417	6.13636	Si
SLV 16	-9913	-15170	15	0.813	1227.2	0.949	12.45746	6.13636	Si
SLV 13	-9803	-14985	22	0.82	1216	0.949	12.57019	6.13636	Si
SLV 14	-9782	-14949	23	0.822	1213.8	0.948	12.59404	6.13636	Si
SLV 11	-8936	-13654	-7	0.887	1128	0.945	13.64742	5.23702	Si
SLV 12	-8922	-13630	-7	0.889	1126.6	0.945	13.66715	5.23702	Si
SLV 9	-8497	-12918	17	0.924	1083.5	0.943	14.2413	5.23702	Si
SLV 10	-8482	-12894	17	0.925	1082	0.943	14.26211	5.23702	Si
SLV 3	-6652	-10054	-25	1.126	896.8	0.933	17.53587	6.13636	Si
SLV 4	-6630	-10018	-24	1.129	894.6	0.933	17.58487	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.796	SLU 44	Si
V_SLU	45.452	SLU 44	Si
PF_SLV	1.568	SLV 1	Si
V_SLV	4.562	SLV 1	Si
PFFP_SLV	6.341	SLV 4	Si
R_SLV	2.026	SLV 15	Si

Maschio 192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L6	L7	3.97	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	7.9	4259.6	-35091	-0.0000535	0.0004492	0.0035	3.97	51659.82	59939.92	59939.92	14.07	No	Si
SLU 77	10	5385.22	-31479	-0.0000509	0.0004492	0.0035	3.97	48003.71	54719.78	54719.78	10.16	No	Si
SLU 41	7.9	3150.63	-28435	-0.0000423	0.0004492	0.0035	3.97	44627.13	50321.46	50321.46	15.97	No	Si
SLU 41	10	4619.81	-26561	-0.0000427	0.0004492	0.0035	3.97	42413.29	47613.18	47613.18	10.31	No	Si
SLU 78	7.9	4256.56	-35074	-0.0000535	0.0004492	0.0035	3.97	51643.18	59914.86	59914.86	14.08	No	Si
SLU 78	10	5386.48	-31466	-0.0000508	0.0004492	0.0035	3.97	47990.16	54701.38	54701.38	10.16	No	Si
SLU 36	7.9	3332.67	-29278	-0.0000438	0.0004492	0.0035	3.97	45589.52	51539.75	51539.75	15.47	No	Si
SLU 36	10	4871.22	-27152	-0.000044	0.0004492	0.0035	3.97	43122.32	48467	48467	9.95	No	Si
SLU 42	7.9	3147.58	-28418	-0.0000422	0.0004492	0.0035	3.97	44607.11	50296.39	50296.39	15.98	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	10	4621.06	-26548	-0.0000427	0.0004492	0.0035	3.97	42397.9	47594.78	47594.78	10.3	No	Si
SLU 35	7.9	3335.71	-29296	-0.0000438	0.0004492	0.0035	3.97	45609.1	51564.81	51564.81	15.46	No	Si
SLU 35	10	4869.97	-27165	-0.000044	0.0004492	0.0035	3.97	43137.48	48485.4	48485.4	9.96	No	Si
SLU 79	7.9	4166.73	-34452	-0.0000524	0.0004492	0.0035	3.97	51041.03	59016.79	59016.79	14.16	No	Si
SLU 79	10	5238.82	-30768	-0.0000496	0.0004492	0.0035	3.97	47239.86	53693.24	53693.24	10.25	No	Si
SLU 37	7.9	3242.83	-28657	-0.0000428	0.0004492	0.0035	3.97	44882.1	50641.68	50641.68	15.62	No	Si
SLU 37	10	4723.57	-26454	-0.0000428	0.0004492	0.0035	3.97	42284.05	47458.86	47458.86	10.05	No	Si
SLU 80	7.9	4163.68	-34435	-0.0000524	0.0004492	0.0035	3.97	51024.06	58991.72	58991.72	14.17	No	Si
SLU 80	10	5240.08	-30756	-0.0000496	0.0004492	0.0035	3.97	47226.04	53674.85	53674.85	10.24	No	Si
SLU 38	7.9	3239.79	-28639	-0.0000427	0.0004492	0.0035	3.97	44862.19	50616.61	50616.61	15.62	No	Si
SLU 38	10	4724.82	-26442	-0.0000428	0.0004492	0.0035	3.97	42268.62	47440.47	47440.47	10.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.9	5994.84	-18231	-0.000034	0.0006738	0.0035	3.97		35494.34	35494.34	5.92		Si
SLV 3	10	-4584.54	-13098	-0.0000248	0.0006738	0.0035	3.97		33738.08	33738.08	7.36		Si
SLD 14	7.9	1416.42	-27589	-0.0000372	0.0006738	0.0035	3.97		51408.51	51408.51	36.29		Si
SLD 14	10	8000.87	-25118	-0.0000468	0.0006738	0.0035	3.97		47301.39	47301.39	5.91		Si
SLV 14	7.9	391.89	-29680	-0.0000379	0.0006738	0.0035	3.97		54551.99	54551.99	139.2		Si
SLV 14	10	10770.41	-27800	-0.0000557	0.0006738	0.0035	3.97		51759.52	51759.52	4.81		Si
SLD 13	7.9	1590.52	-27658	-0.0000376	0.0006738	0.0035	3.97		51523.54	51523.54	32.39		Si
SLD 13	10	7944.73	-25119	-0.0000467	0.0006738	0.0035	3.97		47302.72	47302.72	5.95		Si
SLD 15	7.9	1742.15	-27593	-0.0000379	0.0006738	0.0035	3.97		51415.93	51415.93	29.51		Si
SLD 15	10	7859.15	-25135	-0.0000465	0.0006738	0.0035	3.97		47328.76	47328.76	6.02		Si
SLV 13	7.9	666.32	-29790	-0.0000386	0.0006738	0.0035	3.97		54711.73	54711.73	82.11		Si
SLV 13	10	10681.92	-27802	-0.0000555	0.0006738	0.0035	3.97		51761.59	51761.59	4.85		Si
SLV 15	7.9	920.78	-29686	-0.000039	0.0006738	0.0035	3.97		54560.45	54560.45	59.25		Si
SLV 15	10	10539.15	-27827	-0.0000553	0.0006738	0.0035	3.97		51803.32	51803.32	4.92		Si
SLV 16	7.9	646.35	-29577	-0.0000383	0.0006738	0.0035	3.97		54400.71	54400.71	84.17		Si
SLV 16	10	10627.64	-27826	-0.0000555	0.0006738	0.0035	3.97		51801.25	51801.25	4.87		Si
SLD 16	7.9	1568.05	-27524	-0.0000374	0.0006738	0.0035	3.97		51300.89	51300.89	32.72		Si
SLD 16	10	7915.28	-25134	-0.0000466	0.0006738	0.0035	3.97		47327.43	47327.43	5.98		Si
SLV 4	7.9	5720.42	-18122	-0.0000334	0.0006738	0.0035	3.97		35302.02	35302.02	6.17		Si
SLV 4	10	-4496.05	-13096	-0.0000247	0.0006738	0.0035	3.97		33735.88	33735.88	7.5		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	7.9	3147.58	-28418	-20273	-3254	3.97	3.97	-18237	10765	14530	115546	39948	20247	60195	No	18.5	Si
SLU 42	10	4621.06	-26548	-18939	-3264	3.97	3.97	-17038	10605	13997	115546	39948	20247	60195	No	18.44	Si
SLU 36	7.9	3332.67	-29278	-20886	-3042	3.97	3.97	-18789	10833	14776	115546	39948	20247	60195	No	19.79	Si
SLU 36	10	4871.22	-27152	-19370	-3052	3.97	3.97	-17425	10657	14169	115546	39948	20247	60195	No	19.72	Si
SLU 40	7.9	3112.92	-27614	-19699	-3073	3.97	3.97	-17722	10696	14301	115546	39948	20247	60195	No	19.59	Si
SLU 40	10	4296.68	-25700	-18334	-3084	3.97	3.97	-16493	10532	13755	115546	39948	20247	60195	No	19.52	Si
SLU 84	7.9	4071.48	-34213	-24407	-2859	3.97	3.97	-21957	10833	16184	115546	39948	20247	60195	No	21.06	Si
SLU 84	10	5136.31	-30863	-22017	-2871	3.97	3.97	-19806	10833	15228	115546	39948	20247	60195	No	20.96	Si
SLU 38	7.9	3239.79	-28639	-20431	-2949	3.97	3.97	-18380	10784	14593	115546	39948	20247	60195	No	20.41	Si
SLU 38	10	4724.82	-26442	-18863	-2959	3.97	3.97	-16969	10596	13966	115546	39948	20247	60195	No	20.34	Si
SLU 35	7.9	3335.71	-29296	-20899	-3036	3.97	3.97	-18801	10833	14781	115546	39948	20247	60195	No	19.83	Si
SLU 35	10	4869.97	-27165	-19379	-3046	3.97	3.97	-17433	10658	14173	115546	39948	20247	60195	No	19.76	Si
SLU 39	7.9	3115.96	-27632	-19712	-3067	3.97	3.97	-17733	10698	14306	115546	39948	20247	60195	No	19.63	Si
SLU 39	10	4295.42	-25712	-18343	-3077	3.97	3.97	-16501	10533	13758	115546	39948	20247	60195	No	19.56	Si
SLU 33	7.9	3298	-28475	-20313	-2862	3.97	3.97	-18274	10770	14546	115546	39948	20247	60195	No	21.04	Si
SLU 33	10	4546.84	-26303	-18764	-2872	3.97	3.97	-16880	10584	13927	115546	39948	20247	60195	No	20.96	Si
SLU 41	7.9	3150.63	-28435	-20285	-3247	3.97	3.97	-18248	10766	14535	115546	39948	20247	60195	No	18.54	Si
SLU 41	10	4619.81	-26561	-18948	-3258	3.97	3.97	-17046	10606	14000	115546	39948	20247	60195	No	18.48	Si
SLU 37	7.9	3242.83	-28657	-20443	-2943	3.97	3.97	-18391	10785	14598	115546	39948	20247	60195	No	20.46	Si
SLU 37	10	4723.57	-26454	-18872	-2953	3.97	3.97	-16977	10597	13970	115546	39948	20247	60195	No	20.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	7.9	391.89	-29680	-21173	-8207	3.97	3.97	-19048	16250	18101	115546	59922	20247	80169		9.77	Si
SLV 14	10	10770.41	-27800	-19832	-7424	3.97	3.97	-17841	16068	17861	115546	59922	20247	80169		10.8	Si
SLD 14	7.9	1416.42	-27589	-19681	-5516	3.97	3.97	-17705	16041	17831	115546	59922	20247	80169		14.53	Si
SLD 14	10	8000.87	-25118	-17919	-5002	3.97	3.97	-16120	15724	17479	115546	59922	20247	80169		16.03	Si
SLV 16	7.9	646.35	-29577	-21099	-8042	3.97	3.97	-18981	16250	18072	115546	59922	20247	80169		9.97	Si
SLV 16	10	10627.64	-27826	-19850	-7315	3.97	3.97	-17857	16071	17865	115546	59922	20247	80169		10.96	Si
SLV 13	7.9	666.32	-29790	-21251	-7932	3.97	3.97	-19118	16250	18132	115546	59922	20247	80169		10.11	Si
SLV 13	10	10681.92	-27802	-19833	-7149	3.97	3.97	-17842	16068	17862	115546	59922	20247	80169		11.21	Si
SLV 3	7.9	5994.84	-18231	-13006	6504	3.97	3.97	-11700	14840	16496	115546	59922	20247	80169		12.33	Si
SLV 3	10	-4584.54	-13098	-9343	5705	3.97	3.97	-8405	14181	15764	115546	59922	20247	80169		14.05	Si
SLV 1	7.9	5740.39	-18335	-13080	6339	3.97	3.97	-11766	14853	16511	115546	59922	20247	80169		12.65	Si
SLV 1	10	-4441.77	-13072	-9326	5595	3.97	3.97	-8389	14178	15760	115546	59922	20247	80169		14.33	Si
SLV 15	7.9	920.78	-29686	-21177	-7767	3.97	3.97	-19051	16250	18103	115546	59922	20247	80169		10.32	Si
SLV 15	10	10539.15	-27827	-19851	-7040	3.97	3.97	-17858	16072	17865	115546	59922	20247	80169		11.39	Si
SLD 16	7.9	1568.05	-27524	-19635	-5416	3.97	3.97	-17664	16033	17822	115546	59922	20247	80169		14.8	Si
SLD 16	10	7915.28	-25134	-17930	-4939	3.97	3.97	-16130	15726	17481	115546	59922	20247	80169		16.23	Si
SLV 4	7.9	5720.42	-18122	-12928	6229	3.97	3.97	-11630	14826	16481	115546	59922	20247	80169		12.87	Si
SLV 4	10	-4496.05	-13096	-9343	5430	3.97	3.97	-8405	14181	15764	115546	59922	20247	80169		14.76	Si
SLV 2	7.9	5465.96	-18225	-13001	6064	3.97	3.97	-11696	14839	16495	115546	59922	20247	80169		13.22	Si
SLV 2	10	-4353.29	-13071	-9325	5320	3.97	3.97	-8388	14178	15760	115546	59922	20247	80169		15.07	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-13999	0.45	505.77	1825.23	2663.4	2244.31	4.44	Si
SLV 3	-14001	0.45	505.77	1825.38	2663.59	2244.49	4.44	Si
SLV 2	-14012	0.45	505.77	1826.74	2665.31	2246.03	4.44	Si
SLV 1	-14013	0.45	505.77	1826.89	2665.51	2246.2	4.44	Si
SLV 8	-18992	0.45	505.77	2411	3420.25	2915.63	5.76	Si
SLV 7	-18993	0.45	505.77	2411.09	3420.38	2915.74	5.76	Si
SLV 6	-19033	0.45	505.77	2415.74	3426.56	2921.15	5.78	Si
SLV 5	-19034	0.45	505.77	2415.84	3426.69	2921.26	5.78	Si
SLV 12	-23283	0.45	505.77	2887.15	4064.02	3475.59	6.87	Si
SLV 11	-23284	0.45	505.77	2887.24	4064.14	3475.69	6.87	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-19979	-29686	440	0.974	2594.4	0.94	15.06839	6.13636	Si
SLV 16	-19938	-29577	441	0.976	2590.3	0.94	15.09405	6.13636	Si
SLV 13	-19865	-29790	-352	0.983	2582.8	0.94	15.20073	6.13636	Si
SLV 14	-19824	-29680	-351	0.984	2578.8	0.939	15.22768	6.13636	Si
SLV 11	-17715	-25538	1333	1.032	2365.4	0.935	16.04005	5.23702	Si
SLV 12	-17688	-25464	1334	1.033	2362.6	0.935	16.0605	5.23702	Si
SLV 9	-17335	-25883	-1307	1.051	2327	0.934	16.3553	5.23702	Si
SLV 10	-17308	-25810	-1307	1.053	2324.2	0.934	16.37726	5.23702	Si
SLV 7	-15667	-22102	1306	1.139	2158.5	0.93	17.80152	5.23702	Si
SLV 8	-15640	-22028	1307	1.141	2155.8	0.93	17.82683	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.95	SLU 36	Si
V_SLU	18.441	SLU 42	Si
PF_SLV	4.806	SLV 14	Si
V_SLV	9.769	SLV 14	Si
PFFP_SLV	4.437	SLV 4	Si
R_SLV	2.456	SLV 15	Si

Maschio 193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	L6	Z medio 959 cm	1.281	0.28	1.69	1.69	1.69			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	7.9	-352.78	-11318	-0.0000577	0.0003743	0.0035	1.2809	5001.89	5968.05	5968.05	16.92	No	Si
SLU 84	9.59	142.41	-8883	-0.0000415	0.0003743	0.0035	1.2809	4305.05	4730.03	4730.03	33.21	No	Si
SLU 60	7.9	-318.38	-9991	-0.0000505	0.0003743	0.0035	1.2809	4647.96	5526.04	5526.04	17.36	No	Si
SLU 60	9.59	141.57	-7760	-0.0000363	0.0003743	0.0035	1.2809	3913.72	4246.78	4246.78	30	No	Si
SLU 40	7.9	-309.58	-9393	-0.0000475	0.0003743	0.0035	1.2809	4468.26	5287.33	5287.33	17.08	No	Si
SLU 40	9.59	178.21	-7368	-0.0000353	0.0003743	0.0035	1.2809	3766.52	4049.1	4049.1	22.72	No	Si
SLU 81	7.9	-359.26	-11093	-0.0000567	0.0003743	0.0035	1.2809	4946.2	5901.87	5901.87	16.43	No	Si
SLU 81	9.59	164.18	-8658	-0.000041	0.0003743	0.0035	1.2809	4230.07	4648.43	4648.43	28.31	No	Si
SLU 74	7.9	-340.48	-11011	-0.0000559	0.0003743	0.0035	1.2809	4925.47	5877.97	5877.97	17.26	No	Si
SLU 74	9.59	97.01	-8627	-0.0000394	0.0003743	0.0035	1.2809	4219.89	4637.54	4637.54	47.81	No	Si
SLU 83	7.9	-354.36	-11295	-0.0000576	0.0003743	0.0035	1.2809	4996.27	5961.23	5961.23	16.82	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	9.59	139.91	-8867	-0.0000414	0.0003743	0.0035	1.2809	4299.74	4724.17	4724.17	33.77	No	Si
SLU 75	7.9	-338.89	-11034	-0.000056	0.0003743	0.0035	1.2809	4931.32	5884.67	5884.67	17.36	No	Si
SLU 75	9.59	99.51	-8643	-0.0000395	0.0003743	0.0035	1.2809	4225.33	4643.36	4643.36	46.66	No	Si
SLU 82	7.9	-357.67	-11116	-0.0000568	0.0003743	0.0035	1.2809	4951.98	5908.61	5908.61	16.52	No	Si
SLU 82	9.59	166.68	-8674	-0.0000411	0.0003743	0.0035	1.2809	4235.5	4654.26	4654.26	27.92	No	Si
SLU 73	7.9	-337.64	-10752	-0.0000546	0.0003743	0.0035	1.2809	4858.44	5803.2	5803.2	17.19	No	Si
SLU 73	9.59	118.64	-8362	-0.0000386	0.0003743	0.0035	1.2809	4129	4542.28	4542.28	38.29	No	Si
SLU 39	7.9	-311.16	-9370	-0.0000474	0.0003743	0.0035	1.2809	4461.08	5277.7	5277.7	16.96	No	Si
SLU 39	9.59	175.71	-7352	-0.0000352	0.0003743	0.0035	1.2809	3760.35	4041.01	4041.01	23	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	7.9	-512.08	-7395	-0.0000415	0.0005615	0.0035	1.2809		4617.86	4617.86	9.02		Si
SLV 2	9.59	575.83	-5454	-0.0000342	0.0005615	0.0035	1.2809		3324.17	3324.17	5.77		Si
SLV 15	7.9	49.36	-7747	-0.0000338	0.0005615	0.0035	1.2809		4435.54	4435.54	89.85		Si
SLV 15	9.59	-521.82	-6247	-0.0000366	0.0005615	0.0035	1.2809		4018.03	4018.03	7.7		Si
SLV 4	7.9	-283.14	-5413	-0.0000283	0.0005615	0.0035	1.2809		3566.38	3566.38	12.6		Si
SLV 4	9.59	299.3	-4088	-0.0000229	0.0005615	0.0035	1.2809		2561.96	2561.96	8.56		Si
SLV 6	7.9	-668.08	-10507	-0.0000588	0.0005615	0.0035	1.2809		6134.73	6134.73	9.18		Si
SLV 6	9.59	624.92	-7789	-0.0000456	0.0005615	0.0035	1.2809		4455.5	4455.5	7.13		Si
SLV 11	7.9	205.37	-4635	-0.0000234	0.0005615	0.0035	1.2809		2870.23	2870.23	13.98		Si
SLV 11	9.59	-570.92	-3912	-0.0000275	0.0005615	0.0035	1.2809		2728.2	2728.2	4.78		Si
SLV 7	7.9	114.11	-3964	-0.0000187	0.0005615	0.0035	1.2809		2491.14	2491.14	21.83		Si
SLV 7	9.59	-346.89	-3287	-0.0000204	0.0005615	0.0035	1.2809		2370.52	2370.52	6.83		Si
SLV 5	7.9	-649.03	-10573	-0.0000587	0.0005615	0.0035	1.2809		6165.08	6165.08	9.5		Si
SLV 5	9.59	574.87	-7840	-0.0000448	0.0005615	0.0035	1.2809		4479.43	4479.43	7.79		Si
SLV 12	7.9	186.31	-4569	-0.0000227	0.0005615	0.0035	1.2809		2833.08	2833.08	15.21		Si
SLV 12	9.59	-520.86	-3861	-0.0000263	0.0005615	0.0035	1.2809		2699.4	2699.4	5.18		Si
SLV 8	7.9	95.05	-3898	-0.0000181	0.0005615	0.0035	1.2809		2453.26	2453.26	25.81		Si
SLV 8	9.59	-296.84	-3236	-0.0000192	0.0005615	0.0035	1.2809		2340.47	2340.47	7.88		Si
SLV 1	7.9	-483.77	-7493	-0.0000414	0.0005615	0.0035	1.2809		4667.91	4667.91	9.65		Si
SLV 1	9.59	501.47	-5529	-0.0000331	0.0005615	0.0035	1.2809		3365.37	3365.37	6.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.9	-338.89	-11034	-9188	-1022	1.2809	1.2809	-25619	10360	4094	16652	10740	3266	14006	No	13.7	Si
SLU 75	9.59	99.51	-8643	-7198	430	1.2809	1.2809	-20068	9620	3491	16652	10740	3266	14006	No	32.6	Si
SLU 83	7.9	-354.36	-11295	-9406	-1048	1.2809	1.2809	-26225	10441	4160	16652	10740	3266	14006	No	13.37	Si
SLU 83	9.59	139.91	-8867	-7383	413	1.2809	1.2809	-20587	9689	3547	16652	10740	3266	14006	No	33.9	Si
SLU 81	7.9	-359.26	-11093	-9237	-1121	1.2809	1.2809	-25756	10379	4109	16652	10740	3266	14006	No	12.49	Si
SLU 81	9.59	164.18	-8658	-7209	303	1.2809	1.2809	-20101	9625	3494	16652	10740	3266	14006	No	46.18	Si
SLU 40	7.9	-309.58	-9393	-7822	-999	1.2809	1.2809	-21809	9852	3680	16652	10740	3266	14006	No	14.02	Si
SLU 40	9.59	178.21	-7368	-6135	188	1.2809	1.2809	-17106	9225	3309	16652	10740	3266	14006	No	74.53	Si
SLU 84	7.9	-352.78	-11318	-9425	-1057	1.2809	1.2809	-26279	10448	4166	16652	10740	3266	14006	No	13.25	Si
SLU 84	9.59	142.41	-8883	-7397	412	1.2809	1.2809	-20624	9694	3551	16652	10740	3266	14006	No	34.01	Si
SLU 82	7.9	-357.67	-11116	-9257	-1130	1.2809	1.2809	-25809	10386	4115	16652	10740	3266	14006	No	12.39	Si
SLU 82	9.59	166.68	-8674	-7223	302	1.2809	1.2809	-20139	9630	3498	16652	10740	3266	14006	No	46.38	Si
SLU 73	7.9	-337.64	-10752	-8953	-1067	1.2809	1.2809	-24964	10273	4023	16652	10740	3266	14006	No	13.12	Si
SLU 73	9.59	118.64	-8362	-6963	346	1.2809	1.2809	-19415	9533	3420	16652	10740	3266	14006	No	40.48	Si
SLU 74	7.9	-340.48	-11011	-9169	-1013	1.2809	1.2809	-25565	10353	4088	16652	10740	3266	14006	No	13.82	Si
SLU 74	9.59	97.01	-8627	-7184	431	1.2809	1.2809	-20031	9615	3487	16652	10740	3266	14006	No	32.5	Si
SLU 39	7.9	-311.16	-9370	-7803	-990	1.2809	1.2809	-21755	9845	3674	16652	10740	3266	14006	No	14.15	Si
SLU 39	9.59	175.71	-7352	-6122	189	1.2809	1.2809	-17069	9220	3307	16652	10740	3266	14006	No	74.01	Si
SLU 76	7.9	-332.74	-10954	-9122	-994	1.2809	1.2809	-25433	10336	4074	16652	10740	3266	14006	No	14.09	Si
SLU 76	9.59	94.37	-8571	-7137	456	1.2809	1.2809	-19900	9598	3472	16652	10740	3266	14006	No	30.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	7.9	-668.08	-10507	-8749	-4466	1.2809	1.2809	-24395	15296	5486	16652	16109	3266	19376		4.34	Si
SLV 6	9.59	624.92	-7789	-6486	-3189	1.2809	1.2809	-18084	14034	5033	16652	16109	3266	19376		6.08	Si
SLV 15	7.9	49.36	-7747	-6451	3178	1.2809	1.2809	-17986	14014	5026	16652	16109	3266	19376		6.1	Si
SLV 15	9.59	-521.82	-6247	-5202	4432	1.2809	1.2809	-14504	13318	4776	16652	16109	3266	19376		4.37	Si
SLD 2	7.9	-404.62	-7402	-6164	-3132	1.2809	1.2809	-17187	13854	4969	16652	16109	3266	19376		6.19	Si
SLD 2	9.59	370.37	-5558	-4628	-2267	1.2809	1.2809	-12905	12998	4662	16652	16109	3266	19376		8.55	Si
SLV 16	7.9	21.06	-7649	-6369	2643	1.2809	1.2809	-17759	13968	5010	16652	16109	3266	19376		7.33	Si
SLV 16	9.59	-447.46	-6172	-5139	3834	1.2809	1.2809	-14329	13282	4764	16652	16109	3266	19376		5.05	Si
SLV 5	7.9	-649.03	-10573	-8804	-4107	1.2809	1.2809	-24548	15326	5497	16652	16109	3266	19376		4.72	Si
SLV 5	9.59	574.87	-7840	-6528	-2787	1.2809	1.2809	-18202	14057	5042	16652	16109	3266	19376		6.95	Si
SLV 12	7.9	186.31	-4569	-3805	2711	1.2809	1.2809	-10608	12538	4497	16652	16109	3266	19376		7.15	Si
SLV 12	9.59	-520.86	-3861	-3215	3433	1.2809	1.2809	-8965	12210	4379	16652	16109	3266	19376		5.64	Si
SLV 13	7.9	-179.58	-9729	-8102	1525	1.2809	1.2809	-22589	14935	5356	16652	16109	3266	19376		12.7	Si
SLV 13	9.59	-245.29	-7613	-6339	3002	1.2809	1.2809	-17675	13952	5004	16652	16109	3266	19376		6.45	Si
SLV 1	7.9	-483.77	-7493	-6240	-4039	1.2809	1.2809	-17398	13896	4984	16652	16109	3266	19376		4.8	Si
SLV 1	9.59	501.47	-5529	-4604	-3188	1.2809	1.2809	-12838	12984	4657	16652	16109	3266	19376		6.08	Si
SLV 11	7.9	205.37	-4635	-3859	3071	1.2809	1.2809	-10761	12569	4508	16652	16109	3266	19376		6.31	Si
SLV 11	9.59	-570.92	-3912	-3258	3835	1.2809	1.2809	-9083	12233	4387	16652	16109	3266	19376		5.05	Si
SLV 2	7.9	-512.08	-7395	-6158	-4573	1.2809	1.2809	-17170	13851	4968	16652	16109	3266	19376		4.24	Si
SLV 2	9.59	575.83	-5454	-4542	-3786	1.2809	1.2809	-12663	12949	4644	16652	16109	3266	19376		5.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.745 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.43	10008	-3589	35.35	469.59	13.28	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.43	10415	-3735	35.35	487.3	13.79	Si
SLV 4	179667	0.43	12205	-4377	35.35	563.83	15.95	Si
SLV 3	179667	0.43	12809	-4594	35.35	589.22	16.67	Si
SLV 12	179667	0.43	12959	-4648	35.35	595.47	16.85	Si
SLV 11	179667	0.43	13366	-4794	35.35	612.38	17.32	Si
SLV 2	179667	0.43	17123	-6141	35.35	763.35	21.59	Si
SLV 1	179667	0.43	17727	-6358	35.35	786.79	22.26	Si
SLV 16	179667	0.43	22040	-7905	35.35	946.95	26.79	Si
SLV 15	179667	0.43	22645	-8122	35.35	968.43	27.4	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.745 Wa = 0.05 Ta = 0.017

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-8465	-11244	-39	0.882	947.2	0.972	13.18274	3.89551	Si
SLV 10	-8414	-11178	-39	0.887	942	0.972	13.25356	3.89551	Si
SLV 13	-7613	-9729	39	0.965	860.4	0.97	14.46927	4.02355	Si
SLV 5	-7840	-10573	-76	0.937	883.5	0.97	14.03492	3.89551	Si
SLV 6	-7789	-10507	-75	0.942	878.3	0.97	14.1165	3.89551	Si
SLV 14	-7537	-9631	40	0.974	852.7	0.969	14.59472	4.02355	Si
SLV 15	-6247	-7747	70	1.138	721.4	0.964	17.15553	4.02355	Si
SLV 16	-6172	-7649	71	1.15	713.7	0.964	17.3383	4.02355	Si
SLV 1	-5529	-7493	-82	1.261	648.4	0.961	19.07614	4.02355	Si
SLV 2	-5454	-7395	-81	1.276	640.7	0.96	19.31149	4.02355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.428	SLU 81	Si
V_SLU	12.39	SLU 82	Si
PF_SLV	4.779	SLV 11	Si
V_SLV	4.237	SLV 2	Si
PFFP_SLV	13.284	SLV 8	Si
R_SLV	3.384	SLV 9	Si

Maschio 194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	Z medio 959 cm	L7	1.281	0.28	1.86	1.86	1.86			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	9.59	-22.22	-6743	-0.0000293	0.0003743	0.0035	1.2809	3520.92	4111.3	4111.3	185.04	No	Si
SLU 51	11.45	-335.31	-4848	-0.0000272	0.0003743	0.0035	1.2809	2692.66	3170.58	3170.58	9.46	No	Si
SLU 58	9.59	-151.14	-7053	-0.0000333	0.0003743	0.0035	1.2809	3644.71	4258.37	4258.37	28.17	No	Si
SLU 58	11.45	-368.32	-5109	-0.000029	0.0003743	0.0035	1.2809	2814.02	3305.36	3305.36	8.97	No	Si
SLU 17	9.59	-158.99	-5813	-0.0000279	0.0003743	0.0035	1.2809	3130.03	3660.06	3660.06	23.02	No	Si
SLU 17	11.45	-303.52	-4253	-0.0000239	0.0003743	0.0035	1.2809	2406.41	2857.83	2857.83	9.42	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	9.59	-16.23	-6729	-0.0000291	0.0003743	0.0035	1.2809	3515.22	4104.67	4104.67	252.9	No	Si
SLU 50	11.45	-344.31	-4843	-0.0000274	0.0003743	0.0035	1.2809	2690.09	3167.77	3167.77	9.2	No	Si
SLU 79	9.59	-195.77	-7818	-0.0000377	0.0003743	0.0035	1.2809	3934.89	4606.88	4606.88	23.53	No	Si
SLU 79	11.45	-382.85	-5707	-0.000032	0.0003743	0.0035	1.2809	3083.61	3607.93	3607.93	9.42	No	Si
SLU 59	9.59	-157.13	-7067	-0.0000335	0.0003743	0.0035	1.2809	3650.25	4265.09	4265.09	27.14	No	Si
SLU 59	11.45	-359.31	-5114	-0.0000289	0.0003743	0.0035	1.2809	2816.55	3308.21	3308.21	9.21	No	Si
SLU 8	9.59	-18.09	-5474	-0.0000236	0.0003743	0.0035	1.2809	2980.09	3494.06	3494.06	193.14	No	Si
SLU 8	11.45	-288.52	-3981	-0.0000224	0.0003743	0.0035	1.2809	2271.75	2711.45	2711.45	9.4	No	Si
SLU 16	9.59	-153	-5798	-0.0000277	0.0003743	0.0035	1.2809	3123.88	3653.11	3653.11	23.88	No	Si
SLU 16	11.45	-312.53	-4247	-0.0000241	0.0003743	0.0035	1.2809	2403.72	2854.86	2854.86	9.13	No	Si
SLU 56	9.59	-155.96	-7134	-0.0000338	0.0003743	0.0035	1.2809	3676.29	4296.84	4296.84	27.55	No	Si
SLU 56	11.45	-358.71	-5181	-0.0000291	0.0003743	0.0035	1.2809	2847.52	3343.3	3343.3	9.32	No	Si
SLU 14	9.59	-157.82	-5879	-0.0000282	0.0003743	0.0035	1.2809	3159.01	3692.95	3692.95	23.4	No	Si
SLU 14	11.45	-302.92	-4320	-0.0000242	0.0003743	0.0035	1.2809	2439.41	2894.2	2894.2	9.55	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	9.59	-810.04	-4997	-0.0000369	0.0005615	0.0035	1.2809		3339.59	3339.59	4.12		Si
SLV 1	11.45	477.93	-3353	-0.0000232	0.0005615	0.0035	1.2809		2139.76	2139.76	4.48		Si
SLV 15	9.59	741.87	-5806	-0.0000391	0.0005615	0.0035	1.2809		3513.78	3513.78	4.74		Si
SLV 15	11.45	-1036.66	-4324	-0.0000386	0.0005615	0.0035	1.2809		2962.27	2962.27	2.86		Si
SLV 4	9.59	-680.09	-3752	-0.0000289	0.0005615	0.0035	1.2809		2637.36	2637.36	3.88		Si
SLV 4	11.45	334.92	-2659	-0.0000175	0.0005615	0.0035	1.2809		1731.9	1731.9	5.17		Si
SLV 7	9.59	174.24	-3131	-0.0000164	0.0005615	0.0035	1.2809		2009.26	2009.26	11.53		Si
SLV 7	11.45	-529.47	-2554	-0.0000208	0.0005615	0.0035	1.2809		1939.66	1939.66	3.66		Si
SLD 15	9.59	432.69	-5683	-0.0000324	0.0005615	0.0035	1.2809		3448.05	3448.05	7.97		Si
SLD 15	11.45	-732.14	-4153	-0.0000317	0.0005615	0.0035	1.2809		2865.32	2865.32	3.91		Si
SLV 11	9.59	563.62	-3727	-0.0000265	0.0005615	0.0035	1.2809		2354.76	2354.76	4.18		Si
SLV 11	11.45	-901.48	-3031	-0.0000315	0.0005615	0.0035	1.2809		2219.54	2219.54	2.46		Si
SLD 11	9.59	300.83	-4427	-0.0000244	0.0005615	0.0035	1.2809		2753.19	2753.19	9.15		Si
SLD 11	11.45	-627.14	-3366	-0.0000262	0.0005615	0.0035	1.2809		2416.64	2416.64	3.85		Si
SLV 16	9.59	617.85	-5739	-0.0000363	0.0005615	0.0035	1.2809		3477.93	3477.93	5.63		Si
SLV 16	11.45	-905.11	-4250	-0.0000355	0.0005615	0.0035	1.2809		2920.32	2920.32	3.23		Si
SLV 2	9.59	-934.06	-4929	-0.0000391	0.0005615	0.0035	1.2809		3301.88	3301.88	3.53		Si
SLV 2	11.45	609.48	-3279	-0.0000255	0.0005615	0.0035	1.2809		2096.38	2096.38	3.44		Si
SLV 12	9.59	480.14	-3681	-0.0000247	0.0005615	0.0035	1.2809		2328.53	2328.53	4.85		Si
SLV 12	11.45	-812.92	-2981	-0.0000288	0.0005615	0.0035	1.2809		2190.19	2190.19	2.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 59	9.59	-157.13	-7067	-5885	170	1.2809	1.2809	-16409	9132	3275	19031	10740	3266	14006	No	82.33	Si
SLU 59	11.45	-359.31	-5114	-4259	1143	1.2809	1.2809	-11874	8528	3058	19031	10740	3266	14006	No	12.25	Si
SLU 71	9.59	-60.86	-7493	-6240	265	1.2809	1.2809	-17397	9264	3323	19031	10740	3266	14006	No	52.79	Si
SLU 71	11.45	-358.84	-5441	-4530	1160	1.2809	1.2809	-12632	8629	3095	19031	10740	3266	14006	No	12.07	Si
SLU 50	9.59	-16.23	-6729	-5603	358	1.2809	1.2809	-15622	9027	3238	19031	10740	3266	14006	No	39.15	Si
SLU 50	11.45	-344.31	-4843	-4032	1153	1.2809	1.2809	-11243	8444	3028	19031	10740	3266	14006	No	12.15	Si
SLU 58	9.59	-151.14	-7053	-5873	212	1.2809	1.2809	-16376	9128	3274	19031	10740	3266	14006	No	66.07	Si
SLU 58	11.45	-368.32	-5109	-4254	1176	1.2809	1.2809	-11861	8526	3058	19031	10740	3266	14006	No	11.91	Si
SLU 56	9.59	-155.96	-7134	-5941	176	1.2809	1.2809	-16564	9153	3283	19031	10740	3266	14006	No	79.36	Si
SLU 56	11.45	-358.71	-5181	-4315	1146	1.2809	1.2809	-12030	8548	3066	19031	10740	3266	14006	No	12.22	Si
SLU 80	9.59	-201.75	-7832	-6522	78	1.2809	1.2809	-18184	9369	3360	19031	10740	3266	14006	No	180.15	Si
SLU 80	11.45	-373.85	-5712	-4757	1151	1.2809	1.2809	-13262	8713	3125	19031	10740	3266	14006	No	12.17	Si
SLU 77	9.59	-200.58	-7898	-6577	84	1.2809	1.2809	-18338	9390	3368	19031	10740	3266	14006	No	166.55	Si
SLU 77	11.45	-373.25	-5779	-4813	1153	1.2809	1.2809	-13419	8734	3132	19031	10740	3266	14006	No	12.15	Si
SLU 79	9.59	-195.77	-7818	-6510	120	1.2809	1.2809	-18151	9365	3359	19031	10740	3266	14006	No	117.11	Si
SLU 79	11.45	-382.85	-5707	-4752	1184	1.2809	1.2809	-13250	8711	3124	19031	10740	3266	14006	No	11.83	Si
SLU 69	9.59	-65.67	-7574	-6307	230	1.2809	1.2809	-17584	9289	3332	19031	10740	3266	14006	No	60.94	Si
SLU 69	11.45	-349.24	-5513	-4591	1130	1.2809	1.2809	-12801	8651	3103	19031	10740	3266	14006	No	12.4	Si
SLU 72	9.59	-66.84	-7507	-6251	223	1.2809	1.2809	-17430	9268	3324	19031	10740	3266	14006	No	62.67	Si
SLU 72	11.45	-349.84	-5446	-4535	1127	1.2809	1.2809	-12645	8630	3095	19031	10740	3266	14006	No	12.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	9.59	-672.33	-7055	-5875	-3058	1.2809	1.2809	-16379	13693	4911	19031	16109	3266	19376		6.34	Si
SLV 5	11.45	385.75	-4622	-3849	-1575	1.2809	1.2809	-10731	12563	4506	19031	16109	3266	19376		12.3	Si
SLV 16	9.59	617.85	-5739	-4779	3239	1.2809	1.2809	-13324	13081	4692	19031	16109	3266	19376		5.98	Si
SLV 16	11.45	-905.11	-4250	-3539	3439	1.2809	1.2809	-9868	12390	4444	19031	16109	3266	19376		5.63	Si
SLV 2	9.59	-934.06	-4929	-4105	-3741	1.2809	1.2809	-11445	12706	4557	19031	16109	3266	19376		5.18	Si
SLV 2	11.45	609.48	-3279	-2731	-2553	1.2809	1.2809	-7613	11939	4282	19031	16109	3266	19376		7.59	Si
SLV 6	9.59	-755.81	-7009	-5837	-3421	1.2809	1.2809	-16274	13671	4903	19031	16109	3266	19376		5.66	Si
SLV 6	11.45	474.3	-4572	-3807	-1905	1.2809	1.2809	-10615	12540	4497	19031	16109	3266	19376		10.17	Si
SLV 11	9.59	563.62	-3727	-3103	3457	1.2809	1.2809	-8653	12147	4357	19031	16109	3266	19376		5.6	Si
SLV 11	11.45	-901.48	-3031	-2524	3280	1.2809	1.0292	-8793	12175	3509	19031	16109	3266	19376		5.91	Si
SLV 15	9.59	741.87	-5806	-4835	3777	1.2809	1.2809	-13481	13113	4703	19031	16109	3266	19376		5.13	Si
SLV 15	11.45	-1036.66	-4324	-3601	3928	1.2809	1.2021	-10040	12425	4182	19031	16109	3266	19376		4.93	Si
SLD 15	9.59	432.69	-5683	-4732	2381	1.2809	1.2809	-13194	13055	4682	19031	16109	3266	19376		8.14	Si
SLD 15	11.45	-732.14	-4153	-3459	2731	1.2809	1.2809	-9644	12345	4428	19031	16109	3266	19376		7.09	Si
SLV 12	9.59	480.14	-3681	-3065	3095	1.2809	1.2809	-8547	12126	4349	19031	16109	3266	19376		6.26	Si
SLV 12	11.45	-812.92	-2981	-2483	2950	1.2809	1.1034	-8065	12030	3716	19031	16109	3266	19376		6.57	Si
SLV 1	9.59	-810.04	-4997	-4161	-3202	1.2809	1.2809	-11602	12737	4568	19031	16109	3266	19376		6.05	Si
SLV 1	11.45	477.93	-3353	-2792	-2064	1.2809	1.2809	-7785	11974	4294	19031	16109	3266	19376		9.39	Si
SLV 13	9.59	487.9	-6984	-5815	2320	1.2809	1.2809	-16215	13660	4899	19031	16109	3266	19376		8.35	Si
SLV 13	11.45	-762.09	-4944	-4117	2920	1.2809	1.2809	-11480	12713	4559	19031	16109	3266	19376		6.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.52 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.47	8063	-2892	46.59	383.46	8.23	Si
SLV 8	179667	0.47	8079	-2898	46.59	384.21	8.25	Si
SLV 11	179667	0.47	9056	-3248	46.59	427.73	9.18	Si
SLV 12	179667	0.47	9072	-3254	46.59	428.47	9.2	Si
SLV 3	179667	0.47	9906	-3553	46.59	465.11	9.98	Si
SLV 4	179667	0.47	9930	-3562	46.59	466.2	10.01	Si
SLV 1	179667	0.47	12482	-4477	46.59	575.51	12.35	Si
SLV 2	179667	0.47	12507	-4486	46.59	576.55	12.37	Si
SLV 15	179667	0.47	13216	-4740	46.59	606.16	13.01	Si
SLV 16	179667	0.47	13241	-4749	46.59	607.2	13.03	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.52 Wa = 0.05 Ta = 0.0206

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-4944	-6984	72	1.368	597.6	0.954	20.84034	4.39838	Si
SLV 14	-4870	-6916	73	1.385	590	0.953	21.11748	4.39838	Si
SLV 9	-5099	-7651	-32	1.34	613.3	0.955	20.39076	4.22829	Si
SLV 10	-5049	-7605	-32	1.351	608.2	0.955	20.5684	4.22829	Si
SLV 5	-4622	-7055	-88	1.445	564.8	0.952	22.06802	4.22829	Si
SLV 6	-4572	-7009	-87	1.458	559.7	0.951	22.27935	4.22829	Si
SLV 15	-4324	-5806	107	1.524	534.6	0.949	23.33006	4.39838	Si
SLV 16	-4250	-5739	108	1.546	527.1	0.949	23.68332	4.39838	Si
SLV 1	-3353	-4997	-112	1.878	436.1	0.939	29.05651	4.39838	Si
SLV 2	-3279	-4929	-111	1.913	428.6	0.939	29.61828	4.39838	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.974	SLU 58	Si
V_SLU	11.832	SLU 79	Si
PF_SLV	2.462	SLV 11	Si
V_SLV	4.932	SLV 15	Si
PFFP_SLV	8.23	SLV 7	Si
R_SLV	4.738	SLV 13	Si

Maschio 195

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.404	-11.003	-0.749	L6	L7	2.656	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	7.9	707.78	-18794	-0.0000429	0.0003743	0.0035	2.6557	18759.85	20617.53	20617.53	29.13	No	Si
SLU 41	11.45	-891.5	-8288	-0.0000209	0.0003743	0.0035	2.6557	9800.08	11988.56	11988.56	13.45	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	7.9	725.12	-21660	-0.0000495	0.0003743	0.0035	2.6557	20532.33	22825.51	22825.51	31.48	No	Si
SLU 74	11.45	-992.69	-9811	-0.0000246	0.0003743	0.0035	2.6557	11339.03	13662.76	13662.76	13.76	No	Si
SLU 77	7.9	753.79	-22019	-0.0000505	0.0003743	0.0035	2.6557	20733.59	23107.53	23107.53	30.66	No	Si
SLU 77	11.45	-1033.33	-10039	-0.0000253	0.0003743	0.0035	2.6557	11562.31	13908.92	13908.92	13.46	No	Si
SLU 35	7.9	674.12	-18605	-0.0000423	0.0003743	0.0035	2.6557	18633.16	20475.67	20475.67	30.37	No	Si
SLU 35	11.45	-911.44	-8469	-0.0000214	0.0003743	0.0035	2.6557	9987.27	12185.11	12185.11	13.37	No	Si
SLU 39	7.9	679.12	-18435	-0.0000419	0.0003743	0.0035	2.6557	18518.06	20347.87	20347.87	29.96	No	Si
SLU 39	11.45	-850.85	-8060	-0.0000202	0.0003743	0.0035	2.6557	9562.8	11742.11	11742.11	13.8	No	Si
SLU 81	7.9	758.78	-21849	-0.0000501	0.0003743	0.0035	2.6557	20638.81	22974.09	22974.09	30.28	No	Si
SLU 81	11.45	-972.75	-9630	-0.0000241	0.0003743	0.0035	2.6557	11160.37	13464.49	13464.49	13.84	No	Si
SLU 32	7.9	645.46	-18247	-0.0000413	0.0003743	0.0035	2.6557	18389.01	20206.2	20206.2	31.31	No	Si
SLU 32	11.45	-870.79	-8241	-0.0000207	0.0003743	0.0035	2.6557	9751.44	11937.81	11937.81	13.71	No	Si
SLU 79	7.9	760.25	-21835	-0.0000501	0.0003743	0.0035	2.6557	20630.94	22963.07	22963.07	30.2	No	Si
SLU 79	11.45	-1007.37	-9892	-0.0000248	0.0003743	0.0035	2.6557	11418.22	13750.27	13750.27	13.65	No	Si
SLU 37	7.9	680.59	-18421	-0.0000419	0.0003743	0.0035	2.6557	18508.52	20337.33	20337.33	29.88	No	Si
SLU 37	11.45	-885.48	-8322	-0.0000209	0.0003743	0.0035	2.6557	9835.06	12025.14	12025.14	13.58	No	Si
SLU 83	7.9	787.45	-22207	-0.0000511	0.0003743	0.0035	2.6557	20837.69	23256.16	23256.16	29.53	No	Si
SLU 83	11.45	-1013.39	-9858	-0.0000248	0.0003743	0.0035	2.6557	11385.09	13713.7	13713.7	13.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.9	-179.7	-11623	-0.0000243	0.0005615	0.0035	2.6557		16061.95	16061.95	89.38		Si
SLV 3	11.45	-1256.25	-3699	-0.000013	0.0005615	0.0035	2.6557		6660.39	6660.39	5.3		Si
SLV 11	7.9	474.21	-8654	-0.0000195	0.0005615	0.0035	2.6557		11168.49	11168.49	23.55		Si
SLV 11	11.45	-2131.72	-1278	-0.0001492	0.0005615	0.0035	2.1245		3590.85	3590.85	1.68		Si
SLD 7	7.9	244.58	-10795	-0.0000229	0.0005615	0.0035	2.6557		13651.47	13651.47	55.82		Si
SLD 7	11.45	-1565.86	-3087	-0.0000132	0.0005615	0.0035	2.6557		5892.03	5892.03	3.76		Si
SLD 12	7.9	459.47	-11335	-0.000025	0.0005615	0.0035	2.6557		14265.59	14265.59	31.05		Si
SLD 12	11.45	-1499.08	-3609	-0.0000139	0.0005615	0.0035	2.6557		6548.03	6548.03	4.37		Si
SLD 8	7.9	226.68	-10850	-0.0000229	0.0005615	0.0035	2.6557		13714.03	13714.03	60.5		Si
SLD 8	11.45	-1558.8	-3100	-0.0000132	0.0005615	0.0035	2.6557		5908.52	5908.52	3.79		Si
SLV 7	7.9	112.28	-7893	-0.0000163	0.0005615	0.0035	2.6557		10269.38	10269.38	91.46		Si
SLV 7	11.45	-2224.62	-484	-0.000353	0.0005615	0.0035	2.1245		2566.16	2566.16	1.15		Si
SLD 11	7.9	477.37	-11280	-0.000025	0.0005615	0.0035	2.6557		14203.12	14203.12	29.75		Si
SLD 11	11.45	-1506.14	-3596	-0.0000139	0.0005615	0.0035	2.6557		6531.61	6531.61	4.34		Si
SLV 12	7.9	444.71	-8744	-0.0000196	0.0005615	0.0035	2.6557		11274.92	11274.92	25.35		Si
SLV 12	11.45	-2120.07	-1300	-0.000142	0.0005615	0.0035	2.1245		3618.65	3618.65	1.71		Si
SLV 4	7.9	-223.53	-11757	-0.0000248	0.0005615	0.0035	2.6557		16212.26	16212.26	72.53		Si
SLV 4	11.45	-1238.95	-3731	-0.000013	0.0005615	0.0035	2.6557		6700.57	6700.57	5.41		Si
SLV 8	7.9	82.78	-7983	-0.0000164	0.0005615	0.0035	2.6557		10377.04	10377.04	125.36		Si
SLV 8	11.45	-2212.98	-506	-0.0003441	0.0005615	0.0035	2.1245		2594.19	2594.19	1.17		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	7.9	753.79	-22019	-18335	3906	2.6557	2.6557	-24658	10232	8164	40441	22266	6772	29038	No	7.43	Si
SLU 77	11.45	-1033.33	-10039	-8359	2391	2.6557	2.6557	-11242	8443	6278	40441	22266	6772	29038	No	12.15	Si
SLU 80	7.9	783.44	-21932	-18263	3901	2.6557	2.6557	-24561	10219	8143	40441	22266	6772	29038	No	7.44	Si
SLU 80	11.45	-975.84	-9975	-8306	2334	2.6557	2.6557	-11170	8434	6271	40441	22266	6772	29038	No	12.44	Si
SLU 82	7.9	781.97	-21946	-18275	3720	2.6557	2.6557	-24577	10221	8146	40441	22266	6772	29038	No	7.81	Si
SLU 82	11.45	-941.22	-9713	-8088	2272	2.6557	2.6557	-10877	8395	6242	40441	22266	6772	29038	No	12.78	Si
SLU 84	7.9	810.63	-22305	-18573	3858	2.6557	2.6557	-24978	10275	8235	40441	22266	6772	29038	No	7.53	Si
SLU 84	11.45	-981.86	-9941	-8278	2349	2.6557	2.6557	-11133	8429	6268	40441	22266	6772	29038	No	12.36	Si
SLU 75	7.9	748.31	-21758	-18118	3795	2.6557	2.6557	-24366	10193	8099	40441	22266	6772	29038	No	7.65	Si
SLU 75	11.45	-961.16	-9894	-8239	2271	2.6557	2.6557	-11080	8422	6262	40441	22266	6772	29038	No	12.79	Si
SLU 74	7.9	725.12	-21660	-18037	3767	2.6557	2.6557	-24257	10179	8075	40441	22266	6772	29038	No	7.71	Si
SLU 74	11.45	-992.69	-9811	-8170	2314	2.6557	2.6557	-10987	8409	6253	40441	22266	6772	29038	No	12.55	Si
SLU 79	7.9	760.25	-21835	-18182	3873	2.6557	2.6557	-24452	10205	8118	40441	22266	6772	29038	No	7.5	Si
SLU 79	11.45	-1007.37	-9892	-8237	2377	2.6557	2.6557	-11077	8421	6262	40441	22266	6772	29038	No	12.22	Si
SLU 83	7.9	787.45	-22207	-18492	3830	2.6557	2.6557	-24869	10260	8211	40441	22266	6772	29038	No	7.58	Si
SLU 83	11.45	-1013.39	-9858	-8209	2391	2.6557	2.6557	-11039	8416	6258	40441	22266	6772	29038	No	12.14	Si
SLU 76	7.9	770.23	-21639	-18019	3781	2.6557	2.6557	-24233	10175	8069	40441	22266	6772	29038	No	7.68	Si
SLU 76	11.45	-914.18	-9803	-8163	2229	2.6557	2.6557	-10977	8408	6252	40441	22266	6772	29038	No	13.03	Si
SLU 78	7.9	776.97	-22116	-18416	3934	2.6557	2.6557	-24767	10247	8188	40441	22266	6772	29038	No	7.38	Si
SLU 78	11.45	-1001.8	-10122	-8429	2348	2.6557	2.6557	-11335	8456	6288	40441	22266	6772	29038	No	12.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	7.9	474.21	-8654	-7206	2978	2.6557	2.6557	-9691	12355	9187	40441	33399	6772	40171		13.49	Si
SLV 11	11.45	-2131.72	-1278	-1065	4556	2.1245	0	0	0	0	40441	26720	5418	32137		7.05	Si
SLV 15	7.9	1026.74	-14159	-11791	3243	2.6557	2.6557	-15856	13588	10104	40441	33399	6772	40171		12.39	Si
SLV 15	11.45	-946.57	-6346	-5285	1895	2.6557	2.6557	-7107	11838	8803	40441	33399	6772	40171		21.19	Si
SLD 12	7.9	459.47	-11335	-9439	2770	2.6557	2.6557	-12693	12955	9633	40441	33399	6772	40171		14.5	Si
SLD 12	11.45	-1499.08	-3609	-3005	3268	2.6557	2.6557	-4042	11225	8347	40441	33399	6772	40171		12.29	Si
SLV 12	7.9	444.71	-8744	-7282	2938	2.6557	2.6557	-9793	12375	9202	40441	33399	6772	40171		13.67	Si
SLV 12	11.45	-2120.07	-1300	-1082	4520	2.1245	0	0	0	0	40441	26720	5418	32137		7.11	Si
SLD 8	7.9	226.68	-10850	-9035	2530	2.6557	2.6557	-12151	12847	9553	40441	33399	6772	40171		15.88	Si
SLD 8	11.45	-1558.8	-3100	-2582	3511	2.6557	2.4752	-3730	11163	7736	40441	33399	6772	40171		11.44	Si
SLV 16	7.9	982.91	-14294	-11903	3184	2.6557	2.6557	-16007	13618	10126	40441	33399	6772	40171		12.62	Si
SLV 16	11.45	-929.27	-6378	-5311	1841	2.6557	2.6557	-7143	11845	8808	40441	33399	6772	40171		21.82	Si
SLV 8	7.9	82.78	-7983	-6648	2564	2.6557	2.6557	-8940	12205	9075	40441	33399	6772	40171		15.67	Si
SLV 8	11.45	-2212.98	-506	-421	4900	2.1245	0	0	0	0	40441	26720	5418	32137		6.56	Si
SLD 7	7.9	244.58	-10795	-8989	2555	2.6557	2.6557	-12089	12835	9544	40441	33399	6772	40171		15.72	Si
SLD 7	11.45	-1565.86	-3087	-2571	3533	2.6557	2.4619	-3734	11163	7695	40441	33399	6772	40171		11.37	Si
SLV 7	7.9	112.28	-7893	-6573	2604	2.6557	2.6557	-8839	12184	9060	40441	33399	6772	40171		15.43	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	11.45	-2224.62	-484	-403	4936	2.1245	0	0	0	0	40441	26720	5418	32137		6.51	Si
SLD 11	7.9	477.37	-11280	-9393	2795	2.6557	2.6557	-12632	12943	9624	40441	33399	6772	40171		14.37	Si
SLD 11	11.45	-1506.14	-3596	-2994	3290	2.6557	2.6557	-4027	11222	8345	40441	33399	6772	40171		12.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.45	4277	-3181	338.33	432.81	1.28	Si
SLV 7	179667	0.45	4326	-3217	338.33	437.59	1.29	Si
SLV 12	179667	0.45	5874	-4368	338.33	588	1.74	Si
SLV 11	179667	0.45	5923	-4404	338.33	592.67	1.75	Si
SLV 4	179667	0.45	8604	-6398	338.33	845.25	2.5	Si
SLV 3	179667	0.45	8677	-6452	338.33	851.93	2.52	Si
SLV 2	179667	0.45	13920	-10351	338.33	1317.01	3.89	Si
SLV 16	179667	0.45	13927	-10356	338.33	1317.63	3.89	Si
SLV 1	179667	0.45	13992	-10404	338.33	1323.17	3.91	Si
SLV 15	179667	0.45	13999	-10410	338.33	1323.78	3.91	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-13147	-22000	325	0.985	1713.5	0.939	15.25043	5.23702	Si
SLV 9	-13126	-21910	325	0.987	1711.3	0.939	15.27176	5.23702	Si
SLV 14	-9932	-18271	1175	1.164	1388.7	0.928	18.22662	6.13636	Si
SLV 13	-9900	-18136	1175	1.166	1385.5	0.928	18.27503	6.13636	Si
SLV 6	-12353	-21239	-388	1.032	1633.1	0.937	16.01634	5.23702	Si
SLV 5	-12331	-21149	-388	1.034	1630.9	0.937	16.04033	5.23702	Si
SLV 2	-7285	-15734	-1203	1.469	1122.9	0.915	23.32383	6.13636	Si
SLV 1	-7253	-15599	-1203	1.473	1119.7	0.915	23.40431	6.13636	Si
SLV 16	-6378	-14294	1190	1.618	1032.5	0.91	25.84239	6.13636	Si
SLV 15	-6346	-14159	1191	1.624	1029.3	0.91	25.94018	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.369	SLU 35	Si
V_SLU	7.382	SLU 78	Si
PF_SLV	1.154	SLV 7	Si
V_SLV	6.51	SLV 7	Si
PFFP_SLV	1.279	SLV 8	Si
R_SLV	2.912	SLV 10	Si

Maschio 196

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.907	L6	L7	1.261	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 24	7.9	-593.85	-8447	-0.0000501	0.0003743	0.0035	1.2609	4073.9	4797.89	4797.89	8.08	No	Si
SLU 24	11.45	790	-5613	-0.0000408	0.0003743	0.0035	1.2609	2986.25	3137.1	3137.1	3.97	No	Si
SLU 27	7.9	-627.83	-8619	-0.0000516	0.0003743	0.0035	1.2609	4130.98	4869.43	4869.43	7.76	No	Si
SLU 27	11.45	841.35	-5801	-0.0000428	0.0003743	0.0035	1.2609	3067.05	3224.97	3224.97	3.83	No	Si
SLU 25	7.9	-666.47	-8416	-0.0000515	0.0003743	0.0035	1.2609	4063.41	4784.53	4784.53	7.18	No	Si
SLU 25	11.45	817.9	-5630	-0.0000415	0.0003743	0.0035	1.2609	2993.64	3145.05	3145.05	3.85	No	Si
SLU 72	7.9	-618.23	-10395	-0.0000602	0.0003743	0.0035	1.2609	4658.19	5576.63	5576.63	9.02	No	Si
SLU 72	11.45	938.92	-6786	-0.0000496	0.0003743	0.0035	1.2609	3470.36	3695.09	3695.09	3.94	No	Si
SLU 30	7.9	-673.61	-8519	-0.0000522	0.0003743	0.0035	1.2609	4097.84	4828.19	4828.19	7.17	No	Si
SLU 30	11.45	846.06	-5736	-0.0000426	0.0003743	0.0035	1.2609	3039.05	3194.31	3194.31	3.78	No	Si
SLU 70	7.9	-645.06	-10464	-0.0000611	0.0003743	0.0035	1.2609	4676.48	5598.61	5598.61	8.68	No	Si
SLU 70	11.45	962.12	-6868	-0.0000504	0.0003743	0.0035	1.2609	3502.59	3735.18	3735.18	3.88	No	Si
SLU 23	7.9	-654.07	-8153	-0.0000499	0.0003743	0.0035	1.2609	3974.24	4671.64	4671.64	7.14	No	Si
SLU 23	11.45	761.94	-5371	-0.0000391	0.0003743	0.0035	1.2609	2880.39	3024.78	3024.78	3.97	No	Si
SLU 26	7.9	-688.04	-8326	-0.0000515	0.0003743	0.0035	1.2609	4033.09	4746.02	4746.02	6.9	No	Si
SLU 26	11.45	813.3	-5559	-0.0000411	0.0003743	0.0035	1.2609	2962.78	3111.92	3111.92	3.83	No	Si
SLU 28	7.9	-700.44	-8588	-0.0000531	0.0003743	0.0035	1.2609	4120.68	4856.54	4856.54	6.93	No	Si
SLU 28	11.45	869.26	-5818	-0.0000435	0.0003743	0.0035	1.2609	3074.32	3232.98	3232.98	3.72	No	Si
SLU 29	7.9	-600.99	-8550	-0.0000507	0.0003743	0.0035	1.2609	4108.22	4841.04	4841.04	8.06	No	Si
SLU 29	11.45	818.15	-5719	-0.0000419	0.0003743	0.0035	1.2609	3031.73	3186.33	3186.33	3.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	7.9	-5632.88	-5063	-0.0081817	0.0005615	0.0035	1.0087		3320.39	3320.39	0.59		No
SLV 5	11.45	2268.77	-5992	-0.0000886	0.0005615	0.0035	1.2609		3545.06	3545.06	1.56		Si
SLV 6	7.9	-5637.65	-5070	-0.008186	0.0005615	0.0035	1.0087		3324.23	3324.23	0.59		No
SLV 6	11.45	2271.45	-5995	-0.0000887	0.0005615	0.0035	1.2609		3546.45	3546.45	1.56		Si
SLD 10	7.9	-3909.81	-6141	-0.0013284	0.0005615	0.0035	1.0087		3896.48	3896.48	1		No
SLD 10	11.45	1765.28	-5613	-0.0000649	0.0005615	0.0035	1.2609		3350.12	3350.12	1.9		Si
SLV 7	7.9	6053.33	-10804	-0.0063305	0.0005615	0.0035	1.2609		5809.5	5809.5	0.96		No
SLV 7	11.45	-1536.84	-3752	-0.0000618	0.0005615	0.0035	1.0087		2595.35	2595.35	1.69		Si
SLV 10	7.9	-6482.64	-4927	-0.0106683	0.0005615	0.0035	1.0087		3247.64	3247.64	0.5		No
SLV 10	11.45	2616.94	-6095	-0.0001152	0.0005615	0.0035	1.2609		3593.87	3593.87	1.37		Si
SLV 9	7.9	-6477.87	-4920	-0.0106643	0.0005615	0.0035	1.0087		3243.71	3243.71	0.5		No
SLV 9	11.45	2614.26	-6093	-0.000115	0.0005615	0.0035	1.2609		3592.62	3592.62	1.37		Si
SLD 9	7.9	-3906.92	-6137	-0.0013257	0.0005615	0.0035	1.0087		3894.24	3894.24	1		No
SLD 9	11.45	1763.65	-5611	-0.0000648	0.0005615	0.0035	1.2609		3349.24	3349.24	1.9		Si
SLV 12	7.9	5203.57	-10669	-0.0003474	0.0005615	0.0035	1.2609		5743.53	5743.53	1.1		Si
SLV 12	11.45	-1188.67	-3855	-0.000043	0.0005615	0.0035	1.2609		2653.05	2653.05	2.23		Si
SLV 8	7.9	6048.56	-10812	-0.0062584	0.0005615	0.0035	1.2609		5813.01	5813.01	0.96		No
SLV 8	11.45	-1534.16	-3755	-0.0000616	0.0005615	0.0035	1.0087		2596.9	2596.9	1.69		Si
SLV 11	7.9	5208.34	-10662	-0.0003498	0.0005615	0.0035	1.2609		5740.04	5740.04	1.1		Si
SLV 11	11.45	-1191.35	-3852	-0.0000431	0.0005615	0.0035	1.2609		2651.51	2651.51	2.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	7.9	253.1	-10727	-8932	833	1.2609	1.2609	-25300	10318	3643	40441	10572	3215	13787	No	16.54	Si
SLU 60	11.45	418.44	-6508	-5419	-350	1.2609	1.2609	-15349	8991	3174	40441	10572	3215	13787	No	39.43	Si
SLU 68	7.9	-632.67	-10201	-8495	-226	1.2609	1.2609	-24061	10153	3584	40441	10572	3215	13787	No	61.13	Si
SLU 68	11.45	906.16	-6609	-5503	-807	1.2609	1.2609	-15588	9023	3186	40441	10572	3215	13787	No	17.08	Si
SLU 66	7.9	-538.47	-10323	-8596	-124	1.2609	1.2609	-24347	10191	3598	40441	10572	3215	13787	No	111.09	Si
SLU 66	11.45	882.85	-6663	-5548	-787	1.2609	1.2609	-15716	9040	3192	40441	10572	3215	13787	No	17.52	Si
SLU 72	7.9	-618.23	-10395	-8656	-211	1.2609	1.2609	-24517	10213	3606	40441	10572	3215	13787	No	65.41	Si
SLU 72	11.45	938.92	-6786	-5650	-830	1.2609	1.2609	-16004	9078	3205	40441	10572	3215	13787	No	16.62	Si
SLU 67	7.9	-611.09	-10291	-8570	-201	1.2609	1.2609	-24273	10181	3594	40441	10572	3215	13787	No	68.43	Si
SLU 67	11.45	910.76	-6680	-5563	-808	1.2609	1.2609	-15756	9045	3193	40441	10572	3215	13787	No	17.06	Si
SLU 71	7.9	-545.61	-10426	-8682	-133	1.2609	1.2609	-24591	10223	3609	40441	10572	3215	13787	No	103.32	Si
SLU 71	11.45	911.01	-6768	-5636	-809	1.2609	1.2609	-15964	9073	3203	40441	10572	3215	13787	No	17.04	Si
SLU 65	7.9	-598.69	-10029	-8351	-189	1.2609	1.2609	-23654	10098	3565	40441	10572	3215	13787	No	73.06	Si
SLU 65	11.45	854.8	-6421	-5347	-771	1.2609	1.2609	-15145	8964	3165	40441	10572	3215	13787	No	17.88	Si
SLU 69	7.9	-572.45	-10495	-8739	-161	1.2609	1.2609	-24754	10245	3617	40441	10572	3215	13787	No	85.67	Si
SLU 69	11.45	934.21	-6851	-5705	-823	1.2609	1.2609	-16159	9099	3212	40441	10572	3215	13787	No	16.74	Si
SLU 70	7.9	-645.06	-10464	-8713	-238	1.2609	1.2609	-24680	10235	3614	40441	10572	3215	13787	No	57.86	Si
SLU 70	11.45	962.12	-6868	-5719	-844	1.2609	1.2609	-16199	9104	3214	40441	10572	3215	13787	No	16.33	Si
SLU 62	7.9	219.12	-10899	-9076	797	1.2609	1.2609	-25707	10372	3662	40441	10572	3215	13787	No	17.31	Si
SLU 62	11.45	469.8	-6696	-5575	-386	1.2609	1.2609	-15792	9050	3195	40441	10572	3215	13787	No	35.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	7.9	-6477.87	-4920	-4097	-6639	1.0087	0	0	0	0	40441	12686	2572	15259		2.3	Si
SLV 9	11.45	2614.26	-6093	-5073	-1579	1.2609	0.6041	-14370	13291	3052	40441	15858	3215	19073		12.08	Si
SLV 11	7.9	5208.34	-10662	-8878	6224	1.2609	0.4259	-78779	16250	4067	40441	15858	3215	19073		3.06	Si
SLV 11	11.45	-1191.35	-3852	-3208	491	1.2609	0.9636	-11950	12807	3455	40441	15858	3215	19073		38.84	Si
SLD 9	7.9	-3906.92	-6137	-5110	-3852	1.0087	0	0	0	0	40441	12686	2572	15259		3.96	Si
SLD 9	11.45	1763.65	-5611	-4673	-1129	1.2609	0.9484	-13235	13064	3469	40441	15858	3215	19073		16.9	Si
SLV 6	7.9	-5637.65	-5070	-4222	-5947	1.0087	0	0	0	0	40441	12686	2572	15259		2.57	Si
SLV 6	11.45	2271.45	-5995	-4992	-1465	1.2609	0.7546	-14139	13245	3031	40441	15858	3215	19073		13.02	Si
SLV 12	7.9	5203.57	-10669	-8884	6215	1.2609	0.4282	-78367	16250	4069	40441	15858	3215	19073		3.07	Si
SLV 12	11.45	-1188.67	-3855	-3210	489	1.2609	0.9663	-11925	12802	3464	40441	15858	3215	19073		39.03	Si
SLV 10	7.9	-6482.64	-4927	-4103	-6648	1.0087	0	0	0	0	40441	12686	2572	15259		2.3	Si
SLV 10	11.45	2616.94	-6095	-5076	-1581	1.2609	0.6033	-14376	13292	3053	40441	15858	3215	19073		12.06	Si
SLD 10	7.9	-3909.81	-6141	-5114	-3857	1.0087	0	0	0	0	40441	12686	2572	15259		3.96	Si
SLD 10	11.45	1765.28	-5613	-4674	-1130	1.2609	0.9478	-13239	13064	3467	40441	15858	3215	19073		16.88	Si
SLV 8	7.9	6048.56	-10812	-9003	6916	1.2609	0.213	-183306	16250	4100	40441	15858	3215	19073		2.76	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	11.45	-1534.16	-3755	-3126	605	1.0087	0.6655	0	0	0	40441	12686	2572	15259		25.23	Si
SLV 5	7.9	-5632.88	-5063	-4216	-5939	1.0087	0	0	0	0	40441	12686	2572	15259		2.57	Si
SLV 5	11.45	2268.77	-5992	-4990	-1463	1.2609	0.7555	-14133	13243	3030	40441	15858	3215	19073		13.04	Si
SLV 7	7.9	6053.33	-10804	-8997	6924	1.2609	0.2106	-184314	16250	4099	40441	15858	3215	19073		2.75	Si
SLV 7	11.45	-1536.84	-3752	-3124	607	1.0087	0.6625	0	0	0	40441	12686	2572	15259		25.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.45	12743	-4499	160.64	577.29	3.59	Si
SLV 10	179667	0.45	12761	-4505	160.64	578.03	3.6	Si
SLV 5	179667	0.45	13274	-4686	160.64	599.06	3.73	Si
SLV 6	179667	0.45	13292	-4693	160.64	599.79	3.73	Si
SLV 13	179667	0.45	14268	-5037	160.64	639.33	3.98	Si
SLV 14	179667	0.45	14295	-5047	160.64	640.41	3.99	Si
SLV 1	179667	0.45	16037	-5662	160.64	709.44	4.42	Si
SLV 2	179667	0.45	16064	-5671	160.64	710.48	4.42	Si
SLV 15	179667	0.45	16109	-5687	160.64	712.26	4.43	Si
SLV 16	179667	0.45	16136	-5697	160.64	713.3	4.44	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-5429	-6772	307	1.08	731.3	0.934	16.80629	6.13636	Si
SLV 13	-5425	-6762	307	1.08	730.9	0.933	16.81699	6.13636	Si
SLV 2	-5094	-7247	-320	1.133	697.5	0.931	17.69593	6.13636	Si
SLV 1	-5090	-7237	-320	1.134	697.1	0.931	17.70779	6.13636	Si
SLV 10	-6095	-4927	100	1.012	798.7	0.938	15.68059	5.23702	Si
SLV 9	-6093	-4920	100	1.013	798.4	0.938	15.68667	5.23702	Si
SLV 6	-5995	-5070	-88	1.028	788.5	0.938	15.93101	5.23702	Si
SLV 5	-5992	-5063	-88	1.028	788.2	0.938	15.93725	5.23702	Si
SLV 16	-4757	-8495	296	1.2	663.5	0.928	18.79256	6.13636	Si
SLV 15	-4753	-8484	296	1.201	663.1	0.928	18.80598	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.719	SLU 28	Si
V_SLU	16.33	SLU 70	Si
PF_SLV	0.501	SLV 9	No
V_SLV	2.295	SLV 10	Si
PFFP_SLV	3.594	SLV 9	Si
R_SLV	2.739	SLV 14	Si

Maschio 198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.521	L6	L7	5.38	0.2	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	7.9	-13525.3	-24737	-0.0000498	0.0004492	0.0035	5.38	54022.3	76337.32	76337.32	5.64	No	Si
SLU 40	11.45	-2747.71	-12731	-0.0000193	0.0004492	0.0035	5.38	30929.49	49089.5	49089.5	17.87	No	Si
SLU 82	7.9	-15792.1	-29610	-0.0000596	0.0004492	0.0035	5.38	61712.24	86665.82	86665.82	5.49	No	Si
SLU 82	11.45	-3250.07	-15193	-0.000023	0.0004492	0.0035	5.38	36147.21	54812.93	54812.93	16.87	No	Si
SLU 75	7.9	-15513.48	-30236	-0.0000601	0.0004492	0.0035	5.38	62629.2	87963.2	87963.2	5.67	No	Si
SLU 75	11.45	-3444.18	-15785	-0.000024	0.0004492	0.0035	5.38	37364.38	56188.66	56188.66	16.31	No	Si
SLU 81	7.9	-15523.44	-29787	-0.0000595	0.0004492	0.0035	5.38	61972.75	87032.11	87032.11	5.61	No	Si
SLU 81	11.45	-3314.97	-15273	-0.0000232	0.0004492	0.0035	5.38	36311.21	54997.36	54997.36	16.59	No	Si
SLU 76	7.9	-15392.96	-29825	-0.0000593	0.0004492	0.0035	5.38	62028.63	87110.91	87110.91	5.66	No	Si
SLU 76	11.45	-3265.06	-15520	-0.0000235	0.0004492	0.0035	5.38	36821.29	55572.82	55572.82	17.02	No	Si
SLU 31	7.9	-13103.89	-23977	-0.0000482	0.0004492	0.0035	5.38	52735.34	74666.19	74666.19	5.7	No	Si
SLU 31	11.45	-2616.39	-12371	-0.0000186	0.0004492	0.0035	5.38	30146.35	48238.03	48238.03	18.44	No	Si
SLU 84	7.9	-15814.37	-30585	-0.000061	0.0004492	0.0035	5.38	63133.72	88686.86	88686.86	5.61	No	Si
SLU 84	11.45	-3396.38	-15880	-0.0000241	0.0004492	0.0035	5.38	37558.06	56409.07	56409.07	16.61	No	Si
SLU 61	7.9	-14065.94	-26563	-0.000053	0.0004492	0.0035	5.38	57017.95	80347.99	80347.99	5.71	No	Si
SLU 61	11.45	-2855.93	-13524	-0.0000204	0.0004492	0.0035	5.38	32636.9	50932.68	50932.68	17.83	No	Si
SLU 83	7.9	-15545.71	-30761	-0.0000608	0.0004492	0.0035	5.38	63387.18	89053.15	89053.15	5.73	No	Si
SLU 83	11.45	-3461.28	-15960	-0.0000243	0.0004492	0.0035	5.38	37719.83	56593.5	56593.5	16.35	No	Si
SLU 73	7.9	-15370.69	-28850	-0.000058	0.0004492	0.0035	5.38	60576.83	85089.87	85089.87	5.54	No	Si
SLU 73	11.45	-3118.75	-14834	-0.0000224	0.0004492	0.0035	5.38	35400.33	53976.68	53976.68	17.31	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	7.9	-42802.05	-4944	-0.0008865	0.0006738	0.0035	4.304		30023.65	30023.65	0.7		No
SLV 10	11.45	-2086.97	-3324	-0.0000068	0.0006738	0.0035	5.38		25903.2	25903.2	12.41		Si
SLV 13	7.9	-25552.98	-16002	-0.0000651	0.0006738	0.0035	4.304		57274.13	57274.13	2.24		Si
SLV 13	11.45	-4297.56	-9053	-0.0000168	0.0006738	0.0035	5.38		40356.7	40356.7	9.39		Si
SLD 10	7.9	-29474.09	-11598	-0.0001936	0.0006738	0.0035	4.304		46659.91	46659.91	1.58		Si
SLD 10	11.45	-2205.03	-6427	-0.0000107	0.0006738	0.0035	5.38		33774.27	33774.27	15.32		Si
SLD 6	7.9	-26936.25	-11813	-0.0001199	0.0006738	0.0035	4.304		47185.53	47185.53	1.75		Si
SLD 6	11.45	-1351.9	-6281	-0.0000094	0.0006738	0.0035	5.38		33406.93	33406.93	24.71		Si
SLD 9	7.9	-29068.6	-11813	-0.00017	0.0006738	0.0035	4.304		47185.92	47185.92	1.62		Si
SLD 9	11.45	-2232.08	-6530	-0.0000109	0.0006738	0.0035	5.38		34033.76	34033.76	15.25		Si
SLD 5	7.9	-26530.76	-12027	-0.0001066	0.0006738	0.0035	4.304		47711.55	47711.55	1.8		Si
SLD 5	11.45	-1378.95	-6384	-0.0000095	0.0006738	0.0035	5.38		33666.42	33666.42	24.41		Si
SLV 6	7.9	-38837.23	-5282	-0.0007529	0.0006738	0.0035	4.304		30883.91	30883.91	0.8		No
SLV 6	11.45	-752.28	-3096	-0.0000047	0.0006738	0.0035	5.38		25319.47	25319.47	33.66		Si
SLV 14	7.9	-26545.62	-15478	-0.0000707	0.0006738	0.0035	4.304		56025.83	56025.83	2.11		Si
SLV 14	11.45	-4231.34	-8801	-0.0000164	0.0006738	0.0035	5.38		39728.76	39728.76	9.39		Si
SLV 5	7.9	-38169.04	-5635	-0.0007222	0.0006738	0.0035	4.304		31781.55	31781.55	0.83		No
SLV 5	11.45	-796.85	-3266	-0.000005	0.0006738	0.0035	5.38		25755.44	25755.44	32.32		Si
SLV 9	7.9	-42133.86	-5297	-0.000855	0.0006738	0.0035	4.304		30921.29	30921.29	0.73		No
SLV 9	11.45	-2131.54	-3493	-0.0000071	0.0006738	0.0035	5.38		26336.76	26336.76	12.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	7.9	-11795.55	-24599	-15743	-584	5.38	5.38	-14631	10284	12513	115546	38669	27438	66107	No	113.23	Si
SLU 43	11.45	-2627.32	-12580	-8051	-584	5.38	5.38	-7483	9331	10040	115546	38669	27438	66107	No	113.23	Si
SLU 41	7.9	-13278.91	-25888	-16568	642	5.38	5.38	-15398	10386	12843	115546	38669	27438	66107	No	102.97	Si
SLU 41	11.45	-2958.92	-13497	-8638	644	5.38	5.38	-8028	9404	10118	115546	38669	27438	66107	No	102.6	Si
SLU 36	7.9	-13268.96	-26337	-16856	633	5.38	5.38	-15665	10422	12958	115546	38669	27438	66107	No	104.47	Si
SLU 36	11.45	-3088.14	-14009	-8966	637	5.38	5.38	-8333	9444	10162	115546	38669	27438	66107	No	103.81	Si
SLU 37	7.9	-12700.67	-26221	-16781	785	5.38	5.38	-15596	10413	12928	115546	38669	27438	66107	No	84.2	Si
SLU 37	11.45	-3017.19	-13877	-8881	788	5.38	5.38	-8254	9434	10151	115546	38669	27438	66107	No	83.84	Si
SLU 38	7.9	-12969.33	-26044	-16668	617	5.38	5.38	-15491	10399	12883	115546	38669	27438	66107	No	107.07	Si
SLU 38	11.45	-2952.29	-13797	-8830	621	5.38	5.38	-8207	9428	10144	115546	38669	27438	66107	No	106.42	Si
SLU 35	7.9	-13000.3	-26514	-16969	800	5.38	5.38	-15770	10436	13003	115546	38669	27438	66107	No	82.58	Si
SLU 35	11.45	-3153.03	-14089	-9017	804	5.38	5.38	-8380	9451	10169	115546	38669	27438	66107	No	82.22	Si
SLU 52	7.9	-13644.52	-25803	-16514	-607	5.38	5.38	-15348	10380	12821	115546	38669	27438	66107	No	108.9	Si
SLU 52	11.45	-2724.62	-13164	-8425	-607	5.38	5.38	-7830	9377	10090	115546	38669	27438	66107	No	108.86	Si
SLU 44	7.9	-12243.32	-24304	-15555	-863	5.38	5.38	-14456	10261	12437	115546	38669	27438	66107	No	76.57	Si
SLU 44	11.45	-2519.16	-12448	-7967	-863	5.38	5.38	-7404	9321	10029	115546	38669	27438	66107	No	76.63	Si
SLU 47	7.9	-12265.59	-25279	-16179	-610	5.38	5.38	-15036	10338	12687	115546	38669	27438	66107	No	108.3	Si
SLU 47	11.45	-2665.47	-13135	-8406	-609	5.38	5.38	-7812	9375	10087	115546	38669	27438	66107	No	108.55	Si
SLU 2	7.9	-9976.52	-19431	-12436	-630	5.38	5.38	-11558	9874	11190	115546	38669	27438	66107	No	104.9	Si
SLU 2	11.45	-2016.8	-9985	-6390	-629	5.38	5.38	-5939	9125	9819	115546	38669	27438	66107	No	105.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	7.9	21957.47	-37105	-23747	16432	5.38	5.38	-22070	16250	18822	115546	58003	27438	85441		5.2	Si
SLV 7	11.45	-2505.59	-18274	-11696	14369	5.38	5.38	-10870	14674	15789	115546	58003	27438	85441		5.95	Si
SLV 6	7.9	-38837.23	-5282	-3381	-15613	4.304	0	0	0	0	115546	46403	21950	68353		4.38	Si
SLV 6	11.45	-752.28	-3096	-1981	-13529	5.38	5.38	-1841	12868	13846	115546	58003	27438	85441		6.32	Si
SLV 10	7.9	-42802.05	-4944	-3164	-16773	4.304	0	0	0	0	115546	46403	21950	68353		4.08	Si
SLV 10	11.45	-2086.97	-3324	-2127	-14709	5.38	5.38	-1977	12895	13875	115546	58003	27438	85441		5.81	Si
SLV 9	7.9	-42133.86	-5297	-3390	-16434	4.304	0	0	0	0	115546	46403	21950	68353		4.16	Si
SLV 9	11.45	-2131.54	-3493	-2236	-14370	5.38	5.38	-2078	12916	13897	115546	58003	27438	85441		5.95	Si
SLD 9	7.9	-29068.6	-11813	-7560	-9718	4.304	0.6877	0	0	0	115546	46403	21950	68353		7.03	Si
SLD 9	11.45	-2232.08	-6530	-4179	-8505	5.38	5.38	-3884	13277	14286	115546	58003	27438	85441		10.05	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	7.9	-29474.09	-11598	-7423	-9924	4.304	0.4464	0	0	0	115546	46403	21950	68353		6.89	Si
SLD 10	11.45	-2205.03	-6427	-4113	-8711	5.38	5.38	-3823	13265	14273	115546	58003	27438	85441		9.81	Si
SLV 5	7.9	-38169.04	-5635	-3607	-15274	4.304	0	0	0	0	115546	46403	21950	68353		4.48	Si
SLV 5	11.45	-796.85	-3266	-2090	-13190	5.38	5.38	-1943	12889	13868	115546	58003	27438	85441		6.48	Si
SLV 12	7.9	17324.46	-36414	-23305	14932	5.38	5.38	-21659	16250	18645	115546	58003	27438	85441		5.72	Si
SLV 12	11.45	-3795.7	-18332	-11732	12851	5.38	5.38	-10904	14681	15796	115546	58003	27438	85441		6.65	Si
SLV 8	7.9	21289.28	-36752	-23521	16092	5.38	5.38	-21860	16250	18732	115546	58003	27438	85441		5.31	Si
SLV 8	11.45	-2461.01	-18104	-11587	14030	5.38	5.38	-10768	14654	15767	115546	58003	27438	85441		6.09	Si
SLV 11	7.9	17992.65	-36767	-23531	15272	5.38	5.38	-21869	16250	18736	115546	58003	27438	85441		5.59	Si
SLV 11	11.45	-3840.28	-18502	-11841	13190	5.38	5.38	-11005	14701	15818	115546	58003	27438	85441		6.48	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-1527	0.45	501.51	0	643.86	321.93	0.64	No
SLV 6	-1861	0.45	501.51	0	685.7	342.85	0.68	No
SLV 9	-1880	0.45	501.51	0	688.07	344.03	0.69	No
SLV 5	-2214	0.45	501.51	0	729.12	364.56	0.73	No
SLV 14	-12066	0.45	501.51	1132.74	1884.63	1508.69	3.01	Si
SLV 13	-12590	0.45	501.51	1178.64	1944.82	1561.73	3.11	Si
SLV 2	-13179	0.45	501.51	1229.81	2012.33	1621.07	3.23	Si
SLV 1	-13703	0.45	501.51	1275.12	2072.16	1673.64	3.34	Si
SLV 16	-21506	0.45	501.51	1916.06	2952.94	2434.5	4.85	Si
SLV 15	-22030	0.45	501.51	1956.94	3011.12	2484.03	4.95	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.04 Ta = 0.1052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-18502	-36767	366	1.393	2426.6	0.938	21.58729	6.04604	Si
SLV 15	-13556	-25443	1159	1.744	1927.2	0.925	27.39095	7.62511	Si
SLV 12	-18332	-36414	365	1.404	2409.4	0.938	21.76096	6.04604	Si
SLV 7	-18274	-37105	-325	1.409	2403.6	0.938	21.84918	6.04604	Si
SLV 8	-18104	-36752	-325	1.42	2386.4	0.937	22.02688	6.04604	Si
SLV 16	-13303	-24919	1159	1.77	1901.8	0.925	27.82059	7.62511	Si
SLV 3	-12797	-26571	-1144	1.825	1850.9	0.923	28.73764	7.62511	Si
SLV 4	-12545	-26047	-1144	1.853	1825.6	0.922	29.21036	7.62511	Si
SLV 13	-9053	-16002	1148	2.363	1476.5	0.909	37.77298	7.62511	Si
SLV 14	-8801	-15478	1148	2.412	1451.4	0.908	38.58704	7.62511	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.488	SLU 82	Si
V_SLU	76.566	SLU 44	Si
PF_SLV	0.701	SLV 10	No
V_SLV	4.075	SLV 10	Si
PFFP_SLV	0.642	SLV 10	No
R_SLV	3.57	SLV 11	Si

Maschio 202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L6	L7	1.56	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	7.9	1124.48	-8215	-0.0000445	0.0003743	0.0035	1.5599	5223.49	5555.06	5555.06	4.94	No	Si
SLU 31	10	-1734.15	-9639	-0.0000587	0.0003743	0.0035	1.5599	5888.55	6996.95	6996.95	4.03	No	Si
SLU 41	7.9	1113.72	-8611	-0.0000458	0.0003743	0.0035	1.5599	5415.43	5800.85	5800.85	5.21	No	Si
SLU 41	10	-1807.18	-10034	-0.0000613	0.0003743	0.0035	1.5599	6060.16	7203.27	7203.27	3.99	No	Si
SLU 73	7.9	1208.13	-10042	-0.0000527	0.0003743	0.0035	1.5599	6063.4	6622.7	6622.7	5.48	No	Si
SLU 73	10	-1927.15	-11300	-0.0000682	0.0003743	0.0035	1.5599	6573.63	7859.27	7859.27	4.08	No	Si
SLU 39	7.9	1133.28	-8398	-0.0000453	0.0003743	0.0035	1.5599	5313.12	5668.53	5668.53	5	No	Si
SLU 39	10	-1816.15	-9881	-0.0000608	0.0003743	0.0035	1.5599	5994.32	7122.98	7122.98	3.92	No	Si
SLU 82	7.9	1242.07	-10253	-0.000054	0.0003743	0.0035	1.5599	6153.09	6718.31	6718.31	5.41	No	Si
SLU 82	10	-2035.41	-11613	-0.0000711	0.0003743	0.0035	1.5599	6692.2	8015.02	8015.02	3.94	No	Si
SLU 83	7.9	1197.36	-10438	-0.0000541	0.0003743	0.0035	1.5599	6229.98	6802.07	6802.07	5.68	No	Si
SLU 83	10	-2000.18	-11694	-0.0000709	0.0003743	0.0035	1.5599	6722.26	8055.52	8055.52	4.03	No	Si
SLU 42	7.9	1138.86	-8639	-0.0000463	0.0003743	0.0035	1.5599	5428.83	5818.42	5818.42	5.11	No	Si
SLU 42	10	-1833.44	-10106	-0.000062	0.0003743	0.0035	1.5599	6090.84	7241.18	7241.18	3.95	No	Si
SLU 81	7.9	1216.92	-10225	-0.0000536	0.0003743	0.0035	1.5599	6141.28	6705.59	6705.59	5.51	No	Si
SLU 81	10	-2009.15	-11541	-0.0000704	0.0003743	0.0035	1.5599	6665.32	7979.15	7979.15	3.97	No	Si
SLU 84	7.9	1222.51	-10466	-0.0000546	0.0003743	0.0035	1.5599	6241.58	6814.86	6814.86	5.57	No	Si
SLU 84	10	-2026.44	-11766	-0.0000716	0.0003743	0.0035	1.5599	6748.76	8091.59	8091.59	3.99	No	Si
SLU 40	7.9	1158.42	-8426	-0.0000458	0.0003743	0.0035	1.5599	5326.73	5685.93	5685.93	4.91	No	Si
SLU 40	10	-1842.41	-9953	-0.0000615	0.0003743	0.0035	1.5599	6025.39	7160.69	7160.69	3.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	7.9	4226.54	-5143	-0.0064938	0.0005615	0.0035	1.5599		3909.57	3909.57	0.93		No
SLV 1	10	-4225.29	-12195	-0.0001062	0.0005615	0.0035	1.5599		8849.3	8849.3	2.09		Si
SLV 15	7.9	-3262	-9824	-0.0000811	0.0005615	0.0035	1.5599		7449.48	7449.48	2.28		Si
SLV 15	10	2259.64	-2869	-0.0011104	0.0005615	0.0035	1.2479		2297.85	2297.85	1.02		Si
SLV 2	7.9	4801.16	-4717	-0.0158031	0.0005615	0.0035	1.2479		3613.56	3613.56	0.75		No
SLV 2	10	-4718.76	-12870	-0.0001187	0.0005615	0.0035	1.5599		9237.57	9237.57	1.96		Si
SLD 4	7.9	2547.43	-4733	-0.0000719	0.0005615	0.0035	1.5599		3624.46	3624.46	1.42		Si
SLD 4	10	-2621.49	-8678	-0.0000664	0.0005615	0.0035	1.5599		6735.38	6735.38	2.57		Si
SLD 2	7.9	3310.97	-5596	-0.0001127	0.0005615	0.0035	1.5599		4220.37	4220.37	1.27		Si
SLD 2	10	-3422.62	-10958	-0.000087	0.0005615	0.0035	1.5599		8134.4	8134.4	2.38		Si
SLV 3	7.9	2923.74	-3667	-0.0023839	0.0005615	0.0035	1.2479		2873.92	2873.92	0.98		No
SLV 3	10	-2857.9	-8304	-0.0000699	0.0005615	0.0035	1.5599		6499.83	6499.83	2.27		Si
SLV 4	7.9	3498.36	-3241	-0.0128716	0.0005615	0.0035	1.2479		2567.11	2567.11	0.73		No
SLV 4	10	-3351.37	-8979	-0.0000817	0.0005615	0.0035	1.5599		6925.98	6925.98	2.07		Si
SLV 11	7.9	-2523.02	-5878	-0.000061	0.0005615	0.0035	1.2479		4911.27	4911.27	1.95		Si
SLV 11	10	1983.15	-342	-0.0198376	0.0005615	0.0035	1.2479		408.08	408.08	0.21		No
SLV 12	7.9	-2136.22	-5591	-0.0000508	0.0005615	0.0035	1.5599		4713.53	4713.53	2.21		Si
SLV 12	10	1650.96	-796	-0.0116759	0.0005615	0.0035	1.2479		755.53	755.53	0.46		No
SLD 1	7.9	2946.43	-5867	-0.000078	0.0005615	0.0035	1.5599		4404.81	4404.81	1.49		Si
SLD 1	10	-3109.55	-10529	-0.0000803	0.0005615	0.0035	1.5599		7873.94	7873.94	2.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.9	1208.13	-10042	-8362	2024	1.5599	1.5599	-19145	9497	4148	40441	13079	3978	17057	No	8.43	Si
SLU 73	10	-1927.15	-11300	-9409	4189	1.5599	1.5599	-21543	9817	4288	40441	13079	3978	17057	No	4.07	Si
SLU 83	7.9	1197.36	-10438	-8691	1964	1.5599	1.5599	-19899	9598	4192	40441	13079	3978	17057	No	8.68	Si
SLU 83	10	-2000.18	-11694	-9738	4141	1.5599	1.5599	-22295	9917	4332	40441	13079	3978	17057	No	4.12	Si
SLU 75	7.9	1195.83	-10352	-8620	2018	1.5599	1.5599	-19736	9576	4183	40441	13079	3978	17057	No	8.45	Si
SLU 75	10	-1944.34	-11607	-9665	4219	1.5599	1.5599	-22129	9895	4322	40441	13079	3978	17057	No	4.04	Si
SLU 74	7.9	1170.68	-10324	-8597	1982	1.5599	1.5599	-19683	9569	4179	40441	13079	3978	17057	No	8.61	Si
SLU 74	10	-1918.08	-11535	-9605	4158	1.5599	1.5599	-21992	9877	4314	40441	13079	3978	17057	No	4.1	Si
SLU 76	7.9	1188.57	-10254	-8539	1989	1.5599	1.5599	-19550	9551	4172	40441	13079	3978	17057	No	8.58	Si
SLU 76	10	-1918.17	-11452	-9537	4150	1.5599	1.5599	-21834	9856	4305	40441	13079	3978	17057	No	4.11	Si
SLU 84	7.9	1222.51	-10466	-8715	2000	1.5599	1.5599	-19953	9605	4195	40441	13079	3978	17057	No	8.53	Si
SLU 84	10	-2026.44	-11766	-9798	4203	1.5599	1.5599	-22432	9935	4340	40441	13079	3978	17057	No	4.06	Si
SLU 78	7.9	1176.27	-10564	-8797	1983	1.5599	1.5599	-20141	9630	4206	40441	13079	3978	17057	No	8.6	Si
SLU 78	10	-1935.36	-11760	-9793	4181	1.5599	1.5599	-22420	9934	4339	40441	13079	3978	17057	No	4.08	Si
SLU 77	7.9	1151.12	-10536	-8774	1947	1.5599	1.5599	-20088	9623	4203	40441	13079	3978	17057	No	8.76	Si
SLU 77	10	-1909.1	-11688	-9733	4119	1.5599	1.5599	-22283	9916	4331	40441	13079	3978	17057	No	4.14	Si
SLU 82	7.9	1242.07	-10253	-8538	2036	1.5599	1.5599	-19548	9551	4172	40441	13079	3978	17057	No	8.38	Si
SLU 82	10	-2035.41	-11613	-9670	4242	1.5599	1.5599	-22141	9897	4323	40441	13079	3978	17057	No	4.02	Si
SLU 81	7.9	1216.92	-10225	-8515	2000	1.5599	1.5599	-19494	9544	4168	40441	13079	3978	17057	No	8.53	Si
SLU 81	10	-2009.15	-11541	-9611	4180	1.5599	1.5599	-22004	9878	4315	40441	13079	3978	17057	No	4.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	7.9	2517.99	-8206	-6833	3980	1.5599	1.4193	-15645	13546	5383	40441	19618	3978	23596		5.93	Si
SLD 5	10	-2954.77	-12051	-10035	6696	1.5599	1.5599	-22975	15012	6557	40441	19618	3978	23596		3.52	Si
SLV 2	7.9	4801.16	-4717	-3928	7870	1.2479	0	0	0	0	40441	15695	3182	18877		2.4	Si
SLV 2	10	-4718.76	-12870	-10717	9237	1.5599	1.2399	-31378	16250	5642	40441	19618	3978	23596		2.55	Si
SLD 2	7.9	3310.97	-5596	-4660	5472	1.5599	0.565	-10670	12551	3345	40441	19618	3978	23596		4.31	Si
SLD 2	10	-3422.62	-10958	-9125	6837	1.5599	1.4028	-23467	15110	5935	40441	19618	3978	23596		3.45	Si
SLV 10	7.9	2206.47	-10510	-8752	3262	1.5599	1.5599	-20038	14424	6300	40441	19618	3978	23596		7.23	Si
SLV 10	10	-2907.02	-13767	-11464	7318	1.5599	1.5599	-26246	15666	6842	40441	19618	3978	23596		3.22	Si
SLV 9	7.9	1819.66	-10797	-8991	2637	1.5599	1.5599	-20584	14534	6348	40441	19618	3978	23596		8.95	Si
SLV 9	10	-2574.83	-13312	-11085	6727	1.5599	1.5599	-25380	15493	6767	40441	19618	3978	23596		3.51	Si
SLV 1	7.9	4226.54	-5143	-4283	6941	1.5599	0	-178276	16250	3245	40441	19618	3978	23596		3.4	Si
SLV 1	10	-4225.29	-12195	-10155	8358	1.5599	1.3004	-28304	16078	5854	40441	19618	3978	23596		2.82	Si
SLV 6	7.9	4062.19	-8663	-7214	6327	1.5599	0.9331	-16516	13720	4026	40441	19618	3978	23596		3.73	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	10	-4442.28	-15397	-12822	9905	1.5599	1.4743	-31590	16250	6708	40441	19618	3978	23596		2.38	Si
SLD 6	7.9	2752.73	-8032	-6688	4360	1.5599	1.3117	-15313	13479	4950	40441	19618	3978	23596		5.41	Si
SLD 6	10	-3156.35	-12327	-10265	7055	1.5599	1.5599	-23501	15117	6603	40441	19618	3978	23596		3.34	Si
SLV 5	7.9	3675.38	-8950	-7453	5701	1.5599	1.1079	-17063	13829	4290	40441	19618	3978	23596		4.14	Si
SLV 5	10	-4110.09	-14943	-12443	9314	1.5599	1.5147	-29808	16250	6892	40441	19618	3978	23596		2.53	Si
SLV 4	7.9	3498.36	-3241	-2699	5998	1.2479	0	0	0	0	40441	15695	3182	18877		3.15	Si
SLV 4	10	-3351.37	-8979	-7477	5955	1.5599	1.2202	-22122	14841	5070	40441	19618	3978	23596		3.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.45	0	-1229	193.73	0	0	No, e>t/2
SLV 12	179667	0.45	3627	-1584	193.73	216.54	1.12	Si
SLV 7	179667	0.45	5548	-2423	193.73	326.95	1.69	Si
SLV 8	179667	0.45	6361	-2778	193.73	372.76	1.92	Si
SLV 15	179667	0.45	8730	-3813	193.73	503.3	2.6	Si
SLV 16	179667	0.45	9937	-4340	193.73	568.09	2.93	Si
SLV 13	179667	0.45	16703	-7295	193.73	909.63	4.7	Si
SLV 3	179667	0.45	17842	-7793	193.73	963.54	4.97	Si
SLV 14	179667	0.45	17910	-7822	193.73	966.71	4.99	Si
SLV 4	179667	0.45	19049	-8320	193.73	1019.52	5.26	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5856	-11300	-46	1.249	817.9	0.928	19.5632	6.13636	Si
SLV 14	-5660	-10874	-45	1.283	798.1	0.926	20.12152	6.13636	Si
SLV 15	-5085	-9824	101	1.384	740.3	0.922	21.81801	6.13636	Si
SLV 16	-4889	-9398	102	1.426	720.7	0.92	22.51693	6.13636	Si
SLV 9	-5814	-10797	-236	1.23	813.7	0.928	19.26572	5.23702	Si
SLV 10	-5682	-10510	-236	1.252	800.4	0.927	19.63443	5.23702	Si
SLV 5	-5035	-8950	-252	1.371	735.3	0.922	21.62209	5.23702	Si
SLV 6	-4903	-8663	-252	1.399	722.1	0.921	22.08918	5.23702	Si
SLV 1	-3260	-5143	-100	1.912	558.2	0.905	30.7031	6.13636	Si
SLV 2	-3063	-4717	-100	1.994	538.9	0.903	32.10165	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.887	SLU 40	Si
V_SLU	4.021	SLU 82	Si
PF_SLV	0.206	SLV 11	No
V_SLV	2.382	SLV 6	Si
PFFP_SLV	0	SLV 11	No
R_SLV	3.188	SLV 13	Si

Maschio 204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L6	L7	4.31	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 7	7.9	2763.85	-14242	-0.0000372	0.0004492	0.0035	4.31	24762.45	29702.6	29702.6	10.75	No	Si
SLU 7	11.45	1855.88	-8291	-0.000022	0.0004492	0.0035	4.31	15857.55	18561.09	18561.09	10	No	Si
SLU 48	7.9	3454.43	-17327	-0.0000458	0.0004492	0.0035	4.31	28564.19	35140.26	35140.26	10.17	No	Si
SLU 48	11.45	2098.29	-9990	-0.0000263	0.0004492	0.0035	4.31	18611.31	21816.62	21816.62	10.4	No	Si
SLU 9	7.9	2735.56	-13935	-0.0000364	0.0004492	0.0035	4.31	24353.64	29147.99	29147.99	10.66	No	Si
SLU 9	11.45	1833.42	-7997	-0.0000214	0.0004492	0.0035	4.31	15364.93	17991.13	17991.13	9.81	No	Si
SLU 72	7.9	3659.06	-19367	-0.0000509	0.0004492	0.0035	4.31	30772.48	38297.14	38297.14	10.47	No	Si
SLU 72	11.45	2354.48	-10999	-0.0000291	0.0004492	0.0035	4.31	20166.78	23719.81	23719.81	10.07	No	Si
SLU 30	7.9	3015.01	-16260	-0.0000422	0.0004492	0.0035	4.31	27312.67	33317.52	33317.52	11.05	No	Si
SLU 30	11.45	2072.34	-9305	-0.0000248	0.0004492	0.0035	4.31	17521.52	20509.34	20509.34	9.9	No	Si
SLU 51	7.9	3379.61	-17041	-0.000045	0.0004492	0.0035	4.31	28235.79	34698.54	34698.54	10.27	No	Si
SLU 51	11.45	2115.56	-9691	-0.0000257	0.0004492	0.0035	4.31	18139.68	21246.82	21246.82	10.04	No	Si
SLU 29	7.9	3061.54	-16239	-0.0000423	0.0004492	0.0035	4.31	27286.65	33279.25	33279.25	10.87	No	Si
SLU 29	11.45	2032.62	-9310	-0.0000246	0.0004492	0.0035	4.31	17529.8	20519.15	20519.15	10.09	No	Si
SLU 50	7.9	3426.14	-17020	-0.0000451	0.0004492	0.0035	4.31	28210.75	34663.73	34663.73	10.12	No	Si
SLU 50	11.45	2075.83	-9697	-0.0000256	0.0004492	0.0035	4.31	18147.85	21256.63	21256.63	10.24	No	Si
SLU 28	7.9	3043.31	-16567	-0.0000043	0.0004492	0.0035	4.31	27679.74	33861.66	33861.66	11.13	No	Si
SLU 28	11.45	2094.8	-9598	-0.0000254	0.0004492	0.0035	4.31	17991.71	21069.33	21069.33	10.06	No	Si
SLU 8	7.9	2782.08	-13913	-0.0000365	0.0004492	0.0035	4.31	24324.68	29108.98	29108.98	10.46	No	Si
SLU 8	11.45	1793.7	-8003	-0.0000213	0.0004492	0.0035	4.31	15373.6	18001.11	18001.11	10.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.9	4528.94	-10836	-0.0000347	0.0006738	0.0035	4.31		23714.25	23714.25	5.24		Si
SLV 3	11.45	833.58	-5412	-0.0000132	0.0006738	0.0035	4.31		13008.26	13008.26	15.61		Si
SLV 6	7.9	-1408.02	-17177	-0.000039	0.0006738	0.0035	4.31		44460.33	44460.33	31.58		Si
SLV 6	11.45	4024.49	-8498	-0.0000285	0.0006738	0.0035	4.31		19158.02	19158.02	4.76		Si
SLV 12	7.9	6514.87	-11072	-0.0000409	0.0006738	0.0035	4.31		24170.41	24170.41	3.71		Si
SLV 12	11.45	-1401.77	-6861	-0.0000177	0.0006738	0.0035	4.31		25080.57	25080.57	17.89		Si
SLD 8	7.9	5127.51	-11538	-0.0000379	0.0006738	0.0035	4.31		25063.7	25063.7	4.89		Si
SLD 8	11.45	-149.01	-6510	-0.0000135	0.0006738	0.0035	4.31		24391.82	24391.82	163.69		Si
SLV 4	7.9	4488.85	-10851	-0.0000347	0.0006738	0.0035	4.31		23743.69	23743.69	5.29		Si
SLV 4	11.45	927.98	-5367	-0.0000133	0.0006738	0.0035	4.31		12916.46	12916.46	13.92		Si
SLD 7	7.9	5143.89	-11531	-0.0000379	0.0006738	0.0035	4.31		25051.87	25051.87	4.87		Si
SLD 7	11.45	-187.58	-6529	-0.0000136	0.0006738	0.0035	4.31		24428.1	24428.1	130.23		Si
SLV 8	7.9	6929.66	-9773	-0.0000394	0.0006738	0.0035	4.31		21654.79	21654.79	3.12		Si
SLV 8	11.45	-1173.26	-5727	-0.0000148	0.0006738	0.0035	4.31		22834.42	22834.42	19.46		Si
SLV 11	7.9	6541.85	-11062	-0.000041	0.0006738	0.0035	4.31		24150.59	24150.59	3.69		Si
SLV 11	11.45	-1465.32	-6891	-0.0000179	0.0006738	0.0035	4.31		25140.35	25140.35	17.16		Si
SLV 5	7.9	-1381.03	-17166	-0.0000389	0.0006738	0.0035	4.31		44441.8	44441.8	32.18		Si
SLV 5	11.45	3960.95	-8529	-0.0000283	0.0006738	0.0035	4.31		19217.92	19217.92	4.85		Si
SLV 7	7.9	6956.65	-9763	-0.0000394	0.0006738	0.0035	4.31		21634.97	21634.97	3.11		Si
SLV 7	11.45	-1236.81	-5758	-0.000015	0.0006738	0.0035	4.31		22895	22895	18.51		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 53	7.9	3369.48	-18421	-10214	656	4.31	4.31	-16927	10590	7571	115546	21685	21981	43666	No	66.54	Si
SLU 53	11.45	1800.59	-10190	-5650	652	4.31	4.31	-9363	9582	5782	115546	21685	21981	43666	No	66.97	Si
SLU 1	7.9	2466.22	-13013	-7215	710	4.31	4.31	-11958	9928	6372	115546	21685	21981	43666	No	61.54	Si
SLU 1	11.45	1213.5	-7141	-3959	707	4.31	4.31	-6562	9208	5556	115546	21685	21981	43666	No	61.8	Si
SLU 45	7.9	3296.5	-16877	-9358	850	4.31	4.31	-15508	10401	7229	115546	21685	21981	43666	No	51.35	Si
SLU 45	11.45	1808.19	-9559	-5300	847	4.31	4.31	-8784	9505	5735	115546	21685	21981	43666	No	51.58	Si
SLU 44	7.9	3032.74	-16156	-8958	666	4.31	4.31	-14846	10313	7069	115546	21685	21981	43666	No	65.54	Si
SLU 44	11.45	1561.84	-8827	-4894	839	4.31	4.31	-8111	9415	5681	115546	21685	21981	43666	No	52.03	Si
SLU 46	7.9	3249.98	-16899	-9370	624	4.31	4.31	-15528	10404	7233	115546	21685	21981	43666	No	69.97	Si
SLU 46	11.45	1847.92	-9554	-5297	726	4.31	4.31	-8779	9504	5735	115546	21685	21981	43666	No	60.13	Si
SLU 43	7.9	3110.28	-16120	-8938	1043	4.31	4.31	-14813	10308	7061	115546	21685	21981	43666	No	41.85	Si
SLU 43	11.45	1495.63	-8835	-4899	1040	4.31	4.31	-8118	9416	5681	115546	21685	21981	43666	No	42	Si
SLU 48	7.9	3454.43	-17327	-9607	658	4.31	4.31	-15921	10456	7328	115546	21685	21981	43666	No	66.33	Si
SLU 48	11.45	2098.29	-9990	-5539	654	4.31	4.31	-9180	9557	5767	115546	21685	21981	43666	No	66.73	Si
SLU 64	7.9	3389.73	-18446	-10227	691	4.31	4.31	-16949	10593	7576	115546	21685	21981	43666	No	63.22	Si
SLU 64	11.45	1734.55	-10143	-5624	687	4.31	4.31	-9320	9576	5778	115546	21685	21981	43666	No	63.6	Si
SLU 60	7.9	3214.53	-18327	-10161	766	4.31	4.31	-16840	10579	7550	115546	21685	21981	43666	No	57	Si
SLU 60	11.45	1484.77	-9736	-5398	762	4.31	4.31	-8946	9526	5748	115546	21685	21981	43666	No	57.32	Si
SLU 50	7.9	3426.14	-17020	-9437	659	4.31	4.31	-15639	10419	7260	115546	21685	21981	43666	No	66.25	Si
SLU 50	11.45	2075.83	-9697	-5376	655	4.31	4.31	-8910	9521	5745	115546	21685	21981	43666	No	66.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	7.9	4867.33	-12369	-6858	9520	4.31	4.31	-11366	14773	8914	115546	32527	21981	54508		5.73	Si
SLD 12	11.45	-295.84	-7237	-4012	8279	4.31	4.31	-6650	13830	8345	115546	32527	21981	54508		6.58	Si
SLV 5	7.9	-1381.03	-17166	-9518	-14748	4.31	4.31	-15774	15655	9446	115546	32527	21981	54508		3.7	Si
SLV 5	11.45	3960.95	-8529	-4729	-12642	4.31	4.31	-7837	14067	8488	115546	32527	21981	54508		4.31	Si
SLV 7	7.9	6956.65	-9763	-5413	15519	4.31	4.31	-8971	14294	8625	115546	32527	21981	54508		3.51	Si
SLV 7	11.45	-1236.81	-5758	-3192	13457	4.31	4.31	-5291	13558	8181	115546	32527	21981	54508		4.05	Si
SLV 11	7.9	6541.85	-11062	-6133	15881	4.31	4.31	-10164	14533	8769	115546	32527	21981	54508		3.43	Si
SLV 11	11.45	-1465.32	-6891	-3821	13768	4.31	4.31	-6332	13766	8307	115546	32527	21981	54508		3.96	Si
SLV 12	7.9	6514.87	-11072	-6139	15855	4.31	4.31	-10174	14535	8770	115546	32527	21981	54508		3.44	Si
SLV 12	11.45	-1401.77	-6861	-3804	13742	4.31	4.31	-6304	13761	8303	115546	32527	21981	54508		3.97	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	7.9	4883.71	-12363	-6855	9536	4.31	4.31	-11360	14772	8913	115546	32527	21981	54508		5.72	Si
SLD 11	11.45	-334.4	-7255	-4023	8295	4.31	4.31	-6667	13833	8347	115546	32527	21981	54508		6.57	Si
SLV 6	7.9	-1408.02	-17177	-9524	-14774	4.31	4.31	-15783	15657	9447	115546	32527	21981	54508		3.69	Si
SLV 6	11.45	4024.49	-8498	-4712	-12668	4.31	4.31	-7809	14062	8485	115546	32527	21981	54508		4.3	Si
SLV 8	7.9	6929.66	-9773	-5419	15493	4.31	4.31	-8980	14296	8626	115546	32527	21981	54508		3.52	Si
SLV 8	11.45	-1173.26	-5727	-3175	13432	4.31	4.31	-5263	13553	8178	115546	32527	21981	54508		4.06	Si
SLV 10	7.9	-1822.81	-18476	-10244	-14412	4.31	4.31	-16977	15895	9591	115546	32527	21981	54508		3.78	Si
SLV 10	11.45	3795.98	-9632	-5341	-12357	4.31	4.31	-8851	14270	8611	115546	32527	21981	54508		4.41	Si
SLV 9	7.9	-1795.83	-18465	-10238	-14386	4.31	4.31	-16968	15894	9590	115546	32527	21981	54508		3.79	Si
SLV 9	11.45	3732.44	-9663	-5357	-12331	4.31	4.31	-8879	14276	8614	115546	32527	21981	54508		4.42	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-7579	0.45	291.27	494.2	938.67	716.44	2.46	Si
SLV 3	-7607	0.45	291.27	495.88	941.06	718.47	2.47	Si
SLV 8	-8038	0.45	291.27	521.74	977.9	749.82	2.57	Si
SLV 7	-8056	0.45	291.27	522.87	979.5	751.18	2.58	Si
SLV 2	-9152	0.45	291.27	587.64	1073.33	830.48	2.85	Si
SLV 1	-9180	0.45	291.27	589.26	1075.71	832.49	2.86	Si
SLV 12	-9999	0.45	291.27	636.66	1145.64	891.15	3.06	Si
SLV 11	-10018	0.45	291.27	637.73	1147.24	892.49	3.06	Si
SLV 6	-13280	0.45	291.27	817.98	1422.22	1120.1	3.85	Si
SLV 5	-13299	0.45	291.27	818.97	1423.75	1121.36	3.85	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-10023	-17387	317	2.022	1325.1	0.937	31.37649	10.68239	Si
SLV 14	-9978	-17402	317	2.03	1320.5	0.936	31.50067	10.68239	Si
SLV 15	-9191	-15166	276	2.176	1241.1	0.933	33.88318	10.68239	Si
SLV 16	-9146	-15181	276	2.184	1236.5	0.933	34.02767	10.68239	Si
SLV 9	-9663	-18465	157	2.098	1288.7	0.935	32.60812	7.57668	Si
SLV 10	-9632	-18476	157	2.104	1285.6	0.935	32.69767	7.57668	Si
SLV 1	-6244	-13057	-277	2.953	944.4	0.917	46.78835	10.68239	Si
SLV 2	-6198	-13073	-277	2.97	939.8	0.917	47.06179	10.68239	Si
SLV 5	-8529	-17166	-21	2.337	1174.2	0.93	36.51052	7.57668	Si
SLV 6	-8498	-17177	-21	2.343	1171.1	0.93	36.62194	7.57668	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.813	SLU 9	Si
V_SLU	41.855	SLU 43	Si
PF_SLV	3.11	SLV 7	Si
V_SLV	3.432	SLV 11	Si
PFFP_SLV	2.46	SLV 4	Si
R_SLV	2.937	SLV 13	Si

Maschio 205

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L6	L7	1.14	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	8.8	467.8	-6736	-0.0000448	0.0003743	0.0035	1.1401	3044.09	3293.4	3293.4	7.04	No	Si
SLU 65	10.6	-815.74	-5815	-0.0000491	0.0003743	0.0035	1.1401	2721.72	3222.68	3222.68	3.95	No	Si
SLU 72	8.8	424.72	-6976	-0.0000449	0.0003743	0.0035	1.1401	3123.32	3402.9	3402.9	8.01	No	Si
SLU 72	10.6	-810.14	-5944	-0.0000497	0.0003743	0.0035	1.1401	2768.76	3277.56	3277.56	4.05	No	Si
SLU 64	8.8	420.17	-6721	-0.0000435	0.0003743	0.0035	1.1401	3039.22	3286.75	3286.75	7.82	No	Si
SLU 64	10.6	-781.17	-5732	-0.0000478	0.0003743	0.0035	1.1401	2691.3	3187.31	3187.31	4.08	No	Si
SLU 25	8.8	418.38	-5757	-0.0000384	0.0003743	0.0035	1.1401	2700.39	2853.49	2853.49	6.82	No	Si
SLU 25	10.6	-717.4	-5118	-0.0000429	0.0003743	0.0035	1.1401	2458.11	2920.82	2920.82	4.07	No	Si
SLU 66	8.8	423.27	-6998	-0.000045	0.0003743	0.0035	1.1401	3130.22	3412.3	3412.3	8.06	No	Si
SLU 66	10.6	-810.51	-5991	-0.0000499	0.0003743	0.0035	1.1401	2785.59	3297.24	3297.24	4.07	No	Si
SLU 26	8.8	422.32	-5609	-0.0000378	0.0003743	0.0035	1.1401	2645.79	2788.83	2788.83	6.6	No	Si
SLU 26	10.6	-706	-4974	-0.0000418	0.0003743	0.0035	1.1401	2401.35	2857.27	2857.27	4.05	No	Si
SLU 67	8.8	451.85	-7006	-0.0000458	0.0003743	0.0035	1.1401	3133.07	3416.15	3416.15	7.56	No	Si
SLU 67	10.6	-831.25	-6040	-0.0000507	0.0003743	0.0035	1.1401	2803.42	3318.13	3318.13	3.99	No	Si
SLU 68	8.8	455.79	-6859	-0.0000451	0.0003743	0.0035	1.1401	3084.92	3349.57	3349.57	7.35	No	Si
SLU 68	10.6	-819.85	-5896	-0.0000497	0.0003743	0.0035	1.1401	2751.33	3257.2	3257.2	3.97	No	Si
SLU 70	8.8	439.84	-7130	-0.0000461	0.0003743	0.0035	1.1401	3172.73	3469.15	3469.15	7.89	No	Si
SLU 70	10.6	-835.36	-6122	-0.0000513	0.0003743	0.0035	1.1401	2832.39	3352.13	3352.13	4.01	No	Si
SLU 23	8.8	434.33	-5486	-0.0000374	0.0003743	0.0035	1.1401	2599.56	2735.06	2735.06	6.3	No	Si
SLU 23	10.6	-701.89	-4892	-0.0000413	0.0003743	0.0035	1.1401	2369.11	2820.63	2820.63	4.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	8.8	3333.63	-2648	-0.0395982	0.0005615	0.0035	0.9121		1514.93	1514.93	0.45		No
SLV 1	10.6	-2480.13	-6442	-0.0001339	0.0005615	0.0035	0.9121		3637.53	3637.53	1.47		Si
SLV 5	8.8	3647.04	-4800	-0.0233465	0.0005615	0.0035	0.9121		2601.82	2601.82	0.71		No
SLV 5	10.6	-2965.79	-8677	-0.0001483	0.0005615	0.0035	0.9121		4621.39	4621.39	1.56		Si
SLV 4	8.8	2185.37	-1990	-0.0231391	0.0005615	0.0035	0.9121		1167	1167	0.53		No
SLV 4	10.6	-1573.27	-4306	-0.0000775	0.0005615	0.0035	0.9121		2620.05	2620.05	1.67		Si
SLV 7	8.8	-1940.94	-4135	-0.0001565	0.0005615	0.0035	0.9121		2534.93	2534.93	1.31		Si
SLV 7	10.6	1167.31	-416	-0.019729	0.0005615	0.0035	0.9121		307.47	307.47	0.26		No
SLV 11	8.8	-3422.67	-5845	-0.0014849	0.0005615	0.0035	0.9121		3361.23	3361.23	0.98		No
SLV 11	10.6	2037.61	195	-0.0466778	0.0005615	0.0035	0.9121		0	0	0		No
SLV 15	8.8	-3281.88	-8147	-0.0001971	0.0005615	0.0035	0.9121		4399.1	4399.1	1.34		Si
SLV 15	10.6	1660.81	-1928	-0.0130668	0.0005615	0.0035	0.9121		1134.19	1134.19	0.68		No
SLV 8	8.8	-1585.43	-3826	-0.0000911	0.0005615	0.0035	0.9121		2380.2	2380.2	1.5		Si
SLV 8	10.6	943.1	-646	-0.0120593	0.0005615	0.0035	0.9121		435.82	435.82	0.46		No
SLV 2	8.8	3861.76	-2189	-0.0558511	0.0005615	0.0035	0.9121		1273.37	1273.37	0.33		No
SLV 2	10.6	-2813.2	-6784	-0.0001728	0.0005615	0.0035	0.9121		3793.95	3793.95	1.35		Si
SLV 6	8.8	4002.55	-4492	-0.0335985	0.0005615	0.0035	0.9121		2450.78	2450.78	0.61		No
SLV 6	10.6	-3190	-8907	-0.0001663	0.0005615	0.0035	0.9121		4718.88	4718.88	1.48		Si
SLV 12	8.8	-3067.16	-5536	-0.0008094	0.0005615	0.0035	0.9121		3217.52	3217.52	1.05		Si
SLV 12	10.6	1813.4	-35	-0.0388628	0.0005615	0.0035	0.9121		94.11	94.11	0.05		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	8.8	434.18	-7468	-6218	997	1.1401	1.1401	-19479	9542	3046	40441	9559	2907	12467	No	12.5	Si
SLU 75	10.6	-848.09	-6477	-5393	912	1.1401	1.1401	-16895	9197	2936	40441	9559	2907	12467	No	13.66	Si
SLU 84	8.8	411.49	-7512	-6255	967	1.1401	1.1401	-19595	9557	3051	40441	9559	2907	12467	No	12.89	Si
SLU 84	10.6	-830.08	-6486	-5401	860	1.1401	1.1401	-16920	9200	2937	40441	9559	2907	12467	No	14.5	Si
SLU 73	8.8	450.13	-7197	-5993	1018	1.1401	1.1401	-18774	9448	3016	40441	9559	2907	12467	No	12.25	Si
SLU 73	10.6	-832.58	-6251	-5205	901	1.1401	1.1401	-16306	9119	2911	40441	9559	2907	12467	No	13.83	Si
SLU 67	8.8	451.85	-7006	-5834	985	1.1401	1.1401	-18276	9381	2995	40441	9559	2907	12467	No	12.66	Si
SLU 67	10.6	-831.25	-6040	-5030	964	1.1401	1.1401	-15756	9045	2888	40441	9559	2907	12467	No	12.93	Si
SLU 68	8.8	455.79	-6859	-5712	981	1.1401	1.1401	-17892	9330	2978	40441	9559	2907	12467	No	12.71	Si
SLU 68	10.6	-819.85	-5896	-4910	956	1.1401	1.1401	-15380	8995	2872	40441	9559	2907	12467	No	13.04	Si
SLU 82	8.8	423.5	-7389	-6153	992	1.1401	1.1401	-19274	9514	3037	40441	9559	2907	12467	No	12.57	Si
SLU 82	10.6	-825.97	-6405	-5334	856	1.1401	1.1401	-16708	9172	2928	40441	9559	2907	12467	No	14.56	Si
SLU 76	8.8	438.11	-7320	-6096	993	1.1401	1.1401	-19095	9490	3030	40441	9559	2907	12467	No	12.56	Si
SLU 76	10.6	-836.69	-6332	-5273	904	1.1401	1.1401	-16518	9147	2920	40441	9559	2907	12467	No	13.78	Si
SLU 78	8.8	422.16	-7591	-6321	972	1.1401	1.1401	-19800	9584	3060	40441	9559	2907	12467	No	12.83	Si
SLU 78	10.6	-852.2	-6558	-5461	916	1.1401	1.1401	-17107	9225	2945	40441	9559	2907	12467	No	13.61	Si
SLU 70	8.8	439.84	-7130	-5937	960	1.1401	1.1401	-18598	9424	3008	40441	9559	2907	12467	No	12.99	Si
SLU 70	10.6	-835.36	-6122	-5098	967	1.1401	1.1401	-15968	9074	2897	40441	9559	2907	12467	No	12.89	Si
SLU 65	8.8	467.8	-6736	-5609	1006	1.1401	1.1401	-17571	9287	2965	40441	9559	2907	12467	No	12.4	Si
SLU 65	10.6	-815.74	-5815	-4842	953	1.1401	1.1401	-15168	8967	2862	40441	9559	2907	12467	No	13.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	8.8	2185.37	-1990	-1657	3980	0.9121	0	0	0	0	40441	11471	2326	13797		3.47	Si
SLV 4	10.6	-1573.27	-4306	-3585	1876	0.9121	0.614	0	0	0	40441	11471	2326	13797		7.35	Si
SLV 6	8.8	4002.55	-4492	-3740	6667	0.9121	0	0	0	0	40441	11471	2326	13797		2.07	Si
SLV 6	10.6	-3190	-8907	-7417	4874	0.9121	0.6357	0	0	0	40441	11471	2326	13797		2.83	Si
SLV 11	8.8	-3422.67	-5845	-4867	-5353	0.9121	0	0	0	0	40441	11471	2326	13797		2.58	Si
SLV 11	10.6	2037.61	195	162	-3594	0.9121	0	0	0	0	40441	11471	2326	13797		3.84	Si
SLD 2	8.8	2526.82	-3256	-2711	4415	0.9121	0	0	0	0	40441	11471	2326	13797		3.13	Si
SLD 2	10.6	-1971.37	-5837	-4861	2697	0.9121	0.697	0	0	0	40441	11471	2326	13797		5.12	Si
SLV 2	8.8	3861.76	-2189	-1823	6650	0.9121	0	0	0	0	40441	11471	2326	13797		2.07	Si
SLV 2	10.6	-2813.2	-6784	-5649	3951	0.9121	0.4661	0	0	0	40441	11471	2326	13797		3.49	Si
SLV 5	8.8	3647.04	-4800	-3997	6081	0.9121	0	0	0	0	40441	11471	2326	13797		2.27	Si
SLV 5	10.6	-2965.79	-8677	-7225	4532	0.9121	0.6848	0	0	0	40441	11471	2326	13797		3.04	Si
SLV 12	8.8	-3067.16	-5536	-4610	-4766	0.9121	0.048	0	0	0	40441	11471	2326	13797		2.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	10.6	1813.4	-35	-29	-3253	0.9121	0	0	0	0	40441	11471	2326	13797		4.24	Si
SLV 1	8.8	3333.63	-2648	-2205	5779	0.9121	0	0	0	0	40441	11471	2326	13797		2.39	Si
SLV 1	10.6	-2480.13	-6442	-5364	3443	0.9121	0.5552	0	0	0	40441	11471	2326	13797		4.01	Si
SLV 16	8.8	-2753.75	-7688	-6402	-4465	0.9121	0.6357	0	0	0	40441	11471	2326	13797		3.09	Si
SLV 16	10.6	1327.74	-2270	-1890	-2163	0.9121	0	0	0	0	40441	11471	2326	13797		6.38	Si
SLV 15	8.8	-3281.88	-8147	-6784	-5336	0.9121	0.5017	0	0	0	40441	11471	2326	13797		2.59	Si
SLV 15	10.6	1660.81	-1928	-1606	-2671	0.9121	0	0	0	0	40441	11471	2326	13797		5.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.45	4740	-1513	141.6	205.25	1.45	Si
SLV 2	179667	0.45	5365	-1713	141.6	231.36	1.63	Si
SLV 3	179667	0.45	6177	-1972	141.6	264.88	1.87	Si
SLV 1	179667	0.45	6802	-2171	141.6	290.47	2.05	Si
SLV 8	179667	0.45	10556	-3370	141.6	439.16	3.1	Si
SLV 7	179667	0.45	11523	-3679	141.6	476.14	3.36	Si
SLV 6	179667	0.45	12642	-4036	141.6	518.22	3.66	Si
SLV 5	179667	0.45	13609	-4344	141.6	554.02	3.91	Si
SLV 12	179667	0.45	15966	-5097	141.6	638.96	4.51	Si
SLV 11	179667	0.45	16933	-5406	141.6	672.88	4.75	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-5920	-11414	-175	0.943	763.6	0.941	14.56109	5.23702	Si
SLV 5	-5789	-11093	-174	0.96	750.3	0.94	14.84471	5.23702	Si
SLV 2	-4849	-9060	-45	1.13	655.2	0.933	17.59835	6.13636	Si
SLV 10	-5502	-10424	-180	1	721.2	0.938	15.49065	5.23702	Si
SLV 1	-4654	-8583	-44	1.167	635.6	0.931	18.21608	6.13636	Si
SLV 9	-5371	-10103	-180	1.02	707.9	0.937	15.81337	5.23702	Si
SLV 4	-3486	-5985	61	1.456	517.9	0.919	23.01399	6.13636	Si
SLV 14	-3455	-5759	-63	1.465	514.8	0.919	23.17226	6.13636	Si
SLV 3	-3291	-5508	62	1.52	498.4	0.917	24.08532	6.13636	Si
SLV 13	-3260	-5281	-63	1.531	495.3	0.917	24.26304	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.951	SLU 65	Si
V_SLU	12.25	SLU 73	Si
PF_SLV	0	SLV 11	No
V_SLV	2.069	SLV 6	Si
PFFP_SLV	1.45	SLV 4	Si
R_SLV	2.78	SLV 6	Si

Maschio 206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L6	L7	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	7.9	-4888.2	-23498	-0.0000575	0.0004492	0.0035	4.67	38728.81	59754.01	59754.01	12.22	No	Si
SLU 82	11.45	-404.48	-14287	-0.0000279	0.0004492	0.0035	4.67	27394.5	42649.13	42649.13	105.44	No	Si
SLU 52	7.9	-4235.69	-20108	-0.000049	0.0004492	0.0035	4.67	35133.41	53634.48	53634.48	12.66	No	Si
SLU 52	11.45	-222.92	-12243	-0.0000235	0.0004492	0.0035	4.67	24205.76	38585.93	38585.93	173.09	No	Si
SLU 81	7.9	-4819.51	-23585	-0.0000575	0.0004492	0.0035	4.67	38812.45	59911.45	59911.45	12.43	No	Si
SLU 81	11.45	-431.86	-14307	-0.000028	0.0004492	0.0035	4.67	27423.86	42686.59	42686.59	98.84	No	Si
SLU 61	7.9	-4411.92	-20798	-0.0000508	0.0004492	0.0035	4.67	35920.2	54880.87	54880.87	12.44	No	Si
SLU 61	11.45	-278.98	-12569	-0.0000242	0.0004492	0.0035	4.67	24731.58	39245.66	39245.66	140.68	No	Si
SLU 40	7.9	-4182.32	-19877	-0.0000484	0.0004492	0.0035	4.67	34864.33	53218.04	53218.04	12.72	No	Si
SLU 40	11.45	-395.96	-12077	-0.0000236	0.0004492	0.0035	4.67	23935.87	38250.31	38250.31	96.6	No	Si
SLU 60	7.9	-4343.23	-20885	-0.0000508	0.0004492	0.0035	4.67	36017.6	55038.31	55038.31	12.67	No	Si
SLU 60	11.45	-306.36	-12589	-0.0000243	0.0004492	0.0035	4.67	24762.91	39285.22	39285.22	128.23	No	Si
SLU 39	7.9	-4113.63	-19964	-0.0000484	0.0004492	0.0035	4.67	34966.43	53375.48	53375.48	12.98	No	Si
SLU 39	11.45	-423.34	-12096	-0.0000237	0.0004492	0.0035	4.67	23967.77	38289.87	38289.87	90.45	No	Si
SLU 84	7.9	-4749.21	-24572	-0.0000594	0.0004492	0.0035	4.67	39728.01	61615.9	61615.9	12.97	No	Si
SLU 84	11.45	-90.39	-15469	-0.0000294	0.0004492	0.0035	4.67	29126.42	44909.53	44909.53	496.83	No	Si
SLU 73	7.9	-4711.98	-22807	-0.0000556	0.0004492	0.0035	4.67	38051.02	58507.61	58507.61	12.42	No	Si
SLU 73	11.45	-348.42	-13961	-0.0000271	0.0004492	0.0035	4.67	26901.48	42024.49	42024.49	120.61	No	Si
SLU 31	7.9	-4006.09	-19186	-0.0000465	0.0004492	0.0035	4.67	34040.35	51971.65	51971.65	12.97	No	Si
SLU 31	11.45	-339.91	-11750	-0.0000228	0.0004492	0.0035	4.67	23400.64	37590.59	37590.59	110.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	7.9	-7997.61	-12176	-0.0000421	0.0006738	0.0035	4.67		38798.53	38798.53	4.85		Si
SLD 10	11.45	542.66	-9093	-0.0000182	0.0006738	0.0035	4.67		22388.36	22388.36	41.26		Si
SLV 10	7.9	-11383.49	-9135	-0.0000491	0.0006738	0.0035	4.67		32511.1	32511.1	2.86		Si
SLV 10	11.45	1084.78	-8352	-0.0000181	0.0006738	0.0035	4.67		20804.83	20804.83	19.18		Si
SLD 5	7.9	-7644.8	-11022	-0.000039	0.0006738	0.0035	4.67		36412.91	36412.91	4.76		Si
SLD 5	11.45	423.78	-8042	-0.0000159	0.0006738	0.0035	4.67		20141.02	20141.02	47.53		Si
SLV 9	7.9	-11553.53	-9157	-0.00005	0.0006738	0.0035	4.67		32557.42	32557.42	2.82		Si
SLV 9	11.45	842.32	-8175	-0.0000172	0.0006738	0.0035	4.67		20426.24	20426.24	24.25		Si
SLV 13	7.9	-6867.04	-16974	-0.0000487	0.0006738	0.0035	4.67		48466.63	48466.63	7.06		Si
SLV 13	11.45	-122.43	-11609	-0.0000219	0.0006738	0.0035	4.67		37625.69	37625.69	307.32		Si
SLV 6	7.9	-10675.86	-7309	-0.0000488	0.0006738	0.0035	3.736		28641.56	28641.56	2.68		Si
SLV 6	11.45	1129.87	-6877	-0.0000154	0.0006738	0.0035	4.67		17619.92	17619.92	15.59		Si
SLD 6	7.9	-7541.61	-11009	-0.0000388	0.0006738	0.0035	4.67		36384.8	36384.8	4.82		Si
SLD 6	11.45	570.91	-8149	-0.0000165	0.0006738	0.0035	4.67		20370.76	20370.76	35.68		Si
SLV 14	7.9	-6614.44	-16940	-0.000048	0.0006738	0.0035	4.67		48401.08	48401.08	7.32		Si
SLV 14	11.45	237.75	-11872	-0.0000226	0.0006738	0.0035	4.67		28252.04	28252.04	118.83		Si
SLV 5	7.9	-10845.91	-7332	-0.00005	0.0006738	0.0035	3.736		28689.32	28689.32	2.65		Si
SLV 5	11.45	887.42	-6699	-0.0000145	0.0006738	0.0035	4.67		17235.51	17235.51	19.42		Si
SLD 9	7.9	-8100.81	-12190	-0.0000424	0.0006738	0.0035	4.67		38826.64	38826.64	4.79		Si
SLD 9	11.45	395.53	-8986	-0.0000176	0.0006738	0.0035	4.67		22158.61	22158.61	56.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	7.9	-3578.66	-19706	-10926	-2385	4.67	4.67	-16712	10562	8147	115546	23496	23817	47313	No	19.84	Si
SLU 47	11.45	179.38	-12693	-7038	-785	4.67	4.67	-10764	9769	6592	115546	23496	23817	47313	No	60.24	Si
SLU 50	7.9	-3325.19	-20926	-11603	-2398	4.67	4.67	-17747	10700	8418	115546	23496	23817	47313	No	19.73	Si
SLU 50	11.45	447.84	-13908	-7711	-664	4.67	4.67	-11794	9906	6861	115546	23496	23817	47313	No	71.21	Si
SLU 46	7.9	-3648.26	-19984	-11080	-2239	4.67	4.67	-16947	10593	8209	115546	23496	23817	47313	No	21.14	Si
SLU 46	11.45	-14.95	-12866	-7134	-636	4.67	4.67	-10911	9788	6630	115546	23496	23817	47313	No	74.42	Si
SLU 57	7.9	-4027.32	-22534	-12494	-2219	4.67	4.67	-19110	10833	8774	115546	23496	23817	47313	No	21.32	Si
SLU 57	11.45	210.92	-14780	-8195	-366	4.67	4.67	-12534	10005	7055	115546	23496	23817	47313	No	129.3	Si
SLU 59	7.9	-3911.93	-22315	-12372	-2288	4.67	4.67	-18924	10833	8726	115546	23496	23817	47313	No	20.68	Si
SLU 59	11.45	387	-14620	-8106	-442	4.67	4.67	-12398	9986	7019	115546	23496	23817	47313	No	107.05	Si
SLU 72	7.9	-3870.16	-23539	-13051	-2288	4.67	4.67	-19962	10833	8997	115546	23496	23817	47313	No	20.68	Si
SLU 72	11.45	349.72	-15606	-8653	-332	4.67	4.67	-13235	10098	7238	115546	23496	23817	47313	No	142.48	Si
SLU 49	7.9	-3509.28	-21058	-11676	-2446	4.67	4.67	-17858	10714	8447	115546	23496	23817	47313	No	19.35	Si
SLU 49	11.45	299.14	-14048	-7789	-699	4.67	4.67	-11914	9922	6892	115546	23496	23817	47313	No	67.7	Si
SLU 48	7.9	-3440.59	-21145	-11724	-2329	4.67	4.67	-17932	10724	8466	115546	23496	23817	47313	No	20.31	Si
SLU 48	11.45	271.76	-14068	-7800	-588	4.67	4.67	-11930	9924	6897	115546	23496	23817	47313	No	80.41	Si
SLU 70	7.9	-3985.56	-23758	-13173	-2219	4.67	4.67	-20148	10833	9046	115546	23496	23817	47313	No	21.32	Si
SLU 70	11.45	173.64	-15766	-8742	-256	4.67	4.67	-13371	10116	7273	115546	23496	23817	47313	No	184.79	Si
SLU 51	7.9	-3393.88	-20839	-11554	-2515	4.67	4.67	-17673	10690	8398	115546	23496	23817	47313	No	18.82	Si
SLU 51	11.45	475.22	-13888	-7700	-775	4.67	4.67	-11778	9904	6857	115546	23496	23817	47313	No	61.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	7.9	-7541.61	-11009	-6104	-8126	4.67	4.67	-9336	14367	9393	115546	35244	23817	59061		7.27	Si
SLD 6	11.45	570.91	-8149	-4518	-5922	4.67	4.67	-6911	13882	9076	115546	35244	23817	59061		9.97	Si
SLV 5	7.9	-10845.91	-7332	-4065	-12982	3.736	2.5671	0	0	0	115546	28195	19054	47249		3.64	Si
SLV 5	11.45	887.42	-6699	-3715	-10161	4.67	4.67	-5681	13636	8915	115546	35244	23817	59061		5.81	Si
SLV 10	7.9	-11383.49	-9135	-5065	-12256	4.67	3.2666	-11121	14725	7691	115546	35244	23817	59061		4.82	Si
SLV 10	11.45	1084.78	-8352	-4631	-9325	4.67	4.67	-7083	13917	9099	115546	35244	23817	59061		6.33	Si
SLV 12	7.9	4483.16	-25367	-14065	10309	4.67	4.67	-21512	16250	11291	115546	35244	23817	59061		5.73	Si
SLV 12	11.45	-1353.18	-13366	-7411	10010	4.67	4.67	-11335	14767	9655	115546	35244	23817	59061		5.9	Si
SLV 9	7.9	-11553.53	-9157	-5077	-12331	4.67	3.22	-11308	14763	7696	115546	35244	23817	59061		4.79	Si
SLV 9	11.45	842.32	-8175	-4533	-9444	4.67	4.67	-6933	13887	9079	115546	35244	23817	59061		6.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	7.9	5020.74	-23563	-13065	9583	4.67	4.67	-19983	16250	10891	115546	35244	23817	59061		6.16	Si
SLV 7	11.45	-1550.54	-11713	-6494	9174	4.67	4.67	-9933	14487	9471	115546	35244	23817	59061		6.44	Si
SLV 6	7.9	-10675.86	-7309	-4053	-12907	3.736	2.6233	0	0	0	115546	28195	19054	47249		3.66	Si
SLV 6	11.45	1129.87	-6877	-3813	-10042	4.67	4.67	-5832	13666	8935	115546	35244	23817	59061		5.88	Si
SLV 8	7.9	5190.78	-23541	-13052	9658	4.67	4.67	-19964	16250	10886	115546	35244	23817	59061		6.12	Si
SLV 8	11.45	-1308.08	-11890	-6593	9293	4.67	4.67	-10084	14517	9491	115546	35244	23817	59061		6.36	Si
SLV 11	7.9	4313.12	-25389	-14077	10234	4.67	4.67	-21531	16250	11296	115546	35244	23817	59061		5.77	Si
SLV 11	11.45	-1595.63	-13189	-7313	9891	4.67	4.67	-11185	14737	9635	115546	35244	23817	59061		5.97	Si
SLD 5	7.9	-7644.8	-11022	-6111	-8172	4.67	4.67	-9347	14369	9395	115546	35244	23817	59061		7.23	Si
SLD 5	11.45	423.78	-8042	-4459	-5994	4.67	4.67	-6820	13864	9064	115546	35244	23817	59061		9.85	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-8305	0.45	315.6	541.06	1016.42	778.74	2.47	Si
SLV 6	-8427	0.45	315.6	548.4	1026.84	787.62	2.5	Si
SLV 9	-9606	0.45	315.6	618.52	1127.73	873.12	2.77	Si
SLV 10	-9728	0.45	315.6	625.67	1138.11	881.89	2.79	Si
SLV 1	-10275	0.45	315.6	657.59	1184.81	921.2	2.92	Si
SLV 2	-10456	0.45	315.6	668.07	1200.24	934.16	2.96	Si
SLV 3	-13290	0.45	315.6	827.15	1440.05	1133.6	3.59	Si
SLV 4	-13471	0.45	315.6	836.98	1455.02	1146	3.63	Si
SLV 13	-14612	0.45	315.6	898.11	1549.29	1223.7	3.88	Si
SLV 14	-14793	0.45	315.6	907.67	1564.16	1235.92	3.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-13376	-21810	388	1.693	1690.6	0.945	26.04984	10.68239	Si
SLV 15	-13113	-21843	388	1.722	1663.9	0.944	26.51672	10.68239	Si
SLV 14	-11872	-16940	396	1.873	1538.2	0.94	28.95603	10.68239	Si
SLV 13	-11609	-16974	396	1.909	1511.6	0.939	29.53416	10.68239	Si
SLV 12	-13366	-25367	104	1.713	1689.6	0.945	26.35012	7.57668	Si
SLV 11	-13189	-25389	104	1.733	1671.7	0.944	26.66643	7.57668	Si
SLV 4	-8457	-15725	-396	2.474	1193.2	0.926	38.8036	10.68239	Si
SLV 3	-8194	-15758	-396	2.536	1166.7	0.925	39.84448	10.68239	Si
SLV 8	-11890	-23541	-132	1.89	1540.1	0.94	29.20937	7.57668	Si
SLV 7	-11713	-23563	-132	1.914	1522.1	0.94	29.59891	7.57668	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.224	SLU 82	Si
V_SLU	18.816	SLU 51	Si
PF_SLV	2.645	SLV 5	Si
V_SLV	3.64	SLV 5	Si
PFFP_SLV	2.467	SLV 5	Si
R_SLV	2.439	SLV 16	Si

Maschio 208

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L6	L7	0.565	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 67	9.9	-29.64	-3611	-0.0000385	0.0003743	0.0035	0.565	791.46	925.94	925.94	31.24	No	Si
SLU 67	10.7	-226.27	-3378	-0.0000573	0.0003743	0.0035	0.565	754.2	879.84	879.84	3.89	No	Si
SLU 70	9.9	-37.42	-3672	-0.00004	0.0003743	0.0035	0.565	800.82	937.4	937.4	25.05	No	Si
SLU 70	10.7	-222.55	-3404	-0.0000572	0.0003743	0.0035	0.565	758.37	885	885	3.98	No	Si
SLU 73	9.9	-35.04	-3803	-0.0000411	0.0003743	0.0035	0.565	820.65	962.12	962.12	27.46	No	Si
SLU 73	10.7	-232.16	-3591	-0.0000603	0.0003743	0.0035	0.565	788.21	921.95	921.95	3.97	No	Si
SLU 65	9.9	-19.29	-3445	-0.0000357	0.0003743	0.0035	0.565	765.04	893.32	893.32	46.31	No	Si
SLU 65	10.7	-225.1	-3248	-0.0000558	0.0003743	0.0035	0.565	732.54	853.19	853.19	3.79	No	Si
SLU 64	9.9	-21.96	-3457	-0.0000361	0.0003743	0.0035	0.565	767.05	895.86	895.86	40.79	No	Si
SLU 64	10.7	-220.22	-3267	-0.0000554	0.0003743	0.0035	0.565	735.68	857.03	857.03	3.89	No	Si
SLU 68	9.9	-27.08	-3505	-0.0000372	0.0003743	0.0035	0.565	774.75	905.6	905.6	33.45	No	Si
SLU 68	10.7	-221.38	-3274	-0.0000556	0.0003743	0.0035	0.565	736.83	858.42	858.42	3.88	No	Si
SLU 44	9.9	-15.2	-2999	-0.0000307	0.0003743	0.0035	0.565	689.55	802.03	802.03	52.78	No	Si
SLU 44	10.7	-193.24	-2817	-0.0000477	0.0003743	0.0035	0.565	656.55	764.02	764.02	3.95	No	Si
SLU 66	9.9	-31.24	-3619	-0.0000388	0.0003743	0.0035	0.565	792.62	927.37	927.37	29.68	No	Si
SLU 66	10.7	-223.34	-3390	-0.0000571	0.0003743	0.0035	0.565	756.03	882.11	882.11	3.95	No	Si
SLU 23	9.9	-16.24	-2867	-0.0000295	0.0003743	0.0035	0.565	665.81	774.69	774.69	47.69	No	Si
SLU 23	10.7	-190.04	-2708	-0.0000462	0.0003743	0.0035	0.565	636.3	740.66	740.66	3.9	No	Si
SLU 26	9.9	-24.03	-2928	-0.0000309	0.0003743	0.0035	0.565	676.75	787.22	787.22	32.76	No	Si
SLU 26	10.7	-186.31	-2733	-0.000046	0.0003743	0.0035	0.565	641.07	746.26	746.26	4.01	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	9.9	265.48	-1245	-0.0000657	0.0005615	0.0035	0.565		355.59	355.59	1.34		Si
SLD 1	10.7	-432.42	-1672	-0.0002443	0.0005615	0.0035	0.452		514.34	514.34	1.19		Si
SLV 10	9.9	127.41	-2441	-0.0000362	0.0005615	0.0035	0.565		655.38	655.38	5.14		Si
SLV 10	10.7	-403.5	-1632	-0.0001721	0.0005615	0.0035	0.452		503.95	503.95	1.25		Si
SLV 2	9.9	547.21	12	-0.0448473	0.0005615	0.0035	0.452		15.79	15.79	0.03		No
SLV 2	10.7	-697.28	-1052	-0.0058668	0.0005615	0.0035	0.452		354.85	354.85	0.51		No
SLV 4	9.9	402.97	-435	-0.0223166	0.0005615	0.0035	0.452		139.65	139.65	0.35		No
SLV 4	10.7	-505.59	-1749	-0.0006406	0.0005615	0.0035	0.452		533.74	533.74	1.06		Si
SLV 6	9.9	390.12	-1101	-0.0079126	0.0005615	0.0035	0.452		318.05	318.05	0.82		No
SLV 6	10.7	-634.45	-999	-0.0050005	0.0005615	0.0035	0.452		340.71	340.71	0.54		No
SLV 3	9.9	287.5	-874	-0.0038974	0.0005615	0.0035	0.452		258.05	258.05	0.9		No
SLV 3	10.7	-401.4	-1869	-0.0001031	0.0005615	0.0035	0.452		563.36	563.36	1.4		Si
SLV 1	9.9	431.73	-427	-0.0248138	0.0005615	0.0035	0.452		137.25	137.25	0.32		No
SLV 1	10.7	-593.09	-1173	-0.0036113	0.0005615	0.0035	0.452		385.77	385.77	0.65		No
SLD 6	9.9	228.04	-1710	-0.0000411	0.0005615	0.0035	0.565		474.69	474.69	2.08		Si
SLD 6	10.7	-446.44	-1609	-0.0004142	0.0005615	0.0035	0.452		498.03	498.03	1.12		Si
SLD 2	9.9	338.74	-967	-0.0064733	0.0005615	0.0035	0.452		282.69	282.69	0.83		No
SLD 2	10.7	-498.52	-1596	-0.0009238	0.0005615	0.0035	0.452		494.7	494.7	0.99		No
SLV 5	9.9	312.38	-1396	-0.0000884	0.0005615	0.0035	0.565		394.76	394.76	1.26		Si
SLV 5	10.7	-564.32	-1080	-0.0034205	0.0005615	0.0035	0.452		361.81	361.81	0.64		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	9.9	-17.87	-3012	-2508	91	0.565	0.565	-15854	9058	1433	40441	4737	1441	6178	No	68.22	Si
SLU 43	10.7	-188.36	-2835	-2361	127	0.565	0.565	-14924	8934	1413	40441	4737	1441	6178	No	48.6	Si
SLU 64	9.9	-21.96	-3457	-2879	119	0.565	0.565	-18199	9371	1482	40441	4737	1441	6178	No	51.79	Si
SLU 64	10.7	-220.22	-3267	-2720	110	0.565	0.565	-17195	9237	1461	40441	4737	1441	6178	No	56.09	Si
SLU 68	9.9	-27.08	-3505	-2919	120	0.565	0.565	-18451	9405	1488	40441	4737	1441	6178	No	51.46	Si
SLU 68	10.7	-221.38	-3274	-2726	89	0.565	0.565	-17231	9242	1462	40441	4737	1441	6178	No	69.32	Si
SLU 52	9.9	-30.94	-3357	-2796	65	0.565	0.565	-17672	9301	1471	40441	4737	1441	6178	No	94.74	Si
SLU 52	10.7	-200.3	-3159	-2631	118	0.565	0.565	-16629	9162	1449	40441	4737	1441	6178	No	52.51	Si
SLU 61	9.9	-38.76	-3516	-2928	36	0.565	0.565	-18506	9412	1489	40441	4737	1441	6178	No	170.19	Si
SLU 61	10.7	-201.37	-3313	-2759	122	0.565	0.565	-17440	9270	1466	40441	4737	1441	6178	No	50.64	Si
SLU 60	9.9	-40.37	-3523	-2934	23	0.565	0.565	-18546	9417	1490	40441	4737	1441	6178	No	265.91	Si
SLU 60	10.7	-198.45	-3325	-2768	128	0.565	0.565	-17499	9278	1468	40441	4737	1441	6178	No	48.24	Si
SLU 23	9.9	-16.24	-2867	-2388	128	0.565	0.565	-15093	8957	1417	40441	4737	1441	6178	No	48.36	Si
SLU 23	10.7	-190.04	-2708	-2255	66	0.565	0.565	-14252	8845	1399	40441	4737	1441	6178	No	93.34	Si
SLU 65	9.9	-19.29	-3445	-2869	141	0.565	0.565	-18133	9362	1481	40441	4737	1441	6178	No	43.8	Si
SLU 65	10.7	-225.1	-3248	-2705	100	0.565	0.565	-17097	9224	1459	40441	4737	1441	6178	No	61.78	Si
SLU 53	9.9	-42.9	-3531	-2941	26	0.565	0.565	-18588	9423	1491	40441	4737	1441	6178	No	237.33	Si
SLU 53	10.7	-198.54	-3301	-2748	118	0.565	0.565	-17373	9261	1465	40441	4737	1441	6178	No	52.15	Si
SLU 45	9.9	-27.15	-3173	-2643	73	0.565	0.565	-16704	9172	1451	40441	4737	1441	6178	No	84.45	Si
SLU 45	10.7	-191.49	-2958	-2463	118	0.565	0.565	-15571	9021	1427	40441	4737	1441	6178	No	52.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	9.9	-588.2	-5340	-4446	-2391	0.565	0.517	-28106	16038	2322	40441	7106	1441	8547		3.58	Si
SLV 15	10.7	368.45	-3979	-3314	263	0.565	0.565	-20946	14606	2311	40441	7106	1441	8547		32.52	Si
SLV 11	9.9	-431.11	-4227	-3520	-2109	0.565	0.5415	-22248	14866	2254	40441	7106	1441	8547		4.05	Si
SLV 11	10.7	305.62	-4033	-3359	667	0.565	0.565	-21230	14663	2320	40441	7106	1441	8547		12.82	Si
SLV 4	9.9	402.97	-435	-363	1638	0.452	0	0	0	0	40441	5685	1153	6837		4.17	Si
SLV 4	10.7	-505.59	-1749	-1456	268	0.452	0	0	0	0	40441	5685	1153	6837		25.47	Si
SLD 2	9.9	338.74	-967	-805	1619	0.452	0	0	0	0	40441	5685	1153	6837		4.22	Si
SLD 2	10.7	-498.52	-1596	-1329	-13	0.452	0	0	0	0	40441	5685	1153	6837		532.15	Si
SLV 16	9.9	-472.72	-4901	-4081	-1948	0.565	0.5581	-25798	15576	2434	40441	7106	1441	8547		4.39	Si
SLV 16	10.7	264.26	-3859	-3214	323	0.565	0.565	-20314	14479	2291	40441	7106	1441	8547		26.48	Si
SLV 6	9.9	390.12	-1101	-917	2253	0.452	0	0	0	0	40441	5685	1153	6837		3.04	Si
SLV 6	10.7	-634.45	-999	-832	-489	0.452	0	0	0	0	40441	5685	1153	6837		13.97	Si
SLV 12	9.9	-353.37	-3931	-3274	-1811	0.565	0.565	-20694	14555	2303	40441	7106	1441	8547		4.72	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	10.7	235.49	-3952	-3291	707	0.565	0.565	-20804	14577	2306	40441	7106	1441	8547		12.09	Si
SLV 1	9.9	431.73	-427	-355	2092	0.452	0	0	0	0	40441	5685	1153	6837		3.27	Si
SLV 1	10.7	-593.09	-1173	-976	-145	0.452	0	0	0	0	40441	5685	1153	6837		47.02	Si
SLV 5	9.9	312.38	-1396	-1163	1955	0.565	0.1764	-23836	15184	1072	40441	7106	1441	8547		4.37	Si
SLV 5	10.7	-564.32	-1080	-899	-530	0.452	0	0	0	0	40441	5685	1153	6837		12.91	Si
SLV 2	9.9	547.21	12	10	2535	0.452	0	0	0	0	40441	5685	1153	6837		2.7	Si
SLV 2	10.7	-697.28	-1052	-876	-86	0.452	0	0	0	0	40441	5685	1153	6837		79.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.45	5565	-880	70.17	118.76	1.69	Si
SLV 3	179667	0.45	6650	-1052	70.17	140.87	2.01	Si
SLV 2	179667	0.45	7450	-1179	70.17	156.96	2.24	Si
SLV 8	179667	0.45	8047	-1273	70.17	168.83	2.41	Si
SLV 1	179667	0.45	8535	-1350	70.17	178.47	2.54	Si
SLV 7	179667	0.45	8777	-1389	70.17	183.23	2.61	Si
SLV 12	179667	0.45	11908	-1884	70.17	243.17	3.47	Si
SLV 11	179667	0.45	12638	-1999	70.17	256.75	3.66	Si
SLV 6	179667	0.45	14332	-2267	70.17	287.63	4.1	Si
SLV 5	179667	0.45	15062	-2383	70.17	300.69	4.29	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2337	-2050	-10	1.159	318.1	0.932	18.07851	6.13636	Si
SLV 16	-2224	-2082	-10	1.206	306.6	0.93	18.84905	6.13636	Si
SLV 13	-2070	-2885	3	1.278	291.1	0.927	20.04326	6.13636	Si
SLV 14	-1957	-2917	3	1.335	279.7	0.925	20.99082	6.13636	Si
SLV 11	-2138	-891	-25	1.238	298	0.928	19.38393	5.23702	Si
SLV 12	-2062	-912	-25	1.274	290.2	0.927	19.97692	5.23702	Si
SLV 7	-1716	-728	-25	1.466	255.5	0.919	23.17345	5.23702	Si
SLV 8	-1640	-749	-25	1.517	247.9	0.917	24.02746	5.23702	Si
SLV 9	-1248	-3675	18	1.851	208.8	0.907	29.65743	5.23702	Si
SLV 10	-1171	-3696	18	1.933	201.3	0.905	31.0559	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.79	SLU 65	Si
V_SLU	43.795	SLU 65	Si
PF_SLV	0.029	SLV 2	No
V_SLV	2.698	SLV 2	Si
PFFP_SLV	1.692	SLV 4	Si
R_SLV	2.946	SLV 15	Si

Maschio 209

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L6	L7	2.325	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 23	9.9	1001.6	-10593	-0.000031	0.0003743	0.0035	2.325	10345.98	10834.35	10834.35	10.82	No	Si
SLU 23	10.7	592.2	-9072	-0.0000247	0.0003743	0.0035	2.325	9102.59	9517.56	9517.56	16.07	No	Si
SLU 43	9.9	1018.93	-10750	-0.0000315	0.0003743	0.0035	2.325	10470.18	10972.91	10972.91	10.77	No	Si
SLU 43	10.7	538.47	-8940	-0.0000241	0.0003743	0.0035	2.325	8991.08	9405.26	9405.26	17.47	No	Si
SLU 64	9.9	1189.86	-12464	-0.0000368	0.0003743	0.0035	2.325	11764.98	12507.7	12507.7	10.51	No	Si
SLU 64	10.7	712.85	-10575	-0.0000291	0.0003743	0.0035	2.325	10331.81	10818.62	10818.62	15.18	No	Si
SLU 73	9.9	1260.38	-13660	-0.0000403	0.0003743	0.0035	2.325	12606.7	13606.85	13606.85	10.8	No	Si
SLU 73	10.7	838.05	-11730	-0.0000328	0.0003743	0.0035	2.325	11222.95	11843.59	11843.59	14.13	No	Si
SLU 68	9.9	1184.25	-12760	-0.0000375	0.0003743	0.0035	2.325	11978.09	12778.02	12778.02	10.79	No	Si
SLU 68	10.7	708.06	-10840	-0.0000298	0.0003743	0.0035	2.325	10540.29	11051.74	11051.74	15.61	No	Si
SLU 67	9.9	1217.04	-13102	-0.0000386	0.0003743	0.0035	2.325	12220.21	13091.53	13091.53	10.76	No	Si
SLU 67	10.7	754.78	-11174	-0.0000309	0.0003743	0.0035	2.325	10800.12	11347.83	11347.83	15.03	No	Si
SLU 66	9.9	1215.96	-13008	-0.0000383	0.0003743	0.0035	2.325	12153.88	13004.95	13004.95	10.7	No	Si
SLU 66	10.7	780.2	-11097	-0.0000308	0.0003743	0.0035	2.325	10740.31	11279.12	11279.12	14.46	No	Si
SLU 65	9.9	1191.65	-12621	-0.0000372	0.0003743	0.0035	2.325	11878.35	12650.87	12650.87	10.62	No	Si
SLU 65	10.7	670.47	-10704	-0.0000292	0.0003743	0.0035	2.325	10433.73	10932.1	10932.1	16.31	No	Si
SLU 22	9.9	999.81	-10436	-0.0000306	0.0003743	0.0035	2.325	10221.44	10696.76	10696.76	10.7	No	Si
SLU 22	10.7	634.57	-8943	-0.0000247	0.0003743	0.0035	2.325	8993.27	9407.46	9407.46	14.82	No	Si
SLU 81	9.9	1288.05	-13948	-0.0000412	0.0003743	0.0035	2.325	12802.07	13874.62	13874.62	10.77	No	Si
SLU 81	10.7	952.24	-12041	-0.0000343	0.0003743	0.0035	2.325	11454.6	12122.99	12122.99	12.73	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	9.9	-308.01	-3181	-0.000009	0.0005615	0.0035	2.325		5135.32	5135.32	16.67		Si
SLV 11	10.7	3173.16	-2932	-0.0001371	0.0005615	0.0035	2.325		3595.45	3595.45	1.13		Si
SLV 8	9.9	407.89	-3874	-0.0000112	0.0005615	0.0035	2.325		4630.84	4630.84	11.35		Si
SLV 8	10.7	1036.3	-2965	-0.0000128	0.0005615	0.0035	2.325		3631.01	3631.01	3.5		Si
SLD 11	9.9	177.34	-5791	-0.0000143	0.0005615	0.0035	2.325		6691.16	6691.16	37.73		Si
SLD 11	10.7	2139.81	-5066	-0.0000242	0.0005615	0.0035	2.325		5920.21	5920.21	2.77		Si
SLV 16	9.9	-119.81	-7308	-0.0000175	0.0005615	0.0035	2.325		9521.02	9521.02	79.47		Si
SLV 16	10.7	3328.48	-6762	-0.0000361	0.0005615	0.0035	2.325		7714.06	7714.06	2.32		Si
SLD 15	9.9	101.35	-7908	-0.0000188	0.0005615	0.0035	2.325		8898.39	8898.39	87.8		Si
SLD 15	10.7	2794.37	-7208	-0.0000332	0.0005615	0.0035	2.325		8176.1	8176.1	2.93		Si
SLV 12	9.9	-129.45	-3492	-0.0000087	0.0005615	0.0035	2.325		5474.77	5474.77	42.29		Si
SLV 12	10.7	2652.33	-3050	-0.0000373	0.0005615	0.0035	2.325		3725.02	3725.02	1.4		Si
SLD 12	9.9	285.7	-5979	-0.0000154	0.0005615	0.0035	2.325		6890.3	6890.3	24.12		Si
SLD 12	10.7	1823.75	-5138	-0.0000225	0.0005615	0.0035	2.325		5996.74	5996.74	3.29		Si
SLV 7	9.9	229.33	-3563	-0.0000094	0.0005615	0.0035	2.325		4290.9	4290.9	18.71		Si
SLV 7	10.7	1557.13	-2847	-0.0000163	0.0005615	0.0035	2.325		3501.38	3501.38	2.25		Si
SLV 15	9.9	-385.07	-6846	-0.000018	0.0005615	0.0035	2.325		9043.09	9043.09	23.48		Si
SLV 15	10.7	4102.19	-6587	-0.0000439	0.0005615	0.0035	2.325		7530.86	7530.86	1.84		Si
SLV 13	9.9	123.38	-10435	-0.0000248	0.0005615	0.0035	2.325		11435.88	11435.88	92.69		Si
SLV 13	10.7	3174.09	-9659	-0.0000414	0.0005615	0.0035	2.325		10667.82	10667.82	3.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	9.9	1260.38	-13660	-11375	1601	2.325	2.325	-17472	9274	6037	40441	19494	5929	25423	No	15.88	Si
SLU 73	10.7	838.05	-11730	-9768	1332	2.325	2.325	-15004	8945	5823	40441	19494	5929	25423	No	19.08	Si
SLU 67	9.9	1217.04	-13102	-10910	1653	2.325	2.325	-16759	9179	5976	40441	19494	5929	25423	No	15.38	Si
SLU 67	10.7	754.78	-11174	-9305	1354	2.325	2.325	-14293	8850	5762	40441	19494	5929	25423	No	18.77	Si
SLU 44	9.9	1020.71	-10907	-9083	1635	2.325	2.325	-13952	8805	5732	40441	19494	5929	25423	No	15.55	Si
SLU 44	10.7	496.1	-9069	-7552	1328	2.325	2.325	-11601	8491	5528	40441	19494	5929	25423	No	19.14	Si
SLU 65	9.9	1191.65	-12621	-10510	1713	2.325	2.325	-16144	9097	5922	40441	19494	5929	25423	No	14.84	Si
SLU 65	10.7	670.47	-10704	-8913	1410	2.325	2.325	-13692	8770	5709	40441	19494	5929	25423	No	18.03	Si
SLU 64	9.9	1189.86	-12464	-10379	1615	2.325	2.325	-15944	9070	5905	40441	19494	5929	25423	No	15.75	Si
SLU 64	10.7	712.85	-10575	-8806	1337	2.325	2.325	-13527	8748	5695	40441	19494	5929	25423	No	19.02	Si
SLU 66	9.9	1215.96	-13008	-10832	1594	2.325	2.325	-16639	9163	5965	40441	19494	5929	25423	No	15.95	Si
SLU 66	10.7	780.2	-11097	-9241	1310	2.325	2.325	-14194	8837	5753	40441	19494	5929	25423	No	19.4	Si
SLU 70	9.9	1209.64	-13241	-11026	1601	2.325	2.325	-16937	9203	5991	40441	19494	5929	25423	No	15.88	Si
SLU 70	10.7	792.37	-11310	-9418	1303	2.325	2.325	-14467	8873	5777	40441	19494	5929	25423	No	19.51	Si
SLU 47	9.9	1013.32	-11046	-9198	1584	2.325	2.325	-14130	8828	5747	40441	19494	5929	25423	No	16.05	Si
SLU 47	10.7	533.69	-9205	-7665	1277	2.325	2.325	-11775	8514	5543	40441	19494	5929	25423	No	19.91	Si
SLU 46	9.9	1046.1	-11388	-9483	1575	2.325	2.325	-14566	8887	5785	40441	19494	5929	25423	No	16.14	Si
SLU 46	10.7	580.4	-9540	-7944	1272	2.325	2.325	-12203	8571	5580	40441	19494	5929	25423	No	19.98	Si
SLU 68	9.9	1184.25	-12760	-10626	1661	2.325	2.325	-16322	9121	5938	40441	19494	5929	25423	No	15.31	Si
SLU 68	10.7	708.06	-10840	-9026	1359	2.325	2.325	-13865	8793	5724	40441	19494	5929	25423	No	18.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	9.9	-308.01	-3181	-2649	-6152	2.325	2.325	-4069	11231	7311	40441	29241	5929	35169		5.72	Si
SLV 11	10.7	3173.16	-2932	-2442	-4766	2.325	0.2411	-35869	16250	3785	40441	29241	5929	35169		7.38	Si
SLV 16	9.9	-119.81	-7308	-6085	-5249	2.325	2.325	-9348	12286	7998	40441	29241	5929	35169		6.7	Si
SLV 16	10.7	3328.48	-6762	-5630	-4224	2.325	2.0107	-8649	12146	6838	40441	29241	5929	35169		8.33	Si
SLV 2	9.9	2179.76	-12170	-10134	9387	2.325	2.325	-15566	13530	8808	40441	29241	5929	35169		3.75	Si
SLV 2	10.7	-2986.4	-9550	-7952	7632	2.325	2.325	-12215	12860	8372	40441	29241	5929	35169		4.61	Si
SLV 6	9.9	2102.7	-15835	-13186	8538	2.325	2.325	-20255	14468	9418	40441	29241	5929	35169		4.12	Si
SLV 6	10.7	-2057.37	-13204	-10996	6742	2.325	2.325	-16890	13795	8980	40441	29241	5929	35169		5.22	Si
SLV 5	9.9	1924.14	-15524	-12927	7359	2.325	2.325	-19857	14388	9367	40441	29241	5929	35169		4.78	Si
SLV 5	10.7	-1536.54	-13087	-10898	5778	2.325	2.325	-16740	13765	8961	40441	29241	5929	35169		6.09	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	9.9	1914.5	-11708	-9749	7635	2.325	2.325	-14976	13412	8731	40441	29241	5929	35169		4.61	Si
SLV 1	10.7	-2212.68	-9375	-7807	6200	2.325	2.325	-11992	12815	8343	40441	29241	5929	35169		5.67	Si
SLV 4	9.9	1671.32	-8581	-7146	6380	2.325	2.325	-10977	12612	8210	40441	29241	5929	35169		5.51	Si
SLV 4	10.7	-2058.3	-6478	-5394	5328	2.325	2.325	-8286	12074	7860	40441	29241	5929	35169		6.6	Si
SLD 6	9.9	1617.35	-13225	-11013	5598	2.325	2.325	-16917	13800	8984	40441	29241	5929	35169		6.28	Si
SLD 6	10.7	-1024.02	-11071	-9219	4442	2.325	2.325	-14161	13249	8625	40441	29241	5929	35169		7.92	Si
SLV 15	9.9	-385.07	-6846	-5701	-7001	2.325	2.325	-8757	12168	7921	40441	29241	5929	35169		5.02	Si
SLV 15	10.7	4102.19	-6587	-5485	-5656	2.325	1.6192	-8426	12102	5487	40441	29241	5929	35169		6.22	Si
SLD 2	9.9	1693.34	-11108	-9249	6328	2.325	2.325	-14208	13258	8631	40441	29241	5929	35169		5.56	Si
SLD 2	10.7	-1678.57	-8929	-7435	5154	2.325	2.325	-11422	12701	8268	40441	29241	5929	35169		6.82	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.45	5746	-3741	288.75	503.98	1.75	Si
SLV 8	179667	0.45	5954	-3876	288.75	521.46	1.81	Si
SLV 11	179667	0.45	5970	-3886	288.75	522.81	1.81	Si
SLV 12	179667	0.45	6177	-4021	288.75	540.23	1.87	Si
SLV 3	179667	0.45	10924	-7112	288.75	924.4	3.2	Si
SLV 4	179667	0.45	11233	-7312	288.75	948.44	3.28	Si
SLV 15	179667	0.45	11670	-7597	288.75	982.34	3.4	Si
SLV 16	179667	0.45	11979	-7798	288.75	1006.1	3.48	Si
SLV 1	179667	0.45	15630	-10175	288.75	1278.69	4.43	Si
SLV 2	179667	0.45	15938	-10376	288.75	1301	4.51	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-9343	-14155	-892	1.112	1281	0.931	17.36143	5.23702	Si
SLV 9	-9332	-14193	-893	1.113	1279.9	0.931	17.3783	5.23702	Si
SLV 6	-9178	-13127	-801	1.136	1264.4	0.93	17.74677	5.23702	Si
SLV 5	-9167	-13165	-801	1.137	1263.3	0.93	17.76428	5.23702	Si
SLV 14	-7501	-11805	-405	1.369	1095.6	0.922	21.5825	6.13636	Si
SLV 13	-7485	-11862	-405	1.371	1094	0.922	21.62007	6.13636	Si
SLV 2	-6953	-8375	-101	1.483	1040.6	0.919	23.46506	6.13636	Si
SLV 1	-6937	-8432	-101	1.486	1039	0.918	23.50854	6.13636	Si
SLV 16	-5756	-8770	104	1.703	921	0.911	27.16615	6.13636	Si
SLV 15	-5740	-8826	104	1.707	919.4	0.911	27.22512	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.512	SLU 64	Si
V_SLU	14.844	SLU 65	Si
PF_SLV	1.133	SLV 11	Si
V_SLV	3.747	SLV 2	Si
PFFP_SLV	1.745	SLV 7	Si
R_SLV	3.315	SLV 10	Si

Maschio 210

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L6	L7	2.09	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	8.8	-158.72	-11479	-0.0000314	0.0003743	0.0035	2.09	9684.2	11417.02	11417.02	71.93	No	Si
SLU 82	10.6	1344.83	-10932	-0.000039	0.0003743	0.0035	2.09	9327.9	9885.14	9885.14	7.35	No	Si
SLU 41	8.8	-283.11	-9754	-0.0000276	0.0003743	0.0035	2.09	8524.01	10069.63	10069.63	35.57	No	Si
SLU 41	10.6	1273.36	-9686	-0.000035	0.0003743	0.0035	2.09	8476.29	8912.53	8912.53	7	No	Si
SLU 81	8.8	-203.62	-11431	-0.0000316	0.0003743	0.0035	2.09	9653.29	11380.98	11380.98	55.89	No	Si
SLU 81	10.6	1362.06	-10951	-0.0000392	0.0003743	0.0035	2.09	9340.29	9899.96	9899.96	7.27	No	Si
SLU 83	8.8	-207.77	-11585	-0.000032	0.0003743	0.0035	2.09	9752.05	11496.89	11496.89	55.33	No	Si
SLU 83	10.6	1373.37	-11117	-0.0000398	0.0003743	0.0035	2.09	9449.84	10031.85	10031.85	7.3	No	Si
SLU 35	8.8	-198.54	-9856	-0.0000272	0.0003743	0.0035	2.09	8595.78	10150.4	10150.4	51.12	No	Si
SLU 35	10.6	1211.91	-9670	-0.0000345	0.0003743	0.0035	2.09	8464.89	8900.09	8900.09	7.34	No	Si
SLU 37	8.8	-209.78	-9600	-0.0000266	0.0003743	0.0035	2.09	8415.71	9948.95	9948.95	47.43	No	Si
SLU 37	10.6	1176.54	-9389	-0.0000334	0.0003743	0.0035	2.09	8265.45	8684.6	8684.6	7.38	No	Si
SLU 32	8.8	-194.4	-9702	-0.0000268	0.0003743	0.0035	2.09	8487.69	10028.99	10028.99	51.59	No	Si
SLU 32	10.6	1200.6	-9503	-0.0000339	0.0003743	0.0035	2.09	8346.9	8772.09	8772.09	7.31	No	Si
SLU 40	8.8	-234.05	-9648	-0.0000269	0.0003743	0.0035	2.09	8449.36	9986.29	9986.29	42.67	No	Si
SLU 40	10.6	1244.82	-9501	-0.0000342	0.0003743	0.0035	2.09	8345.05	8770.1	8770.1	7.05	No	Si
SLU 42	8.8	-238.2	-9802	-0.0000274	0.0003743	0.0035	2.09	8557.75	10107.52	10107.52	42.43	No	Si
SLU 42	10.6	1256.13	-9667	-0.0000348	0.0003743	0.0035	2.09	8463.07	8898.1	8898.1	7.08	No	Si
SLU 39	8.8	-278.96	-9600	-0.0000271	0.0003743	0.0035	2.09	8415.37	9948.56	9948.56	35.66	No	Si
SLU 39	10.6	1262.05	-9519	-0.0000344	0.0003743	0.0035	2.09	8358.39	8784.49	8784.49	6.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	8.8	-2049.45	-2783	-0.000032	0.0005615	0.0035	1.672		3929.81	3929.81	1.92		Si
SLV 8	10.6	1797.13	-6549	-0.0000299	0.0005615	0.0035	2.09		6684.96	6684.96	3.72		Si
SLV 12	8.8	-3136.08	-2985	-0.0001977	0.0005615	0.0035	1.672		4128.46	4128.46	1.32		Si
SLV 12	10.6	3120.66	-8016	-0.000044	0.0005615	0.0035	2.09		8032.12	8032.12	2.57		Si
SLD 15	8.8	-1843.74	-7180	-0.000032	0.0005615	0.0035	2.09		8109.2	8109.2	4.4		Si
SLD 15	10.6	2734.61	-9090	-0.0000438	0.0005615	0.0035	2.09		8995.43	8995.43	3.29		Si
SLV 2	8.8	3019.5	-9291	-0.0000465	0.0005615	0.0035	2.09		9174.19	9174.19	3.04		Si
SLV 2	10.6	-2323.96	-4250	-0.0000303	0.0005615	0.0035	2.09		5357.78	5357.78	2.31		Si
SLD 11	8.8	-2128.97	-4954	-0.0000286	0.0005615	0.0035	2.09		6025.05	6025.05	2.83		Si
SLD 11	10.6	2454.23	-8058	-0.0000389	0.0005615	0.0035	2.09		8069.75	8069.75	3.29		Si
SLV 15	8.8	-2982.99	-6620	-0.0000399	0.0005615	0.0035	2.09		7595.34	7595.34	2.55		Si
SLV 15	10.6	3892.56	-10182	-0.0000557	0.0005615	0.0035	2.09		9958.17	9958.17	2.56		Si
SLV 16	8.8	-2305.93	-6870	-0.0000346	0.0005615	0.0035	2.09		7824.27	7824.27	3.39		Si
SLV 16	10.6	3226.99	-9351	-0.0000482	0.0005615	0.0035	2.09		9227.2	9227.2	2.86		Si
SLV 7	8.8	-2505.21	-2615	-0.0000917	0.0005615	0.0035	1.672		3763.18	3763.18	1.5		Si
SLV 7	10.6	2245.16	-7108	-0.0000348	0.0005615	0.0035	2.09		7201.87	7201.87	3.21		Si
SLD 12	8.8	-1852.39	-5056	-0.0000264	0.0005615	0.0035	2.09		6122.42	6122.42	3.31		Si
SLD 12	10.6	2182.35	-7718	-0.0000359	0.0005615	0.0035	2.09		7761.15	7761.15	3.56		Si
SLV 11	8.8	-3591.84	-2816	-0.0004416	0.0005615	0.0035	1.672		3962.94	3962.94	1.1		Si
SLV 11	10.6	3568.69	-8576	-0.0000492	0.0005615	0.0035	2.09		8536.86	8536.86	2.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	8.8	-278.96	-9600	-7994	-1908	2.09	2.09	-13660	8766	5130	40441	17523	5329	22853	No	11.98	Si
SLU 39	10.6	1262.05	-9519	-7927	-1908	2.09	2.09	-13546	8751	5121	40441	17523	5329	22853	No	11.98	Si
SLU 84	8.8	-162.86	-11633	-9687	-1950	2.09	2.09	-16553	9151	5355	40441	17523	5329	22853	No	11.72	Si
SLU 84	10.6	1356.14	-11099	-9242	-1938	2.09	2.09	-15793	9050	5296	40441	17523	5329	22853	No	11.79	Si
SLU 77	8.8	-123.2	-11687	-9732	-1868	2.09	2.09	-16630	9162	5361	40441	17523	5329	22853	No	12.24	Si
SLU 77	10.6	1311.92	-11101	-9244	-1867	2.09	2.09	-15797	9051	5296	40441	17523	5329	22853	No	12.24	Si
SLU 40	8.8	-234.05	-9648	-8034	-1841	2.09	2.09	-13728	8775	5135	40441	17523	5329	22853	No	12.42	Si
SLU 40	10.6	1244.82	-9501	-7911	-1830	2.09	2.09	-13519	8747	5119	40441	17523	5329	22853	No	12.49	Si
SLU 41	8.8	-283.11	-9754	-8122	-1924	2.09	2.09	-13879	8795	5147	40441	17523	5329	22853	No	11.88	Si
SLU 41	10.6	1273.36	-9686	-8066	-1924	2.09	2.09	-13783	8782	5139	40441	17523	5329	22853	No	11.88	Si
SLU 82	8.8	-158.72	-11479	-9558	-1934	2.09	2.09	-16334	9122	5338	40441	17523	5329	22853	No	11.82	Si
SLU 82	10.6	1344.83	-10932	-9103	-1923	2.09	2.09	-15556	9019	5278	40441	17523	5329	22853	No	11.89	Si
SLU 74	8.8	-119.06	-11533	-9604	-1852	2.09	2.09	-16411	9133	5344	40441	17523	5329	22853	No	12.34	Si
SLU 74	10.6	1300.61	-10935	-9105	-1851	2.09	2.09	-15560	9019	5278	40441	17523	5329	22853	No	12.35	Si
SLU 81	8.8	-203.62	-11431	-9518	-2001	2.09	2.09	-16265	9113	5333	40441	17523	5329	22853	No	11.42	Si
SLU 81	10.6	1362.06	-10951	-9119	-2001	2.09	2.09	-15583	9022	5280	40441	17523	5329	22853	No	11.42	Si
SLU 83	8.8	-207.77	-11585	-9647	-2017	2.09	2.09	-16484	9142	5350	40441	17523	5329	22853	No	11.33	Si
SLU 83	10.6	1373.37	-11117	-9258	-2017	2.09	2.09	-15820	9054	5298	40441	17523	5329	22853	No	11.33	Si
SLU 42	8.8	-238.2	-9802	-8162	-1856	2.09	2.09	-13947	8804	5152	40441	17523	5329	22853	No	12.31	Si
SLU 42	10.6	1256.13	-9667	-8050	-1845	2.09	2.09	-13756	8779	5137	40441	17523	5329	22853	No	12.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	8.8	-2305.93	-6870	-5721	-5829	2.09	2.09	-9776	12372	7240	40441	26285	5329	31615		5.42	Si
SLV 16	10.6	3226.99	-9351	-7787	-5285	2.09	2.09	-13306	13078	7653	40441	26285	5329	31615		5.98	Si
SLV 11	8.8	-3591.84	-2816	-2345	-8379	1.672	0	0	0	0	40441	21028	4264	25292		3.02	Si
SLV 11	10.6	3568.69	-8576	-7141	-8283	2.09	1.8866	-12203	12857	6792	40441	26285	5329	31615		3.82	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	8.8	-2982.99	-6620	-5513	-7202	2.09	1.7833	-11098	12636	6309	40441	26285	5329	31615		4.39	Si
SLV 15	10.6	3892.56	-10182	-8479	-6657	2.09	1.9881	-14488	13314	7412	40441	26285	5329	31615		4.75	Si
SLV 12	8.8	-3136.08	-2985	-2485	-7455	1.672	0	0	0	0	40441	21028	4264	25292		3.39	Si
SLV 12	10.6	3120.66	-8016	-6675	-7359	2.09	1.9672	-11407	12698	6994	40441	26285	5329	31615		4.3	Si
SLV 5	8.8	3172.58	-12927	-10764	5305	2.09	2.09	-18394	14096	8249	40441	26285	5329	31615		5.96	Si
SLV 5	10.6	-1552.06	-6416	-5342	5210	2.09	2.09	-9129	12243	7164	40441	26285	5329	31615		6.07	Si
SLV 8	8.8	-2049.45	-2783	-2317	-5221	1.672	0.9257	0	0	0	40441	21028	4264	25292		4.84	Si
SLV 8	10.6	1797.13	-6549	-5453	-5464	2.09	2.09	-9318	12280	7186	40441	26285	5329	31615		5.79	Si
SLD 11	8.8	-2128.97	-4954	-4125	-5421	2.09	1.8456	-8011	12019	6211	40441	26285	5329	31615		5.83	Si
SLD 11	10.6	2454.23	-8058	-6710	-5353	2.09	2.09	-11466	12710	7438	40441	26285	5329	31615		5.91	Si
SLV 6	8.8	3628.35	-13095	-10904	6230	2.09	2.09	-18634	14143	8277	40441	26285	5329	31615		5.07	Si
SLV 6	10.6	-2000.09	-5857	-4877	6134	2.09	2.09	-8334	12083	7071	40441	26285	5329	31615		5.15	Si
SLV 7	8.8	-2505.21	-2615	-2177	-6145	1.672	0.2606	0	0	0	40441	21028	4264	25292		4.12	Si
SLV 7	10.6	2245.16	-7108	-5919	-6389	2.09	2.09	-10114	12439	7280	40441	26285	5329	31615		4.95	Si
SLV 2	8.8	3019.5	-9291	-7737	5053	2.09	2.09	-13221	13061	7643	40441	26285	5329	31615		6.26	Si
SLV 2	10.6	-2323.96	-4250	-3539	4509	2.09	1.4947	-8488	12114	5070	40441	26285	5329	31615		7.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.45	9185	-5375	259.57	707.23	2.72	Si
SLV 4	179667	0.45	9258	-5418	259.57	712.53	2.75	Si
SLV 7	179667	0.45	9643	-5643	259.57	740.12	2.85	Si
SLV 3	179667	0.45	9939	-5816	259.57	761.26	2.93	Si
SLV 12	179667	0.45	10870	-6361	259.57	827.16	3.19	Si
SLV 2	179667	0.45	11102	-6497	259.57	843.42	3.25	Si
SLV 11	179667	0.45	11328	-6629	259.57	859.22	3.31	Si
SLV 1	179667	0.45	11782	-6895	259.57	890.81	3.43	Si
SLV 16	179667	0.45	14875	-8705	259.57	1100	4.24	Si
SLV 6	179667	0.45	15330	-8971	259.57	1129.85	4.35	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7187	-11790	109	1.332	1029.5	0.924	20.94033	6.13636	Si
SLV 15	-6945	-9100	386	1.336	1005.2	0.923	21.03485	6.13636	Si
SLV 14	-6783	-11571	110	1.392	988.9	0.922	21.94257	6.13636	Si
SLV 16	-6542	-8881	387	1.398	964.7	0.92	22.07094	6.13636	Si
SLV 9	-6696	-13396	-388	1.373	980.1	0.921	21.66043	5.23702	Si
SLV 10	-6425	-13249	-388	1.417	952.9	0.92	22.39085	5.23702	Si
SLV 1	-5169	-7513	-390	1.662	827.4	0.911	26.51764	6.13636	Si
SLV 5	-6091	-12113	-538	1.456	919.4	0.918	23.05975	5.23702	Si
SLV 11	-5892	-4428	534	1.493	899.5	0.916	23.67685	5.23702	Si
SLV 6	-5819	-11966	-538	1.506	892.3	0.916	23.90023	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.961	SLU 39	Si
V_SLU	11.328	SLU 83	Si
PF_SLV	1.103	SLV 11	Si
V_SLV	3.018	SLV 11	Si
PFFP_SLV	2.725	SLV 8	Si
R_SLV	3.412	SLV 13	Si

Maschio 211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.158	5.951	L6	L7	2.305	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	8.8	188.01	-13202	-0.0000327	0.0003743	0.0035	2.305	12158.02	13063.02	13063.02	69.48	No	Si
SLU 44	10.6	-1013.66	-10530	-0.0000312	0.0003743	0.0035	2.305	10191.23	12238.08	12238.08	12.07	No	Si
SLU 47	8.8	89.1	-13969	-0.000034	0.0003743	0.0035	2.305	12677	13770.25	13770.25	154.55	No	Si
SLU 47	10.6	-1039.74	-11298	-0.0000333	0.0003743	0.0035	2.305	10782.17	12904.82	12904.82	12.41	No	Si
SLU 46	8.8	84.02	-14272	-0.0000347	0.0003743	0.0035	2.305	12876.1	14044.37	14044.37	167.15	No	Si
SLU 46	10.6	-1060.04	-11601	-0.0000342	0.0003743	0.0035	2.305	11009.66	13164.7	13164.7	12.42	No	Si
SLU 43	8.8	209.6	-13284	-0.000033	0.0003743	0.0035	2.305	12215.03	13139.05	13139.05	62.69	No	Si
SLU 43	10.6	-1051.67	-10613	-0.0000317	0.0003743	0.0035	2.305	10256.02	12312.94	12312.94	11.71	No	Si
SLU 45	8.8	96.98	-14322	-0.0000349	0.0003743	0.0035	2.305	12908.47	14086.7	14086.7	145.25	No	Si
SLU 45	10.6	-1082.85	-11651	-0.0000345	0.0003743	0.0035	2.305	11046.69	13207.54	13207.54	12.2	No	Si
SLU 48	8.8	-1.93	-15090	-0.0000363	0.0003743	0.0035	2.305	13397.28	16037.04	16037.04	8312.5	No	Si
SLU 48	10.6	-1108.93	-12419	-0.0000366	0.0003743	0.0035	2.305	11607.45	13871.76	13871.76	12.51	No	Si
SLU 50	8.8	11.78	-14820	-0.0000357	0.0003743	0.0035	2.305	13227.86	14485.5	14485.5	1229.56	No	Si
SLU 50	10.6	-1103.83	-12149	-0.0000359	0.0003743	0.0035	2.305	11412.75	13639.88	13639.88	12.36	No	Si
SLU 49	8.8	-14.89	-15040	-0.0000362	0.0003743	0.0035	2.305	13366.25	15999.22	15999.22	1074.81	No	Si
SLU 49	10.6	-1086.12	-12369	-0.0000363	0.0003743	0.0035	2.305	11571.76	13829.3	13829.3	12.73	No	Si
SLU 51	8.8	-1.18	-14770	-0.0000355	0.0003743	0.0035	2.305	13196.36	15790.78	15790.78	13435.08	No	Si
SLU 51	10.6	-1081.03	-12099	-0.0000356	0.0003743	0.0035	2.305	11376.58	13596.74	13596.74	12.58	No	Si
SLU 64	8.8	140.19	-15221	-0.0000375	0.0003743	0.0035	2.305	13478.7	14754.86	14754.86	105.25	No	Si
SLU 64	10.6	-1103.96	-12495	-0.0000367	0.0003743	0.0035	2.305	11661.89	13936.47	13936.47	12.62	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	8.8	1543.06	-17357	-0.0000509	0.0005615	0.0035	2.305		17281.11	17281.11	11.2		Si
SLV 7	10.6	-3771.67	-15241	-0.0000596	0.0005615	0.0035	2.305		17011.4	17011.4	4.51		Si
SLV 9	8.8	-649.21	-6383	-0.0000186	0.0005615	0.0035	2.305		8481.6	8481.6	13.06		Si
SLV 9	10.6	1662.14	-4329	-0.0000199	0.0005615	0.0035	2.305		5074.92	5074.92	3.05		Si
SLV 4	8.8	1639.09	-13350	-0.0000415	0.0005615	0.0035	2.305		13784.83	13784.83	8.41		Si
SLV 4	10.6	-2949.82	-11045	-0.000044	0.0005615	0.0035	2.305		13131.54	13131.54	4.45		Si
SLV 10	8.8	-1293.04	-5758	-0.000021	0.0005615	0.0035	2.305		7824.9	7824.9	6.05		Si
SLV 10	10.6	2106.06	-3704	-0.0000224	0.0005615	0.0035	2.305		4400.98	4400.98	2.09		Si
SLV 6	8.8	-196.25	-6161	-0.0000154	0.0005615	0.0035	2.305		8247.15	8247.15	42.02		Si
SLV 6	10.6	1030.23	-3968	-0.0000153	0.0005615	0.0035	2.305		4687.32	4687.32	4.55		Si
SLV 3	8.8	2595.53	-14279	-0.0000498	0.0005615	0.0035	2.305		14584.77	14584.77	5.62		Si
SLV 3	10.6	-3609.28	-11974	-0.0000504	0.0005615	0.0035	2.305		14025.49	14025.49	3.89		Si
SLV 14	8.8	-2345.52	-8836	-0.0000348	0.0005615	0.0035	2.305		10975.2	10975.2	4.68		Si
SLV 14	10.6	1943.66	-6970	-0.0000279	0.0005615	0.0035	2.305		7854.01	7854.01	4.04		Si
SLV 8	8.8	899.23	-16732	-0.0000452	0.0005615	0.0035	2.305		16727.7	16727.7	18.6		Si
SLV 8	10.6	-3327.76	-14616	-0.0000552	0.0005615	0.0035	2.305		16462.31	16462.31	4.95		Si
SLD 3	8.8	1659.49	-13174	-0.0000412	0.0005615	0.0035	2.305		13633.92	13633.92	8.22		Si
SLD 3	10.6	-2559.26	-10967	-0.0000413	0.0005615	0.0035	2.305		13055.7	13055.7	5.1		Si
SLV 1	8.8	2266.89	-11108	-0.0000399	0.0005615	0.0035	2.305		11879.67	11879.67	5.24		Si
SLV 1	10.6	-2301.88	-8780	-0.0000344	0.0005615	0.0035	2.305		10918.3	10918.3	4.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	8.8	118.59	-15138	-12606	627	2.305	2.305	-19532	9549	6163	40441	19326	5878	25204	No	40.17	Si
SLU 65	10.6	-1065.95	-12412	-10335	627	2.305	2.305	-16014	9080	5860	40441	19326	5878	25204	No	40.17	Si
SLU 44	8.8	188.01	-13202	-10993	637	2.305	2.305	-17033	9216	5948	40441	19326	5878	25204	No	39.55	Si
SLU 44	10.6	-1013.66	-10530	-8769	637	2.305	2.305	-13586	8756	5651	40441	19326	5878	25204	No	39.55	Si
SLU 43	8.8	209.6	-13284	-11062	670	2.305	2.305	-17140	9230	5957	40441	19326	5878	25204	No	37.6	Si
SLU 43	10.6	-1051.67	-10613	-8838	670	2.305	2.305	-13693	8770	5660	40441	19326	5878	25204	No	37.6	Si
SLU 82	8.8	136.82	-16544	-13777	632	2.305	2.305	-21346	9791	6319	40441	19326	5878	25204	No	39.86	Si
SLU 82	10.6	-1056.66	-13818	-11506	632	2.305	2.305	-17828	9322	6016	40441	19326	5878	25204	No	39.86	Si
SLU 61	8.8	206.23	-14608	-12164	642	2.305	2.305	-18847	9457	6104	40441	19326	5878	25204	No	39.25	Si
SLU 61	10.6	-1004.36	-11936	-9940	642	2.305	2.305	-15401	8998	5807	40441	19326	5878	25204	No	39.25	Si
SLU 52	8.8	194.71	-14163	-11793	631	2.305	2.305	-18273	9381	6054	40441	19326	5878	25204	No	39.91	Si
SLU 52	10.6	-996.51	-11491	-9569	631	2.305	2.305	-14826	8921	5758	40441	19326	5878	25204	No	39.91	Si
SLU 81	8.8	149.77	-16594	-13818	652	2.305	2.305	-21410	9799	6324	40441	19326	5878	25204	No	38.64	Si
SLU 81	10.6	-1079.46	-13868	-11548	652	2.305	2.305	-17892	9330	6022	40441	19326	5878	25204	No	38.64	Si
SLU 64	8.8	140.19	-15221	-12675	660	2.305	2.305	-19639	9563	6172	40441	19326	5878	25204	No	38.16	Si
SLU 64	10.6	-1103.96	-12495	-10404	660	2.305	2.305	-16121	9094	5869	40441	19326	5878	25204	No	38.16	Si
SLU 60	8.8	219.18	-14657	-12205	662	2.305	2.305	-18911	9466	6109	40441	19326	5878	25204	No	38.07	Si
SLU 60	10.6	-1027.17	-11986	-9981	662	2.305	2.305	-15465	9006	5813	40441	19326	5878	25204	No	38.07	Si
SLU 45	8.8	96.98	-14322	-11926	625	2.305	2.305	-18479	9408	6072	40441	19326	5878	25204	No	40.32	Si
SLU 45	10.6	-1082.85	-11651	-9702	625	2.305	2.305	-15032	8949	5776	40441	19326	5878	25204	No	40.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	8.8	2266.89	-11108	-9250	2617	2.305	2.305	-14331	13283	8573	40441	28989	5878	34867		13.32	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	10.6	-2301.88	-8780	-7311	2228	2.305	2.305	-11328	12682	8185	40441	28989	5878	34867		15.65	Si
SLD 7	8.8	981.02	-14958	-12456	1963	2.305	2.305	-19300	14277	9214	40441	28989	5878	34867		17.76	Si
SLD 7	10.6	-2582.81	-12857	-10706	1884	2.305	2.305	-16588	13734	8864	40441	28989	5878	34867		18.51	Si
SLV 7	8.8	1543.06	-17357	-14453	2931	2.305	2.305	-22395	14896	9614	40441	28989	5878	34867		11.89	Si
SLV 7	10.6	-3771.67	-15241	-12691	2810	2.305	2.305	-19664	14350	9261	40441	28989	5878	34867		12.41	Si
SLD 3	8.8	1659.49	-13174	-10970	2388	2.305	2.305	-16998	13816	8917	40441	28989	5878	34867		14.6	Si
SLD 3	10.6	-2559.26	-10967	-9133	2131	2.305	2.305	-14150	13247	8549	40441	28989	5878	34867		16.36	Si
SLV 4	8.8	1639.09	-13350	-11117	2613	2.305	2.305	-17225	13862	8946	40441	28989	5878	34867		13.34	Si
SLV 4	10.6	-2949.82	-11045	-9198	2221	2.305	2.305	-14251	13267	8562	40441	28989	5878	34867		15.7	Si
SLV 8	8.8	899.23	-16732	-13933	2327	2.305	2.305	-21588	14734	9509	40441	28989	5878	34867		14.98	Si
SLV 8	10.6	-3327.76	-14616	-12171	2205	2.305	2.305	-18858	14188	9157	40441	28989	5878	34867		15.81	Si
SLV 14	8.8	-2345.52	-8836	-7358	-2493	2.305	2.305	-11400	12697	8194	40441	28989	5878	34867		13.98	Si
SLV 14	10.6	1943.66	-6970	-5804	-2102	2.305	2.305	-8993	12215	7884	40441	28989	5878	34867		16.59	Si
SLD 1	8.8	1467.4	-11318	-9425	1865	2.305	2.305	-14603	13337	8608	40441	28989	5878	34867		18.69	Si
SLD 1	10.6	-1794.35	-9098	-7576	1610	2.305	2.305	-11739	12764	8238	40441	28989	5878	34867		21.66	Si
SLV 3	8.8	2595.53	-14279	-11890	3510	2.305	2.305	-18423	14101	9101	40441	28989	5878	34867		9.93	Si
SLV 3	10.6	-3609.28	-11974	-9971	3119	2.305	2.305	-15449	13507	8717	40441	28989	5878	34867		11.18	Si
SLV 10	8.8	-1293.04	-5758	-4795	-1914	2.305	2.305	-7429	11902	7682	40441	28989	5878	34867		18.21	Si
SLV 10	10.6	2106.06	-3704	-3084	-1793	2.305	1.7516	-4779	11372	5578	40441	28989	5878	34867		19.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	7480	-4828	286.27	642.76	2.25	Si
SLV 6	179667	0.45	8034	-5185	286.27	687.7	2.4	Si
SLV 9	179667	0.45	8449	-5453	286.27	721.16	2.52	Si
SLV 5	179667	0.45	9002	-5810	286.27	765.47	2.67	Si
SLV 14	179667	0.45	12378	-7989	286.27	1027.81	3.59	Si
SLV 13	179667	0.45	13818	-8918	286.27	1135.54	3.97	Si
SLV 2	179667	0.45	14224	-9180	286.27	1165.51	4.07	Si
SLV 1	179667	0.45	15663	-10109	286.27	1270.1	4.44	Si
SLV 16	179667	0.45	17332	-11186	286.27	1388.34	4.85	Si
SLV 15	179667	0.45	18772	-12115	286.27	1487.64	5.2	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-11215	-18327	988	0.946	1467.4	0.938	14.65488	5.23702	Si
SLV 12	-11051	-17254	988	0.958	1450.8	0.938	14.83936	5.23702	Si
SLV 7	-10776	-19649	993	0.977	1423	0.937	15.15506	5.23702	Si
SLV 15	-9432	-12473	290	1.148	1287.1	0.931	17.90851	6.13636	Si
SLV 8	-10613	-18576	993	0.989	1406.4	0.936	15.35285	5.23702	Si
SLV 16	-9189	-10879	290	1.172	1262.6	0.93	18.30305	6.13636	Si
SLV 3	-7969	-16880	305	1.308	1139.7	0.925	20.55871	6.13636	Si
SLV 4	-7726	-15286	305	1.339	1115.3	0.923	21.08269	6.13636	Si
SLV 13	-7431	-8554	-304	1.38	1085.6	0.922	21.75886	6.13636	Si
SLV 14	-7188	-6961	-305	1.415	1061.2	0.92	22.34661	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.708	SLU 43	Si
V_SLU	37.598	SLU 43	Si
PF_SLV	2.09	SLV 10	Si
V_SLV	9.932	SLV 3	Si
PFFP_SLV	2.245	SLV 10	Si
R_SLV	2.798	SLV 11	Si

Maschio 212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L6	L7	1.83	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	8.8	48.25	-8387	-0.0000254	0.0003743	0.0035	1.83	6440.31	6758.27	6758.27	140.08	No	Si
SLU 41	10.6	1315.59	-8952	-0.0000399	0.0003743	0.0035	1.83	6785.77	7148.59	7148.59	5.43	No	Si
SLU 39	8.8	32.02	-7920	-0.0000238	0.0003743	0.0035	1.83	6146.54	6439.86	6439.86	201.11	No	Si
SLU 39	10.6	1243.69	-8440	-0.0000375	0.0003743	0.0035	1.83	6473.11	6794.58	6794.58	5.46	No	Si
SLU 36	8.8	102.85	-8840	-0.0000274	0.0003743	0.0035	1.83	6717.97	7070.56	7070.56	68.75	No	Si
SLU 36	10.6	1329.44	-9321	-0.0000412	0.0003743	0.0035	1.83	7004.68	7405.56	7405.56	5.57	No	Si
SLU 33	8.8	86.62	-8373	-0.0000258	0.0003743	0.0035	1.83	6431.63	6748.69	6748.69	77.91	No	Si
SLU 33	10.6	1257.55	-8808	-0.0000388	0.0003743	0.0035	1.83	6698.65	7048.45	7048.45	5.6	No	Si
SLU 38	8.8	99.05	-8683	-0.0000269	0.0003743	0.0035	1.83	6622.64	6962.04	6962.04	70.29	No	Si
SLU 38	10.6	1304.84	-9137	-0.0000404	0.0003743	0.0035	1.83	6896.36	7277.43	7277.43	5.58	No	Si
SLU 40	8.8	7.72	-7890	-0.0000235	0.0003743	0.0035	1.83	6127.39	6419.51	6419.51	831.51	No	Si
SLU 40	10.6	1256.1	-8460	-0.0000377	0.0003743	0.0035	1.83	6485.87	6808.73	6808.73	5.42	No	Si
SLU 37	8.8	123.35	-8713	-0.0000272	0.0003743	0.0035	1.83	6640.95	6982.78	6982.78	56.61	No	Si
SLU 37	10.6	1292.43	-9117	-0.0000402	0.0003743	0.0035	1.83	6884.1	7263.05	7263.05	5.62	No	Si
SLU 35	8.8	127.15	-8870	-0.0000277	0.0003743	0.0035	1.83	6736.12	7091.37	7091.37	55.77	No	Si
SLU 35	10.6	1317.03	-9300	-0.000041	0.0003743	0.0035	1.83	6992.55	7391.11	7391.11	5.61	No	Si
SLU 34	8.8	66.62	-8196	-0.000025	0.0003743	0.0035	1.83	6321.17	6627.71	6627.71	99.48	No	Si
SLU 34	10.6	1241.22	-8639	-0.0000381	0.0003743	0.0035	1.83	6595.45	6931.34	6931.34	5.58	No	Si
SLU 42	8.8	23.95	-8357	-0.0000251	0.0003743	0.0035	1.83	6421.65	6737.69	6737.69	281.38	No	Si
SLU 42	10.6	1327.99	-8973	-0.0000401	0.0003743	0.0035	1.83	6798.15	7162.91	7162.91	5.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	8.8	-1232.06	-3481	-0.0000219	0.0005615	0.0035	1.83		3926.89	3926.89	3.19		Si
SLD 10	10.6	1751.75	-6531	-0.000036	0.0005615	0.0035	1.83		5771.07	5771.07	3.29		Si
SLV 6	8.8	-1643.38	-1610	-0.0001933	0.0005615	0.0035	1.464		2313.89	2313.89	1.41		Si
SLV 6	10.6	1639.45	-5925	-0.000033	0.0005615	0.0035	1.83		5282.56	5282.56	3.22		Si
SLD 14	8.8	-932.95	-5261	-0.0000242	0.0005615	0.0035	1.83		5413.02	5413.02	5.8		Si
SLD 14	10.6	1940.64	-7252	-0.00004	0.0005615	0.0035	1.83		6344.45	6344.45	3.27		Si
SLV 13	8.8	-1058.94	-4619	-0.0000235	0.0005615	0.0035	1.83		4875.16	4875.16	4.6		Si
SLV 13	10.6	2103.87	-6996	-0.0000408	0.0005615	0.0035	1.83		6141.97	6141.97	2.92		Si
SLD 9	8.8	-982.94	-3634	-0.0000199	0.0005615	0.0035	1.83		4055.87	4055.87	4.13		Si
SLD 9	10.6	1538.18	-6243	-0.000033	0.0005615	0.0035	1.83		5540.6	5540.6	3.6		Si
SLV 9	8.8	-1844.12	-1384	-0.000371	0.0005615	0.0035	1.464		2115.84	2115.84	1.15		Si
SLV 9	10.6	2042.51	-6057	-0.0000375	0.0005615	0.0035	1.83		5389.88	5389.88	2.64		Si
SLV 5	8.8	-1232.88	-1862	-0.000026	0.0005615	0.0035	1.464		2534.28	2534.28	2.06		Si
SLV 5	10.6	1287.53	-5451	-0.0000282	0.0005615	0.0035	1.83		4895.42	4895.42	3.8		Si
SLV 10	8.8	-2254.62	-1132	-0.0007025	0.0005615	0.0035	1.464		1894.03	1894.03	0.84		No
SLV 10	10.6	2394.44	-6531	-0.0000428	0.0005615	0.0035	1.83		5771.1	5771.1	2.41		Si
SLV 16	8.8	-469.94	-7443	-0.0000263	0.0005615	0.0035	1.83		7160.21	7160.21	15.24		Si
SLV 16	10.6	1997.51	-7999	-0.0000429	0.0005615	0.0035	1.83		6929.7	6929.7	3.47		Si
SLV 14	8.8	-1668.77	-4244	-0.0000289	0.0005615	0.0035	1.83		4562.61	4562.61	2.73		Si
SLV 14	10.6	2626.67	-7701	-0.0000484	0.0005615	0.0035	1.83		6697.76	6697.76	2.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	8.8	175.47	-9977	-8308	-1884	1.83	1.83	-16214	9106	4666	40441	15344	4666	20010	No	10.62	Si
SLU 83	10.6	1415.58	-10215	-8506	-1883	1.83	1.83	-16600	9158	4692	40441	15344	4666	20010	No	10.62	Si
SLU 81	8.8	159.24	-9510	-7919	-1830	1.83	1.83	-15455	9005	4614	40441	15344	4666	20010	No	10.93	Si
SLU 81	10.6	1343.69	-9702	-8079	-1829	1.83	1.83	-15767	9047	4636	40441	15344	4666	20010	No	10.94	Si
SLU 41	8.8	48.25	-8387	-6984	-1829	1.83	1.83	-13630	8762	4490	40441	15344	4666	20010	No	10.94	Si
SLU 41	10.6	1315.59	-8952	-7455	-1828	1.83	1.83	-14549	8884	4552	40441	15344	4666	20010	No	10.95	Si
SLU 42	8.8	23.95	-8357	-6959	-1875	1.83	1.83	-13581	8755	4486	40441	15344	4666	20010	No	10.67	Si
SLU 42	10.6	1327.99	-8973	-7472	-1874	1.83	1.83	-14582	8889	4555	40441	15344	4666	20010	No	10.68	Si
SLU 78	8.8	230.07	-10430	-8685	-1818	1.83	1.83	-16950	9204	4716	40441	15344	4666	20010	No	11	Si
SLU 78	10.6	1429.44	-10583	-8813	-1817	1.83	1.83	-17199	9238	4733	40441	15344	4666	20010	No	11.01	Si
SLU 40	8.8	7.72	-7890	-6570	-1821	1.83	1.83	-12822	8654	4434	40441	15344	4666	20010	No	10.99	Si
SLU 40	10.6	1256.1	-8460	-7045	-1820	1.83	1.83	-13749	8778	4498	40441	15344	4666	20010	No	10.99	Si
SLU 39	8.8	32.02	-7920	-6595	-1774	1.83	1.83	-12871	8661	4438	40441	15344	4666	20010	No	11.28	Si
SLU 39	10.6	1243.69	-8440	-7028	-1774	1.83	1.83	-13716	8773	4495	40441	15344	4666	20010	No	11.28	Si
SLU 82	8.8	134.94	-9480	-7894	-1876	1.83	1.83	-15406	8999	4611	40441	15344	4666	20010	No	10.67	Si
SLU 82	10.6	1356.1	-9723	-8096	-1876	1.83	1.83	-15801	9051	4638	40441	15344	4666	20010	No	10.67	Si
SLU 80	8.8	226.27	-10273	-8555	-1794	1.83	1.83	-16695	9170	4699	40441	15344	4666	20010	No	11.16	Si
SLU 80	10.6	1404.84	-10400	-8660	-1792	1.83	1.83	-16901	9198	4713	40441	15344	4666	20010	No	11.16	Si
SLU 84	8.8	151.17	-9947	-8283	-1930	1.83	1.83	-16165	9100	4663	40441	15344	4666	20010	No	10.37	Si
SLU 84	10.6	1427.99	-10235	-8523	-1929	1.83	1.83	-16634	9162	4695	40441	15344	4666	20010	No	10.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	8.8	-1643.38	-1610	-1341	-4668	1.464	0	0	0	0	40441	18412	3733	22145		4.74	Si
SLV 6	10.6	1639.45	-5925	-4934	-4898	1.83	1.83	-9629	12342	6324	40441	23015	4666	27682		5.65	Si
SLD 14	8.8	-932.95	-5261	-4381	-3555	1.83	1.83	-8550	12127	6214	40441	23015	4666	27682		7.79	Si
SLD 14	10.6	1940.64	-7252	-6039	-3246	1.83	1.83	-11785	12774	6545	40441	23015	4666	27682		8.53	Si
SLV 9	8.8	-1844.12	-1384	-1152	-5315	1.464	0	0	0	0	40441	18412	3733	22145		4.17	Si
SLV 9	10.6	2042.51	-6057	-5043	-5249	1.83	1.7333	-9843	12385	6011	40441	23015	4666	27682		5.27	Si
SLV 14	8.8	-1668.77	-4244	-3534	-5150	1.83	1.5655	-8092	12035	5276	40441	23015	4666	27682		5.37	Si
SLV 14	10.6	2626.67	-7701	-6413	-4680	1.83	1.7217	-12515	12920	6228	40441	23015	4666	27682		5.91	Si
SLV 7	8.8	2763.21	-12523	-10428	4212	1.83	1.83	-20352	14487	7423	40441	23015	4666	27682		6.57	Si
SLV 7	10.6	-809.67	-6444	-5366	4147	1.83	1.83	-10472	12511	6411	40441	23015	4666	27682		6.68	Si
SLV 5	8.8	-1232.88	-1862	-1550	-3875	1.464	0.7585	0	0	0	40441	18412	3733	22145		5.71	Si
SLV 5	10.6	1287.53	-5451	-4539	-4105	1.83	1.83	-8858	12188	6245	40441	23015	4666	27682		6.74	Si
SLD 10	8.8	-1232.06	-3481	-2899	-4012	1.83	1.6833	-6164	11650	5491	40441	23015	4666	27682		6.9	Si
SLD 10	10.6	1751.75	-6531	-5438	-3962	1.83	1.83	-10614	12539	6425	40441	23015	4666	27682		6.99	Si
SLV 10	8.8	-2254.62	-1132	-942	-6108	1.464	0	0	0	0	40441	18412	3733	22145		3.63	Si
SLV 10	10.6	2394.44	-6531	-5438	-6041	1.83	1.6451	-10614	12539	5776	40441	23015	4666	27682		4.58	Si
SLV 13	8.8	-1058.94	-4619	-3846	-3973	1.83	1.83	-7506	11918	6107	40441	23015	4666	27682		6.97	Si
SLV 13	10.6	2103.87	-6996	-5826	-3503	1.83	1.83	-11370	12691	6503	40441	23015	4666	27682		7.9	Si
SLD 9	8.8	-982.94	-3634	-3026	-3531	1.83	1.83	-5906	11598	5943	40441	23015	4666	27682		7.84	Si
SLD 9	10.6	1538.18	-6243	-5199	-3481	1.83	1.83	-10146	12446	6377	40441	23015	4666	27682		7.95	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.45	8301	-4253	227.28	563.09	2.48	Si
SLV 9	179667	0.45	8655	-4435	227.28	585.69	2.58	Si
SLV 6	179667	0.45	8655	-4435	227.28	585.7	2.58	Si
SLV 10	179667	0.45	9010	-4617	227.28	608.18	2.68	Si
SLV 1	179667	0.45	11153	-5715	227.28	741.64	3.26	Si
SLV 2	179667	0.45	11680	-5985	227.28	773.78	3.4	Si
SLV 13	179667	0.45	12335	-6320	227.28	813.36	3.58	Si
SLV 14	179667	0.45	12861	-6590	227.28	844.91	3.72	Si
SLV 3	179667	0.45	14026	-7187	227.28	913.77	4.02	Si
SLV 4	179667	0.45	14553	-7457	227.28	944.49	4.16	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-5617	-8488	-165	1.442	833.6	0.92	22.79531	6.13636	Si
SLV 14	-5337	-5748	-357	1.471	805.5	0.918	23.30603	6.13636	Si
SLV 4	-5291	-7676	364	1.48	800.9	0.917	23.44917	6.13636	Si
SLV 15	-5261	-8397	-166	1.515	797.9	0.917	24.00673	6.13636	Si
SLV 13	-4981	-5657	-357	1.548	769.8	0.915	24.59802	6.13636	Si
SLV 3	-4935	-7585	363	1.558	765.3	0.914	24.76153	6.13636	Si
SLV 2	-5011	-4936	172	1.57	772.8	0.915	24.92709	6.13636	Si
SLV 8	-5674	-11142	401	1.399	839.3	0.92	22.10232	5.23702	Si
SLV 12	-5772	-11385	243	1.403	849.1	0.921	22.14001	5.23702	Si
SLV 1	-4655	-4845	172	1.656	737.3	0.912	26.38636	6.13636	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.394	SLU 42	Si
V_SLU	10.367	SLU 84	Si
PF_SLV	0.84	SLV 10	No
V_SLV	3.626	SLV 10	Si
PFFP_SLV	2.478	SLV 5	Si
R_SLV	3.715	SLV 16	Si

Maschio 213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L6	L7	9.12	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	7.9	-6092.23	-51658	-0.0000336	0.0003743	0.0035	9.12	188755.25	226465.73	226465.73	37.17	No	Si
SLU 19	11.45	-1513.32	-26879	-0.0000164	0.0003743	0.0035	9.12	109896.64	137815.98	137815.98	91.07	No	Si
SLU 61	7.9	-7091.64	-61983	-0.0000407	0.0003743	0.0035	9.12	215257.9	258863.92	258863.92	36.5	No	Si
SLU 61	11.45	-1777.96	-32274	-0.0000198	0.0003743	0.0035	9.12	128900.49	158260.83	158260.83	89.01	No	Si
SLU 81	7.9	-7373.02	-70209	-0.0000462	0.0003743	0.0035	9.12	233695.69	282934.06	282934.06	38.37	No	Si
SLU 81	11.45	-2092.73	-36892	-0.0000228	0.0003743	0.0035	9.12	144355.53	175425.13	175425.13	83.83	No	Si
SLU 18	7.9	-5974.14	-51711	-0.0000336	0.0003743	0.0035	9.12	188900.69	226633.12	226633.12	37.94	No	Si
SLU 18	11.45	-1758.15	-26911	-0.0000165	0.0003743	0.0035	9.12	110012.98	137943.16	137943.16	78.46	No	Si
SLU 10	7.9	-5515.08	-49237	-0.0000318	0.0003743	0.0035	9.12	181999.26	218406.3	218406.3	39.6	No	Si
SLU 10	11.45	-1111.28	-25751	-0.0000156	0.0003743	0.0035	9.12	105795.67	133373.97	133373.97	120.02	No	Si
SLU 52	7.9	-6514.49	-59562	-0.0000389	0.0003743	0.0035	9.12	209378.86	251434.25	251434.25	38.6	No	Si
SLU 52	11.45	-1375.92	-31147	-0.000019	0.0003743	0.0035	9.12	125012.91	154049.7	154049.7	111.96	No	Si
SLU 40	7.9	-6491.7	-59831	-0.000039	0.0003743	0.0035	9.12	210042.19	252264	252264	38.86	No	Si
SLU 40	11.45	-1583.26	-31465	-0.0000192	0.0003743	0.0035	9.12	126114.44	155234.75	155234.75	98.05	No	Si
SLU 39	7.9	-6373.61	-59884	-0.000039	0.0003743	0.0035	9.12	210172.45	252427.19	252427.19	39.61	No	Si
SLU 39	11.45	-1828.08	-31497	-0.0000193	0.0003743	0.0035	9.12	126225.6	155354.72	155354.72	84.98	No	Si
SLU 60	7.9	-6973.55	-62036	-0.0000407	0.0003743	0.0035	9.12	215384.16	259025.41	259025.41	37.14	No	Si
SLU 60	11.45	-2022.79	-32306	-0.0000199	0.0003743	0.0035	9.12	129010.74	158381.42	158381.42	78.3	No	Si
SLU 82	7.9	-7491.11	-70156	-0.0000462	0.0003743	0.0035	9.12	233584.61	282788.43	282788.43	37.75	No	Si
SLU 82	11.45	-1847.9	-36860	-0.0000226	0.0003743	0.0035	9.12	144250.45	175312.14	175312.14	94.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	7.9	-26405.77	-48144	-0.0000389	0.0005615	0.0035	9.12		223425.1	223425.1	8.46		Si
SLD 10	11.45	77.45	-24900	-0.0000146	0.0005615	0.0035	9.12		111692.86	111692.86	1442.15		Si
SLV 6	7.9	-37917.65	-43004	-0.0000403	0.0005615	0.0035	9.12		203781.56	203781.56	5.37		Si
SLV 6	11.45	2495.12	-24191	-0.0000151	0.0005615	0.0035	9.12		108777.58	108777.58	43.6		Si
SLV 7	7.9	33332.8	-47056	-0.000041	0.0005615	0.0035	9.12		196602.76	196602.76	5.9		Si
SLV 7	11.45	-3203.45	-25893	-0.0000163	0.0005615	0.0035	9.12		136345.23	136345.23	42.56		Si
SLV 12	7.9	29792.33	-52440	-0.0000429	0.0005615	0.0035	9.12		214644.42	214644.42	7.2		Si
SLV 12	11.45	-2867.6	-26335	-0.0000165	0.0005615	0.0035	9.12		138187.41	138187.41	48.19		Si
SLV 10	7.9	-42011.35	-48311	-0.0000452	0.0005615	0.0035	9.12		224027.4	224027.4	5.33		Si
SLV 10	11.45	920.92	-24650	-0.0000147	0.0005615	0.0035	9.12		110666.41	110666.41	120.17		Si
SLV 9	7.9	-42564.57	-48235	-0.0000454	0.0005615	0.0035	9.12		223754.19	223754.19	5.26		Si
SLV 9	11.45	-989.14	-24668	-0.0000148	0.0005615	0.0035	9.12		131248.14	131248.14	132.69		Si
SLV 5	7.9	-38470.87	-42928	-0.0000404	0.0005615	0.0035	9.12		203491.44	203491.44	5.29		Si
SLV 5	11.45	585.06	-24209	-0.0000143	0.0005615	0.0035	9.12		108851.08	108851.08	186.05		Si
SLV 11	7.9	29239.1	-52364	-0.0000426	0.0005615	0.0035	9.12		214388.29	214388.29	7.33		Si
SLV 11	11.45	-4777.66	-26353	-0.0000172	0.0005615	0.0035	9.12		138262.09	138262.09	28.94		Si
SLD 9	7.9	-26741.5	-48098	-0.000039	0.0005615	0.0035	9.12		223259.38	223259.38	8.35		Si
SLD 9	11.45	-1081.67	-24911	-0.000015	0.0005615	0.0035	9.12		132254.88	132254.88	122.27		Si
SLV 8	7.9	33886.03	-47132	-0.0000412	0.0005615	0.0035	9.12		196855.98	196855.98	5.81		Si
SLV 8	11.45	-1293.39	-25875	-0.0000156	0.0005615	0.0035	9.12		136270.65	136270.65	105.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	7.9	-5472.45	-61079	-50861	-2365	9.12	9.12	-19917	9600	32637	40441	76466	23256	73078	No	30.89	Si
SLU 55	11.45	-550.33	-32536	-27093	-2258	9.12	9.12	-10610	8359	23130	40441	76466	23256	63571	No	28.16	Si
SLU 34	7.9	-4872.51	-58927	-49069	-2257	9.12	9.12	-19216	9507	31920	40441	76466	23256	72361	No	32.06	Si
SLU 34	11.45	-355.63	-31727	-26419	-2149	9.12	9.12	-10346	8324	22860	40441	76466	23256	63301	No	29.45	Si
SLU 63	7.9	-6049.6	-63500	-52877	-2293	9.12	9.12	-20707	9705	33443	40441	76466	23256	73884	No	32.23	Si
SLU 63	11.45	-952.37	-33664	-28032	-2229	9.12	9.12	-10977	8408	23505	40441	76466	23256	63946	No	28.69	Si
SLU 52	7.9	-6514.49	-59562	-49598	-2362	9.12	9.12	-19423	9534	32131	40441	76466	23256	72572	No	30.72	Si
SLU 52	11.45	-1375.92	-31147	-25936	-2255	9.12	9.12	-10157	8299	22667	40441	76466	23256	63108	No	27.99	Si
SLU 82	7.9	-7491.11	-70156	-58420	-2436	9.12	9.12	-22877	9995	35660	40441	76466	23256	76101	No	31.24	Si
SLU 82	11.45	-1847.9	-36860	-30694	-2373	9.12	9.12	-12020	8547	24570	40441	76466	23256	65011	No	27.39	Si
SLU 31	7.9	-5914.55	-57410	-47806	-2254	9.12	9.12	-18721	9441	31415	40441	76466	23256	71855	No	31.88	Si
SLU 31	11.45	-1181.22	-30337	-25262	-2147	9.12	9.12	-9893	8263	22397	40441	76466	23256	62838	No	29.27	Si
SLU 73	7.9	-6913.96	-67735	-56404	-2509	9.12	9.12	-22088	9890	34854	40441	76466	23256	75295	No	30.01	Si
SLU 73	11.45	-1445.86	-35732	-29755	-2402	9.12	9.12	-11652	8498	24194	40441	76466	23256	64635	No	26.91	Si
SLU 76	7.9	-5871.92	-69252	-57667	-2512	9.12	9.12	-22583	9955	35359	40441	76466	23256	75800	No	30.17	Si
SLU 76	11.45	-620.27	-37122	-30912	-2405	9.12	9.12	-12105	8558	24657	40441	76466	23256	65098	No	27.07	Si
SLU 84	7.9	-6449.07	-71673	-59683	-2439	9.12	9.12	-23372	10061	36165	40441	76466	23256	76606	No	31.4	Si
SLU 84	11.45	-1022.31	-38249	-31851	-2376	9.12	9.12	-12473	8607	25033	40441	76466	23256	65474	No	27.55	Si
SLU 61	7.9	-7091.64	-61983	-51614	-2289	9.12	9.12	-20212	9639	32938	40441	76466	23256	73379	No	32.05	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	11.45	-1777.96	-32274	-26875	-2226	9.12	9.12	-10524	8348	23043	40441	76466	23256	63484	No	28.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	7.9	-42564.57	-48235	-40166	-34939	9.12	9.12	-15729	13563	34633	40441	114699	23256	75074		2.15	Si
SLV 9	11.45	-989.14	-24668	-20541	-30584	9.12	9.12	-8044	12025	30708	40441	114699	23256	71149		2.33	Si
SLD 10	7.9	-26405.77	-48144	-40090	-22990	9.12	9.12	-15699	13557	34618	40441	114699	23256	75059		3.26	Si
SLD 10	11.45	77.45	-24900	-20734	-20429	9.12	9.12	-8120	12041	30747	40441	114699	23256	71188		3.48	Si
SLD 6	7.9	-23864	-44830	-37330	-23044	9.12	9.12	-14619	13340	34066	40441	114699	23256	74507		3.23	Si
SLD 6	11.45	1073.05	-24638	-20517	-20445	9.12	9.12	-8034	12024	30703	40441	114699	23256	71144		3.48	Si
SLV 7	7.9	33332.8	-47056	-39184	36022	9.12	9.12	-15345	13486	34437	40441	114699	23256	74878		2.08	Si
SLV 7	11.45	-3203.45	-25893	-21562	31662	9.12	9.12	-8444	12105	30912	40441	114699	23256	71353		2.25	Si
SLV 12	7.9	29792.33	-52440	-43667	32650	9.12	9.12	-17100	13837	35906	40441	114699	23256	76347		2.34	Si
SLV 12	11.45	-2867.6	-26335	-21929	28229	9.12	9.12	-8588	12134	30986	40441	114699	23256	71427		2.53	Si
SLV 11	7.9	29239.1	-52364	-43604	36105	9.12	9.12	-17075	13832	35880	40441	114699	23256	76321		2.11	Si
SLV 11	11.45	-4777.66	-26353	-21944	31683	9.12	9.12	-8593	12135	30989	40441	114699	23256	71430		2.25	Si
SLV 8	7.9	33886.03	-47132	-39247	32567	9.12	9.12	-15369	13491	34449	40441	114699	23256	74890		2.3	Si
SLV 8	11.45	-1293.39	-25875	-21547	28209	9.12	9.12	-8438	12104	30909	40441	114699	23256	71350		2.53	Si
SLV 6	7.9	-37917.65	-43004	-35810	-38476	9.12	9.12	-14023	13221	33762	40441	114699	23256	74203		1.93	Si
SLV 6	11.45	2495.12	-24191	-20144	-34058	9.12	9.12	-7888	11994	30629	40441	114699	23256	71070		2.09	Si
SLV 10	7.9	-42011.35	-48311	-40229	-38393	9.12	9.12	-15754	13567	34646	40441	114699	23256	75087		1.96	Si
SLV 10	11.45	920.92	-24650	-20527	-34037	9.12	9.12	-8038	12024	30705	40441	114699	23256	71146		2.09	Si
SLV 5	7.9	-38470.87	-42928	-35746	-35022	9.12	9.12	-13998	13216	33749	40441	114699	23256	74190		2.12	Si
SLV 5	11.45	585.06	-24209	-20159	-30604	9.12	9.12	-7894	11996	30632	40441	114699	23256	71073		2.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	12390	-31638	1132.65	4069.99	3.59	Si
SLV 2	179667	0.45	12406	-31680	1132.65	4074.87	3.6	Si
SLV 3	179667	0.45	12716	-32471	1132.65	4167.44	3.68	Si
SLV 4	179667	0.45	12732	-32513	1132.65	4172.29	3.68	Si
SLV 5	179667	0.45	13046	-33315	1132.65	4265.62	3.77	Si
SLV 6	179667	0.45	13057	-33343	1132.65	4268.87	3.77	Si
SLV 9	179667	0.45	13933	-35579	1132.65	4526.61	4	Si
SLV 10	179667	0.45	13944	-35607	1132.65	4529.81	4	Si
SLV 7	179667	0.45	14133	-36091	1132.65	4585.16	4.05	Si
SLV 8	179667	0.45	14144	-36119	1132.65	4588.35	4.05	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-26304	-57093	2567	1.461	3984.7	0.917	23.1477	6.13636	Si
SLV 16	-26277	-57205	2567	1.462	3982	0.917	23.16616	6.13636	Si
SLV 13	-25798	-55854	2555	1.482	3934.1	0.916	23.50826	6.13636	Si
SLV 14	-25772	-55967	2555	1.483	3931.4	0.916	23.52729	6.13636	Si
SLV 3	-24772	-39400	-2556	1.527	3831.5	0.915	24.26377	6.13636	Si
SLV 4	-24745	-39513	-2556	1.528	3828.8	0.915	24.28393	6.13636	Si
SLV 1	-24266	-38162	-2567	1.55	3781	0.914	24.6482	6.13636	Si
SLV 2	-24240	-38275	-2568	1.551	3778.3	0.914	24.66901	6.13636	Si
SLV 11	-26353	-52364	788	1.51	3989.6	0.917	23.93062	5.23702	Si
SLV 12	-26335	-52440	788	1.511	3987.8	0.917	23.94345	5.23702	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	36.503	SLU 61	Si
V_SLU	26.906	SLU 73	Si
PF_SLV	5.257	SLV 9	Si
V_SLV	1.929	SLV 6	Si
PFFP_SLV	3.593	SLV 1	Si
R_SLV	3.772	SLV 15	Si

Maschio 214

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	-3.169	-24.614	5.951	L7	L8	9.121	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 59	11.45	-3450.11	-32125	-0.0000204	0.0003743	0.0035	9.1207	128399.86	157714.41	157714.41	45.71	No	Si
SLU 59	14.6	2342.7	-5680	-0.0000042	0.0003743	0.0035	9.1207	25336.78	29357.44	29357.44	12.53	No	Si
SLU 38	11.45	-3138.11	-30830	-0.0000195	0.0003743	0.0035	9.1207	123924	152889.22	152889.22	48.72	No	Si
SLU 38	14.6	2328.39	-5653	-0.0000041	0.0003743	0.0035	9.1207	25217.03	29238.25	29238.25	12.56	No	Si
SLU 51	11.45	-2884.42	-30055	-0.0000189	0.0003743	0.0035	9.1207	121218.29	150029.68	150029.68	52.01	No	Si
SLU 51	14.6	2290.35	-5546	-0.0000041	0.0003743	0.0035	9.1207	24753.82	28774.14	28774.14	12.56	No	Si
SLU 80	11.45	-3733.36	-36050	-0.0000229	0.0003743	0.0035	9.1207	141607.1	172491.05	172491.05	46.2	No	Si
SLU 80	14.6	2555.24	-6311	-0.0000046	0.0003743	0.0035	9.1207	28079.9	32100.39	32100.39	12.56	No	Si
SLU 72	11.45	-3167.67	-33981	-0.0000214	0.0003743	0.0035	9.1207	134710.53	164703.38	164703.38	52	No	Si
SLU 72	14.6	2502.89	-6177	-0.0000045	0.0003743	0.0035	9.1207	27499.9	31518.4	31518.4	12.59	No	Si
SLU 17	11.45	-2854.86	-26905	-0.000017	0.0003743	0.0035	9.1207	109997.92	137927.05	137927.05	48.31	No	Si
SLU 17	14.6	2115.85	-5022	-0.0000037	0.0003743	0.0035	9.1207	22459.35	26467.43	26467.43	12.51	No	Si
SLU 57	11.45	-3480.59	-32776	-0.0000208	0.0003743	0.0035	9.1207	130627.49	160157.12	160157.12	46.01	No	Si
SLU 57	14.6	2279.28	-5656	-0.0000041	0.0003743	0.0035	9.1207	25231.54	29252.7	29252.7	12.83	No	Si
SLU 9	11.45	-2289.17	-24835	-0.0000155	0.0003743	0.0035	9.1207	102437.32	129798.61	129798.61	56.7	No	Si
SLU 9	14.6	2063.5	-4888	-0.0000036	0.0003743	0.0035	9.1207	21873.3	25878.32	25878.32	12.54	No	Si
SLU 30	11.45	-2572.42	-28760	-0.000018	0.0003743	0.0035	9.1207	116648.4	145220.41	145220.41	56.45	No	Si
SLU 30	14.6	2276.04	-5519	-0.000004	0.0003743	0.0035	9.1207	24633.94	28654.06	28654.06	12.59	No	Si
SLU 78	11.45	-3763.84	-36701	-0.0000233	0.0003743	0.0035	9.1207	143745.1	174770.25	174770.25	46.43	No	Si
SLU 78	14.6	2491.82	-6286	-0.0000046	0.0003743	0.0035	9.1207	27975.2	31995.25	31995.25	12.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	11.45	2460.63	-24092	-0.000015	0.0005615	0.0035	9.1207		108380	108380	44.05		Si
SLV 11	14.6	6261.89	-3425	-0.0000044	0.0005615	0.0035	9.1207		19443.46	19443.46	3.11		Si
SLV 8	11.45	17.93	-24252	-0.0000142	0.0005615	0.0035	9.1207		109039.28	109039.28	6082.8		Si
SLV 8	14.6	5664.87	-3669	-0.0000042	0.0005615	0.0035	9.1207		20533.88	20533.88	3.62		Si
SLD 7	11.45	-288.47	-23976	-0.0000141	0.0005615	0.0035	9.1207		128387.4	128387.4	445.06		Si
SLD 7	14.6	3953.89	-3460	-0.0000035	0.0005615	0.0035	9.1207		19601.93	19601.93	4.96		Si
SLD 11	11.45	373.69	-23895	-0.0000141	0.0005615	0.0035	9.1207		107572.12	107572.12	287.86		Si
SLD 11	14.6	4173.32	-3296	-0.0000035	0.0005615	0.0035	9.1207		18867.3	18867.3	4.52		Si
SLV 12	11.45	1064.57	-24080	-0.0000145	0.0005615	0.0035	9.1207		108333.09	108333.09	101.76		Si
SLV 12	14.6	6007.09	-3413	-0.0000043	0.0005615	0.0035	9.1207		19389.45	19389.45	3.23		Si
SLD 8	11.45	-1135.67	-23969	-0.0000144	0.0005615	0.0035	9.1207		128358.68	128358.68	113.02		Si
SLD 8	14.6	3799.27	-3453	-0.0000034	0.0005615	0.0035	9.1207		19569.14	19569.14	5.15		Si
SLV 7	11.45	1413.99	-24263	-0.0000147	0.0005615	0.0035	9.1207		109086.21	109086.21	77.15		Si
SLV 7	14.6	5919.67	-3681	-0.0000044	0.0005615	0.0035	9.1207		20588.02	20588.02	3.48		Si
SLD 12	11.45	-473.5	-23888	-0.0000141	0.0005615	0.0035	9.1207		128022.86	128022.86	270.38		Si
SLD 12	14.6	4018.7	-3289	-0.0000034	0.0005615	0.0035	9.1207		18834.56	18834.56	4.69		Si
SLV 16	11.45	-706.07	-23477	-0.000014	0.0005615	0.0035	9.1207		126321.26	126321.26	178.91		Si
SLV 16	14.6	2922.45	-2822	-0.0000027	0.0005615	0.0035	9.1207		16745.77	16745.77	5.73		Si
SLV 15	11.45	1367.84	-23494	-0.0000142	0.0005615	0.0035	9.1207		105918.1	105918.1	77.43		Si
SLV 15	14.6	3300.97	-2840	-0.0000029	0.0005615	0.0035	9.1207		16826.13	16826.13	5.1		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 57	11.45	-3480.59	-32776	-27293	-1767	9.1207	9.1207	-10687	8369	23211	35683	76472	23258	58894	No	33.33	Si
SLU 57	14.6	2279.28	-5656	-4710	-1863	9.1207	9.1207	-1844	7190	18363	35683	76472	23258	54046	No	29.01	Si
SLU 79	11.45	-3935.86	-36078	-30042	-1778	9.1207	9.1207	-11764	8513	24310	35683	76472	23258	59994	No	33.75	Si
SLU 79	14.6	2497.16	-6319	-5262	-1968	9.1207	9.1207	-2060	7219	18436	35683	76472	23258	54119	No	27.49	Si
SLU 58	11.45	-3652.62	-32152	-26774	-1710	9.1207	9.1207	-10484	8342	23003	35683	76472	23258	58686	No	34.32	Si
SLU 58	14.6	2284.62	-5688	-4737	-1888	9.1207	9.1207	-1855	7192	18366	35683	76472	23258	54049	No	28.63	Si
SLU 83	11.45	-4086.41	-35477	-29543	-1622	9.1207	9.1207	-11568	8487	24110	35683	76472	23258	59794	No	36.87	Si
SLU 83	14.6	2016.43	-5385	-4484	-1770	9.1207	9.1207	-1756	7179	18333	35683	76472	23258	54016	No	30.52	Si
SLU 80	11.45	-3733.36	-36050	-30020	-1856	9.1207	9.1207	-11755	8512	24301	35683	76472	23258	59984	No	32.31	Si
SLU 80	14.6	2555.24	-6311	-5255	-1973	9.1207	9.1207	-2058	7219	18435	35683	76472	23258	54119	No	27.43	Si
SLU 78	11.45	-3763.84	-36701	-30562	-1835	9.1207	9.1207	-11967	8540	24518	35683	76472	23258	60201	No	32.82	Si
SLU 78	14.6	2491.82	-6286	-5235	-1944	9.1207	9.1207	-2050	7218	18433	35683	76472	23258	54116	No	27.84	Si
SLU 84	11.45	-3883.91	-35450	-29520	-1700	9.1207	9.1207	-11559	8486	24101	35683	76472	23258	59784	No	35.16	Si
SLU 84	14.6	2074.51	-5377	-4477	-1774	9.1207	9.1207	-1753	7178	18332	35683	76472	23258	54015	No	30.45	Si
SLU 59	11.45	-3450.11	-32125	-26751	-1789	9.1207	9.1207	-10475	8341	22994	35683	76472	23258	58677	No	32.8	Si
SLU 59	14.6	2342.7	-5680	-4730	-1892	9.1207	9.1207	-1852	7191	18365	35683	76472	23258	54049	No	28.56	Si
SLU 56	11.45	-3683.09	-32803	-27316	-1688	9.1207	9.1207	-10696	8371	23220	35683	76472	23258	58903	No	34.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 56	14.6	2221.2	-5664	-4717	-1859	9.1207	9.1207	-1847	7191	18364	35683	76472	23258	54047	No	29.08	Si
SLU 77	11.45	-3966.34	-36729	-30585	-1756	9.1207	9.1207	-11976	8541	24527	35683	76472	23258	60210	No	34.29	Si
SLU 77	14.6	2433.74	-6295	-5242	-1939	9.1207	9.1207	-2052	7218	18434	35683	76472	23258	54117	No	27.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	11.45	2460.63	-24092	-20061	13597	9.1207	9.1207	-7856	11988	30614	35683	114708	23258	66297		4.88	Si
SLV 11	14.6	6261.89	-3425	-2852	7660	9.1207	8.1961	-1117	10640	24418	35683	114708	23258	60101		7.85	Si
SLV 6	11.45	-7561.5	-23109	-19243	-15358	9.1207	9.1207	-7535	11924	30451	35683	114708	23258	66134		4.31	Si
SLV 6	14.6	-4112.37	-2840	-2365	-9579	9.1207	9.1207	-926	10602	27075	35683	114708	23258	62758		6.55	Si
SLV 7	11.45	1413.99	-24263	-20205	12813	9.1207	9.1207	-7912	11999	30643	35683	114708	23258	66326		5.18	Si
SLV 7	14.6	5919.67	-3681	-3065	7099	9.1207	8.8561	-1200	10657	26426	35683	114708	23258	62109		8.75	Si
SLV 10	11.45	-6514.86	-22937	-19100	-14575	9.1207	9.1207	-7479	11912	30422	35683	114708	23258	66105		4.54	Si
SLV 10	14.6	-3770.15	-2584	-2152	-9017	9.1207	9.1207	-843	10585	27032	35683	114708	23258	62716		6.96	Si
SLD 5	11.45	-4627.37	-23313	-19413	-9885	9.1207	9.1207	-7602	11937	30485	35683	114708	23258	66168		6.69	Si
SLD 5	14.6	-1869.18	-2976	-2479	-6533	9.1207	9.1207	-971	10611	27098	35683	114708	23258	62781		9.61	Si
SLV 9	11.45	-5118.79	-22949	-19110	-15476	9.1207	9.1207	-7483	11913	30424	35683	114708	23258	66107		4.27	Si
SLV 9	14.6	-3515.35	-2596	-2162	-9918	9.1207	9.1207	-847	10586	27034	35683	114708	23258	62718		6.32	Si
SLV 8	11.45	17.93	-24252	-20195	13715	9.1207	9.1207	-7908	11998	30641	35683	114708	23258	66324		4.84	Si
SLV 8	14.6	5664.87	-3669	-3055	7999	9.1207	9.0486	-1196	10656	26998	35683	114708	23258	62681		7.84	Si
SLV 12	11.45	1064.57	-24080	-20052	14498	9.1207	9.1207	-7852	11987	30612	35683	114708	23258	66296		4.57	Si
SLV 12	14.6	6007.09	-3413	-2842	8561	9.1207	8.4006	-1113	10639	25025	35683	114708	23258	60709		7.09	Si
SLV 5	11.45	-6165.44	-23121	-19253	-16260	9.1207	9.1207	-7539	11924	30453	35683	114708	23258	66136		4.07	Si
SLV 5	14.6	-3857.57	-2852	-2375	-10479	9.1207	9.1207	-930	10603	27077	35683	114708	23258	62760		5.99	Si
SLD 9	11.45	-3965.2	-23232	-19345	-9392	9.1207	9.1207	-7575	11932	30471	35683	114708	23258	66154		7.04	Si
SLD 9	14.6	-1649.74	-2812	-2342	-6177	9.1207	9.1207	-917	10600	27070	35683	114708	23258	62754		10.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.52	4900	-12515	1033.77	1695.85	1.64	Si
SLV 1	179667	0.52	4907	-12532	1033.77	1698.11	1.64	Si
SLV 4	179667	0.52	4951	-12644	1033.77	1712.8	1.66	Si
SLV 3	179667	0.52	4958	-12661	1033.77	1715.05	1.66	Si
SLV 6	179667	0.52	4964	-12677	1033.77	1717.06	1.66	Si
SLV 5	179667	0.52	4968	-12688	1033.77	1718.58	1.66	Si
SLV 10	179667	0.52	5068	-12942	1033.77	1751.82	1.69	Si
SLV 9	179667	0.52	5072	-12954	1033.77	1753.33	1.7	Si
SLV 8	179667	0.52	5133	-13108	1033.77	1773.44	1.72	Si
SLV 7	179667	0.52	5137	-13120	1033.77	1774.96	1.72	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3692	-24067	-1645	4.61	1666.1	0.899	74.48685	6.17968	Si
SLV 4	-3674	-24050	-1645	4.617	1664.7	0.9	74.59647	6.17968	Si
SLV 1	-3444	-23724	-1656	4.715	1647.2	0.902	76.00667	6.17968	Si
SLV 2	-3426	-23707	-1656	4.723	1645.8	0.902	76.11963	6.17968	Si
SLV 15	-2840	-23494	1424	5.018	1603.3	0.908	80.303	6.17968	Si
SLV 16	-2822	-23477	1424	5.027	1602	0.908	80.4243	6.17968	Si
SLV 13	-2591	-23151	1413	5.145	1586.2	0.912	82.02475	6.17968	Si
SLV 14	-2573	-23134	1413	5.154	1585	0.912	82.14936	6.17968	Si
SLV 7	-3681	-24263	-558	4.714	1665.2	0.9	76.16451	5.47312	Si
SLV 8	-3669	-24252	-558	4.719	1664.3	0.9	76.23999	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.509	SLU 17	Si
V_SLU	27.431	SLU 80	Si
PF_SLV	3.105	SLV 11	Si
V_SLV	4.067	SLV 5	Si
PFFP_SLV	1.64	SLV 2	Si
R_SLV	12.054	SLV 3	Si

Maschio 215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L7	L8	1.837	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 32	12.35	432.12	-3950	-0.0000156	0.0003743	0.0035	1.8365	3353.83	3602.5	3602.5	8.34	No	Si
SLU 32	14.15	-711.23	-4078	-0.0000186	0.0003743	0.0035	1.8365	3453.13	4389.3	4389.3	6.17	No	Si
SLU 39	12.35	535.58	-3097	-0.000014	0.0003743	0.0035	1.8365	2675.27	2895.69	2895.69	5.41	No	Si
SLU 39	14.15	-658.62	-3141	-0.0000153	0.0003743	0.0035	1.8365	2711.15	3615.98	3615.98	5.49	No	Si
SLU 73	12.35	450.78	-4042	-0.000016	0.0003743	0.0035	1.8365	3424.78	3676.66	3676.66	8.16	No	Si
SLU 73	14.15	-690.88	-3634	-0.0000171	0.0003743	0.0035	1.8365	3105.26	4021.41	4021.41	5.82	No	Si
SLU 31	12.35	482.79	-3211	-0.0000139	0.0003743	0.0035	1.8365	2767.59	2991.22	2991.22	6.2	No	Si
SLU 31	14.15	-644.58	-3153	-0.0000152	0.0003743	0.0035	1.8365	2721.32	3626.25	3626.25	5.63	No	Si
SLU 33	12.35	452.83	-3947	-0.0000158	0.0003743	0.0035	1.8365	3351.48	3600.05	3600.05	7.95	No	Si
SLU 33	14.15	-722.66	-4087	-0.0000188	0.0003743	0.0035	1.8365	3460.32	4396.89	4396.89	6.08	No	Si
SLU 42	12.35	555.77	-3624	-0.0000158	0.0003743	0.0035	1.8365	3097.76	3335.16	3335.16	6	No	Si
SLU 42	14.15	-650.76	-3798	-0.0000172	0.0003743	0.0035	1.8365	3234.39	4157.55	4157.55	6.39	No	Si
SLU 40	12.35	556.29	-3093	-0.0000142	0.0003743	0.0035	1.8365	2672.83	2893.17	2893.17	5.2	No	Si
SLU 40	14.15	-670.05	-3150	-0.0000155	0.0003743	0.0035	1.8365	2718.65	3623.55	3623.55	5.41	No	Si
SLU 19	12.35	392.38	-2755	-0.0000117	0.0003743	0.0035	1.8365	2396.82	2608.95	2608.95	6.65	No	Si
SLU 19	14.15	-486.18	-2436	-0.0000116	0.0003743	0.0035	1.8365	2132.97	3020.6	3020.6	6.21	No	Si
SLU 81	12.35	503.58	-3927	-0.0000162	0.0003743	0.0035	1.8365	3335.79	3583.68	3583.68	7.12	No	Si
SLU 81	14.15	-704.92	-3621	-0.0000172	0.0003743	0.0035	1.8365	3095.31	4010.99	4010.99	5.69	No	Si
SLU 82	12.35	524.29	-3924	-0.0000164	0.0003743	0.0035	1.8365	3333.44	3581.23	3581.23	6.83	No	Si
SLU 82	14.15	-716.35	-3631	-0.0000173	0.0003743	0.0035	1.8365	3102.65	4018.67	4018.67	5.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	12.35	1391.64	-2193	-0.0000274	0.0005615	0.0035	1.8365		2149.31	2149.31	1.54		Si
SLD 9	14.15	-1301.57	-2950	-0.0000219	0.0005615	0.0035	1.8365		3487.34	3487.34	2.68		Si
SLV 12	12.35	-1807.56	-5090	-0.0000322	0.0005615	0.0035	1.8365		5288.81	5288.81	2.93		Si
SLV 12	14.15	1053.51	-2274	-0.0000176	0.0005615	0.0035	1.8365		2220.07	2220.07	2.11		Si
SLD 5	12.35	1352.57	-2049	-0.0000282	0.0005615	0.0035	1.8365		2023.61	2023.61	1.5		Si
SLD 5	14.15	-1316.48	-2827	-0.0000221	0.0005615	0.0035	1.8365		3381.17	3381.17	2.57		Si
SLV 9	12.35	2230.41	-1493	-0.0069284	0.0005615	0.0035	1.4692		1531.48	1531.48	0.69		No
SLV 9	14.15	-1912.64	-3171	-0.0000359	0.0005615	0.0035	1.4692		3677.45	3677.45	1.92		Si
SLV 8	12.35	-1859.06	-4853	-0.0000323	0.0005615	0.0035	1.8365		5089.33	5089.33	2.74		Si
SLV 8	14.15	1034.52	-2075	-0.0000174	0.0005615	0.0035	1.8365		2046.27	2046.27	1.98		Si
SLV 10	12.35	1914.86	-1642	-0.0027029	0.0005615	0.0035	1.4692		1663.17	1663.17	0.87		No
SLV 10	14.15	-1726.91	-3056	-0.0000308	0.0005615	0.0035	1.4692		3579.36	3579.36	2.07		Si
SLV 5	12.35	2178.91	-1256	-0.008157	0.0005615	0.0035	1.4692		1321.44	1321.44	0.61		No
SLV 5	14.15	-1931.63	-2972	-0.0000395	0.0005615	0.0035	1.4692		3506.77	3506.77	1.82		Si
SLV 6	12.35	1863.36	-1405	-0.0041914	0.0005615	0.0035	1.4692		1453.65	1453.65	0.78		No
SLV 6	14.15	-1745.9	-2857	-0.0000331	0.0005615	0.0035	1.4692		3407.2	3407.2	1.95		Si
SLD 10	12.35	1200.15	-2283	-0.0000205	0.0005615	0.0035	1.8365		2227.93	2227.93	1.86		Si
SLD 10	14.15	-1188.85	-2880	-0.0000201	0.0005615	0.0035	1.8365		3426.91	3426.91	2.88		Si
SLD 6	12.35	1161.08	-2139	-0.0000201	0.0005615	0.0035	1.8365		2102.31	2102.31	1.81		Si
SLD 6	14.15	-1203.77	-2757	-0.0000202	0.0005615	0.0035	1.8365		3320.75	3320.75	2.76		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.35	420.82	-4778	-3979	1738	1.8365	1.8365	-7737	7976	4102	35683	15398	4683	20082	No	11.56	Si
SLU 75	14.15	-768.96	-4568	-3804	1764	1.8365	1.8365	-7397	7931	4078	35683	15398	4683	20082	No	11.38	Si
SLU 84	12.35	523.76	-4455	-3710	1772	1.8365	1.8365	-7214	7906	4066	35683	15398	4683	20082	No	11.33	Si
SLU 84	14.15	-697.06	-4278	-3562	1799	1.8365	1.8365	-6928	7868	4046	35683	15398	4683	20082	No	11.16	Si
SLU 77	12.35	399.59	-5312	-4423	1760	1.8365	1.8365	-8602	8091	4161	35683	15398	4683	20082	No	11.41	Si
SLU 77	14.15	-738.25	-5206	-4335	1793	1.8365	1.8365	-8430	8068	4149	35683	15398	4683	20082	No	11.2	Si
SLU 82	12.35	524.29	-3924	-3268	1725	1.8365	1.8365	-6355	7792	4007	35683	15398	4683	20082	No	11.64	Si
SLU 82	14.15	-716.35	-3631	-3023	1746	1.8365	1.8365	-5879	7728	3974	35683	15398	4683	20082	No	11.5	Si
SLU 36	12.35	452.3	-4478	-3729	1692	1.8365	1.8365	-7252	7911	4068	35683	15398	4683	20082	No	11.87	Si
SLU 36	14.15	-703.38	-4735	-3943	1721	1.8365	1.8365	-7667	7967	4097	35683	15398	4683	20082	No	11.67	Si
SLU 74	12.35	400.11	-4781	-3981	1714	1.8365	1.8365	-7742	7977	4102	35683	15398	4683	20082	No	11.72	Si
SLU 74	14.15	-757.54	-4559	-3796	1740	1.8365	1.8365	-7382	7929	4077	35683	15398	4683	20082	No	11.54	Si
SLU 78	12.35	420.3	-5309	-4421	1784	1.8365	1.8365	-8597	8091	4161	35683	15398	4683	20082	No	11.26	Si
SLU 78	14.15	-749.68	-5215	-4343	1817	1.8365	1.8365	-8445	8071	4150	35683	15398	4683	20082	No	11.05	Si
SLU 80	12.35	435.93	-5105	-4251	1689	1.8365	1.8365	-8267	8047	4138	35683	15398	4683	20082	No	11.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	14.15	-644.69	-4923	-4099	1723	1.8365	1.8365	-7972	8007	4118	35683	15398	4683	20082	No	11.66	Si
SLU 83	12.35	503.05	-4458	-3712	1748	1.8365	1.8365	-7219	7907	4066	35683	15398	4683	20082	No	11.49	Si
SLU 83	14.15	-685.63	-4269	-3555	1775	1.8365	1.8365	-6913	7866	4045	35683	15398	4683	20082	No	11.31	Si
SLU 81	12.35	503.58	-3927	-3270	1701	1.8365	1.8365	-6360	7792	4007	35683	15398	4683	20082	No	11.81	Si
SLU 81	14.15	-704.92	-3621	-3015	1722	1.8365	1.8365	-5864	7726	3973	35683	15398	4683	20082	No	11.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	12.35	1200.15	-2283	-1901	2460	1.8365	1.1781	-3698	11156	3680	35683	23098	4683	27781		11.29	Si
SLD 10	14.15	-1188.85	-2880	-2398	2689	1.8365	1.5163	-5661	11549	4903	35683	23098	4683	27781		10.33	Si
SLV 10	12.35	1914.86	-1642	-1367	3522	1.4692	0	0	0	0	35683	18478	3747	22225		6.31	Si
SLV 10	14.15	-1726.91	-3056	-2545	3888	1.4692	1.0597	0	0	0	35683	18478	3747	22225		5.72	Si
SLD 6	12.35	1161.08	-2139	-1781	2599	1.8365	1.1266	-3464	11110	3504	35683	23098	4683	27781		10.69	Si
SLD 6	14.15	-1203.77	-2757	-2296	2494	1.8365	1.4449	-5686	11554	4674	35683	23098	4683	27781		11.14	Si
SLV 6	12.35	1863.36	-1405	-1170	3757	1.4692	0	0	0	0	35683	18478	3747	22225		5.92	Si
SLV 6	14.15	-1745.9	-2857	-2379	3578	1.4692	0.9214	0	0	0	35683	18478	3747	22225		6.21	Si
SLV 9	12.35	2230.41	-1493	-1243	3935	1.4692	0	0	0	0	35683	18478	3747	22225		5.65	Si
SLV 9	14.15	-1912.64	-3171	-2641	4301	1.4692	0.9456	0	0	0	35683	18478	3747	22225		5.17	Si
SLV 5	12.35	2178.91	-1256	-1046	4170	1.4692	0	0	0	0	35683	18478	3747	22225		5.33	Si
SLV 5	14.15	-1931.63	-2972	-2475	3991	1.4692	0.805	0	0	0	35683	18478	3747	22225		5.57	Si
SLV 13	12.35	1064.26	-2940	-2448	1751	1.8365	1.6688	-4761	11369	5312	35683	23098	4683	27781		15.87	Si
SLV 13	14.15	-962.43	-3159	-2630	2698	1.8365	1.8365	-5115	11440	5883	35683	23098	4683	27781		10.3	Si
SLD 9	12.35	1391.64	-2193	-1826	2711	1.8365	0.8513	-3552	11127	2963	35683	23098	4683	27781		10.25	Si
SLD 9	14.15	-1301.57	-2950	-2456	2939	1.8365	1.431	-6144	11645	4666	35683	23098	4683	27781		9.45	Si
SLV 1	12.35	892.59	-2151	-1791	2534	1.8365	1.5098	-3483	11113	4698	35683	23098	4683	27781		10.96	Si
SLV 1	14.15	-1025.73	-2494	-2076	1665	1.8365	1.5208	-4886	11394	4852	35683	23098	4683	27781		16.68	Si
SLD 5	12.35	1352.57	-2049	-1706	2849	1.8365	0.7745	-3318	11080	2930	35683	23098	4683	27781		9.75	Si
SLD 5	14.15	-1316.48	-2827	-2354	2744	1.8365	1.3576	-6208	11658	4432	35683	23098	4683	27781		10.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.52	4551	-2340	208.16	317.88	1.53	Si
SLV 6	179667	0.52	4598	-2364	208.16	321.02	1.54	Si
SLV 9	179667	0.52	4931	-2535	208.16	343.5	1.65	Si
SLV 10	179667	0.52	4977	-2559	208.16	346.63	1.67	Si
SLV 1	179667	0.52	5004	-2573	208.16	348.41	1.67	Si
SLV 2	179667	0.52	5072	-2608	208.16	353.05	1.7	Si
SLV 3	179667	0.52	5780	-2972	208.16	400.4	1.92	Si
SLV 4	179667	0.52	5849	-3008	208.16	404.98	1.95	Si
SLV 13	179667	0.52	6268	-3223	208.16	432.75	2.08	Si
SLV 14	179667	0.52	6337	-3259	208.16	437.3	2.1	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2378	-3700	148	2.712	482.8	0.895	44.05583	6.17968	Si
SLV 16	-2367	-3594	148	2.72	481.7	0.895	44.1931	6.17968	Si
SLV 13	-2335	-3133	23	2.775	478.6	0.894	45.1074	6.17968	Si
SLV 14	-2323	-3027	23	2.784	477.5	0.894	45.24945	6.17968	Si
SLV 3	-2061	-3489	-30	2.986	452.4	0.892	48.6548	6.17968	Si
SLV 1	-2018	-2922	-155	2.987	448.3	0.891	48.69146	6.17968	Si
SLV 4	-2050	-3384	-31	2.995	451.3	0.892	48.8168	6.17968	Si
SLV 2	-2006	-2817	-155	2.996	447.2	0.891	48.85536	6.17968	Si
SLV 11	-2316	-4270	231	2.734	476.8	0.894	44.44061	5.47312	Si
SLV 12	-2309	-4199	230	2.739	476.1	0.894	44.53513	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.201	SLU 40	Si
V_SLU	11.052	SLU 78	Si
PF_SLV	0.606	SLV 5	No
V_SLV	5.168	SLV 9	Si
PFFP_SLV	1.527	SLV 5	Si
R_SLV	7.129	SLV 15	Si

Maschio 216

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	5.951	-21.878	5.951	L7	L8	2.12	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	12.35	224.73	-4239	-0.0000123	0.0003743	0.0035	2.12	4178.04	4492.02	4492.02	19.99	No	Si
SLU 61	14.15	927.39	-1551	-0.0000118	0.0003743	0.0035	2.12	1601.51	1849.85	1849.85	1.99	No	Si
SLU 43	12.35	121.59	-4435	-0.000012	0.0003743	0.0035	2.12	4355.67	4677.05	4677.05	38.47	No	Si
SLU 43	14.15	1045.19	-1746	-0.0000134	0.0003743	0.0035	2.12	1797.58	2048.26	2048.26	1.96	No	Si
SLU 18	12.35	209.2	-3378	-0.0000099	0.0003743	0.0035	2.12	3380.44	3663.85	3663.85	17.51	No	Si
SLU 18	14.15	728.22	-1297	-0.0000091	0.0003743	0.0035	2.12	1345.8	1592.47	1592.47	2.19	No	Si
SLU 52	12.35	213.06	-4294	-0.0000123	0.0003743	0.0035	2.12	4228.42	4544.41	4544.41	21.33	No	Si
SLU 52	14.15	942.46	-1606	-0.000012	0.0003743	0.0035	2.12	1657.1	1906	1906	2.02	No	Si
SLU 60	12.35	204.79	-4242	-0.0000121	0.0003743	0.0035	2.12	4181.21	4495.31	4495.31	21.95	No	Si
SLU 60	14.15	948.36	-1554	-0.0000122	0.0003743	0.0035	2.12	1605	1853.38	1853.38	1.95	No	Si
SLU 63	12.35	267.63	-4564	-0.0000134	0.0003743	0.0035	2.12	4472.34	4799.06	4799.06	17.93	No	Si
SLU 63	14.15	991.66	-1876	-0.0000125	0.0003743	0.0035	2.12	1926.45	2178.95	2178.95	2.2	No	Si
SLU 62	12.35	247.7	-4567	-0.0000133	0.0003743	0.0035	2.12	4475.47	4802.33	4802.33	19.39	No	Si
SLU 62	14.15	1012.64	-1879	-0.0000127	0.0003743	0.0035	2.12	1929.9	2182.44	2182.44	2.16	No	Si
SLU 1	12.35	126	-3570	-0.0000098	0.0003743	0.0035	2.12	3560.73	3850.13	3850.13	30.56	No	Si
SLU 1	14.15	825.04	-1490	-0.0000104	0.0003743	0.0035	2.12	1540.12	1787.96	1787.96	2.17	No	Si
SLU 44	12.35	154.82	-4429	-0.0000122	0.0003743	0.0035	2.12	4350.43	4671.58	4671.58	30.17	No	Si
SLU 44	14.15	1010.24	-1741	-0.0000128	0.0003743	0.0035	2.12	1791.8	2042.4	2042.4	2.02	No	Si
SLU 47	12.35	197.73	-4754	-0.0000134	0.0003743	0.0035	2.12	4642.57	4977.7	4977.7	25.17	No	Si
SLU 47	14.15	1074.51	-2065	-0.0000135	0.0003743	0.0035	2.12	2114.58	2369.5	2369.5	2.21	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	12.35	2058.86	-1824	-0.0006829	0.0005615	0.0035	2.12		2139.99	2139.99	1.04		Si
SLV 10	14.15	171.08	169	0.0104708	0.0005615	0.0035	1.696		0	0	0		No
SLD 14	12.35	698.07	-2426	-0.0000109	0.0005615	0.0035	2.12		2752.25	2752.25	3.94		Si
SLD 14	14.15	1511.17	-312	-0.0071467	0.0005615	0.0035	2.12		576.49	576.49	0.38		No
SLV 14	12.35	1016.23	-1647	-0.0000131	0.0005615	0.0035	2.12		1958.27	1958.27	1.93		Si
SLV 14	14.15	1880.64	493	-0.0071055	0.0005615	0.0035	1.696		0	0	0		No
SLD 13	12.35	918.28	-2749	-0.0000133	0.0005615	0.0035	2.12		3078.48	3078.48	3.35		Si
SLD 13	14.15	843.71	-635	-0.0005269	0.0005615	0.0035	1.696		913.62	913.62	1.08		Si
SLV 12	12.35	-1664.84	-4390	-0.0000228	0.0005615	0.0035	2.12		5734.46	5734.46	3.44		Si
SLV 12	14.15	2741.06	-2144	-0.0026688	0.0005615	0.0035	2.12		2467.61	2467.61	0.9		No
SLV 13	12.35	1363.34	-2156	-0.0000178	0.0005615	0.0035	2.12		2479.72	2479.72	1.82		Si
SLV 13	14.15	828.56	-16	-0.004494	0.0005615	0.0035	2.12		265.64	265.64	0.32		No
SLV 16	12.35	-100.88	-2417	-0.0000067	0.0005615	0.0035	2.12		3779.68	3779.68	37.47		Si
SLV 16	14.15	2651.63	-201	-0.0159318	0.0005615	0.0035	2.12		460.29	460.29	0.17		No
SLD 15	12.35	263.65	-3199	-0.0000098	0.0005615	0.0035	2.12		3530.83	3530.83	13.39		Si
SLD 15	14.15	1298.68	-1038	-0.0007138	0.0005615	0.0035	1.696		1331.12	1331.12	1.02		Si
SLD 16	12.35	43.44	-2876	-0.0000075	0.0005615	0.0035	2.12		3206.4	3206.4	73.82		Si
SLD 16	14.15	1966.13	-715	-0.007377	0.0005615	0.0035	2.12		996.32	996.32	0.51		No
SLV 15	12.35	246.23	-2926	-0.000009	0.0005615	0.0035	2.12		3257.23	3257.23	13.23		Si
SLV 15	14.15	1599.55	-710	-0.0046538	0.0005615	0.0035	2.12		991.39	991.39	0.62		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	12.35	337.12	-5747	-4785	-514	2.12	2.12	-8061	8019	4760	35683	17775	5406	23181	No	45.08	Si
SLU 66	14.15	1286.81	-3011	-2507	-514	2.12	1.8978	-4223	7508	3989	35683	17775	5406	23181	No	45.08	Si
SLU 69	12.35	380.02	-6071	-5056	-526	2.12	2.12	-8517	8080	4796	35683	17775	5406	23181	No	44.06	Si
SLU 69	14.15	1351.09	-3336	-2778	-526	2.12	1.9649	-4679	7568	4164	35683	17775	5406	23181	No	44.06	Si
SLU 51	12.35	227.34	-5081	-4231	-500	2.12	2.12	-7128	7895	4686	35683	17775	5406	23181	No	46.36	Si
SLU 51	14.15	1152.76	-2393	-1992	-500	2.12	1.7347	-3357	7392	3590	35683	17775	5406	23181	No	46.36	Si
SLU 71	12.35	330.51	-5687	-4736	-499	2.12	2.12	-7978	8008	4754	35683	17775	5406	23181	No	46.42	Si
SLU 71	14.15	1253.53	-2951	-2457	-499	2.12	1.9057	-4140	7496	4000	35683	17775	5406	23181	No	46.42	Si
SLU 50	12.35	207.4	-5084	-4234	-523	2.12	2.12	-7133	7895	4687	35683	17775	5406	23181	No	44.34	Si
SLU 50	14.15	1173.73	-2396	-1995	-523	2.12	1.7105	-3361	7393	3541	35683	17775	5406	23181	No	44.34	Si
SLU 46	12.35	233.95	-5141	-4281	-515	2.12	2.12	-7211	7906	4693	35683	17775	5406	23181	No	45.02	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	14.15	1186.04	-2452	-2042	-515	2.12	1.7291	-3440	7403	3584	35683	17775	5406	23181	No	45.02	Si
SLU 48	12.35	256.91	-5469	-4554	-549	2.12	2.12	-7672	7967	4729	35683	17775	5406	23181	No	42.19	Si
SLU 48	14.15	1271.28	-2781	-2316	-549	2.12	1.8085	-3901	7465	3780	35683	17775	5406	23181	No	42.19	Si
SLU 45	12.35	214.01	-5144	-4283	-538	2.12	2.12	-7216	7907	4693	35683	17775	5406	23181	No	43.12	Si
SLU 45	14.15	1207.01	-2456	-2045	-538	2.12	1.7055	-3445	7404	3536	35683	17775	5406	23181	No	43.12	Si
SLU 49	12.35	276.85	-5465	-4551	-527	2.12	2.12	-7667	7967	4729	35683	17775	5406	23181	No	44.01	Si
SLU 49	14.15	1250.31	-2777	-2313	-527	2.12	1.8294	-3896	7464	3823	35683	17775	5406	23181	No	44.01	Si
SLU 70	12.35	399.96	-6068	-5053	-503	2.12	2.12	-8512	8079	4796	35683	17775	5406	23181	No	46.05	Si
SLU 70	14.15	1330.12	-3332	-2775	-503	2.12	1.9825	-4674	7568	4201	35683	17775	5406	23181	No	46.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	12.35	-1431.18	-4733	-3941	-1980	2.12	2.12	-6639	11745	6972	35683	26663	5406	32069		16.2	Si
SLV 11	14.15	2032.84	-2487	-2071	-1785	2.12	0.728	-3489	11114	3442	35683	26663	5406	32069		17.96	Si
SLV 16	12.35	-100.88	-2417	-2012	-1908	2.12	2.12	-3390	11095	6586	35683	26663	5406	32069		16.81	Si
SLV 16	14.15	2651.63	-201	-167	-1215	2.12	0	0	0	2930	35683	26663	5406	32069		26.4	Si
SLV 9	12.35	2292.52	-2167	-1805	1405	2.12	0.0065	-76201	16250	3371	35683	26663	5406	32069		22.83	Si
SLV 9	14.15	-537.13	-174	-145	1629	1.696	0	0	0	0	35683	21330	4325	25655		15.75	Si
SLV 7	12.35	-1703.23	-5583	-4649	-1584	2.12	2.12	-7832	11983	7113	35683	26663	5406	32069		20.25	Si
SLV 7	14.15	1485.87	-3388	-2821	-1807	2.12	1.8643	-4753	11367	5934	35683	26663	5406	32069		17.74	Si
SLD 12	12.35	-893.23	-4082	-3399	-1623	2.12	2.12	-5727	11562	6863	35683	26663	5406	32069		19.76	Si
SLD 12	14.15	1974.57	-1897	-1580	-1501	2.12	0.0572	-55126	16250	3310	35683	26663	5406	32069		21.36	Si
SLD 8	12.35	-1075.06	-4617	-3845	-1383	2.12	2.12	-6477	11712	6952	35683	26663	5406	32069		23.19	Si
SLD 8	14.15	1628.7	-2458	-2047	-1521	2.12	1.1921	-3448	11106	3707	35683	26663	5406	32069		21.08	Si
SLV 10	12.35	2058.86	-1824	-1519	882	2.12	0	-97680	16250	3294	35683	26663	5406	32069		36.38	Si
SLV 10	14.15	171.08	169	140	1105	1.696	0.1352	0	0	0	35683	21330	4325	25655		23.21	Si
SLV 12	12.35	-1664.84	-4390	-3656	-2503	2.12	2.0423	-6410	11699	6690	35683	26663	5406	32069		12.81	Si
SLV 12	14.15	2741.06	-2144	-1786	-2308	2.12	0	-118628	16250	3365	35683	26663	5406	32069		13.89	Si
SLV 8	12.35	-1936.89	-5240	-4364	-2107	2.12	2.0712	-7550	11927	6917	35683	26663	5406	32069		15.22	Si
SLV 8	14.15	2194.08	-3045	-2536	-2331	2.12	1.0185	-4272	11271	3567	35683	26663	5406	32069		13.76	Si
SLV 5	12.35	2020.47	-3018	-2513	1801	2.12	1.1713	-4233	11263	3694	35683	26663	5406	32069		17.81	Si
SLV 5	14.15	-1084.1	-1075	-895	1606	1.696	0.1553	0	0	0	35683	21330	4325	25655		15.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	0	-1054	240.29	0	0	No, e>t/2
SLV 9	179667	0.52	0	-1397	240.29	0	0	No, e>t/2
SLV 14	179667	0.52	0	-923	240.29	0	0	No, e>t/2
SLV 16	179667	0.52	0	-1690	240.29	0	0	No, e>t/2
SLV 13	179667	0.52	0	-1432	240.29	0	0	No, e>t/2
SLV 6	179667	0.52	3137	-1862	240.29	255.36	1.06	Si
SLV 15	179667	0.52	3705	-2199	240.29	300.42	1.25	Si
SLV 5	179667	0.52	3715	-2205	240.29	301.21	1.25	Si
SLV 12	179667	0.52	6083	-3611	240.29	485.42	2.02	Si
SLV 2	179667	0.52	6093	-3617	240.29	486.18	2.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-2490	-6460	265	2.853	532.8	0.893	46.44955	6.17968	Si
SLV 1	-2391	-5093	-228	2.93	523.4	0.892	47.7394	6.17968	Si
SLV 4	-1736	-6303	265	3.472	462.3	0.889	56.76033	6.17968	Si
SLV 2	-1638	-4936	-228	3.584	453.4	0.889	58.6018	6.17968	Si
SLV 7	-1656	-7236	827	3.385	455.1	0.889	55.34962	5.47312	Si
SLV 5	-1328	-2678	-815	3.753	426	0.89	61.26871	5.47312	Si
SLV 8	-1149	-7130	826	3.984	410.7	0.892	64.87543	5.47312	Si
SLV 11	-949	-6555	816	4.287	394.4	0.897	69.48796	5.47312	Si
SLV 6	-821	-2572	-815	4.504	384.4	0.901	72.67548	5.47312	Si
SLV 9	-621	-1997	-826	4.887	370	0.91	78.01081	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.954	SLU 60	Si
V_SLU	42.188	SLU 48	Si
PF_SLV	0	SLV 10	No
V_SLV	12.812	SLV 12	Si
PFFP_SLV	0	SLV 9	No
R_SLV	7.516	SLV 3	Si

Maschio 217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L7	L8	2.137	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	12.35	449.44	-3859	-0.0000128	0.0003743	0.0035	2.1365	3861.53	4166.05	4166.05	9.27	No	Si
SLU 31	14.15	-285.15	-3680	-0.0000112	0.0003743	0.0035	2.1365	3693.27	5030.91	5030.91	17.64	No	Si
SLU 18	12.35	474.15	-3334	-0.0000116	0.0003743	0.0035	2.1365	3366.3	3653.64	3653.64	7.71	No	Si
SLU 18	14.15	-226.97	-2934	-0.0000089	0.0003743	0.0035	2.1365	2983.25	4296.19	4296.19	18.93	No	Si
SLU 83	12.35	563.06	-5330	-0.0000173	0.0003743	0.0035	2.1365	5196.04	5564.5	5564.5	9.88	No	Si
SLU 83	14.15	-52.74	-5037	-0.000013	0.0003743	0.0035	2.1365	4935.98	6324.64	6324.64	119.92	No	Si
SLU 41	12.35	575.38	-4371	-0.0000149	0.0003743	0.0035	2.1365	4334.19	4658.4	4658.4	8.1	No	Si
SLU 41	14.15	-51.51	-4463	-0.0000115	0.0003743	0.0035	2.1365	4418.33	5776.63	5776.63	112.16	No	Si
SLU 39	12.35	630	-3726	-0.0000137	0.0003743	0.0035	2.1365	3736.43	4036.03	4036.03	6.41	No	Si
SLU 39	14.15	-318.82	-3737	-0.0000115	0.0003743	0.0035	2.1365	3746.89	5084.71	5084.71	15.95	No	Si
SLU 81	12.35	617.68	-4685	-0.0000161	0.0003743	0.0035	2.1365	4620	4956.99	4956.99	8.03	No	Si
SLU 81	14.15	-320.05	-4311	-0.000013	0.0003743	0.0035	2.1365	4279.17	5629.94	5629.94	17.59	No	Si
SLU 19	12.35	426.5	-3358	-0.0000113	0.0003743	0.0035	2.1365	3389.05	3677.05	3677.05	8.62	No	Si
SLU 19	14.15	-227.99	-2918	-0.0000088	0.0003743	0.0035	2.1365	2967.99	4280.44	4280.44	18.77	No	Si
SLU 82	12.35	570.03	-4709	-0.0000158	0.0003743	0.0035	2.1365	4641.61	4979.66	4979.66	8.74	No	Si
SLU 82	14.15	-321.07	-4295	-0.000013	0.0003743	0.0035	2.1365	4264.68	5614.75	5614.75	17.49	No	Si
SLU 42	12.35	527.72	-4395	-0.0000147	0.0003743	0.0035	2.1365	4356.07	4681.18	4681.18	8.87	No	Si
SLU 42	14.15	-52.53	-4447	-0.0000115	0.0003743	0.0035	2.1365	4403.93	5761.38	5761.38	109.68	No	Si
SLU 40	12.35	582.35	-3749	-0.0000134	0.0003743	0.0035	2.1365	3758.85	4059.3	4059.3	6.97	No	Si
SLU 40	14.15	-319.84	-3721	-0.0000115	0.0003743	0.0035	2.1365	3732.09	5069.84	5069.84	15.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	12.35	2951.39	-1045	-0.0114876	0.0005615	0.0035	2.1365		1352.3	1352.3	0.46		No
SLV 8	14.15	-2635.56	-3651	-0.0000376	0.0005615	0.0035	1.7092		5049.64	5049.64	1.92		Si
SLD 8	12.35	1831.08	-2148	-0.0000356	0.0005615	0.0035	2.1365		2494.42	2494.42	1.36		Si
SLD 8	14.15	-1619.68	-3404	-0.0000203	0.0005615	0.0035	2.1365		4801.73	4801.73	2.96		Si
SLD 11	12.35	1606.84	-2222	-0.0000228	0.0005615	0.0035	2.1365		2570.38	2570.38	1.6		Si
SLD 11	14.15	-1047.76	-3422	-0.0000157	0.0005615	0.0035	2.1365		4819.83	4819.83	4.6		Si
SLD 12	12.35	1830.93	-2146	-0.0000356	0.0005615	0.0035	2.1365		2492.47	2492.47	1.36		Si
SLD 12	14.15	-1219.68	-3553	-0.0000173	0.0005615	0.0035	2.1365		4951.74	4951.74	4.06		Si
SLV 9	12.35	-2453.4	-6347	-0.0000332	0.0005615	0.0035	2.1365		7673.59	7673.59	3.13		Si
SLV 9	14.15	2317.75	-2511	-0.000063	0.0005615	0.0035	2.1365		2864.49	2864.49	1.24		Si
SLV 7	12.35	2582.13	-1171	-0.0082151	0.0005615	0.0035	2.1365		1483.52	1483.52	0.57		No
SLV 7	14.15	-2352.26	-3435	-0.0000318	0.0005615	0.0035	1.7092		4832.45	4832.45	2.05		Si
SLV 12	12.35	2937.78	-1052	-0.0113508	0.0005615	0.0035	2.1365		1359.77	1359.77	0.46		No
SLV 12	14.15	-2003.2	-3877	-0.0000249	0.0005615	0.0035	2.1365		5272.81	5272.81	2.63		Si
SLV 10	12.35	-2084.14	-6221	-0.0000302	0.0005615	0.0035	2.1365		7552.55	7552.55	3.62		Si
SLV 10	14.15	2034.45	-2728	-0.0000301	0.0005615	0.0035	2.1365		3084.77	3084.77	1.52		Si
SLV 5	12.35	-2439.8	-6340	-0.0000331	0.0005615	0.0035	2.1365		7666.72	7666.72	3.14		Si
SLV 5	14.15	1685.39	-2286	-0.0000245	0.0005615	0.0035	2.1365		2634.89	2634.89	1.56		Si
SLV 11	12.35	2568.52	-1178	-0.0080761	0.0005615	0.0035	2.1365		1490.97	1490.97	0.58		No
SLV 11	14.15	-1719.9	-3660	-0.0000216	0.0005615	0.0035	2.1365		5058.36	5058.36	2.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	12.35	515.4	-5354	-4459	1796	2.1365	2.1365	-7453	7938	4749	35683	17914	5448	23362	No	13.01	Si
SLU 84	14.15	-53.76	-5021	-4181	1826	2.1365	2.1365	-6989	7876	4712	35683	17914	5448	23362	No	12.79	Si
SLU 82	12.35	570.03	-4709	-3921	1929	2.1365	2.1365	-6555	7818	4677	35683	17914	5448	23362	No	12.11	Si
SLU 82	14.15	-321.07	-4295	-3576	1948	2.1365	2.1365	-5978	7742	4631	35683	17914	5448	23362	No	11.99	Si
SLU 39	12.35	630	-3726	-3102	1834	2.1365	2.1365	-5186	7636	4568	35683	17914	5448	23362	No	12.74	Si
SLU 39	14.15	-318.82	-3737	-3112	1860	2.1365	2.1365	-5201	7638	4569	35683	17914	5448	23362	No	12.56	Si
SLU 74	12.35	437.41	-5626	-4685	1809	2.1365	2.1365	-7831	7989	4779	35683	17914	5448	23362	No	12.92	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	14.15	-153.56	-5304	-4417	1850	2.1365	2.1365	-7383	7929	4743	35683	17914	5448	23362	No	12.63	Si
SLU 40	12.35	582.35	-3749	-3122	1791	2.1365	2.1365	-5219	7640	4571	35683	17914	5448	23362	No	13.04	Si
SLU 40	14.15	-319.84	-3721	-3098	1804	2.1365	2.1365	-5179	7635	4568	35683	17914	5448	23362	No	12.95	Si
SLU 75	12.35	389.76	-5650	-4705	1766	2.1365	2.1365	-7864	7993	4782	35683	17914	5448	23362	No	13.23	Si
SLU 75	14.15	-154.59	-5288	-4404	1794	2.1365	2.1365	-7361	7926	4742	35683	17914	5448	23362	No	13.02	Si
SLU 83	12.35	563.06	-5330	-4439	1839	2.1365	2.1365	-7420	7934	4746	35683	17914	5448	23362	No	12.7	Si
SLU 83	14.15	-52.74	-5037	-4194	1882	2.1365	2.1365	-7011	7879	4714	35683	17914	5448	23362	No	12.41	Si
SLU 41	12.35	575.38	-4371	-3640	1701	2.1365	2.1365	-6084	7756	4640	35683	17914	5448	23362	No	13.73	Si
SLU 41	14.15	-51.51	-4463	-3716	1738	2.1365	2.1365	-6212	7773	4650	35683	17914	5448	23362	No	13.44	Si
SLU 73	12.35	437.12	-4819	-4013	1751	2.1365	2.1365	-6708	7839	4689	35683	17914	5448	23362	No	13.34	Si
SLU 73	14.15	-286.39	-4254	-3542	1761	2.1365	2.1365	-5921	7734	4627	35683	17914	5448	23362	No	13.26	Si
SLU 81	12.35	617.68	-4685	-3901	1972	2.1365	2.1365	-6521	7814	4675	35683	17914	5448	23362	No	11.85	Si
SLU 81	14.15	-320.05	-4311	-3590	2004	2.1365	2.1365	-6000	7745	4633	35683	17914	5448	23362	No	11.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	12.35	1606.84	-2222	-1851	3422	2.1365	1.0357	-3093	11035	3432	35683	26871	5448	32319		9.44	Si
SLD 11	14.15	-1047.76	-3422	-2850	3760	2.1365	2.1365	-4763	11369	6802	35683	26871	5448	32319		8.6	Si
SLV 9	12.35	-2453.4	-6347	-5285	-3772	2.1365	2.0452	-9267	12270	7027	35683	26871	5448	32319		8.57	Si
SLV 9	14.15	2317.75	-2511	-2091	-3489	2.1365	0.4357	-17264	13871	3497	35683	26871	5448	32319		9.26	Si
SLV 5	12.35	-2439.8	-6340	-5279	-3335	2.1365	2.0503	-9234	12263	7040	35683	26871	5448	32319		9.69	Si
SLV 5	14.15	1685.39	-2286	-1903	-3820	2.1365	0.9927	-3181	11053	3446	35683	26871	5448	32319		8.46	Si
SLD 8	12.35	1831.08	-2148	-1789	4031	2.1365	0.6474	-9912	12399	3415	35683	26871	5448	32319		8.02	Si
SLD 8	14.15	-1619.68	-3404	-2835	3890	2.1365	1.7773	-5709	11558	5752	35683	26871	5448	32319		8.31	Si
SLV 11	12.35	2568.52	-1178	-981	5056	2.1365	0	0	16250	3196	35683	26871	5448	32319		6.39	Si
SLV 11	14.15	-1719.9	-3660	-3048	5588	2.1365	1.795	-6079	11633	5847	35683	26871	5448	32319		5.78	Si
SLV 12	12.35	2937.78	-1052	-876	5622	2.1365	0	0	16250	3168	35683	26871	5448	32319		5.75	Si
SLV 12	14.15	-2003.2	-3877	-3228	6154	2.1365	1.6546	-6986	11814	5473	35683	26871	5448	32319		5.25	Si
SLD 7	12.35	1607	-2224	-1852	3688	2.1365	1.0374	-3096	11036	3432	35683	26871	5448	32319		8.76	Si
SLD 7	14.15	-1447.76	-3273	-2725	3547	2.1365	1.8776	-5194	11456	6023	35683	26871	5448	32319		9.11	Si
SLV 8	12.35	2951.39	-1045	-870	6058	2.1365	0	0	16250	3166	35683	26871	5448	32319		5.33	Si
SLV 8	14.15	-2635.56	-3651	-3040	5823	1.7092	1.0393	0	0	0	35683	21497	4359	25855		4.44	Si
SLD 12	12.35	1830.93	-2146	-1787	3765	2.1365	0.6454	-9935	12404	3415	35683	26871	5448	32319		8.58	Si
SLD 12	14.15	-1219.68	-3553	-2959	4103	2.1365	2.1365	-4946	11406	6823	35683	26871	5448	32319		7.88	Si
SLV 7	12.35	2582.13	-1171	-975	5493	2.1365	0	0	16250	3194	35683	26871	5448	32319		5.88	Si
SLV 7	14.15	-2352.26	-3435	-2860	5258	1.7092	1.1502	0	0	0	35683	21497	4359	25855		4.92	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	4232	-2532	242.16	344.6	1.42	Si
SLV 12	179667	0.52	4296	-2570	242.16	349.68	1.44	Si
SLV 7	179667	0.52	4522	-2705	242.16	367.55	1.52	Si
SLV 8	179667	0.52	4587	-2744	242.16	372.61	1.54	Si
SLV 15	179667	0.52	5018	-3002	242.16	406.5	1.68	Si
SLV 16	179667	0.52	5114	-3059	242.16	413.96	1.71	Si
SLV 3	179667	0.52	5987	-3582	242.16	481.79	1.99	Si
SLV 13	179667	0.52	5997	-3587	242.16	482.52	1.99	Si
SLV 4	179667	0.52	6083	-3639	242.16	489.16	2.02	Si
SLV 14	179667	0.52	6092	-3645	242.16	489.89	2.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-3395	-3791	-344	2.349	622.6	0.9	37.93298	6.17968	Si
SLV 13	-3330	-3464	-344	2.379	616.3	0.899	38.43572	6.17968	Si
SLV 16	-3152	-3500	-222	2.49	598.9	0.898	40.29881	6.17968	Si
SLV 15	-3087	-3173	-222	2.523	592.7	0.897	40.85883	6.17968	Si
SLV 10	-3257	-4647	-346	2.413	609.2	0.899	39.01161	5.47312	Si
SLV 9	-3214	-4427	-345	2.434	605	0.898	39.36748	5.47312	Si
SLV 6	-2906	-5136	-225	2.62	575.1	0.896	42.50312	5.47312	Si
SLV 5	-2863	-4916	-224	2.644	570.9	0.895	42.91904	5.47312	Si
SLV 2	-2224	-5420	59	3.111	509.9	0.891	50.75541	6.17968	Si
SLV 1	-2159	-5093	59	3.161	503.8	0.89	51.60753	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.406	SLU 39	Si
V_SLU	11.657	SLU 81	Si
PF_SLV	0.458	SLV 8	No
V_SLV	4.44	SLV 8	Si
PFFP_SLV	1.423	SLV 11	Si
R_SLV	6.138	SLV 14	Si

Maschio 218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L7	L8	2.285	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	13.45	-404.22	-3335	-0.0000102	0.0003743	0.0035	2.285	3614.81	5005.41	5005.41	12.38	No	Si
SLU 52	14.25	-63.28	-1964	-0.0000049	0.0003743	0.0035	2.285	2175.96	3547.47	3547.47	56.06	No	Si
SLU 68	13.45	-466.63	-4088	-0.0000124	0.0003743	0.0035	2.285	4377.42	5785.12	5785.12	12.4	No	Si
SLU 68	14.25	-73.94	-2556	-0.0000064	0.0003743	0.0035	2.285	2805.5	4174.57	4174.57	56.46	No	Si
SLU 73	13.45	-468.17	-3897	-0.0000119	0.0003743	0.0035	2.285	4186.01	5591.29	5591.29	11.94	No	Si
SLU 73	14.25	-121.38	-2500	-0.0000065	0.0003743	0.0035	2.285	2746.32	4115.23	4115.23	33.9	No	Si
SLU 61	13.45	-395.15	-3257	-0.00001	0.0003743	0.0035	2.285	3535.31	4922.55	4922.55	12.46	No	Si
SLU 61	14.25	-76.13	-1933	-0.0000049	0.0003743	0.0035	2.285	2143.22	3514.85	3514.85	46.17	No	Si
SLU 44	13.45	-413.95	-3461	-0.0000106	0.0003743	0.0035	2.285	3743.6	5139.16	5139.16	12.41	No	Si
SLU 44	14.25	-40.27	-2004	-0.0000049	0.0003743	0.0035	2.285	2218.6	3589.99	3589.99	89.14	No	Si
SLU 64	13.45	-465.66	-3964	-0.0000121	0.0003743	0.0035	2.285	4253.48	5659.36	5659.36	12.15	No	Si
SLU 64	14.25	-105.85	-2506	-0.0000064	0.0003743	0.0035	2.285	2752.81	4121.72	4121.72	38.94	No	Si
SLU 82	13.45	-459.1	-3820	-0.0000117	0.0003743	0.0035	2.285	4108.04	5512.96	5512.96	12.01	No	Si
SLU 82	14.25	-134.23	-2469	-0.0000065	0.0003743	0.0035	2.285	2714.16	4083.06	4083.06	30.42	No	Si
SLU 81	13.45	-451.76	-3784	-0.0000116	0.0003743	0.0035	2.285	4072.5	5477.38	5477.38	12.12	No	Si
SLU 81	14.25	-138.72	-2449	-0.0000065	0.0003743	0.0035	2.285	2692.86	4061.78	4061.78	29.28	No	Si
SLU 65	13.45	-477.91	-4023	-0.0000123	0.0003743	0.0035	2.285	4312.32	5718.95	5718.95	11.97	No	Si
SLU 65	14.25	-98.38	-2539	-0.0000065	0.0003743	0.0035	2.285	2788.23	4157.22	4157.22	42.26	No	Si
SLU 76	13.45	-456.9	-3962	-0.000012	0.0003743	0.0035	2.285	4251.4	5657.26	5657.26	12.38	No	Si
SLU 76	14.25	-96.95	-2516	-0.0000064	0.0003743	0.0035	2.285	2763.62	4132.55	4132.55	42.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	13.45	689.18	-1296	-0.0000074	0.0005615	0.0035	2.285		1759.21	1759.21	2.55		Si
SLV 7	14.25	-535.05	-1385	-0.0000064	0.0005615	0.0035	2.285		2920.35	2920.35	5.46		Si
SLV 11	13.45	429.49	-1485	-0.000006	0.0005615	0.0035	2.285		1969	1969	4.58		Si
SLV 11	14.25	-613.17	-1173	-0.0000066	0.0005615	0.0035	2.285		2686.79	2686.79	4.38		Si
SLV 9	13.45	-1645.71	-4660	-0.0000208	0.0005615	0.0035	2.285		6448.61	6448.61	3.92		Si
SLV 9	14.25	505.95	-2180	-0.0000081	0.0005615	0.0035	2.285		2737.01	2737.01	5.41		Si
SLV 4	13.45	606.09	-1968	-0.0000082	0.0005615	0.0035	2.285		2503.43	2503.43	4.13		Si
SLV 4	14.25	-203.03	-2024	-0.0000059	0.0005615	0.0035	2.285		3621.93	3621.93	17.84		Si
SLD 9	13.45	-1113.19	-3930	-0.0000159	0.0005615	0.0035	2.285		5680.73	5680.73	5.1		Si
SLD 9	14.25	268.46	-2023	-0.0000063	0.0005615	0.0035	2.285		2563.62	2563.62	9.55		Si
SLV 10	13.45	-1371.91	-4484	-0.0000187	0.0005615	0.0035	2.285		6265.2	6265.2	4.57		Si
SLV 10	14.25	384.59	-2212	-0.0000074	0.0005615	0.0035	2.285		2771.82	2771.82	7.21		Si
SLV 8	13.45	962.97	-1120	-0.0000139	0.0005615	0.0035	2.285		1563.22	1563.22	1.62		Si
SLV 8	14.25	-656.4	-1417	-0.0000073	0.0005615	0.0035	2.285		2955.1	2955.1	4.5		Si
SLV 12	13.45	703.29	-1309	-0.0000076	0.0005615	0.0035	2.285		1773.67	1773.67	2.52		Si
SLV 12	14.25	-734.52	-1204	-0.0000079	0.0005615	0.0035	2.285		2721.57	2721.57	3.71		Si
SLV 5	13.45	-1386.02	-4471	-0.0000188	0.0005615	0.0035	2.285		6251.56	6251.56	4.51		Si
SLV 5	14.25	584.07	-2392	-0.000009	0.0005615	0.0035	2.285		2971	2971	5.09		Si
SLV 13	13.45	-1288.82	-3811	-0.0000166	0.0005615	0.0035	2.285		5554.98	5554.98	4.31		Si
SLV 13	14.25	52.58	-1573	-0.0000039	0.0005615	0.0035	2.285		2066.41	2066.41	39.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	13.45	-459.63	-4615	-3843	-913	2.285	2.285	-6007	7745	4956	35683	19158	5827	24985	No	27.37	Si
SLU 70	14.25	-84.08	-3006	-2503	-749	2.285	2.285	-3912	7466	4777	35683	19158	5827	24985	No	33.34	Si
SLU 67	13.45	-470.91	-4550	-3789	-816	2.285	2.285	-5922	7734	4948	35683	19158	5827	24985	No	30.62	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	14.25	-108.51	-2989	-2489	-728	2.285	2.285	-3890	7463	4775	35683	19158	5827	24985	No	34.32	Si
SLU 49	13.45	-395.68	-4053	-3375	-903	2.285	2.285	-5275	7648	4893	35683	19158	5827	24985	No	27.67	Si
SLU 49	14.25	-25.98	-2470	-2056	-689	2.285	2.285	-3214	7373	4717	35683	19158	5827	24985	No	36.28	Si
SLU 48	13.45	-388.33	-4018	-3346	-861	2.285	2.285	-5229	7642	4889	35683	19158	5827	24985	No	29.01	Si
SLU 48	14.25	-30.46	-2449	-2040	-687	2.285	2.285	-3188	7370	4715	35683	19158	5827	24985	No	36.35	Si
SLU 71	13.45	-443.12	-4094	-3409	-843	2.285	2.285	-5329	7655	4898	35683	19158	5827	24985	No	29.62	Si
SLU 71	14.25	-56.99	-2539	-2114	-717	2.285	2.285	-3304	7385	4725	35683	19158	5827	24985	No	34.85	Si
SLU 51	13.45	-386.51	-3567	-2970	-876	2.285	2.285	-4643	7563	4839	35683	19158	5827	24985	No	28.54	Si
SLU 51	14.25	5.6	-2023	-1684	-657	2.285	2.285	-2633	7295	4668	35683	19158	5827	24985	No	38	Si
SLU 68	13.45	-466.63	-4088	-3404	-816	2.285	2.285	-5321	7654	4897	35683	19158	5827	24985	No	30.6	Si
SLU 68	14.25	-73.94	-2556	-2128	-698	2.285	2.285	-3327	7388	4727	35683	19158	5827	24985	No	35.82	Si
SLU 50	13.45	-379.16	-3532	-2941	-834	2.285	2.285	-4597	7557	4835	35683	19158	5827	24985	No	29.97	Si
SLU 50	14.25	1.11	-2003	-1668	-656	2.285	2.285	-2607	7292	4665	35683	19158	5827	24985	No	38.07	Si
SLU 72	13.45	-450.46	-4130	-3439	-885	2.285	2.285	-5375	7661	4902	35683	19158	5827	24985	No	28.22	Si
SLU 72	14.25	-52.5	-2559	-2131	-718	2.285	2.285	-3330	7388	4727	35683	19158	5827	24985	No	34.79	Si
SLU 69	13.45	-452.29	-4580	-3814	-871	2.285	2.285	-5961	7739	4952	35683	19158	5827	24985	No	28.68	Si
SLU 69	14.25	-88.57	-2985	-2486	-748	2.285	2.285	-3886	7463	4775	35683	19158	5827	24985	No	33.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	13.45	-1371.91	-4484	-3734	-4404	2.285	2.285	-5836	11584	7411	35683	28738	5827	34564		7.85	Si
SLV 10	14.25	384.59	-2212	-1842	-2569	2.285	2.285	-2879	10992	7033	35683	28738	5827	34564		13.45	Si
SLV 8	13.45	962.97	-1120	-933	4341	2.285	0.8485	-1458	10708	3622	35683	28738	5827	34564		7.96	Si
SLV 8	14.25	-656.4	-1417	-1180	2147	2.285	2.0374	-2067	10830	6178	35683	28738	5827	34564		16.1	Si
SLV 7	13.45	689.18	-1296	-1079	3511	2.285	1.8321	-1687	10754	5517	35683	28738	5827	34564		9.84	Si
SLV 7	14.25	-535.05	-1385	-1153	1599	2.285	2.2686	-1803	10777	6846	35683	28738	5827	34564		21.62	Si
SLV 9	13.45	-1645.71	-4660	-3880	-5234	2.285	2.285	-6064	11630	7441	35683	28738	5827	34564		6.6	Si
SLV 9	14.25	505.95	-2180	-1816	-3117	2.285	2.285	-2838	10984	7028	35683	28738	5827	34564		11.09	Si
SLV 5	13.45	-1386.02	-4471	-3723	-4522	2.285	2.285	-5819	11580	7409	35683	28738	5827	34564		7.64	Si
SLV 5	14.25	584.07	-2392	-1992	-2735	2.285	2.285	-3114	11039	7063	35683	28738	5827	34564		12.64	Si
SLV 13	13.45	-1288.82	-3811	-3174	-3456	2.285	2.285	-4960	11409	7299	35683	28738	5827	34564		10	Si
SLV 13	14.25	52.58	-1573	-1309	-2180	2.285	2.285	-2047	10826	6926	35683	28738	5827	34564		15.85	Si
SLD 5	13.45	-953.15	-3811	-3174	-2833	2.285	2.285	-4961	11409	7299	35683	28738	5827	34564		12.2	Si
SLD 5	14.25	320.93	-2156	-1796	-1807	2.285	2.285	-2807	10978	7024	35683	28738	5827	34564		19.13	Si
SLD 9	13.45	-1113.19	-3930	-3272	-3268	2.285	2.285	-5115	11440	7319	35683	28738	5827	34564		10.58	Si
SLD 9	14.25	268.46	-2023	-1685	-2041	2.285	2.285	-2633	10943	7002	35683	28738	5827	34564		16.94	Si
SLV 12	13.45	703.29	-1309	-1090	3628	2.285	1.8156	-1704	10757	5469	35683	28738	5827	34564		9.53	Si
SLV 12	14.25	-734.52	-1204	-1003	1764	2.285	1.598	-2243	10865	4862	35683	28738	5827	34564		19.59	Si
SLV 6	13.45	-1112.22	-4295	-3576	-3691	2.285	2.285	-5590	11535	7380	35683	28738	5827	34564		9.36	Si
SLV 6	14.25	462.71	-2424	-2018	-2187	2.285	2.285	-3155	11048	7068	35683	28738	5827	34564		15.81	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.52	3730	-2387	258.99	325.95	1.26	Si
SLV 13	179667	0.52	3842	-2458	258.99	335.48	1.3	Si
SLV 11	179667	0.52	4027	-2576	258.99	351.17	1.36	Si
SLV 16	179667	0.52	4113	-2631	258.99	358.47	1.38	Si
SLV 14	179667	0.52	4225	-2703	258.99	367.95	1.42	Si
SLV 12	179667	0.52	4284	-2741	258.99	372.99	1.44	Si
SLV 7	179667	0.52	4339	-2776	258.99	377.63	1.46	Si
SLV 9	179667	0.52	4400	-2815	258.99	382.73	1.48	Si
SLV 8	179667	0.52	4597	-2941	258.99	399.36	1.54	Si
SLV 10	179667	0.52	4657	-2980	258.99	404.44	1.56	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-2115	-5200	-480	3.21	520.7	0.889	52.44851	5.47312	Si
SLV 6	-2068	-5307	-479	3.248	516.3	0.889	53.08077	5.47312	Si
SLV 1	-1714	-4517	-99	3.677	484.1	0.889	60.11465	6.17968	Si
SLV 9	-2026	-4942	-511	3.275	512.4	0.889	53.53269	5.47312	Si
SLV 10	-1979	-5049	-511	3.315	508.1	0.889	54.19053	5.47312	Si
SLV 2	-1645	-4677	-98	3.75	477.9	0.889	61.29602	6.17968	Si
SLV 13	-1417	-3657	-204	3.979	457.9	0.89	64.94442	6.17968	Si
SLV 14	-1348	-3816	-203	4.065	451.9	0.891	66.30546	6.17968	Si
SLV 3	-1272	-3696	196	4.166	445.5	0.892	67.87715	6.17968	Si
SLV 4	-1203	-3856	197	4.26	439.7	0.893	69.33768	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.943	SLU 73	Si
V_SLU	27.371	SLU 70	Si
PF_SLV	1.623	SLV 8	Si
V_SLV	6.603	SLV 9	Si
PFFP_SLV	1.259	SLV 15	Si
R_SLV	9.583	SLV 5	Si

Maschio 219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L7	L8	0.58	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 26	13.45	-21.01	-835	-0.0000096	0.0003743	0.0035	0.58	229.88	302.07	302.07	14.38	No	Si
SLU 26	14.25	99.6	-809	-0.0000172	0.0003743	0.0035	0.58	223.24	245.25	245.25	2.46	No	Si
SLU 51	13.45	-21.5	-890	-0.0000102	0.0003743	0.0035	0.58	244.22	316.96	316.96	14.74	No	Si
SLU 51	14.25	93.86	-774	-0.0000162	0.0003743	0.0035	0.58	214.04	235.86	235.86	2.51	No	Si
SLU 68	13.45	-24.63	-1012	-0.0000116	0.0003743	0.0035	0.58	275.48	349.63	349.63	14.2	No	Si
SLU 68	14.25	114.52	-944	-0.0000199	0.0003743	0.0035	0.58	258.14	281.26	281.26	2.46	No	Si
SLU 72	13.45	-23.54	-1031	-0.0000117	0.0003743	0.0035	0.58	280.27	354.5	354.5	15.06	No	Si
SLU 72	14.25	111.79	-947	-0.0000196	0.0003743	0.0035	0.58	259.01	282.15	282.15	2.52	No	Si
SLU 65	13.45	-24.09	-1015	-0.0000116	0.0003743	0.0035	0.58	276.17	350.34	350.34	14.54	No	Si
SLU 65	14.25	113.2	-945	-0.0000197	0.0003743	0.0035	0.58	258.28	281.4	281.4	2.49	No	Si
SLU 23	13.45	-20.48	-838	-0.0000096	0.0003743	0.0035	0.58	230.59	302.8	302.8	14.79	No	Si
SLU 23	14.25	98.28	-810	-0.000017	0.0003743	0.0035	0.58	223.38	245.4	245.4	2.5	No	Si
SLU 47	13.45	-22.59	-871	-0.0000101	0.0003743	0.0035	0.58	239.34	311.88	311.88	13.81	No	Si
SLU 47	14.25	96.6	-771	-0.0000166	0.0003743	0.0035	0.58	213.16	234.97	234.97	2.43	No	Si
SLU 5	13.45	-18.98	-694	-0.0000081	0.0003743	0.0035	0.58	192.87	264.13	264.13	13.92	No	Si
SLU 5	14.25	81.68	-636	-0.0000139	0.0003743	0.0035	0.58	177.44	198.47	198.47	2.43	No	Si
SLU 44	13.45	-22.05	-874	-0.0000101	0.0003743	0.0035	0.58	240.05	312.61	312.61	14.18	No	Si
SLU 44	14.25	95.27	-772	-0.0000164	0.0003743	0.0035	0.58	213.3	235.11	235.11	2.47	No	Si
SLU 2	13.45	-18.44	-697	-0.0000081	0.0003743	0.0035	0.58	193.59	264.86	264.86	14.36	No	Si
SLU 2	14.25	80.36	-637	-0.0000137	0.0003743	0.0035	0.58	177.58	198.62	198.62	2.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	13.45	-183.34	-88	-0.0011232	0.0005615	0.0035	0.464		96.5	96.5	0.53		No
SLD 9	14.25	339.3	-589	-0.0128099	0.0005615	0.0035	0.464		187.07	187.07	0.55		No
SLD 5	13.45	-145.24	-317	-0.0003757	0.0005615	0.0035	0.464		161.22	161.22	1.11		Si
SLD 5	14.25	289.27	-676	-0.0074013	0.0005615	0.0035	0.464		211.38	211.38	0.73		No
SLV 9	13.45	-299.1	394	0.1504657	0.0005615	0.0035	0.464		0	0	0		No
SLV 9	14.25	521.96	-519	-0.0276803	0.0005615	0.0035	0.464		167.39	167.39	0.32		No
SLD 10	13.45	-147.37	-189	-0.0005834	0.0005615	0.0035	0.464		125.05	125.05	0.85		No
SLD 10	14.25	291	-580	-0.0094051	0.0005615	0.0035	0.464		184.77	184.77	0.63		No
SLV 5	13.45	-238.85	32	-0.0023636	0.0005615	0.0035	0.464		0	0	0		No
SLV 5	14.25	442.1	-652	-0.0190808	0.0005615	0.0035	0.464		204.62	204.62	0.46		No
SLD 13	13.45	-145.29	-167	-0.0006064	0.0005615	0.0035	0.464		118.87	118.87	0.82		No
SLD 13	14.25	259.1	-537	-0.0078448	0.0005615	0.0035	0.464		172.57	172.57	0.67		No
SLV 14	13.45	-138.17	-33	-0.0008964	0.0005615	0.0035	0.464		81.02	81.02	0.59		No
SLV 14	14.25	257.83	-430	-0.0098663	0.0005615	0.0035	0.464		142.44	142.44	0.55		No
SLV 13	13.45	-226.22	213	0.0828611	0.0005615	0.0035	0.464		0	0	0		No
SLV 13	14.25	376.07	-450	-0.0182598	0.0005615	0.0035	0.464		148.07	148.07	0.39		No
SLV 10	13.45	-239.83	227	0.0882311	0.0005615	0.0035	0.464		0	0	0		No
SLV 10	14.25	442.37	-505	-0.0220425	0.0005615	0.0035	0.464		163.6	163.6	0.37		No
SLV 6	13.45	-179.58	-134	-0.0009526	0.0005615	0.0035	0.464		109.6	109.6	0.61		No
SLV 6	14.25	362.51	-638	-0.0135519	0.0005615	0.0035	0.464		200.91	200.91	0.55		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	13.45	-23.54	-1031	-858	-120	0.58	0.58	-5285	7649	1242	35683	4863	1479	6342	No	52.76	Si
SLU 72	14.25	111.79	-947	-789	-97	0.58	0.516	-4858	7592	1097	35683	4863	1479	6342	No	65.2	Si
SLU 30	13.45	-19.92	-854	-711	-106	0.58	0.58	-4377	7528	1223	35683	4863	1479	6342	No	59.76	Si
SLU 30	14.25	96.87	-813	-677	-80	0.58	0.5124	-4167	7500	1076	35683	4863	1479	6342	No	79.28	Si
SLU 78	13.45	-16.11	-1170	-974	-81	0.58	0.58	-5997	7744	1258	35683	4863	1479	6342	No	78.6	Si
SLU 78	14.25	109.33	-1101	-917	-104	0.58	0.5722	-5648	7697	1233	35683	4863	1479	6342	No	61.27	Si
SLU 70	13.45	-18.6	-1179	-982	-104	0.58	0.58	-6047	7751	1259	35683	4863	1479	6342	No	60.73	Si
SLU 70	14.25	117.13	-1097	-914	-101	0.58	0.5497	-5625	7694	1184	35683	4863	1479	6342	No	62.52	Si
SLU 65	13.45	-24.09	-1015	-845	-122	0.58	0.58	-5202	7638	1240	35683	4863	1479	6342	No	52.01	Si
SLU 65	14.25	113.2	-945	-787	-99	0.58	0.5105	-4843	7590	1085	35683	4863	1479	6342	No	64.35	Si
SLU 23	13.45	-20.48	-838	-697	-108	0.58	0.58	-4295	7517	1221	35683	4863	1479	6342	No	58.81	Si
SLU 23	14.25	98.28	-810	-674	-81	0.58	0.506	-4153	7498	1062	35683	4863	1479	6342	No	78.02	Si
SLU 26	13.45	-21.01	-835	-695	-111	0.58	0.58	-4281	7515	1220	35683	4863	1479	6342	No	57.24	Si
SLU 26	14.25	99.6	-809	-674	-84	0.58	0.5008	-4150	7498	1051	35683	4863	1479	6342	No	75.44	Si
SLU 47	13.45	-22.59	-871	-725	-105	0.58	0.58	-4467	7540	1225	35683	4863	1479	6342	No	60.2	Si
SLU 47	14.25	96.6	-771	-642	-98	0.58	0.4941	-3953	7472	1034	35683	4863	1479	6342	No	64.57	Si
SLU 71	13.45	-21.1	-1063	-885	-109	0.58	0.58	-5450	7671	1246	35683	4863	1479	6342	No	58.31	Si
SLU 71	14.25	105.7	-953	-794	-87	0.58	0.5374	-4888	7596	1143	35683	4863	1479	6342	No	72.88	Si
SLU 68	13.45	-24.63	-1012	-843	-125	0.58	0.58	-5188	7636	1240	35683	4863	1479	6342	No	50.79	Si
SLU 68	14.25	114.52	-944	-786	-101	0.58	0.5061	-4841	7590	1075	35683	4863	1479	6342	No	62.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	13.45	-238.85	32	27	-1084	0.464	0	0	0	0	35683	5836	1183	7019		6.47	Si
SLV 5	14.25	442.1	-652	-543	-365	0.464	0	0	0	0	35683	5836	1183	7019		19.25	Si
SLV 9	13.45	-299.1	394	328	-1444	0.464	0	0	0	0	35683	5836	1183	7019		4.86	Si
SLV 9	14.25	521.96	-519	-432	-312	0.464	0	0	0	0	35683	5836	1183	7019		22.52	Si
SLV 4	13.45	197.72	-1790	-1490	1038	0.58	0.5386	-9177	12252	1848	35683	7294	1479	8773		8.45	Si
SLV 4	14.25	-229.86	-945	-787	-28	0.464	0.1402	0	0	0	35683	5836	1183	7019		247.22	Si
SLV 13	13.45	-226.22	213	178	-1174	0.464	0	0	0	0	35683	5836	1183	7019		5.98	Si
SLV 13	14.25	376.07	-450	-375	-97	0.464	0	0	0	0	35683	5836	1183	7019		72.53	Si
SLV 6	13.45	-179.58	-134	-112	-834	0.464	0	0	0	0	35683	5836	1183	7019		8.41	Si
SLV 6	14.25	362.51	-638	-531	-298	0.464	0	0	0	0	35683	5836	1183	7019		23.58	Si
SLV 10	13.45	-239.83	227	189	-1194	0.464	0	0	0	0	35683	5836	1183	7019		5.88	Si
SLV 10	14.25	442.37	-505	-421	-245	0.464	0	0	0	0	35683	5836	1183	7019		28.67	Si
SLV 14	13.45	-138.17	-33	-28	-803	0.464	0	0	0	0	35683	5836	1183	7019		8.74	Si
SLV 14	14.25	257.83	-430	-358	3	0.464	0	0	0	0	35683	5836	1183	7019		2711.79	Si
SLV 7	13.45	211.34	-1804	-1502	1058	0.58	0.5185	-9248	12266	1781	35683	7294	1479	8773		8.29	Si
SLV 7	14.25	-296.16	-890	-741	120	0.464	0	0	0	0	35683	5836	1183	7019		58.67	Si
SLV 8	13.45	270.61	-1970	-1640	1308	0.58	0.4579	-10101	12437	1595	35683	7294	1479	8773		6.71	Si
SLV 8	14.25	-375.75	-876	-730	187	0.464	0	0	0	0	35683	5836	1183	7019		37.63	Si
SLD 9	13.45	-183.34	-88	-73	-884	0.464	0	0	0	0	35683	5836	1183	7019		7.94	Si
SLD 9	14.25	339.3	-589	-490	-208	0.464	0	0	0	0	35683	5836	1183	7019		33.8	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.52	0	-451	65.74	0	0	No, e>t/2
SLV 4	179667	0.52	0	-312	65.74	0	0	No, e>t/2
SLV 11	179667	0.52	0	-289	65.74	0	0	No, e>t/2
SLV 7	179667	0.52	0	-185	65.74	0	0	No, e>t/2
SLV 12	179667	0.52	0	-196	65.74	0	0	No, e>t/2
SLV 8	179667	0.52	0	-92	65.74	0	0	No, e>t/2
SLV 2	179667	0.52	3844	-624	65.74	85.19	1.3	Si
SLV 16	179667	0.52	4050	-658	65.74	89.65	1.36	Si
SLV 1	179667	0.52	4695	-762	65.74	103.47	1.57	Si
SLV 15	179667	0.52	4902	-796	65.74	107.87	1.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-1273	-475	-39	1.913	203.8	0.911	30.51289	5.47312	Si
SLV 7	-1255	-473	-39	1.933	201.9	0.911	30.85701	5.47312	Si
SLV 12	-1154	-276	-42	2.049	191.9	0.907	32.81537	5.47312	Si
SLV 11	-1135	-274	-42	2.073	190.1	0.907	33.21292	5.47312	Si
SLV 4	-852	-1060	-12	2.534	162.2	0.898	41.01628	6.17968	Si
SLV 3	-824	-1057	-11	2.587	159.6	0.897	41.92678	6.17968	Si
SLV 16	-455	-397	-22	3.604	124.6	0.889	58.92153	6.17968	Si
SLV 15	-427	-395	-21	3.715	122.2	0.889	60.72484	6.17968	Si
SLV 2	-368	-1362	9	3.991	116.9	0.89	65.16246	6.17968	Si
SLV 1	-340	-1360	10	4.125	114.6	0.891	67.28292	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.43	SLU 5	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	50.785	SLU 68	Si
PF_SLV	0	SLV 5	No
V_SLV	4.861	SLV 9	Si
PFFP_SLV	0	SLV 3	No
R_SLV	5.575	SLV 8	Si

Maschio 220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L7	L8	4.67	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 59	11.45	-526.66	-12512	-0.0000248	0.0003743	0.0035	4.6702	23725.35	38954.9	38954.9	73.97	No	Si
SLU 59	14.6	4320.53	-3284	-0.0000187	0.0003743	0.0035	4.6702	7290.01	9648.68	9648.68	2.23	No	Si
SLU 49	11.45	-764.35	-12004	-0.0000245	0.0003743	0.0035	4.6702	22975.64	37975.8	37975.8	49.68	No	Si
SLU 49	14.6	4217.08	-3236	-0.0000182	0.0003743	0.0035	4.6702	7189.85	9544.69	9544.69	2.26	No	Si
SLU 48	11.45	-774.41	-12021	-0.0000245	0.0003743	0.0035	4.6702	23001.3	38008.92	38008.92	49.08	No	Si
SLU 48	14.6	4219.74	-3245	-0.0000182	0.0003743	0.0035	4.6702	7208.77	9564.32	9564.32	2.27	No	Si
SLU 9	11.45	-504.17	-9806	-0.0000196	0.0003743	0.0035	4.6702	19525.07	33528.76	33528.76	66.5	No	Si
SLU 9	14.6	3770.39	-2834	-0.0000163	0.0003743	0.0035	4.6702	6335.49	8658.22	8658.22	2.3	No	Si
SLU 51	11.45	-686.62	-11790	-0.0000238	0.0003743	0.0035	4.6702	22654.29	37563.21	37563.21	54.71	No	Si
SLU 51	14.6	4412.77	-3269	-0.0000193	0.0003743	0.0035	4.6702	7257.87	9615.3	9615.3	2.18	No	Si
SLU 58	11.45	-536.72	-12530	-0.0000249	0.0003743	0.0035	4.6702	23750.4	38988.03	38988.03	72.64	No	Si
SLU 58	14.6	4323.18	-3293	-0.0000187	0.0003743	0.0035	4.6702	7308.9	9668.31	9668.31	2.24	No	Si
SLU 72	11.45	-621.37	-13291	-0.0000266	0.0003743	0.0035	4.6702	24838.29	40454.27	40454.27	65.11	No	Si
SLU 72	14.6	4480.68	-3533	-0.0000192	0.0003743	0.0035	4.6702	7812.79	10194.14	10194.14	2.28	No	Si
SLU 71	11.45	-631.43	-13308	-0.0000267	0.0003743	0.0035	4.6702	24862.4	40487.4	40487.4	64.12	No	Si
SLU 71	14.6	4483.33	-3542	-0.0000192	0.0003743	0.0035	4.6702	7831.52	10213.77	10213.77	2.28	No	Si
SLU 50	11.45	-696.68	-11807	-0.0000239	0.0003743	0.0035	4.6702	22680.21	37596.34	37596.34	53.97	No	Si
SLU 50	14.6	4415.42	-3278	-0.0000193	0.0003743	0.0035	4.6702	7276.77	9634.93	9634.93	2.18	No	Si
SLU 8	11.45	-514.23	-9823	-0.0000196	0.0003743	0.0035	4.6702	19553.38	33563.79	33563.79	65.27	No	Si
SLU 8	14.6	3773.04	-2843	-0.0000163	0.0003743	0.0035	4.6702	6354.67	8678.18	8678.18	2.3	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	11.45	-1029	-6447	-0.0000144	0.0005615	0.0035	4.6702		26750.65	26750.65	26		Si
SLV 13	14.6	2931.06	-1763	-0.0000151	0.0005615	0.0035	4.6702		6297.56	6297.56	2.15		Si
SLV 6	11.45	-700.81	-7801	-0.0000161	0.0005615	0.0035	4.6702		29591.19	29591.19	42.22		Si
SLV 6	14.6	1841.53	-618	-0.0001509	0.0005615	0.0035	3.7361		3718.1	3718.1	2.02		Si
SLV 5	11.45	-400.83	-8009	-0.0000158	0.0005615	0.0035	4.6702		30026.71	30026.71	74.91		Si
SLV 5	14.6	1395.9	-444	-0.0001244	0.0005615	0.0035	3.7361		3322.84	3322.84	2.38		Si
SLV 9	11.45	-818.14	-6714	-0.0000144	0.0005615	0.0035	4.6702		27310.72	27310.72	33.38		Si
SLV 9	14.6	2071.93	-691	-0.0001725	0.0005615	0.0035	3.7361		3885.41	3885.41	1.88		Si
SLV 14	11.45	-1474.63	-6138	-0.0000149	0.0005615	0.0035	4.6702		26103.66	26103.66	17.7		Si
SLV 14	14.6	3593.06	-2021	-0.000021	0.0005615	0.0035	4.6702		6878.39	6878.39	1.91		Si
SLD 9	11.45	-679.42	-7613	-0.0000157	0.0005615	0.0035	4.6702		29196.59	29196.59	42.97		Si
SLD 9	14.6	2142.59	-1168	-0.0000134	0.0005615	0.0035	4.6702		4961.32	4961.32	2.32		Si
SLV 16	11.45	-1300.48	-7161	-0.0000164	0.0005615	0.0035	4.6702		28248.96	28248.96	21.72		Si
SLV 16	14.6	3746.17	-2728	-0.0000164	0.0005615	0.0035	4.6702		8464.86	8464.86	2.26		Si
SLD 14	11.45	-1105.09	-7185	-0.000016	0.0005615	0.0035	4.6702		28298.46	28298.46	25.61		Si
SLD 14	14.6	3086.65	-1968	-0.0000148	0.0005615	0.0035	4.6702		6758.9	6758.9	2.19		Si
SLV 10	11.45	-1118.11	-6506	-0.0000147	0.0005615	0.0035	4.6702		26875.19	26875.19	24.04		Si
SLV 10	14.6	2517.55	-866	-0.0001997	0.0005615	0.0035	3.7361		4280.15	4280.15	1.7		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	11.45	-861.46	-7487	-0.0000159	0.0005615	0.0035	4.6702		28932.29	28932.29	33.59		Si
SLD 10	14.6	2413.02	-1273	-0.0000167	0.0005615	0.0035	4.6702		5198.59	5198.59	2.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	11.45	-621.37	-13291	-7369	-1382	4.6702	4.6702	-11271	8447	6095	101952	19578	23818	43396	No	31.4	Si
SLU 72	14.6	4480.68	-3533	-1959	-2059	4.6702	3.2009	-2996	7344	3931	101952	19578	23818	43396	No	21.08	Si
SLU 48	11.45	-774.41	-12021	-6665	-1461	4.6702	4.6702	-10194	8304	5813	101952	19578	23818	43396	No	29.7	Si
SLU 48	14.6	4219.74	-3245	-1799	-2262	4.6702	3.1046	-2752	7311	3867	101952	19578	23818	43396	No	19.18	Si
SLU 58	11.45	-536.72	-12530	-6947	-1423	4.6702	4.6702	-10625	8361	5926	101952	19578	23818	43396	No	30.5	Si
SLU 58	14.6	4323.18	-3293	-1826	-2072	4.6702	3.0666	-2792	7317	3878	101952	19578	23818	43396	No	20.95	Si
SLU 71	11.45	-631.43	-13308	-7379	-1306	4.6702	4.6702	-11285	8449	6099	101952	19578	23818	43396	No	33.23	Si
SLU 71	14.6	4483.33	-3542	-1964	-2021	4.6702	3.2083	-3004	7345	3933	101952	19578	23818	43396	No	21.47	Si
SLU 59	11.45	-526.66	-12512	-6938	-1499	4.6702	4.6702	-10611	8359	5922	101952	19578	23818	43396	No	28.95	Si
SLU 59	14.6	4320.53	-3284	-1821	-2109	4.6702	3.0583	-2785	7316	3876	101952	19578	23818	43396	No	20.57	Si
SLU 51	11.45	-686.62	-11790	-6537	-1608	4.6702	4.6702	-9998	8278	5762	101952	19578	23818	43396	No	26.98	Si
SLU 51	14.6	4412.77	-3269	-1812	-2490	4.6702	2.9552	-2772	7314	3872	101952	19578	23818	43396	No	17.43	Si
SLU 9	11.45	-504.17	-9806	-5437	-1191	4.6702	4.6702	-8316	8053	5322	101952	19578	23818	43396	No	36.44	Si
SLU 9	14.6	3770.39	-2834	-1571	-1969	4.6702	3.0137	-2403	7265	3776	101952	19578	23818	43396	No	22.04	Si
SLU 47	11.45	-689.59	-11030	-6116	-1668	4.6702	4.6702	-9354	8192	5594	101952	19578	23818	43396	No	26.02	Si
SLU 47	14.6	3633.91	-2717	-1507	-2172	4.6702	2.9934	-2304	7252	3750	101952	19578	23818	43396	No	19.98	Si
SLU 50	11.45	-696.68	-11807	-6547	-1532	4.6702	4.6702	-10013	8279	5766	101952	19578	23818	43396	No	28.32	Si
SLU 50	14.6	4415.42	-3278	-1817	-2452	4.6702	2.9639	-2780	7315	3874	101952	19578	23818	43396	No	17.7	Si
SLU 49	11.45	-764.35	-12004	-6656	-1537	4.6702	4.6702	-10180	8302	5810	101952	19578	23818	43396	No	28.23	Si
SLU 49	14.6	4217.08	-3236	-1794	-2300	4.6702	3.0962	-2745	7310	3865	101952	19578	23818	43396	No	18.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	11.45	-412.95	-8441	-4680	-7240	4.6702	4.6702	-7158	11848	7747	101952	29367	23818	53185		7.35	Si
SLD 5	14.6	1717.33	-1011	-561	-2998	4.6702	1.9095	-857	10588	4945	101952	29367	23818	53185		17.74	Si
SLV 7	11.45	179.65	-11419	-6331	8599	4.6702	4.6702	-9684	12353	8077	101952	29367	23818	53185		6.19	Si
SLV 7	14.6	1906.28	-2799	-1552	3439	4.6702	4.6702	-2373	10891	7121	101952	29367	23818	53185		15.47	Si
SLV 12	11.45	-537.63	-9916	-5498	9527	4.6702	4.6702	-8409	12098	7910	101952	29367	23818	53185		5.58	Si
SLV 12	14.6	3027.92	-3221	-1786	2404	4.6702	4.1847	-2731	10963	6423	101952	29367	23818	53185		22.12	Si
SLV 8	11.45	-120.33	-11211	-6216	8681	4.6702	4.6702	-9507	12318	8054	101952	29367	23818	53185		6.13	Si
SLV 8	14.6	2351.9	-2973	-1648	2941	4.6702	4.6317	-2521	10921	7082	101952	29367	23818	53185		18.08	Si
SLV 5	11.45	-400.83	-8009	-4441	-11600	4.6702	4.6702	-6792	11775	7699	101952	29367	23818	53185		4.58	Si
SLV 5	14.6	1395.9	-444	-246	-4428	3.7361	0	0	0	0	101952	23494	19054	42548		9.61	Si
SLV 9	11.45	-818.14	-6714	-3722	-10754	4.6702	4.6702	-5693	11555	7555	101952	29367	23818	53185		4.95	Si
SLV 9	14.6	2071.93	-691	-383	-4965	3.7361	0	0	0	0	101952	23494	19054	42548		8.57	Si
SLD 6	11.45	-594.99	-8315	-4610	-7190	4.6702	4.6702	-7052	11827	7733	101952	29367	23818	53185		7.4	Si
SLD 6	14.6	1987.76	-1117	-619	-3300	4.6702	1.6652	-947	10606	4969	101952	29367	23818	53185		16.12	Si
SLV 10	11.45	-1118.11	-6506	-3607	-10672	4.6702	4.6702	-5517	11520	7532	101952	29367	23818	53185		4.98	Si
SLV 10	14.6	2517.55	-866	-480	-5463	3.7361	0	0	0	0	101952	23494	19054	42548		7.79	Si
SLV 11	11.45	-237.66	-10124	-5613	9445	4.6702	4.6702	-8585	12134	7933	101952	29367	23818	53185		5.63	Si
SLV 11	14.6	2582.3	-3046	-1689	2901	4.6702	4.4623	-2583	10933	6830	101952	29367	23818	53185		18.33	Si
SLV 6	11.45	-700.81	-7801	-4325	-11518	4.6702	4.6702	-6616	11740	7676	101952	29367	23818	53185		4.62	Si
SLV 6	14.6	1841.53	-618	-342	-4926	3.7361	0	0	0	0	101952	23494	19054	42548		8.64	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-4226	0.52	288.03	283.29	663.38	473.33	1.64	Si
SLV 9	-4250	0.52	288.03	284.84	665.52	475.18	1.65	Si
SLV 14	-4283	0.52	288.03	286.97	668.47	477.72	1.66	Si
SLV 13	-4319	0.52	288.03	289.27	671.64	480.46	1.67	Si
SLV 6	-4776	0.52	288.03	318.31	711.71	515.01	1.79	Si
SLV 5	-4800	0.52	288.03	319.84	713.83	516.84	1.79	Si
SLV 16	-4888	0.52	288.03	325.39	721.53	523.46	1.82	Si
SLV 15	-4924	0.52	288.03	327.66	724.68	526.17	1.83	Si
SLV 2	-6116	0.52	288.03	401.92	829.07	615.5	2.14	Si
SLV 1	-6152	0.52	288.03	404.13	832.21	618.17	2.15	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-2728	-7161	207	5.712	585.5	0.893	93.01072	9.45954	Si
SLV 15	-2469	-7470	207	6.052	560.9	0.891	98.73253	9.45954	Si
SLV 12	-3221	-9916	77	5.185	632.8	0.896	84.08985	7.25693	Si
SLV 14	-2021	-6138	197	6.752	519.2	0.889	110.3682	9.45954	Si
SLV 11	-3046	-10124	77	5.368	616	0.895	87.1953	7.25693	Si
SLV 4	-1901	-11478	-197	6.967	508.2	0.889	113.90095	9.45954	Si
SLV 8	-2973	-11211	-44	5.457	608.9	0.894	88.68731	7.25693	Si
SLV 13	-1763	-6447	197	7.233	495.7	0.889	118.25356	9.45954	Si
SLV 7	-2799	-11419	-44	5.66	592.2	0.893	92.12139	7.25693	Si
SLV 3	-1643	-11787	-197	7.48	485	0.889	122.25252	9.45954	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.179	SLU 51	Si
V_SLU	17.425	SLU 51	Si
PF_SLV	1.7	SLV 10	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	4.585	SLV 5	Si
PFFP_SLV	1.643	SLV 10	Si
R_SLV	9.832	SLV 16	Si

Maschio 222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.193	-3.169	-17.313	-3.169	L7	L8	1.12	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	12.35	-423.82	-1822	-0.0000198	0.0003743	0.0035	1.12	962.18	1310.28	1310.28	3.09	No	Si
SLU 81	14.15	389.41	-1010	-0.0000206	0.0003743	0.0035	1.12	547.81	619.55	619.55	1.59	No	Si
SLU 41	12.35	-370	-1374	-0.0000167	0.0003743	0.0035	1.12	736.42	1079.02	1079.02	2.92	No	Si
SLU 41	14.15	335.64	-854	-0.0000182	0.0003743	0.0035	1.12	465.29	535.97	535.97	1.6	No	Si
SLU 73	12.35	-441.95	-1953	-0.0000208	0.0003743	0.0035	1.12	1026.85	1376.63	1376.63	3.11	No	Si
SLU 73	14.15	412.15	-1096	-0.0000212	0.0003743	0.0035	1.12	592.57	664.68	664.68	1.61	No	Si
SLU 82	12.35	-431.97	-1839	-0.0000201	0.0003743	0.0035	1.12	970.41	1318.71	1318.71	3.05	No	Si
SLU 82	14.15	397.96	-1030	-0.0000211	0.0003743	0.0035	1.12	558.04	629.87	629.87	1.58	No	Si
SLU 39	12.35	-372.39	-1323	-0.0000168	0.0003743	0.0035	1.12	710	1052.15	1052.15	2.83	No	Si
SLU 39	14.15	336.67	-832	-0.000019	0.0003743	0.0035	1.12	453.72	524.29	524.29	1.56	No	Si
SLU 31	12.35	-390.52	-1454	-0.0000177	0.0003743	0.0035	1.12	776.96	1120.54	1120.54	2.87	No	Si
SLU 31	14.15	359.41	-917	-0.0000194	0.0003743	0.0035	1.12	499.02	570.06	570.06	1.59	No	Si
SLU 84	12.35	-429.58	-1890	-0.0000202	0.0003743	0.0035	1.12	995.9	1344.86	1344.86	3.13	No	Si
SLU 84	14.15	396.93	-1052	-0.0000205	0.0003743	0.0035	1.12	569.45	641.35	641.35	1.62	No	Si
SLU 40	12.35	-380.53	-1339	-0.0000172	0.0003743	0.0035	1.12	718.52	1060.8	1060.8	2.79	No	Si
SLU 40	14.15	345.22	-851	-0.0000196	0.0003743	0.0035	1.12	464.07	534.74	534.74	1.55	No	Si
SLU 34	12.35	-388.13	-1505	-0.0000177	0.0003743	0.0035	1.12	803.15	1147.57	1147.57	2.96	No	Si
SLU 34	14.15	358.38	-939	-0.0000187	0.0003743	0.0035	1.12	510.52	581.7	581.7	1.62	No	Si
SLU 42	12.35	-378.15	-1391	-0.0000171	0.0003743	0.0035	1.12	744.91	1087.69	1087.69	2.88	No	Si
SLU 42	14.15	344.19	-873	-0.0000187	0.0003743	0.0035	1.12	475.62	546.4	546.4	1.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	12.35	-1801.04	-1022	-0.0026133	0.0005615	0.0035	0.896		898.3	898.3	0.5		No
SLV 10	14.15	1260.46	-1543	-0.0096836	0.0005615	0.0035	0.896		908.65	908.65	0.72		No
SLV 13	12.35	-2037.05	182	-0.0052397	0.0005615	0.0035	0.896		0	0	0		No
SLV 13	14.15	1377.72	-1100	-0.017199	0.0005615	0.0035	0.896		672.24	672.24	0.49		No
SLD 13	12.35	-1389.95	-467	-0.0021182	0.0005615	0.0035	0.896		599.85	599.85	0.43		No
SLD 13	14.15	970.79	-990	-0.0094695	0.0005615	0.0035	0.896		612.55	612.55	0.63		No
SLV 14	12.35	-1602.46	-338	-0.0031262	0.0005615	0.0035	0.896		529.64	529.64	0.33		No
SLV 14	14.15	1097.71	-1034	-0.0117933	0.0005615	0.0035	0.896		636.56	636.56	0.58		No
SLV 9	12.35	-2093.59	-672	-0.0043695	0.0005615	0.0035	0.896		710.25	710.25	0.34		No
SLV 9	14.15	1448.95	-1587	-0.0132939	0.0005615	0.0035	0.896		932.22	932.22	0.64		No
SLV 16	12.35	-822.7	-533	-0.0007581	0.0005615	0.0035	0.896		635.4	635.4	0.77		No
SLV 16	14.15	586.06	-599	-0.004998	0.0005615	0.0035	0.896		400.37	400.37	0.68		No
SLV 15	12.35	-1257.28	-13	-0.0027462	0.0005615	0.0035	0.896		350.97	350.97	0.28		No
SLV 15	14.15	866.07	-665	-0.0108765	0.0005615	0.0035	0.896		436.24	436.24	0.5		No
SLD 9	12.35	-1375.43	-1029	-0.0014259	0.0005615	0.0035	0.896		902.29	902.29	0.66		No
SLD 9	14.15	981.83	-1269	-0.006492	0.0005615	0.0035	0.896		762.99	762.99	0.78		No
SLV 8	12.35	1468.61	-2523	-0.0028393	0.0005615	0.0035	0.896		1421.09	1421.09	0.97		No
SLV 8	14.15	-856.42	-83	-0.0013585	0.0005615	0.0035	0.896		390	390	0.46		No
SLV 7	12.35	1176.07	-2173	-0.0004486	0.0005615	0.0035	1.12		1239.97	1239.97	1.05		Si
SLV 7	14.15	-667.93	-128	-0.0008818	0.0005615	0.0035	0.896		414.34	414.34	0.62		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.35	-434.55	-2289	-1906	-1054	1.12	1.1106	-6079	7755	2411	35683	9391	2856	12247	No	11.62	Si
SLU 78	14.15	430.9	-1352	-1126	-348	1.12	0.7238	-3590	7423	1504	35683	9391	2856	12247	No	35.19	Si
SLU 65	12.35	-452.57	-2194	-1827	-1040	1.12	1.0612	-6174	7768	2308	35683	9391	2856	12247	No	11.77	Si
SLU 65	14.15	431.97	-1220	-1016	-363	1.12	0.6174	-3238	7376	1277	35683	9391	2856	12247	No	33.72	Si
SLU 84	12.35	-429.58	-1890	-1574	-1056	1.12	0.9982	-5646	7697	2151	35683	9391	2856	12247	No	11.59	Si
SLU 84	14.15	396.93	-1052	-876	-315	1.12	0.5475	-2792	7317	1240	35683	9391	2856	12247	No	38.83	Si
SLU 73	12.35	-441.95	-1953	-1626	-1067	1.12	1.0012	-5818	7720	2164	35683	9391	2856	12247	No	11.48	Si
SLU 73	14.15	412.15	-1096	-912	-332	1.12	0.5516	-2910	7332	1250	35683	9391	2856	12247	No	36.84	Si
SLU 75	12.35	-436.94	-2238	-1863	-1063	1.12	1.0942	-5942	7737	2370	35683	9391	2856	12247	No	11.52	Si
SLU 75	14.15	431.93	-1330	-1108	-344	1.12	0.7058	-3532	7415	1465	35683	9391	2856	12247	No	35.57	Si
SLU 82	12.35	-431.97	-1839	-1531	-1066	1.12	0.9752	-5628	7695	2101	35683	9391	2856	12247	No	11.49	Si
SLU 82	14.15	397.96	-1030	-857	-312	1.12	0.5206	-2734	7309	1235	35683	9391	2856	12247	No	39.28	Si
SLU 74	12.35	-428.79	-2221	-1850	-1046	1.12	1.1009	-5898	7731	2383	35683	9391	2856	12247	No	11.71	Si
SLU 74	14.15	423.38	-1311	-1091	-333	1.12	0.7109	-3480	7408	1475	35683	9391	2856	12247	No	36.77	Si
SLU 76	12.35	-439.57	-2005	-1669	-1057	1.12	1.0222	-5852	7725	2211	35683	9391	2856	12247	No	11.59	Si
SLU 76	14.15	411.12	-1118	-931	-336	1.12	0.5764	-2968	7340	1255	35683	9391	2856	12247	No	36.44	Si
SLU 83	12.35	-421.43	-1874	-1560	-1039	1.12	1.0052	-5558	7686	2163	35683	9391	2856	12247	No	11.79	Si
SLU 83	14.15	388.38	-1032	-859	-304	1.12	0.551	-2740	7310	1236	35683	9391	2856	12247	No	40.26	Si
SLU 81	12.35	-423.82	-1822	-1517	-1048	1.12	0.9822	-5538	7683	2113	35683	9391	2856	12247	No	11.68	Si
SLU 81	14.15	389.41	-1010	-841	-300	1.12	0.5236	-2682	7302	1231	35683	9391	2856	12247	No	40.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	12.35	-1423.15	-1525	-1270	-2238	0.896	0	0	0	0	35683	11269	2285	13553		6.06	Si
SLV 5	14.15	1037.57	-1579	-1315	-1407	0.896	0	0	0	0	35683	11269	2285	13553		9.63	Si
SLD 9	12.35	-1375.43	-1029	-857	-2327	0.896	0	0	0	0	35683	11269	2285	13553		5.82	Si
SLD 9	14.15	981.83	-1269	-1057	-1145	0.896	0	0	0	0	35683	11269	2285	13553		11.83	Si
SLV 14	12.35	-1602.46	-338	-282	-2875	0.896	0	0	0	0	35683	11269	2285	13553		4.71	Si
SLV 14	14.15	1097.71	-1034	-861	-1035	0.896	0	0	0	0	35683	11269	2285	13553		13.09	Si
SLD 10	12.35	-1197.9	-1241	-1034	-2046	0.896	0	0	0	0	35683	11269	2285	13553		6.62	Si
SLD 10	14.15	867.45	-1242	-1035	-1004	0.896	0	0	0	0	35683	11269	2285	13553		13.5	Si
SLV 13	12.35	-2037.05	182	151	-3562	0.896	0	0	0	0	35683	11269	2285	13553		3.81	Si
SLV 13	14.15	1377.72	-1100	-916	-1381	0.896	0	0	0	0	35683	11269	2285	13553		9.81	Si
SLV 10	12.35	-1801.04	-1022	-851	-2932	0.896	0	0	0	0	35683	11269	2285	13553		4.62	Si
SLV 10	14.15	1260.46	-1543	-1285	-1535	0.896	0	0	0	0	35683	11269	2285	13553		8.83	Si
SLD 13	12.35	-1389.95	-467	-389	-2506	0.896	0	0	0	0	35683	11269	2285	13553		5.41	Si
SLD 13	14.15	970.79	-990	-824	-946	0.896	0	0	0	0	35683	11269	2285	13553		14.33	Si
SLD 14	12.35	-1114.25	-797	-664	-2071	0.896	0	0	0	0	35683	11269	2285	13553		6.55	Si
SLD 14	14.15	793.15	-948	-790	-727	0.896	0	0	0	0	35683	11269	2285	13553		18.65	Si
SLV 9	12.35	-2093.59	-672	-559	-3394	0.896	0	0	0	0	35683	11269	2285	13553		3.99	Si
SLV 9	14.15	1448.95	-1587	-1322	-1767	0.896	0	0	0	0	35683	11269	2285	13553		7.67	Si
SLV 15	12.35	-1257.28	-13	-11	-2452	0.896	0	0	0	0	35683	11269	2285	13553		5.53	Si
SLV 15	14.15	866.07	-665	-554	-641	0.896	0	0	0	0	35683	11269	2285	13553		21.15	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.52	0	347	126.94	0	0	No, Trazione
SLV 10	179667	0.52	0	-658	126.94	0	0	No, e>t/2
SLV 13	179667	0.52	0	536	126.94	0	0	No, Trazione
SLV 14	179667	0.52	0	16	126.94	0	0	No, Trazione
SLV 9	179667	0.52	0	-308	126.94	0	0	No, e>t/2
SLV 16	179667	0.52	0	-173	126.94	0	0	No, e>t/2
SLV 11	179667	0.52	2997	-940	126.94	129.02	1.02	Si
SLV 5	179667	0.52	3661	-1148	126.94	156.87	1.24	Si
SLV 12	179667	0.52	4113	-1290	126.94	175.73	1.38	Si
SLV 6	179667	0.52	4777	-1498	126.94	203.16	1.6	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-790	-2129	-6	3.812	232.8	0.889	62.30107	6.17968	Si
SLV 4	-741	-1009	1	3.926	228.5	0.89	64.13323	6.17968	Si
SLV 1	-733	-2397	-6	3.944	227.8	0.89	64.41828	6.17968	Si
SLV 3	-685	-1277	2	4.066	223.6	0.891	66.35191	6.17968	Si
SLV 6	-701	-4028	-15	4.016	225	0.89	65.55864	5.47312	Si
SLV 5	-663	-4208	-15	4.114	221.7	0.891	67.10307	5.47312	Si
SLV 14	-403	-3695	-7	4.939	200.8	0.903	79.48859	6.17968	Si
SLV 10	-585	-4498	-16	4.328	215.1	0.893	70.43522	5.47312	Si
SLV 9	-547	-4678	-15	4.443	212	0.895	72.17783	5.47312	Si
SLV 8	-541	-294	10	4.466	211.5	0.895	72.53011	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.549	SLU 40	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	11.482	SLU 73	Si
PF_SLV	0	SLV 13	No
V_SLV	3.806	SLV 13	Si
PFFP_SLV	0	SLV 15	No
R_SLV	10.082	SLV 2	Si

Maschio 223

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L7	L8	3.211	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	11.45	689.4	-5258	-0.0000178	0.0003743	0.0035	3.2107	7471.03	8971.97	8971.97	13.01	No	Si
SLU 35	13.55	812.82	-2511	-0.0000109	0.0003743	0.0035	3.2107	3809.29	4915.6	4915.6	6.05	No	Si
SLU 37	11.45	702.26	-5096	-0.0000174	0.0003743	0.0035	3.2107	7270.21	8738.31	8738.31	12.44	No	Si
SLU 37	13.55	832.59	-2389	-0.0000106	0.0003743	0.0035	3.2107	3635.3	4733.69	4733.69	5.69	No	Si
SLU 28	11.45	646.3	-4949	-0.0000167	0.0003743	0.0035	3.2107	7086.29	8526.14	8526.14	13.19	No	Si
SLU 28	13.55	730.88	-2405	-0.0000102	0.0003743	0.0035	3.2107	3658.1	4757.46	4757.46	6.51	No	Si
SLU 38	11.45	678.32	-5095	-0.0000173	0.0003743	0.0035	3.2107	7268.99	8736.89	8736.89	12.88	No	Si
SLU 38	13.55	893.36	-2417	-0.000011	0.0003743	0.0035	3.2107	3675.47	4775.59	4775.59	5.35	No	Si
SLU 30	11.45	659.17	-4788	-0.0000163	0.0003743	0.0035	3.2107	6881.97	8292.47	8292.47	12.58	No	Si
SLU 30	13.55	750.65	-2284	-0.0000099	0.0003743	0.0035	3.2107	3483.2	4575.4	4575.4	6.1	No	Si
SLU 80	11.45	928	-6068	-0.0000213	0.0003743	0.0035	3.2107	8449.87	10139.67	10139.67	10.93	No	Si
SLU 80	13.55	837.5	-2755	-0.0000117	0.0003743	0.0035	3.2107	4156.8	5282.22	5282.22	6.31	No	Si
SLU 34	11.45	728.88	-4986	-0.0000172	0.0003743	0.0035	3.2107	7132.43	8579.2	8579.2	11.77	No	Si
SLU 34	13.55	709.98	-2271	-0.0000097	0.0003743	0.0035	3.2107	3465.19	4556.4	4556.4	6.42	No	Si
SLU 42	11.45	753.05	-5119	-0.0000177	0.0003743	0.0035	3.2107	7298.08	8770.61	8770.61	11.65	No	Si
SLU 42	13.55	730.63	-2310	-0.0000099	0.0003743	0.0035	3.2107	3520.91	4614.67	4614.67	6.32	No	Si
SLU 17	11.45	685.83	-4475	-0.0000156	0.0003743	0.0035	3.2107	6481.68	7834.05	7834.05	11.42	No	Si
SLU 17	13.55	693.49	-2044	-0.000009	0.0003743	0.0035	3.2107	3134.69	4209.67	4209.67	6.07	No	Si
SLU 36	11.45	665.45	-5257	-0.0000177	0.0003743	0.0035	3.2107	7469.82	8970.56	8970.56	13.48	No	Si
SLU 36	13.55	873.59	-2539	-0.0000112	0.0003743	0.0035	3.2107	3849.23	4957.51	4957.51	5.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	11.45	-451	-4640	-0.0000148	0.0005615	0.0035	3.2107		12879.06	12879.06	28.56		Si
SLD 9	13.55	2174.53	-3013	-0.0000197	0.0005615	0.0035	3.2107		5703.44	5703.44	2.62		Si
SLV 7	11.45	3163.24	-3574	-0.0000288	0.0005615	0.0035	3.2107		6552.86	6552.86	2.07		Si
SLV 7	13.55	-3402.65	601	-0.0002119	0.0005615	0.0035	2.5686		4975.44	4975.44	1.46		Si
SLD 10	11.45	-539.12	-4581	-0.0000151	0.0005615	0.0035	3.2107		12794.11	12794.11	23.73		Si
SLD 10	13.55	2211.3	-3036	-0.00002	0.0005615	0.0035	3.2107		5738.9	5738.9	2.6		Si
SLV 5	11.45	-1496.63	-5403	-0.0000222	0.0005615	0.0035	3.2107		13980.24	13980.24	9.34		Si
SLV 5	13.55	3742.05	-4256	-0.0000342	0.0005615	0.0035	3.2107		7570.48	7570.48	2.02		Si
SLV 9	11.45	-1364.04	-4957	-0.0000203	0.0005615	0.0035	3.2107		13336.62	13336.62	9.78		Si
SLV 9	13.55	3622.23	-3958	-0.0000334	0.0005615	0.0035	3.2107		7126.31	7126.31	1.97		Si
SLV 8	11.45	3018.04	-3477	-0.0000274	0.0005615	0.0035	3.2107		6406.78	6406.78	2.12		Si
SLV 8	13.55	-3342.05	562	-0.000208	0.0005615	0.0035	2.5686		5035.21	5035.21	1.51		Si
SLV 6	11.45	-1641.83	-5306	-0.0000227	0.0005615	0.0035	3.2107		13840.24	13840.24	8.43		Si
SLV 6	13.55	3802.65	-4295	-0.0000348	0.0005615	0.0035	3.2107		7627.96	7627.96	2.01		Si
SLV 10	11.45	-1509.24	-4860	-0.0000208	0.0005615	0.0035	3.2107		13196.63	13196.63	8.74		Si
SLV 10	13.55	3682.82	-3997	-0.0000341	0.0005615	0.0035	3.2107		7183.79	7183.79	1.95		Si
SLV 11	11.45	3295.83	-3128	-0.000033	0.0005615	0.0035	3.2107		5877.4	5877.4	1.78		Si
SLV 11	13.55	-3522.47	898	-0.0002178	0.0005615	0.0035	2.5686		4513.62	4513.62	1.28		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	11.45	3150.63	-3030	-0.0000312	0.0005615	0.0035	3.2107		5730.24	5730.24	1.82		Si
SLV 12	13.55	-3461.88	860	-0.0002141	0.0005615	0.0035	2.5686		4573.38	4573.38	1.32		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	11.45	1076.77	-5363	-2974	1056	3.2107	3.2107	-6615	7826	3518	101952	13460	16375	29834	No	28.24	Si
SLU 61	13.55	250.99	-2110	-1170	1124	3.2107	3.2107	-2603	7291	3277	101952	13460	16375	29834	No	26.54	Si
SLU 82	11.45	1069.25	-5983	-3317	1040	3.2107	3.2107	-7380	7928	3564	101952	13460	16375	29834	No	28.7	Si
SLU 82	13.55	450.87	-2483	-1377	1106	3.2107	3.2107	-3063	7353	3305	101952	13460	16375	29834	No	26.97	Si
SLU 60	11.45	1100.71	-5364	-2974	1149	3.2107	3.2107	-6616	7827	3518	101952	13460	16375	29834	No	25.96	Si
SLU 60	13.55	190.22	-2082	-1154	1143	3.2107	3.2107	-2568	7287	3275	101952	13460	16375	29834	No	26.11	Si
SLU 64	11.45	1065.84	-5545	-3074	1026	3.2107	3.2107	-6840	7856	3531	101952	13460	16375	29834	No	29.07	Si
SLU 64	13.55	186.22	-2265	-1256	1019	3.2107	3.2107	-2793	7317	3289	101952	13460	16375	29834	No	29.27	Si
SLU 65	11.45	1025.93	-5543	-3073	872	3.2107	3.2107	-6838	7856	3531	101952	13460	16375	29834	No	34.22	Si
SLU 65	13.55	287.5	-2311	-1281	988	3.2107	3.2107	-2851	7325	3292	101952	13460	16375	29834	No	30.19	Si
SLU 81	11.45	1093.2	-5984	-3318	1132	3.2107	3.2107	-7381	7929	3564	101952	13460	16375	29834	No	26.35	Si
SLU 81	13.55	390.09	-2455	-1361	1125	3.2107	3.2107	-3029	7348	3303	101952	13460	16375	29834	No	26.52	Si
SLU 43	11.45	1073.35	-4925	-2731	1043	3.2107	3.2107	-6075	7754	3486	101952	13460	16375	29834	No	28.6	Si
SLU 43	13.55	-13.66	-1891	-1049	1037	3.2107	3.2107	-2333	7256	3261	101952	13460	16375	29834	No	28.77	Si
SLU 52	11.45	1052.59	-5231	-2900	963	3.2107	3.2107	-6452	7805	3508	101952	13460	16375	29834	No	30.98	Si
SLU 52	13.55	230.34	-2071	-1149	1080	3.2107	3.2107	-2555	7285	3275	101952	13460	16375	29834	No	27.62	Si
SLU 73	11.45	1045.08	-5851	-3244	946	3.2107	3.2107	-7217	7907	3554	101952	13460	16375	29834	No	31.54	Si
SLU 73	13.55	430.22	-2445	-1355	1062	3.2107	3.2107	-3016	7347	3302	101952	13460	16375	29834	No	28.08	Si
SLU 44	11.45	1033.44	-4923	-2730	889	3.2107	3.2107	-6073	7754	3485	101952	13460	16375	29834	No	33.57	Si
SLU 44	13.55	87.63	-1938	-1075	1006	3.2107	3.2107	-2391	7263	3265	101952	13460	16375	29834	No	29.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	11.45	-1364.04	-4957	-2748	-3423	3.2107	3.2107	-6114	11640	5232	101952	20190	16375	36564		10.68	Si
SLV 9	13.55	3622.23	-3958	-2195	-2457	3.2107	2.0707	-4883	11393	4124	101952	20190	16375	36564		14.88	Si
SLV 7	11.45	3163.24	-3574	-1981	5253	3.2107	2.1607	-4408	11298	4038	101952	20190	16375	36564		6.96	Si
SLV 7	13.55	-3402.65	601	333	4276	2.5686	0	0	0	0	101952	16152	13100	29252		6.84	Si
SLD 11	11.45	2277.41	-3567	-1978	3402	3.2107	2.9008	-4400	11297	4588	101952	20190	16375	36564		10.75	Si
SLD 11	13.55	-2008.14	-170	-94	2823	2.5686	0	0	0	0	101952	16152	13100	29252		10.36	Si
SLV 10	11.45	-1509.24	-4860	-2695	-3624	3.2107	3.2107	-5995	11616	5221	101952	20190	16375	36564		10.09	Si
SLV 10	13.55	3682.82	-3997	-2216	-2658	3.2107	2.0517	-4930	11403	4132	101952	20190	16375	36564		13.76	Si
SLV 8	11.45	3018.04	-3477	-1928	5052	3.2107	2.2118	-4289	11274	4017	101952	20190	16375	36564		7.24	Si
SLV 8	13.55	-3342.05	562	312	4075	2.5686	0	0	0	0	101952	16152	13100	29252		7.18	Si
SLV 6	11.45	-1641.83	-5306	-2942	-3605	3.2107	3.2107	-6545	11726	5271	101952	20190	16375	36564		10.14	Si
SLV 6	13.55	3802.65	-4295	-2381	-2629	3.2107	2.1597	-5297	11476	4198	101952	20190	16375	36564		13.91	Si
SLV 5	11.45	-1496.63	-5403	-2996	-3404	3.2107	3.2107	-6665	11750	5281	101952	20190	16375	36564		10.74	Si
SLV 5	13.55	3742.05	-4256	-2360	-2427	3.2107	2.1784	-5250	11467	4190	101952	20190	16375	36564		15.06	Si
SLD 7	11.45	2193.12	-3853	-2136	3414	3.2107	3.1084	-4752	11367	4947	101952	20190	16375	36564		10.71	Si
SLD 7	13.55	-1931.12	-360	-200	2841	2.5686	0	0	0	0	101952	16152	13100	29252		10.3	Si
SLV 12	11.45	3150.63	-3030	-1680	5032	3.2107	1.6971	-3738	11164	3918	101952	20190	16375	36564		7.27	Si
SLV 12	13.55	-3461.88	860	477	4045	2.5686	0	0	0	0	101952	16152	13100	29252		7.23	Si
SLV 11	11.45	3295.83	-3128	-1734	5233	3.2107	1.6546	-3858	11188	3939	101952	20190	16375	36564		6.99	Si
SLV 11	13.55	-3522.47	898	498	4247	2.5686	0	0	0	0	101952	16152	13100	29252		6.89	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	57	0.52	198.02	0	185.27	92.64	0.47	No
SLV 11	27	0.52	198.02	0	188.31	94.16	0.48	No
SLV 8	-256	0.52	198.02	0	216.33	108.16	0.55	No
SLV 7	-286	0.52	198.02	0	219.24	109.62	0.55	No
SLV 16	-1149	0.52	198.02	0	300.09	150.05	0.76	No
SLV 15	-1194	0.52	198.02	0	304.19	152.09	0.77	No
SLV 4	-2193	0.52	198.02	0	394.22	197.11	1	No
SLV 3	-2238	0.52	198.02	0	398.2	199.1	1.01	Si
SLV 14	-2503	0.52	198.02	0	421.82	210.91	1.07	Si
SLV 13	-2548	0.52	198.02	0	425.79	212.9	1.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-308	-5163	-125	11.356	270.1	0.927	177.98831	9.45954	Si
SLV 1	-300	-5307	-125	11.416	269.6	0.928	178.7091	9.45954	Si
SLV 4	-211	-4614	-113	12.107	265.1	0.943	186.68254	9.45954	Si
SLV 3	-203	-4758	-113	12.175	264.8	0.944	187.42298	9.45954	Si
SLV 14	-136	-3675	113	12.75	262.2	0.958	193.37386	9.45954	Si
SLV 13	-128	-3820	113	12.826	262	0.96	194.10922	9.45954	Si
SLV 16	-38	-3127	125	13.686	260	0.986	201.72984	9.45954	Si
SLV 15	-30	-3271	125	13.772	259.9	0.989	202.42326	9.45954	Si
SLV 6	-360	-5306	-55	11.039	273.1	0.921	174.21114	7.25693	Si
SLV 5	-355	-5403	-55	11.076	272.7	0.922	174.68698	7.25693	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.346	SLU 38	Si
V_SLU	25.964	SLU 60	Si
PF_SLV	1.281	SLV 11	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	6.84	SLV 7	Si
PFFP_SLV	0.468	SLV 12	No
R_SLV	18.816	SLV 2	Si

Maschio 225

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.293	-3.169	L7	L8	1.54	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 34	11.45	-1422.27	-1896	-0.0001386	0.0003743	0.0035	1.2318	1396.37	2053.22	2053.22	1.44	No	Si
SLU 34	13.55	1312.65	-3190	-0.0000321	0.0003743	0.0035	1.5398	2277.64	2454.38	2454.38	1.87	No	Si
SLU 41	11.45	-1493.83	-1689	-0.0002805	0.0003743	0.0035	1.2318	0	1905.74	1905.74	1.28	No	Si
SLU 41	13.55	1325.66	-3141	-0.0000326	0.0003743	0.0035	1.5398	2245.14	2420.63	2420.63	1.83	No	Si
SLU 82	11.45	-1679.02	-2272	-0.0001535	0.0003743	0.0035	1.2318	1658.74	2324.54	2324.54	1.38	No	Si
SLU 82	13.55	1555.69	-3707	-0.0000385	0.0003743	0.0035	1.5398	2612.74	2806.46	2806.46	1.8	No	Si
SLU 39	11.45	-1514.04	-1541	-0.000365	0.0003743	0.0035	1.2318	0	1801.13	1801.13	1.19	No	Si
SLU 39	13.55	1347.63	-3095	-0.0000334	0.0003743	0.0035	1.5398	2214.81	2389.1	2389.1	1.77	No	Si
SLU 31	11.45	-1442.48	-1748	-0.0002162	0.0003743	0.0035	1.2318	0	1947.86	1947.86	1.35	No	Si
SLU 31	13.55	1334.63	-3144	-0.0000329	0.0003743	0.0035	1.5398	2247.38	2422.96	2422.96	1.82	No	Si
SLU 81	11.45	-1671.37	-2259	-0.0001539	0.0003743	0.0035	1.2318	1649.5	2314.84	2314.84	1.38	No	Si
SLU 81	13.55	1544.23	-3690	-0.0000381	0.0003743	0.0035	1.5398	2602.2	2795.33	2795.33	1.81	No	Si
SLU 84	11.45	-1658.82	-2420	-0.0000984	0.0003743	0.0035	1.2318	1760.21	2430.41	2430.41	1.47	No	Si
SLU 84	13.55	1533.72	-3753	-0.0000377	0.0003743	0.0035	1.5398	2642.08	2837.53	2837.53	1.85	No	Si
SLU 83	11.45	-1651.16	-2406	-0.0000984	0.0003743	0.0035	1.2318	1751.04	2421.08	2421.08	1.47	No	Si
SLU 83	13.55	1522.26	-3736	-0.0000374	0.0003743	0.0035	1.5398	2631.57	2826.38	2826.38	1.86	No	Si
SLU 40	11.45	-1521.7	-1555	-0.0003646	0.0003743	0.0035	1.2318	0	1810.62	1810.62	1.19	No	Si
SLU 40	13.55	1359.09	-3111	-0.0000338	0.0003743	0.0035	1.5398	2225.7	2400.4	2400.4	1.77	No	Si
SLU 42	11.45	-1501.49	-1702	-0.00028	0.0003743	0.0035	1.2318	0	1915.25	1915.25	1.28	No	Si
SLU 42	13.55	1337.12	-3157	-0.0000329	0.0003743	0.0035	1.5398	2256	2431.9	2431.9	1.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	11.45	-2510.05	-1069	-0.0015318	0.0005615	0.0035	1.2318		1460.67	1460.67	0.58		No
SLV 14	13.55	2624.49	-4237	-0.0001063	0.0005615	0.0035	1.5398		3230.87	3230.87	1.23		Si
SLD 15	11.45	-1992.3	-697	-0.0011999	0.0005615	0.0035	1.2318		1184.12	1184.12	0.59		No
SLD 15	13.55	1970.15	-3177	-0.0000783	0.0005615	0.0035	1.5398		2484.25	2484.25	1.26		Si
SLV 15	11.45	-2508.58	134	-0.003104	0.0005615	0.0035	1.2318		0	0	0		No
SLV 15	13.55	2458.95	-3368	-0.000364	0.0005615	0.0035	1.5398		2620.11	2620.11	1.07		Si
SLD 16	11.45	-1700.31	-958	-0.0007531	0.0005615	0.0035	1.2318		1378.79	1378.79	0.81		No
SLD 16	13.55	1669.32	-2906	-0.0000539	0.0005615	0.0035	1.5398		2291.04	2291.04	1.37		Si
SLV 13	11.45	-2970.31	-657	-0.0026388	0.0005615	0.0035	1.2318		1154.48	1154.48	0.39		No
SLV 13	13.55	3098.69	-4664	-0.0001762	0.0005615	0.0035	1.5398		3525.57	3525.57	1.14		Si
SLD 14	11.45	-1970.6	-1422	-0.0007484	0.0005615	0.0035	1.2318		1721.03	1721.03	0.87		No
SLD 14	13.55	2044.09	-3667	-0.000063	0.0005615	0.0035	1.5398		2831.84	2831.84	1.39		Si
SLD 13	11.45	-2262.59	-1161	-0.0011854	0.0005615	0.0035	1.2318		1528.28	1528.28	0.68		No
SLD 13	13.55	2344.92	-3938	-0.0000837	0.0005615	0.0035	1.5398		3021.88	3021.88	1.29		Si
SLV 11	11.45	-875.25	-161	-0.0005221	0.0005615	0.0035	1.2318		782.57	782.57	0.89		No
SLV 11	13.55	602.75	-1055	-0.0000188	0.0005615	0.0035	1.5398		935.54	935.54	1.55		Si
SLV 16	11.45	-2048.32	-278	-0.0016664	0.0005615	0.0035	1.2318		870.68	870.68	0.43		No
SLV 16	13.55	1984.76	-2940	-0.0001177	0.0005615	0.0035	1.5398		2315.56	2315.56	1.17		Si
SLV 9	11.45	-2414.35	-2798	-0.00043	0.0005615	0.0035	1.2318		2719.96	2719.96	1.13		Si
SLV 9	13.55	2735.19	-5377	-0.0000759	0.0005615	0.0035	1.5398		4011.62	4011.62	1.47		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	11.45	-1679.02	-2272	-1892	-2866	1.2318	0.0928	0	0	0	35683	10328	3141	13469	No	4.7	Si
SLU 82	13.55	1555.69	-3707	-3087	-2870	1.5398	1.0506	-7159	7899	2324	35683	12910	3926	16837	No	5.87	Si
SLU 75	11.45	-1607.31	-2773	-2309	-2796	1.2318	0.5709	0	0	0	35683	10328	3141	13469	No	4.82	Si
SLU 75	13.55	1569.11	-4097	-3412	-2802	1.5398	1.1607	-7913	7999	2600	35683	12910	3926	16837	No	6.01	Si
SLU 74	11.45	-1599.65	-2760	-2298	-2788	1.2318	0.5708	0	0	0	35683	10328	3141	13469	No	4.83	Si
SLU 74	13.55	1557.65	-4080	-3398	-2789	1.5398	1.1645	-7881	7995	2607	35683	12910	3926	16837	No	6.04	Si
SLU 77	11.45	-1579.44	-2907	-2421	-2730	1.2318	0.6799	0	0	0	35683	10328	3141	13469	No	4.93	Si
SLU 77	13.55	1535.68	-4126	-3436	-2731	1.5398	1.1932	-7970	8007	2675	35683	12910	3926	16837	No	6.16	Si
SLU 83	11.45	-1651.16	-2406	-2004	-2800	1.2318	0.2511	0	0	0	35683	10328	3141	13469	No	4.81	Si
SLU 83	13.55	1522.26	-3736	-3111	-2799	1.5398	1.0873	-7216	7907	2407	35683	12910	3926	16837	No	6.02	Si
SLU 84	11.45	-1658.82	-2420	-2015	-2809	1.2318	0.253	0	0	0	35683	10328	3141	13469	No	4.8	Si
SLU 84	13.55	1533.72	-3753	-3125	-2812	1.5398	1.0835	-7248	7911	2400	35683	12910	3926	16837	No	5.99	Si
SLU 78	11.45	-1587.1	-2921	-2432	-2739	1.2318	0.6795	0	0	0	35683	10328	3141	13469	No	4.92	Si
SLU 78	13.55	1547.14	-4143	-3450	-2745	1.5398	1.1894	-8002	8011	2668	35683	12910	3926	16837	No	6.13	Si
SLU 81	11.45	-1671.37	-2259	-1881	-2857	1.2318	0.0898	0	0	0	35683	10328	3141	13469	No	4.71	Si
SLU 81	13.55	1544.23	-3690	-3073	-2856	1.5398	1.0543	-7127	7895	2330	35683	12910	3926	16837	No	5.89	Si
SLU 76	11.45	-1579.6	-2613	-2176	-2699	1.2318	0.4962	0	0	0	35683	10328	3141	13469	No	4.99	Si
SLU 76	13.55	1509.26	-3785	-3152	-2706	1.5398	1.1136	-7311	7919	2469	35683	12910	3926	16837	No	6.22	Si
SLU 73	11.45	-1599.8	-2465	-2053	-2756	1.2318	0.3631	0	0	0	35683	10328	3141	13469	No	4.89	Si
SLU 73	13.55	1531.23	-3739	-3114	-2764	1.5398	1.0813	-7222	7907	2394	35683	12910	3926	16837	No	6.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	11.45	-2510.05	-1069	-890	-4506	1.2318	0	0	0	0	35683	15492	3141	18634		4.14	Si
SLV 14	13.55	2624.49	-4237	-3528	-3812	1.5398	0.4514	-28335	16084	3016	35683	19366	3926	23292		6.11	Si
SLV 13	11.45	-2970.31	-657	-547	-5257	1.2318	0	0	0	0	35683	15492	3141	18634		3.54	Si
SLV 13	13.55	3098.69	-4664	-3884	-4565	1.5398	0.3167	-44883	16250	3111	35683	19366	3926	23292		5.1	Si
SLV 10	11.45	-2104.53	-3076	-2561	-3547	1.2318	0.2569	0	0	0	35683	15492	3141	18634		5.25	Si
SLV 10	13.55	2415.98	-5089	-4238	-3421	1.5398	0.8854	-9829	12382	3205	35683	19366	3926	23292		6.81	Si
SLD 9	11.45	-1876.02	-2485	-2069	-3191	1.2318	0.0447	0	0	0	35683	15492	3141	18634		5.84	Si
SLD 9	13.55	2070.46	-4313	-3592	-3109	1.5398	0.8696	-8331	12083	3033	35683	19366	3926	23292		7.49	Si
SLV 16	11.45	-2048.32	-278	-231	-3823	1.2318	0	0	0	0	35683	15492	3141	18634		4.87	Si
SLV 16	13.55	1984.76	-2940	-2448	-3076	1.5398	0.2846	-31167	16250	2728	35683	19366	3926	23292		7.57	Si
SLD 13	11.45	-2262.59	-1161	-967	-4006	1.2318	0	0	0	0	35683	15492	3141	18634		4.65	Si
SLD 13	13.55	2344.92	-3938	-3279	-3566	1.5398	0.5233	-7606	11938	2950	35683	19366	3926	23292		6.53	Si
SLV 9	11.45	-2414.35	-2798	-2330	-4053	1.2318	0	0	0	0	35683	15492	3141	18634		4.6	Si
SLV 9	13.55	2735.19	-5377	-4477	-3928	1.5398	0.7836	-10385	12494	3269	35683	19366	3926	23292		5.93	Si
SLD 15	11.45	-1992.3	-697	-580	-3607	1.2318	0	0	0	0	35683	15492	3141	18634		5.17	Si
SLD 15	13.55	1970.15	-3177	-2646	-3135	1.5398	0.4493	-21255	14668	2781	35683	19366	3926	23292		7.43	Si
SLV 15	11.45	-2508.58	134	112	-4575	1.2318	0	0	0	0	35683	15492	3141	18634		4.07	Si
SLV 15	13.55	2458.95	-3368	-2804	-3829	1.5398	0.1192	-81247	16250	2823	35683	19366	3926	23292		6.08	Si
SLD 14	11.45	-1970.6	-1422	-1184	-3529	1.2318	0	0	0	0	35683	15492	3141	18634		5.28	Si
SLD 14	13.55	2044.09	-3667	-3053	-3089	1.5398	0.6373	-7082	11833	2890	35683	19366	3926	23292		7.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.52	0	-746	174.53	0	0	No, e>t/2
SLV 8	179667	0.52	0	-559	174.53	0	0	No, e>t/2
SLV 12	179667	0.52	0	-925	174.53	0	0	No, e>t/2
SLV 11	179667	0.52	0	-1113	174.53	0	0	No, e>t/2
SLV 4	179667	0.52	3501	-1510	174.53	206.5	1.18	Si
SLV 3	179667	0.52	4147	-1788	174.53	243.52	1.4	Si
SLV 2	179667	0.52	6333	-2730	174.53	366.4	2.1	Si
SLV 16	179667	0.52	6337	-2732	174.53	366.61	2.1	Si
SLV 1	179667	0.52	6979	-3009	174.53	401.98	2.3	Si
SLV 15	179667	0.52	6982	-3010	174.53	402.18	2.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1366	-4357	-70	3.38	345.4	0.889	55.24494	6.17968	Si
SLV 1	-1363	-3945	-64	3.386	345.1	0.889	55.35052	6.17968	Si
SLV 6	-1535	-4062	-109	3.162	361.1	0.89	51.61918	5.47312	Si
SLV 5	-1533	-3785	-104	3.166	360.9	0.89	51.68348	5.47312	Si
SLV 10	-1407	-3076	-87	3.321	349.2	0.889	54.26792	5.47312	Si
SLV 9	-1405	-2798	-83	3.325	349	0.889	54.33718	5.47312	Si
SLV 4	-1093	-3566	-14	3.797	320.7	0.889	62.05818	6.17968	Si
SLV 3	-1090	-3154	-8	3.805	320.4	0.889	62.18341	6.17968	Si
SLV 14	-941	-1069	1	4.068	307.3	0.891	66.38073	6.17968	Si
SLV 13	-938	-657	7	4.071	307.1	0.891	66.42529	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.19	SLU 39	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	4.7	SLU 82	Si
PF_SLV	0	SLV 15	No
V_SLV	3.544	SLV 13	Si
PFFP_SLV	0	SLV 7	No
R_SLV	8.94	SLV 2	Si

Maschio 227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.522	L7	L8	4.315	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	11.45	1452.89	-8164	-0.0000207	0.0003743	0.0035	4.3155	15277.58	18261.48	18261.48	12.57	No	Si
SLU 77	13.55	-5722.15	-4919	-0.000029	0.0003743	0.0035	4.3155	9765.43	21129.52	21129.52	3.69	No	Si
SLU 74	11.45	1347.85	-7972	-0.00002	0.0003743	0.0035	4.3155	14971.3	17893.63	17893.63	13.28	No	Si
SLU 74	13.55	-5355.36	-4727	-0.000027	0.0003743	0.0035	4.3155	9415.34	20748.25	20748.25	3.87	No	Si
SLU 78	11.45	1434.39	-8120	-0.0000205	0.0003743	0.0035	4.3155	15208.42	18178.13	18178.13	12.67	No	Si
SLU 78	13.55	-5639.83	-4876	-0.0000285	0.0003743	0.0035	4.3155	9686.34	21043.13	21043.13	3.73	No	Si
SLU 79	11.45	1435.53	-8091	-0.0000205	0.0003743	0.0035	4.3155	15161.45	18121.63	18121.63	12.62	No	Si
SLU 79	13.55	-5575.48	-4846	-0.0000282	0.0003743	0.0035	4.3155	9632.64	20984.56	20984.56	3.76	No	Si
SLU 75	11.45	1329.35	-7928	-0.0000198	0.0003743	0.0035	4.3155	14901.54	17810.29	17810.29	13.4	No	Si
SLU 75	13.55	-5273.03	-4683	-0.0000265	0.0003743	0.0035	4.3155	9335.66	20661.86	20661.86	3.92	No	Si
SLU 84	11.45	1440.64	-7992	-0.0000203	0.0003743	0.0035	4.3155	15003.75	17932.46	17932.46	12.45	No	Si
SLU 84	13.55	-5359.64	-4747	-0.000027	0.0003743	0.0035	4.3155	9452.41	20788.48	20788.48	3.88	No	Si
SLU 83	11.45	1459.15	-8035	-0.0000204	0.0003743	0.0035	4.3155	15073.31	18015.8	18015.8	12.35	No	Si
SLU 83	13.55	-5441.97	-4791	-0.0000274	0.0003743	0.0035	4.3155	9531.9	20874.87	20874.87	3.84	No	Si
SLU 80	11.45	1417.03	-8047	-0.0000203	0.0003743	0.0035	4.3155	15092.05	18038.29	18038.29	12.73	No	Si
SLU 80	13.55	-5493.15	-4802	-0.0000277	0.0003743	0.0035	4.3155	9553.32	20898.18	20898.18	3.8	No	Si
SLU 35	11.45	1391.67	-6828	-0.0000177	0.0003743	0.0035	4.3155	13097.63	15672.31	15672.31	11.26	No	Si
SLU 35	13.55	-5136.25	-4236	-0.0000262	0.0003743	0.0035	3.4524	8510.12	19775.21	19775.21	3.85	No	Si
SLU 36	11.45	1373.17	-6784	-0.0000176	0.0003743	0.0035	4.3155	13024.37	15587.43	15587.43	11.35	No	Si
SLU 36	13.55	-5053.92	-4192	-0.0000257	0.0003743	0.0035	3.4524	8428.93	19688.82	19688.82	3.9	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	11.45	4985.03	-9514	-0.0000334	0.0005615	0.0035	4.3155		21074.33	21074.33	4.23		Si
SLV 11	13.55	-10503.93	-7069	-0.0000618	0.0005615	0.0035	3.4524		25436.93	25436.93	2.42		Si
SLV 7	11.45	4263.1	-9237	-0.0000307	0.0005615	0.0035	4.3155		20537.26	20537.26	4.82		Si
SLV 7	13.55	-10177.79	-6789	-0.0000605	0.0005615	0.0035	3.4524		24894.87	24894.87	2.45		Si
SLV 5	11.45	-3434.37	-1695	-0.0000403	0.0005615	0.0035	3.4524		14729.33	14729.33	4.29		Si
SLV 5	13.55	3990.56	766	-0.0025199	0.0005615	0.0035	4.3155		229.41	229.41	0.06		No
SLV 8	11.45	4172.06	-9247	-0.0000305	0.0005615	0.0035	4.3155		20554.9	20554.9	4.93		Si
SLV 8	13.55	-10226.33	-6798	-0.000061	0.0005615	0.0035	3.4524		24912.44	24912.44	2.44		Si
SLD 11	11.45	3242.75	-7903	-0.000025	0.0005615	0.0035	4.3155		17935.7	17935.7	5.53		Si
SLD 11	13.55	-7519.72	-5454	-0.0000408	0.0005615	0.0035	3.4524		22306.99	22306.99	2.97		Si
SLV 6	11.45	-3525.41	-1704	-0.000044	0.0005615	0.0035	3.4524		14747.9	14747.9	4.18		Si
SLV 6	13.55	3942.03	757	-0.0024664	0.0005615	0.0035	4.3155		248.63	248.63	0.06		No
SLD 12	11.45	3187.51	-7908	-0.0000249	0.0005615	0.0035	4.3155		17946.58	17946.58	5.63		Si
SLD 12	13.55	-7549.17	-5460	-0.0000411	0.0005615	0.0035	3.4524		22317.98	22317.98	2.96		Si
SLV 10	11.45	-2803.48	-1981	-0.0000153	0.0005615	0.0035	3.4524		15310.9	15310.9	5.46		Si
SLV 10	13.55	3615.89	476	-0.0018789	0.0005615	0.0035	4.3155		840.99	840.99	0.23		No
SLV 12	11.45	4893.99	-9523	-0.0000331	0.0005615	0.0035	4.3155		21091.97	21091.97	4.31		Si
SLV 12	13.55	-10552.47	-7078	-0.0000624	0.0005615	0.0035	3.4524		25454.49	25454.49	2.41		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.45	-2712.44	-1972	-0.0000145	0.0005615	0.0035	3.4524		15292.41	15292.41	5.64		Si
SLV 9	13.55	3664.43	485	-0.001923	0.0005615	0.0035	4.3155		821.81	821.81	0.22		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	11.45	1391.67	-6828	-3786	3125	4.3155	4.3155	-6266	7780	4700	101952	18091	22009	40100	No	12.83	Si
SLU 35	13.55	-5136.25	-4236	-2348	3125	3.4524	2.8354	0	0	0	101952	14473	17607	32080	No	10.27	Si
SLU 74	11.45	1347.85	-7972	-4420	3214	4.3155	4.3155	-7316	7920	4785	101952	18091	22009	40100	No	12.48	Si
SLU 74	13.55	-5355.36	-4727	-2621	3214	4.3155	3.0742	-6113	7760	3957	101952	18091	22009	40100	No	12.48	Si
SLU 83	11.45	1459.15	-8035	-4455	3308	4.3155	4.3155	-7374	7928	4790	101952	18091	22009	40100	No	12.12	Si
SLU 83	13.55	-5441.97	-4791	-2656	3308	4.3155	3.0653	-6214	7773	3971	101952	18091	22009	40100	No	12.12	Si
SLU 78	11.45	1434.39	-8120	-4502	3390	4.3155	4.3155	-7452	7938	4796	101952	18091	22009	40100	No	11.83	Si
SLU 78	13.55	-5639.83	-4876	-2703	3390	4.3155	3.003	-6455	7806	3990	101952	18091	22009	40100	No	11.83	Si
SLU 79	11.45	1435.53	-8091	-4486	3360	4.3155	4.3155	-7425	7934	4794	101952	18091	22009	40100	No	11.93	Si
SLU 79	13.55	-5575.48	-4846	-2687	3360	4.3155	3.0216	-6376	7795	3983	101952	18091	22009	40100	No	11.93	Si
SLU 80	11.45	1417.03	-8047	-4462	3312	4.3155	4.3155	-7385	7929	4790	101952	18091	22009	40100	No	12.11	Si
SLU 80	13.55	-5493.15	-4802	-2663	3312	4.3155	3.0417	-6277	7782	3973	101952	18091	22009	40100	No	12.11	Si
SLU 84	11.45	1440.64	-7992	-4431	3260	4.3155	4.3155	-7334	7922	4786	101952	18091	22009	40100	No	12.3	Si
SLU 84	13.55	-5359.64	-4747	-2632	3260	4.3155	3.0861	-6116	7760	3961	101952	18091	22009	40100	No	12.3	Si
SLU 77	11.45	1452.89	-8164	-4527	3438	4.3155	4.3155	-7492	7943	4799	101952	18091	22009	40100	No	11.66	Si
SLU 77	13.55	-5722.15	-4919	-2727	3438	4.3155	2.9835	-6555	7819	3999	101952	18091	22009	40100	No	11.66	Si
SLU 75	11.45	1329.35	-7928	-4396	3166	4.3155	4.3155	-7276	7915	4782	101952	18091	22009	40100	No	12.67	Si
SLU 75	13.55	-5273.03	-4683	-2597	3166	4.3155	3.0953	-6015	7747	3947	101952	18091	22009	40100	No	12.67	Si
SLU 36	11.45	1373.17	-6784	-3762	3077	4.3155	4.3155	-6226	7775	4697	101952	18091	22009	40100	No	13.03	Si
SLU 36	13.55	-5053.92	-4192	-2324	3077	3.4524	2.8564	0	0	0	101952	14473	17607	32080	No	10.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	11.45	2780.71	-7726	-4284	4979	4.3155	4.3155	-7090	11835	7150	101952	27137	22009	49146		9.87	Si
SLD 7	13.55	-7312.04	-5276	-2925	4563	3.4524	2.3151	0	0	0	101952	21710	17607	39317		8.62	Si
SLV 11	11.45	4985.03	-9514	-5275	7656	4.3155	4.3155	-8731	12163	7348	101952	27137	22009	49146		6.42	Si
SLV 11	13.55	-10503.93	-7069	-3919	6949	3.4524	2.0153	0	0	0	101952	21710	17607	39317		5.66	Si
SLV 16	11.45	3020.03	-7208	-3997	4379	4.3155	4.3155	-6615	11740	7093	101952	27137	22009	49146		11.22	Si
SLV 16	13.55	-5985.82	-4763	-2641	4168	3.4524	2.7031	0	0	0	101952	21710	17607	39317		9.43	Si
SLD 11	11.45	3242.75	-7903	-4382	5296	4.3155	4.3155	-7252	11867	7170	101952	27137	22009	49146		9.28	Si
SLD 11	13.55	-7519.72	-5454	-3024	4880	3.4524	2.3373	0	0	0	101952	21710	17607	39317		8.06	Si
SLV 15	11.45	3155.28	-7195	-3989	4409	4.3155	4.3155	-6603	11737	7091	101952	27137	22009	49146		11.15	Si
SLV 15	13.55	-5913.71	-4750	-2633	4199	3.4524	2.7379	0	0	0	101952	21710	17607	39317		9.36	Si
SLD 12	11.45	3187.51	-7908	-4385	5283	4.3155	4.3155	-7258	11868	7170	101952	27137	22009	49146		9.3	Si
SLD 12	13.55	-7549.17	-5460	-3027	4868	3.4524	2.3253	0	0	0	101952	21710	17607	39317		8.08	Si
SLV 8	11.45	4172.06	-9247	-5127	7140	4.3155	4.3155	-8486	12114	7319	101952	27137	22009	49146		6.88	Si
SLV 8	13.55	-10226.33	-6798	-3769	6433	3.4524	1.96	0	0	0	101952	21710	17607	39317		6.11	Si
SLV 12	11.45	4893.99	-9523	-5280	7635	4.3155	4.3155	-8740	12165	7349	101952	27137	22009	49146		6.44	Si
SLV 12	13.55	-10552.47	-7078	-3924	6929	3.4524	2.0005	0	0	0	101952	21710	17607	39317		5.67	Si
SLV 7	11.45	4263.1	-9237	-5122	7160	4.3155	4.3155	-8477	12112	7318	101952	27137	22009	49146		6.86	Si
SLV 7	13.55	-10177.79	-6789	-3764	6453	3.4524	1.9754	0	0	0	101952	21710	17607	39317		6.09	Si
SLD 8	11.45	2725.46	-7732	-4287	4967	4.3155	4.3155	-7095	11836	7151	101952	27137	22009	49146		9.9	Si
SLD 8	13.55	-7341.49	-5281	-2928	4551	3.4524	2.3027	0	0	0	101952	21710	17607	39317		8.64	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	248	0.52	266.16	0	229.86	114.93	0.43	No
SLV 6	239	0.52	266.16	0	230.85	115.42	0.43	No
SLV 9	-38	0.52	266.16	0	260.33	130.17	0.49	No
SLV 10	-47	0.52	266.16	0	261.28	130.64	0.49	No
SLV 1	-2063	0.52	266.16	0	454.24	227.12	0.85	No
SLV 2	-2076	0.52	266.16	0	455.48	227.74	0.86	No
SLV 13	-3017	0.52	266.16	0	540.7	270.35	1.02	Si
SLV 14	-3031	0.52	266.16	0	541.91	270.95	1.02	Si
SLD 5	-1373	0.22	110.13	0	390.51	195.26	1.77	Si
SLD 6	-1378	0.22	110.13	0	391.03	195.52	1.78	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-428	-7208	336	11.207	363.7	0.926	175.89304	9.45954	Si
SLV 15	-427	-7195	336	11.213	363.7	0.926	175.97699	9.45954	Si
SLV 4	-299	-6286	-335	11.921	357.1	0.94	184.22464	9.45954	Si
SLV 3	-298	-6273	-335	11.929	357	0.941	184.31107	9.45954	Si
SLV 14	-153	-4946	336	12.852	351.6	0.964	193.82521	9.45954	Si
SLV 13	-152	-4932	336	12.861	351.5	0.964	193.91119	9.45954	Si
SLV 2	-25	-4024	-336	13.801	349.3	0.993	201.98545	9.45954	Si
SLV 1	-24	-4010	-336	13.811	349.3	0.993	202.06543	9.45954	Si
SLV 12	-703	-9523	101	10.03	381.5	0.906	160.81121	7.25693	Si
SLV 11	-702	-9514	101	10.034	381.4	0.907	160.86218	7.25693	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.693	SLU 77	Si
V_SLU	10.267	SLU 35	Si
PF_SLV	0.057	SLV 5	No

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	5.658	SLV 11	Si
PFFP_SLV	0.432	SLV 5	No
R_SLV	18.594	SLV 16	Si

Maschio 228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	0.051	L7	L8	3.456	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	11.45	-1638.6	-10342	-0.0000205	0.0003743	0.0035	3.4556	15992.86	19763.27	19763.27	12.06	No	Si
SLU 38	13.55	3667.61	-5927	-0.000019	0.0003743	0.0035	3.4556	9624.83	10387.55	10387.55	2.83	No	Si
SLU 30	11.45	-1098.81	-10347	-0.0000191	0.0003743	0.0035	3.4556	15999.42	19770.41	19770.41	17.99	No	Si
SLU 30	13.55	3538.29	-5866	-0.0000185	0.0003743	0.0035	3.4556	9531.08	10290.63	10290.63	2.91	No	Si
SLU 27	11.45	-1157.97	-10527	-0.0000195	0.0003743	0.0035	3.4556	16244.76	20036.64	20036.64	17.3	No	Si
SLU 27	13.55	3524.83	-6060	-0.0000188	0.0003743	0.0035	3.4556	9826.38	10596.67	10596.67	3.01	No	Si
SLU 29	11.45	-1055.17	-10286	-0.0000189	0.0003743	0.0035	3.4556	15916.98	19680.49	19680.49	18.65	No	Si
SLU 29	13.55	3428.23	-5792	-0.0000181	0.0003743	0.0035	3.4556	9418.58	10174.61	10174.61	2.97	No	Si
SLU 34	11.45	-1565.5	-10000	-0.0000198	0.0003743	0.0035	3.4556	15524.73	19249.85	19249.85	12.3	No	Si
SLU 34	13.55	3361.55	-5627	-0.0000177	0.0003743	0.0035	3.4556	9167.07	9916.37	9916.37	2.95	No	Si
SLU 36	11.45	-1741.4	-10582	-0.0000212	0.0003743	0.0035	3.4556	16320.18	20118.07	20118.07	11.55	No	Si
SLU 36	13.55	3764.21	-6195	-0.0000197	0.0003743	0.0035	3.4556	10031.35	10810.4	10810.4	2.87	No	Si
SLU 42	11.45	-1767.74	-9958	-0.0000203	0.0003743	0.0035	3.4556	15466.46	19186.07	19186.07	10.85	No	Si
SLU 42	13.55	3343.6	-5604	-0.0000176	0.0003743	0.0035	3.4556	9132.14	9880.63	9880.63	2.96	No	Si
SLU 28	11.45	-1201.61	-10587	-0.0000197	0.0003743	0.0035	3.4556	16326.69	20125.09	20125.09	16.75	No	Si
SLU 28	13.55	3634.89	-6134	-0.0000192	0.0003743	0.0035	3.4556	9938.18	10713.12	10713.12	2.95	No	Si
SLU 37	11.45	-1594.96	-10281	-0.0000203	0.0003743	0.0035	3.4556	15910.41	19673.32	19673.32	12.33	No	Si
SLU 37	13.55	3557.55	-5853	-0.0000186	0.0003743	0.0035	3.4556	9512.49	10271.44	10271.44	2.89	No	Si
SLU 35	11.45	-1697.77	-10522	-0.000021	0.0003743	0.0035	3.4556	16238.24	20029.59	20029.59	11.8	No	Si
SLU 35	13.55	3654.15	-6122	-0.0000192	0.0003743	0.0035	3.4556	9919.71	10693.85	10693.85	2.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	11.45	6694	-6011	-0.0000349	0.0005615	0.0035	3.4556		10663.96	10663.96	1.59		Si
SLV 7	13.55	-9374.76	1897	0.0906964	0.0005615	0.0035	2.7645		0	0	0		No
SLD 12	11.45	3084.86	-6488	-0.0000181	0.0005615	0.0035	3.4556		11431.27	11431.27	3.71		Si
SLD 12	13.55	-4105.78	-528	-0.0004148	0.0005615	0.0035	2.7645		4279.7	4279.7	1.04		Si
SLD 7	11.45	3714.65	-7160	-0.0000209	0.0005615	0.0035	3.4556		12510.65	12510.65	3.37		Si
SLD 7	13.55	-4656.25	-726	-0.0004463	0.0005615	0.0035	2.7645		4613.54	4613.54	0.99		No
SLV 10	11.45	-7790.59	-11441	-0.0000391	0.0005615	0.0035	3.4556		21801.25	21801.25	2.8		Si
SLV 10	13.55	13498.27	-10714	-0.000085	0.0005615	0.0035	3.4556		18085.43	18085.43	1.34		Si
SLV 12	11.45	5705.34	-4964	-0.0000305	0.0005615	0.0035	3.4556		8960.31	8960.31	1.57		Si
SLV 12	13.55	-8509.56	2197	0.1042235	0.0005615	0.0035	2.7645		0	0	0		No
SLV 11	11.45	5807.3	-4998	-0.0000314	0.0005615	0.0035	3.4556		9015.59	9015.59	1.55		Si
SLV 11	13.55	-8531.28	2298	0.108869	0.0005615	0.0035	2.7645		0	0	0		No
SLD 11	11.45	3146.74	-6508	-0.0000183	0.0005615	0.0035	3.4556		11464.17	11464.17	3.64		Si
SLD 11	13.55	-4118.96	-467	-0.0004335	0.0005615	0.0035	2.7645		4176.25	4176.25	1.01		Si
SLV 9	11.45	-7688.62	-11475	-0.0000388	0.0005615	0.0035	3.4556		21852.17	21852.17	2.84		Si
SLV 9	13.55	13476.55	-10613	-0.0000861	0.0005615	0.0035	3.4556		17929.99	17929.99	1.33		Si
SLD 8	11.45	3652.78	-7139	-0.0000207	0.0005615	0.0035	3.4556		12477.6	12477.6	3.42		Si
SLD 8	13.55	-4643.07	-787	-0.0004302	0.0005615	0.0035	2.7645		4716.55	4716.55	1.02		Si
SLV 8	11.45	6592.04	-5977	-0.0000341	0.0005615	0.0035	3.4556		10609	10609	1.61		Si
SLV 8	13.55	-9353.03	1796	0.086047	0.0005615	0.0035	2.7645		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	11.45	-1585.6	-12724	-10595	-1769	3.4556	3.4556	-10950	8404	8896	35683	28974	8812	37785	No	21.36	Si
SLU 78	13.55	3984.91	-7091	-5905	-2812	3.4556	3.4556	-6103	7758	7507	35683	28974	8812	37785	No	13.44	Si
SLU 38	11.45	-1638.6	-10342	-8612	-1792	3.4556	3.4556	-8900	8131	8102	35683	28974	8812	37785	No	21.08	Si
SLU 38	13.55	3667.61	-5927	-4936	-2729	3.4556	3.3271	-5101	7625	7103	35683	28974	8812	37785	No	13.85	Si
SLU 35	11.45	-1697.77	-10522	-8762	-1845	3.4556	3.4556	-9055	8152	8162	35683	28974	8812	37785	No	20.48	Si
SLU 35	13.55	3654.15	-6122	-5098	-2753	3.4556	3.3927	-5268	7647	7264	35683	28974	8812	37785	No	13.73	Si
SLU 77	11.45	-1541.96	-12663	-10545	-1691	3.4556	3.4556	-10898	8398	8876	35683	28974	8812	37785	No	22.34	Si
SLU 77	13.55	3874.86	-7018	-5844	-2720	3.4556	3.4556	-6039	7750	7498	35683	28974	8812	37785	No	13.89	Si
SLU 84	11.45	-1611.94	-12099	-10075	-1649	3.4556	3.4556	-10413	8333	8688	35683	28974	8812	37785	No	22.92	Si
SLU 84	13.55	3564.3	-6500	-5413	-2631	3.4556	3.4556	-5594	7690	7441	35683	28974	8812	37785	No	14.36	Si
SLU 80	11.45	-1482.8	-12483	-10395	-1638	3.4556	3.4556	-10743	8377	8816	35683	28974	8812	37785	No	23.06	Si
SLU 80	13.55	3888.31	-6823	-5682	-2696	3.4556	3.4556	-5872	7727	7477	35683	28974	8812	37785	No	14.01	Si
SLU 37	11.45	-1594.96	-10281	-8562	-1715	3.4556	3.4556	-8848	8124	8082	35683	28974	8812	37785	No	22.03	Si
SLU 37	13.55	3557.55	-5853	-4874	-2636	3.4556	3.3601	-5037	7616	7165	35683	28974	8812	37785	No	14.33	Si
SLU 36	11.45	-1741.4	-10582	-8812	-1923	3.4556	3.4556	-9107	8159	8183	35683	28974	8812	37785	No	19.65	Si
SLU 36	13.55	3764.21	-6195	-5159	-2845	3.4556	3.3607	-5332	7655	7204	35683	28974	8812	37785	No	13.28	Si
SLU 42	11.45	-1767.74	-9958	-8292	-1803	3.4556	3.4556	-8570	8087	7975	35683	28974	8812	37785	No	20.96	Si
SLU 42	13.55	3343.6	-5604	-4667	-2663	3.4556	3.3936	-4823	7588	7210	35683	28974	8812	37785	No	14.19	Si
SLU 79	11.45	-1439.16	-12423	-10345	-1561	3.4556	3.4556	-10691	8370	8796	35683	28974	8812	37785	No	24.21	Si
SLU 79	13.55	3778.26	-6749	-5620	-2604	3.4556	3.4556	-5809	7719	7469	35683	28974	8812	37785	No	14.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	11.45	-7790.59	-11441	-9527	-12441	3.4556	3.1407	-10880	12593	11074	35683	43460	8812	46757		3.76	Si
SLV 10	13.55	13498.27	-10714	-8922	-12689	3.4556	1.4038	-9221	12261	10555	35683	43460	8812	46239		3.64	Si
SLV 11	11.45	5807.3	-4998	-4162	9755	3.4556	1.6979	-4302	11277	8652	35683	43460	8812	44335		4.55	Si
SLV 11	13.55	-8531.28	2298	1914	8689	2.7645	0	0	0	0	35683	34768	7049	35683		4.11	Si
SLV 8	11.45	6592.04	-5977	-4978	11054	3.4556	1.875	-5144	11446	8978	35683	43460	8812	44661		4.04	Si
SLV 8	13.55	-9353.03	1796	1496	10095	2.7645	0	0	0	0	35683	34768	7049	35683		3.53	Si
SLV 9	11.45	-7688.62	-11475	-9556	-12311	3.4556	3.1734	-10802	12577	11175	35683	43460	8812	46859		3.81	Si
SLV 9	13.55	13476.55	-10613	-8838	-12565	3.4556	1.3741	-9134	12243	10522	35683	43460	8812	46205		3.68	Si
SLV 6	11.45	-6903.89	-12454	-10371	-11011	3.4556	3.4556	-10719	12560	12153	35683	43460	8812	47836		4.34	Si
SLV 6	13.55	12654.8	-11115	-9256	-11159	3.4556	1.7678	-9566	12330	10689	35683	43460	8812	46372		4.16	Si
SLD 10	11.45	-4811.23	-10293	-8571	-7583	3.4556	3.4556	-8858	12188	11793	35683	43460	8812	47476		6.26	Si
SLD 10	13.55	8779.77	-8091	-6737	-7980	3.4556	1.928	-6963	11809	9682	35683	43460	8812	45365		5.68	Si
SLD 9	11.45	-4749.36	-10313	-8588	-7504	3.4556	3.4556	-8876	12192	11797	35683	43460	8812	47480		6.33	Si
SLD 9	13.55	8766.58	-8030	-6687	-7905	3.4556	1.9082	-6911	11799	9661	35683	43460	8812	45345		5.74	Si
SLV 5	11.45	-6801.92	-12488	-10399	-10881	3.4556	3.4556	-10748	12566	12159	35683	43460	8812	47842		4.4	Si
SLV 5	13.55	12633.07	-11014	-9172	-11036	3.4556	1.7425	-9479	12312	10655	35683	43460	8812	46339		4.2	Si
SLV 7	11.45	6694	-6011	-5006	11184	3.4556	1.8427	-5173	11451	8989	35683	43460	8812	44672		3.99	Si
SLV 7	13.55	-9374.76	1897	1580	10218	2.7645	0	0	0	0	35683	34768	7049	35683		3.49	Si
SLV 12	11.45	5705.34	-4964	-4134	9624	3.4556	1.7357	-4273	11271	8640	35683	43460	8812	44324		4.61	Si
SLV 12	13.55	-8509.56	2197	1830	8566	2.7645	0	0	0	0	35683	34768	7049	35683		4.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.52	0	487	401.78	0	0	No, Trazione
SLV 11	179667	0.52	0	1031	401.78	0	0	No, Trazione
SLV 8	179667	0.52	0	405	401.78	0	0	No, Trazione
SLV 16	179667	0.52	0	-2680	401.78	0	0	No, e>t/2
SLV 15	179667	0.52	0	-2560	401.78	0	0	No, e>t/2
SLV 12	179667	0.52	0	950	401.78	0	0	No, Trazione
SLV 3	179667	0.52	4521	-4375	401.78	594.34	1.48	Si
SLV 4	179667	0.52	4646	-4496	401.78	610.25	1.52	Si
SLV 13	179667	0.52	6407	-6199	401.78	831.46	2.07	Si
SLV 14	179667	0.52	6532	-6320	401.78	846.95	2.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1095	-11361	-517	4.999	608.8	0.907	80.05881	6.17968	Si
SLV 1	-1035	-11411	-517	5.077	604.6	0.91	81.12264	6.17968	Si
SLV 4	-795	-9418	-470	5.432	589	0.92	85.82381	6.17968	Si
SLV 3	-736	-9468	-470	5.524	585.4	0.923	86.97675	6.17968	Si
SLV 6	-1154	-12454	-226	4.998	613	0.906	80.21132	5.47312	Si
SLV 5	-1114	-12488	-226	5.05	610.1	0.907	80.92375	5.47312	Si
SLV 14	-293	-7984	470	6.324	564.5	0.958	95.91068	6.17968	Si
SLV 10	-913	-11441	70	5.367	596.5	0.914	85.31011	5.47312	Si
SLV 13	-233	-8035	470	6.45	562.7	0.965	97.1165	6.17968	Si
SLV 9	-873	-11475	70	5.426	593.9	0.916	86.08074	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.832	SLU 38	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	13.28	SLU 36	Si
PF_SLV	0	SLV 7	No
V_SLV	3.492	SLV 7	Si
PFFP_SLV	0	SLV 12	No
R_SLV	12.955	SLV 2	Si

Maschio 230

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L7	L8	2.015	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	12.35	-53.42	-4172	-0.0000115	0.0003743	0.0035	2.015	3897.68	20448.93	20448.93	382.78	No	Si
SLU 76	14.15	3864.05	-1553	-0.0002158	0.0003743	0.0035	2.015	0	18096.07	18096.07	4.68	No	Si
SLU 84	12.35	-93.25	-4024	-0.0000114	0.0003743	0.0035	2.015	3770.03	20332.12	20332.12	218.04	No	Si
SLU 84	14.15	3987.18	-1405	-0.0002373	0.0003743	0.0035	2.015	0	17912.09	17912.09	4.49	No	Si
SLU 75	12.35	-10.03	-4520	-0.0000121	0.0003743	0.0035	2.015	4195.6	20679.4	20679.4	2062.33	No	Si
SLU 75	14.15	3974.23	-1901	-0.0002033	0.0003743	0.0035	2.015	0	18524.23	18524.23	4.66	No	Si
SLU 77	12.35	5.26	-5076	-0.0000135	0.0003743	0.0035	2.015	4662.11	21006.12	21006.12	3993.69	No	Si
SLU 77	14.15	4199.15	-2457	-0.0001901	0.0003743	0.0035	2.015	0	19032.67	19032.67	4.53	No	Si
SLU 82	12.35	-102.31	-3524	-0.0000101	0.0003743	0.0035	2.015	3332.17	19931.29	19931.29	194.81	No	Si
SLU 82	14.15	3710.32	-904	-0.0002532	0.0003743	0.0035	2.015	0	17278.27	17278.27	4.66	No	Si
SLU 79	12.35	-33.98	-4765	-0.0000129	0.0003743	0.0035	2.015	4402.16	20830.25	20830.25	612.94	No	Si
SLU 79	14.15	4054.35	-2145	-0.0001957	0.0003743	0.0035	2.015	0	18765.88	18765.88	4.63	No	Si
SLU 74	12.35	-3.8	-4576	-0.0000122	0.0003743	0.0035	2.015	4242.73	20713.82	20713.82	5448.3	No	Si
SLU 74	14.15	3922.3	-1957	-0.0001956	0.0003743	0.0035	2.015	0	18591.83	18591.83	4.74	No	Si
SLU 80	12.35	-40.21	-4709	-0.0000128	0.0003743	0.0035	2.015	4355.4	20796.1	20796.1	517.19	No	Si
SLU 80	14.15	4106.28	-2090	-0.0002033	0.0003743	0.0035	2.015	0	18717.82	18717.82	4.56	No	Si
SLU 78	12.35	-0.97	-5020	-0.0000133	0.0003743	0.0035	2.015	4615.96	20986.44	20986.44	21736.89	No	Si
SLU 78	14.15	4251.08	-2401	-0.0001975	0.0003743	0.0035	2.015	0	18985.34	18985.34	4.47	No	Si
SLU 83	12.35	-87.02	-4079	-0.0000115	0.0003743	0.0035	2.015	3818.13	20376.13	20376.13	234.15	No	Si
SLU 83	14.15	3935.25	-1460	-0.0002286	0.0003743	0.0035	2.015	0	17981.45	17981.45	4.57	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	12.35	-553.81	3415	0.0050373	0.0005615	0.0035	1.612		0	0	0		No
SLV 6	14.15	8254.59	5439	0.0060411	0.0005615	0.0035	1.612		0	0	0		No
SLD 5	12.35	-457.23	1174	0.0015888	0.0005615	0.0035	1.612		4296.87	4296.87	9.4		Si
SLD 5	14.15	6393.17	3192	0.0032202	0.0005615	0.0035	1.612		0	0	0		No
SLD 10	12.35	-119.44	-341	-0.0000018	0.0005615	0.0035	2.015		16834.72	16834.72	140.94		Si
SLD 10	14.15	4454.78	1664	0.0014019	0.0005615	0.0035	1.612		0	0	0		No
SLV 9	12.35	-456.09	2295	0.0034192	0.0005615	0.0035	1.612		0	0	0		No
SLV 9	14.15	6901.86	4298	0.0047138	0.0005615	0.0035	1.612		0	0	0		No
SLD 1	12.35	-514.81	182	0.0001712	0.0005615	0.0035	1.612		15575.94	15575.94	30.26		Si
SLD 1	14.15	6052.63	2212	0.0018593	0.0005615	0.0035	1.612		0	0	0		No
SLV 10	12.35	-232.9	1652	0.0024912	0.0005615	0.0035	1.612		0	0	0		No
SLV 10	14.15	6035.65	3656	0.0039905	0.0005615	0.0035	1.612		0	0	0		No
SLD 6	12.35	-321.79	784	0.0010407	0.0005615	0.0035	1.612		9386.28	9386.28	29.17		Si
SLD 6	14.15	5867.51	2802	0.0027807	0.0005615	0.0035	1.612		0	0	0		No
SLV 5	12.35	-776.99	4057	0.0059216	0.0005615	0.0035	1.612		0	0	0		No
SLV 5	14.15	9120.8	6081	0.0067798	0.0005615	0.0035	1.612		0	0	0		No
SLV 2	12.35	-506.45	1197	0.0016149	0.0005615	0.0035	1.612		3984.7	3984.7	7.87		Si
SLV 2	14.15	6991.02	3239	0.0031398	0.0005615	0.0035	1.612		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	12.35	-254.88	49	0.0000282	0.0005615	0.0035	1.612		15901.72	15901.72	62.39		Si
SLD 9	14.15	4980.44	2053	0.0018916	0.0005615	0.0035	1.612		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	12.35	-87.02	-4079	-3397	-2190	2.015	2.015	-6021	7747	4371	15978	16895	5138	20349	No	9.29	Si
SLU 83	14.15	3935.25	-1460	-1216	-2190	2.015	0	-18820	10833	2135	15978	16895	5138	18113	No	8.27	Si
SLU 36	12.35	-36.5	-4222	-3516	-2120	2.015	2.015	-6232	7775	4387	15978	16895	5138	20365	No	9.61	Si
SLU 36	14.15	3842.1	-2186	-1820	-2120	2.015	0	-21293	10833	2296	15978	16895	5138	18274	No	8.62	Si
SLU 78	12.35	-0.97	-5020	-4181	-2317	2.015	2.015	-7410	7932	4475	15978	16895	5138	20454	No	8.83	Si
SLU 78	14.15	4251.08	-2401	-2000	-2317	2.015	0	-23404	10833	2344	15978	16895	5138	18322	No	7.91	Si
SLU 84	12.35	-93.25	-4024	-3351	-2222	2.015	2.015	-5939	7736	4365	15978	16895	5138	20343	No	9.15	Si
SLU 84	14.15	3987.18	-1405	-1170	-2222	2.015	0	0	10833	2123	15978	16895	5138	18101	No	8.15	Si
SLU 76	12.35	-53.42	-4172	-3474	-2132	2.015	2.015	-6157	7765	4381	15978	16895	5138	20359	No	9.55	Si
SLU 76	14.15	3864.05	-1553	-1293	-2132	2.015	0	-19024	10833	2155	15978	16895	5138	18134	No	8.51	Si
SLU 80	12.35	-40.21	-4709	-3921	-2259	2.015	2.015	-6950	7871	4441	15978	16895	5138	20419	No	9.04	Si
SLU 80	14.15	4106.28	-2090	-1740	-2259	2.015	0	-21919	10833	2275	15978	16895	5138	18253	No	8.08	Si
SLU 75	12.35	-10.03	-4520	-3764	-2169	2.015	2.015	-6671	7834	4420	15978	16895	5138	20398	No	9.41	Si
SLU 75	14.15	3974.23	-1901	-1583	-2169	2.015	0	-20800	10833	2233	15978	16895	5138	18211	No	8.4	Si
SLU 77	12.35	5.26	-5076	-4227	-2285	2.015	2.015	-7492	7943	4482	15978	16895	5138	20460	No	8.95	Si
SLU 77	14.15	4199.15	-2457	-2046	-2285	2.015	0	-23360	10833	2356	15978	16895	5138	18334	No	8.02	Si
SLU 74	12.35	-3.8	-4576	-3810	-2136	2.015	2.015	-6753	7845	4426	15978	16895	5138	20404	No	9.55	Si
SLU 74	14.15	3922.3	-1957	-1629	-2136	2.015	0	-20841	10833	2245	15978	16895	5138	18223	No	8.53	Si
SLU 79	12.35	-33.98	-4765	-3968	-2226	2.015	2.015	-7032	7882	4447	15978	16895	5138	20425	No	9.17	Si
SLU 79	14.15	4054.35	-2145	-1787	-2226	2.015	0	-21932	10833	2287	15978	16895	5138	18265	No	8.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	12.35	-553.81	3415	2844	-4926	1.612	2.015	0	0	0	15978	20274	4111	15978		3.24	Si
SLV 6	14.15	8254.59	5439	4529	-4896	1.612	0	0	0	0	15978	20274	4111	15978		3.26	Si
SLD 5	12.35	-457.23	1174	977	-3814	1.612	1.8537	0	0	0	15978	20274	4111	15978		4.19	Si
SLD 5	14.15	6393.17	3192	2658	-3799	1.612	0	0	0	0	15978	20274	4111	15978		4.21	Si
SLD 1	12.35	-514.81	182	152	-3766	1.612	0	0	0	0	15978	20274	4111	15978		4.24	Si
SLD 1	14.15	6052.63	2212	1842	-3559	1.612	0	0	0	0	15978	20274	4111	15978		4.49	Si
SLV 10	12.35	-232.9	1652	1376	-3371	1.612	2.015	0	0	0	15978	20274	4111	15978		4.74	Si
SLV 10	14.15	6035.65	3656	3044	-3552	1.612	0	0	0	0	15978	20274	4111	15978		4.5	Si
SLD 2	12.35	-304.48	-423	-352	-3195	2.015	0.8628	-1332	10689	2810	15978	25342	5138	18788		5.88	Si
SLD 2	14.15	5236.28	1607	1338	-2988	1.612	0	0	0	0	15978	20274	4111	15978		5.35	Si
SLV 2	12.35	-506.45	1197	997	-4370	1.612	1.7535	0	0	0	15978	20274	4111	15978		3.66	Si
SLV 2	14.15	6991.02	3239	2697	-4041	1.612	0	0	0	0	15978	20274	4111	15978		3.95	Si
SLV 9	12.35	-456.09	2295	1911	-3976	1.612	2.015	0	0	0	15978	20274	4111	15978		4.02	Si
SLV 9	14.15	6901.86	4298	3579	-4157	1.612	0	0	0	0	15978	20274	4111	15978		3.84	Si
SLV 1	12.35	-837.99	2152	1792	-5269	1.612	1.8541	0	0	0	15978	20274	4111	15978		3.03	Si
SLV 1	14.15	8277.81	4194	3492	-4940	1.612	0	0	0	0	15978	20274	4111	15978		3.23	Si
SLV 5	12.35	-776.99	4057	3379	-5531	1.612	2.015	0	0	0	15978	20274	4111	15978		2.89	Si
SLV 5	14.15	9120.8	6081	5064	-5502	1.612	0	0	0	0	15978	20274	4111	15978		2.9	Si
SLD 6	12.35	-321.79	784	653	-3447	1.612	1.7908	0	0	0	15978	20274	4111	15978		4.64	Si
SLD 6	14.15	5867.51	2802	2333	-3432	1.612	0	0	0	0	15978	20274	4111	15978		4.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.52	0	-679	228.39	0	0	No, e>t/2
SLV 5	179667	0.52	0	4764	228.39	0	0	No, Trazione
SLV 9	179667	0.52	0	3008	228.39	0	0	No, Trazione
SLV 6	179667	0.52	0	4121	228.39	0	0	No, Trazione
SLV 10	179667	0.52	0	2366	228.39	0	0	No, Trazione
SLV 2	179667	0.52	0	1896	228.39	0	0	No, Trazione
SLV 1	179667	0.52	0	2850	228.39	0	0	No, Trazione
SLV 4	179667	0.52	2895	-1633	228.39	224.31	0.98	No, M>Mu
SLV 13	179667	0.52	5321	-3002	228.39	405.63	1.78	Si
SLV 14	179667	0.52	7012	-3956	228.39	528.45	2.31	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-4259	-6356	50	1.98	691.6	0.91	31.634	6.17968	Si
SLV 12	-4862	-8234	86	1.794	751.7	0.915	28.49618	5.47312	Si
SLV 11	-4563	-8049	77	1.88	721.9	0.912	29.94854	5.47312	Si
SLV 15	-3815	-6081	36	2.141	647.5	0.906	34.36078	6.17968	Si
SLV 8	-4089	-7596	82	2.032	674.7	0.908	32.52258	5.47312	Si
SLV 7	-3790	-7411	73	2.144	645.1	0.906	34.41673	5.47312	Si
SLV 14	-2905	-4069	12	2.57	558.3	0.897	41.62518	6.17968	Si
SLV 13	-2461	-3794	-1	2.849	515.5	0.893	46.34264	6.17968	Si
SLV 4	-1680	-4228	35	3.507	442.1	0.889	57.33019	6.17968	Si
SLV 3	-1236	-3953	21	4.054	402.6	0.891	66.15559	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.466	SLU 78	Si
V_SLU	7.906	SLU 78	Si
PF_SLV	0	SLD 1	No
V_SLV	2.889	SLV 5	Si
PFFP_SLV	0	SLV 10	No
R_SLV	5.119	SLV 16	Si

Maschio 231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L7	L8	4.025	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	12.35	-1845.37	-15985	-0.0000253	0.0003743	0.0035	4.025	27688.75	33433.82	33433.82	18.12	No	Si
SLU 35	14.15	-297.45	-12119	-0.0000168	0.0003743	0.0035	4.025	21813.13	27047.25	27047.25	90.93	No	Si
SLU 42	12.35	-1670.87	-13514	-0.0000215	0.0003743	0.0035	4.025	23993.02	29360.16	29360.16	17.57	No	Si
SLU 42	14.15	-38.11	-9647	-0.0000129	0.0003743	0.0035	4.025	17782.13	22767.54	22767.54	597.47	No	Si
SLU 41	12.35	-1653.17	-13524	-0.0000214	0.0003743	0.0035	4.025	24009.6	29377.93	29377.93	17.77	No	Si
SLU 41	14.15	-45.76	-9658	-0.0000129	0.0003743	0.0035	4.025	17800.18	22785.86	22785.86	497.98	No	Si
SLU 84	12.35	-1851.88	-15849	-0.0000251	0.0003743	0.0035	4.025	27489.67	33220.3	33220.3	17.94	No	Si
SLU 84	14.15	-44.17	-10877	-0.0000146	0.0003743	0.0035	4.025	19815.19	24875.62	24875.62	563.24	No	Si
SLU 36	12.35	-1863.06	-15975	-0.0000253	0.0003743	0.0035	4.025	27673.09	33416.99	33416.99	17.94	No	Si
SLU 36	14.15	-289.8	-12108	-0.0000167	0.0003743	0.0035	4.025	21796.02	27028.23	27028.23	93.27	No	Si
SLU 38	12.35	-1872.89	-15176	-0.0000242	0.0003743	0.0035	4.025	26501.72	32139.49	32139.49	17.16	No	Si
SLU 38	14.15	-330.58	-11309	-0.0000157	0.0003743	0.0035	4.025	20516.28	25626.74	25626.74	77.52	No	Si
SLU 34	12.35	-1626.69	-13522	-0.0000214	0.0003743	0.0035	4.025	24005.53	29373.56	29373.56	18.06	No	Si
SLU 34	14.15	-74.89	-9655	-0.000013	0.0003743	0.0035	4.025	17795.74	22781.36	22781.36	304.18	No	Si
SLU 80	12.35	-2053.9	-17511	-0.0000278	0.0003743	0.0035	4.025	29862.23	35842.62	35842.62	17.45	No	Si
SLU 80	14.15	-336.63	-12539	-0.0000174	0.0003743	0.0035	4.025	22477.61	27766.38	27766.38	82.48	No	Si
SLU 79	12.35	-2036.2	-17521	-0.0000278	0.0003743	0.0035	4.025	29877.3	35859.89	35859.89	17.61	No	Si
SLU 79	14.15	-344.28	-12550	-0.0000175	0.0003743	0.0035	4.025	22494.57	27783.9	27783.9	80.7	No	Si
SLU 37	12.35	-1855.19	-15186	-0.0000242	0.0003743	0.0035	4.025	26517.68	32157.73	32157.73	17.33	No	Si
SLU 37	14.15	-338.23	-11320	-0.0000158	0.0003743	0.0035	4.025	20533.7	25645.55	25645.55	75.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	12.35	-4824.82	-11122	-0.0000242	0.0005615	0.0035	4.025		25743.71	25743.71	5.34		Si
SLD 3	14.15	2676.39	-7308	-0.0000149	0.0005615	0.0035	4.025		15023.14	15023.14	5.61		Si
SLD 1	12.35	-5524.05	-10764	-0.0000251	0.0005615	0.0035	4.025		25084.69	25084.69	4.54		Si
SLD 1	14.15	2987.72	-6971	-0.000015	0.0005615	0.0035	4.025		14388.41	14388.41	4.82		Si
SLV 2	12.35	-6022.83	-10754	-0.0000261	0.0005615	0.0035	4.025		25067.32	25067.32	4.16		Si
SLV 2	14.15	3388.44	-6971	-0.0000158	0.0005615	0.0035	4.025		14387.04	14387.04	4.25		Si
SLV 4	12.35	-4837.61	-11364	-0.0000246	0.0005615	0.0035	4.025		26190.56	26190.56	5.41		Si
SLV 4	14.15	2857.17	-7545	-0.0000155	0.0005615	0.0035	4.025		15465.58	15465.58	5.41		Si
SLV 15	12.35	3934.5	-10319	-0.0000214	0.0005615	0.0035	4.025		20604.62	20604.62	5.24		Si
SLV 15	14.15	-3259.11	-6492	-0.0000149	0.0005615	0.0035	4.025		17227.81	17227.81	5.29		Si
SLV 5	12.35	-5373.09	-9732	-0.0000234	0.0005615	0.0035	4.025		23195.96	23195.96	4.32		Si
SLV 5	14.15	2497.94	-5988	-0.0000127	0.0005615	0.0035	4.025		12526.07	12526.07	5.01		Si
SLV 14	12.35	4882	-9596	-0.0000223	0.0005615	0.0035	4.025		19276.18	19276.18	3.95		Si
SLV 14	14.15	-4023.43	-5804	-0.0000155	0.0005615	0.0035	4.025		15928.27	15928.27	3.96		Si
SLV 16	12.35	6067.22	-10206	-0.0000255	0.0005615	0.0035	4.025		20397.61	20397.61	3.36		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	14.15	-4554.69	-6379	-0.0000173	0.0005615	0.0035	4.025		17013.77	17013.77	3.74		Si
SLV 3	12.35	-6970.34	-11477	-0.000029	0.0005615	0.0035	4.025		26400.34	26400.34	3.79		Si
SLV 3	14.15	4152.75	-7658	-0.0000182	0.0005615	0.0035	4.025		15677.51	15677.51	3.78		Si
SLV 1	12.35	-8155.56	-10868	-0.0000306	0.0005615	0.0035	4.025		25275.99	25275.99	3.1		Si
SLV 1	14.15	4684.01	-7084	-0.0000185	0.0005615	0.0035	4.025		14601.27	14601.27	3.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	12.35	-1807.7	-15857	-13204	-979	4.025	4.025	-11716	8507	10707	35683	33747	10264	44011	No	44.97	Si
SLU 76	14.15	-80.95	-10885	-9064	-979	4.025	4.025	-8043	8017	9051	35683	33747	10264	44011	No	44.97	Si
SLU 78	12.35	-2044.07	-18310	-15247	-991	4.025	4.025	-13529	8748	11524	35683	33747	10264	44011	No	44.43	Si
SLU 78	14.15	-295.86	-13338	-11107	-991	4.025	4.025	-9855	8258	9868	35683	33747	10264	44011	No	44.43	Si
SLU 84	12.35	-1851.88	-15849	-13197	-1024	4.025	4.025	-11710	8506	10704	35683	33747	10264	44011	No	42.99	Si
SLU 84	14.15	-44.17	-10877	-9058	-1024	4.025	4.025	-8037	8016	9048	35683	33747	10264	44011	No	42.99	Si
SLU 83	12.35	-1834.18	-15859	-13206	-1010	4.025	4.025	-11718	8507	10708	35683	33747	10264	44011	No	43.59	Si
SLU 83	14.15	-51.81	-10888	-9067	-1010	4.025	4.025	-8045	8017	9052	35683	33747	10264	44011	No	43.59	Si
SLU 81	12.35	-1576.19	-14212	-11835	-1006	4.025	4.025	-10501	8345	10159	35683	33747	10264	44011	No	43.77	Si
SLU 81	14.15	198.77	-9241	-7695	-1006	4.025	4.025	-6828	7855	8852	35683	33747	10264	44011	No	43.77	Si
SLU 80	12.35	-2053.9	-17511	-14581	-973	4.025	4.025	-12938	8670	11258	35683	33747	10264	44011	No	45.21	Si
SLU 80	14.15	-336.63	-12539	-10442	-973	4.025	4.025	-9265	8180	9602	35683	33747	10264	44011	No	45.21	Si
SLU 77	12.35	-2026.38	-18320	-15256	-977	4.025	4.025	-13537	8749	11527	35683	33747	10264	44011	No	45.07	Si
SLU 77	14.15	-303.51	-13349	-11116	-977	4.025	4.025	-9863	8260	9872	35683	33747	10264	44011	No	45.07	Si
SLU 82	12.35	-1593.88	-14202	-11826	-1020	4.025	4.025	-10493	8344	10156	35683	33747	10264	44011	No	43.17	Si
SLU 82	14.15	206.42	-9230	-7686	-1020	4.025	4.025	-6820	7854	8851	35683	33747	10264	44011	No	43.17	Si
SLU 73	12.35	-1549.7	-14210	-11833	-975	4.025	4.025	-10499	8344	10158	35683	33747	10264	44011	No	45.16	Si
SLU 73	14.15	169.63	-9238	-7693	-975	4.025	4.025	-6826	7855	8852	35683	33747	10264	44011	No	45.16	Si
SLU 75	12.35	-1786.08	-16663	-13875	-987	4.025	4.025	-12312	8586	10975	35683	33747	10264	44011	No	44.61	Si
SLU 75	14.15	-45.28	-11691	-9736	-987	4.025	4.025	-8639	8096	9319	35683	33747	10264	44011	No	44.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	12.35	-5373.09	-9732	-8104	-4480	4.025	4.025	-7191	11855	13360	35683	50621	10264	49044		10.95	Si
SLV 5	14.15	2497.94	-5988	-4986	-4211	4.025	4.025	-4424	11301	12737	35683	50621	10264	48420		11.5	Si
SLV 15	12.35	3934.5	-10319	-8593	4482	4.025	4.025	-7625	11942	13458	35683	50621	10264	49141		10.97	Si
SLV 15	14.15	-3259.11	-6492	-5406	3544	4.025	4.025	-4797	11376	12821	35683	50621	10264	48504		13.69	Si
SLV 3	12.35	-6970.34	-11477	-9557	-6732	4.025	4.025	-8480	12113	13651	35683	50621	10264	49334		7.33	Si
SLV 3	14.15	4152.75	-7658	-6377	-5787	4.025	4.025	-5659	11548	13015	35683	50621	10264	48698		8.42	Si
SLV 2	12.35	-6022.83	-10754	-8955	-5744	4.025	4.025	-7946	12006	13531	35683	50621	10264	49214		8.57	Si
SLV 2	14.15	3388.44	-6971	-5805	-4806	4.025	4.025	-5150	11447	12901	35683	50621	10264	48584		10.11	Si
SLV 4	12.35	-4837.61	-11364	-9463	-4828	4.025	4.025	-8396	12096	13632	35683	50621	10264	49315		10.21	Si
SLV 4	14.15	2857.17	-7545	-6283	-3882	4.025	4.025	-5575	11532	12996	35683	50621	10264	48679		12.54	Si
SLV 16	12.35	6067.22	-10206	-8498	6386	4.025	4.025	-7541	11925	13439	35683	50621	10264	49122		7.69	Si
SLV 16	14.15	-4554.69	-6379	-5311	5448	4.025	3.8953	-4879	11393	12426	35683	50621	10264	48109		8.83	Si
SLV 14	12.35	4882	-9596	-7991	5471	4.025	4.025	-7090	11835	13338	35683	50621	10264	49021		8.96	Si
SLV 14	14.15	-4023.43	-5804	-4833	4525	4.025	3.958	-4289	11274	12495	35683	50621	10264	48178		10.65	Si
SLD 1	12.35	-5524.05	-10764	-8963	-5063	4.025	4.025	-7953	12007	13532	35683	50621	10264	49215		9.72	Si
SLD 1	14.15	2987.72	-6971	-5805	-4466	4.025	4.025	-5151	11447	12901	35683	50621	10264	48584		10.88	Si
SLV 1	12.35	-8155.56	-10868	-9050	-7648	4.025	3.7862	-8568	12130	12860	35683	50621	10264	48543		6.35	Si
SLV 1	14.15	4684.01	-7084	-5899	-6710	4.025	4.025	-5234	11464	12919	35683	50621	10264	48603		7.24	Si
SLD 3	12.35	-4824.82	-11122	-9261	-4525	4.025	4.025	-8218	12060	13592	35683	50621	10264	49275		10.89	Si
SLD 3	14.15	2676.39	-7308	-6086	-3923	4.025	4.025	-5400	11497	12957	35683	50621	10264	48640		12.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	7266	-8189	456.2	1091.93	2.39	Si
SLV 9	179667	0.52	7334	-8266	456.2	1101.61	2.41	Si
SLV 14	179667	0.52	7478	-8427	456.2	1122.05	2.46	Si
SLV 13	179667	0.52	7578	-8541	456.2	1136.38	2.49	Si
SLV 6	179667	0.52	7584	-8547	456.2	1137.11	2.49	Si
SLV 5	179667	0.52	7651	-8623	456.2	1146.74	2.51	Si
SLV 16	179667	0.52	7990	-9005	456.2	1194.72	2.62	Si
SLV 15	179667	0.52	8091	-9118	456.2	1208.94	2.65	Si
SLV 2	179667	0.52	8535	-9619	456.2	1271.39	2.79	Si
SLV 1	179667	0.52	8636	-9732	456.2	1285.5	2.82	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-5275	-13317	-370	2.687	1064.1	0.895	43.63461	6.17968	Si
SLV 4	-5235	-13145	-371	2.699	1060.2	0.895	43.84675	6.17968	Si
SLV 1	-5128	-11818	424	2.727	1049.9	0.894	44.3197	6.17968	Si
SLV 2	-5087	-11646	424	2.74	1046.1	0.894	44.53918	6.17968	Si
SLV 15	-4887	-11003	-423	2.807	1026.8	0.893	45.67357	6.17968	Si
SLV 16	-4847	-10831	-423	2.821	1023	0.893	45.90547	6.17968	Si
SLV 13	-4740	-9504	372	2.865	1012.7	0.893	46.64165	6.17968	Si
SLV 14	-4700	-9332	372	2.879	1008.9	0.892	46.88298	6.17968	Si
SLV 7	-5304	-14228	-1316	2.566	1066.9	0.895	41.67307	5.47312	Si
SLV 8	-5277	-14112	-1316	2.574	1064.3	0.895	41.8087	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.16	SLU 38	Si
V_SLU	42.992	SLU 84	Si
PF_SLV	3.099	SLV 1	Si
V_SLV	6.347	SLV 1	Si
PFFP_SLV	2.394	SLV 10	Si
R_SLV	7.061	SLV 3	Si

Maschio 232

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L7	L8	4.005	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 62	12.35	-1080.74	-12534	-0.000019	0.0003743	0.0035	4.005	22343.64	27613.72	27613.72	25.55	No	Si
SLU 62	14.15	-32.11	-7672	-0.0000103	0.0003743	0.0035	4.005	14330.63	19115.16	19115.16	595.28	No	Si
SLU 52	12.35	-1028.6	-11369	-0.0000173	0.0003743	0.0035	4.005	20498.59	25601.44	25601.44	24.89	No	Si
SLU 52	14.15	252.26	-6507	-0.0000091	0.0003743	0.0035	4.005	12286.83	13267.55	13267.55	52.6	No	Si
SLU 44	12.35	-1019.77	-11397	-0.0000173	0.0003743	0.0035	4.005	20544.18	25650.84	25650.84	25.15	No	Si
SLU 44	14.15	264.49	-6535	-0.0000092	0.0003743	0.0035	4.005	12337.26	13319.52	13319.52	50.36	No	Si
SLU 64	12.35	-1151.82	-13174	-0.0000201	0.0003743	0.0035	4.005	23337.06	28653.32	28653.32	24.88	No	Si
SLU 64	14.15	245.09	-8227	-0.0000114	0.0003743	0.0035	4.005	15286.67	16383.57	16383.57	66.85	No	Si
SLU 18	12.35	-855.32	-9197	-0.000014	0.0003743	0.0035	4.005	16933.7	21869.77	21869.77	25.57	No	Si
SLU 18	14.15	189.94	-5435	-0.0000076	0.0003743	0.0035	4.005	10364.8	11290.14	11290.14	59.44	No	Si
SLU 81	12.35	-1164.43	-13133	-0.00002	0.0003743	0.0035	4.005	23274.46	28587.09	28587.09	24.55	No	Si
SLU 81	14.15	227.6	-8186	-0.0000114	0.0003743	0.0035	4.005	15217.03	16310.58	16310.58	71.66	No	Si
SLU 61	12.35	-1050.93	-11358	-0.0000173	0.0003743	0.0035	4.005	20481.84	25583.29	25583.29	24.34	No	Si
SLU 61	14.15	254.2	-6496	-0.0000091	0.0003743	0.0035	4.005	12268.3	13248.45	13248.45	52.12	No	Si
SLU 60	12.35	-1078.75	-11361	-0.0000174	0.0003743	0.0035	4.005	20486.03	25587.83	25587.83	23.72	No	Si
SLU 60	14.15	264.98	-6499	-0.0000091	0.0003743	0.0035	4.005	12272.93	13253.22	13253.22	50.02	No	Si
SLU 43	12.35	-1066.14	-11401	-0.0000174	0.0003743	0.0035	4.005	20551.15	25658.4	25658.4	24.07	No	Si
SLU 43	14.15	282.46	-6539	-0.0000092	0.0003743	0.0035	4.005	12344.98	13327.47	13327.47	47.18	No	Si
SLU 82	12.35	-1136.61	-13131	-0.00002	0.0003743	0.0035	4.005	23270.44	28582.83	28582.83	25.15	No	Si
SLU 82	14.15	216.82	-8183	-0.0000113	0.0003743	0.0035	4.005	15212.55	16305.88	16305.88	75.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	12.35	-4930.71	-9244	-0.0000221	0.0005615	0.0035	4.005		22197.51	22197.51	4.5		Si
SLD 3	14.15	2901.69	-5431	-0.0000129	0.0005615	0.0035	4.005		11400.92	11400.92	3.93		Si
SLV 16	12.35	4277.19	-10655	-0.0000227	0.0005615	0.0035	4.005		21097.76	21097.76	4.93		Si
SLV 16	14.15	-3585.81	-6911	-0.0000162	0.0005615	0.0035	4.005		17933.36	17933.36	5		Si
SLD 4	12.35	-3751.13	-9373	-0.0000199	0.0005615	0.0035	4.005		22431.16	22431.16	5.98		Si
SLD 4	14.15	2164.05	-5560	-0.0000116	0.0005615	0.0035	4.005		11645.59	11645.59	5.38		Si
SLV 4	12.35	-5473.76	-9177	-0.000023	0.0005615	0.0035	4.005		22075.43	22075.43	4.03		Si
SLV 4	14.15	3311.74	-5346	-0.0000136	0.0005615	0.0035	4.005		11239	11239	3.39		Si
SLV 14	12.35	5593.68	-10499	-0.0000251	0.0005615	0.0035	4.005		20815.85	20815.85	3.72		Si
SLV 14	14.15	-4087.97	-6756	-0.000017	0.0005615	0.0035	4.005		17642.48	17642.48	4.32		Si
SLD 1	12.35	-4160.87	-9153	-0.0000204	0.0005615	0.0035	4.005		22032.95	22032.95	5.3		Si
SLD 1	14.15	2607.18	-5340	-0.0000122	0.0005615	0.0035	4.005		11228.21	11228.21	4.31		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	12.35	-4157.27	-9021	-0.0000202	0.0005615	0.0035	4.005		21794.24	21794.24	5.24		Si
SLV 2	14.15	2809.59	-5190	-0.0000124	0.0005615	0.0035	4.005		10942.11	10942.11	3.89		Si
SLV 3	12.35	-7333.09	-8973	-0.0000269	0.0005615	0.0035	4.005		21708.06	21708.06	2.96		Si
SLV 3	14.15	4474.46	-5142	-0.000016	0.0005615	0.0035	4.005		10850.37	10850.37	2.42		Si
SLV 7	12.35	-5152.31	-9705	-0.0000231	0.0005615	0.0035	4.005		23033.73	23033.73	4.47		Si
SLV 7	14.15	2456.14	-5905	-0.0000126	0.0005615	0.0035	4.005		12298.19	12298.19	5.01		Si
SLV 1	12.35	-6016.6	-8818	-0.0000236	0.0005615	0.0035	4.005		21427.63	21427.63	3.56		Si
SLV 1	14.15	3972.3	-4987	-0.0000145	0.0005615	0.0035	4.005		10553.87	10553.87	2.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	12.35	-1028.6	-11369	-9467	-720	4.005	4.005	-8442	8070	9185	35683	33580	10213	43792	No	60.78	Si
SLU 52	14.15	252.26	-6507	-5418	-720	4.005	4.005	-4832	7589	8510	35683	33580	10213	43792	No	60.78	Si
SLU 82	12.35	-1136.61	-13131	-10934	-761	4.005	4.005	-9751	8245	9772	35683	33580	10213	43792	No	57.56	Si
SLU 82	14.15	216.82	-8183	-6814	-761	4.005	4.005	-6077	7755	8696	35683	33580	10213	43792	No	57.56	Si
SLU 73	12.35	-1114.28	-13141	-10943	-747	4.005	4.005	-9758	8246	9775	35683	33580	10213	43792	No	58.6	Si
SLU 73	14.15	214.88	-8194	-6823	-747	4.005	4.005	-6084	7756	8697	35683	33580	10213	43792	No	58.6	Si
SLU 44	12.35	-1019.77	-11397	-9490	-722	4.005	4.005	-8463	8073	9194	35683	33580	10213	43792	No	60.62	Si
SLU 44	14.15	264.49	-6535	-5442	-722	4.005	4.005	-4853	7591	8513	35683	33580	10213	43792	No	60.62	Si
SLU 43	12.35	-1066.14	-11401	-9494	-758	4.005	4.005	-8466	8073	9196	35683	33580	10213	43792	No	57.77	Si
SLU 43	14.15	282.46	-6539	-5445	-758	4.005	4.005	-4856	7592	8514	35683	33580	10213	43792	No	57.77	Si
SLU 65	12.35	-1105.45	-13170	-10967	-749	4.005	4.005	-9779	8248	9785	35683	33580	10213	43792	No	58.45	Si
SLU 65	14.15	227.12	-8222	-6847	-749	4.005	4.005	-6106	7759	8700	35683	33580	10213	43792	No	58.45	Si
SLU 61	12.35	-1050.93	-11358	-9458	-734	4.005	4.005	-8434	8069	9181	35683	33580	10213	43792	No	59.67	Si
SLU 61	14.15	254.2	-6496	-5409	-734	4.005	4.005	-4824	7588	8509	35683	33580	10213	43792	No	59.67	Si
SLU 64	12.35	-1151.82	-13174	-10970	-785	4.005	4.005	-9783	8249	9786	35683	33580	10213	43792	No	55.79	Si
SLU 64	14.15	245.09	-8227	-6850	-785	4.005	4.005	-6109	7759	8701	35683	33580	10213	43792	No	55.79	Si
SLU 81	12.35	-1164.43	-13133	-10936	-782	4.005	4.005	-9752	8245	9773	35683	33580	10213	43792	No	55.98	Si
SLU 81	14.15	227.6	-8186	-6817	-782	4.005	4.005	-6079	7755	8696	35683	33580	10213	43792	No	55.98	Si
SLU 60	12.35	-1078.75	-11361	-9460	-755	4.005	4.005	-8436	8069	9182	35683	33580	10213	43792	No	57.97	Si
SLU 60	14.15	264.98	-6499	-5412	-755	4.005	4.005	-4826	7588	8509	35683	33580	10213	43792	No	57.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	12.35	-4930.71	-9244	-7698	-4671	4.005	4.005	-6864	11790	13221	35683	50370	10213	48904		10.47	Si
SLD 3	14.15	2901.69	-5431	-4522	-4077	4.005	4.005	-4033	11223	12586	35683	50370	10213	48269		11.84	Si
SLV 1	12.35	-6016.6	-8818	-7343	-6047	4.005	3.9605	-6548	11726	13004	35683	50370	10213	48687		8.05	Si
SLV 1	14.15	3972.3	-4987	-4153	-5116	4.005	3.6179	-3703	11157	11303	35683	50370	10213	46986		9.18	Si
SLV 3	12.35	-7333.09	-8973	-7472	-7057	4.005	3.5559	-7530	11923	11871	35683	50370	10213	47554		6.74	Si
SLV 3	14.15	4474.46	-5142	-4282	-6124	4.005	3.3972	-3819	11180	10635	35683	50370	10213	46318		7.56	Si
SLV 2	12.35	-4157.27	-9021	-7512	-4369	4.005	4.005	-6699	11756	13184	35683	50370	10213	48867		11.19	Si
SLV 2	14.15	2809.59	-5190	-4322	-3437	4.005	4.005	-3854	11188	12546	35683	50370	10213	48229		14.03	Si
SLV 14	12.35	5593.68	-10499	-8743	5862	4.005	4.005	-7796	11976	13430	35683	50370	10213	49113		8.38	Si
SLV 14	14.15	-4087.97	-6756	-5626	4929	4.005	4.005	-5017	11420	12806	35683	50370	10213	48490		9.84	Si
SLV 16	12.35	4277.19	-10655	-8872	4853	4.005	4.005	-7912	11999	13456	35683	50370	10213	49139		10.13	Si
SLV 16	14.15	-3585.81	-6911	-5755	3922	4.005	4.005	-5132	11443	12832	35683	50370	10213	48515		12.37	Si
SLD 1	12.35	-4160.87	-9153	-7622	-4081	4.005	4.005	-6797	11776	13206	35683	50370	10213	48889		11.98	Si
SLD 1	14.15	2607.18	-5340	-4447	-3488	4.005	4.005	-3965	11210	12571	35683	50370	10213	48254		13.84	Si
SLV 7	12.35	-5152.31	-9705	-8082	-4379	4.005	4.005	-7207	11858	13298	35683	50370	10213	48981		11.18	Si
SLV 7	14.15	2456.14	-5905	-4917	-4097	4.005	4.005	-4385	11294	12665	35683	50370	10213	48348		11.8	Si
SLV 13	12.35	3734.35	-10296	-8573	4183	4.005	4.005	-7645	11946	13396	35683	50370	10213	49079		11.73	Si
SLV 13	14.15	-2925.25	-6553	-5456	3250	4.005	4.005	-4866	11390	12773	35683	50370	10213	48456		14.91	Si
SLV 4	12.35	-5473.76	-9177	-7642	-5378	4.005	4.005	-6814	11780	13210	35683	50370	10213	48893		9.09	Si
SLV 4	14.15	3311.74	-5346	-4451	-4445	4.005	4.005	-3970	11211	12572	35683	50370	10213	48255		10.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	6790	-7614	453.94	1018.55	2.24	Si
SLV 3	179667	0.52	6928	-7770	453.94	1038.4	2.29	Si
SLV 2	179667	0.52	6971	-7817	453.94	1044.46	2.3	Si
SLV 4	179667	0.52	7110	-7973	453.94	1064.25	2.34	Si
SLV 5	179667	0.52	7144	-8012	453.94	1069.14	2.36	Si
SLV 6	179667	0.52	7266	-8148	453.94	1086.5	2.39	Si
SLV 9	179667	0.52	7562	-8480	453.94	1128.36	2.49	Si
SLV 7	179667	0.52	7607	-8531	453.94	1134.8	2.5	Si
SLV 10	179667	0.52	7684	-8616	453.94	1145.61	2.52	Si
SLV 8	179667	0.52	7729	-8668	453.94	1152.04	2.54	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-4645	-12486	-341	2.894	1000.9	0.892	47.13388	6.17968	Si
SLV 14	-4605	-12060	364	2.906	997.1	0.892	47.33263	6.17968	Si
SLV 15	-4591	-12092	-341	2.914	995.8	0.892	47.4683	6.17968	Si
SLV 13	-4551	-11666	363	2.926	992	0.892	47.67072	6.17968	Si
SLV 4	-4205	-9144	-363	3.061	959.2	0.891	49.93767	6.17968	Si
SLV 2	-4165	-8718	342	3.08	955.5	0.891	50.25823	6.17968	Si
SLV 3	-4151	-8749	-363	3.083	954.1	0.891	50.31082	6.17968	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-4111	-8323	342	3.103	950.4	0.891	50.63633	6.17968	Si
SLV 12	-4529	-11749	-1171	2.829	989.9	0.892	46.10338	5.47312	Si
SLV 11	-4492	-11484	-1171	2.843	986.4	0.892	46.32595	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.72	SLU 60	Si
V_SLU	55.79	SLU 64	Si
PF_SLV	2.425	SLV 3	Si
V_SLV	6.739	SLV 3	Si
PFFP_SLV	2.244	SLV 1	Si
R_SLV	7.627	SLV 16	Si

Maschio 233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L7	L8	1.995	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	12.35	-255.6	-2405	-0.0000084	0.0003743	0.0035	1.995	2297.89	18650.77	18650.77	72.97	No	Si
SLU 38	14.15	-4213.87	-429	-0.0003812	0.0003743	0.0035	1.995	0	16328.72	16328.72	3.87	No	Si
SLU 78	12.35	-374.94	-3544	-0.0000125	0.0003743	0.0035	1.995	3315.1	19593.83	19593.83	52.26	No	Si
SLU 78	14.15	-4665.43	-1003	-0.0003525	0.0003743	0.0035	1.995	0	17091.91	17091.91	3.66	No	Si
SLU 72	12.35	-418.05	-3413	-0.0000124	0.0003743	0.0035	1.995	3200.16	19487.58	19487.58	46.62	No	Si
SLU 72	14.15	-4394.3	-871	-0.0003373	0.0003743	0.0035	1.995	0	16923.78	16923.78	3.85	No	Si
SLU 37	12.35	-261.02	-2432	-0.0000085	0.0003743	0.0035	1.995	2322.45	18673.63	18673.63	71.54	No	Si
SLU 37	14.15	-4186.73	-456	-0.0003731	0.0003743	0.0035	1.995	0	16383.8	16383.8	3.91	No	Si
SLU 70	12.35	-453.52	-3866	-0.000014	0.0003743	0.0035	1.995	3593.86	19851.33	19851.33	43.77	No	Si
SLU 70	14.15	-4431.02	-1324	-0.0002941	0.0003743	0.0035	1.995	0	17498.26	17498.26	3.95	No	Si
SLU 59	12.35	-338.38	-2783	-0.0000101	0.0003743	0.0035	1.995	2640.22	18968.99	18968.99	56.06	No	Si
SLU 59	14.15	-4068.76	-284	-0.0003908	0.0003743	0.0035	1.995	0	15996.6	15996.6	3.93	No	Si
SLU 80	12.35	-339.46	-3092	-0.0000109	0.0003743	0.0035	1.995	2916.29	19224.92	19224.92	56.63	No	Si
SLU 80	14.15	-4628.71	-550	-0.0004121	0.0003743	0.0035	1.995	0	16506.95	16506.95	3.57	No	Si
SLU 79	12.35	-344.89	-3119	-0.0000111	0.0003743	0.0035	1.995	2940.2	19247.06	19247.06	55.81	No	Si
SLU 79	14.15	-4601.57	-577	-0.0004041	0.0003743	0.0035	1.995	0	16542.15	16542.15	3.59	No	Si
SLU 77	12.35	-380.36	-3571	-0.0000126	0.0003743	0.0035	1.995	3338.57	19615.53	19615.53	51.57	No	Si
SLU 77	14.15	-4638.29	-1030	-0.0003463	0.0003743	0.0035	1.995	0	17126.2	17126.2	3.69	No	Si
SLU 71	12.35	-423.47	-3440	-0.0000126	0.0003743	0.0035	1.995	3223.76	19509.4	19509.4	46.07	No	Si
SLU 71	14.15	-4367.15	-898	-0.000331	0.0003743	0.0035	1.995	0	16958.33	16958.33	3.88	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	12.35	108.42	-267	-0.0000016	0.0005615	0.0035	1.995		16332.79	16332.79	150.65		Si
SLD 10	14.15	-4661.59	1669	0.0013648	0.0005615	0.0035	1.596		0	0	0		No
SLD 9	12.35	-0.59	-513	-0.0000014	0.0005615	0.0035	1.995		16924.11	16924.11	28542.01		Si
SLD 9	14.15	-4299.5	1423	0.0010764	0.0005615	0.0035	1.596		787	787	0.18		No
SLD 14	12.35	155.45	-479	-0.0000025	0.0005615	0.0035	1.995		16833.75	16833.75	108.29		Si
SLD 14	14.15	-4819.22	1456	0.0009946	0.0005615	0.0035	1.596		351.73	351.73	0.07		No
SLD 13	12.35	-13.84	-861	-0.0000024	0.0005615	0.0035	1.995		17728.53	17728.53	1280.78		Si
SLD 13	14.15	-4256.89	1075	0.0006891	0.0005615	0.0035	1.596		5379.35	5379.35	1.26		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	12.35	138.21	216	0.0002774	0.0005615	0.0035	1.596		15168.36	15168.36	109.75		Si
SLV 13	14.15	-5466.54	2142	0.0019108	0.0005615	0.0035	1.596		0	0	0		No
SLV 9	12.35	175.75	934	0.0012974	0.0005615	0.0035	1.596		7192.33	7192.33	40.92		Si
SLV 9	14.15	-5685.43	2863	0.0029338	0.0005615	0.0035	1.596		0	0	0		No
SLV 6	12.35	109.44	7	-0.0000107	0.0005615	0.0035	1.995		15677.72	15677.72	143.26		Si
SLV 6	14.15	-4607.51	1944	0.0018284	0.0005615	0.0035	1.596		0	0	0		No
SLV 5	12.35	-70.19	-398	-0.0000016	0.0005615	0.0035	1.995		16656.15	16656.15	237.29		Si
SLV 5	14.15	-4010.84	1540	0.001317	0.0005615	0.0035	1.596		0	0	0		No
SLV 14	12.35	405.06	817	0.001082	0.0005615	0.0035	1.596		8712.12	8712.12	21.51		Si
SLV 14	14.15	-6352.91	2744	0.0025849	0.0005615	0.0035	1.596		0	0	0		No
SLV 10	12.35	355.38	1339	0.0018985	0.0005615	0.0035	1.596		1886.3	1886.3	5.31		Si
SLV 10	14.15	-6282.1	3268	0.0033805	0.0005615	0.0035	1.596		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	12.35	-296.5	-2885	-2402	2147	1.995	1.995	-4301	7518	4199	15820	16727	5087	20019	No	9.32	Si
SLU 35	14.15	-4223.45	-909	-757	2147	1.995	0	0	10833	1995	15820	16727	5087	17814	No	8.3	Si
SLU 72	12.35	-418.05	-3413	-2842	2165	1.995	1.995	-5088	7623	4258	15820	16727	5087	20078	No	9.28	Si
SLU 72	14.15	-4394.3	-871	-726	2165	1.995	0	0	10833	1986	15820	16727	5087	17806	No	8.23	Si
SLU 70	12.35	-453.52	-3866	-3219	2165	1.995	1.995	-5763	7713	4308	15820	16727	5087	20128	No	9.3	Si
SLU 70	14.15	-4431.02	-1324	-1103	2165	1.995	0	0	10833	2087	15820	16727	5087	17906	No	8.27	Si
SLU 80	12.35	-339.46	-3092	-2574	2338	1.995	1.995	-4609	7559	4222	15820	16727	5087	20042	No	8.57	Si
SLU 80	14.15	-4628.71	-550	-458	2338	1.995	0	0	10833	1915	15820	16727	5087	17734	No	7.58	Si
SLU 38	12.35	-255.6	-2405	-2003	2165	1.995	1.995	-3586	7423	4146	15820	16727	5087	19966	No	9.22	Si
SLU 38	14.15	-4213.87	-429	-358	2165	1.995	0	0	0	1888	15820	16727	5087	17708	No	8.18	Si
SLU 37	12.35	-261.02	-2432	-2025	2147	1.995	1.995	-3626	7428	4149	15820	16727	5087	19969	No	9.3	Si
SLU 37	14.15	-4186.73	-456	-380	2147	1.995	0	0	0	1894	15820	16727	5087	17714	No	8.25	Si
SLU 79	12.35	-344.89	-3119	-2597	2320	1.995	1.995	-4649	7564	4225	15820	16727	5087	20045	No	8.64	Si
SLU 79	14.15	-4601.57	-577	-480	2320	1.995	0	0	10833	1921	15820	16727	5087	17740	No	7.65	Si
SLU 77	12.35	-380.36	-3571	-2974	2321	1.995	1.995	-5324	7654	4276	15820	16727	5087	20095	No	8.66	Si
SLU 77	14.15	-4638.29	-1030	-857	2321	1.995	0	0	10833	2021	15820	16727	5087	17841	No	7.69	Si
SLU 36	12.35	-291.07	-2858	-2380	2165	1.995	1.995	-4260	7513	4196	15820	16727	5087	20016	No	9.24	Si
SLU 36	14.15	-4250.59	-882	-734	2165	1.995	0	0	10833	1989	15820	16727	5087	17808	No	8.22	Si
SLU 78	12.35	-374.94	-3544	-2951	2339	1.995	1.995	-5284	7649	4273	15820	16727	5087	20092	No	8.59	Si
SLU 78	14.15	-4665.43	-1003	-835	2339	1.995	0	0	10833	2015	15820	16727	5087	17835	No	7.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	12.35	108.42	-267	-222	2663	1.995	1.774	-447	10506	5219	15820	25090	5087	21038		7.9	Si
SLD 10	14.15	-4661.59	1669	1390	2582	1.596	0	0	0	0	15820	20072	4070	15820		6.13	Si
SLV 10	12.35	355.38	1339	1115	3728	1.596	1.995	0	0	0	15820	20072	4070	15820		4.24	Si
SLV 10	14.15	-6282.1	3268	2721	3601	1.596	0	0	0	0	15820	20072	4070	15820		4.39	Si
SLV 16	12.35	164.32	-1047	-872	2871	1.995	1.995	-1561	10729	5993	15820	25090	5087	21813		7.6	Si
SLV 16	14.15	-4614.85	887	739	2427	1.596	0	0	0	0	15820	20072	4070	15820		6.52	Si
SLV 9	12.35	175.75	934	778	3297	1.596	1.995	0	0	0	15820	20072	4070	15820		4.8	Si
SLV 9	14.15	-5685.43	2863	2384	3170	1.596	0	0	0	0	15820	20072	4070	15820		4.99	Si
SLV 14	12.35	405.06	817	680	3970	1.596	1.5051	0	0	0	15820	20072	4070	15820		3.98	Si
SLV 14	14.15	-6352.91	2744	2285	3530	1.596	0	0	0	0	15820	20072	4070	15820		4.48	Si
SLD 14	12.35	155.45	-479	-399	2888	1.995	1.995	-715	10560	5899	15820	25090	5087	21718		7.52	Si
SLD 14	14.15	-4819.22	1456	1213	2606	1.596	0	0	0	0	15820	20072	4070	15820		6.07	Si
SLV 5	12.35	-70.19	-398	-332	2080	1.995	1.995	-594	10535	5885	15820	25090	5087	21705		10.44	Si
SLV 5	14.15	-4010.84	1540	1282	2218	1.596	0	0	0	0	15820	20072	4070	15820		7.13	Si
SLV 13	12.35	138.21	216	180	3330	1.596	1.07	0	0	0	15820	20072	4070	15820		4.75	Si
SLV 13	14.15	-5466.54	2142	1784	2889	1.596	0	0	0	0	15820	20072	4070	15820		5.48	Si
SLV 6	12.35	109.44	7	5	2511	1.995	0	0	10397	2689	15820	25090	5087	18509		7.37	Si
SLV 6	14.15	-4607.51	1944	1619	2649	1.596	0	0	0	0	15820	20072	4070	15820		5.97	Si
SLD 9	12.35	-0.59	-513	-427	2401	1.995	1.995	-764	10569	5904	15820	25090	5087	21724		9.05	Si
SLD 9	14.15	-4299.5	1423	1185	2320	1.596	0	0	0	0	15820	20072	4070	15820		6.82	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.52	0	1461	226.12	0	0	No, Trazione
SLV 15	179667	0.52	0	-1001	226.12	0	0	No, e>t/2
SLV 16	179667	0.52	0	-400	226.12	0	0	No, e>t/2
SLV 9	179667	0.52	0	1586	226.12	0	0	No, Trazione
SLV 10	179667	0.52	0	1990	226.12	0	0	No, Trazione
SLV 5	179667	0.52	0	264	226.12	0	0	No, Trazione
SLV 6	179667	0.52	0	668	226.12	0	0	No, Trazione
SLV 13	179667	0.52	0	859	226.12	0	0	No, Trazione
SLV 2	179667	0.52	5274	-2946	226.12	398.22	1.76	Si
SLV 1	179667	0.52	6351	-3548	226.12	476	2.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-4164	-4757	-141	1.982	679.5	0.909	31.67938	6.17968	Si
SLV 7	-4539	-5635	-562	1.794	716.9	0.913	28.57676	5.47312	Si
SLV 8	-4001	-5577	-563	1.963	663.3	0.908	31.42707	5.47312	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-3363	-4671	-141	2.295	600.4	0.902	36.98786	6.17968	Si
SLV 11	-2934	-5228	-580	2.412	558.4	0.898	39.04859	5.47312	Si
SLV 1	-2124	-3584	203	3.031	480.6	0.891	49.43494	6.17968	Si
SLV 12	-2395	-5170	-580	2.733	506.4	0.893	44.47345	5.47312	Si
SLV 2	-1324	-3498	203	3.853	407.3	0.89	62.93807	6.17968	Si
SLV 15	1187	-3398	-198	11.208	322.9	1	162.88858	6.17968	Si, Trazione
SLV 16	1988	-3312	-199	18.75	322.9	1	272.50226	6.17968	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.566	SLU 80	Si
V_SLU	7.584	SLU 80	Si
PF_SLV	0	SLD 10	No
V_SLV	3.985	SLV 14	Si
PFFP_SLV	0	SLV 14	No
R_SLV	5.126	SLV 3	Si

Maschio 234

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-24.614	1.141	L7	L8	12.352	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	11.45	-62343.54	-68257	-0.0000405	0.0003743	0.0035	12.3515	339824.44	465153.26	465153.26	7.46	No	Si
SLU 80	13.95	-75713.65	-54944	-0.0000375	0.0003743	0.0035	12.3515	286374.6	398439.48	398439.48	5.26	No	Si
SLU 72	11.45	-63455.58	-70913	-0.0000419	0.0003743	0.0035	12.3515	349741.04	477840.99	477840.99	7.53	No	Si
SLU 72	13.95	-77800.95	-55877	-0.0000383	0.0003743	0.0035	12.3515	290319.81	403173.1	403173.1	5.18	No	Si
SLU 48	11.45	-57953.35	-69254	-0.00004	0.0003743	0.0035	12.3515	343576.76	469917.04	469917.04	8.11	No	Si
SLU 48	13.95	-72289.57	-52674	-0.0000358	0.0003743	0.0035	12.3515	276639.54	386911.97	386911.97	5.35	No	Si
SLU 79	11.45	-62004.73	-68244	-0.0000404	0.0003743	0.0035	12.3515	339775.52	465091.43	465091.43	7.5	No	Si
SLU 79	13.95	-75400.15	-54912	-0.0000374	0.0003743	0.0035	12.3515	286237.89	398276.1	398276.1	5.28	No	Si
SLU 71	11.45	-63116.77	-70900	-0.0000418	0.0003743	0.0035	12.3515	349693.32	477779.17	477779.17	7.57	No	Si
SLU 71	13.95	-77487.45	-55844	-0.0000382	0.0003743	0.0035	12.3515	290184.15	403009.73	403009.73	5.2	No	Si
SLU 59	11.45	-56443.22	-64132	-0.0000375	0.0003743	0.0035	12.3515	323926.51	445091.91	445091.91	7.89	No	Si
SLU 59	13.95	-70774.22	-48725	-0.0000338	0.0003743	0.0035	12.3515	259272.56	366857.51	366857.51	5.18	No	Si
SLU 51	11.45	-57555.27	-66787	-0.0000389	0.0003743	0.0035	12.3515	334227.35	458128.19	458128.19	7.96	No	Si
SLU 51	13.95	-72861.52	-49657	-0.0000346	0.0003743	0.0035	12.3515	263421.17	371591.13	371591.13	5.1	No	Si
SLU 49	11.45	-58292.16	-69267	-0.0000401	0.0003743	0.0035	12.3515	343625.23	469978.87	469978.87	8.06	No	Si
SLU 49	13.95	-72603.07	-52706	-0.0000359	0.0003743	0.0035	12.3515	276778.77	387075.35	387075.35	5.33	No	Si
SLU 58	11.45	-56104.41	-64119	-0.0000374	0.0003743	0.0035	12.3515	323875.71	445026.21	445026.21	7.93	No	Si
SLU 58	13.95	-70460.72	-48693	-0.0000337	0.0003743	0.0035	12.3515	259128.83	366694.13	366694.13	5.2	No	Si
SLU 50	11.45	-57216.46	-66774	-0.0000388	0.0003743	0.0035	12.3515	334177.75	458066.37	458066.37	8.01	No	Si
SLU 50	13.95	-72548.01	-49625	-0.0000345	0.0003743	0.0035	12.3515	263278.49	371427.75	371427.75	5.12	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	11.45	-50665.31	-51819	-0.0000307	0.0005615	0.0035	12.3515		388936.21	388936.21	7.68		Si
SLD 1	13.95	-78013.18	-39701	-0.0000311	0.0005615	0.0035	12.3515		322400.83	322400.83	4.13		Si
SLD 6	11.45	-55670.81	-49111	-0.0000306	0.0005615	0.0035	12.3515		374531.18	374531.18	6.73		Si
SLD 6	13.95	-69692.88	-37058	-0.0000284	0.0005615	0.0035	12.3515		307763.44	307763.44	4.42		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	11.45	-42620.75	-53598	-0.0000298	0.0005615	0.0035	12.3515		398295.79	398295.79	9.35		Si
SLV 3	13.95	-80315.24	-41417	-0.0000323	0.0005615	0.0035	12.3515		331910.65	331910.65	4.13		Si
SLV 2	11.45	-58587.39	-55467	-0.0000338	0.0005615	0.0035	12.3515		408129.55	408129.55	6.97		Si
SLV 2	13.95	-99153.98	-43699	-0.000037	0.0005615	0.0035	12.3515		344550.23	344550.23	3.47		Si
SLV 4	11.45	-42850.69	-53775	-0.0000299	0.0005615	0.0035	12.3515		399227.64	399227.64	9.32		Si
SLV 4	13.95	-81180.44	-41623	-0.0000325	0.0005615	0.0035	12.3515		333047.02	333047.02	4.1		Si
SLV 6	11.45	-67914.01	-51254	-0.0000339	0.0005615	0.0035	12.3515		385960.28	385960.28	5.68		Si
SLV 6	13.95	-87223.84	-39538	-0.0000329	0.0005615	0.0035	12.3515		321499.51	321499.51	3.69		Si
SLV 5	11.45	-67759.23	-51135	-0.0000338	0.0005615	0.0035	12.3515		385333.01	385333.01	5.69		Si
SLV 5	13.95	-86641.43	-39400	-0.0000327	0.0005615	0.0035	12.3515		320734.56	320734.56	3.7		Si
SLD 2	11.45	-50811.19	-51932	-0.0000308	0.0005615	0.0035	12.3515		389527.38	389527.38	7.67		Si
SLD 2	13.95	-78562.07	-39831	-0.0000313	0.0005615	0.0035	12.3515		323121.75	323121.75	4.11		Si
SLV 1	11.45	-58357.44	-55290	-0.0000336	0.0005615	0.0035	12.3515		407197.7	407197.7	6.98		Si
SLV 1	13.95	-98288.78	-43494	-0.0000368	0.0005615	0.0035	12.3515		343413.87	343413.87	3.49		Si
SLD 5	11.45	-55576.87	-49039	-0.0000305	0.0005615	0.0035	12.3515		374130.43	374130.43	6.73		Si
SLD 5	13.95	-69339.45	-36975	-0.0000283	0.0005615	0.0035	12.3515		307299.24	307299.24	4.43		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	11.45	-47005.16	-50300	-35883	4036	12.3515	12.3515	-10375	8328	31001	101952	103561	62993	132953	No	32.94	Si
SLU 42	13.95	-54134.81	-41890	-29884	4068	12.3515	12.3515	-8641	8097	28602	101952	103561	62993	130554	No	32.09	Si
SLU 79	11.45	-62004.73	-68244	-48684	4428	12.3515	12.3515	-14077	8821	36122	101952	103561	62993	138074	No	31.18	Si
SLU 79	13.95	-75400.15	-54912	-39173	4462	12.3515	12.3515	-11327	8455	32317	101952	103561	62993	134269	No	30.09	Si
SLU 77	11.45	-62741.62	-70724	-50453	4533	12.3515	12.3515	-14588	8890	36829	101952	103561	62993	138781	No	30.62	Si
SLU 77	13.95	-75141.7	-57962	-41348	4567	12.3515	12.3515	-11956	8539	33188	101952	103561	62993	135140	No	29.59	Si
SLU 36	11.45	-54187.71	-58557	-41773	4895	12.3515	12.3515	-12079	8555	33357	101952	103561	62993	135309	No	27.64	Si
SLU 36	13.95	-64511.9	-50619	-36111	4925	12.3515	12.3515	-10441	8337	31092	101952	103561	62993	133044	No	27.01	Si
SLU 35	11.45	-53848.9	-58544	-41764	4968	12.3515	12.3515	-12076	8555	33354	101952	103561	62993	135306	No	27.24	Si
SLU 35	13.95	-64198.4	-50587	-36088	4998	12.3515	12.3515	-10435	8336	31083	101952	103561	62993	133035	No	26.62	Si
SLU 37	11.45	-53112.01	-56064	-39995	4863	12.3515	12.3515	-11564	8486	32646	101952	103561	62993	134598	No	27.68	Si
SLU 37	13.95	-64456.84	-47538	-33912	4893	12.3515	12.3515	-9806	8252	30213	101952	103561	62993	132165	No	27.01	Si
SLU 78	11.45	-63080.43	-70737	-50462	4460	12.3515	12.3515	-14591	8890	36833	101952	103561	62993	138785	No	31.12	Si
SLU 78	13.95	-75455.21	-57994	-41371	4494	12.3515	12.3515	-11962	8539	33197	101952	103561	62993	135149	No	30.07	Si
SLU 80	11.45	-62343.54	-68257	-48693	4355	12.3515	12.3515	-14080	8822	36125	101952	103561	62993	138077	No	31.7	Si
SLU 80	13.95	-75713.65	-54944	-39196	4389	12.3515	12.3515	-11333	8456	32327	101952	103561	62993	134279	No	30.59	Si
SLU 38	11.45	-53450.82	-56077	-40004	4790	12.3515	12.3515	-11567	8487	32650	101952	103561	62993	134602	No	28.1	Si
SLU 38	13.95	-64770.35	-47570	-33935	4820	12.3515	12.3515	-9812	8253	30222	101952	103561	62993	132174	No	27.42	Si
SLU 41	11.45	-46666.35	-50287	-35873	4109	12.3515	12.3515	-10373	8327	30998	101952	103561	62993	132950	No	32.35	Si
SLU 41	13.95	-53821.31	-41858	-29861	4141	12.3515	12.3515	-8634	8096	28593	101952	103561	62993	130545	No	31.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	11.45	-41451.16	-50832	-36262	14078	12.3515	12.3515	-10485	12514	43278	101952	155341	62993	145230		10.32	Si
SLD 3	13.95	-67481.18	-38483	-27453	10778	12.3515	12.3515	-7938	12004	41516	101952	155341	62993	143468		13.31	Si
SLV 3	11.45	-42620.75	-53598	-38236	22104	12.3515	12.3515	-11056	12628	43672	101952	155341	62993	145624		6.59	Si
SLV 3	13.95	-80315.24	-41417	-29546	16857	12.3515	12.3515	-8543	12125	41935	101952	155341	62993	143887		8.54	Si
SLD 4	11.45	-41597.04	-50944	-36342	13980	12.3515	12.3515	-10508	12518	43294	101952	155341	62993	145246		10.39	Si
SLD 4	13.95	-68030.07	-38614	-27546	10680	12.3515	12.3515	-7965	12010	41535	101952	155341	62993	143487		13.44	Si
SLV 14	11.45	-32886.6	-37873	-27017	-20721	12.3515	12.3515	-7812	11979	41429	101952	155341	62993	143381		6.92	Si
SLV 14	13.95	-5560.05	-24984	-17823	-15437	12.3515	12.3515	-5154	11447	39590	101952	155341	62993	141542		9.17	Si
SLV 2	11.45	-58587.39	-55467	-39569	18057	12.3515	12.3515	-11441	12705	43939	101952	155341	62993	145891		8.08	Si
SLV 2	13.95	-99153.98	-43699	-31174	12774	12.3515	11.7203	-9546	12326	40449	101952	155341	62993	142401		11.15	Si
SLV 15	11.45	-16919.96	-36004	-25684	-16674	12.3515	12.3515	-7427	11902	41162	101952	155341	62993	143114		8.58	Si
SLV 15	13.95	13278.68	-22702	-16195	-11354	12.3515	12.3515	-4683	11353	39264	101952	155341	62993	141216		12.44	Si
SLV 16	11.45	-17149.9	-36181	-25811	-16829	12.3515	12.3515	-7463	11909	41187	101952	155341	62993	143139		8.51	Si
SLV 16	13.95	12413.48	-22908	-16342	-11509	12.3515	12.3515	-4725	11362	39294	101952	155341	62993	141246		12.27	Si
SLV 13	11.45	-32656.65	-37696	-26891	-20567	12.3515	12.3515	-7776	11972	41404	101952	155341	62993	143356		6.97	Si
SLV 13	13.95	-4694.86	-24779	-17677	-15282	12.3515	12.3515	-5111	11439	39561	101952	155341	62993	141513		9.26	Si
SLV 4	11.45	-42850.69	-53775	-38362	21949	12.3515	12.3515	-11092	12635	43698	101952	155341	62993	145650		6.64	Si
SLV 4	13.95	-81180.44	-41623	-29693	16702	12.3515	12.3515	-8586	12134	41964	101952	155341	62993	143916		8.62	Si
SLV 1	11.45	-58357.44	-55290	-39442	18211	12.3515	12.3515	-11405	12698	43914	101952	155341	62993	145866		8.01	Si
SLV 1	13.95	-98288.78	-43494	-31028	12929	12.3515	11.7479	-9478	12312	40500	101952	155341	62993	142452		11.02	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 15	-28294	0.52	1436.08	3748.97	5913.52	4831.24	3.36	Si
SLV 16	-28493	0.52	1436.08	3773.78	5944	4858.89	3.38	Si
SLV 13	-30030	0.52	1436.08	3965.14	6180.01	5072.57	3.53	Si
SLV 14	-30228	0.52	1436.08	3989.77	6210.51	5100.14	3.55	Si
SLV 11	-32535	0.52	1436.08	4274.29	6564.89	5419.59	3.77	Si
SLV 12	-32668	0.52	1436.08	4290.69	6585.44	5438.07	3.79	Si
SLV 7	-37878	0.52	1436.08	4922.55	7381.56	6152.06	4.28	Si
SLV 8	-38011	0.52	1436.08	4938.58	7401.91	6170.25	4.3	Si
SLV 9	-38320	0.52	1436.08	4975.62	7449	6212.31	4.33	Si
SLV 10	-38454	0.52	1436.08	4991.61	7469.36	6230.49	4.34	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-37106	-55467	-1434	1.502	5340	0.924	23.63513	6.17968	Si
SLV 1	-36947	-55290	-1436	1.507	5324	0.923	23.71745	6.17968	Si
SLV 4	-35198	-53775	811	1.578	5148.3	0.921	24.88351	6.17968	Si
SLV 3	-35039	-53598	810	1.583	5132.3	0.921	24.97479	6.17968	Si
SLV 6	-34897	-51254	-3869	1.52	5118	0.921	23.97704	5.47312	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-34789	-51135	-3870	1.523	5107.2	0.921	24.03603	5.47312	Si
SLV 10	-31117	-45975	-3710	1.66	4739.2	0.917	26.32017	5.47312	Si
SLV 9	-31010	-45856	-3711	1.664	4728.5	0.916	26.39114	5.47312	Si
SLV 8	-28538	-45614	3617	1.771	4481.5	0.913	28.1869	5.47312	Si
SLV 7	-28430	-45495	3616	1.776	4470.8	0.913	28.26877	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.1	SLU 51	Si
V_SLU	26.62	SLU 35	Si
PF_SLV	3.475	SLV 2	Si
V_SLV	6.588	SLV 3	Si
PFFP_SLV	3.364	SLV 15	Si
R_SLV	3.825	SLV 2	Si

Maschio 235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L7	L8	0.676	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 18	11.45	-182.89	-3519	-0.0000385	0.0003743	0.0035	0.6764	972.79	1226.75	1226.75	6.71	No	Si
SLU 18	13.95	132.55	-2796	-0.0000294	0.0003743	0.0035	0.6764	808.47	922.83	922.83	6.96	No	Si
SLU 20	11.45	-192.1	-4000	-0.0000429	0.0003743	0.0035	0.6764	1072.02	1356.7	1356.7	7.06	No	Si
SLU 20	13.95	140.25	-3283	-0.0000337	0.0003743	0.0035	0.6764	921.32	1061	1061	7.57	No	Si
SLU 81	11.45	-239.04	-4918	-0.0000536	0.0003743	0.0035	0.6764	1239.05	1594.55	1594.55	6.67	No	Si
SLU 81	13.95	169.78	-3999	-0.0000414	0.0003743	0.0035	0.6764	1071.98	1245.72	1245.72	7.34	No	Si
SLU 19	11.45	-175.94	-3503	-0.0000379	0.0003743	0.0035	0.6764	969.37	1222.34	1222.34	6.95	No	Si
SLU 19	13.95	126.51	-2791	-0.000029	0.0003743	0.0035	0.6764	807.34	921.47	921.47	7.28	No	Si
SLU 83	11.45	-248.25	-5399	-0.0000583	0.0003743	0.0035	0.6764	1314.66	1714.43	1714.43	6.91	No	Si
SLU 83	13.95	177.48	-4487	-0.0000458	0.0003743	0.0035	0.6764	1164.25	1362.18	1362.18	7.68	No	Si
SLU 39	11.45	-222.98	-3954	-0.0000447	0.0003743	0.0035	0.6764	1062.95	1344.62	1344.62	6.03	No	Si
SLU 39	13.95	156.98	-3265	-0.0000347	0.0003743	0.0035	0.6764	917.18	1055.79	1055.79	6.73	No	Si
SLU 41	11.45	-232.19	-4435	-0.0000492	0.0003743	0.0035	0.6764	1154.84	1471.82	1471.82	6.34	No	Si
SLU 41	13.95	164.68	-3752	-0.0000391	0.0003743	0.0035	0.6764	1022.01	1186.67	1186.67	7.21	No	Si
SLU 40	11.45	-216.02	-3938	-0.0000441	0.0003743	0.0035	0.6764	1059.77	1340.42	1340.42	6.2	No	Si
SLU 40	13.95	150.93	-3260	-0.0000343	0.0003743	0.0035	0.6764	916.13	1054.46	1054.46	6.99	No	Si
SLU 42	11.45	-225.23	-4419	-0.0000486	0.0003743	0.0035	0.6764	1151.93	1467.61	1467.61	6.52	No	Si
SLU 42	13.95	158.63	-3748	-0.0000386	0.0003743	0.0035	0.6764	1021.04	1185.55	1185.55	7.47	No	Si
SLU 82	11.45	-232.09	-4903	-0.000053	0.0003743	0.0035	0.6764	1236.41	1590.56	1590.56	6.85	No	Si
SLU 82	13.95	163.74	-3995	-0.0000409	0.0003743	0.0035	0.6764	1071.05	1244.59	1244.59	7.6	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	11.45	1338.45	-3468	-0.0087225	0.0005615	0.0035	0.5411		1137.19	1137.19	0.85		No
SLV 2	13.95	-1011.32	-3674	-0.0002156	0.0005615	0.0035	0.5411		1296.28	1296.28	1.28		Si
SLV 13	11.45	-1233.1	-3456	-0.0013388	0.0005615	0.0035	0.5411		1233.88	1233.88	1		Si
SLV 13	13.95	868.77	-2347	-0.0043848	0.0005615	0.0035	0.5411		804.64	804.64	0.93		No
SLV 1	11.45	1317.99	-3512	-0.007977	0.0005615	0.0035	0.5411		1149.95	1149.95	0.87		No
SLV 1	13.95	-995.58	-3703	-0.0001954	0.0005615	0.0035	0.5411		1304.72	1304.72	1.31		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	11.45	-1593.49	-4129	-0.0030226	0.0005615	0.0035	0.5411		1426.53	1426.53	0.9		No
SLV 15	13.95	1191.26	-2487	-0.0110132	0.0005615	0.0035	0.5411		847.05	847.05	0.71		No
SLV 6	11.45	862.68	-2671	-0.000935	0.0005615	0.0035	0.5411		902.32	902.32	1.05		Si
SLV 6	13.95	-732.47	-3041	-0.0001085	0.0005615	0.0035	0.5411		1113.26	1113.26	1.52		Si
SLV 16	11.45	-1573.03	-4084	-0.0029155	0.0005615	0.0035	0.5411		1413.83	1413.83	0.9		No
SLV 16	13.95	1175.51	-2457	-0.0108387	0.0005615	0.0035	0.5411		838.09	838.09	0.71		No
SLV 14	11.45	-1212.64	-3412	-0.001277	0.0005615	0.0035	0.5411		1221.18	1221.18	1.01		Si
SLV 14	13.95	853.02	-2318	-0.0041356	0.0005615	0.0035	0.5411		795.68	795.68	0.93		No
SLV 11	11.45	-1117.72	-4926	-0.0001598	0.0005615	0.0035	0.5411		1645.24	1645.24	1.47		Si
SLV 11	13.95	912.4	-3119	-0.0002671	0.0005615	0.0035	0.5411		1035.39	1035.39	1.13		Si
SLV 5	11.45	848.91	-2701	-0.0005093	0.0005615	0.0035	0.5411		911.24	911.24	1.07		Si
SLV 5	13.95	-721.87	-3061	-0.0001035	0.0005615	0.0035	0.5411		1119.19	1119.19	1.55		Si
SLV 12	11.45	-1103.95	-4896	-0.0001565	0.0005615	0.0035	0.5411		1637.05	1637.05	1.48		Si
SLV 12	13.95	901.8	-3099	-0.0002543	0.0005615	0.0035	0.5411		1029.57	1029.57	1.14		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	11.45	-232.09	-4903	-3497	-131	0.6764	0.6764	-18467	9407	1781	101952	5671	3449	9120	No	69.73	Si
SLU 82	13.95	163.74	-3995	-2850	-139	0.6764	0.6764	-15047	8951	1695	101952	5671	3449	9120	No	65.8	Si
SLU 41	11.45	-232.19	-4435	-3164	-133	0.6764	0.6764	-16705	9172	1737	101952	5671	3449	9120	No	68.33	Si
SLU 41	13.95	164.68	-3752	-2677	-142	0.6764	0.6764	-14134	8829	1672	101952	5671	3449	9120	No	64.19	Si
SLU 42	11.45	-225.23	-4419	-3152	-127	0.6764	0.6764	-16646	9164	1735	101952	5671	3449	9120	No	71.57	Si
SLU 42	13.95	158.63	-3748	-2673	-136	0.6764	0.6764	-14116	8827	1672	101952	5671	3449	9120	No	67.06	Si
SLU 77	11.45	-239.35	-6114	-4361	-140	0.6764	0.6764	-23030	10015	1897	101952	5671	3449	9120	No	64.95	Si
SLU 77	13.95	174.05	-5207	-3715	-143	0.6764	0.6764	-19615	9560	1810	101952	5671	3449	9120	No	63.56	Si
SLU 81	11.45	-239.04	-4918	-3509	-137	0.6764	0.6764	-18527	9415	1783	101952	5671	3449	9120	No	66.65	Si
SLU 81	13.95	169.78	-3999	-2853	-145	0.6764	0.6764	-15065	8953	1696	101952	5671	3449	9120	No	63.03	Si
SLU 79	11.45	-232.4	-5939	-4237	-135	0.6764	0.6764	-22370	9927	1880	101952	5671	3449	9120	No	67.73	Si
SLU 79	13.95	166.6	-5030	-3589	-138	0.6764	0.6764	-18949	9471	1794	101952	5671	3449	9120	No	66.04	Si
SLU 74	11.45	-230.14	-5633	-4018	-134	0.6764	0.6764	-21218	9774	1851	101952	5671	3449	9120	No	68.1	Si
SLU 74	13.95	166.35	-4720	-3367	-137	0.6764	0.6764	-17780	9315	1764	101952	5671	3449	9120	No	66.41	Si
SLU 83	11.45	-248.25	-5399	-3852	-143	0.6764	0.6764	-20339	9656	1829	101952	5671	3449	9120	No	63.63	Si
SLU 83	13.95	177.48	-4487	-3201	-151	0.6764	0.6764	-16901	9198	1742	101952	5671	3449	9120	No	60.46	Si
SLU 84	11.45	-241.29	-5384	-3841	-137	0.6764	0.6764	-20279	9648	1827	101952	5671	3449	9120	No	66.44	Si
SLU 84	13.95	171.44	-4482	-3197	-145	0.6764	0.6764	-16883	9195	1741	101952	5671	3449	9120	No	63	Si
SLU 78	11.45	-232.39	-6098	-4350	-134	0.6764	0.6764	-22970	10007	1895	101952	5671	3449	9120	No	67.88	Si
SLU 78	13.95	168	-5203	-3711	-137	0.6764	0.6764	-19597	9557	1810	101952	5671	3449	9120	No	66.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	11.45	-1212.64	-3412	-2434	-1036	0.5411	0	0	0	0	101952	6805	2760	9565		9.24	Si
SLV 14	13.95	853.02	-2318	-1653	-612	0.5411	0	0	0	0	101952	6805	2760	9565		15.63	Si
SLV 11	11.45	-1117.72	-4926	-3514	-935	0.5411	0.3338	0	0	0	101952	6805	2760	9565		10.23	Si
SLV 11	13.95	912.4	-3119	-2225	-815	0.5411	0.137	0	0	0	101952	6805	2760	9565		11.73	Si
SLV 15	11.45	-1593.49	-4129	-2945	-1363	0.5411	0	0	0	0	101952	6805	2760	9565		7.02	Si
SLV 15	13.95	1191.26	-2487	-1774	-944	0.5411	0	0	0	0	101952	6805	2760	9565		10.13	Si
SLV 1	11.45	1317.99	-3512	-2506	1204	0.5411	0	0	0	0	101952	6805	2760	9565		7.95	Si
SLV 1	13.95	-995.58	-3703	-2642	786	0.5411	0.2081	0	0	0	101952	6805	2760	9565		12.16	Si
SLD 16	11.45	-1041.96	-3962	-2827	-879	0.5411	0.2256	0	0	0	101952	6805	2760	9565		10.88	Si
SLD 16	13.95	775.46	-2677	-1910	-612	0.6764	0.1457	-48088	16250	1421	101952	8506	3449	11956		19.55	Si
SLV 12	11.45	-1103.95	-4896	-3493	-925	0.5411	0.3381	0	0	0	101952	6805	2760	9565		10.34	Si
SLV 12	13.95	901.8	-3099	-2211	-805	0.5411	0.1417	0	0	0	101952	6805	2760	9565		11.88	Si
SLV 16	11.45	-1573.03	-4084	-2914	-1348	0.5411	0	0	0	0	101952	6805	2760	9565		7.1	Si
SLV 16	13.95	1175.51	-2457	-1753	-928	0.5411	0	0	0	0	101952	6805	2760	9565		10.3	Si
SLV 13	11.45	-1233.1	-3456	-2465	-1051	0.5411	0	0	0	0	101952	6805	2760	9565		9.1	Si
SLV 13	13.95	868.77	-2347	-1674	-628	0.5411	0	0	0	0	101952	6805	2760	9565		15.24	Si
SLD 15	11.45	-1054.94	-3990	-2847	-889	0.5411	0.2214	0	0	0	101952	6805	2760	9565		10.76	Si
SLD 15	13.95	785.45	-2696	-1923	-621	0.5411	0.1406	0	0	0	101952	6805	2760	9565		15.39	Si
SLV 2	11.45	1338.45	-3468	-2474	1219	0.5411	0	0	0	0	101952	6805	2760	9565		7.85	Si
SLV 2	13.95	-1011.32	-3674	-2621	802	0.5411	0.1887	0	0	0	101952	6805	2760	9565		11.93	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-2915	0.52	78.64	366.99	506.3	436.65	5.55	Si
SLV 13	-2950	0.52	78.64	370.88	511.6	441.24	5.61	Si
SLV 10	-2988	0.52	78.64	375.06	517.32	446.19	5.67	Si
SLV 9	-3011	0.52	78.64	377.67	520.89	449.28	5.71	Si
SLV 16	-3089	0.52	78.64	386.22	532.66	459.44	5.84	Si
SLV 15	-3123	0.52	78.64	390.05	537.96	464.01	5.9	Si
SLV 6	-3218	0.52	78.64	400.42	552.39	476.41	6.06	Si
SLV 5	-3242	0.52	78.64	402.97	555.95	479.46	6.1	Si
SLV 12	-3566	0.52	78.64	437.64	605.19	521.42	6.63	Si
SLV 11	-3589	0.52	78.64	440.11	608.76	524.43	6.67	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-2235	-4943	192	1.354	312.9	0.928	21.2195	5.47312	Si
SLV 8	-2224	-4913	192	1.36	311.7	0.927	21.30875	5.47312	Si
SLV 3	-1993	-4185	42	1.539	288.5	0.923	24.23833	6.17968	Si
SLV 4	-1976	-4141	42	1.549	286.8	0.923	24.40579	6.17968	Si
SLV 11	-2038	-4926	199	1.452	293.1	0.924	22.83774	5.47312	Si
SLV 12	-2027	-4896	199	1.458	291.9	0.924	22.94158	5.47312	Si
SLV 1	-1586	-3512	-80	1.807	247.8	0.914	28.74266	6.17968	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1569	-3468	-80	1.821	246.1	0.913	28.98502	6.17968	Si
SLV 15	-1337	-4129	65	2.05	223	0.907	32.83093	6.17968	Si
SLV 16	-1320	-4084	65	2.068	221.3	0.907	33.14048	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.03	SLU 39	Si
V_SLU	60.459	SLU 83	Si
PF_SLV	0.711	SLV 15	No
V_SLV	7.016	SLV 15	Si
PFFP_SLV	5.552	SLV 14	Si
R_SLV	3.877	SLV 7	Si

Maschio 236

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L7	L8	1.944	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	11.45	1644.38	-9974	-0.0000392	0.0003743	0.0035	1.9436	7948.01	9105.98	9105.98	5.54	No	Si
SLU 39	13.95	-217.31	-6065	-0.0000171	0.0003743	0.0035	1.9436	5248.58	7567.13	7567.13	34.82	No	Si
SLU 42	11.45	1682.14	-11115	-0.0000427	0.0003743	0.0035	1.9436	8634.82	9935.87	9935.87	5.91	No	Si
SLU 42	13.95	-179.85	-7045	-0.0000194	0.0003743	0.0035	1.9436	5975.86	8400.65	8400.65	46.71	No	Si
SLU 73	11.45	1792.76	-12655	-0.0000479	0.0003743	0.0035	1.9436	9489.49	11005.02	11005.02	6.14	No	Si
SLU 73	13.95	-227.09	-7636	-0.0000213	0.0003743	0.0035	1.9436	6397.79	8883.73	8883.73	39.12	No	Si
SLU 31	11.45	1560.06	-10092	-0.0000388	0.0003743	0.0035	1.9436	8021.03	9199.64	9199.64	5.9	No	Si
SLU 31	13.95	-222.41	-6147	-0.0000174	0.0003743	0.0035	1.9436	5311.3	7637.52	7637.52	34.34	No	Si
SLU 83	11.45	1935.89	-13717	-0.0000521	0.0003743	0.0035	1.9436	10030.4	11742.32	11742.32	6.07	No	Si
SLU 83	13.95	-181.08	-8564	-0.0000234	0.0003743	0.0035	1.9436	7035.98	9630.45	9630.45	53.18	No	Si
SLU 81	11.45	1877.08	-12537	-0.0000483	0.0003743	0.0035	1.9436	9427.05	10923.24	10923.24	5.82	No	Si
SLU 81	13.95	-222	-7553	-0.0000211	0.0003743	0.0035	1.9436	6339.39	8817.12	8817.12	39.72	No	Si
SLU 40	11.45	1623.33	-9935	-0.0000389	0.0003743	0.0035	1.9436	7923.77	9075.02	9075.02	5.59	No	Si
SLU 40	13.95	-220.76	-6034	-0.0000171	0.0003743	0.0035	1.9436	5225.41	7541.2	7541.2	34.16	No	Si
SLU 82	11.45	1856.03	-12498	-0.000048	0.0003743	0.0035	1.9436	9406.31	10896.22	10896.22	5.87	No	Si
SLU 82	13.95	-225.44	-7522	-0.000021	0.0003743	0.0035	1.9436	6317.81	8792.58	8792.58	39	No	Si
SLU 41	11.45	1703.19	-11154	-0.000043	0.0003743	0.0035	1.9436	8657.45	9962.9	9962.9	5.85	No	Si
SLU 41	13.95	-176.4	-7075	-0.0000194	0.0003743	0.0035	1.9436	5997.94	8426.58	8426.58	47.77	No	Si
SLU 84	11.45	1914.84	-13678	-0.0000518	0.0003743	0.0035	1.9436	10011.27	11715.3	11715.3	6.12	No	Si
SLU 84	13.95	-184.53	-8533	-0.0000233	0.0003743	0.0035	1.9436	7015.49	9605.91	9605.91	52.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	11.45	4022.1	-7628	-0.0000577	0.0005615	0.0035	1.9436		7331	7331	1.82		Si
SLD 2	13.95	-2871.12	-2678	-0.0001862	0.0005615	0.0035	1.5549		4634.87	4634.87	1.61		Si
SLD 1	11.45	4078.44	-7713	-0.0000585	0.0005615	0.0035	1.9436		7404.1	7404.1	1.82		Si
SLD 1	13.95	-2881.27	-2734	-0.0001799	0.0005615	0.0035	1.5549		4685.84	4685.84	1.63		Si
SLV 7	11.45	4790.59	-11575	-0.0000703	0.0005615	0.0035	1.9436		10629.61	10629.61	2.22		Si
SLV 7	13.95	-1339.08	-6456	-0.0000269	0.0005615	0.0035	1.9436		7992.02	7992.02	5.97		Si
SLV 1	11.45	5614.35	-6490	-0.0002302	0.0005615	0.0035	1.9436		6343.8	6343.8	1.13		Si
SLV 1	13.95	-4425.92	-901	-0.000629	0.0005615	0.0035	1.5549		2992.97	2992.97	0.68		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	11.45	6822.58	-8008	-0.00026	0.0005615	0.0035	1.9436		7656.97	7656.97	1.12		Si
SLV 3	13.95	-4373.06	-2022	-0.0005414	0.0005615	0.0035	1.5549		4031.93	4031.93	0.92		No
SLV 4	11.45	6733.78	-7873	-0.0002633	0.0005615	0.0035	1.9436		7541.75	7541.75	1.12		Si
SLV 4	13.95	-4357.06	-1934	-0.0005456	0.0005615	0.0035	1.5549		3950.82	3950.82	0.91		No
SLV 2	11.45	5525.54	-6356	-0.0002355	0.0005615	0.0035	1.9436		6226.55	6226.55	1.13		Si
SLV 2	13.95	-4409.92	-813	-0.0006302	0.0005615	0.0035	1.5549		2910.57	2910.57	0.66		No
SLD 4	11.45	4728.91	-8516	-0.0000693	0.0005615	0.0035	1.9436		8091.18	8091.18	1.71		Si
SLD 4	13.95	-2838.68	-3336	-0.0000829	0.0005615	0.0035	1.5549		5234.43	5234.43	1.84		Si
SLV 8	11.45	4730.81	-11485	-0.0000695	0.0005615	0.0035	1.9436		10556.14	10556.14	2.23		Si
SLV 8	13.95	-1328.3	-6397	-0.0000267	0.0005615	0.0035	1.9436		7940.08	7940.08	5.98		Si
SLD 3	11.45	4785.25	-8601	-0.0000702	0.0005615	0.0035	1.9436		8162.99	8162.99	1.71		Si
SLD 3	13.95	-2848.83	-3392	-0.0000791	0.0005615	0.0035	1.5549		5285.41	5285.41	1.86		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	11.45	1939.59	-15528	-11077	1610	1.9436	1.9436	-20354	9658	5256	101952	16296	9913	26209	No	16.28	Si
SLU 78	13.95	-137.38	-10108	-7211	1100	1.9436	1.9436	-13249	8711	4741	101952	16296	9913	26209	No	23.82	Si
SLU 77	11.45	1960.63	-15567	-11105	1621	1.9436	1.9436	-20405	9665	5260	101952	16296	9913	26209	No	16.17	Si
SLU 77	13.95	-133.93	-10138	-7232	1102	1.9436	1.9436	-13289	8716	4744	101952	16296	9913	26209	No	23.79	Si
SLU 80	11.45	1924.42	-15041	-10730	1584	1.9436	1.9436	-19716	9573	5210	101952	16296	9913	26209	No	16.55	Si
SLU 80	13.95	-142.96	-9677	-6904	1088	1.9436	1.9436	-12685	8636	4700	101952	16296	9913	26209	No	24.08	Si
SLU 74	11.45	1901.82	-14387	-10263	1548	1.9436	1.9436	-18859	9459	5148	101952	16296	9913	26209	No	16.93	Si
SLU 74	13.95	-174.85	-9127	-6511	1048	1.9436	1.9436	-11964	8540	4647	101952	16296	9913	26209	No	25	Si
SLU 69	11.45	1845.74	-15993	-11409	1628	1.9436	1.9436	-20964	9740	5301	101952	16296	9913	26209	No	16.1	Si
SLU 69	13.95	-132.4	-10450	-7455	1037	1.9436	1.9436	-13698	8771	4773	101952	16296	9913	26209	No	25.28	Si
SLU 79	11.45	1945.47	-15080	-10758	1595	1.9436	1.9436	-19767	9580	5214	101952	16296	9913	26209	No	16.43	Si
SLU 79	13.95	-139.51	-9708	-6925	1090	1.9436	1.9436	-12725	8641	4703	101952	16296	9913	26209	No	24.05	Si
SLU 70	11.45	1824.7	-15954	-11381	1616	1.9436	1.9436	-20913	9733	5297	101952	16296	9913	26209	No	16.21	Si
SLU 70	13.95	-135.85	-10419	-7433	1035	1.9436	1.9436	-13658	8766	4770	101952	16296	9913	26209	No	25.32	Si
SLU 72	11.45	1809.53	-15467	-11034	1590	1.9436	1.9436	-20275	9648	5250	101952	16296	9913	26209	No	16.48	Si
SLU 72	13.95	-141.43	-9989	-7126	1023	1.9436	1.9436	-13094	8690	4729	101952	16296	9913	26209	No	25.61	Si
SLU 66	11.45	1786.93	-14813	-10567	1555	1.9436	1.9436	-19417	9533	5188	101952	16296	9913	26209	No	16.86	Si
SLU 66	13.95	-173.32	-9439	-6734	983	1.9436	1.9436	-12373	8594	4677	101952	16296	9913	26209	No	26.65	Si
SLU 71	11.45	1830.58	-15506	-11062	1602	1.9436	1.9436	-20326	9655	5254	101952	16296	9913	26209	No	16.36	Si
SLU 71	13.95	-137.99	-10020	-7148	1025	1.9436	1.9436	-13134	8696	4732	101952	16296	9913	26209	No	25.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	11.45	4728.91	-8516	-6075	4352	1.9436	1.2496	-11163	12649	4426	101952	24445	9913	34357		7.89	Si
SLD 4	13.95	-2838.68	-3336	-2380	2628	1.5549	0.3625	0	0	0	101952	19556	7930	27486		10.46	Si
SLV 2	11.45	5525.54	-6356	-4534	5536	1.9436	0.3075	-53932	16250	3829	101952	24445	9913	34357		6.21	Si
SLV 2	13.95	-4409.92	-813	-580	3593	1.5549	0	0	0	0	101952	19556	7930	27486		7.65	Si
SLV 14	11.45	-4266.16	-11556	-8244	-4164	1.9436	1.8079	-16421	13701	6936	101952	24445	9913	34357		8.25	Si
SLV 14	13.95	4074.95	-9787	-6982	-2404	1.9436	1.6664	-12829	12983	6058	101952	24445	9913	34357		14.29	Si
SLV 3	11.45	6822.58	-8008	-5712	6304	1.9436	0.3594	-58723	16250	4143	101952	24445	9913	34357		5.45	Si
SLV 3	13.95	-4373.06	-2022	-1442	3758	1.5549	0	0	0	0	101952	19556	7930	27486		7.31	Si
SLD 1	11.45	4078.44	-7713	-5502	3981	1.9436	1.3292	-10111	12439	4629	101952	24445	9913	34357		8.63	Si
SLD 1	13.95	-2881.27	-2734	-1950	2560	1.5549	0	0	0	0	101952	19556	7930	27486		10.74	Si
SLD 3	11.45	4785.25	-8601	-6136	4393	1.9436	1.2464	-11275	12672	4422	101952	24445	9913	34357		7.82	Si
SLD 3	13.95	-2848.83	-3392	-2420	2643	1.5549	0.3957	0	0	0	101952	19556	7930	27486		10.4	Si
SLV 1	11.45	5614.35	-6490	-4630	5600	1.9436	0.3204	-52918	16250	3855	101952	24445	9913	34357		6.13	Si
SLV 1	13.95	-4425.92	-901	-643	3616	1.5549	0	0	0	0	101952	19556	7930	27486		7.6	Si
SLV 4	11.45	6733.78	-7873	-5617	6239	1.9436	0.3497	-59324	16250	4118	101952	24445	9913	34357		5.51	Si
SLV 4	13.95	-4357.06	-1934	-1379	3735	1.5549	0	0	0	0	101952	19556	7930	27486		7.36	Si
SLD 2	11.45	4022.1	-7628	-5442	3941	1.9436	1.3336	-9999	12416	4637	101952	24445	9913	34357		8.72	Si
SLD 2	13.95	-2871.12	-2678	-1910	2546	1.5549	0	0	0	0	101952	19556	7930	27486		10.8	Si
SLV 13	11.45	-4177.36	-11690	-8339	-4099	1.9436	1.8434	-16294	13676	7059	101952	24445	9913	34357		8.38	Si
SLV 13	13.95	4058.94	-9875	-7045	-2381	1.9436	1.6824	-12945	13006	6127	101952	24445	9913	34357		14.43	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-4759	0.52	225.98	628.05	980.7	804.38	3.56	Si
SLV 6	-4773	0.52	225.98	629.87	982.97	806.42	3.57	Si
SLV 5	-4864	0.52	225.98	641.05	996.91	818.98	3.62	Si
SLV 1	-4893	0.52	225.98	644.65	1001.41	823.03	3.64	Si
SLV 4	-6324	0.52	225.98	818.03	1221.84	1019.94	4.51	Si
SLV 10	-6333	0.52	225.98	819.04	1223.14	1021.09	4.52	Si
SLV 9	-6423	0.52	225.98	829.74	1236.96	1033.35	4.57	Si
SLV 3	-6458	0.52	225.98	833.92	1242.38	1038.15	4.59	Si
SLV 14	-9957	0.52	225.98	1226.99	1775.28	1501.14	6.64	Si
SLV 8	-9993	0.52	225.98	1230.76	1780.65	1505.71	6.66	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-9121	-13207	101	1.065	1171.9	0.942	16.43735	6.17968	Si
SLV 16	-9015	-13073	101	1.075	1161.1	0.941	16.60404	6.17968	Si
SLV 11	-8769	-13135	590	1.053	1136.1	0.94	16.27149	5.47312	Si
SLV 12	-8697	-13045	590	1.06	1128.9	0.94	16.38604	5.47312	Si
SLV 13	-7780	-11690	-274	1.193	1036.1	0.935	18.54171	6.17968	Si
SLV 14	-7674	-11556	-274	1.207	1025.4	0.935	18.75829	6.17968	Si
SLV 7	-7141	-11575	633	1.237	971.5	0.932	19.28636	5.47312	Si
SLV 8	-7069	-11485	633	1.247	964.2	0.932	19.44945	5.47312	Si
SLV 9	-4299	-8078	-661	1.812	686.1	0.911	28.89272	5.47312	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-4227	-7988	-661	1.834	678.9	0.911	29.26204	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.538	SLU 39	Si
V_SLU	16.101	SLU 69	Si
PF_SLV	0.66	SLV 2	No
V_SLV	5.45	SLV 3	Si
PFFP_SLV	3.559	SLV 2	Si
R_SLV	2.66	SLV 15	Si

Maschio 237

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L7	L8	1.55	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 17	11.45	-281.75	-7139	-0.0000266	0.0003743	0.0035	1.55	4638.55	6292.89	6292.89	22.33	No	Si
SLU 17	13.55	584.26	-7602	-0.000032	0.0003743	0.0035	1.55	4877.66	5557.9	5557.9	9.51	No	Si
SLU 38	11.45	-381.43	-7459	-0.0000289	0.0003743	0.0035	1.55	4805.03	6499.28	6499.28	17.04	No	Si
SLU 38	13.55	685.46	-8580	-0.0000367	0.0003743	0.0035	1.55	5358.42	6112.63	6112.63	8.92	No	Si
SLU 16	11.45	-282.44	-7147	-0.0000266	0.0003743	0.0035	1.55	4642.91	6298.24	6298.24	22.3	No	Si
SLU 16	13.55	579.53	-7589	-0.0000319	0.0003743	0.0035	1.55	4871.12	5550.6	5550.6	9.58	No	Si
SLU 35	11.45	-377.42	-7765	-0.0000299	0.0003743	0.0035	1.55	4960.09	6695.66	6695.66	17.74	No	Si
SLU 35	13.55	673.91	-9017	-0.000038	0.0003743	0.0035	1.55	5562.13	6360.19	6360.19	9.44	No	Si
SLU 36	11.45	-376.74	-7756	-0.0000298	0.0003743	0.0035	1.55	4955.91	6690.31	6690.31	17.76	No	Si
SLU 36	13.55	678.65	-9030	-0.0000381	0.0003743	0.0035	1.55	5568.03	6367.49	6367.49	9.38	No	Si
SLU 37	11.45	-382.12	-7468	-0.0000289	0.0003743	0.0035	1.55	4809.29	6504.63	6504.63	17.02	No	Si
SLU 37	13.55	680.72	-8567	-0.0000365	0.0003743	0.0035	1.55	5352.32	6105.34	6105.34	8.97	No	Si
SLU 41	11.45	-336.14	-6409	-0.0000248	0.0003743	0.0035	1.55	4246.65	5823.71	5823.71	17.33	No	Si
SLU 41	13.55	580.03	-7499	-0.0000316	0.0003743	0.0035	1.55	4825.59	5500.04	5500.04	9.48	No	Si
SLU 42	11.45	-335.45	-6401	-0.0000248	0.0003743	0.0035	1.55	4242.08	5818.36	5818.36	17.34	No	Si
SLU 42	13.55	584.77	-7512	-0.0000317	0.0003743	0.0035	1.55	4832.18	5507.34	5507.34	9.42	No	Si
SLU 80	11.45	-337.88	-9193	-0.0000342	0.0003743	0.0035	1.55	5642.43	7567.63	7567.63	22.4	No	Si
SLU 80	13.55	706.77	-9949	-0.0000416	0.0003743	0.0035	1.55	5974.35	6888.36	6888.36	9.75	No	Si
SLU 79	11.45	-338.56	-9202	-0.0000342	0.0003743	0.0035	1.55	5646.19	7572.68	7572.68	22.37	No	Si
SLU 79	13.55	702.04	-9936	-0.0000415	0.0003743	0.0035	1.55	5968.86	6881.06	6881.06	9.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	11.45	1671.05	-4934	-0.0000375	0.0005615	0.0035	1.55		3895.28	3895.28	2.33		Si
SLD 1	13.55	-1381.75	-4557	-0.0000319	0.0005615	0.0035	1.55		4638.02	4638.02	3.36		Si
SLV 2	11.45	2597.62	-4269	-0.000088	0.0005615	0.0035	1.55		3426.75	3426.75	1.32		Si
SLV 2	13.55	-2238.78	-3804	-0.000068	0.0005615	0.0035	1.24		4111.97	4111.97	1.84		Si
SLV 15	11.45	-2660.28	-7864	-0.0000606	0.0005615	0.0035	1.55		6886.72	6886.72	2.59		Si
SLV 15	13.55	2728.9	-8047	-0.0000622	0.0005615	0.0035	1.55		6012.53	6012.53	2.2		Si
SLD 3	11.45	1698.66	-5083	-0.0000382	0.0005615	0.0035	1.55		3999.12	3999.12	2.35		Si
SLD 3	13.55	-1587.16	-4256	-0.000035	0.0005615	0.0035	1.55		4427.36	4427.36	2.79		Si
SLV 14	11.45	-2751.85	-7588	-0.000062	0.0005615	0.0035	1.55		6702.84	6702.84	2.44		Si
SLV 14	13.55	3136.76	-8546	-0.000071	0.0005615	0.0035	1.55		6340.55	6340.55	2.02		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	11.45	2641.24	-4290	-0.0000927	0.0005615	0.0035	1.55		3441.49	3441.49	1.3		Si
SLV 1	13.55	-2295.78	-3818	-0.0000732	0.0005615	0.0035	1.24		4121.46	4121.46	1.8		Si
SLV 3	11.45	2689.19	-4546	-0.0000849	0.0005615	0.0035	1.55		3621.87	3621.87	1.35		Si
SLV 3	13.55	-2646.64	-3305	-0.0002406	0.0005615	0.0035	1.24		3760.75	3760.75	1.42		Si
SLV 4	11.45	2645.56	-4525	-0.0000812	0.0005615	0.0035	1.55		3607.13	3607.13	1.36		Si
SLV 4	13.55	-2589.64	-3292	-0.0002222	0.0005615	0.0035	1.24		3750.98	3750.98	1.45		Si
SLV 16	11.45	-2703.91	-7843	-0.0000614	0.0005615	0.0035	1.55		6872.83	6872.83	2.54		Si
SLV 16	13.55	2785.9	-8033	-0.0000633	0.0005615	0.0035	1.55		6003.52	6003.52	2.15		Si
SLV 13	11.45	-2708.22	-7609	-0.0000611	0.0005615	0.0035	1.55		6716.73	6716.73	2.48		Si
SLV 13	13.55	3079.76	-8560	-0.0000699	0.0005615	0.0035	1.55		6349.42	6349.42	2.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	11.45	-382.12	-7468	-5327	-305	1.55	1.55	-12275	8581	3724	101952	12996	7905	20901	No	68.47	Si
SLU 37	13.55	680.72	-8567	-6112	-305	1.55	1.55	-14083	8822	3829	101952	12996	7905	20901	No	68.46	Si
SLU 80	11.45	-337.88	-9193	-6558	-254	1.55	1.55	-15111	8959	3888	101952	12996	7905	20901	No	82.42	Si
SLU 80	13.55	706.77	-9949	-7097	-254	1.55	1.55	-16354	9125	3960	101952	12996	7905	20901	No	82.42	Si
SLU 41	11.45	-336.14	-6409	-4572	-288	1.55	1.55	-10535	8349	3624	101952	12996	7905	20901	No	72.64	Si
SLU 41	13.55	580.03	-7499	-5350	-288	1.55	1.55	-12327	8588	3727	101952	12996	7905	20901	No	72.62	Si
SLU 36	11.45	-376.74	-7756	-5533	-296	1.55	1.55	-12749	8644	3752	101952	12996	7905	20901	No	70.57	Si
SLU 36	13.55	678.65	-9030	-6442	-296	1.55	1.55	-14843	8923	3873	101952	12996	7905	20901	No	70.57	Si
SLU 38	11.45	-381.43	-7459	-5321	-292	1.55	1.55	-12261	8579	3723	101952	12996	7905	20901	No	71.51	Si
SLU 38	13.55	685.46	-8580	-6121	-292	1.55	1.55	-14104	8825	3830	101952	12996	7905	20901	No	71.51	Si
SLU 35	11.45	-377.42	-7765	-5539	-309	1.55	1.55	-12763	8646	3752	101952	12996	7905	20901	No	67.6	Si
SLU 35	13.55	673.91	-9017	-6433	-309	1.55	1.55	-14822	8921	3872	101952	12996	7905	20901	No	67.59	Si
SLU 79	11.45	-338.56	-9202	-6564	-267	1.55	1.55	-15125	8961	3889	101952	12996	7905	20901	No	78.41	Si
SLU 79	13.55	702.04	-9936	-7088	-267	1.55	1.55	-16332	9122	3959	101952	12996	7905	20901	No	78.39	Si
SLU 42	11.45	-335.45	-6401	-4566	-275	1.55	1.55	-10521	8347	3623	101952	12996	7905	20901	No	76.07	Si
SLU 42	13.55	584.77	-7512	-5359	-275	1.55	1.55	-12348	8591	3728	101952	12996	7905	20901	No	76.07	Si
SLU 77	11.45	-333.86	-9499	-6776	-270	1.55	1.55	-15613	9026	3917	101952	12996	7905	20901	No	77.28	Si
SLU 77	13.55	695.22	-10386	-7409	-271	1.55	1.55	-17072	9221	4002	101952	12996	7905	20901	No	77.26	Si
SLU 78	11.45	-333.18	-9490	-6770	-257	1.55	1.55	-15600	9024	3917	101952	12996	7905	20901	No	81.18	Si
SLU 78	13.55	699.96	-10399	-7418	-257	1.55	1.55	-17093	9223	4003	101952	12996	7905	20901	No	81.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	11.45	-2703.91	-7843	-5595	-3709	1.55	1.2908	-15611	13539	4893	101952	19494	7905	27399		7.39	Si
SLV 16	13.55	2785.9	-8033	-5731	-3117	1.55	1.2846	-13204	13058	4697	101952	19494	7905	27399		8.79	Si
SLV 14	11.45	-2751.85	-7588	-5413	-2896	1.55	1.237	-15757	13568	4699	101952	19494	7905	27399		9.46	Si
SLV 14	13.55	3136.76	-8546	-6096	-2305	1.55	1.2239	-14047	13226	4532	101952	19494	7905	27399		11.89	Si
SLV 4	11.45	2645.56	-4525	-3228	2708	1.55	0.5709	-7437	11904	2950	101952	19494	7905	27399		10.12	Si
SLV 4	13.55	-2589.64	-3292	-2348	2117	1.24	0	0	0	0	101952	15595	6324	21919		10.35	Si
SLV 13	11.45	-2708.22	-7609	-5428	-2758	1.55	1.2572	-15547	13526	4761	101952	19494	7905	27399		9.94	Si
SLV 13	13.55	3079.76	-8560	-6106	-2167	1.55	1.2456	-14070	13231	4614	101952	19494	7905	27399		12.64	Si
SLV 3	11.45	2689.19	-4546	-3243	2846	1.55	0.5501	-7472	11911	2954	101952	19494	7905	27399		9.63	Si
SLV 3	13.55	-2646.64	-3305	-2358	2255	1.24	0	0	0	0	101952	15595	6324	21919		9.72	Si
SLD 16	11.45	-1733.71	-7200	-5136	-2350	1.55	1.55	-11835	12784	5548	101952	19494	7905	27399		11.66	Si
SLD 16	13.55	1871.87	-7294	-5203	-1970	1.55	1.55	-11989	12814	5561	101952	19494	7905	27399		13.91	Si
SLV 15	11.45	-2660.28	-7864	-5610	-3571	1.55	1.3102	-15420	13501	4953	101952	19494	7905	27399		7.67	Si
SLV 15	13.55	2728.9	-8047	-5740	-2979	1.55	1.3076	-13227	13062	4782	101952	19494	7905	27399		9.2	Si
SLV 12	11.45	-768.52	-6983	-4982	-2389	1.55	1.55	-11479	12712	5517	101952	19494	7905	27399		11.47	Si
SLV 12	13.55	485.8	-5777	-4121	-2209	1.55	1.55	-9496	12316	5345	101952	19494	7905	27399		12.4	Si
SLV 1	11.45	2641.24	-4290	-3060	3659	1.55	0.478	-23166	15050	2905	101952	19494	7905	27399		7.49	Si
SLV 1	13.55	-2295.78	-3818	-2724	3067	1.24	0.5211	0	0	0	101952	15595	6324	21919		7.15	Si
SLV 2	11.45	2597.62	-4269	-3046	3521	1.55	0.4996	-7017	11820	2901	101952	19494	7905	27399		7.78	Si
SLV 2	13.55	-2238.78	-3804	-2714	2929	1.24	0.5596	0	0	0	101952	15595	6324	21919		7.48	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-3637	0.52	180.21	481.19	754.09	617.64	3.43	Si
SLV 3	-3656	0.52	180.21	483.56	757.03	620.3	3.44	Si
SLV 2	-3975	0.52	180.21	523.11	806.37	664.74	3.69	Si
SLV 1	-3994	0.52	180.21	525.46	809.32	667.39	3.7	Si
SLV 8	-4725	0.52	180.21	614.38	922.06	768.22	4.26	Si
SLV 7	-4738	0.52	180.21	615.92	924.02	769.97	4.27	Si
SLV 6	-5853	0.52	180.21	747.07	1094.89	920.98	5.11	Si
SLV 5	-5866	0.52	180.21	748.55	1096.85	922.7	5.12	Si
SLV 12	-5994	0.52	180.21	763.3	1116.49	939.89	5.22	Si
SLV 11	-6007	0.52	180.21	764.77	1118.45	941.61	5.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7380	-7588	-161	1.043	945.2	0.942	16.08984	6.17968	Si
SLV 13	-7347	-7609	-160	1.047	941.9	0.942	16.15376	6.17968	Si
SLV 16	-6859	-7843	201	1.103	892.4	0.939	17.05895	6.17968	Si
SLV 15	-6826	-7864	202	1.107	889.1	0.939	17.1275	6.17968	Si
SLV 10	-6572	-6132	-599	1.091	863.4	0.938	16.90233	5.47312	Si
SLV 9	-6550	-6146	-598	1.094	861.2	0.938	16.95232	5.47312	Si
SLV 6	-5363	-5136	-612	1.28	741.2	0.929	20.02208	5.47312	Si
SLV 5	-5341	-5150	-611	1.285	739	0.929	20.09257	5.47312	Si
SLV 12	-4835	-6983	609	1.389	688	0.925	21.81195	5.47312	Si
SLV 11	-4812	-6997	610	1.393	685.8	0.925	21.89221	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita

dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.918	SLU 38	Si
V_SLU	67.593	SLU 35	Si
PF_SLV	1.303	SLV 1	Si
V_SLV	7.147	SLV 1	Si
PFFP_SLV	3.427	SLV 4	Si
R_SLV	2.604	SLV 14	Si

Maschio 238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L7	L8	3.97	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	11.45	293.36	-13158	-0.0000169	0.0003743	0.0035	3.97	23082.04	25879.91	25879.91	88.22	No	Si
SLU 79	13.55	4267.03	-9871	-0.0000204	0.0003743	0.0035	3.97	17884.28	20096.63	20096.63	4.71	No	Si
SLU 35	11.45	94.69	-11220	-0.0000141	0.0003743	0.0035	3.97	20063.52	22487.75	22487.75	237.49	No	Si
SLU 35	13.55	4141.54	-9541	-0.0000197	0.0003743	0.0035	3.97	17342.58	19503.05	19503.05	4.71	No	Si
SLU 36	11.45	91.96	-11213	-0.0000141	0.0003743	0.0035	3.97	20051.86	22474.78	22474.78	244.41	No	Si
SLU 36	13.55	4139.5	-9538	-0.0000197	0.0003743	0.0035	3.97	17337.83	19497.87	19497.87	4.71	No	Si
SLU 29	11.45	478.63	-11473	-0.0000152	0.0003743	0.0035	3.97	20464.82	22935.57	22935.57	47.92	No	Si
SLU 29	13.55	3857.89	-8826	-0.0000182	0.0003743	0.0035	3.97	16153.28	18214.23	18214.23	4.72	No	Si
SLU 17	11.45	220.66	-9902	-0.0000127	0.0003743	0.0035	3.97	17936.04	20153.56	20153.56	91.33	No	Si
SLU 17	13.55	3200.16	-7097	-0.0000148	0.0003743	0.0035	3.97	13204.42	15071.48	15071.48	4.71	No	Si
SLU 38	11.45	-93.77	-10375	-0.000013	0.0003743	0.0035	3.97	18705.61	28448.26	28448.26	303.38	No	Si
SLU 38	13.55	3829.59	-8455	-0.0000177	0.0003743	0.0035	3.97	15529.22	17545.6	17545.6	4.58	No	Si
SLU 80	11.45	290.63	-13151	-0.0000169	0.0003743	0.0035	3.97	23070.88	25867.17	25867.17	89	No	Si
SLU 80	13.55	4264.98	-9868	-0.0000204	0.0003743	0.0035	3.97	17879.57	20091.44	20091.44	4.71	No	Si
SLU 37	11.45	-91.04	-10382	-0.000013	0.0003743	0.0035	3.97	18717.48	28460.94	28460.94	312.62	No	Si
SLU 37	13.55	3831.63	-8458	-0.0000177	0.0003743	0.0035	3.97	15534.08	17550.79	17550.79	4.58	No	Si
SLU 16	11.45	223.4	-9910	-0.0000127	0.0003743	0.0035	3.97	17948.04	20166.76	20166.76	90.27	No	Si
SLU 16	13.55	3202.2	-7100	-0.0000148	0.0003743	0.0035	3.97	13209.42	15076.75	15076.75	4.71	No	Si
SLU 30	11.45	475.9	-11465	-0.0000151	0.0003743	0.0035	3.97	20453.23	22922.6	22922.6	48.17	No	Si
SLU 30	13.55	3855.84	-8823	-0.0000182	0.0003743	0.0035	3.97	16148.46	18209.04	18209.04	4.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	11.45	671.69	-12302	-0.0000165	0.0005615	0.0035	3.97		24746.28	24746.28	36.84		Si
SLV 13	13.55	6486.98	-8829	-0.0000232	0.0005615	0.0035	3.97		18431.41	18431.41	2.84		Si
SLD 13	11.45	708.56	-11317	-0.0000153	0.0005615	0.0035	3.97		22975.59	22975.59	32.43		Si
SLD 13	13.55	4964.55	-7984	-0.0000192	0.0005615	0.0035	3.97		16863.67	16863.67	3.4		Si
SLV 16	11.45	687.86	-12404	-0.0000166	0.0005615	0.0035	3.97		24929.95	24929.95	36.24		Si
SLV 16	13.55	6588.98	-8978	-0.0000236	0.0005615	0.0035	3.97		18706.5	18706.5	2.84		Si
SLV 14	11.45	558.16	-12248	-0.0000162	0.0005615	0.0035	3.97		24650.21	24650.21	44.16		Si
SLV 14	13.55	6606.58	-8861	-0.0000235	0.0005615	0.0035	3.97		18490.26	18490.26	2.8		Si
SLD 14	11.45	636.53	-11283	-0.0000151	0.0005615	0.0035	3.97		22914.64	22914.64	36		Si
SLD 14	13.55	5040.43	-8004	-0.0000193	0.0005615	0.0035	3.97		16901	16901	3.35		Si
SLV 10	11.45	418.13	-10160	-0.0000133	0.0005615	0.0035	3.97		20866.18	20866.18	49.9		Si
SLV 10	13.55	3671.08	-7067	-0.0000156	0.0005615	0.0035	3.97		15161.47	15161.47	4.13		Si
SLV 9	11.45	494.55	-10196	-0.0000135	0.0005615	0.0035	3.97		20931.89	20931.89	42.33		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	13.55	3590.57	-7046	-0.0000154	0.0005615	0.0035	3.97		15121.86	15121.86	4.21		Si
SLD 16	11.45	711.56	-11376	-0.0000154	0.0005615	0.0035	3.97		23082.01	23082.01	32.44		Si
SLD 16	13.55	5027.67	-8075	-0.0000194	0.0005615	0.0035	3.97		17031.71	17031.71	3.39		Si
SLD 15	11.45	783.58	-11410	-0.0000156	0.0005615	0.0035	3.97		23142.96	23142.96	29.53		Si
SLD 15	13.55	4951.8	-8055	-0.0000192	0.0005615	0.0035	3.97		16994.37	16994.37	3.43		Si
SLV 15	11.45	801.39	-12457	-0.0000169	0.0005615	0.0035	3.97		25026.03	25026.03	31.23		Si
SLV 15	13.55	6469.38	-8946	-0.0000233	0.0005615	0.0035	3.97		18648.56	18648.56	2.88		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	11.45	-270.72	-9311	-6642	-4455	3.97	3.97	-5975	7741	8605	101952	33286	20247	53533	No	12.02	Si
SLU 41	13.55	3291.49	-7696	-5490	-4472	3.97	3.97	-4939	7603	8452	101952	33286	20247	53533	No	11.97	Si
SLU 32	11.45	159.15	-10617	-7574	-4342	3.97	3.97	-6813	7853	8729	101952	33286	20247	53533	No	12.33	Si
SLU 32	13.55	3612.65	-8938	-6376	-4359	3.97	3.97	-5736	7709	8570	101952	33286	20247	53533	No	12.28	Si
SLU 77	11.45	479.09	-13996	-9984	-4550	3.97	3.97	-8982	8142	9345	101952	33286	20247	53533	No	11.77	Si
SLU 77	13.55	4576.93	-10954	-7814	-4574	3.97	3.97	-7030	7882	8761	101952	33286	20247	53533	No	11.7	Si
SLU 84	11.45	110.95	-12080	-8617	-4385	3.97	3.97	-7752	7978	8868	101952	33286	20247	53533	No	12.21	Si
SLU 84	13.55	3724.84	-9106	-6496	-4406	3.97	3.97	-5844	7724	8586	101952	33286	20247	53533	No	12.15	Si
SLU 78	11.45	476.36	-13989	-9979	-4554	3.97	3.97	-8977	8141	9343	101952	33286	20247	53533	No	11.75	Si
SLU 78	13.55	4574.89	-10951	-7812	-4578	3.97	3.97	-7028	7882	8761	101952	33286	20247	53533	No	11.69	Si
SLU 35	11.45	94.69	-11220	-8004	-4624	3.97	3.97	-7200	7905	8787	101952	33286	20247	53533	No	11.58	Si
SLU 35	13.55	4141.54	-9541	-6806	-4645	3.97	3.97	-6123	7761	8627	101952	33286	20247	53533	No	11.52	Si
SLU 33	11.45	156.42	-10609	-7568	-4346	3.97	3.97	-6809	7852	8729	101952	33286	20247	53533	No	12.32	Si
SLU 33	13.55	3610.6	-8935	-6374	-4364	3.97	3.97	-5734	7709	8569	101952	33286	20247	53533	No	12.27	Si
SLU 36	11.45	91.96	-11213	-7999	-4628	3.97	3.97	-7196	7904	8786	101952	33286	20247	53533	No	11.57	Si
SLU 36	13.55	4139.5	-9538	-6804	-4650	3.97	3.97	-6121	7761	8627	101952	33286	20247	53533	No	11.51	Si
SLU 83	11.45	113.68	-12087	-8623	-4381	3.97	3.97	-7757	7979	8869	101952	33286	20247	53533	No	12.22	Si
SLU 83	13.55	3726.88	-9109	-6498	-4401	3.97	3.97	-5846	7724	8586	101952	33286	20247	53533	No	12.16	Si
SLU 42	11.45	-273.46	-9304	-6637	-4459	3.97	3.97	-5971	7741	8604	101952	33286	20247	53533	No	12.01	Si
SLU 42	13.55	3289.45	-7694	-5488	-4477	3.97	3.97	-4937	7603	8451	101952	33286	20247	53533	No	11.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	11.45	418.13	-10160	-7248	-3169	3.97	3.97	-6521	11721	13029	101952	49929	20247	70176		22.14	Si
SLV 10	13.55	3671.08	-7067	-5041	-2449	3.97	3.97	-4535	11324	12587	101952	49929	20247	70176		28.66	Si
SLD 16	11.45	711.56	-11376	-8115	-3708	3.97	3.97	-7301	11877	13202	101952	49929	20247	70176		18.93	Si
SLD 16	13.55	5027.67	-8075	-5760	-2486	3.97	3.97	-5182	11453	12731	101952	49929	20247	70176		28.23	Si
SLV 15	11.45	801.39	-12457	-8887	-4551	3.97	3.97	-7994	12016	13356	101952	49929	20247	70176		15.42	Si
SLV 15	13.55	6469.38	-8946	-6382	-2546	3.97	3.7856	-5741	11565	12259	101952	49929	20247	70176		27.57	Si
SLV 16	11.45	687.86	-12404	-8849	-4743	3.97	3.97	-7960	12009	13349	101952	49929	20247	70176		14.8	Si
SLV 16	13.55	6588.98	-8978	-6405	-2737	3.97	3.7533	-5762	11569	12158	101952	49929	20247	70176		25.64	Si
SLD 14	11.45	636.53	-11283	-8049	-3795	3.97	3.97	-7241	11865	13189	101952	49929	20247	70176		18.49	Si
SLD 14	13.55	5040.43	-8004	-5710	-2530	3.97	3.97	-5137	11444	12721	101952	49929	20247	70176		27.73	Si
SLD 13	11.45	708.56	-11317	-8073	-3674	3.97	3.97	-7263	11869	13194	101952	49929	20247	70176		19.1	Si
SLD 13	13.55	4964.55	-7984	-5696	-2409	3.97	3.97	-5124	11441	12718	101952	49929	20247	70176		29.13	Si
SLV 14	11.45	558.16	-12248	-8738	-4886	3.97	3.97	-7860	11989	13327	101952	49929	20247	70176		14.36	Si
SLV 14	13.55	6606.58	-8861	-6321	-2810	3.97	3.7182	-5687	11554	12029	101952	49929	20247	70176		24.97	Si
SLV 13	11.45	671.69	-12302	-8776	-4694	3.97	3.97	-7895	11996	13334	101952	49929	20247	70176		14.95	Si
SLV 13	13.55	6486.98	-8829	-6299	-2619	3.97	3.7509	-5666	11550	12130	101952	49929	20247	70176		26.8	Si
SLD 15	11.45	783.58	-11410	-8139	-3587	3.97	3.97	-7322	11881	13207	101952	49929	20247	70176		19.57	Si
SLD 15	13.55	4951.8	-8055	-5746	-2364	3.97	3.97	-5169	11451	12728	101952	49929	20247	70176		29.68	Si
SLV 9	11.45	494.55	-10196	-7274	-3040	3.97	3.97	-6544	11725	13034	101952	49929	20247	70176		23.08	Si
SLV 9	13.55	3590.57	-7046	-5026	-2320	3.97	3.97	-4522	11321	12584	101952	49929	20247	70176		30.25	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-5019	0.52	461.58	681.83	1280.56	981.2	2.13	Si
SLV 2	-5034	0.52	461.58	683.87	1282.97	983.42	2.13	Si
SLV 3	-5209	0.52	461.58	706.83	1310.24	1008.53	2.18	Si
SLV 4	-5224	0.52	461.58	708.85	1312.65	1010.75	2.19	Si
SLV 5	-6667	0.52	461.58	896.72	1537.94	1217.33	2.64	Si
SLV 6	-6677	0.52	461.58	898.05	1539.56	1218.81	2.64	Si
SLV 7	-7300	0.52	461.58	978.07	1636.49	1307.28	2.83	Si
SLV 8	-7311	0.52	461.58	979.4	1638.11	1308.75	2.84	Si
SLV 9	-8268	0.52	461.58	1101.09	1786.6	1443.84	3.13	Si
SLV 10	-8278	0.52	461.58	1102.4	1788.2	1445.3	3.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-3734	-6933	203	3.274	910.2	0.89	53.48694	6.17968	Si
SLV 3	-3731	-6986	203	3.275	909.9	0.89	53.50891	6.17968	Si
SLV 2	-3723	-6777	-199	3.28	909.2	0.89	53.58057	6.17968	Si
SLV 1	-3720	-6830	-199	3.281	908.9	0.89	53.60209	6.17968	Si
SLV 16	-3468	-12404	200	3.404	885.6	0.889	55.64419	6.17968	Si
SLV 15	-3465	-12457	199	3.406	885.3	0.889	55.6678	6.17968	Si
SLV 14	-3457	-12248	-202	3.409	884.6	0.889	55.72892	6.17968	Si
SLV 13	-3455	-12302	-202	3.411	884.3	0.889	55.75206	6.17968	Si
SLV 8	-3653	-9038	670	3.244	902.7	0.889	53.00091	5.47312	Si
SLV 7	-3651	-9074	670	3.244	902.5	0.889	53.01571	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.58	SLU 37	Si
V_SLU	11.513	SLU 36	Si
PF_SLV	2.799	SLV 14	Si
V_SLV	14.363	SLV 14	Si
PFFP_SLV	2.126	SLV 1	Si
R_SLV	8.655	SLV 4	Si

Maschio 239

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.414	-11.003	-0.749	L7	L8	2.666	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	11.45	443.21	-9588	-0.0000215	0.0003743	0.0035	2.6656	11166.72	11803.4	11803.4	26.63	No	Si
SLU 69	14.6	-1832.28	-804	-0.0001943	0.0003743	0.0035	2.1325	0	2991.2	2991.2	1.63	No	Si
SLU 77	11.45	553.6	-10057	-0.000023	0.0003743	0.0035	2.6656	11630.34	12248.61	12248.61	22.13	No	Si
SLU 77	14.6	-1873.7	-873	-0.0001876	0.0003743	0.0035	2.1325	0	3080.25	3080.25	1.64	No	Si
SLU 71	11.45	470.86	-9440	-0.0000213	0.0003743	0.0035	2.6656	11019.11	11663.9	11663.9	24.77	No	Si
SLU 71	14.6	-1731.66	-703	-0.0001957	0.0003743	0.0035	2.1325	0	2859.71	2859.71	1.65	No	Si
SLU 79	11.45	581.25	-9909	-0.0000228	0.0003743	0.0035	2.6656	11485.16	12108.01	12108.01	20.83	No	Si
SLU 79	14.6	-1773.09	-771	-0.000189	0.0003743	0.0035	2.1325	0	2948.79	2948.79	1.66	No	Si
SLU 66	11.45	434.3	-9372	-0.000021	0.0003743	0.0035	2.6656	10950.76	11599.67	11599.67	26.71	No	Si
SLU 66	14.6	-1747.03	-767	-0.0001844	0.0003743	0.0035	2.1325	0	2943.02	2943.02	1.68	No	Si
SLU 67	11.45	460.72	-9449	-0.0000213	0.0003743	0.0035	2.6656	11028	11672.28	11672.28	25.33	No	Si
SLU 67	14.6	-1750.83	-783	-0.0001816	0.0003743	0.0035	2.1325	0	2964.19	2964.19	1.69	No	Si
SLU 78	11.45	580.02	-10134	-0.0000232	0.0003743	0.0035	2.6656	11705.73	12322.05	12322.05	21.24	No	Si
SLU 78	14.6	-1877.5	-889	-0.0001847	0.0003743	0.0035	2.1325	0	3101.39	3101.39	1.65	No	Si
SLU 72	11.45	497.28	-9517	-0.0000216	0.0003743	0.0035	2.6656	11096.17	11736.59	11736.59	23.6	No	Si
SLU 72	14.6	-1735.46	-719	-0.0001928	0.0003743	0.0035	2.1325	0	2880.87	2880.87	1.66	No	Si
SLU 70	11.45	469.63	-9665	-0.0000217	0.0003743	0.0035	2.6656	11243.38	11876.27	11876.27	25.29	No	Si
SLU 70	14.6	-1836.08	-820	-0.0001914	0.0003743	0.0035	2.1325	0	3012.37	3012.37	1.64	No	Si
SLU 80	11.45	607.67	-9986	-0.0000231	0.0003743	0.0035	2.6656	11560.95	12181.27	12181.27	20.05	No	Si
SLU 80	14.6	-1776.88	-788	-0.0001861	0.0003743	0.0035	2.1325	0	2969.95	2969.95	1.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	11.45	328.2	-7245	-0.0000159	0.0005615	0.0035	2.6656		9535.9	9535.9	29.06		Si
SLV 2	14.6	-1288.18	373	0.0236437	0.0005615	0.0035	2.1325		0	0	0		No
SLV 1	11.45	342.48	-7194	-0.0000159	0.0005615	0.0035	2.6656		9475.13	9475.13	27.67		Si
SLV 1	14.6	-1354.13	313	0.0199055	0.0005615	0.0035	2.1325		0	0	0		No
SLV 7	11.45	-431.97	-1098	-0.0000041	0.0005615	0.0035	2.6656		3369.72	3369.72	7.8		Si
SLV 7	14.6	-1619.07	1089	0.0676892	0.0005615	0.0035	2.1325		0	0	0		No
SLV 4	11.45	-109.97	-4024	-0.0000085	0.0005615	0.0035	2.6656		7091.95	7091.95	64.49		Si
SLV 4	14.6	-1504.19	1106	0.0686036	0.0005615	0.0035	2.1325		0	0	0		No
SLD 4	11.45	74.13	-5131	-0.0000105	0.0005615	0.0035	2.6656		6952.89	6952.89	93.79		Si
SLD 4	14.6	-1373.1	522	0.0328615	0.0005615	0.0035	2.1325		0	0	0		No
SLV 12	11.45	-289.64	-1881	-0.000005	0.0005615	0.0035	2.6656		4376.42	4376.42	15.11		Si
SLV 12	14.6	-1409.86	425	0.0269499	0.0005615	0.0035	2.1325		0	0	0		No
SLV 11	11.45	-280.03	-1847	-0.0000049	0.0005615	0.0035	2.6656		4332.66	4332.66	15.47		Si
SLV 11	14.6	-1454.25	385	0.0244427	0.0005615	0.0035	2.1325		0	0	0		No
SLD 8	11.45	-109.68	-3485	-0.0000074	0.0005615	0.0035	2.6656		6414.99	6414.99	58.49		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	14.6	-1401.89	490	0.030943	0.0005615	0.0035	2.1325		0	0	0		No
SLV 8	11.45	-441.58	-1132	-0.0000042	0.0005615	0.0035	2.6656		3413.78	3413.78	7.73		Si
SLV 8	14.6	-1574.68	1130	0.0701111	0.0005615	0.0035	2.1325		0	0	0		No
SLV 3	11.45	-95.7	-3974	-0.0000083	0.0005615	0.0035	2.6656		7028.44	7028.44	73.45		Si
SLV 3	14.6	-1570.14	1046	0.065007	0.0005615	0.0035	2.1325		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	11.45	581.25	-9909	-8252	2596	2.6656	2.6656	-11056	8419	6283	35683	22350	6797	29147	No	11.23	Si
SLU 79	14.6	-1773.09	-771	-642	2260	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.32	Si
SLU 84	11.45	646.07	-9972	-8304	2495	2.6656	2.6656	-11125	8428	6290	35683	22350	6797	29147	No	11.68	Si
SLU 84	14.6	-1709.39	-780	-650	2231	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.45	Si
SLU 70	11.45	469.63	-9665	-8048	2553	2.6656	2.6656	-10783	8382	6256	35683	22350	6797	29147	No	11.42	Si
SLU 70	14.6	-1836.08	-820	-683	2189	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.65	Si
SLU 76	11.45	616.37	-9822	-8179	2486	2.6656	2.6656	-10958	8406	6274	35683	22350	6797	29147	No	11.72	Si
SLU 76	14.6	-1694.17	-761	-634	2182	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.69	Si
SLU 75	11.45	571.11	-9918	-8259	2460	2.6656	2.6656	-11066	8420	6284	35683	22350	6797	29147	No	11.85	Si
SLU 75	14.6	-1792.25	-852	-710	2224	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.49	Si
SLU 77	11.45	553.6	-10057	-8375	2588	2.6656	2.6656	-11221	8441	6300	35683	22350	6797	29147	No	11.26	Si
SLU 77	14.6	-1873.7	-873	-727	2317	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.07	Si
SLU 83	11.45	619.65	-9895	-8239	2468	2.6656	2.6656	-11039	8416	6282	35683	22350	6797	29147	No	11.81	Si
SLU 83	14.6	-1705.59	-764	-636	2209	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.56	Si
SLU 78	11.45	580.02	-10134	-8439	2615	2.6656	2.6656	-11306	8452	6308	35683	22350	6797	29147	No	11.15	Si
SLU 78	14.6	-1877.5	-889	-741	2340	2.1325	0	0	0	0	35683	17880	5438	23318	No	9.97	Si
SLU 80	11.45	607.67	-9986	-8316	2623	2.6656	2.6656	-11142	8430	6292	35683	22350	6797	29147	No	11.11	Si
SLU 80	14.6	-1776.88	-788	-656	2283	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.22	Si
SLU 74	11.45	544.69	-9841	-8195	2434	2.6656	2.6656	-10980	8408	6276	35683	22350	6797	29147	No	11.98	Si
SLU 74	14.6	-1788.45	-836	-696	2201	2.1325	0	0	0	0	35683	17880	5438	23318	No	10.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	11.45	848.64	-10229	-8518	1177	2.6656	2.6656	-11412	12699	9478	35683	33525	6797	40322		34.26	Si
SLD 9	14.6	-907.03	-1419	-1182	2369	2.6656	2.0814	-2029	10822	6307	35683	33525	6797	40322		17.02	Si
SLV 6	11.45	1018.99	-11867	-9882	977	2.6656	2.6656	-13240	13065	9751	35683	33525	6797	40322		41.27	Si
SLV 6	14.6	-854.66	-1314	-1094	2911	2.6656	2.0473	-1909	10798	6190	35683	33525	6797	40322		13.85	Si
SLV 8	11.45	-441.58	-1132	-943	2482	2.6656	2.6656	-1263	10669	7963	35683	33525	6797	40322		16.25	Si
SLV 8	14.6	-1574.68	1130	941	-207	2.1325	0	0	0	0	35683	26820	5438	32258		155.83	Si
SLV 5	11.45	1028.6	-11833	-9854	976	2.6656	2.6656	-13202	13057	9745	35683	33525	6797	40322		41.32	Si
SLV 5	14.6	-899.06	-1355	-1128	2956	2.6656	2.0075	-2007	10818	6081	35683	33525	6797	40322		13.64	Si
SLV 9	11.45	1180.54	-12582	-10477	842	2.6656	2.6656	-14037	13224	9870	35683	33525	6797	40322		47.91	Si
SLV 9	14.6	-734.23	-2059	-1715	3036	2.6656	2.6656	-2297	10876	8118	35683	33525	6797	40322		13.28	Si
SLV 10	11.45	1170.93	-12616	-10505	843	2.6656	2.6656	-14075	13232	9876	35683	33525	6797	40322		47.85	Si
SLV 10	14.6	-689.84	-2018	-1681	2991	2.6656	2.6656	-2252	10867	8111	35683	33525	6797	40322		13.48	Si
SLD 6	11.45	745.27	-9770	-8136	1263	2.6656	2.6656	-10900	12597	9402	35683	33525	6797	40322		31.92	Si
SLD 6	14.6	-986.43	-944	-786	2291	2.1325	0.8621	0	0	0	35683	26820	5438	32258		14.08	Si
SLV 12	11.45	-289.64	-1881	-1566	2348	2.6656	2.6656	-2098	10836	8088	35683	33525	6797	40322		17.17	Si
SLV 12	14.6	-1409.86	425	354	-127	2.1325	0	0	0	0	35683	26820	5438	32258		254.25	Si
SLD 5	11.45	751.1	-9749	-8119	1262	2.6656	2.6656	-10877	12592	9398	35683	33525	6797	40322		31.94	Si
SLD 5	14.6	-1013.37	-968	-806	2318	2.1325	0.8586	0	0	0	35683	26820	5438	32258		13.92	Si
SLV 7	11.45	-431.97	-1098	-914	2481	2.6656	2.6656	-1225	10662	7958	35683	33525	6797	40322		16.25	Si
SLV 7	14.6	-1619.07	1089	907	-162	2.1325	0	0	0	0	35683	26820	5438	32258		199.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	0	-1123	309.93	0	0	No, e>t/2
SLV 8	179667	0.52	0	-24	309.93	0	0	No, e>t/2
SLV 3	179667	0.52	0	-1127	309.93	0	0	No, e>t/2
SLV 7	179667	0.52	0	-61	309.93	0	0	No, e>t/2
SLV 12	179667	0.52	0	-1087	309.93	0	0	No, e>t/2
SLV 4	179667	0.52	0	-1073	309.93	0	0	No, e>t/2
SLV 2	179667	0.52	4076	-3042	309.93	414.52	1.34	Si
SLV 1	179667	0.52	4148	-3096	309.93	421.67	1.36	Si
SLV 16	179667	0.52	6182	-4614	309.93	619.81	2	Si
SLV 15	179667	0.52	6254	-4668	309.93	626.75	2.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-2036	-9690	340	3.592	567.9	0.889	58.72284	6.17968	Si
SLV 14	-1975	-9740	341	3.644	562.5	0.889	59.57183	6.17968	Si
SLV 9	-2059	-12582	58	3.639	570.1	0.889	59.50082	5.47312	Si
SLV 10	-2018	-12616	58	3.675	566.4	0.889	60.07507	5.47312	Si
SLV 15	-1302	-6469	371	4.344	504.6	0.895	70.5734	6.17968	Si
SLV 16	-1242	-6520	371	4.421	499.8	0.896	71.73845	6.17968	Si
SLV 5	-1355	-11833	-154	4.341	508.9	0.894	70.60103	5.47312	Si
SLV 6	-1314	-11867	-153	4.392	505.6	0.894	71.37895	5.47312	Si
SLV 1	313	-7194	-366	7.543	431.4	1	109.62215	6.17968	Si, Trazione
SLV 2	373	-7245	-365	7.66	431.4	1	111.3221	6.17968	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.633	SLU 69	Si
V_SLU	9.967	SLU 78	Si
PF_SLV	0	SLD 3	No
V_SLV	13.282	SLV 9	Si
PFFP_SLV	0	SLV 3	No
R_SLV	9.503	SLV 13	Si

Maschio 240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.906	L7	L8	1.26	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	11.45	219.73	-4389	-0.0000233	0.0003743	0.0035	1.2599	2427.16	2668	2668	12.14	No	Si
SLU 78	14.6	1241.59	-1853	-0.0011476	0.0003743	0.0035	1.008	0	1280.01	1280.01	1.03	No	Si
SLU 36	11.45	184.24	-3534	-0.0000188	0.0003743	0.0035	1.2599	2007.45	2217.14	2217.14	12.03	No	Si
SLU 36	14.6	1145.29	-1633	-0.0013722	0.0003743	0.0035	1.008	0	1152.61	1152.61	1.01	No	Si
SLU 34	11.45	201.74	-3403	-0.0000186	0.0003743	0.0035	1.2599	1940.61	2145.89	2145.89	10.64	No	Si
SLU 34	14.6	1025.64	-1484	-0.0010268	0.0003743	0.0035	1.008	0	1066.06	1066.06	1.04	No	Si
SLU 41	11.45	271.61	-3425	-0.0000201	0.0003743	0.0035	1.2599	1951.79	2157.8	2157.8	7.94	No	Si
SLU 41	14.6	1015.53	-1471	-0.0010031	0.0003743	0.0035	1.008	0	1058.32	1058.32	1.04	No	Si
SLU 77	11.45	217.59	-4408	-0.0000234	0.0003743	0.0035	1.2599	2436.04	2677.77	2677.77	12.31	No	Si
SLU 77	14.6	1220.59	-1842	-0.0010104	0.0003743	0.0035	1.008	0	1274	1274	1.04	No	Si
SLU 42	11.45	273.76	-3406	-0.0000201	0.0003743	0.0035	1.2599	1942.27	2147.67	2147.67	7.85	No	Si
SLU 42	14.6	1036.54	-1482	-0.001134	0.0003743	0.0035	1.008	0	1064.46	1064.46	1.03	No	Si
SLU 38	11.45	193.1	-3504	-0.0000189	0.0003743	0.0035	1.2599	1991.93	2200.6	2200.6	11.4	No	Si
SLU 38	14.6	1104.85	-1589	-0.0012174	0.0003743	0.0035	1.008	0	1127.13	1127.13	1.02	No	Si
SLU 35	11.45	182.1	-3553	-0.0000188	0.0003743	0.0035	1.2599	2016.88	2227.21	2227.21	12.23	No	Si
SLU 35	14.6	1124.29	-1622	-0.001229	0.0003743	0.0035	1.008	0	1146.48	1146.48	1.02	No	Si
SLU 37	11.45	190.96	-3522	-0.0000189	0.0003743	0.0035	1.2599	2001.39	2210.67	2210.67	11.58	No	Si
SLU 37	14.6	1083.85	-1578	-0.0010815	0.0003743	0.0035	1.008	0	1121	1121	1.03	No	Si
SLU 33	11.45	191.45	-3446	-0.0000186	0.0003743	0.0035	1.2599	1962.56	2169.28	2169.28	11.33	No	Si
SLU 33	14.6	1052.08	-1521	-0.0010803	0.0003743	0.0035	1.008	0	1087.46	1087.46	1.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	11.45	461.98	-5410	-0.0000325	0.0005615	0.0035	1.2599		3296.59	3296.59	7.14		Si
SLV 7	14.6	-1589.19	-78	-0.0018574	0.0005615	0.0035	1.008		759.67	759.67	0.48		No
SLV 14	11.45	-199.46	-1552	-0.0000105	0.0005615	0.0035	1.2599		1649.83	1649.83	8.27		Si
SLV 14	14.6	2197.79	-1771	-0.012882	0.0005615	0.0035	1.008		1246.32	1246.32	0.57		No
SLV 5	11.45	-108.18	-1603	-0.0000089	0.0005615	0.0035	1.2599		1680.22	1680.22	15.53		Si
SLV 5	14.6	2411.28	-2010	-0.0137658	0.0005615	0.0035	1.008		1388.22	1388.22	0.58		No
SLV 13	11.45	-208.4	-1542	-0.0000106	0.0005615	0.0035	1.2599		1644.25	1644.25	7.89		Si
SLV 13	14.6	2209.95	-1774	-0.0129989	0.0005615	0.0035	1.008		1248.24	1248.24	0.56		No
SLD 10	11.45	-98.77	-1869	-0.0000098	0.0005615	0.0035	1.2599		1835.1	1835.1	18.58		Si
SLD 10	14.6	2028.86	-1774	-0.010945	0.0005615	0.0035	1.008		1248.36	1248.36	0.62		No
SLV 8	11.45	467.99	-5416	-0.0000326	0.0005615	0.0035	1.2599		3299.93	3299.93	7.05		Si
SLV 8	14.6	-1597.37	-76	-0.0018767	0.0005615	0.0035	1.008		758.3	758.3	0.47		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	11.45	-102.17	-1609	-0.0000088	0.0005615	0.0035	1.2599		1683.88	1683.88	16.48		Si
SLV 6	14.6	2403.09	-2007	-0.0136877	0.0005615	0.0035	1.008		1386.93	1386.93	0.58		No
SLD 9	11.45	-102.41	-1865	-0.0000099	0.0005615	0.0035	1.2599		1832.88	1832.88	17.9		Si
SLD 9	14.6	2033.82	-1775	-0.0109931	0.0005615	0.0035	1.008		1249.14	1249.14	0.61		No
SLV 9	11.45	-245.86	-960	-0.000009	0.0005615	0.0035	1.2599		1296.64	1296.64	5.27		Si
SLV 9	14.6	2963.67	-2213	-0.0186616	0.0005615	0.0035	1.008		1507.45	1507.45	0.51		No
SLV 10	11.45	-239.85	-967	-0.0000089	0.0005615	0.0035	1.2599		1300.42	1300.42	5.42		Si
SLV 10	14.6	2955.48	-2210	-0.0185839	0.0005615	0.0035	1.008		1506.18	1506.18	0.51		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	11.45	182.1	-3553	-2959	317	1.2599	1.2599	-8387	8063	2844	68988	10564	3213	13777	No	43.52	Si
SLU 35	14.6	1124.29	-1622	-1351	-758	1.008	0	0	0	0	68988	8451	2570	11021	No	14.55	Si
SLU 70	11.45	48.36	-4411	-3673	168	1.2599	1.2599	-10411	8333	2940	68988	10564	3213	13777	No	81.78	Si
SLU 70	14.6	1183.5	-1843	-1534	-793	1.008	0	0	0	0	68988	8451	2570	11021	No	13.9	Si
SLU 72	11.45	57.22	-4380	-3647	179	1.2599	1.2599	-10338	8323	2936	68988	10564	3213	13777	No	77.08	Si
SLU 72	14.6	1143.06	-1799	-1498	-770	1.008	0	0	0	0	68988	8451	2570	11021	No	14.31	Si
SLU 36	11.45	184.24	-3534	-2943	318	1.2599	1.2599	-8343	8057	2842	68988	10564	3213	13777	No	43.33	Si
SLU 36	14.6	1145.29	-1633	-1359	-776	1.008	0	0	0	0	68988	8451	2570	11021	No	14.2	Si
SLU 77	11.45	217.59	-4408	-3670	365	1.2599	1.2599	-10404	8332	2939	68988	10564	3213	13777	No	37.78	Si
SLU 77	14.6	1220.59	-1842	-1534	-804	1.008	0	0	0	0	68988	8451	2570	11021	No	13.71	Si
SLU 69	11.45	46.21	-4429	-3688	167	1.2599	1.2599	-10455	8338	2942	68988	10564	3213	13777	No	82.46	Si
SLU 69	14.6	1162.49	-1832	-1526	-774	1.008	0	0	0	0	68988	8451	2570	11021	No	14.23	Si
SLU 80	11.45	228.59	-4359	-3629	376	1.2599	1.2599	-10288	8316	2934	68988	10564	3213	13777	No	36.61	Si
SLU 80	14.6	1201.15	-1809	-1506	-800	1.008	0	0	0	0	68988	8451	2570	11021	No	13.78	Si
SLU 78	11.45	219.73	-4389	-3655	366	1.2599	1.2599	-10360	8326	2937	68988	10564	3213	13777	No	37.64	Si
SLU 78	14.6	1241.59	-1853	-1543	-822	1.008	0	0	0	0	68988	8451	2570	11021	No	13.4	Si
SLU 79	11.45	226.45	-4377	-3645	375	1.2599	1.2599	-10332	8322	2936	68988	10564	3213	13777	No	36.75	Si
SLU 79	14.6	1180.15	-1798	-1498	-781	1.008	0	0	0	0	68988	8451	2570	11021	No	14.11	Si
SLU 38	11.45	193.1	-3504	-2918	328	1.2599	1.2599	-8270	8047	2839	68988	10564	3213	13777	No	41.98	Si
SLU 38	14.6	1104.85	-1589	-1323	-753	1.008	0	0	0	0	68988	8451	2570	11021	No	14.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	11.45	-245.86	-960	-800	-417	1.2599	1.122	-2545	10926	3432	68988	15846	3213	19059		45.65	Si
SLV 9	14.6	2963.67	-2213	-1842	-2544	1.008	0	0	0	0	68988	12677	2570	15247		5.99	Si
SLV 10	11.45	-239.85	-967	-805	-411	1.2599	1.1456	-2510	10919	3502	68988	15846	3213	19059		46.33	Si
SLV 10	14.6	2955.48	-2210	-1841	-2537	1.008	0	0	0	0	68988	12677	2570	15247		6.01	Si
SLD 9	11.45	-102.41	-1865	-1553	-160	1.2599	1.2599	-4403	11297	3985	68988	15846	3213	19059		119.02	Si
SLD 9	14.6	2033.82	-1775	-1478	-1684	1.008	0	0	0	0	68988	12677	2570	15247		9.05	Si
SLV 5	11.45	-108.18	-1603	-1335	-296	1.2599	1.2599	-3783	11173	3942	68988	15846	3213	19059		64.3	Si
SLV 5	14.6	2411.28	-2010	-1673	-2107	1.008	0	0	0	0	68988	12677	2570	15247		7.24	Si
SLV 14	11.45	-199.46	-1552	-1292	-154	1.2599	1.2599	-3662	11149	3933	68988	15846	3213	19059		123.82	Si
SLV 14	14.6	2197.79	-1771	-1474	-1719	1.008	0	0	0	0	68988	12677	2570	15247		8.87	Si
SLV 13	11.45	-208.4	-1542	-1284	-163	1.2599	1.2599	-3640	11145	3932	68988	15846	3213	19059		116.89	Si
SLV 13	14.6	2209.95	-1774	-1477	-1730	1.008	0	0	0	0	68988	12677	2570	15247		8.81	Si
SLV 6	11.45	-102.17	-1609	-1340	-290	1.2599	1.2599	-3798	11176	3943	68988	15846	3213	19059		65.66	Si
SLV 6	14.6	2403.09	-2007	-1672	-2099	1.008	0	0	0	0	68988	12677	2570	15247		7.26	Si
SLD 10	11.45	-98.77	-1869	-1556	-156	1.2599	1.2599	-4412	11299	3986	68988	15846	3213	19059		121.86	Si
SLD 10	14.6	2028.86	-1774	-1477	-1679	1.008	0	0	0	0	68988	12677	2570	15247		9.08	Si
SLV 7	11.45	461.98	-5410	-4505	839	1.2599	1.2599	-12770	12971	4576	68988	15846	3213	19059		22.73	Si
SLV 7	14.6	-1589.19	-78	-65	1683	1.008	0	0	0	0	68988	12677	2570	15247		9.06	Si
SLV 8	11.45	467.99	-5416	-4510	845	1.2599	1.2599	-12784	12974	4577	68988	15846	3213	19059		22.56	Si
SLV 8	14.6	-1597.37	-76	-63	1691	1.008	0	0	0	0	68988	12677	2570	15247		9.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.52	5103	-1800	146.49	243.6	1.66	Si
SLV 16	179667	0.52	5108	-1802	146.49	243.82	1.66	Si
SLV 11	179667	0.52	5393	-1903	146.49	256.95	1.75	Si
SLV 12	179667	0.52	5396	-1904	146.49	257.1	1.76	Si
SLV 13	179667	0.52	5606	-1978	146.49	266.74	1.82	Si
SLV 14	179667	0.52	5611	-1980	146.49	266.96	1.82	Si
SLV 7	179667	0.52	6145	-2168	146.49	291.28	1.99	Si
SLV 8	179667	0.52	6148	-2169	146.49	291.43	1.99	Si
SLV 9	179667	0.52	7072	-2495	146.49	333.12	2.27	Si
SLV 10	179667	0.52	7076	-2496	146.49	333.27	2.28	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-2213	-960	-2	2.261	387.9	0.903	36.37446	5.47312	Si
SLV 10	-2210	-967	-2	2.262	387.7	0.903	36.39987	5.47312	Si
SLV 13	-1774	-1542	199	2.54	345	0.897	41.16654	6.17968	Si
SLV 14	-1771	-1552	199	2.543	344.7	0.897	41.2158	6.17968	Si
SLV 5	-2010	-1603	-162	2.357	367.9	0.9	38.05215	5.47312	Si
SLV 6	-2007	-1609	-162	2.358	367.7	0.9	38.08046	5.47312	Si
SLV 15	-1195	-2684	212	3.193	289.7	0.89	52.15761	6.17968	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-1191	-2694	212	3.197	289.4	0.89	52.2347	6.17968	Si
SLV 1	-1097	-3683	-334	3.28	280.8	0.889	53.62291	6.17968	Si
SLV 2	-1094	-3692	-334	3.285	280.5	0.889	53.70513	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.006	SLU 36	Si
V_SLU	13.401	SLU 78	Si
PF_SLV	0.475	SLV 8	No
V_SLV	5.993	SLV 9	Si
PFFP_SLV	1.663	SLV 15	Si
R_SLV	6.646	SLV 9	Si

Maschio 242

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.521	L7	L8	5.38	0.2	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	11.45	-1970	-15134	-0.0000213	0.0003743	0.0035	5.38	35086.92	54428.01	54428.01	27.63	No	Si
SLU 75	14.6	-4171.29	-1601	-0.0000279	0.0003743	0.0035	4.304	4244.31	21497.78	21497.78	5.15	No	Si
SLU 69	11.45	-2520.42	-15387	-0.0000224	0.0003743	0.0035	5.38	35576.81	55019.76	55019.76	21.83	No	Si
SLU 69	14.6	-4342.17	-1664	-0.0000293	0.0003743	0.0035	4.304	4408.41	21659.14	21659.14	4.99	No	Si
SLU 70	11.45	-2512.85	-15329	-0.0000223	0.0003743	0.0035	5.38	35464.48	54883.74	54883.74	21.84	No	Si
SLU 70	14.6	-4305.55	-1650	-0.000029	0.0003743	0.0035	4.304	4372.89	21624.19	21624.19	5.02	No	Si
SLU 79	11.45	-1871.17	-15624	-0.0000217	0.0003743	0.0035	5.38	36033.57	55574.93	55574.93	29.7	No	Si
SLU 79	14.6	-4487.19	-1718	-0.0000303	0.0003743	0.0035	4.304	4549.17	21797.7	21797.7	4.86	No	Si
SLU 74	11.45	-1977.57	-15192	-0.0000214	0.0003743	0.0035	5.38	35199.8	54564.03	54564.03	27.59	No	Si
SLU 74	14.6	-4207.91	-1615	-0.0000282	0.0003743	0.0035	4.304	4279.87	21532.73	21532.73	5.12	No	Si
SLU 78	11.45	-1982.03	-15771	-0.0000221	0.0003743	0.0035	5.38	36316.79	55920.87	55920.87	28.21	No	Si
SLU 78	14.6	-4587.53	-1756	-0.0000311	0.0003743	0.0035	4.304	4646.74	21893.83	21893.83	4.77	No	Si
SLU 80	11.45	-1863.6	-15566	-0.0000217	0.0003743	0.0035	5.38	35921.92	55438.91	55438.91	29.75	No	Si
SLU 80	14.6	-4450.57	-1704	-0.0000301	0.0003743	0.0035	4.304	4513.68	21762.75	21762.75	4.89	No	Si
SLU 71	11.45	-2401.99	-15181	-0.0000219	0.0003743	0.0035	5.38	35178.05	54537.81	54537.81	22.71	No	Si
SLU 71	14.6	-4205.21	-1613	-0.0000282	0.0003743	0.0035	4.304	4275.13	21528.06	21528.06	5.12	No	Si
SLU 77	11.45	-1989.6	-15829	-0.0000222	0.0003743	0.0035	5.38	36427.86	56056.89	56056.89	28.17	No	Si
SLU 77	14.6	-4624.15	-1769	-0.0000314	0.0003743	0.0035	4.304	4682.19	21928.78	21928.78	4.74	No	Si
SLU 83	11.45	-1631.65	-15176	-0.0000208	0.0003743	0.0035	5.38	35168.72	54526.56	54526.56	33.42	No	Si
SLU 83	14.6	-4191.8	-1609	-0.0000281	0.0003743	0.0035	4.304	4264.09	21517.21	21517.21	5.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.45	-7473.49	-5445	-0.000018	0.0005615	0.0035	5.38		31291.33	31291.33	4.19		Si
SLV 9	14.6	779.69	272	-0.0001924	0.0005615	0.0035	4.304		2223.28	2223.28	2.85		Si
SLD 11	11.45	513.38	-13840	-0.0000175	0.0005615	0.0035	5.38		37978.1	37978.1	73.98		Si
SLD 11	14.6	-4810.99	-1832	-0.0000329	0.0005615	0.0035	4.304		22083.99	22083.99	4.59		Si
SLV 5	11.45	-5632.56	-5017	-0.0000139	0.0005615	0.0035	5.38		30209.83	30209.83	5.36		Si
SLV 5	14.6	1251.96	447	-0.0003251	0.0005615	0.0035	4.304		1762.24	1762.24	1.41		Si
SLV 10	11.45	-7544.48	-5318	-0.0000182	0.0005615	0.0035	5.38		30971.84	30971.84	4.11		Si
SLV 10	14.6	858.9	302	-0.0002139	0.0005615	0.0035	4.304		2145.61	2145.61	2.5		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	11.45	2136.54	-16036	-0.0000224	0.0005615	0.0035	5.38		43269.66	43269.66	20.25		Si
SLV 12	14.6	-6321.54	-2399	-0.0000439	0.0005615	0.0035	4.304		23537.89	23537.89	3.72		Si
SLV 8	11.45	3977.48	-15608	-0.0000245	0.0005615	0.0035	5.38		42248.6	42248.6	10.62		Si
SLV 8	14.6	-5849.27	-2224	-0.0000403	0.0005615	0.0035	4.304		23089.78	23089.78	3.95		Si
SLV 7	11.45	4048.46	-15735	-0.0000247	0.0005615	0.0035	5.38		42551.67	42551.67	10.51		Si
SLV 7	14.6	-5928.48	-2254	-0.0000409	0.0005615	0.0035	4.304		23165.27	23165.27	3.91		Si
SLV 6	11.45	-5703.54	-4890	-0.0000139	0.0005615	0.0035	5.38		29887.26	29887.26	5.24		Si
SLV 6	14.6	1331.17	476	-0.0003487	0.0005615	0.0035	4.304		1684.57	1684.57	1.27		Si
SLV 11	11.45	2207.52	-16163	-0.0000227	0.0005615	0.0035	5.38		43572.72	43572.72	19.74		Si
SLV 11	14.6	-6400.75	-2429	-0.0000445	0.0005615	0.0035	4.304		23613.38	23613.38	3.69		Si
SLD 12	11.45	470.3	-13763	-0.0000173	0.0005615	0.0035	5.38		37791.09	37791.09	80.35		Si
SLD 12	14.6	-4762.92	-1814	-0.0000326	0.0005615	0.0035	4.304		22038.18	22038.18	4.63		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	11.45	-1977.57	-15192	-9723	4912	5.38	5.38	-9036	8149	9069	101952	32220	27438	59658	No	12.15	Si
SLU 74	14.6	-4207.91	-1615	-1033	4896	4.304	0.2526	0	0	0	101952	25776	21950	47727	No	9.75	Si
SLU 84	11.45	-1624.08	-15118	-9676	4961	5.38	5.38	-8992	8143	9050	101952	32220	27438	59658	No	12.03	Si
SLU 84	14.6	-4155.18	-1595	-1021	4946	4.304	0.2554	0	0	0	101952	25776	21950	47727	No	9.65	Si
SLU 83	11.45	-1631.65	-15176	-9713	5008	5.38	5.38	-9027	8148	9065	101952	32220	27438	59658	No	11.91	Si
SLU 83	14.6	-4191.8	-1609	-1030	4993	4.304	0.2533	0	0	0	101952	25776	21950	47727	No	9.56	Si
SLU 78	11.45	-1982.03	-15771	-10094	5406	5.38	5.38	-9381	8195	9217	101952	32220	27438	59658	No	11.04	Si
SLU 78	14.6	-4587.53	-1756	-1124	5382	4.304	0.2305	0	0	0	101952	25776	21950	47727	No	8.87	Si
SLU 37	11.45	-1163.82	-13085	-8374	4934	5.38	5.38	-7783	7982	8589	101952	32220	27438	59658	No	12.09	Si
SLU 37	14.6	-4024.27	-1546	-989	4912	4.304	0.261	0	0	0	101952	25776	21950	47727	No	9.72	Si
SLU 36	11.45	-1274.68	-13232	-8469	5024	5.38	5.38	-7870	7994	8601	101952	32220	27438	59658	No	11.87	Si
SLU 36	14.6	-4124.62	-1583	-1013	5005	4.304	0.2556	0	0	0	101952	25776	21950	47727	No	9.54	Si
SLU 77	11.45	-1989.6	-15829	-10131	5453	5.38	5.38	-9415	8200	9232	101952	32220	27438	59658	No	10.94	Si
SLU 77	14.6	-4624.15	-1769	-1132	5429	4.304	0.2287	0	0	0	101952	25776	21950	47727	No	8.79	Si
SLU 35	11.45	-1282.25	-13290	-8506	5072	5.38	5.38	-7905	7998	8606	101952	32220	27438	59658	No	11.76	Si
SLU 35	14.6	-4161.24	-1597	-1022	5052	4.304	0.2534	0	0	0	101952	25776	21950	47727	No	9.45	Si
SLU 80	11.45	-1863.6	-15566	-9962	5268	5.38	5.38	-9258	8179	9164	101952	32220	27438	59658	No	11.32	Si
SLU 80	14.6	-4450.57	-1704	-1091	5243	4.304	0.2366	0	0	0	101952	25776	21950	47727	No	9.1	Si
SLU 79	11.45	-1871.17	-15624	-9999	5315	5.38	5.38	-9293	8183	9179	101952	32220	27438	59658	No	11.22	Si
SLU 79	14.6	-4487.19	-1718	-1100	5290	4.304	0.2348	0	0	0	101952	25776	21950	47727	No	9.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	11.45	513.38	-13840	-8858	6845	5.38	5.38	-8232	12063	12980	101952	48330	27438	75768		11.07	Si
SLD 11	14.6	-4810.99	-1832	-1172	5679	4.304	0.1908	0	0	0	101952	38664	21950	60615		10.67	Si
SLD 7	11.45	1689.62	-13566	-8682	6986	5.38	5.38	-8069	12031	12945	101952	48330	27438	75768		10.85	Si
SLD 7	14.6	-4508.73	-1720	-1101	5820	4.304	0.2054	0	0	0	101952	38664	21950	60615		10.41	Si
SLD 12	11.45	470.3	-13763	-8808	6765	5.38	5.38	-8186	12054	12970	101952	48330	27438	75768		11.2	Si
SLD 12	14.6	-4762.92	-1814	-1161	5600	4.304	0.1927	0	0	0	101952	38664	21950	60615		10.82	Si
SLV 7	11.45	4048.46	-15735	-10071	9950	5.38	5.38	-9359	12289	13222	101952	48330	27438	75768		7.61	Si
SLV 7	14.6	-5928.48	-2254	-1442	7968	4.304	0.1786	0	0	0	101952	38664	21950	60615		7.61	Si
SLV 8	11.45	3977.48	-15608	-9989	9819	5.38	5.38	-9284	12273	13206	101952	48330	27438	75768		7.72	Si
SLV 8	14.6	-5849.27	-2224	-1424	7838	4.304	0.1809	0	0	0	101952	38664	21950	60615		7.73	Si
SLV 12	11.45	2136.54	-16036	-10263	9597	5.38	5.38	-9538	12324	13261	101952	48330	27438	75768		7.9	Si
SLV 12	14.6	-6321.54	-2399	-1535	7617	4.304	0.1654	0	0	0	101952	38664	21950	60615		7.96	Si
SLV 3	11.45	2825.1	-11516	-7370	5349	5.38	5.38	-6849	11787	12682	101952	48330	27438	75768		14.17	Si
SLV 3	14.6	-2883.57	-1112	-711	4745	4.304	0.2879	0	0	0	101952	38664	21950	60615		12.77	Si
SLD 8	11.45	1646.54	-13489	-8633	6907	5.38	5.38	-8023	12021	12935	101952	48330	27438	75768		10.97	Si
SLD 8	14.6	-4460.66	-1702	-1089	5741	4.304	0.2075	0	0	0	101952	38664	21950	60615		10.56	Si
SLV 4	11.45	2719.65	-11327	-7249	5154	5.38	5.38	-6737	11764	12658	101952	48330	27438	75768		14.7	Si
SLV 4	14.6	-2765.9	-1068	-683	4551	4.304	0.2995	0	0	0	101952	38664	21950	60615		13.32	Si
SLV 11	11.45	2207.52	-16163	-10344	9728	5.38	5.38	-9614	12339	13277	101952	48330	27438	75768		7.79	Si
SLV 11	14.6	-6400.75	-2429	-1554	7747	4.304	0.1634	0	0	0	101952	38664	21950	60615		7.82	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.08 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-1548	0.52	457.69	0	647.23	323.62	0.71	No
SLV 5	-1675	0.52	457.69	0	663.08	331.54	0.72	No
SLV 10	-1972	0.52	457.69	0	699.87	349.93	0.76	No
SLV 9	-2098	0.52	457.69	0	715.56	357.78	0.78	No
SLV 2	-4770	0.52	457.69	463.12	1038.11	750.62	1.64	Si
SLV 1	-4958	0.52	457.69	480.87	1060.53	770.7	1.68	Si
SLV 14	-6181	0.52	457.69	594.83	1204.76	899.8	1.97	Si
SLV 13	-6369	0.52	457.69	612.25	1226.97	919.61	2.01	Si
SLV 4	-7981	0.52	457.69	759.32	1415.42	1087.37	2.38	Si
SLV 3	-8169	0.52	457.69	776.32	1437.36	1106.84	2.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.04 Ta = 0.0828

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-1695	-12941	833	6.245	712.8	0.897	101.18254	7.29225	Si
SLV 16	-1651	-12753	833	6.303	709.4	0.898	102.03969	7.29225	Si
SLV 11	-2429	-16163	159	5.536	774	0.89	90.38054	6.11008	Si
SLV 12	-2399	-16036	159	5.566	771.4	0.89	90.85214	6.11008	Si
SLV 7	-2254	-15735	-359	5.68	758.9	0.891	92.62934	6.11008	Si
SLV 8	-2224	-15608	-359	5.711	756.4	0.891	93.12342	6.11008	Si
SLV 3	-1112	-11516	-892	7.101	669.7	0.911	113.30694	7.29225	Si
SLV 4	-1068	-11327	-892	7.176	666.7	0.912	114.31342	7.29225	Si
SLV 13	-884	-9726	894	7.509	655	0.92	118.64315	7.29225	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-841	-9537	894	7.593	652.4	0.922	119.70287	7.29225	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.742	SLU 77	Si
V_SLU	8.791	SLU 77	Si
PF_SLV	1.265	SLV 6	Si
V_SLV	7.607	SLV 7	Si
PFFP_SLV	0.707	SLV 6	No
R_SLV	13.875	SLV 15	Si

Maschio 244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L7	L8	1.56	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	11.45	1462.72	-2657	-0.0000423	0.0003743	0.0035	1.5599	1948.48	2115.08	2115.08	1.45	No	Si
SLU 40	13.55	-1347.02	-3642	-0.000032	0.0003743	0.0035	1.5599	2607.89	3315.43	3315.43	2.46	No	Si
SLU 42	11.45	1433.02	-2810	-0.0000378	0.0003743	0.0035	1.5599	2052.82	2223.02	2223.02	1.55	No	Si
SLU 42	13.55	-1312.71	-3689	-0.0000313	0.0003743	0.0035	1.5599	2638.4	3346.5	3346.5	2.55	No	Si
SLU 33	11.45	1392.22	-3038	-0.0000341	0.0003743	0.0035	1.5599	2207.71	2384.71	2384.71	1.71	No	Si
SLU 33	13.55	-1347.88	-3939	-0.0000325	0.0003743	0.0035	1.5599	2800.06	3513.33	3513.33	2.61	No	Si
SLU 82	11.45	1583.11	-3513	-0.0000388	0.0003743	0.0035	1.5599	2523.35	2714.31	2714.31	1.71	No	Si
SLU 82	13.55	-1512.5	-4269	-0.0000363	0.0003743	0.0035	1.5599	3009.7	3735.45	3735.45	2.47	No	Si
SLU 81	11.45	1555.75	-3508	-0.0000379	0.0003743	0.0035	1.5599	2520.45	2711.26	2711.26	1.74	No	Si
SLU 81	13.55	-1482.67	-4228	-0.0000357	0.0003743	0.0035	1.5599	2983.81	3707.65	3707.65	2.5	No	Si
SLU 31	11.45	1400.84	-2749	-0.0000369	0.0003743	0.0035	1.5599	2011.78	2180.48	2180.48	1.56	No	Si
SLU 31	13.55	-1331.84	-3636	-0.0000317	0.0003743	0.0035	1.5599	2603.97	3311.45	3311.45	2.49	No	Si
SLU 41	11.45	1405.65	-2805	-0.0000365	0.0003743	0.0035	1.5599	2049.81	2219.9	2219.9	1.58	No	Si
SLU 41	13.55	-1282.88	-3648	-0.0000307	0.0003743	0.0035	1.5599	2611.68	3319.28	3319.28	2.59	No	Si
SLU 34	11.45	1371.14	-2902	-0.0000341	0.0003743	0.0035	1.5599	2115.62	2288.38	2288.38	1.67	No	Si
SLU 34	13.55	-1297.54	-3683	-0.000031	0.0003743	0.0035	1.5599	2634.5	3342.52	3342.52	2.58	No	Si
SLU 39	11.45	1435.35	-2653	-0.0000404	0.0003743	0.0035	1.5599	1945.45	2111.95	2111.95	1.47	No	Si
SLU 39	13.55	-1317.19	-3601	-0.0000313	0.0003743	0.0035	1.5599	2581.1	3287.98	3287.98	2.5	No	Si
SLU 32	11.45	1364.85	-3034	-0.0000332	0.0003743	0.0035	1.5599	2204.73	2381.59	2381.59	1.74	No	Si
SLU 32	13.55	-1318.05	-3898	-0.0000318	0.0003743	0.0035	1.5599	2773.7	3485.86	3485.86	2.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	11.45	-870.64	-2977	-0.0000216	0.0005615	0.0035	1.5599		2882.63	2882.63	3.31		Si
SLD 11	13.55	951.46	-265	-0.0081139	0.0005615	0.0035	1.2479		349.75	349.75	0.37		No
SLV 12	11.45	-1796.31	-2770	-0.0000749	0.0005615	0.0035	1.2479		2733.88	2733.88	1.52		Si
SLV 12	13.55	1955.36	1348	0.0834006	0.0005615	0.0035	1.2479		0	0	0		No
SLV 1	11.45	3464.07	-1254	-0.0287206	0.0005615	0.0035	1.2479		1101.32	1101.32	0.32		No
SLV 1	13.55	-3588.78	-5713	-0.000143	0.0005615	0.0035	1.2479		4797.3	4797.3	1.34		Si
SLV 7	11.45	-885.47	-1835	-0.0000218	0.0005615	0.0035	1.2479		2048.04	2048.04	2.31		Si
SLV 7	13.55	1033.45	639	0.0329196	0.0005615	0.0035	1.2479		0	0	0		No
SLV 4	11.45	2542.82	-578	-0.0241887	0.0005615	0.0035	1.2479		588.6	588.6	0.23		No
SLV 4	13.55	-2560.76	-3734	-0.0001394	0.0005615	0.0035	1.2479		3420.04	3420.04	1.34		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	11.45	3926.98	-911	-0.0373027	0.0005615	0.0035	1.2479		842.65	842.65	0.21		No
SLV 2	13.55	-4061.88	-6157	-0.000198	0.0005615	0.0035	1.2479		5099.26	5099.26	1.26		Si
SLV 11	11.45	-2107.92	-3001	-0.0001275	0.0005615	0.0035	1.2479		2900.07	2900.07	1.38		Si
SLV 11	13.55	2273.84	1646	0.1086074	0.0005615	0.0035	1.2479		0	0	0		No
SLV 16	11.45	-1532.01	-4463	-0.0000365	0.0005615	0.0035	1.5599		3940.65	3940.65	2.57		Si
SLV 16	13.55	1573.86	-377	-0.0146145	0.0005615	0.0035	1.2479		435.1	435.1	0.28		No
SLV 15	11.45	-1994.91	-4806	-0.0000475	0.0005615	0.0035	1.5599		4176.67	4176.67	2.09		Si
SLV 15	13.55	2046.96	67	-0.0246243	0.0005615	0.0035	1.2479		0	0	0		No
SLV 8	11.45	-573.87	-1605	-0.0000133	0.0005615	0.0035	1.5599		1877.16	1877.16	3.27		Si
SLV 8	13.55	714.98	340	0.0066375	0.0005615	0.0035	1.2479		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	11.45	1455.54	-4042	-3366	2409	1.5599	1.2595	-7706	7972	2811	35683	13079	3978	17056	No	7.08	Si
SLU 77	13.55	-1449.23	-4571	-3807	2411	1.5599	1.3888	-9843	8257	3211	35683	13079	3978	17056	No	7.07	Si
SLU 84	11.45	1553.41	-3665	-3052	2514	1.5599	1.0684	-6988	7876	2356	35683	13079	3978	17056	No	6.79	Si
SLU 84	13.55	-1478.19	-4315	-3594	2519	1.5599	1.3122	-9849	8258	3034	35683	13079	3978	17056	No	6.77	Si
SLU 75	11.45	1512.61	-3894	-3243	2518	1.5599	1.1745	-7424	7934	2609	35683	13079	3978	17056	No	6.77	Si
SLU 75	13.55	-1513.37	-4566	-3802	2525	1.5599	1.3454	-10166	8300	3127	35683	13079	3978	17056	No	6.76	Si
SLU 81	11.45	1555.75	-3508	-2921	2544	1.5599	1.0095	-6689	7836	2215	35683	13079	3978	17056	No	6.71	Si
SLU 81	13.55	-1482.67	-4228	-3520	2545	1.5599	1.2877	-9832	8255	2976	35683	13079	3978	17056	No	6.7	Si
SLU 83	11.45	1526.04	-3661	-3049	2474	1.5599	1.0893	-6980	7875	2402	35683	13079	3978	17056	No	6.89	Si
SLU 83	13.55	-1448.36	-4274	-3559	2475	1.5599	1.3233	-9673	8234	3051	35683	13079	3978	17056	No	6.89	Si
SLU 76	11.45	1491.53	-3758	-3129	2439	1.5599	1.1491	-7164	7900	2542	35683	13079	3978	17056	No	6.99	Si
SLU 76	13.55	-1463.02	-4309	-3589	2448	1.5599	1.3214	-9767	8247	3051	35683	13079	3978	17056	No	6.97	Si
SLU 82	11.45	1583.11	-3513	-2925	2583	1.5599	0.9878	-6697	7837	2182	35683	13079	3978	17056	No	6.6	Si
SLU 82	13.55	-1512.5	-4269	-3555	2589	1.5599	1.2768	-10013	8280	2960	35683	13079	3978	17056	No	6.59	Si
SLU 73	11.45	1521.23	-3605	-3002	2509	1.5599	1.074	-6873	7861	2364	35683	13079	3978	17056	No	6.8	Si
SLU 73	13.55	-1497.33	-4263	-3550	2517	1.5599	1.286	-9927	8268	2977	35683	13079	3978	17056	No	6.78	Si
SLU 74	11.45	1485.24	-3890	-3239	2479	1.5599	1.1943	-7416	7933	2653	35683	13079	3978	17056	No	6.88	Si
SLU 74	13.55	-1483.54	-4525	-3768	2481	1.5599	1.3562	-9993	8277	3143	35683	13079	3978	17056	No	6.87	Si
SLU 78	11.45	1482.91	-4047	-3370	2449	1.5599	1.2404	-7715	7973	2769	35683	13079	3978	17056	No	6.97	Si
SLU 78	13.55	-1479.06	-4613	-3841	2455	1.5599	1.3778	-10028	8282	3195	35683	13079	3978	17056	No	6.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	11.45	2525.3	-1822	-1517	4313	1.2479	0	0	0	0	35683	15694	3182	18877		4.38	Si
SLD 1	13.55	-2617.12	-4685	-3901	3937	1.2479	0.664	0	0	0	35683	15694	3182	18877		4.79	Si
SLV 1	11.45	3464.07	-1254	-1044	5910	1.2479	0	0	0	0	35683	15694	3182	18877		3.19	Si
SLV 1	13.55	-3588.78	-5713	-4757	5319	1.2479	0.4553	0	0	0	35683	15694	3182	18877		3.55	Si
SLV 5	11.45	3728.38	-2947	-2454	5998	1.2479	0	0	0	0	35683	15694	3182	18877		3.15	Si
SLV 5	13.55	-3970.29	-7438	-6193	5889	1.2479	0.7384	0	0	0	35683	15694	3182	18877		3.21	Si
SLD 5	11.45	2613.62	-2880	-2398	4246	1.2479	0	0	0	0	35683	15694	3182	18877		4.45	Si
SLD 5	13.55	-2773.12	-5643	-4699	4175	1.2479	0.8656	0	0	0	35683	15694	3182	18877		4.52	Si
SLV 10	11.45	2817.54	-3882	-3232	4349	1.5599	0.1622	-72146	16250	2964	35683	19618	3978	23596		5.43	Si
SLV 10	13.55	-3048.37	-6729	-5604	4610	1.2479	0.9809	0	0	0	35683	15694	3182	18877		4.1	Si
SLD 6	11.45	2802.71	-2740	-2282	4547	1.2479	0	0	0	0	35683	15694	3182	18877		4.15	Si
SLD 6	13.55	-2966.38	-5825	-4850	4476	1.2479	0.812	0	0	0	35683	15694	3182	18877		4.22	Si
SLV 4	11.45	2542.82	-578	-481	4529	1.2479	0	0	0	0	35683	15694	3182	18877		4.17	Si
SLV 4	13.55	-2560.76	-3734	-3109	3894	1.2479	0.2824	0	0	0	35683	15694	3182	18877		4.85	Si
SLV 2	11.45	3926.98	-911	-759	6647	1.2479	0	0	0	0	35683	15694	3182	18877		2.84	Si
SLV 2	13.55	-4061.88	-6157	-5127	6057	1.2479	0.3607	0	0	0	35683	15694	3182	18877		3.12	Si
SLV 6	11.45	4039.99	-2716	-2262	6495	1.2479	0	0	0	0	35683	15694	3182	18877		2.91	Si
SLV 6	13.55	-4288.76	-7737	-6442	6386	1.2479	0.6768	0	0	0	35683	15694	3182	18877		2.96	Si
SLD 2	11.45	2818.97	-1604	-1336	4780	1.2479	0	0	0	0	35683	15694	3182	18877		3.95	Si
SLD 2	13.55	-2917.26	-4967	-4136	4406	1.2479	0.5777	0	0	0	35683	15694	3182	18877		4.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.52	0	-40	176.8	0	0	No, e>t/2
SLV 12	179667	0.52	0	387	176.8	0	0	No, Trazione
SLV 15	179667	0.52	0	-1032	176.8	0	0	No, e>t/2
SLV 11	179667	0.52	0	592	176.8	0	0	No, Trazione
SLV 8	179667	0.52	0	-246	176.8	0	0	No, e>t/2
SLV 16	179667	0.52	3062	-1337	176.8	183.49	1.04	Si
SLV 13	179667	0.52	7098	-3100	176.8	413.83	2.34	Si
SLV 3	179667	0.52	7191	-3141	176.8	419.01	2.37	Si
SLV 14	179667	0.52	7797	-3405	176.8	452.4	2.56	Si
SLV 4	179667	0.52	7890	-3446	176.8	457.52	2.59	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-2130	-3882	-131	2.623	420.7	0.896	42.55616	5.47312	Si
SLV 9	-2114	-4112	-135	2.635	419.1	0.896	42.74991	5.47312	Si
SLV 14	-1672	-4797	-66	3.052	376.8	0.891	49.77037	6.17968	Si
SLV 13	-1647	-5139	-73	3.075	374.5	0.891	50.16155	6.17968	Si
SLV 6	-1963	-2716	-125	2.759	404.6	0.894	44.85935	5.47312	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-1947	-2947	-129	2.772	403	0.894	45.07454	5.47312	Si
SLV 2	-1116	-911	-46	3.77	325.6	0.889	61.61939	6.17968	Si
SLV 16	-1109	-4463	-6	3.799	325	0.889	62.08694	6.17968	Si
SLV 1	-1092	-1254	-52	3.806	323.4	0.889	62.20465	6.17968	Si
SLV 15	-1084	-4806	-12	3.835	322.8	0.889	62.67834	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.446	SLU 40	Si
V_SLU	6.589	SLU 82	Si
PF_SLV	0	SLV 7	No
V_SLV	2.84	SLV 2	Si
PFFP_SLV	0	SLV 12	No
R_SLV	7.775	SLV 10	Si

Maschio 245

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L7	L8	4.31	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	11.45	2076.12	-11017	-0.0000285	0.0003743	0.0035	4.31	19484.53	23625.66	23625.66	11.38	No	Si
SLU 78	14.6	1534.83	-1111	-0.0000083	0.0003743	0.0035	4.31	2350.22	4152.2	4152.2	2.71	No	Si
SLU 79	11.45	2056.4	-10737	-0.0000278	0.0003743	0.0035	4.31	19094.09	23099.91	23099.91	11.23	No	Si
SLU 79	14.6	1485.33	-1052	-0.0000081	0.0003743	0.0035	4.31	2228.3	4029.97	4029.97	2.71	No	Si
SLU 80	11.45	2049.77	-10731	-0.0000278	0.0003743	0.0035	4.31	19086.5	23089.76	23089.76	11.26	No	Si
SLU 80	14.6	1520.06	-1048	-0.0000086	0.0003743	0.0035	4.31	2219.05	4020.7	4020.7	2.65	No	Si
SLU 72	11.45	2191.89	-10315	-0.0000273	0.0003743	0.0035	4.31	18495.8	22308.3	22308.3	10.18	No	Si
SLU 72	14.6	1473.52	-1022	-0.0000082	0.0003743	0.0035	4.31	2164.95	3966.54	3966.54	2.69	No	Si
SLU 77	11.45	2082.76	-11023	-0.0000285	0.0003743	0.0035	4.31	19492.01	23635.8	23635.8	11.35	No	Si
SLU 77	14.6	1500.1	-1115	-0.0000079	0.0003743	0.0035	4.31	2359.45	4161.47	4161.47	2.77	No	Si
SLU 38	11.45	1656.01	-9085	-0.0000232	0.0003743	0.0035	4.31	16683.11	19992	19992	12.07	No	Si
SLU 38	14.6	1396.2	-932	-0.0000082	0.0003743	0.0035	4.31	1978.56	3780.32	3780.32	2.71	No	Si
SLU 30	11.45	1798.13	-8668	-0.0000227	0.0003743	0.0035	4.31	16044.25	19195.9	19195.9	10.68	No	Si
SLU 30	14.6	1349.67	-906	-0.0000078	0.0003743	0.0035	4.31	1924.25	3726.16	3726.16	2.76	No	Si
SLU 71	11.45	2198.52	-10320	-0.0000274	0.0003743	0.0035	4.31	18503.55	22318.45	22318.45	10.15	No	Si
SLU 71	14.6	1438.79	-1026	-0.0000078	0.0003743	0.0035	4.31	2174.21	3975.81	3975.81	2.76	No	Si
SLU 70	11.45	2218.24	-10600	-0.000028	0.0003743	0.0035	4.31	18902.19	22844.19	22844.19	10.3	No	Si
SLU 70	14.6	1488.29	-1085	-0.000008	0.0003743	0.0035	4.31	2296.23	4098.05	4098.05	2.75	No	Si
SLU 36	11.45	1682.36	-9371	-0.0000239	0.0003743	0.0035	4.31	17114.16	20537.94	20537.94	12.21	No	Si
SLU 36	14.6	1410.97	-995	-0.0000078	0.0003743	0.0035	4.31	2110.24	3911.82	3911.82	2.77	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	11.45	373.42	-7722	-0.0000166	0.0005615	0.0035	4.31		17552.71	17552.71	47		Si
SLD 6	14.6	2011.64	-764	-0.0001827	0.0005615	0.0035	4.31		3442.24	3442.24	1.71		Si
SLV 9	11.45	-512.85	-9060	-0.0000197	0.0005615	0.0035	4.31		29253.06	29253.06	57.04		Si
SLV 9	14.6	3328.18	-1148	-0.0003869	0.0005615	0.0035	4.31		4243.6	4243.6	1.28		Si
SLD 10	11.45	270.75	-8294	-0.0000175	0.0005615	0.0035	4.31		18676.43	18676.43	68.98		Si
SLD 10	14.6	2231.96	-928	-0.0001571	0.0005615	0.0035	4.31		3784.86	3784.86	1.7		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	11.45	-348.43	-8170	-0.0000174	0.0005615	0.0035	4.31		27534.85	27534.85	79.03		Si
SLV 5	14.6	2983.49	-892	-0.0004223	0.0005615	0.0035	4.31		3708.6	3708.6	1.24		Si
SLV 10	11.45	-463.07	-9050	-0.0000195	0.0005615	0.0035	4.31		29233.45	29233.45	63.13		Si
SLV 10	14.6	3296.71	-1140	-0.0003806	0.0005615	0.0035	4.31		4228.32	4228.32	1.28		Si
SLD 9	11.45	240.54	-8300	-0.0000174	0.0005615	0.0035	4.31		18688.38	18688.38	77.69		Si
SLD 9	14.6	2251.06	-932	-0.0001606	0.0005615	0.0035	4.31		3794.22	3794.22	1.69		Si
SLV 14	11.45	560.31	-9073	-0.0000199	0.0005615	0.0035	4.31		20187	20187	36.03		Si
SLV 14	14.6	1988.24	-1153	-0.0000154	0.0005615	0.0035	4.31		4254.31	4254.31	2.14		Si
SLD 5	11.45	343.22	-7729	-0.0000165	0.0005615	0.0035	4.31		17564.87	17564.87	51.18		Si
SLD 5	14.6	2030.74	-769	-0.0001861	0.0005615	0.0035	4.31		3451.6	3451.6	1.7		Si
SLV 6	11.45	-298.65	-8160	-0.0000173	0.0005615	0.0035	4.31		27515.24	27515.24	92.13		Si
SLV 6	14.6	2952.01	-884	-0.0004158	0.0005615	0.0035	4.31		3693.17	3693.17	1.25		Si
SLV 13	11.45	486.36	-9088	-0.0000197	0.0005615	0.0035	4.31		20216.26	20216.26	41.57		Si
SLV 13	14.6	2035	-1164	-0.0000165	0.0005615	0.0035	4.31		4277.01	4277.01	2.1		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	11.45	2076.12	-11017	-6109	-2570	4.31	4.31	-10124	8294	5348	101952	18068	21981	40049	No	15.59	Si
SLU 78	14.6	1534.83	-1111	-616	-2472	4.31	2.3193	-1021	7081	3151	101952	18068	21981	40049	No	16.2	Si
SLU 35	11.45	1689	-9377	-5199	-2392	4.31	4.31	-8616	8093	4984	101952	18068	21981	40049	No	16.74	Si
SLU 35	14.6	1376.25	-1000	-554	-2404	4.31	2.3354	-919	7067	3126	101952	18068	21981	40049	No	16.66	Si
SLU 79	11.45	2056.4	-10737	-5953	-2385	4.31	4.31	-9866	8260	5286	101952	18068	21981	40049	No	16.79	Si
SLU 79	14.6	1485.33	-1052	-583	-2402	4.31	2.2294	-967	7073	3138	101952	18068	21981	40049	No	16.68	Si
SLU 70	11.45	2218.24	-10600	-5877	-2367	4.31	4.31	-9741	8243	5256	101952	18068	21981	40049	No	16.92	Si
SLU 70	14.6	1488.29	-1085	-601	-2270	4.31	2.3487	-997	7077	3145	101952	18068	21981	40049	No	17.64	Si
SLU 37	11.45	1662.65	-9091	-5040	-2354	4.31	4.31	-8353	8058	4921	101952	18068	21981	40049	No	17.02	Si
SLU 37	14.6	1361.47	-937	-519	-2367	4.31	2.1046	-861	7059	3112	101952	18068	21981	40049	No	16.92	Si
SLU 28	11.45	1824.48	-8954	-4965	-2336	4.31	4.31	-8228	8041	4891	101952	18068	21981	40049	No	17.14	Si
SLU 28	14.6	1364.44	-969	-537	-2235	4.31	2.2424	-891	7063	3120	101952	18068	21981	40049	No	17.92	Si
SLU 38	11.45	1656.01	-9085	-5037	-2500	4.31	4.31	-8348	8058	4920	101952	18068	21981	40049	No	16.02	Si
SLU 38	14.6	1396.2	-932	-517	-2400	4.31	1.9721	-857	7059	3112	101952	18068	21981	40049	No	16.69	Si
SLU 77	11.45	2082.76	-11023	-6112	-2423	4.31	4.31	-10129	8295	5349	101952	18068	21981	40049	No	16.53	Si
SLU 77	14.6	1500.1	-1115	-618	-2439	4.31	2.4293	-1025	7081	3152	101952	18068	21981	40049	No	16.42	Si
SLU 80	11.45	2049.77	-10731	-5950	-2531	4.31	4.31	-9861	8259	5285	101952	18068	21981	40049	No	15.82	Si
SLU 80	14.6	1520.06	-1048	-581	-2435	4.31	2.112	-963	7073	3137	101952	18068	21981	40049	No	16.45	Si
SLU 36	11.45	1682.36	-9371	-5196	-2539	4.31	4.31	-8611	8093	4983	101952	18068	21981	40049	No	15.78	Si
SLU 36	14.6	1410.97	-995	-552	-2437	4.31	2.2123	-915	7066	3125	101952	18068	21981	40049	No	16.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	11.45	-463.07	-9050	-5018	-10601	4.31	4.31	-8316	12080	7289	101952	27103	21981	49084		4.63	Si
SLV 10	14.6	3296.71	-1140	-632	-9118	4.31	0	-39717	16250	4610	101952	27103	21981	49084		5.38	Si
SLV 8	11.45	3138.85	-5268	-2921	8964	4.31	4.31	-4841	11385	6870	101952	27103	21981	49084		5.48	Si
SLV 8	14.6	-1913.63	-71	-39	7458	3.448	0	0	0	0	101952	21682	17585	39267		5.27	Si
SLV 7	11.45	3089.07	-5279	-2927	8702	4.31	4.31	-4850	11387	6871	101952	27103	21981	49084		5.64	Si
SLV 7	14.6	-1882.16	-78	-44	7195	3.448	0	0	0	0	101952	21682	17585	39267		5.46	Si
SLV 11	11.45	2924.65	-6168	-3420	8644	4.31	4.31	-5668	11550	6969	101952	27103	21981	49084		5.68	Si
SLV 11	14.6	-1537.46	-335	-186	7130	3.448	0	0	0	0	101952	21682	17585	39267		5.51	Si
SLD 5	11.45	343.22	-7729	-4285	-6720	4.31	4.31	-7102	11837	7142	101952	27103	21981	49084		7.3	Si
SLD 5	14.6	2030.74	-769	-426	-5861	4.31	0	-25323	16250	4528	101952	27103	21981	49084		8.38	Si
SLD 9	11.45	240.54	-8300	-4602	-6757	4.31	4.31	-7627	11942	7206	101952	27103	21981	49084		7.26	Si
SLD 9	14.6	2251.06	-932	-517	-5902	4.31	0	-25984	16250	4564	101952	27103	21981	49084		8.32	Si
SLV 12	11.45	2974.42	-6158	-3414	8906	4.31	4.31	-5658	11548	6968	101952	27103	21981	49084		5.51	Si
SLV 12	14.6	-1568.93	-327	-181	7393	3.448	0	0	0	0	101952	21682	17585	39267		5.31	Si
SLV 6	11.45	-298.65	-8160	-4524	-10544	4.31	4.31	-7498	11916	7190	101952	27103	21981	49084		4.66	Si
SLV 6	14.6	2952.01	-884	-490	-9053	4.31	0	-33851	16250	4553	101952	27103	21981	49084		5.42	Si
SLV 5	11.45	-348.43	-8170	-4530	-10805	4.31	4.31	-7507	11918	7191	101952	27103	21981	49084		4.54	Si
SLV 5	14.6	2983.49	-892	-494	-9317	4.31	0	-34115	16250	4555	101952	27103	21981	49084		5.27	Si
SLV 9	11.45	-512.85	-9060	-5023	-10863	4.31	4.31	-8325	12082	7290	101952	27103	21981	49084		4.52	Si
SLV 9	14.6	3328.18	-1148	-636	-9381	4.31	0	-40019	16250	4612	101952	27103	21981	49084		5.23	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-2518	0.52	265.82	0	495.55	247.77	0.93	No
SLV 4	-2569	0.52	265.82	0	500.17	250.09	0.94	No
SLV 7	-2812	0.52	265.82	0	522.15	261.07	0.98	No
SLV 8	-2846	0.52	265.82	0	525.25	262.63	0.99	No
SLV 1	-3226	0.52	265.82	0	559.29	279.65	1.05	Si
SLV 2	-3277	0.52	265.82	0	563.85	281.93	1.06	Si
SLV 11	-3765	0.52	265.82	0	607.28	303.64	1.14	Si
SLV 12	-3799	0.52	265.82	254.98	610.33	432.65	1.63	Si
SLV 5	-5172	0.52	265.82	341.74	731.29	536.51	2.02	Si
SLV 6	-5207	0.52	265.82	343.88	734.3	539.09	2.03	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-1164	-9088	104	8.421	417.1	0.892	137.13239	9.45954	Si
SLV 14	-1153	-9073	104	8.453	416.2	0.893	137.62999	9.45954	Si
SLV 15	-920	-8221	94	9.204	397.4	0.898	148.97139	9.45954	Si
SLV 16	-909	-8206	94	9.242	396.5	0.898	149.53889	9.45954	Si
SLV 9	-1148	-9060	46	8.489	415.8	0.893	138.19365	7.25693	Si
SLV 10	-1140	-9050	46	8.511	415.2	0.893	138.53204	7.25693	Si
SLV 1	-310	-6123	-94	11.976	357.2	0.939	185.35411	9.45954	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-299	-6108	-95	12.041	356.6	0.94	186.08032	9.45954	Si
SLV 5	-892	-8170	-13	9.335	395.1	0.899	150.95117	7.25693	Si
SLV 6	-884	-8160	-13	9.362	394.6	0.899	151.33862	7.25693	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.645	SLU 80	Si
V_SLU	15.585	SLU 78	Si
PF_SLV	1.243	SLV 5	Si
V_SLV	4.518	SLV 9	Si
PFFP_SLV	0.932	SLV 3	No
R_SLV	14.497	SLV 13	Si

Maschio 246

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L7	L8	1.14	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	12.35	537.44	-1423	-0.0000265	0.0003743	0.0035	1.14	775.54	854.18	854.18	1.59	No	Si
SLU 40	14.15	-593.36	-922	-0.00019	0.0003743	0.0035	0.912	0	856.83	856.83	1.44	No	Si
SLU 39	12.35	513.05	-1424	-0.0000243	0.0003743	0.0035	1.14	776.28	854.93	854.93	1.67	No	Si
SLU 39	14.15	-570.58	-901	-0.0001734	0.0003743	0.0035	0.912	0	845.4	845.4	1.48	No	Si
SLU 76	12.35	578.13	-2140	-0.0000255	0.0003743	0.0035	1.14	1139.35	1229.11	1229.11	2.13	No	Si
SLU 76	14.15	-660.82	-1196	-0.0001142	0.0003743	0.0035	0.912	656.38	1002.49	1002.49	1.52	No	Si
SLU 42	12.35	525.76	-1490	-0.0000245	0.0003743	0.0035	1.14	810.34	889.74	889.74	1.69	No	Si
SLU 42	14.15	-586.59	-945	-0.0001674	0.0003743	0.0035	0.912	0	869.61	869.61	1.48	No	Si
SLU 81	12.35	558.22	-1974	-0.0000246	0.0003743	0.0035	1.14	1056.86	1143.46	1143.46	2.05	No	Si
SLU 81	14.15	-635.98	-1091	-0.0001432	0.0003743	0.0035	0.912	0	947.65	947.65	1.49	No	Si
SLU 31	12.35	544.65	-1523	-0.0000257	0.0003743	0.0035	1.14	827.41	907.16	907.16	1.67	No	Si
SLU 31	14.15	-602.2	-982	-0.0001657	0.0003743	0.0035	0.912	0	889.19	889.19	1.48	No	Si
SLU 82	12.35	582.62	-1973	-0.0000257	0.0003743	0.0035	1.14	1056.15	1142.73	1142.73	1.96	No	Si
SLU 82	14.15	-658.75	-1112	-0.0001597	0.0003743	0.0035	0.912	0	958.77	958.77	1.46	No	Si
SLU 84	12.35	570.93	-2040	-0.0000252	0.0003743	0.0035	1.14	1089.65	1177.38	1177.38	2.06	No	Si
SLU 84	14.15	-651.98	-1136	-0.0001372	0.0003743	0.0035	0.912	0	971.05	971.05	1.49	No	Si
SLU 73	12.35	589.82	-2073	-0.000026	0.0003743	0.0035	1.14	1106.08	1194.44	1194.44	2.03	No	Si
SLU 73	14.15	-667.59	-1172	-0.0001354	0.0003743	0.0035	0.912	644.02	990.17	990.17	1.48	No	Si
SLU 34	12.35	532.96	-1590	-0.0000242	0.0003743	0.0035	1.14	861.97	942.57	942.57	1.77	No	Si
SLU 34	14.15	-595.43	-1005	-0.0001431	0.0003743	0.0035	0.912	0	901.66	901.66	1.51	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	12.35	1376.35	0	-0.0298014	0.0005615	0.0035	0.912		73.67	73.67	0.05		No
SLV 4	14.15	-1163.04	-626	-0.0012934	0.0005615	0.0035	0.912		696.51	696.51	0.6		No
SLD 2	12.35	1977.63	87	-0.0440465	0.0005615	0.0035	0.912		0	0	0		No
SLD 2	14.15	-1644.93	-1018	-0.0020448	0.0005615	0.0035	0.912		910.94	910.94	0.55		No
SLV 12	12.35	-2573.97	-4073	-0.0011383	0.0005615	0.0035	0.912		2503.76	2503.76	0.97		No
SLV 12	14.15	1830.87	-77	-0.0386962	0.0005615	0.0035	0.912		117.98	117.98	0.06		No
SLV 1	12.35	2525.68	632	-0.0607265	0.0005615	0.0035	0.912		0	0	0		No
SLV 1	14.15	-2072.83	-1097	-0.0033676	0.0005615	0.0035	0.912		954.15	954.15	0.46		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	12.35	3330.22	638	-0.0795326	0.0005615	0.0035	0.912		0	0	0		No
SLV 5	14.15	-2717.23	-1690	-0.0049013	0.0005615	0.0035	0.912		1274.28	1274.28	0.47		No
SLV 11	12.35	-2859.75	-4424	-0.0014933	0.0005615	0.0035	0.912		2678.8	2678.8	0.94		No
SLV 11	14.15	2035.99	-63	-0.0433568	0.0005615	0.0035	0.912		109.99	109.99	0.05		No
SLV 6	12.35	3616.01	989	-0.086606	0.0005615	0.0035	0.912		0	0	0		No
SLV 6	14.15	-2922.35	-1704	-0.0056084	0.0005615	0.0035	0.912		1281.83	1281.83	0.44		No
SLD 6	12.35	2302.68	-95	-0.0487455	0.0005615	0.0035	0.912		127.98	127.98	0.06		No
SLD 6	14.15	-1914.81	-1361	-0.0024221	0.0005615	0.0035	0.912		1097.2	1097.2	0.57		No
SLV 2	12.35	2950.22	1153	-0.057944	0.0005615	0.0035	0.912		0	0	0		No
SLV 2	14.15	-2377.55	-1118	-0.0045147	0.0005615	0.0035	0.912		965.53	965.53	0.41		No
SLV 10	12.35	2672.27	-231	-0.0549784	0.0005615	0.0035	0.912		204.07	204.07	0.08		No
SLV 10	14.15	-2217.5	-1717	-0.0029558	0.0005615	0.0035	0.912		1288.79	1288.79	0.58		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	12.35	578.13	-2140	-1782	1300	1.14	0.8994	-5582	7689	1936	35683	9558	2907	12465	No	9.59	Si
SLU 76	14.15	-660.82	-1196	-996	541	0.912	0.0518	0	0	0	35683	7647	2326	9972	No	18.42	Si
SLU 83	12.35	546.53	-2041	-1700	1256	1.14	0.9067	-5325	7654	1943	35683	9558	2907	12465	No	9.93	Si
SLU 83	14.15	-629.21	-1115	-928	501	0.912	0.0168	0	0	0	35683	7647	2326	9972	No	19.89	Si
SLU 84	12.35	570.93	-2040	-1698	1301	1.14	0.8703	-5321	7654	1865	35683	9558	2907	12465	No	9.58	Si
SLU 84	14.15	-651.98	-1136	-946	527	0.912	0	0	0	0	35683	7647	2326	9972	No	18.92	Si
SLU 81	12.35	558.22	-1974	-1644	1279	1.14	0.8617	-5150	7631	1841	35683	9558	2907	12465	No	9.75	Si
SLU 81	14.15	-635.98	-1091	-909	502	0.912	0	0	0	0	35683	7647	2326	9972	No	19.86	Si
SLU 78	12.35	562.86	-2434	-2027	1284	1.14	1.0164	-6351	7791	2217	35683	9558	2907	12465	No	9.71	Si
SLU 78	14.15	-677.14	-1427	-1188	545	0.912	0.2866	0	0	0	35683	7647	2326	9972	No	18.29	Si
SLU 82	12.35	582.62	-1973	-1643	1325	1.14	0.8239	-5146	7631	1760	35683	9558	2907	12465	No	9.41	Si
SLU 82	14.15	-658.75	-1112	-926	528	0.912	0	0	0	0	35683	7647	2326	9972	No	18.89	Si
SLU 73	12.35	589.82	-2073	-1726	1323	1.14	0.8563	-5407	7665	1838	35683	9558	2907	12465	No	9.42	Si
SLU 73	14.15	-667.59	-1172	-976	542	0.912	0.0013	0	0	0	35683	7647	2326	9972	No	18.4	Si
SLU 75	12.35	574.54	-2367	-1971	1308	1.14	0.9819	-6176	7768	2136	35683	9558	2907	12465	No	9.53	Si
SLU 75	14.15	-683.91	-1404	-1169	546	0.912	0.2484	0	0	0	35683	7647	2326	9972	No	18.26	Si
SLU 65	12.35	568.68	-2308	-1922	1250	1.14	0.9709	-6022	7747	2106	35683	9558	2907	12465	No	9.97	Si
SLU 65	14.15	-652.8	-1279	-1065	535	0.912	0.1787	0	0	0	35683	7647	2326	9972	No	18.64	Si
SLU 74	12.35	550.14	-2369	-1973	1262	1.14	1.0133	-6180	7768	2204	35683	9558	2907	12465	No	9.88	Si
SLU 74	14.15	-661.14	-1383	-1152	520	0.912	0.2757	0	0	0	35683	7647	2326	9972	No	19.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	12.35	2950.22	1153	960	5139	0.912	0	0	0	0	35683	11470	2326	13796		2.68	Si
SLV 2	14.15	-2377.55	-1118	-931	2193	0.912	0	0	0	0	35683	11470	2326	13796		6.29	Si
SLV 1	12.35	2525.68	632	526	4455	0.912	0	0	0	0	35683	11470	2326	13796		3.1	Si
SLV 1	14.15	-2072.83	-1097	-914	1866	0.912	0	0	0	0	35683	11470	2326	13796		7.39	Si
SLV 5	12.35	3330.22	638	532	5495	0.912	0	0	0	0	35683	11470	2326	13796		2.51	Si
SLV 5	14.15	-2717.23	-1690	-1407	2887	0.912	0	0	0	0	35683	11470	2326	13796		4.78	Si
SLV 9	12.35	2386.49	-582	-485	3859	0.912	0	0	0	0	35683	11470	2326	13796		3.57	Si
SLV 9	14.15	-2012.38	-1703	-1418	2303	0.912	0	0	0	0	35683	11470	2326	13796		5.99	Si
SLD 6	12.35	2302.68	-95	-79	3891	0.912	0	0	0	0	35683	11470	2326	13796		3.55	Si
SLD 6	14.15	-1914.81	-1361	-1133	1983	0.912	0	0	0	0	35683	11470	2326	13796		6.96	Si
SLV 10	12.35	2672.27	-231	-192	4320	0.912	0	0	0	0	35683	11470	2326	13796		3.19	Si
SLV 10	14.15	-2217.5	-1717	-1430	2523	0.912	0	0	0	0	35683	11470	2326	13796		5.47	Si
SLD 5	12.35	2129.26	-308	-256	3611	0.912	0	0	0	0	35683	11470	2326	13796		3.82	Si
SLD 5	14.15	-1790.33	-1353	-1126	1849	0.912	0	0	0	0	35683	11470	2326	13796		7.46	Si
SLV 12	12.35	-2573.97	-4073	-3392	-3787	0.912	0	0	0	0	35683	11470	2326	13796		3.64	Si
SLV 12	14.15	1830.87	-77	-64	-2187	0.912	0	0	0	0	35683	11470	2326	13796		6.31	Si
SLV 11	12.35	-2859.75	-4424	-3684	-4247	0.912	0	0	0	0	35683	11470	2326	13796		3.25	Si
SLV 11	14.15	2035.99	-63	-53	-2407	0.912	0	0	0	0	35683	11470	2326	13796		5.73	Si
SLV 6	12.35	3616.01	989	824	5956	0.912	0	0	0	0	35683	11470	2326	13796		2.32	Si
SLV 6	14.15	-2922.35	-1704	-1419	3107	0.912	0	0	0	0	35683	11470	2326	13796		4.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.52	0	1444	129.21	0	0	No, Trazione
SLV 9	179667	0.52	0	-143	129.21	0	0	No, e>t/2
SLV 5	179667	0.52	0	1093	129.21	0	0	No, Trazione
SLV 1	179667	0.52	0	1103	129.21	0	0	No, Trazione
SLV 10	179667	0.52	0	208	129.21	0	0	No, Trazione
SLV 2	179667	0.52	0	1625	129.21	0	0	No, Trazione
SLV 3	179667	0.52	0	-51	129.21	0	0	No, e>t/2
SLV 4	179667	0.52	0	471	129.21	0	0	No, Trazione
SLV 8	179667	0.52	7528	-2403	129.21	319.83	2.48	Si
SLV 14	179667	0.52	7816	-2495	129.21	331.41	2.56	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-1084	-733	-57	3.256	262.4	0.89	53.18704	6.17968	Si
SLV 16	-1035	-991	-57	3.337	257.9	0.889	54.53634	6.17968	Si
SLV 13	-925	-2410	-68	3.528	247.8	0.889	57.68456	6.17968	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-876	-2668	-68	3.624	243.4	0.889	59.2529	6.17968	Si
SLV 11	-949	458	-3	3.519	250	0.889	57.52702	5.47312	Si, Trazione
SLV 12	-916	285	-3	3.582	247	0.889	58.56086	5.47312	Si, Trazione
SLV 7	-682	-162	33	4.084	226.3	0.891	66.62466	5.47312	Si
SLV 8	-649	-335	34	4.17	223.5	0.892	67.966	5.47312	Si
SLV 9	-421	-5132	-38	4.876	205.2	0.902	78.53922	5.47312	Si
SLV 10	-388	-5306	-38	4.999	202.7	0.905	80.28491	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.444	SLU 40	Si
V_SLU	9.411	SLU 82	Si
PF_SLV	0	SLD 2	No
V_SLV	2.316	SLV 6	Si
PFFP_SLV	0	SLV 10	No
R_SLV	8.607	SLV 15	Si

Maschio 247

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L7	L8	4.67	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	11.45	-39.01	-13589	-0.0000257	0.0003743	0.0035	4.67	25252.62	41027.7	41027.7	1051.79	No	Si
SLU 48	14.6	5892.45	-3938	-0.0000275	0.0003743	0.0035	4.67	8651.34	11078.56	11078.56	1.88	No	Si
SLU 9	11.45	222.1	-11264	-0.0000217	0.0003743	0.0035	4.67	21850.29	26500.45	26500.45	119.32	No	Si
SLU 9	14.6	5431.86	-3493	-0.0000262	0.0003743	0.0035	4.67	7728.77	10105.98	10105.98	1.86	No	Si
SLU 72	11.45	250.98	-14955	-0.0000289	0.0003743	0.0035	4.67	27074.16	33825.81	33825.81	134.78	No	Si
SLU 72	14.6	6315.46	-4271	-0.0000292	0.0003743	0.0035	4.67	9332.96	11806.71	11806.71	1.87	No	Si
SLU 58	11.45	299.63	-14026	-0.0000272	0.0003743	0.0035	4.67	25850.28	32005.95	32005.95	106.82	No	Si
SLU 58	14.6	6006.48	-3950	-0.0000284	0.0003743	0.0035	4.67	8675.32	11104.04	11104.04	1.85	No	Si
SLU 50	11.45	105.05	-13436	-0.0000256	0.0003743	0.0035	4.67	25040.7	30846.25	30846.25	293.65	No	Si
SLU 50	14.6	6225.66	-4009	-0.0000301	0.0003743	0.0035	4.67	8796.58	11233.02	11233.02	1.8	No	Si
SLU 51	11.45	111.06	-13422	-0.0000256	0.0003743	0.0035	4.67	25020.79	30818.16	30818.16	277.5	No	Si
SLU 51	14.6	6203.57	-3997	-0.0000299	0.0003743	0.0035	4.67	8771.67	11206.5	11206.5	1.81	No	Si
SLU 71	11.45	244.96	-14969	-0.0000289	0.0003743	0.0035	4.67	27092.54	33853.37	33853.37	138.2	No	Si
SLU 71	14.6	6337.55	-4283	-0.0000294	0.0003743	0.0035	4.67	9357.64	11833.23	11833.23	1.87	No	Si
SLU 59	11.45	305.64	-14012	-0.0000272	0.0003743	0.0035	4.67	25830.96	31977.87	31977.87	104.63	No	Si
SLU 59	14.6	5984.39	-3938	-0.0000283	0.0003743	0.0035	4.67	8650.36	11077.52	11077.52	1.85	No	Si
SLU 49	11.45	-33	-13575	-0.0000257	0.0003743	0.0035	4.67	25232.86	41000.17	41000.17	1242.56	No	Si
SLU 49	14.6	5870.36	-3926	-0.0000274	0.0003743	0.0035	4.67	8626.37	11052.04	11052.04	1.88	No	Si
SLU 8	11.45	216.09	-11278	-0.0000217	0.0003743	0.0035	4.67	21872.36	26529.59	26529.59	122.77	No	Si
SLU 8	14.6	5453.95	-3505	-0.0000263	0.0003743	0.0035	4.67	7754.11	10132.5	10132.5	1.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	11.45	-66.4	-7720	-0.0000145	0.0005615	0.0035	4.67		29419.07	29419.07	443.09		Si
SLD 2	14.6	3684.24	-2307	-0.000018	0.0005615	0.0035	4.67		7519.64	7519.64	2.04		Si
SLV 3	11.45	92.4	-7569	-0.0000142	0.0005615	0.0035	4.67		19040.71	19040.71	206.06		Si
SLV 3	14.6	6376.05	-3680	-0.0000357	0.0005615	0.0035	4.67		10573.63	10573.63	1.66		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	11.45	364.9	-10187	-0.0000198	0.0005615	0.0035	4.67		24589.89	24589.89	67.39		Si
SLD 7	14.6	4435.43	-3158	-0.0000196	0.0005615	0.0035	4.67		9419.72	9419.72	2.12		Si
SLD 1	11.45	-320.66	-7556	-0.0000148	0.0005615	0.0035	4.67		29076.67	29076.67	90.68		Si
SLD 1	14.6	4373.69	-2568	-0.0000235	0.0005615	0.0035	4.67		8104.86	8104.86	1.85		Si
SLD 3	11.45	1.41	-8251	-0.0000153	0.0005615	0.0035	4.67		20501.63	20501.63	14572.06		Si
SLD 3	14.6	4999.04	-3066	-0.0000252	0.0005615	0.0035	4.67		9217.35	9217.35	1.84		Si
SLV 2	11.45	-61.11	-6638	-0.0000124	0.0005615	0.0035	4.67		27150.75	27150.75	444.27		Si
SLV 2	14.6	4214.25	-2418	-0.0000237	0.0005615	0.0035	4.67		7768.67	7768.67	1.84		Si
SLV 7	11.45	713.37	-10712	-0.0000217	0.0005615	0.0035	4.67		25681.34	25681.34	36		Si
SLV 7	14.6	5614.77	-3908	-0.0000252	0.0005615	0.0035	4.67		11078.46	11078.46	1.97		Si
SLD 4	11.45	255.68	-8414	-0.0000162	0.0005615	0.0035	4.67		20851.42	20851.42	81.55		Si
SLD 4	14.6	4309.58	-2806	-0.0000203	0.0005615	0.0035	4.67		8639.15	8639.15	2		Si
SLV 1	11.45	-461.91	-6380	-0.0000129	0.0005615	0.0035	4.67		26611.04	26611.04	57.61		Si
SLV 1	14.6	5301.01	-2829	-0.0000358	0.0005615	0.0035	4.67		8691.13	8691.13	1.64		Si
SLV 4	11.45	493.2	-7826	-0.0000157	0.0005615	0.0035	4.67		19592.07	19592.07	39.72		Si
SLV 4	14.6	5289.29	-3269	-0.0000265	0.0005615	0.0035	4.67		9665.3	9665.3	1.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 9	11.45	222.1	-11264	-6245	-1867	4.67	4.67	-9552	8218	5645	101952	19578	23817	43395	No	23.25	Si
SLU 9	14.6	5431.86	-3493	-1937	-3147	4.67	2.3402	-2962	7339	3922	101952	19578	23817	43395	No	13.79	Si
SLU 71	11.45	244.96	-14969	-8300	-2029	4.67	4.67	-12695	8637	6467	101952	19578	23817	43395	No	21.39	Si
SLU 71	14.6	6337.55	-4283	-2375	-3208	4.67	2.5661	-3632	7429	4097	101952	19578	23817	43395	No	13.53	Si
SLU 72	11.45	250.98	-14955	-8292	-2064	4.67	4.67	-12682	8635	6464	101952	19578	23817	43395	No	21.02	Si
SLU 72	14.6	6315.46	-4271	-2368	-3195	4.67	2.569	-3622	7427	4095	101952	19578	23817	43395	No	13.58	Si
SLU 59	11.45	305.64	-14012	-7769	-2130	4.67	4.67	-11883	8529	6255	101952	19578	23817	43395	No	20.37	Si
SLU 59	14.6	5984.39	-3938	-2183	-3084	4.67	2.4456	-3339	7390	4021	101952	19578	23817	43395	No	14.07	Si
SLU 8	11.45	216.09	-11278	-6253	-1831	4.67	4.67	-9564	8220	5649	101952	19578	23817	43395	No	23.7	Si
SLU 8	14.6	5453.95	-3505	-1944	-3160	4.67	2.3374	-2973	7341	3925	101952	19578	23817	43395	No	13.73	Si
SLU 51	11.45	111.06	-13422	-7442	-2273	4.67	4.67	-11382	8462	6124	101952	19578	23817	43395	No	19.09	Si
SLU 51	14.6	6203.57	-3997	-2216	-3696	4.67	2.3483	-3389	7396	4034	101952	19578	23817	43395	No	11.74	Si
SLU 50	11.45	105.05	-13436	-7450	-2238	4.67	4.67	-11395	8464	6127	101952	19578	23817	43395	No	19.39	Si
SLU 50	14.6	6225.66	-4009	-2223	-3709	4.67	2.3459	-3400	7398	4036	101952	19578	23817	43395	No	11.7	Si
SLU 48	11.45	-39.01	-13589	-7535	-2070	4.67	4.67	-11524	8481	6161	101952	19578	23817	43395	No	20.97	Si
SLU 48	14.6	5892.45	-3938	-2183	-3347	4.67	2.5161	-3340	7390	4021	101952	19578	23817	43395	No	12.96	Si
SLU 49	11.45	-33	-13575	-7527	-2105	4.67	4.67	-11512	8479	6158	101952	19578	23817	43395	No	20.61	Si
SLU 49	14.6	5870.36	-3926	-2177	-3335	4.67	2.5192	-3329	7388	4018	101952	19578	23817	43395	No	13.01	Si
SLU 58	11.45	299.63	-14026	-7777	-2094	4.67	4.67	-11895	8530	6258	101952	19578	23817	43395	No	20.72	Si
SLU 58	14.6	6006.48	-3950	-2190	-3096	4.67	2.4428	-3350	7391	4023	101952	19578	23817	43395	No	14.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	11.45	92.4	-7569	-4197	826	4.67	4.67	-6419	11700	7650	101952	29367	23817	53184		64.36	Si
SLV 3	14.6	6376.05	-3680	-2040	-5279	4.67	1.8067	-3121	11041	5537	101952	29367	23817	53184		10.07	Si
SLV 7	11.45	713.37	-10712	-5939	4981	4.67	4.67	-9084	12233	7998	101952	29367	23817	53184		10.68	Si
SLV 7	14.6	5614.77	-3908	-2167	-2580	4.67	2.6948	-3314	11080	5588	101952	29367	23817	53184		20.61	Si
SLV 1	11.45	-461.91	-6380	-3538	-2794	4.67	4.67	-5411	11499	7518	101952	29367	23817	53184		19.03	Si
SLV 1	14.6	5301.01	-2829	-1568	-5228	4.67	1.3832	-8135	12044	5348	101952	29367	23817	53184		10.17	Si
SLV 10	11.45	-942.73	-8393	-4654	-7013	4.67	4.67	-7118	11840	7741	101952	29367	23817	53184		7.58	Si
SLV 10	14.6	-275.57	-198	-110	701	3.736	2.8209	0	0	0	101952	23493	19054	42547		60.69	Si
SLV 6	11.45	-864.53	-6924	-3839	-6919	4.67	4.67	-5872	11591	7578	101952	29367	23817	53184		7.69	Si
SLV 6	14.6	1299.76	-795	-441	-1468	4.67	2.1016	-674	10552	4897	101952	29367	23817	53184		36.22	Si
SLV 12	11.45	904.97	-12354	-6850	5055	4.67	4.67	-10477	12512	8180	101952	29367	23817	53184		10.52	Si
SLV 12	14.6	3307.89	-3034	-1682	530	4.67	3.734	-2573	10931	5714	101952	29367	23817	53184		100.43	Si
SLV 8	11.45	983.16	-10885	-6035	5149	4.67	4.67	-9231	12263	8017	101952	29367	23817	53184		10.33	Si
SLV 8	14.6	4883.21	-3631	-2013	-1640	4.67	2.9709	-3080	11033	5526	101952	29367	23817	53184		32.44	Si
SLV 5	11.45	-1134.33	-6750	-3743	-7087	4.67	4.67	-5725	11562	7559	101952	29367	23817	53184		7.5	Si
SLV 5	14.6	2031.32	-1072	-594	-2408	4.67	1.319	-3223	11061	4959	101952	29367	23817	53184		22.08	Si
SLV 11	11.45	635.17	-12181	-6754	4886	4.67	4.67	-10330	12483	8161	101952	29367	23817	53184		10.88	Si
SLV 11	14.6	4039.45	-3310	-1835	-411	4.67	3.3443	-2807	10978	5455	101952	29367	23817	53184		129.48	Si
SLV 9	11.45	-1212.52	-8220	-4558	-7182	4.67	4.67	-6971	11811	7722	101952	29367	23817	53184		7.41	Si
SLV 9	14.6	455.99	-474	-263	-239	4.67	4.1197	-402	10497	6054	101952	29367	23817	53184		222.29	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-5218	0.52	288.03	346.15	750.46	548.31	1.9	Si
SLV 2	-5352	0.52	288.03	354.57	762.26	558.41	1.94	Si
SLV 3	-5434	0.52	288.03	359.66	769.39	564.52	1.96	Si
SLV 4	-5568	0.52	288.03	368.04	781.18	574.61	1.99	Si
SLV 5	-5889	0.52	288.03	387.91	809.26	598.58	2.08	Si
SLV 6	-5980	0.52	288.03	393.5	817.15	605.32	2.1	Si
SLV 7	-6609	0.52	288.03	432	871.8	651.9	2.26	Si
SLV 9	-6661	0.52	288.03	435.19	876.35	655.77	2.28	Si
SLV 8	-6699	0.52	288.03	437.5	879.64	658.57	2.29	Si
SLV 10	-6752	0.52	288.03	440.68	884.19	662.44	2.3	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3680	-7569	-201	4.734	677.5	0.9	76.4653	9.45954	Si
SLV 4	-3269	-7826	-201	5.112	637.5	0.896	82.87195	9.45954	Si
SLV 1	-2829	-6380	-192	5.592	595.1	0.893	90.99325	9.45954	Si
SLV 7	-3908	-10712	-74	4.569	699.9	0.902	73.65414	7.25693	Si
SLV 2	-2418	-6638	-191	6.128	556.1	0.891	99.9988	9.45954	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-3631	-10885	-74	4.799	672.8	0.899	77.54232	7.25693	Si
SLV 11	-3310	-12181	44	5.101	641.5	0.897	82.67002	7.25693	Si
SLV 12	-3034	-12354	44	5.389	614.8	0.895	87.53516	7.25693	Si
SLV 15	-1688	-12467	193	7.387	488.9	0.889	120.74885	9.45954	Si
SLV 16	-1277	-12724	193	8.354	453.3	0.892	136.06516	9.45954	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.804	SLU 50	Si
V_SLU	11.701	SLU 50	Si
PF_SLV	1.64	SLV 1	Si
V_SLV	7.405	SLV 9	Si
PFFP_SLV	1.904	SLV 1	Si
R_SLV	8.083	SLV 3	Si

Maschio 249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L7	L8	0.565	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 26	13.45	11.77	-855	-0.0000092	0.0003743	0.0035	0.565	228.73	250.02	250.02	21.24	No	Si
SLU 26	14.25	-101.31	-746	-0.000018	0.0003743	0.0035	0.565	200.88	271.11	271.11	2.68	No	Si
SLU 65	13.45	22.79	-1011	-0.0000118	0.0003743	0.0035	0.565	267.69	290.27	290.27	12.74	No	Si
SLU 65	14.25	-123.99	-890	-0.0000222	0.0003743	0.0035	0.565	237.61	309.13	309.13	2.49	No	Si
SLU 73	13.45	19.42	-1010	-0.0000114	0.0003743	0.0035	0.565	267.34	289.91	289.91	14.93	No	Si
SLU 73	14.25	-117.88	-885	-0.0000211	0.0003743	0.0035	0.565	236.17	307.63	307.63	2.61	No	Si
SLU 31	13.45	15.37	-836	-0.0000094	0.0003743	0.0035	0.565	223.9	245.02	245.02	15.94	No	Si
SLU 31	14.25	-102.41	-752	-0.0000182	0.0003743	0.0035	0.565	202.47	272.75	272.75	2.66	No	Si
SLU 2	13.45	18.22	-691	-0.0000083	0.0003743	0.0035	0.565	186.8	207.01	207.01	11.36	No	Si
SLU 2	14.25	-88.27	-607	-0.0000157	0.0003743	0.0035	0.565	165.05	234.78	234.78	2.66	No	Si
SLU 52	13.45	18.88	-863	-0.00001	0.0003743	0.0035	0.565	230.79	252.13	252.13	13.35	No	Si
SLU 52	14.25	-97.63	-734	-0.0000174	0.0003743	0.0035	0.565	197.95	268.12	268.12	2.75	No	Si
SLU 76	13.45	12.44	-1027	-0.0000109	0.0003743	0.0035	0.565	271.72	294.47	294.47	23.67	No	Si
SLU 76	14.25	-110.68	-873	-0.0000199	0.0003743	0.0035	0.565	233.16	304.49	304.49	2.75	No	Si
SLU 44	13.45	22.26	-865	-0.0000103	0.0003743	0.0035	0.565	231.14	252.49	252.49	11.34	No	Si
SLU 44	14.25	-103.73	-740	-0.0000185	0.0003743	0.0035	0.565	199.42	269.62	269.62	2.6	No	Si
SLU 23	13.45	18.75	-837	-0.0000097	0.0003743	0.0035	0.565	224.25	245.38	245.38	13.09	No	Si
SLU 23	14.25	-108.52	-758	-0.0000193	0.0003743	0.0035	0.565	203.94	274.25	274.25	2.53	No	Si
SLU 68	13.45	15.81	-1029	-0.0000113	0.0003743	0.0035	0.565	272.06	294.82	294.82	18.64	No	Si
SLU 68	14.25	-116.78	-878	-0.0000209	0.0003743	0.0035	0.565	234.6	305.99	305.99	2.62	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	13.45	198.19	-3	-0.0158085	0.0005615	0.0035	0.452		20.2	20.2	0.1		No
SLD 6	14.25	-443.91	-353	-0.0040147	0.0005615	0.0035	0.452		167.39	167.39	0.38		No
SLV 5	13.45	267.74	371	0.0689257	0.0005615	0.0035	0.452		0	0	0		No
SLV 5	14.25	-613.67	-130	-0.0079775	0.0005615	0.0035	0.452		106.11	106.11	0.17		No
SLV 10	13.45	221.79	99	-0.0194937	0.0005615	0.0035	0.452		0	0	0		No
SLV 10	14.25	-533.59	-293	-0.0058686	0.0005615	0.0035	0.452		150.99	150.99	0.28		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	13.45	210.77	120	-0.0178405	0.0005615	0.0035	0.452		0	0	0		No
SLV 1	14.25	-433.47	-266	-0.0042313	0.0005615	0.0035	0.452		143.39	143.39	0.33		No
SLD 2	13.45	187.61	-72	-0.0131833	0.0005615	0.0035	0.452		39.45	39.45	0.21		No
SLD 2	14.25	-371.36	-427	-0.0024281	0.0005615	0.0035	0.452		187.47	187.47	0.5		No
SLV 2	13.45	293.54	358	0.0439831	0.0005615	0.0035	0.452		0	0	0		No
SLV 2	14.25	-550.53	-291	-0.006166	0.0005615	0.0035	0.452		150.22	150.22	0.27		No
SLD 10	13.45	133.79	-280	-0.003365	0.0005615	0.0035	0.452		96.88	96.88	0.72		No
SLD 10	14.25	-342.97	-448	-0.0019672	0.0005615	0.0035	0.452		193.28	193.28	0.56		No
SLV 9	13.45	166.08	-61	-0.0116636	0.0005615	0.0035	0.452		36.26	36.26	0.22		No
SLV 9	14.25	-454.79	-277	-0.0045692	0.0005615	0.0035	0.452		146.38	146.38	0.32		No
SLV 6	13.45	323.45	531	0.1327297	0.0005615	0.0035	0.452		0	0	0		No
SLV 6	14.25	-692.47	-147	-0.0091489	0.0005615	0.0035	0.452		110.74	110.74	0.16		No
SLD 5	13.45	164.38	-101	-0.0105236	0.0005615	0.0035	0.452		47.32	47.32	0.29		No
SLD 5	14.25	-396.09	-343	-0.0031582	0.0005615	0.0035	0.452		164.6	164.6	0.42		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 31	13.45	15.37	-836	-696	141	0.565	0.565	-4400	7531	1191	35683	4737	1441	6178	No	43.66	Si
SLU 31	14.25	-102.41	-752	-626	25	0.565	0.4388	-5110	7626	937	35683	4737	1441	6178	No	245.63	Si
SLU 64	13.45	18.66	-1066	-888	144	0.565	0.565	-5614	7693	1217	35683	4737	1441	6178	No	42.8	Si
SLU 64	14.25	-110.42	-898	-747	43	0.565	0.4784	-5600	7691	1030	35683	4737	1441	6178	No	142.6	Si
SLU 44	13.45	22.26	-865	-720	142	0.565	0.565	-4551	7551	1195	35683	4737	1441	6178	No	43.57	Si
SLU 44	14.25	-103.73	-740	-616	74	0.565	0.4269	-5169	7634	912	35683	4737	1441	6178	No	83.05	Si
SLU 23	13.45	18.75	-837	-697	157	0.565	0.565	-4407	7532	1192	35683	4737	1441	6178	No	39.36	Si
SLU 23	14.25	-108.52	-758	-631	36	0.565	0.4177	-5412	7666	897	35683	4737	1441	6178	No	169.88	Si
SLU 73	13.45	19.42	-1010	-841	159	0.565	0.565	-5314	7653	1211	35683	4737	1441	6178	No	38.91	Si
SLU 73	14.25	-117.88	-885	-737	44	0.565	0.4477	-5898	7731	969	35683	4737	1441	6178	No	139.08	Si
SLU 82	13.45	16.32	-1031	-859	140	0.565	0.565	-5428	7668	1213	35683	4737	1441	6178	No	44.06	Si
SLU 82	14.25	-109.84	-885	-737	35	0.565	0.4752	-5559	7686	1023	35683	4737	1441	6178	No	178.09	Si
SLU 76	13.45	12.44	-1027	-856	138	0.565	0.565	-5408	7665	1213	35683	4737	1441	6178	No	44.93	Si
SLU 76	14.25	-110.68	-873	-727	29	0.565	0.467	-5577	7688	1005	35683	4737	1441	6178	No	216.04	Si
SLU 68	13.45	15.81	-1029	-857	153	0.565	0.565	-5415	7666	1213	35683	4737	1441	6178	No	40.39	Si
SLU 68	14.25	-116.78	-878	-731	40	0.565	0.4486	-5844	7724	970	35683	4737	1441	6178	No	155.18	Si
SLU 65	13.45	22.79	-1011	-842	174	0.565	0.565	-5322	7654	1211	35683	4737	1441	6178	No	35.46	Si
SLU 65	14.25	-123.99	-890	-741	56	0.565	0.4297	-6184	7769	935	35683	4737	1441	6178	No	111.04	Si
SLU 26	13.45	11.77	-855	-712	136	0.565	0.565	-4501	7545	1194	35683	4737	1441	6178	No	45.53	Si
SLU 26	14.25	-101.31	-746	-621	21	0.565	0.4398	-5056	7619	938	35683	4737	1441	6178	No	300.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	13.45	-267	-1934	-1610	-1419	0.565	0.4333	-13350	13087	1588	35683	7106	1441	8547		6.02	Si
SLV 15	14.25	393.05	-1021	-850	72	0.452	0	0	0	0	35683	5685	1153	6837		95.4	Si
SLV 9	13.45	166.08	-61	-51	1199	0.452	0	0	0	0	35683	5685	1153	6837		5.7	Si
SLV 9	14.25	-454.79	-277	-230	-113	0.452	0	0	0	0	35683	5685	1153	6837		60.37	Si
SLV 6	13.45	323.45	531	442	1976	0.452	0	0	0	0	35683	5685	1153	6837		3.46	Si
SLV 6	14.25	-692.47	-147	-122	-75	0.452	0	0	0	0	35683	5685	1153	6837		91.59	Si
SLV 10	13.45	221.79	99	83	1439	0.452	0	0	0	0	35683	5685	1153	6837		4.75	Si
SLV 10	14.25	-533.59	-293	-244	-45	0.452	0	0	0	0	35683	5685	1153	6837		152.84	Si
SLD 6	13.45	198.19	-3	-3	1214	0.452	0	0	0	0	35683	5685	1153	6837		5.63	Si
SLD 6	14.25	-443.91	-353	-294	-30	0.452	0	0	0	0	35683	5685	1153	6837		227.05	Si
SLV 1	13.45	210.77	120	100	1262	0.452	0	0	0	0	35683	5685	1153	6837		5.42	Si
SLV 1	14.25	-433.47	-266	-221	-105	0.452	0	0	0	0	35683	5685	1153	6837		65.14	Si
SLV 11	13.45	-296.91	-2107	-1754	-1777	0.565	0.4247	-14858	13388	1592	35683	7106	1441	8547		4.81	Si
SLV 11	14.25	534.99	-1165	-970	143	0.452	0	0	0	0	35683	5685	1153	6837		47.77	Si
SLV 5	13.45	267.74	371	309	1736	0.452	0	0	0	0	35683	5685	1153	6837		3.94	Si
SLV 5	14.25	-613.67	-130	-108	-143	0.452	0	0	0	0	35683	5685	1153	6837		47.76	Si
SLV 12	13.45	-241.2	-1946	-1621	-1537	0.565	0.4757	-12238	12864	1714	35683	7106	1441	8547		5.56	Si
SLV 12	14.25	456.19	-1181	-984	212	0.452	0	0	0	0	35683	5685	1153	6837		32.3	Si
SLV 2	13.45	293.54	358	298	1618	0.452	0	0	0	0	35683	5685	1153	6837		4.23	Si
SLV 2	14.25	-550.53	-291	-242	-3	0.452	0	0	0	0	35683	5685	1153	6837		2146.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.52	0	-134	64.04	0	0	No, e>t/2
SLV 15	179667	0.52	0	-26	64.04	0	0	No, e>t/2
SLV 8	179667	0.52	0	363	64.04	0	0	No, Trazione
SLV 11	179667	0.52	0	639	64.04	0	0	No, Trazione
SLV 12	179667	0.52	0	566	64.04	0	0	No, Trazione
SLV 7	179667	0.52	0	436	64.04	0	0	No, Trazione
SLV 3	179667	0.52	4444	-703	64.04	95.56	1.49	Si
SLV 4	179667	0.52	5129	-811	64.04	109.78	1.71	Si
SLV 13	179667	0.52	5146	-814	64.04	110.13	1.72	Si
SLV 14	179667	0.52	5831	-922	64.04	124.21	1.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-1529	-547	-48	1.636	227.3	0.919	25.85491	5.47312	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-1512	-549	-47	1.649	225.7	0.919	26.08118	5.47312	Si
SLV 7	-1380	-420	-49	1.764	212.5	0.915	28.00573	5.47312	Si
SLV 8	-1364	-421	-49	1.78	210.8	0.915	28.27112	5.47312	Si
SLV 15	-950	-1044	-16	2.317	169.8	0.902	37.33421	6.17968	Si
SLV 16	-926	-1047	-16	2.357	167.4	0.901	38.02555	6.17968	Si
SLV 3	-456	-621	-20	3.552	122.6	0.889	58.07956	6.17968	Si
SLV 4	-432	-624	-20	3.65	120.4	0.889	59.67768	6.17968	Si
SLV 13	-302	-1344	10	4.284	109.1	0.893	69.75469	6.17968	Si
SLV 14	-278	-1347	10	4.426	107.1	0.894	71.91912	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.493	SLU 65	Si
V_SLU	35.46	SLU 65	Si
PF_SLV	0	SLV 1	No
V_SLV	3.461	SLV 6	Si
PFFP_SLV	0	SLV 12	No
R_SLV	4.724	SLV 11	Si

Maschio 250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L7	L8	2.325	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	13.45	545.51	-3837	-0.000012	0.0003743	0.0035	2.325	4201.83	4532.41	4532.41	8.31	No	Si
SLU 81	14.25	245.3	-2562	-0.0000073	0.0003743	0.0035	2.325	2862.74	3159.41	3159.41	12.88	No	Si
SLU 40	13.45	469.22	-3254	-0.0000102	0.0003743	0.0035	2.325	3596.78	3908.36	3908.36	8.33	No	Si
SLU 40	14.25	248.95	-2268	-0.0000066	0.0003743	0.0035	2.325	2546.78	2837.24	2837.24	11.4	No	Si
SLU 82	13.45	556.51	-3876	-0.0000121	0.0003743	0.0035	2.325	4242.04	4573.73	4573.73	8.22	No	Si
SLU 82	14.25	242.36	-2586	-0.0000073	0.0003743	0.0035	2.325	2889.29	3186.22	3186.22	13.15	No	Si
SLU 31	13.45	477.67	-3323	-0.0000104	0.0003743	0.0035	2.325	3669.69	3983.31	3983.31	8.34	No	Si
SLU 31	14.25	224.18	-2298	-0.0000065	0.0003743	0.0035	2.325	2579.12	2870.14	2870.14	12.8	No	Si
SLU 73	13.45	564.96	-3945	-0.0000124	0.0003743	0.0035	2.325	4313.44	4647.29	4647.29	8.23	No	Si
SLU 73	14.25	217.59	-2616	-0.0000072	0.0003743	0.0035	2.325	2921.3	3218.58	3218.58	14.79	No	Si
SLU 61	13.45	476.71	-3275	-0.0000103	0.0003743	0.0035	2.325	3619.42	3931.63	3931.63	8.25	No	Si
SLU 61	14.25	150.04	-2013	-0.0000054	0.0003743	0.0035	2.325	2269.09	2555.27	2555.27	17.03	No	Si
SLU 52	13.45	485.16	-3345	-0.0000105	0.0003743	0.0035	2.325	3692.29	4006.55	4006.55	8.26	No	Si
SLU 52	14.25	125.27	-2043	-0.0000054	0.0003743	0.0035	2.325	2301.7	2588.35	2588.35	20.66	No	Si
SLU 60	13.45	465.71	-3236	-0.0000101	0.0003743	0.0035	2.325	3578.39	3889.47	3889.47	8.35	No	Si
SLU 60	14.25	152.98	-1988	-0.0000054	0.0003743	0.0035	2.325	2242.05	2527.85	2527.85	16.52	No	Si
SLU 65	13.45	567.58	-4047	-0.0000126	0.0003743	0.0035	2.325	4417.29	4754.79	4754.79	8.38	No	Si
SLU 65	14.25	164.38	-2647	-0.000007	0.0003743	0.0035	2.325	2954.7	3252.4	3252.4	19.79	No	Si
SLU 19	13.45	389.42	-2653	-0.0000083	0.0003743	0.0035	2.325	2961.06	3258.86	3258.86	8.37	No	Si
SLU 19	14.25	156.63	-1695	-0.0000048	0.0003743	0.0035	2.325	1920.18	2202.69	2202.69	14.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	13.45	1804.5	-4138	-0.0000201	0.0005615	0.0035	2.325		4917.73	4917.73	2.73		Si
SLV 2	14.25	-518.05	-2403	-0.0000085	0.0005615	0.0035	2.325		4278.53	4278.53	8.26		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	13.45	-1446.24	-682	-0.0001976	0.0005615	0.0035	1.86		2353.39	2353.39	1.63		Si
SLV 11	14.25	605.11	-578	-0.0000176	0.0005615	0.0035	2.325		947.06	947.06	1.57		Si
SLV 15	13.45	-996.08	-1666	-0.0000103	0.0005615	0.0035	2.325		3458.97	3458.97	3.47		Si
SLV 15	14.25	768.32	-1336	-0.000008	0.0005615	0.0035	2.325		1809.11	1809.11	2.35		Si
SLV 7	13.45	-997.62	-991	-0.000021	0.0005615	0.0035	1.86		2701.81	2701.81	2.71		Si
SLV 7	14.25	341.7	-676	-0.0000036	0.0005615	0.0035	2.325		1059.14	1059.14	3.1		Si
SLV 1	13.45	1391.61	-3884	-0.000017	0.0005615	0.0035	2.325		4642.31	4642.31	3.34		Si
SLV 1	14.25	-268.21	-2410	-0.000007	0.0005615	0.0035	2.325		4286.04	4286.04	15.98		Si
SLV 10	13.45	1806.04	-4813	-0.0000216	0.0005615	0.0035	2.325		5647.56	5647.56	3.13		Si
SLV 10	14.25	-91.43	-3064	-0.0000075	0.0005615	0.0035	2.325		5006.55	5006.55	54.76		Si
SLV 12	13.45	-1168.31	-852	-0.0000887	0.0005615	0.0035	1.86		2545.72	2545.72	2.18		Si
SLV 12	14.25	436.93	-573	-0.000005	0.0005615	0.0035	2.325		941.84	941.84	2.16		Si
SLV 6	13.45	2254.66	-5122	-0.0000251	0.0005615	0.0035	2.325		5980.27	5980.27	2.65		Si
SLV 6	14.25	-354.84	-3162	-0.0000093	0.0005615	0.0035	2.325		5114.2	5114.2	14.41		Si
SLD 6	13.45	1501.91	-4210	-0.0000184	0.0005615	0.0035	2.325		4996.38	4996.38	3.33		Si
SLD 6	14.25	-158.03	-2649	-0.0000069	0.0005615	0.0035	2.325		4549.51	4549.51	28.79		Si
SLV 5	13.45	1976.73	-4952	-0.000023	0.0005615	0.0035	2.325		5796.91	5796.91	2.93		Si
SLV 5	14.25	-186.66	-3167	-0.0000083	0.0005615	0.0035	2.325		5119.2	5119.2	27.43		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	13.45	456.32	-3468	-2888	798	2.325	2.325	-4436	7536	4906	35683	19494	5929	25423	No	31.88	Si
SLU 47	14.25	88.93	-2096	-1745	660	2.325	2.325	-2681	7302	4754	35683	19494	5929	25423	No	38.54	Si
SLU 65	13.45	567.58	-4047	-3370	846	2.325	2.325	-5177	7635	4970	35683	19494	5929	25423	No	30.04	Si
SLU 65	14.25	164.38	-2647	-2205	744	2.325	2.325	-3386	7396	4815	35683	19494	5929	25423	No	34.18	Si
SLU 43	13.45	469.44	-3381	-2816	789	2.325	2.325	-4325	7521	4896	35683	19494	5929	25423	No	32.24	Si
SLU 43	14.25	76.97	-2033	-1693	695	2.325	2.325	-2600	7291	4747	35683	19494	5929	25423	No	36.57	Si
SLU 66	13.45	530.13	-4509	-3755	765	2.325	2.325	-5768	7714	5021	35683	19494	5929	25423	No	33.25	Si
SLU 66	14.25	210.85	-3090	-2573	698	2.325	2.325	-3952	7471	4864	35683	19494	5929	25423	No	36.41	Si
SLU 68	13.45	536.12	-4068	-3388	785	2.325	2.325	-5204	7638	4973	35683	19494	5929	25423	No	32.38	Si
SLU 68	14.25	181.25	-2669	-2223	684	2.325	2.325	-3414	7400	4817	35683	19494	5929	25423	No	37.18	Si
SLU 44	13.45	487.78	-3447	-2870	859	2.325	2.325	-4409	7532	4903	35683	19494	5929	25423	No	29.6	Si
SLU 44	14.25	72.06	-2074	-1727	720	2.325	2.325	-2653	7298	4751	35683	19494	5929	25423	No	35.32	Si
SLU 46	13.45	461.33	-3948	-3288	819	2.325	2.325	-5050	7618	4959	35683	19494	5929	25423	No	31.03	Si
SLU 46	14.25	115.58	-2541	-2116	689	2.325	2.325	-3251	7378	4803	35683	19494	5929	25423	No	36.91	Si
SLU 67	13.45	541.13	-4548	-3788	807	2.325	2.325	-5818	7720	5026	35683	19494	5929	25423	No	31.51	Si
SLU 67	14.25	207.9	-3115	-2594	713	2.325	2.325	-3984	7476	4867	35683	19494	5929	25423	No	35.66	Si
SLU 45	13.45	450.33	-3909	-3255	777	2.325	2.325	-5000	7611	4955	35683	19494	5929	25423	No	32.71	Si
SLU 45	14.25	118.53	-2517	-2096	674	2.325	2.325	-3219	7374	4800	35683	19494	5929	25423	No	37.71	Si
SLU 64	13.45	549.25	-3982	-3316	776	2.325	2.325	-5093	7624	4963	35683	19494	5929	25423	No	32.76	Si
SLU 64	14.25	169.29	-2606	-2170	719	2.325	2.325	-3334	7389	4810	35683	19494	5929	25423	No	35.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	13.45	1528.11	-4643	-3866	3541	2.325	2.325	-5939	11604	7554	35683	29241	5929	35169		9.93	Si
SLV 9	14.25	76.75	-3069	-2555	2508	2.325	2.325	-3925	11202	7292	35683	29241	5929	35169		14.02	Si
SLV 2	13.45	1804.5	-4138	-3445	4380	2.325	2.1791	-5292	11475	7002	35683	29241	5929	35169		8.03	Si
SLV 2	14.25	-518.05	-2403	-2001	3127	2.325	2.325	-3074	11031	7182	35683	29241	5929	35169		11.25	Si
SLV 5	13.45	1976.73	-4952	-4123	4743	2.325	2.2899	-6334	11683	7491	35683	29241	5929	35169		7.42	Si
SLV 5	14.25	-186.66	-3167	-2637	3304	2.325	2.325	-4050	11227	7309	35683	29241	5929	35169		10.64	Si
SLV 15	13.45	-996.08	-1666	-1387	-3285	2.325	1.694	-2927	11002	5219	35683	29241	5929	35169		10.71	Si
SLV 15	14.25	768.32	-1336	-1113	-2092	2.325	1.7626	-1709	10759	5310	35683	29241	5929	35169		16.81	Si
SLD 6	13.45	1501.91	-4210	-3506	3534	2.325	2.325	-5385	11494	7482	35683	29241	5929	35169		9.95	Si
SLD 6	14.25	-158.03	-2649	-2206	2549	2.325	2.325	-3388	11094	7222	35683	29241	5929	35169		13.8	Si
SLV 12	13.45	-1168.31	-852	-709	-3648	1.86	0	0	0	0	35683	23393	4743	28136		7.71	Si
SLV 12	14.25	436.93	-573	-477	-2269	2.325	1.2001	-733	10563	3611	35683	29241	5929	35169		15.5	Si
SLV 6	13.45	2254.66	-5122	-4265	5584	2.325	2.167	-6552	11727	7115	35683	29241	5929	35169		6.3	Si
SLV 6	14.25	-354.84	-3162	-2633	3938	2.325	2.325	-4045	11226	7308	35683	29241	5929	35169		8.93	Si
SLV 7	13.45	-997.62	-991	-825	-3287	1.86	0.4662	0	0	0	35683	23393	4743	28136		8.56	Si
SLV 7	14.25	341.7	-676	-563	-2106	2.325	1.97	-864	10589	5841	35683	29241	5929	35169		16.7	Si
SLV 10	13.45	1806.04	-4813	-4008	4382	2.325	2.325	-6157	11648	7583	35683	29241	5929	35169		8.03	Si
SLV 10	14.25	-91.43	-3064	-2552	3141	2.325	2.325	-3919	11201	7292	35683	29241	5929	35169		11.2	Si
SLV 11	13.45	-1446.24	-682	-568	-4489	1.86	0	0	0	0	35683	23393	4743	28136		6.27	Si
SLV 11	14.25	605.11	-578	-481	-2903	2.325	0.3446	-4964	11411	3612	35683	29241	5929	35169		12.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.52	3316	-2158	263.52	295.62	1.12	Si
SLV 8	179667	0.52	3545	-2308	263.52	315.56	1.2	Si
SLV 2	179667	0.52	3615	-2353	263.52	321.68	1.22	Si
SLV 3	179667	0.52	3649	-2376	263.52	324.62	1.23	Si
SLV 7	179667	0.52	3769	-2454	263.52	335.04	1.27	Si
SLV 1	179667	0.52	3949	-2570	263.52	350.56	1.33	Si
SLV 12	179667	0.52	3994	-2600	263.52	354.47	1.35	Si
SLV 11	179667	0.52	4218	-2746	263.52	373.83	1.42	Si
SLV 6	179667	0.52	4543	-2957	263.52	401.73	1.52	Si
SLV 5	179667	0.52	4767	-3104	263.52	420.94	1.6	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-2218	-5096	-147	3.243	535.9	0.89	52.96759	6.17968	Si
SLV 13	-2192	-5224	-146	3.263	533.5	0.89	53.3052	6.17968	Si
SLV 10	-2389	-5900	-498	3.03	552	0.891	49.44774	5.47312	Si
SLV 9	-2372	-5986	-498	3.042	550.4	0.89	49.65208	5.47312	Si
SLV 16	-1712	-4077	151	3.696	489.7	0.889	60.41619	6.17968	Si
SLV 15	-1687	-4205	151	3.722	487.4	0.889	60.8398	6.17968	Si
SLV 6	-2035	-5552	-503	3.301	519	0.889	53.9652	5.47312	Si
SLV 5	-2018	-5638	-502	3.316	517.4	0.889	54.20529	5.47312	Si
SLV 2	-1036	-3936	-161	4.549	432.1	0.897	73.72627	6.17968	Si
SLV 1	-1010	-4064	-161	4.59	430.1	0.897	74.32555	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.219	SLU 82	Si
V_SLU	29.604	SLU 44	Si
PF_SLV	1.565	SLV 11	Si
V_SLV	6.268	SLV 11	Si
PFFP_SLV	1.122	SLV 4	Si
R_SLV	8.571	SLV 14	Si

Maschio 251

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L7	L8	2.09	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	12.35	-606.06	-3168	-0.0000125	0.0003743	0.0035	2.09	3134.37	4277.01	4277.01	7.06	No	Si
SLU 39	14.15	561.53	-2657	-0.0000108	0.0003743	0.0035	2.09	2652.84	2911.71	2911.71	5.19	No	Si
SLU 81	12.35	-575.49	-4005	-0.0000144	0.0003743	0.0035	2.09	3904.28	5063.36	5063.36	8.8	No	Si
SLU 81	14.15	587.9	-3041	-0.000012	0.0003743	0.0035	2.09	3015.67	3283.26	3283.26	5.58	No	Si
SLU 82	12.35	-528.83	-4029	-0.0000141	0.0003743	0.0035	2.09	3925.61	5085.54	5085.54	9.62	No	Si
SLU 82	14.15	585	-3029	-0.0000119	0.0003743	0.0035	2.09	3004.37	3271.66	3271.66	5.59	No	Si
SLU 31	12.35	-426.55	-3289	-0.0000115	0.0003743	0.0035	2.09	3247.31	4393.91	4393.91	10.3	No	Si
SLU 31	14.15	515.86	-2614	-0.0000104	0.0003743	0.0035	2.09	2611.91	2869.99	2869.99	5.56	No	Si
SLU 42	12.35	-569.43	-3346	-0.0000127	0.0003743	0.0035	2.09	3300.57	4448.89	4448.89	7.81	No	Si
SLU 42	14.15	543.08	-2804	-0.0000111	0.0003743	0.0035	2.09	2792.28	3054.56	3054.56	5.62	No	Si
SLU 40	12.35	-559.4	-3191	-0.0000122	0.0003743	0.0035	2.09	3156.38	4299.83	4299.83	7.69	No	Si
SLU 40	14.15	558.62	-2645	-0.0000108	0.0003743	0.0035	2.09	2641.37	2900.01	2900.01	5.19	No	Si
SLU 32	12.35	-486.22	-3698	-0.000013	0.0003743	0.0035	2.09	3624.36	4775.39	4775.39	9.82	No	Si
SLU 32	14.15	594.88	-3183	-0.0000124	0.0003743	0.0035	2.09	3148.85	3420.21	3420.21	5.75	No	Si
SLU 19	12.35	-387.28	-2889	-0.0000101	0.0003743	0.0035	2.09	2872.26	4003.86	4003.86	10.34	No	Si
SLU 19	14.15	401.11	-2038	-0.0000081	0.0003743	0.0035	2.09	2056.76	2303.82	2303.82	5.74	No	Si
SLU 41	12.35	-616.1	-3323	-0.0000129	0.0003743	0.0035	2.09	3278.68	4426.31	4426.31	7.18	No	Si
SLU 41	14.15	545.98	-2816	-0.0000111	0.0003743	0.0035	2.09	2803.68	3066.2	3066.2	5.62	No	Si
SLU 18	12.35	-433.94	-2865	-0.0000104	0.0003743	0.0035	2.09	2850	3980.69	3980.69	9.17	No	Si
SLU 18	14.15	404.02	-2050	-0.0000081	0.0003743	0.0035	2.09	2068.49	2315.74	2315.74	5.73	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	12.35	2299.34	-5656	-0.0000315	0.0005615	0.0035	2.09		5847.04	5847.04	2.54		Si
SLV 5	14.15	-1863.34	-1788	-0.0001086	0.0005615	0.0035	1.672		2940.31	2940.31	1.58		Si
SLV 15	12.35	-1696.77	-1995	-0.0000358	0.0005615	0.0035	1.672		3147.61	3147.61	1.86		Si
SLV 15	14.15	2389.27	-2247	-0.0004886	0.0005615	0.0035	1.672		2529.85	2529.85	1.06		Si
SLV 11	12.35	-3104.7	-539	-0.0011981	0.0005615	0.0035	1.672		1679.71	1679.71	0.54		No
SLV 11	14.15	2833.43	-2734	-0.0004222	0.0005615	0.0035	1.672		3015.47	3015.47	1.06		Si
SLD 15	12.35	-1108.08	-2460	-0.0000145	0.0005615	0.0035	2.09		3609.7	3609.7	3.26		Si
SLD 15	14.15	1611.52	-2201	-0.0000249	0.0005615	0.0035	2.09		2483.51	2483.51	1.54		Si
SLV 8	12.35	-2465.3	-881	-0.0006543	0.0005615	0.0035	1.672		2027.58	2027.58	0.82		No
SLV 8	14.15	1799.01	-2671	-0.0000255	0.0005615	0.0035	2.09		2953.38	2953.38	1.64		Si
SLV 7	12.35	-2847.03	-736	-0.0009205	0.0005615	0.0035	1.672		1880.19	1880.19	0.66		No
SLV 7	14.15	2088.8	-2868	-0.0000323	0.0005615	0.0035	2.09		3148.65	3148.65	1.51		Si
SLD 11	12.35	-1914.06	-1624	-0.0001794	0.0005615	0.0035	1.672		2776.42	2776.42	1.45		Si
SLD 11	14.15	1819.75	-2495	-0.0000281	0.0005615	0.0035	2.09		2778.99	2778.99	1.53		Si
SLV 6	12.35	2681.07	-5801	-0.0000356	0.0005615	0.0035	2.09		5983.7	5983.7	2.23		Si
SLV 6	14.15	-2153.14	-1591	-0.0002783	0.0005615	0.0035	1.672		2743.02	2743.02	1.27		Si
SLV 12	12.35	-2722.98	-684	-0.0008784	0.0005615	0.0035	1.672		1827.23	1827.23	0.67		No
SLV 12	14.15	2543.64	-2537	-0.0002092	0.0005615	0.0035	2.09		2820.2	2820.2	1.11		Si
SLV 16	12.35	-1129.7	-2211	-0.0000146	0.0005615	0.0035	2.09		3362.43	3362.43	2.98		Si
SLV 16	14.15	1958.77	-1954	-0.000155	0.0005615	0.0035	2.09		2235.18	2235.18	1.14		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.35	-419.03	-4714	-3925	-1514	2.09	2.09	-6708	7839	4587	35683	17523	5329	22853	No	15.09	Si
SLU 78	14.15	602.8	-3714	-3093	-1534	2.09	2.09	-5285	7649	4476	35683	17523	5329	22853	No	14.9	Si
SLU 82	12.35	-528.83	-4029	-3355	-1568	2.09	2.09	-5733	7709	4511	35683	17523	5329	22853	No	14.57	Si
SLU 82	14.15	585	-3029	-2522	-1578	2.09	2.09	-4310	7519	4400	35683	17523	5329	22853	No	14.48	Si
SLU 83	12.35	-585.53	-4160	-3464	-1608	2.09	2.09	-5920	7734	4526	35683	17523	5329	22853	No	14.21	Si
SLU 83	14.15	572.35	-3200	-2665	-1635	2.09	2.09	-4553	7552	4419	35683	17523	5329	22853	No	13.98	Si
SLU 75	12.35	-408.99	-4559	-3796	-1517	2.09	2.09	-6487	7809	4570	35683	17523	5329	22853	No	15.07	Si
SLU 75	14.15	618.35	-3555	-2960	-1531	2.09	2.09	-5059	7619	4459	35683	17523	5329	22853	No	14.93	Si
SLU 77	12.35	-465.69	-4690	-3906	-1556	2.09	2.09	-6674	7834	4585	35683	17523	5329	22853	No	14.69	Si
SLU 77	14.15	605.7	-3726	-3103	-1588	2.09	2.09	-5302	7651	4478	35683	17523	5329	22853	No	14.39	Si
SLU 39	12.35	-606.06	-3168	-2638	-1538	2.09	2.09	-4508	7545	4416	35683	17523	5329	22853	No	14.86	Si
SLU 39	14.15	561.53	-2657	-2213	-1556	2.09	2.09	-3781	7449	4359	35683	17523	5329	22853	No	14.69	Si
SLU 74	12.35	-455.65	-4535	-3777	-1559	2.09	2.09	-6454	7805	4567	35683	17523	5329	22853	No	14.66	Si
SLU 74	14.15	621.25	-3567	-2971	-1585	2.09	2.09	-5076	7621	4460	35683	17523	5329	22853	No	14.42	Si
SLU 84	12.35	-538.87	-4184	-3484	-1566	2.09	2.09	-5954	7738	4528	35683	17523	5329	22853	No	14.6	Si
SLU 84	14.15	569.45	-3188	-2655	-1581	2.09	2.09	-4536	7549	4418	35683	17523	5329	22853	No	14.45	Si
SLU 41	12.35	-616.1	-3323	-2767	-1536	2.09	2.09	-4728	7575	4433	35683	17523	5329	22853	No	14.88	Si
SLU 41	14.15	545.98	-2816	-2345	-1559	2.09	2.09	-4007	7479	4377	35683	17523	5329	22853	No	14.66	Si
SLU 81	12.35	-575.49	-4005	-3335	-1610	2.09	2.09	-5700	7704	4509	35683	17523	5329	22853	No	14.19	Si
SLU 81	14.15	587.9	-3041	-2532	-1632	2.09	2.09	-4327	7521	4402	35683	17523	5329	22853	No	14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	12.35	-3104.7	-539	-449	-5870	1.672	0	0	0	0	35683	21028	4264	25292		4.31	Si
SLV 11	14.15	2833.43	-2734	-2277	-5740	1.672	0.0257	0	0	0	35683	21028	4264	25292		4.41	Si
SLV 7	12.35	-2847.03	-736	-613	-4968	1.672	0	0	0	0	35683	21028	4264	25292		5.09	Si
SLV 7	14.15	2088.8	-2868	-2389	-5199	2.09	0.9503	-4082	11233	3454	35683	26285	5329	31615		6.08	Si
SLV 6	12.35	2681.07	-5801	-4831	4094	2.09	1.7485	-8255	12068	5908	35683	26285	5329	31615		7.72	Si
SLV 6	14.15	-2153.14	-1591	-1325	3932	1.672	0	0	0	0	35683	21028	4264	25292		6.43	Si
SLV 8	12.35	-2465.3	-881	-734	-4397	1.672	0	0	0	0	35683	21028	4264	25292		5.75	Si
SLV 8	14.15	1799.01	-2671	-2224	-4627	2.09	1.1145	-3801	11177	3488	35683	26285	5329	31615		6.83	Si
SLD 11	12.35	-1914.06	-1624	-1353	-3832	1.672	0	0	0	0	35683	21028	4264	25292		6.6	Si
SLD 11	14.15	1819.75	-2495	-2078	-3754	2.09	0.9469	-3550	11127	3371	35683	26285	5329	31615		8.42	Si
SLV 15	12.35	-1696.77	-1995	-1662	-4089	1.672	0.5839	0	0	0	35683	21028	4264	25292		6.19	Si
SLV 15	14.15	2389.27	-2247	-1871	-3515	1.672	0	0	0	0	35683	21028	4264	25292		7.2	Si
SLV 12	12.35	-2722.98	-684	-570	-5298	1.672	0	0	0	0	35683	21028	4264	25292		4.77	Si
SLV 12	14.15	2543.64	-2537	-2112	-5168	2.09	0.1267	-51962	16250	3380	35683	26285	5329	31615		6.12	Si
SLV 10	12.35	2423.39	-5604	-4666	3192	2.09	1.8376	-7974	12011	6180	35683	26285	5329	31615		9.9	Si
SLV 10	14.15	-1408.51	-1456	-1213	3390	1.672	0.2336	0	0	0	35683	21028	4264	25292		7.46	Si
SLD 12	12.35	-1682.41	-1712	-1426	-3485	1.672	0.1875	0	0	0	35683	21028	4264	25292		7.26	Si
SLD 12	14.15	1643.89	-2375	-1978	-3407	2.09	1.0588	-3380	11093	3345	35683	26285	5329	31615		9.28	Si
SLV 5	12.35	2299.34	-5656	-4710	3522	2.09	1.9154	-8048	12026	6450	35683	26285	5329	31615		8.98	Si
SLV 5	14.15	-1863.34	-1788	-1489	3360	1.672	0.0088	0	0	0	35683	21028	4264	25292		7.53	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	3049	-1784	236.89	244.81	1.03	Si
SLV 12	179667	0.52	3078	-1801	236.89	247.06	1.04	Si
SLV 7	179667	0.52	3237	-1894	236.89	259.59	1.1	Si
SLV 8	179667	0.52	3266	-1911	236.89	261.84	1.11	Si
SLV 15	179667	0.52	4351	-2546	236.89	346.28	1.46	Si
SLV 16	179667	0.52	4393	-2571	236.89	349.56	1.48	Si
SLV 3	179667	0.52	4978	-2913	236.89	394.55	1.67	Si
SLV 4	179667	0.52	5021	-2938	236.89	397.8	1.68	Si
SLV 13	179667	0.52	5661	-3313	236.89	446.57	1.89	Si
SLV 14	179667	0.52	5703	-3337	236.89	449.79	1.9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-2790	-3744	-299	2.632	557.5	0.895	42.72896	6.17968	Si
SLV 2	-2783	-3484	-298	2.637	556.7	0.895	42.80884	6.17968	Si
SLV 5	-2879	-4501	-310	2.58	566	0.896	41.83646	5.47312	Si
SLV 6	-2874	-4327	-309	2.583	565.5	0.896	41.88815	5.47312	Si
SLV 3	-2206	-3345	-171	3.057	501.6	0.891	49.86751	6.17968	Si
SLV 4	-2198	-3086	-170	3.063	500.9	0.891	49.97297	6.17968	Si
SLV 9	-2371	-4788	-191	2.928	517.3	0.892	47.71102	5.47312	Si
SLV 10	-2366	-4614	-190	2.932	516.8	0.892	47.77651	5.47312	Si
SLV 13	-1098	-4700	97	4.294	402	0.893	69.88182	6.17968	Si
SLV 14	-1090	-4441	97	4.306	401.4	0.893	70.06195	6.17968	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.185	SLU 39	Si
V_SLU	13.976	SLU 83	Si
PF_SLV	0.541	SLV 11	No
V_SLV	4.309	SLV 11	Si
PFFP_SLV	1.033	SLV 11	Si
R_SLV	6.914	SLV 1	Si

Maschio 252

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.018	5.951	L7	L8	2.165	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	12.35	-507.57	-6266	-0.0000191	0.0003743	0.0035	2.165	6094.61	7556.7	7556.7	14.89	No	Si
SLU 41	14.15	128.57	-4102	-0.000011	0.0003743	0.0035	2.165	4145.73	4467.82	4467.82	34.75	No	Si
SLU 33	12.35	-550.82	-6611	-0.0000202	0.0003743	0.0035	2.165	6390.05	7880.44	7880.44	14.31	No	Si
SLU 33	14.15	-21.93	-4447	-0.0000111	0.0003743	0.0035	2.165	4467.35	5836.54	5836.54	266.12	No	Si
SLU 43	12.35	-193.22	-5742	-0.0000155	0.0003743	0.0035	2.165	5637.24	7064.28	7064.28	36.56	No	Si
SLU 43	14.15	-376.17	-3004	-0.0000099	0.0003743	0.0035	2.165	3093.91	4421.11	4421.11	11.75	No	Si
SLU 35	12.35	-611.01	-7527	-0.000023	0.0003743	0.0035	2.165	7154.17	8693.54	8693.54	14.23	No	Si
SLU 35	14.15	66.47	-5363	-0.0000137	0.0003743	0.0035	2.165	5300.98	5679.52	5679.52	85.45	No	Si
SLU 1	12.35	-187.75	-4640	-0.0000127	0.0003743	0.0035	2.165	4645.32	6025.58	6025.58	32.09	No	Si
SLU 1	14.15	-271.14	-2522	-0.000008	0.0003743	0.0035	2.165	2618.8	3935.85	3935.85	14.52	No	Si
SLU 36	12.35	-628.58	-7525	-0.0000231	0.0003743	0.0035	2.165	7152.69	8691.92	8691.92	13.83	No	Si
SLU 36	14.15	88.14	-5361	-0.0000139	0.0003743	0.0035	2.165	5299.36	5677.8	5677.8	64.42	No	Si
SLU 44	12.35	-222.52	-5739	-0.0000157	0.0003743	0.0035	2.165	5634.58	7061.46	7061.46	31.73	No	Si
SLU 44	14.15	-340.05	-3001	-0.0000097	0.0003743	0.0035	2.165	3090.97	4418.06	4418.06	12.99	No	Si
SLU 42	12.35	-525.15	-6265	-0.0000192	0.0003743	0.0035	2.165	6093.05	7554.99	7554.99	14.39	No	Si
SLU 42	14.15	150.24	-4101	-0.0000111	0.0003743	0.0035	2.165	4144.03	4466.06	4466.06	29.73	No	Si
SLU 32	12.35	-533.24	-6613	-0.0000201	0.0003743	0.0035	2.165	6391.59	7882.11	7882.11	14.78	No	Si
SLU 32	14.15	-43.6	-4449	-0.0000113	0.0003743	0.0035	2.165	4469.03	5838.31	5838.31	133.9	No	Si
SLU 38	12.35	-574.79	-7219	-0.000022	0.0003743	0.0035	2.165	6900.32	8418.35	8418.35	14.65	No	Si
SLU 38	14.15	194.15	-5055	-0.0000138	0.0003743	0.0035	2.165	5023.74	5386.6	5386.6	27.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	12.35	-786.62	-3381	-0.0000136	0.0005615	0.0035	2.165		4838.37	4838.37	6.15		Si
SLD 1	14.15	-1573.9	-1301	-0.0001245	0.0005615	0.0035	1.732		2697.82	2697.82	1.71		Si
SLV 14	12.35	-382.02	-6434	-0.0000184	0.0005615	0.0035	2.165		7860.25	7860.25	20.58		Si
SLV 14	14.15	2409.89	-4059	-0.0000295	0.0005615	0.0035	2.165		4489.72	4489.72	1.86		Si
SLV 10	12.35	-1854.35	-4248	-0.0000233	0.0005615	0.0035	2.165		5711.25	5711.25	3.08		Si
SLV 10	14.15	1497.82	-1809	-0.0000252	0.0005615	0.0035	2.165		2179.25	2179.25	1.45		Si
SLV 2	12.35	-1398.27	-3040	-0.0000172	0.0005615	0.0035	2.165		4491.66	4491.66	3.21		Si
SLV 2	14.15	-1254.32	-998	-0.0001088	0.0005615	0.0035	1.732		2381.34	2381.34	1.9		Si
SLD 3	12.35	-202.94	-3836	-0.0000108	0.0005615	0.0035	2.165		5299.88	5299.88	26.11		Si
SLD 3	14.15	-1847.02	-1851	-0.0000627	0.0005615	0.0035	1.732		3269.23	3269.23	1.77		Si
SLV 1	12.35	-1112.84	-2497	-0.0000138	0.0005615	0.0035	2.165		3935.66	3935.66	3.54		Si
SLV 1	14.15	-2353.06	-455	-0.0006598	0.0005615	0.0035	1.732		1810.41	1810.41	0.77		No
SLV 5	12.35	-1967.09	-2864	-0.0000256	0.0005615	0.0035	1.732		4312.82	4312.82	2.19		Si
SLV 5	14.15	-341.06	-525	-0.0000042	0.0005615	0.0035	1.732		1884.63	1884.63	5.53		Si
SLV 6	12.35	-2159.23	-3230	-0.0000277	0.0005615	0.0035	1.732		4684.99	4684.99	2.17		Si
SLV 6	14.15	398.56	-891	-0.0000049	0.0005615	0.0035	2.165		1213.24	1213.24	3.04		Si
SLV 3	12.35	-115.73	-3276	-0.0000088	0.0005615	0.0035	2.165		4732.25	4732.25	40.89		Si
SLV 3	14.15	-2824.46	-1389	-0.000509	0.0005615	0.0035	1.732		2789.98	2789.98	0.99		No
SLV 4	12.35	-401.16	-3819	-0.000012	0.0005615	0.0035	2.165		5282.4	5282.4	13.17		Si
SLV 4	14.15	-1725.71	-1932	-0.0000353	0.0005615	0.0035	1.732		3353.6	3353.6	1.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	12.35	-611.01	-7527	-6268	-414	2.165	2.165	-10339	8323	5045	35683	18152	5521	23673	No	57.19	Si
SLU 35	14.15	66.47	-5363	-4466	-414	2.165	2.165	-7367	7927	4805	35683	18152	5521	23673	No	57.19	Si
SLU 79	12.35	-562.68	-8322	-6930	-399	2.165	2.165	-11432	8469	5134	35683	18152	5521	23673	No	59.37	Si
SLU 79	14.15	67.45	-5539	-4612	-399	2.165	2.165	-7608	7959	4825	35683	18152	5521	23673	No	59.37	Si
SLU 78	12.35	-634.05	-8627	-7184	-392	2.165	2.165	-11850	8524	5168	35683	18152	5521	23673	No	60.46	Si
SLU 78	14.15	-16.9	-5843	-4866	-392	2.165	2.165	-8027	8015	4858	35683	18152	5521	23673	No	60.46	Si
SLU 37	12.35	-557.21	-7221	-6013	-443	2.165	2.165	-9919	8267	5011	35683	18152	5521	23673	No	53.45	Si
SLU 37	14.15	172.48	-5057	-4211	-443	2.165	2.165	-6946	7871	4771	35683	18152	5521	23673	No	53.45	Si
SLU 36	12.35	-628.58	-7525	-6266	-436	2.165	2.165	-10337	8323	5045	35683	18152	5521	23673	No	54.33	Si
SLU 36	14.15	88.14	-5361	-4464	-436	2.165	2.165	-7364	7926	4805	35683	18152	5521	23673	No	54.33	Si
SLU 34	12.35	-508.75	-6304	-5249	-375	2.165	2.165	-8659	8099	4910	35683	18152	5521	23673	No	63.14	Si
SLU 34	14.15	98.53	-4140	-3447	-375	2.165	2.165	-5687	7703	4669	35683	18152	5521	23673	No	63.14	Si
SLU 42	12.35	-525.15	-6265	-5217	-413	2.165	2.165	-8605	8092	4905	35683	18152	5521	23673	No	57.35	Si
SLU 42	14.15	150.24	-4101	-3415	-413	2.165	2.165	-5633	7696	4665	35683	18152	5521	23673	No	57.35	Si
SLU 80	12.35	-580.26	-8320	-6929	-421	2.165	2.165	-11429	8468	5134	35683	18152	5521	23673	No	56.29	Si
SLU 80	14.15	89.12	-5537	-4611	-421	2.165	2.165	-7606	7959	4824	35683	18152	5521	23673	No	56.29	Si
SLU 38	12.35	-574.79	-7219	-6011	-465	2.165	2.165	-9916	8267	5011	35683	18152	5521	23673	No	50.94	Si
SLU 38	14.15	194.15	-5055	-4209	-465	2.165	2.165	-6944	7870	4771	35683	18152	5521	23673	No	50.94	Si
SLU 41	12.35	-507.57	-6266	-5218	-391	2.165	2.165	-8608	8092	4905	35683	18152	5521	23673	No	60.55	Si
SLU 41	14.15	128.57	-4102	-3416	-391	2.165	2.165	-5635	7696	4665	35683	18152	5521	23673	No	60.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	12.35	-1179.04	-4529	-3771	-1267	2.165	2.165	-6221	11661	7069	35683	27228	5521	32749		25.84	Si
SLD 10	14.15	818.73	-2212	-1842	-1162	2.165	2.1371	-3038	11024	6597	35683	27228	5521	32749		28.18	Si
SLV 7	12.35	1356.6	-5462	-4549	1974	2.165	2.165	-7503	11917	7224	35683	27228	5521	32749		16.59	Si
SLV 7	14.15	-1912.39	-3639	-3031	1805	2.165	1.6711	-6492	11715	5482	35683	27228	5521	32749		18.15	Si
SLV 8	12.35	1164.46	-5828	-4853	1457	2.165	2.165	-8005	12018	7285	35683	27228	5521	32749		22.48	Si
SLV 8	14.15	-1172.77	-4005	-3335	1287	2.165	2.165	-5501	11517	6982	35683	27228	5521	32749		25.45	Si
SLV 6	12.35	-2159.23	-3230	-2689	-1507	1.732	1.2419	0	0	0	35683	21783	4417	26199		17.38	Si
SLV 6	14.15	398.56	-891	-742	-1758	2.165	1.905	-1223	10661	5687	35683	27228	5521	32749		18.63	Si
SLV 10	12.35	-1854.35	-4248	-3537	-2095	2.165	1.938	-6531	11723	6361	35683	27228	5521	32749		15.63	Si
SLV 10	14.15	1497.82	-1809	-1506	-1926	2.165	0.7636	-2485	10914	3423	35683	27228	5521	32749		17.01	Si
SLV 9	12.35	-1662.21	-3883	-3233	-1578	2.165	1.9632	-5893	11595	6374	35683	27228	5521	32749		20.76	Si
SLV 9	14.15	758.2	-1444	-1202	-1408	2.165	1.672	-1983	10813	5062	35683	27228	5521	32749		23.26	Si
SLV 11	12.35	1661.47	-6481	-5397	1386	2.165	2.165	-8902	12197	7394	35683	27228	5521	32749		23.62	Si
SLV 11	14.15	-813.13	-4558	-3795	1637	2.165	2.165	-6261	11669	7074	35683	27228	5521	32749		20	Si
SLV 5	12.35	-1967.09	-2864	-2385	-990	1.732	1.1873	0	0	0	35683	21783	4417	26199		26.48	Si
SLV 5	14.15	-341.06	-525	-437	-1241	1.732	1.2998	0	0	0	35683	21783	4417	26199		21.12	Si
SLV 14	12.35	-382.02	-6434	-5358	-1870	2.165	2.165	-8838	12184	7386	35683	27228	5521	32749		17.51	Si
SLV 14	14.15	2409.89	-4059	-3380	-1181	2.165	1.4664	-5576	11532	4735	35683	27228	5521	32749		27.74	Si
SLV 3	12.35	-115.73	-3276	-2728	1749	2.165	2.165	-4500	11317	6860	35683	27228	5521	32749		18.72	Si
SLV 3	14.15	-2824.46	-1389	-1157	1060	1.732	0	0	0	0	35683	21783	4417	26199		24.73	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	3073	-1863	245.39	255.59	1.04	Si
SLV 5	179667	0.52	3523	-2135	245.39	292.06	1.19	Si
SLV 2	179667	0.52	3969	-2406	245.39	328.07	1.34	Si
SLV 6	179667	0.52	4125	-2501	245.39	340.65	1.39	Si
SLV 3	179667	0.52	4378	-2654	245.39	360.93	1.47	Si
SLV 9	179667	0.52	5087	-3084	245.39	417.35	1.7	Si
SLV 4	179667	0.52	5274	-3197	245.39	432.11	1.76	Si
SLV 10	179667	0.52	5690	-3449	245.39	464.89	1.89	Si
SLV 7	179667	0.52	7872	-4772	245.39	633.67	2.58	Si
SLV 13	179667	0.52	8288	-5024	245.39	665.24	2.71	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-4285	-7096	247	2.042	714.2	0.907	32.70261	6.17968	Si
SLV 14	-3811	-5466	-266	2.209	667.4	0.903	35.54909	6.17968	Si
SLV 15	-3531	-7109	247	2.328	639.9	0.901	37.56554	6.17968	Si
SLV 12	-3573	-8262	854	2.196	644	0.901	35.40878	5.47312	Si
SLV 13	-3057	-5479	-267	2.551	593.6	0.897	41.34561	6.17968	Si
SLV 11	-3066	-8270	853	2.424	594.5	0.897	39.28036	5.47312	Si
SLV 8	-2595	-7629	859	2.682	549.1	0.893	43.65291	5.47312	Si
SLV 7	-2087	-7637	859	3.034	501.1	0.89	49.55257	5.47312	Si
SLV 10	-1993	-2828	-859	3.11	492.4	0.889	50.81526	5.47312	Si
SLV 9	-1486	-2837	-859	3.595	446.3	0.889	58.74675	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.753	SLU 43	Si
V_SLU	50.94	SLU 38	Si
PF_SLV	0.769	SLV 1	No
V_SLV	15.629	SLV 10	Si
PFFP_SLV	1.042	SLV 1	Si
R_SLV	5.292	SLV 16	Si

Maschio 253

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L7	L8	1.83	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	12.35	-411.31	-3799	-0.000015	0.0003743	0.0035	1.83	3222.87	4143.97	4143.97	10.08	No	Si
SLU 35	14.15	1395.39	-4379	-0.0000263	0.0003743	0.0035	1.83	3670.6	3934.41	3934.41	2.82	No	Si
SLU 34	12.35	-461.39	-3175	-0.0000136	0.0003743	0.0035	1.83	2728.51	3631.32	3631.32	7.87	No	Si
SLU 34	14.15	1162.04	-3575	-0.0000216	0.0003743	0.0035	1.83	3047.15	3281.19	3281.19	2.82	No	Si
SLU 38	12.35	-444.39	-3591	-0.0000147	0.0003743	0.0035	1.83	3059.89	3972.3	3972.3	8.94	No	Si
SLU 38	14.15	1327.67	-4070	-0.0000247	0.0003743	0.0035	1.83	3433.25	3684.4	3684.4	2.78	No	Si
SLU 37	12.35	-426.9	-3594	-0.0000145	0.0003743	0.0035	1.83	3061.65	3974.13	3974.13	9.31	No	Si
SLU 37	14.15	1317.9	-4060	-0.0000246	0.0003743	0.0035	1.83	3425.44	3676.21	3676.21	2.79	No	Si
SLU 41	12.35	-521.3	-3040	-0.0000138	0.0003743	0.0035	1.83	2619.21	3521.16	3521.16	6.75	No	Si
SLU 41	14.15	1185.93	-3569	-0.0000218	0.0003743	0.0035	1.83	3042.38	3276.2	3276.2	2.76	No	Si
SLU 42	12.35	-538.78	-3037	-0.000014	0.0003743	0.0035	1.83	2617.42	3519.36	3519.36	6.53	No	Si
SLU 42	14.15	1195.69	-3579	-0.000022	0.0003743	0.0035	1.83	3050.37	3284.56	3284.56	2.75	No	Si
SLU 39	12.35	-526.65	-2625	-0.0000126	0.0003743	0.0035	1.83	2280.99	3172.78	3172.78	6.02	No	Si
SLU 39	14.15	1013.8	-3068	-0.0000186	0.0003743	0.0035	1.83	2642.16	2860.07	2860.07	2.82	No	Si
SLU 84	12.35	-502.69	-3801	-0.0000159	0.0003743	0.0035	1.83	3224.62	4145.83	4145.83	8.25	No	Si
SLU 84	14.15	1294.65	-4042	-0.0000243	0.0003743	0.0035	1.83	3412.04	3662.17	3662.17	2.83	No	Si
SLU 36	12.35	-428.79	-3797	-0.0000152	0.0003743	0.0035	1.83	3221.14	4142.13	4142.13	9.66	No	Si
SLU 36	14.15	1405.15	-4389	-0.0000264	0.0003743	0.0035	1.83	3678.29	3942.55	3942.55	2.81	No	Si
SLU 40	12.35	-544.13	-2623	-0.0000128	0.0003743	0.0035	1.83	2279.16	3170.86	3170.86	5.83	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	14.15	1023.56	-3078	-0.0000188	0.0003743	0.0035	1.83	2650.32	2868.5	2868.5	2.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	12.35	-1777.9	-1277	-0.0003767	0.0005615	0.0035	1.464		2021.85	2021.85	1.14		Si
SLV 6	14.15	1729.41	-3220	-0.0000303	0.0005615	0.0035	1.83		3027.1	3027.1	1.75		Si
SLV 9	12.35	-1516.22	-1004	-0.0003449	0.0005615	0.0035	1.464		1781.32	1781.32	1.17		Si
SLV 9	14.15	1812.89	-3027	-0.0000342	0.0005615	0.0035	1.83		2862.09	2862.09	1.58		Si
SLV 5	12.35	-1509.94	-1421	-0.0001972	0.0005615	0.0035	1.464		2148.25	2148.25	1.42		Si
SLV 5	14.15	1556.96	-3091	-0.0000267	0.0005615	0.0035	1.83		2917.5	2917.5	1.87		Si
SLD 6	12.35	-1118.16	-1923	-0.0000203	0.0005615	0.0035	1.464		2587.31	2587.31	2.31		Si
SLD 6	14.15	1309.03	-2945	-0.0000221	0.0005615	0.0035	1.83		2791.53	2791.53	2.13		Si
SLV 14	12.35	-824.37	-1512	-0.0000144	0.0005615	0.0035	1.464		2227.8	2227.8	2.7		Si
SLV 14	14.15	1592.32	-2705	-0.0000295	0.0005615	0.0035	1.83		2584.1	2584.1	1.62		Si
SLD 10	12.35	-1115.82	-1666	-0.0000239	0.0005615	0.0035	1.464		2362.92	2362.92	2.12		Si
SLD 10	14.15	1468.12	-2899	-0.0000251	0.0005615	0.0035	1.83		2752.45	2752.45	1.87		Si
SLV 10	12.35	-1784.18	-860	-0.0005396	0.0005615	0.0035	1.464		1653.83	1653.83	0.93		No
SLV 10	14.15	1985.33	-3155	-0.0000396	0.0005615	0.0035	1.83		2972.02	2972.02	1.5		Si
SLD 9	12.35	-953.2	-1753	-0.0000166	0.0005615	0.0035	1.464		2439.61	2439.61	2.56		Si
SLD 9	14.15	1363.47	-2821	-0.0000231	0.0005615	0.0035	1.83		2684.88	2684.88	1.97		Si
SLV 13	12.35	-426.3	-1726	-0.000009	0.0005615	0.0035	1.83		2415.54	2415.54	5.67		Si
SLV 13	14.15	1336.14	-2514	-0.0000232	0.0005615	0.0035	1.83		2418.56	2418.56	1.81		Si
SLD 14	12.35	-553.81	-2026	-0.000011	0.0005615	0.0035	1.83		2676.66	2676.66	4.83		Si
SLD 14	14.15	1253.64	-2630	-0.0000212	0.0005615	0.0035	1.83		2518.91	2518.91	2.01		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	12.35	-375.22	-4563	-3799	-2301	1.83	1.83	-7415	7933	4065	35683	15344	4666	20010	No	8.69	Si
SLU 77	14.15	1494.35	-4842	-4032	-2333	1.83	1.8192	-7869	7994	4072	35683	15344	4666	20010	No	8.58	Si
SLU 74	12.35	-380.57	-4148	-3454	-2167	1.83	1.83	-6741	7843	4019	35683	15344	4666	20010	No	9.24	Si
SLU 74	14.15	1322.21	-4341	-3615	-2193	1.83	1.83	-7055	7885	4040	35683	15344	4666	20010	No	9.13	Si
SLU 80	12.35	-408.3	-4355	-3627	-2230	1.83	1.83	-7078	7888	4042	35683	15344	4666	20010	No	8.97	Si
SLU 80	14.15	1426.63	-4533	-3774	-2262	1.83	1.8007	-7366	7927	3997	35683	15344	4666	20010	No	8.84	Si
SLU 79	12.35	-390.82	-4357	-3628	-2209	1.83	1.83	-7081	7889	4042	35683	15344	4666	20010	No	9.06	Si
SLU 79	14.15	1416.86	-4522	-3766	-2241	1.83	1.8051	-7350	7924	4005	35683	15344	4666	20010	No	8.93	Si
SLU 75	12.35	-398.05	-4146	-3452	-2188	1.83	1.83	-6737	7843	4019	35683	15344	4666	20010	No	9.15	Si
SLU 75	14.15	1331.98	-4351	-3623	-2214	1.83	1.8266	-7071	7887	4034	35683	15344	4666	20010	No	9.04	Si
SLU 78	12.35	-392.7	-4560	-3798	-2323	1.83	1.83	-7411	7933	4065	35683	15344	4666	20010	No	8.61	Si
SLU 78	14.15	1504.11	-4852	-4040	-2354	1.83	1.815	-7885	7996	4064	35683	15344	4666	20010	No	8.5	Si
SLU 35	12.35	-411.31	-3799	-3163	-2170	1.83	1.83	-6174	7768	3980	35683	15344	4666	20010	No	9.22	Si
SLU 35	14.15	1395.39	-4379	-3647	-2198	1.83	1.7891	-7117	7893	3954	35683	15344	4666	20010	No	9.1	Si
SLU 84	12.35	-502.69	-3801	-3165	-2243	1.83	1.83	-6177	7768	3980	35683	15344	4666	20010	No	8.92	Si
SLU 84	14.15	1294.65	-4042	-3366	-2270	1.83	1.7842	-6569	7820	3907	35683	15344	4666	20010	No	8.81	Si
SLU 36	12.35	-428.79	-3797	-3162	-2191	1.83	1.83	-6170	7767	3980	35683	15344	4666	20010	No	9.13	Si
SLU 36	14.15	1405.15	-4389	-3655	-2219	1.83	1.7846	-7133	7896	3945	35683	15344	4666	20010	No	9.02	Si
SLU 83	12.35	-485.21	-3803	-3167	-2222	1.83	1.83	-6181	7769	3981	35683	15344	4666	20010	No	9.01	Si
SLU 83	14.15	1284.89	-4032	-3358	-2249	1.83	1.789	-6553	7818	3916	35683	15344	4666	20010	No	8.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	12.35	-955.55	-2010	-1674	-2453	1.83	1.3191	-4540	11325	4183	35683	23015	4666	27682		11.28	Si
SLD 5	14.15	1204.38	-2867	-2387	-2711	1.83	1.4846	-4659	11348	4717	35683	23015	4666	27682		10.21	Si
SLD 10	12.35	-1115.82	-1666	-1387	-2927	1.464	0.7355	0	0	0	35683	18412	3733	22145		7.56	Si
SLD 10	14.15	1468.12	-2899	-2414	-2802	1.83	1.2258	-4711	11359	3899	35683	23015	4666	27682		9.88	Si
SLD 6	12.35	-1118.16	-1923	-1601	-2686	1.464	1.0005	0	0	0	35683	18412	3733	22145		8.25	Si
SLD 6	14.15	1309.03	-2945	-2452	-2943	1.83	1.4113	-4785	11374	4495	35683	23015	4666	27682		9.41	Si
SLV 5	12.35	-1509.94	-1421	-1183	-3346	1.464	0	0	0	0	35683	18412	3733	22145		6.62	Si
SLV 5	14.15	1556.96	-3091	-2574	-3758	1.83	1.234	-5024	11421	3946	35683	23015	4666	27682		7.37	Si
SLV 2	12.35	-803.42	-2900	-2415	-1601	1.83	1.83	-4713	11359	5820	35683	23015	4666	27682		17.29	Si
SLV 2	14.15	739.23	-2920	-2432	-2683	1.83	1.83	-4745	11366	5824	35683	23015	4666	27682		10.32	Si
SLV 6	12.35	-1777.9	-1277	-1063	-3730	1.464	0	0	0	0	35683	18412	3733	22145		5.94	Si
SLV 6	14.15	1729.41	-3220	-2681	-4141	1.83	1.1336	-5233	11463	3639	35683	23015	4666	27682		6.68	Si
SLD 9	12.35	-953.2	-1753	-1460	-2695	1.464	1.114	0	0	0	35683	18412	3733	22145		8.22	Si
SLD 9	14.15	1363.47	-2821	-2349	-2569	1.83	1.295	-4585	11334	4110	35683	23015	4666	27682		10.78	Si
SLV 10	12.35	-1784.18	-860	-716	-4125	1.464	0	0	0	0	35683	18412	3733	22145		5.37	Si
SLV 10	14.15	1985.33	-3155	-2627	-3911	1.83	0.8573	-5128	11442	3167	35683	23015	4666	27682		7.08	Si
SLV 14	12.35	-824.37	-1512	-1259	-2917	1.464	1.1089	0	0	0	35683	18412	3733	22145		7.59	Si
SLV 14	14.15	1592.32	-2705	-2252	-1917	1.83	0.9789	-4396	11296	3096	35683	23015	4666	27682		14.44	Si
SLV 9	12.35	-1516.22	-1004	-836	-3741	1.464	0	0	0	0	35683	18412	3733	22145		5.92	Si
SLV 9	14.15	1812.89	-3027	-2520	-3528	1.83	0.9481	-4919	11400	3139	35683	23015	4666	27682		7.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	3482	-1784	207.42	244.11	1.18	Si
SLV 9	179667	0.52	3567	-1828	207.42	249.9	1.2	Si
SLV 14	179667	0.52	3771	-1932	207.42	263.86	1.27	Si
SLV 13	179667	0.52	3897	-1997	207.42	272.43	1.31	Si
SLV 6	179667	0.52	4089	-2095	207.42	285.45	1.38	Si
SLV 5	179667	0.52	4173	-2138	207.42	291.2	1.4	Si
SLV 16	179667	0.52	4643	-2379	207.42	322.96	1.56	Si
SLV 15	179667	0.52	4769	-2444	207.42	331.43	1.6	Si
SLV 2	179667	0.52	5793	-2968	207.42	399.79	1.93	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	5919	-3033	207.42	408.13	1.97	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2378	-3389	27	2.738	481.8	0.895	44.47044	6.17968	Si
SLV 4	-2327	-3822	158	2.74	476.9	0.894	44.52614	6.17968	Si
SLV 1	-2328	-3171	27	2.773	477	0.894	45.07407	6.17968	Si
SLV 3	-2277	-3603	158	2.776	472.1	0.894	45.13809	6.17968	Si
SLV 6	-2238	-2737	-192	2.795	468.4	0.893	45.4653	5.47312	Si
SLV 14	-1831	-3071	-163	3.145	429.8	0.89	51.3376	6.17968	Si
SLV 5	-2205	-2590	-192	2.82	465.2	0.893	45.89225	5.47312	Si
SLV 13	-1781	-2853	-163	3.192	425.1	0.89	52.13679	6.17968	Si
SLV 16	-1780	-3504	-32	3.234	425	0.89	52.8203	6.17968	Si
SLV 10	-2074	-2642	-249	2.907	452.8	0.892	47.35747	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.747	SLU 42	Si
V_SLU	8.499	SLU 78	Si
PF_SLV	0.927	SLV 10	No
V_SLV	5.369	SLV 10	Si
PFFP_SLV	1.177	SLV 10	Si
R_SLV	7.196	SLV 2	Si

Maschio 254

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L7	L8	9.12	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	11.45	246.45	-34629	-0.0000206	0.0003743	0.0035	9.12	136876.2	143262.23	143262.23	581.31	No	Si
SLU 72	14.6	-1260.67	-7341	-0.0000047	0.0003743	0.0035	9.12	32529.47	57903.08	57903.08	45.93	No	Si
SLU 78	11.45	-581.54	-37477	-0.0000225	0.0003743	0.0035	9.12	146260.34	177484	177484	305.2	No	Si
SLU 78	14.6	-1256.96	-7399	-0.0000048	0.0003743	0.0035	9.12	32780.39	58152.22	58152.22	46.26	No	Si
SLU 69	11.45	-167.44	-35372	-0.0000211	0.0003743	0.0035	9.12	139351.05	169983.21	169983.21	1015.18	No	Si
SLU 69	14.6	-1333.31	-7280	-0.0000047	0.0003743	0.0035	9.12	32267.59	57643.12	57643.12	43.23	No	Si
SLU 27	11.45	141.79	-30007	-0.0000178	0.0003743	0.0035	9.12	121040.09	128102.48	128102.48	903.48	No	Si
SLU 27	14.6	-1211.99	-6550	-0.0000042	0.0003743	0.0035	9.12	29117.46	54506.26	54506.26	44.97	No	Si
SLU 79	11.45	-548.34	-36795	-0.0000221	0.0003743	0.0035	9.12	144038.79	175084.75	175084.75	319.3	No	Si
SLU 79	14.6	-1287.51	-7472	-0.0000048	0.0003743	0.0035	9.12	33094.01	58463.69	58463.69	45.41	No	Si
SLU 48	11.45	-80.92	-31332	-0.0000186	0.0003743	0.0035	9.12	125656.37	154741.04	154741.04	1912.34	No	Si
SLU 48	14.6	-1190.11	-6534	-0.0000042	0.0003743	0.0035	9.12	29046.95	54435.02	54435.02	45.74	No	Si
SLU 77	11.45	-771.88	-37507	-0.0000226	0.0003743	0.0035	9.12	146358.79	177590.98	177590.98	230.07	No	Si
SLU 77	14.6	-1308.55	-7405	-0.0000048	0.0003743	0.0035	9.12	32806.4	58178.05	58178.05	44.46	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	11.45	22.9	-35342	-0.000021	0.0003743	0.0035	9.12	139250.32	145629.06	145629.06	6359.59	No	Si
SLU 70	14.6	-1281.72	-7274	-0.0000047	0.0003743	0.0035	9.12	32241.55	57617.28	57617.28	44.95	No	Si
SLU 29	11.45	365.33	-29295	-0.0000174	0.0003743	0.0035	9.12	118532.67	125795.98	125795.98	344.33	No	Si
SLU 29	14.6	-1190.94	-6617	-0.0000043	0.0003743	0.0035	9.12	29407.08	54799.58	54799.58	46.01	No	Si
SLU 71	11.45	56.11	-34660	-0.0000206	0.0003743	0.0035	9.12	136977.68	143362.87	143362.87	2555.25	No	Si
SLU 71	14.6	-1312.26	-7347	-0.0000047	0.0003743	0.0035	9.12	32555.49	57928.92	57928.92	44.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.45	-7233.84	-23650	-0.0000166	0.0005615	0.0035	9.12		127030.07	127030.07	17.56		Si
SLV 9	14.6	-4889.99	-3445	-0.0000038	0.0005615	0.0035	9.12		40890.6	40890.6	8.36		Si
SLV 7	11.45	3328.42	-24895	-0.0000158	0.0005615	0.0035	9.12		111675.08	111675.08	33.55		Si
SLV 7	14.6	3442.53	-3617	-0.0000034	0.0005615	0.0035	9.12		20299.31	20299.31	5.9		Si
SLV 5	11.45	-5920.76	-23473	-0.000016	0.0005615	0.0035	9.12		126296.73	126296.73	21.33		Si
SLV 5	14.6	-4671.09	-3275	-0.0000036	0.0005615	0.0035	9.12		40137.97	40137.97	8.59		Si
SLV 12	11.45	3266.62	-25053	-0.0000159	0.0005615	0.0035	9.12		112324.73	112324.73	34.39		Si
SLV 12	14.6	3467.31	-3792	-0.0000035	0.0005615	0.0035	9.12		21084.23	21084.23	6.08		Si
SLV 6	11.45	-4669.48	-23454	-0.0000155	0.0005615	0.0035	9.12		126216.22	126216.22	27.03		Si
SLV 6	14.6	-4427.4	-3280	-0.0000036	0.0005615	0.0035	9.12		40160.88	40160.88	9.07		Si
SLV 8	11.45	4579.7	-24876	-0.0000163	0.0005615	0.0035	9.12		111594.96	111594.96	24.37		Si
SLV 8	14.6	3686.22	-3622	-0.0000035	0.0005615	0.0035	9.12		20322.51	20322.51	5.51		Si
SLV 11	11.45	2015.34	-25073	-0.0000154	0.0005615	0.0035	9.12		112404.89	112404.89	55.77		Si
SLV 11	14.6	3223.62	-3787	-0.0000034	0.0005615	0.0035	9.12		21061.08	21061.08	6.53		Si
SLV 10	11.45	-5982.56	-23631	-0.0000161	0.0005615	0.0035	9.12		126949.52	126949.52	21.22		Si
SLV 10	14.6	-4646.3	-3450	-0.0000037	0.0005615	0.0035	9.12		40913.5	40913.5	8.81		Si
SLD 7	11.45	1372.74	-24643	-0.0000149	0.0005615	0.0035	9.12		110636.18	110636.18	80.6		Si
SLD 7	14.6	1812.68	-3573	-0.0000027	0.0005615	0.0035	9.12		20105.67	20105.67	11.09		Si
SLD 8	11.45	2132.07	-24631	-0.0000152	0.0005615	0.0035	9.12		110587.61	110587.61	51.87		Si
SLD 8	14.6	1960.57	-3577	-0.0000028	0.0005615	0.0035	9.12		20119.75	20119.75	10.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	11.45	-2388.89	-34954	-29106	-1931	9.12	9.12	-11398	8464	23935	35683	76466	23256	59618	No	30.87	Si
SLU 81	14.6	-797.2	-4939	-4113	-1978	9.12	9.12	-1611	7159	18282	35683	76466	23256	53965	No	27.28	Si
SLU 63	11.45	-1321.27	-32262	-26865	-1757	9.12	9.12	-10520	8347	23038	35683	76466	23256	58722	No	33.42	Si
SLU 63	14.6	-842.26	-5480	-4564	-1738	9.12	9.12	-1787	7183	18342	35683	76466	23256	54025	No	31.09	Si
SLU 75	11.45	-1372.3	-36099	-30060	-1807	9.12	9.12	-11772	8514	24316	35683	76466	23256	60000	No	33.21	Si
SLU 75	14.6	-1017.11	-6106	-5084	-1788	9.12	9.12	-1991	7210	18411	35683	76466	23256	54094	No	30.25	Si
SLU 74	11.45	-1562.64	-36129	-30085	-1727	9.12	9.12	-11781	8515	24327	35683	76466	23256	60010	No	34.75	Si
SLU 74	14.6	-1068.7	-6112	-5089	-1782	9.12	9.12	-1993	7210	18412	35683	76466	23256	54095	No	30.36	Si
SLU 84	11.45	-1407.8	-36302	-30229	-1898	9.12	9.12	-11838	8523	24384	35683	76466	23256	60067	No	31.65	Si
SLU 84	14.6	-985.46	-6226	-5185	-1881	9.12	9.12	-2030	7215	18425	35683	76466	23256	54108	No	28.76	Si
SLU 73	11.45	-1812.61	-33988	-28302	-1914	9.12	9.12	-11083	8422	23613	35683	76466	23256	59297	No	30.98	Si
SLU 73	14.6	-721.82	-4875	-4060	-1839	9.12	9.12	-1590	7156	18275	35683	76466	23256	53958	No	29.35	Si
SLU 82	11.45	-2198.55	-34923	-29081	-2011	9.12	9.12	-11388	8463	23925	35683	76466	23256	59608	No	29.64	Si
SLU 82	14.6	-745.61	-4933	-4108	-1984	9.12	9.12	-1609	7159	18281	35683	76466	23256	53964	No	27.19	Si
SLU 60	11.45	-2302.37	-30914	-25743	-1790	9.12	9.12	-10081	8289	22590	35683	76466	23256	58273	No	32.55	Si
SLU 60	14.6	-654	-4193	-3492	-1834	9.12	9.12	-1367	7127	18199	35683	76466	23256	53882	No	29.37	Si
SLU 83	11.45	-1598.14	-36332	-30254	-1818	9.12	9.12	-11848	8524	24394	35683	76466	23256	60077	No	33.05	Si
SLU 83	14.6	-1037.05	-6232	-5190	-1875	9.12	9.12	-2032	7215	18425	35683	76466	23256	54109	No	28.86	Si
SLU 61	11.45	-2112.03	-30884	-25717	-1870	9.12	9.12	-10071	8287	22579	35683	76466	23256	58263	No	31.15	Si
SLU 61	14.6	-602.41	-4187	-3487	-1841	9.12	9.12	-1365	7126	18198	35683	76466	23256	53881	No	29.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	11.45	4579.7	-24876	-20714	13252	9.12	9.12	-8112	12039	30743	35683	114699	23256	66426		5.01	Si
SLV 8	14.6	3686.22	-3622	-3016	7589	9.12	9.12	-1181	10653	27203	35683	114699	23256	62886		8.29	Si
SLV 9	11.45	-7233.84	-23650	-19694	-15591	9.12	9.12	-7712	11959	30539	35683	114699	23256	66222		4.25	Si
SLV 9	14.6	-4889.99	-3445	-2869	-9998	9.12	9.12	-1123	10641	27174	35683	114699	23256	62857		6.29	Si
SLD 6	11.45	-3193.66	-23791	-19811	-10185	9.12	9.12	-7758	11968	30562	35683	114699	23256	66245		6.5	Si
SLD 6	14.6	-2875.71	-3384	-2818	-6982	9.12	9.12	-1104	10637	27164	35683	114699	23256	62847		9	Si
SLV 11	11.45	2015.34	-25073	-20878	14252	9.12	9.12	-8176	12052	30776	35683	114699	23256	66459		4.66	Si
SLV 11	14.6	3223.62	-3787	-3153	8662	9.12	9.12	-1235	10664	27231	35683	114699	23256	62914		7.26	Si
SLD 10	11.45	-4026.87	-23883	-19888	-10156	9.12	9.12	-7788	11974	30578	35683	114699	23256	66261		6.52	Si
SLD 10	14.6	-3016.46	-3493	-2909	-6905	9.12	9.12	-1139	10645	27182	35683	114699	23256	62865		9.1	Si
SLV 6	11.45	-4669.48	-23454	-19530	-16591	9.12	9.12	-7648	11946	30506	35683	114699	23256	66189		3.99	Si
SLV 6	14.6	-4427.4	-3280	-2731	-11072	9.12	9.12	-1070	10631	27146	35683	114699	23256	62829		5.67	Si
SLV 12	11.45	3266.62	-25053	-20862	13297	9.12	9.12	-8170	12051	30772	35683	114699	23256	66456		5	Si
SLV 12	14.6	3467.31	-3792	-3158	7707	9.12	9.12	-1237	10664	27232	35683	114699	23256	62915		8.16	Si
SLV 7	11.45	3328.42	-24895	-20731	14207	9.12	9.12	-8118	12040	30746	35683	114699	23256	66429		4.68	Si
SLV 7	14.6	3442.53	-3617	-3012	8543	9.12	9.12	-1179	10653	27202	35683	114699	23256	62886		7.36	Si
SLV 5	11.45	-5920.76	-23473	-19546	-15636	9.12	9.12	-7654	11948	30509	35683	114699	23256	66192		4.23	Si
SLV 5	14.6	-4671.09	-3275	-2727	-10117	9.12	9.12	-1068	10630	27145	35683	114699	23256	62829		6.21	Si
SLV 10	11.45	-5982.56	-23631	-19678	-16546	9.12	9.12	-7706	11958	30536	35683	114699	23256	66219		4	Si
SLV 10	14.6	-4646.3	-3450	-2873	-10953	9.12	9.12	-1125	10642	27175	35683	114699	23256	62858		5.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.52	5189	-13251	1033.69	1792.13	1.73	Si
SLV 13	179667	0.52	5195	-13265	1033.69	1793.91	1.74	Si
SLV 16	179667	0.52	5246	-13395	1033.69	1810.91	1.75	Si
SLV 15	179667	0.52	5251	-13409	1033.69	1812.68	1.75	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	5477	-13985	1033.69	1887.66	1.83	Si
SLV 9	179667	0.52	5480	-13994	1033.69	1888.86	1.83	Si
SLV 12	179667	0.52	5664	-14465	1033.69	1949.93	1.89	Si
SLV 11	179667	0.52	5668	-14474	1033.69	1951.12	1.89	Si
SLV 6	179667	0.52	5778	-14756	1033.69	1987.63	1.92	Si
SLV 5	179667	0.52	5782	-14765	1033.69	1988.81	1.92	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-3872	-24757	1620	4.538	1680	0.898	73.43522	6.17968	Si
SLV 15	-3865	-24786	1620	4.541	1679.4	0.898	73.48124	6.17968	Si
SLV 14	-3770	-24331	1650	4.577	1672	0.899	74.00649	6.17968	Si
SLV 13	-3762	-24360	1650	4.58	1671.4	0.899	74.05307	6.17968	Si
SLV 4	-3305	-24167	-1395	4.801	1636.7	0.903	77.28087	6.17968	Si
SLV 3	-3297	-24196	-1395	4.804	1636.2	0.903	77.33012	6.17968	Si
SLV 2	-3202	-23740	-1365	4.851	1629.2	0.904	77.9886	6.17968	Si
SLV 1	-3195	-23769	-1365	4.854	1628.6	0.904	78.03848	6.17968	Si
SLV 12	-3792	-25053	530	4.669	1673.7	0.899	75.51331	5.47312	Si
SLV 11	-3787	-25073	530	4.671	1673.3	0.899	75.54528	5.47312	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	43.233	SLU 69	Si
V_SLU	27.193	SLU 82	Si
PF_SLV	5.513	SLV 8	Si
V_SLV	3.989	SLV 6	Si
PFFP_SLV	1.734	SLV 14	Si
R_SLV	11.883	SLV 16	Si

Maschio 257

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L7	F1	1.281	0.28	2.839	2.517	3.161			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	11.45	-449.83	-4859	-0.0000286	0.0003743	0.0035	1.2809	2697.58	12705.27	12705.27	28.24	No	Si
SLU 77	13.97	128.66	-1321	-0.0000077	0.0003743	0.0035	1.2809	815.14	11415.52	11415.52	88.73	No	Si
SLU 83	11.45	-460.21	-4597	-0.0000277	0.0003743	0.0035	1.2809	2573.64	12627.17	12627.17	27.44	No	Si
SLU 83	13.97	124.14	-1180	-0.000007	0.0003743	0.0035	1.2809	731.15	11335.53	11335.53	91.31	No	Si
SLU 84	11.45	-456.64	-4596	-0.0000276	0.0003743	0.0035	1.2809	2573.15	12626.86	12626.86	27.65	No	Si
SLU 84	13.97	123.96	-1182	-0.000007	0.0003743	0.0035	1.2809	732.61	11337.02	11337.02	91.46	No	Si
SLU 82	11.45	-458.13	-4378	-0.0000267	0.0003743	0.0035	1.2809	2467.91	12560.93	12560.93	27.42	No	Si
SLU 82	13.97	157.87	-1109	-0.0000074	0.0003743	0.0035	1.2809	688.44	11292.09	11292.09	71.53	No	Si
SLU 75	11.45	-447.75	-4640	-0.0000276	0.0003743	0.0035	1.2809	2593.86	12639.88	12639.88	28.23	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	13.97	162.38	-1249	-0.000008	0.0003743	0.0035	1.2809	772.78	11377.92	11377.92	70.07	No	Si
SLU 74	11.45	-451.32	-4641	-0.0000277	0.0003743	0.0035	1.2809	2594.35	12640.18	12640.18	28.01	No	Si
SLU 74	13.97	162.56	-1247	-0.000008	0.0003743	0.0035	1.2809	771.33	11376.44	11376.44	69.98	No	Si
SLU 81	11.45	-461.7	-4379	-0.0000268	0.0003743	0.0035	1.2809	2468.41	12561.25	12561.25	27.21	No	Si
SLU 81	13.97	158.05	-1106	-0.0000074	0.0003743	0.0035	1.2809	686.98	11290.6	11290.6	71.44	No	Si
SLU 78	11.45	-446.26	-4857	-0.0000285	0.0003743	0.0035	1.2809	2697.1	12704.96	12704.96	28.47	No	Si
SLU 78	13.97	128.48	-1323	-0.0000077	0.0003743	0.0035	1.2809	816.58	11416.67	11416.67	88.86	No	Si
SLU 39	11.45	-421.26	-3611	-0.0000227	0.0003743	0.0035	1.2809	2083.73	12322.84	12322.84	29.25	No	Si
SLU 39	13.97	138.18	-928	-0.0000063	0.0003743	0.0035	1.2809	579.22	11181.2	11181.2	80.92	No	Si
SLU 73	11.45	-429.89	-4344	-0.000026	0.0003743	0.0035	1.2809	2451.33	12550.58	12550.58	29.19	No	Si
SLU 73	13.97	156.9	-1104	-0.0000073	0.0003743	0.0035	1.2809	685.54	11289.13	11289.13	71.95	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.45	-714.32	-3486	-0.0000275	0.0005615	0.0035	1.2809		13136.54	13136.54	18.39		Si
SLV 9	13.97	196.02	-601	-0.0000064	0.0005615	0.0035	1.2809		11407.23	11407.23	58.2		Si
SLV 16	11.45	-508.89	-2325	-0.0000188	0.0005615	0.0035	1.2809		12578.6	12578.6	24.72		Si
SLV 16	13.97	166.19	-641	-0.0000057	0.0005615	0.0035	1.2809		11443.21	11443.21	68.86		Si
SLD 13	11.45	-569.08	-2765	-0.0000218	0.0005615	0.0035	1.2809		12792.88	12792.88	22.48		Si
SLD 13	13.97	173.64	-635	-0.0000058	0.0005615	0.0035	1.2809		11437.84	11437.84	65.87		Si
SLV 14	11.45	-697.47	-2657	-0.0000241	0.0005615	0.0035	1.2809		12740.58	12740.58	18.27		Si
SLV 14	13.97	200.76	-563	-0.0000066	0.0005615	0.0035	1.2809		11373.5	11373.5	56.65		Si
SLD 14	11.45	-544.07	-2846	-0.0000216	0.0005615	0.0035	1.2809		12831.82	12831.82	23.58		Si
SLD 14	13.97	168	-653	-0.0000058	0.0005615	0.0035	1.2809		11453.84	11453.84	68.18		Si
SLD 9	11.45	-542.38	-3357	-0.0000237	0.0005615	0.0035	1.2809		13075.52	13075.52	24.11		Si
SLD 9	13.97	162.22	-682	-0.0000057	0.0005615	0.0035	1.2809		11479.53	11479.53	70.77		Si
SLD 10	11.45	-526.27	-3409	-0.0000236	0.0005615	0.0035	1.2809		13100.11	13100.11	24.89		Si
SLD 10	13.97	158.58	-694	-0.0000057	0.0005615	0.0035	1.2809		11489.82	11489.82	72.45		Si
SLV 13	11.45	-736.89	-2530	-0.0000247	0.0005615	0.0035	1.2809		12678.74	12678.74	17.21		Si
SLV 13	13.97	209.67	-534	-0.000007	0.0005615	0.0035	1.2809		11348.17	11348.17	54.12		Si
SLV 15	11.45	-548.31	-2198	-0.0000192	0.0005615	0.0035	1.2809		12512.4	12512.4	22.82		Si
SLV 15	13.97	175.09	-613	-0.0000058	0.0005615	0.0035	1.2809		11417.96	11417.96	65.21		Si
SLV 10	11.45	-687.78	-3571	-0.0000274	0.0005615	0.0035	1.2809		13176.86	13176.86	19.16		Si
SLV 10	13.97	190.02	-620	-0.0000062	0.0005615	0.0035	1.2809		11424.24	11424.24	60.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	11.45	-461.7	-4379	-3365	-2657	1.2809	1.2809	-9383	8196	2939	20314	10740	4899	15639	No	5.88	Si
SLU 81	13.97	158.05	-1106	-850	-1763	1.2809	1.2809	-2370	7260	2604	20314	10740	4899	15639	No	8.87	Si
SLU 74	11.45	-451.32	-4641	-3566	-2550	1.2809	1.2809	-9943	8270	2966	20314	10740	4899	15639	No	6.13	Si
SLU 74	13.97	162.56	-1247	-958	-1620	1.2809	1.2809	-2672	7301	2618	20314	10740	4899	15639	No	9.66	Si
SLU 83	11.45	-460.21	-4597	-3533	-2560	1.2809	1.2809	-9850	8258	2962	20314	10740	4899	15639	No	6.11	Si
SLU 83	13.97	124.14	-1180	-907	-1556	1.2809	1.2809	-2528	7281	2611	20314	10740	4899	15639	No	10.05	Si
SLU 82	11.45	-458.13	-4378	-3365	-2659	1.2809	1.2809	-9381	8195	2939	20314	10740	4899	15639	No	5.88	Si
SLU 82	13.97	157.87	-1109	-852	-1767	1.2809	1.2809	-2375	7261	2604	20314	10740	4899	15639	No	8.85	Si
SLU 75	11.45	-447.75	-4640	-3565	-2551	1.2809	1.2809	-9941	8270	2966	20314	10740	4899	15639	No	6.13	Si
SLU 75	13.97	162.38	-1249	-960	-1623	1.2809	1.2809	-2677	7301	2619	20314	10740	4899	15639	No	9.64	Si
SLU 78	11.45	-446.26	-4857	-3733	-2454	1.2809	1.2809	-10408	8332	2988	20314	10740	4899	15639	No	6.37	Si
SLU 78	13.97	128.48	-1323	-1017	-1416	1.2809	1.2809	-2835	7322	2626	20314	10740	4899	15639	No	11.05	Si
SLU 84	11.45	-456.64	-4596	-3532	-2561	1.2809	1.2809	-9848	8258	2962	20314	10740	4899	15639	No	6.11	Si
SLU 84	13.97	123.96	-1182	-908	-1559	1.2809	1.2809	-2533	7282	2612	20314	10740	4899	15639	No	10.03	Si
SLU 77	11.45	-449.83	-4859	-3733	-2452	1.2809	1.2809	-10410	8332	2988	20314	10740	4899	15639	No	6.38	Si
SLU 77	13.97	128.66	-1321	-1015	-1412	1.2809	1.2809	-2829	7322	2626	20314	10740	4899	15639	No	11.07	Si
SLU 73	11.45	-429.89	-4344	-3338	-2508	1.2809	1.2809	-9308	8186	2936	20314	10740	4899	15639	No	6.24	Si
SLU 73	13.97	156.9	-1104	-848	-1643	1.2809	1.2809	-2365	7260	2604	20314	10740	4899	15639	No	9.52	Si
SLU 40	11.45	-417.69	-3610	-2774	-2441	1.2809	1.2809	-7734	7976	2860	20314	10740	4899	15639	No	6.41	Si
SLU 40	13.97	138	-930	-715	-1668	1.2809	1.2809	-1994	7210	2586	20314	10740	4899	15639	No	9.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	11.45	-544.07	-2846	-2187	-3912	1.2809	1.2809	-6098	11636	4173	20314	16109	4899	21009		5.37	Si
SLD 14	13.97	168	-653	-502	-2706	1.2809	1.1496	-1558	10728	3453	20314	16109	4899	21009		7.76	Si
SLV 10	11.45	-687.78	-3571	-2744	-5518	1.2809	1.2809	-7652	11947	4285	20314	16109	4899	21009		3.81	Si
SLV 10	13.97	190.02	-620	-476	-2628	1.2809	1.0015	-1688	10755	3016	20314	16109	4899	21009		7.99	Si
SLD 9	11.45	-542.38	-3357	-2579	-4160	1.2809	1.2809	-7192	11855	4252	20314	16109	4899	21009		5.05	Si
SLD 9	13.97	162.22	-682	-524	-2193	1.2809	1.2079	-1549	10727	3628	20314	16109	4899	21009		9.58	Si
SLV 13	11.45	-736.89	-2530	-1944	-5785	1.2809	1.0476	-6619	11743	3444	20314	16109	4899	21009		3.63	Si
SLV 13	13.97	209.67	-534	-410	-4148	1.2809	0.7439	-1888	10799	2249	20314	16109	4899	21009		5.07	Si
SLD 10	11.45	-526.27	-3409	-2619	-3951	1.2809	1.2809	-7303	11877	4260	20314	16109	4899	21009		5.32	Si
SLD 10	13.97	158.58	-694	-533	-2000	1.2809	1.2356	-1541	10725	3710	20314	16109	4899	21009		10.5	Si
SLV 5	11.45	-511.91	-3955	-3039	-4094	1.2809	1.2809	-8474	12111	4344	20314	16109	4899	21009		5.13	Si
SLV 5	13.97	150.99	-732	-562	-1389	1.2809	1.2809	-1568	10730	3848	20314	16109	4899	21009		15.12	Si
SLV 14	11.45	-697.47	-2657	-2042	-5275	1.2809	1.1339	-6431	11704	3716	20314	16109	4899	21009		3.98	Si
SLV 14	13.97	200.76	-563	-432	-3677	1.2809	0.8509	-1778	10775	2567	20314	16109	4899	21009		5.71	Si
SLV 9	11.45	-714.32	-3486	-2679	-5861	1.2809	1.2809	-7469	11910	4272	20314	16109	4899	21009		3.58	Si
SLV 9	13.97	196.02	-601	-462	-2945	1.2809	0.9422	-1732	10764	2840	20314	16109	4899	21009		7.13	Si
SLV 15	11.45	-548.31	-2198	-1689	-3881	1.2809	1.1729	-5146	11446	3759	20314	16109	4899	21009		5.41	Si
SLV 15	13.97	175.09	-613	-471	-3557	1.2809	1.064	-1575	10732	3197	20314	16109	4899	21009		5.91	Si
SLD 13	11.45	-569.08	-2765	-2125	-4235	1.2809	1.2809	-5925	11602	4161	20314	16109	4899	21009		4.96	Si
SLD 13	13.97	173.64	-635	-488	-3005	1.2809	1.101	-1580	10733	3309	20314	16109	4899	21009		6.99	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.709 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.52	4602	-1651	116.39	224.13	1.93	Si
SLV 11	179667	0.52	4613	-1654	116.39	224.62	1.93	Si
SLV 8	179667	0.52	4790	-1718	116.39	232.97	2	Si
SLV 7	179667	0.52	4800	-1722	116.39	233.45	2.01	Si
SLV 16	179667	0.52	4972	-1783	116.39	241.52	2.08	Si
SLV 15	179667	0.52	4987	-1789	116.39	242.24	2.08	Si
SLV 14	179667	0.52	5478	-1965	116.39	265.21	2.28	Si
SLV 13	179667	0.52	5494	-1970	116.39	265.92	2.28	Si
SLV 4	179667	0.52	5597	-2007	116.39	270.73	2.33	Si
SLV 3	179667	0.52	5612	-2013	116.39	271.45	2.33	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.709 Wa = 0.05 Ta = 0.0481

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-1079	-3889	-2	3.677	264	0.89	60.06657	5.67228	Si
SLV 3	-1051	-3762	-2	3.729	261.4	0.889	60.94286	5.67228	Si
SLV 2	-1001	-4221	44	3.803	256.8	0.889	62.17008	5.67228	Si
SLV 1	-972	-4094	45	3.859	254.2	0.889	63.09575	5.67228	Si
SLV 8	-1013	-2933	-69	3.767	257.9	0.889	61.56847	5.14955	Si
SLV 7	-993	-2848	-69	3.804	256.1	0.889	62.18764	5.14955	Si
SLV 12	-881	-2464	-80	4.032	245.9	0.889	65.92405	5.14955	Si
SLV 11	-862	-2379	-80	4.075	244.2	0.889	66.6254	5.14955	Si
SLV 16	-641	-2325	-39	4.673	224.9	0.892	76.13369	5.67228	Si
SLV 15	-613	-2198	-38	4.759	222.6	0.893	77.47149	5.67228	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	27.207	SLU 81	Si
V_SLU	5.882	SLU 82	Si
PF_SLV	17.206	SLV 13	Si
V_SLV	3.584	SLV 9	Si
PFFP_SLV	1.926	SLV 12	Si
R_SLV	10.589	SLV 4	Si

Maschio 258

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.415	L7	F1	1.27	0.28	2.834	2.515	3.153			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	11.45	-189.26	-5378	-0.000026	0.0003743	0.0035	1.2702	2908.52	12627.47	12627.47	66.72	No	Si
SLU 77	13.96	67.45	-1139	-0.0000059	0.0003743	0.0035	1.2702	700.69	11114.23	11114.23	164.78	No	Si
SLU 74	11.45	-201.98	-5166	-0.0000254	0.0003743	0.0035	1.2702	2813.13	12572.17	12572.17	62.25	No	Si
SLU 74	13.96	102.69	-1069	-0.0000062	0.0003743	0.0035	1.2702	658.72	11071.12	11071.12	107.81	No	Si
SLU 82	11.45	-205.59	-4968	-0.0000246	0.0003743	0.0035	1.2702	2722.49	12520.06	12520.06	60.9	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	13.96	99.85	-934	-0.0000056	0.0003743	0.0035	1.2702	578.02	10988.35	10988.35	110.05	No	Si
SLU 75	11.45	-196.1	-5169	-0.0000253	0.0003743	0.0035	1.2702	2814.42	12572.91	12572.91	64.11	No	Si
SLU 75	13.96	102.6	-1064	-0.0000062	0.0003743	0.0035	1.2702	656.11	11068.45	11068.45	107.88	No	Si
SLU 40	11.45	-182.34	-4126	-0.0000205	0.0003743	0.0035	1.2702	2321.66	12271.06	12271.06	67.3	No	Si
SLU 40	13.96	84.78	-771	-0.0000047	0.0003743	0.0035	1.2702	479.47	10887.5	10887.5	128.43	No	Si
SLU 83	11.45	-198.76	-5177	-0.0000254	0.0003743	0.0035	1.2702	2818.06	12575.01	12575.01	63.27	No	Si
SLU 83	13.96	64.7	-1009	-0.0000053	0.0003743	0.0035	1.2702	622.93	11034.4	11034.4	170.56	No	Si
SLU 73	11.45	-192.19	-4890	-0.0000024	0.0003743	0.0035	1.2702	2686.49	12499.49	12499.49	65.04	No	Si
SLU 73	13.96	102.38	-932	-0.0000057	0.0003743	0.0035	1.2702	576.74	10987.04	10987.04	107.32	No	Si
SLU 84	11.45	-192.88	-5180	-0.0000253	0.0003743	0.0035	1.2702	2819.35	12575.75	12575.75	65.2	No	Si
SLU 84	13.96	64.61	-1005	-0.0000053	0.0003743	0.0035	1.2702	620.32	11031.72	11031.72	170.74	No	Si
SLU 39	11.45	-188.22	-4123	-0.0000206	0.0003743	0.0035	1.2702	2320.27	12270.19	12270.19	65.19	No	Si
SLU 39	13.96	84.86	-776	-0.0000047	0.0003743	0.0035	1.2702	482.12	10890.21	10890.21	128.33	No	Si
SLU 81	11.45	-211.47	-4965	-0.0000247	0.0003743	0.0035	1.2702	2721.18	12519.31	12519.31	59.2	No	Si
SLU 81	13.96	99.94	-939	-0.0000057	0.0003743	0.0035	1.2702	580.64	10991.04	10991.04	109.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	11.45	-306.26	-3261	-0.0000191	0.0005615	0.0035	1.2702		12809.89	12809.89	41.83		Si
SLD 1	13.96	123.93	-498	-0.0000044	0.0005615	0.0035	1.2702		11115.93	11115.93	89.7		Si
SLV 4	11.45	-391.26	-2565	-0.0000178	0.0005615	0.0035	1.2702		12475.4	12475.4	31.89		Si
SLV 4	13.96	138.51	-587	-0.000005	0.0005615	0.0035	1.2702		11195.33	11195.33	80.83		Si
SLD 4	11.45	-300.95	-2937	-0.0000176	0.0005615	0.0035	1.2702		12654.95	12654.95	42.05		Si
SLD 4	13.96	116.89	-622	-0.0000047	0.0005615	0.0035	1.2702		11225.63	11225.63	96.04		Si
SLV 5	11.45	-293.49	-4160	-0.0000226	0.0005615	0.0035	1.2702		13211.33	13211.33	45.02		Si
SLV 5	13.96	136.37	-242	-0.0000062	0.0005615	0.0035	1.2702		10885.45	10885.45	79.82		Si
SLD 2	11.45	-333.49	-3214	-0.0000194	0.0005615	0.0035	1.2702		12787.71	12787.71	38.35		Si
SLD 2	13.96	132.27	-481	-0.0000045	0.0005615	0.0035	1.2702		11100.23	11100.23	83.92		Si
SLV 6	11.45	-322.38	-4111	-0.0000229	0.0005615	0.0035	1.2702		13192.66	13192.66	40.92		Si
SLV 6	13.96	145.22	-223	-0.0000076	0.0005615	0.0035	1.2702		10868.59	10868.59	74.84		Si
SLV 1	11.45	-404.16	-3114	-0.0000203	0.0005615	0.0035	1.2702		12739.69	12739.69	31.52		Si
SLV 1	13.96	151.27	-374	-0.0000053	0.0005615	0.0035	1.2702		11004.89	11004.89	72.75		Si
SLD 3	11.45	-273.72	-2983	-0.0000173	0.0005615	0.0035	1.2702		12677.34	12677.34	46.32		Si
SLD 3	13.96	108.54	-639	-0.0000046	0.0005615	0.0035	1.2702		11241.23	11241.23	103.56		Si
SLV 2	11.45	-447.08	-3040	-0.0000209	0.0005615	0.0035	1.2702		12704.54	12704.54	28.42		Si
SLV 2	13.96	164.42	-347	-0.0000064	0.0005615	0.0035	1.2702		10979.99	10979.99	66.78		Si
SLV 3	11.45	-348.34	-2639	-0.0000173	0.0005615	0.0035	1.2702		12511.15	12511.15	35.92		Si
SLV 3	13.96	125.36	-615	-0.0000048	0.0005615	0.0035	1.2702		11219.96	11219.96	89.5		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 59	11.45	-133.78	-4823	-3706	109	1.2702	1.2702	-10421	8334	2964	20145	10650	4859	15509	No	142	Si
SLU 59	13.96	11.78	-966	-742	1020	1.2702	1.2702	-2087	7223	2569	20145	10650	4859	15509	No	15.21	Si
SLU 51	11.45	-111.63	-4637	-3563	143	1.2702	1.2702	-10019	8280	2945	20145	10650	4859	15509	No	108.27	Si
SLU 51	13.96	17.81	-968	-744	943	1.2702	1.2702	-2091	7223	2569	20145	10650	4859	15509	No	16.44	Si
SLU 16	11.45	-116.4	-3978	-3057	113	1.2702	1.2702	-8594	8090	2877	20145	10650	4859	15509	No	137.15	Si
SLU 16	13.96	-3.21	-807	-620	901	1.2702	1.2702	-1744	7177	2553	20145	10650	4859	15509	No	17.21	Si
SLU 71	11.45	-154.41	-5123	-3937	-12	1.2702	1.2702	-11069	8420	2995	20145	10650	4859	15509	No	1245.79	Si
SLU 71	13.96	38.07	-1082	-831	882	1.2702	1.2702	-2337	7256	2581	20145	10650	4859	15509	No	17.59	Si
SLU 79	11.45	-176.55	-5309	-4080	-46	1.2702	1.2702	-11471	8474	3014	20145	10650	4859	15509	No	333.75	Si
SLU 79	13.96	32.04	-1080	-830	958	1.2702	1.2702	-2334	7256	2581	20145	10650	4859	15509	No	16.19	Si
SLU 58	11.45	-139.65	-4821	-3704	95	1.2702	1.2702	-10415	8333	2964	20145	10650	4859	15509	No	163.88	Si
SLU 58	13.96	11.87	-970	-746	1007	1.2702	1.2702	-2096	7224	2569	20145	10650	4859	15509	No	15.39	Si
SLU 17	11.45	-110.52	-3981	-3059	128	1.2702	1.2702	-8600	8091	2878	20145	10650	4859	15509	No	121.48	Si
SLU 17	13.96	-3.29	-803	-617	913	1.2702	1.2702	-1735	7176	2552	20145	10650	4859	15509	No	16.98	Si
SLU 80	11.45	-170.68	-5312	-4082	-32	1.2702	1.2702	-11478	8475	3014	20145	10650	4859	15509	No	486.45	Si
SLU 80	13.96	31.96	-1076	-827	970	1.2702	1.2702	-2324	7254	2580	20145	10650	4859	15509	No	15.98	Si
SLU 72	11.45	-148.53	-5126	-3939	2	1.2702	1.2702	-11075	8421	2995	20145	10650	4859	15509	No	7253.76	Si
SLU 72	13.96	37.99	-1078	-828	894	1.2702	1.2702	-2328	7255	2580	20145	10650	4859	15509	No	17.35	Si
SLU 50	11.45	-117.51	-4634	-3561	129	1.2702	1.2702	-10013	8280	2945	20145	10650	4859	15509	No	120.55	Si
SLU 50	13.96	17.9	-972	-747	931	1.2702	1.2702	-2100	7224	2569	20145	10650	4859	15509	No	16.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	11.45	131.06	-4008	-3080	2354	1.2702	1.2702	-8659	12149	4321	20145	15975	4859	20834		8.85	Si
SLV 16	13.96	3.42	-1024	-787	2200	1.2702	1.2702	-2213	10859	3862	20145	15975	4859	20834		9.47	Si
SLV 1	11.45	-404.16	-3114	-2393	-2899	1.2702	1.2702	-6727	11762	4183	20145	15975	4859	20834		7.19	Si
SLV 1	13.96	151.27	-374	-288	-1588	1.2702	0.6935	-1400	10701	2078	20145	15975	4859	20834		13.12	Si
SLV 5	11.45	-293.49	-4160	-3197	-2318	1.2702	1.2702	-8989	12214	4344	20145	15975	4859	20834		8.99	Si
SLV 5	13.96	136.37	-242	-186	540	1.2702	0.2144	-1455	10736	1762	20145	15975	4859	20834		38.58	Si
SLV 15	11.45	173.98	-4081	-3136	2852	1.2702	1.2702	-8818	12180	4332	20145	15975	4859	20834		7.31	Si
SLV 15	13.96	-9.73	-1052	-808	2655	1.2702	1.2702	-2272	10871	3866	20145	15975	4859	20834		7.85	Si
SLV 6	11.45	-322.38	-4111	-3159	-2653	1.2702	1.2702	-8882	12193	4337	20145	15975	4859	20834		7.85	Si
SLV 6	13.96	145.22	-223	-172	233	1.2702	0	-1614	10794	1758	20145	15975	4859	20834		89.24	Si
SLD 2	11.45	-333.49	-3214	-2470	-2246	1.2702	1.2702	-6945	11806	4199	20145	15975	4859	20834		9.28	Si
SLD 2	13.96	132.27	-481	-369	-1208	1.2702	1.0801	-1219	10661	3224	20145	15975	4859	20834		17.24	Si
SLV 14	11.45	75.24	-4483	-3445	1463	1.2702	1.2702	-9685	12354	4394	20145	15975	4859	20834		14.24	Si
SLV 14	13.96	29.33	-783	-602	2673	1.2702	1.2702	-1693	10755	3825	20145	15975	4859	20834		7.8	Si
SLV 13	11.45	118.16	-4556	-3501	1962	1.2702	1.2702	-9844	12385	4405	20145	15975	4859	20834		10.62	Si
SLV 13	13.96	16.18	-811	-623	3128	1.2702	1.2702	-1752	10767	3829	20145	15975	4859	20834		6.66	Si
SLV 2	11.45	-447.08	-3040	-2336	-3397	1.2702	1.2702	-6568	11730	4172	20145	15975	4859	20834		6.13	Si
SLV 2	13.96	164.42	-347	-266	-2043	1.2702	0.4829	-1624	10755	1783	20145	15975	4859	20834		10.2	Si
SLV 4	11.45	-391.26	-2565	-1971	-2507	1.2702	1.2702	-5543	11525	4099	20145	15975	4859	20834		8.31	Si
SLV 4	13.96	138.51	-587	-451	-2516	1.2702	1.198	-1345	10686	3584	20145	15975	4859	20834		8.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.707 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.52	4674	-1662	115.02	225.59	1.96	Si
SLV 7	179667	0.52	4700	-1672	115.02	226.83	1.97	Si
SLV 4	179667	0.52	4710	-1675	115.02	227.29	1.98	Si
SLV 8	179667	0.52	4725	-1680	115.02	227.97	1.98	Si
SLV 1	179667	0.52	5055	-1798	115.02	243.39	2.12	Si
SLV 2	179667	0.52	5092	-1811	115.02	245.08	2.13	Si
SLV 11	179667	0.52	5099	-1814	115.02	245.43	2.13	Si
SLV 12	179667	0.52	5124	-1822	115.02	246.57	2.14	Si
SLV 5	179667	0.52	5973	-2124	115.02	285.76	2.48	Si
SLV 6	179667	0.52	5997	-2133	115.02	286.88	2.49	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.707 Wa = 0.05 Ta = 0.0479

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-1052	-4081	-38	3.695	259.9	0.889	60.37926	5.66577	Si
SLV 16	-1024	-4008	-38	3.747	257.3	0.889	61.24384	5.66577	Si
SLV 11	-1175	-3011	57	3.47	271.4	0.891	56.62788	5.14551	Si
SLV 12	-1157	-2961	57	3.501	269.6	0.89	57.14572	5.14551	Si
SLV 7	-1044	-2578	92	3.682	259.2	0.889	60.16275	5.14551	Si
SLV 8	-1026	-2528	91	3.717	257.4	0.889	60.7444	5.14551	Si
SLV 13	-811	-4556	-84	4.179	238	0.889	68.2989	5.66577	Si
SLV 14	-783	-4483	-85	4.246	235.5	0.889	69.3852	5.66577	Si
SLV 3	-615	-2639	78	4.715	221	0.893	76.7696	5.66577	Si
SLV 4	-587	-2565	77	4.801	218.7	0.893	78.10127	5.66577	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	59.201	SLU 81	Si
V_SLU	15.208	SLU 59	Si
PF_SLV	28.417	SLV 2	Si
V_SLV	6.132	SLV 2	Si
PFFP_SLV	1.961	SLV 3	Si
R_SLV	10.657	SLV 15	Si

Maschio 263

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.143	-4.685	L3	Z medio 271 cm	0.61	0.3	2.71	2.71	2.71			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	0	707.39	-10848	-0.0001814	0.0003743	0.0035	0.61	1382.1	1958.94	1958.94	2.77	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	2.5	435.71	-11560	-0.0001596	0.0003743	0.0035	0.61	1338.05	2002.86	2002.86	4.6	No	Si
SLU 76	0	716.17	-10959	-0.0001841	0.0003743	0.0035	0.61	1376.33	1965.86	1965.86	2.74	No	Si
SLU 76	2.5	437.41	-11668	-0.0001613	0.0003743	0.0035	0.61	1329.98	2009.46	2009.46	4.59	No	Si
SLU 84	0	739.03	-11387	-0.0001934	0.0003743	0.0035	0.61	1350.33	1992.27	1992.27	2.7	No	Si
SLU 84	2.5	452.51	-12133	-0.0001697	0.0003743	0.0035	0.61	1290.58	2038.7	2038.7	4.51	No	Si
SLU 78	0	722.99	-11093	-0.0001869	0.0003743	0.0035	0.61	1368.82	1974.27	1974.27	2.73	No	Si
SLU 78	2.5	439.83	-11797	-0.0001634	0.0003743	0.0035	0.61	1319.79	2017.46	2017.46	4.59	No	Si
SLU 77	0	712.03	-11023	-0.0001846	0.0003743	0.0035	0.61	1372.85	1969.82	1969.82	2.77	No	Si
SLU 77	2.5	437.42	-11720	-0.000162	0.0003743	0.0035	0.61	1325.91	2012.7	2012.7	4.6	No	Si
SLU 75	0	714.21	-10982	-0.0001842	0.0003743	0.0035	0.61	1375.08	1967.29	1967.29	2.75	No	Si
SLU 75	2.5	438.13	-11689	-0.0001617	0.0003743	0.0035	0.61	1328.31	2010.8	2010.8	4.59	No	Si
SLU 82	0	730.25	-11276	-0.0001906	0.0003743	0.0035	0.61	1357.66	1985.56	1985.56	2.72	No	Si
SLU 82	2.5	450.8	-12026	-0.0001679	0.0003743	0.0035	0.61	1300.28	2031.89	2031.89	4.51	No	Si
SLU 81	0	719.29	-11205	-0.0001882	0.0003743	0.0035	0.61	1362.12	1981.33	1981.33	2.75	No	Si
SLU 81	2.5	448.39	-11949	-0.0001665	0.0003743	0.0035	0.61	1306.98	2027.05	2027.05	4.52	No	Si
SLU 83	0	728.07	-11316	-0.0001909	0.0003743	0.0035	0.61	1355.04	1988	1988	2.73	No	Si
SLU 83	2.5	450.1	-12057	-0.0001683	0.0003743	0.0035	0.61	1297.55	2033.83	2033.83	4.52	No	Si
SLU 80	0	717.64	-11023	-0.0001852	0.0003743	0.0035	0.61	1372.82	1969.86	1969.86	2.74	No	Si
SLU 80	2.5	437.51	-11724	-0.0001621	0.0003743	0.0035	0.61	1325.61	2012.94	2012.94	4.6	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0	1246.32	-8545	-0.0002063	0.0005615	0.0035	0.61		2016.04	2016.04	1.62		Si
SLV 16	2.5	-723.09	-858	-0.0058835	0.0005615	0.0035	0.488		327.2	327.2	0.45		No
SLV 13	0	1849.4	-15270	-0.0003696	0.0005615	0.0035	0.61		2805.98	2805.98	1.52		Si
SLV 13	2.5	-735.69	-4656	-0.0001126	0.0005615	0.0035	0.61		1314	1314	1.79		Si
SLV 7	0	-505.02	3601	1.4235974	0.0005615	0.0035	0.488		0	0	0		No
SLV 7	2.5	253.6	-1254	-0.000041	0.0005615	0.0035	0.61		390.34	390.34	1.54		Si
SLV 8	0	-621.15	4100	1.6219235	0.0005615	0.0035	0.488		0	0	0		No
SLV 8	2.5	382.28	-1903	-0.0000625	0.0005615	0.0035	0.61		571.06	571.06	1.49		Si
SLV 3	0	-724.74	-386	-0.0076214	0.0005615	0.0035	0.488		189.04	189.04	0.26		No
SLV 3	2.5	1154.88	-10290	-0.0002048	0.0005615	0.0035	0.61		2293.7	2293.7	1.99		Si
SLV 4	0	-897.26	355	0.1207655	0.0005615	0.0035	0.488		0	0	0		No
SLV 4	2.5	1346.04	-11254	-0.0002401	0.0005615	0.0035	0.61		2414.85	2414.85	1.79		Si
SLV 15	0	1418.83	-9286	-0.0002416	0.0005615	0.0035	0.61		2154.6	2154.6	1.52		Si
SLV 15	2.5	-914.25	105	-0.0124997	0.0005615	0.0035	0.488		0	0	0		No
SLD 8	0	-185.84	-606	-0.0001449	0.0005615	0.0035	0.488		253.74	253.74	1.37		Si
SLD 8	2.5	368.96	-4507	-0.0000689	0.0005615	0.0035	0.61		1201.1	1201.1	3.26		Si
SLV 12	0	21.92	1430	0	0.0005615	0.0035	0.488		0	0	0		No
SLV 12	2.5	-238.46	1216	0.4821102	0.0005615	0.0035	0.488		0	0	0		No
SLV 11	0	138.05	931	0.3586856	0.0005615	0.0035	0.488		0	0	0		No
SLV 11	2.5	-367.14	1864	0.7394063	0.0005615	0.0035	0.488		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	0	707.39	-10848	-9135	1065	0.61	0.61	-49921	10833	3023	30925	5480	1555	7035	No	6.6	Si
SLU 73	2.5	435.71	-11560	-9735	-1453	0.61	0.61	-53199	10833	3183	30925	5480	1555	7035	No	4.84	Si
SLU 75	0	714.21	-10982	-9248	1070	0.61	0.61	-50538	10833	3053	30925	5480	1555	7035	No	6.57	Si
SLU 75	2.5	438.13	-11689	-9844	-1448	0.61	0.61	-53792	10833	3212	30925	5480	1555	7035	No	4.86	Si
SLU 76	0	716.17	-10959	-9229	1078	0.61	0.61	-50432	10833	3048	30925	5480	1555	7035	No	6.53	Si
SLU 76	2.5	437.41	-11668	-9825	-1458	0.61	0.61	-53692	10833	3207	30925	5480	1555	7035	No	4.83	Si
SLU 83	0	728.07	-11316	-9529	1082	0.61	0.61	-52074	10833	3128	30925	5480	1555	7035	No	6.5	Si
SLU 83	2.5	450.1	-12057	-10153	-1471	0.61	0.61	-55482	10833	3295	30925	5480	1555	7035	No	4.78	Si
SLU 82	0	730.25	-11276	-9495	1094	0.61	0.61	-51888	10833	3119	30925	5480	1555	7035	No	6.43	Si
SLU 82	2.5	450.8	-12026	-10127	-1490	0.61	0.61	-55341	10833	3288	30925	5480	1555	7035	No	4.72	Si
SLU 80	0	717.64	-11023	-9283	1074	0.61	0.61	-50726	10833	3063	30925	5480	1555	7035	No	6.55	Si
SLU 80	2.5	437.51	-11724	-9873	-1447	0.61	0.61	-53951	10833	3220	30925	5480	1555	7035	No	4.86	Si
SLU 81	0	719.29	-11205	-9436	1069	0.61	0.61	-51563	10833	3103	30925	5480	1555	7035	No	6.58	Si
SLU 81	2.5	448.39	-11949	-10063	-1466	0.61	0.61	-54989	10833	3271	30925	5480	1555	7035	No	4.8	Si
SLU 84	0	739.03	-11387	-9589	1106	0.61	0.61	-52399	10833	3144	30925	5480	1555	7035	No	6.36	Si
SLU 84	2.5	452.51	-12133	-10217	-1495	0.61	0.61	-55835	10833	3312	30925	5480	1555	7035	No	4.71	Si
SLU 78	0	722.99	-11093	-9342	1083	0.61	0.61	-51049	10833	3078	30925	5480	1555	7035	No	6.5	Si
SLU 78	2.5	439.83	-11797	-9934	-1453	0.61	0.61	-54285	10833	3236	30925	5480	1555	7035	No	4.84	Si
SLU 77	0	712.03	-11023	-9282	1058	0.61	0.61	-50724	10833	3062	30925	5480	1555	7035	No	6.65	Si
SLU 77	2.5	437.42	-11720	-9869	-1430	0.61	0.61	-53933	10833	3219	30925	5480	1555	7035	No	4.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	0	-138.92	-6123	-5156	-323	0.61	0.61	-28178	16052	2937	30925	8219	1555	9775		30.27	Si
SLD 2	2.5	1080.57	-12982	-10933	-4007	0.61	0.61	-59743	16250	3796	30925	8219	1555	9775		2.44	Si
SLV 4	0	-897.26	355	299	-1642	0.488	0	0	0	0	30925	6576	1244	7820		4.76	Si
SLV 4	2.5	1346.04	-11254	-9477	-5385	0.61	0.5562	-51788	16250	3408	30925	8219	1555	9775		1.82	Si
SLD 4	0	-391.35	-2617	-2204	-776	0.61	0.4663	-15866	13590	1901	30925	8219	1555	9775		12.59	Si
SLD 4	2.5	976.15	-10196	-8586	-3816	0.61	0.61	-46921	16250	3171	30925	8219	1555	9775		2.56	Si
SLV 16	0	1246.32	-8545	-7196	2005	0.61	0.4774	-39321	16250	2800	30925	8219	1555	9775		4.88	Si
SLV 16	2.5	-723.09	-858	-723	2926	0.488	0	0	0	0	30925	6576	1244	7820		2.67	Si
SLD 1	0	-29.47	-6593	-5552	-150	0.61	0.61	-30342	16250	2974	30925	8219	1555	9775		65.28	Si
SLD 1	2.5	959.29	-12371	-10418	-3513	0.61	0.61	-56929	16250	3659	30925	8219	1555	9775		2.78	Si
SLV 1	0	-294.17	-6370	-5364	-596	0.61	0.61	-29314	16250	2974	30925	8219	1555	9775		16.41	Si
SLV 1	2.5	1333.44	-15052	-12675	-4934	0.61	0.61	-69265	16250	4261	30925	8219	1555	9775		1.98	Si
SLV 2	0	-466.68	-5629	-4740	-869	0.61	0.61	-25903	15597	2854	30925	8219	1555	9775		11.25	Si
SLV 2	2.5	1524.6	-16015	-13487	-5712	0.61	0.61	-73700	16250	4477	30925	8219	1555	9775		1.71	Si
SLV 13	0	1849.4	-15270	-12859	3051	0.61	0.5516	-70269	16250	4310	30925	8219	1555	9775		3.2	Si
SLV 13	2.5	-735.69	-4656	-3921	3378	0.61	0.441	-30117	16250	2150	30925	8219	1555	9775		2.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	0	-724.74	-386	-325	-1369	0.488	0	0	0	0	30925	6576	1244	7820		5.71	Si
SLV 3	2.5	1154.88	-10290	-8665	-4607	0.61	0.5783	-47354	16250	3192	30925	8219	1555	9775		2.12	Si
SLV 15	0	1418.83	-9286	-7820	2278	0.61	0.4566	-42732	16250	2966	30925	8219	1555	9775		4.29	Si
SLV 15	2.5	-914.25	105	89	3705	0.488	0	0	0	0	30925	6576	1244	7820		2.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.355 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.27	0	1931	28.54	0	0	No, Trazione
SLV 7	179667	0.27	0	1828	28.54	0	0	No, Trazione
SLV 12	179667	0.27	0	1395	28.54	0	0	No, Trazione
SLV 11	179667	0.27	0	1293	28.54	0	0	No, Trazione
SLV 4	179667	0.27	19364	-3544	28.54	464.13	16.26	Si
SLV 3	179667	0.27	20195	-3696	28.54	481.02	16.86	Si
SLV 16	179667	0.27	29113	-5328	28.54	646.79	22.66	Si
SLV 15	179667	0.27	29943	-5479	28.54	660.76	23.15	Si
SLV 2	179667	0.27	48046	-8792	28.54	903.91	31.67	Si
SLV 1	179667	0.27	48876	-8944	28.54	912.23	31.97	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.355 Wa = 0.05 Ta = 0.0409

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-14295	-15846	63	0.285	1525.8	0.986	4.20491	3.08532	Si
SLV 5	-13929	-16345	63	0.291	1488.5	0.985	4.29301	3.08532	Si
SLV 2	-11755	-5629	32	0.336	1266.9	0.983	4.96239	3.34615	Si
SLV 10	-12535	-18516	61	0.316	1346.4	0.984	4.67596	3.08532	Si
SLV 1	-11212	-6370	32	0.349	1211.6	0.982	5.16015	3.34615	Si
SLV 9	-12170	-19015	61	0.324	1309.2	0.983	4.7904	3.08532	Si
SLV 4	-7741	355	3	0.476	858	0.975	7.10274	3.34615	Si, Trazione
SLV 3	-7198	-386	3	0.506	802.7	0.973	7.56251	3.34615	Si
SLV 14	-5888	-14529	24	0.596	669.3	0.968	8.9501	3.34615	Si
SLV 13	-5345	-15270	24	0.647	614	0.966	9.73951	3.34615	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.696	SLU 84	Si
V_SLU	4.705	SLU 84	Si
PF_SLV	0	SLV 4	No
V_SLV	1.711	SLV 2	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.363	SLV 6	Si

Maschio 264

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.743	-4.685	-11.003	-4.685	L3	Z medio 271 cm	0.74	0.3	2.71	2.71	2.71			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0	432.89	-10252	-0.0001056	0.0003743	0.0035	0.7401	2073.3	2580.77	2580.77	5.96	No	Si
SLU 84	2.5	-1176.59	-16444	-0.0002384	0.0003743	0.0035	0.7401	1658.73	3037.88	3037.88	2.58	No	Si
SLU 77	0	405.95	-9976	-0.0001012	0.0003743	0.0035	0.7401	2062.57	2539.4	2539.4	6.26	No	Si
SLU 77	2.5	-1132.55	-15873	-0.0002255	0.0003743	0.0035	0.7401	1749.43	3040.5	3040.5	2.68	No	Si
SLU 82	0	426.05	-10187	-0.0001045	0.0003743	0.0035	0.7401	2070.99	2570.94	2570.94	6.03	No	Si
SLU 82	2.5	-1161.83	-16281	-0.0002345	0.0003743	0.0035	0.7401	1685.68	3038.48	3038.48	2.62	No	Si
SLU 80	0	401.02	-9969	-0.0001008	0.0003743	0.0035	0.7401	2062.25	2538.31	2538.31	6.33	No	Si
SLU 80	2.5	-1130.18	-15874	-0.0002253	0.0003743	0.0035	0.7401	1749.31	3040.49	3040.49	2.69	No	Si
SLU 75	0	396.7	-9958	-0.0001004	0.0003743	0.0035	0.7401	2061.8	2536.76	2536.76	6.39	No	Si
SLU 75	2.5	-1122.07	-15805	-0.0002235	0.0003743	0.0035	0.7401	1759.57	3040.91	3040.91	2.71	No	Si
SLU 79	0	403.43	-9921	-0.0001005	0.0003743	0.0035	0.7401	2060.15	2531.25	2531.25	6.27	No	Si
SLU 79	2.5	-1125.9	-15780	-0.0002235	0.0003743	0.0035	0.7401	1763.29	3041.06	3041.06	2.7	No	Si
SLU 83	0	435.3	-10204	-0.0001053	0.0003743	0.0035	0.7401	2071.63	2573.61	2573.61	5.91	No	Si
SLU 83	2.5	-1172.31	-16349	-0.0002365	0.0003743	0.0035	0.7401	1674.48	3038.21	3038.21	2.59	No	Si
SLU 76	0	392.57	-9935	-0.0000999	0.0003743	0.0035	0.7401	2060.77	2533.32	2533.32	6.45	No	Si
SLU 76	2.5	-1118.28	-15774	-0.0002227	0.0003743	0.0035	0.7401	1764.07	3041.1	3041.1	2.72	No	Si
SLU 81	0	428.46	-10139	-0.0001042	0.0003743	0.0035	0.7401	2069.22	2563.81	2563.81	5.98	No	Si
SLU 81	2.5	-1157.55	-16187	-0.0002326	0.0003743	0.0035	0.7401	1700.92	3038.88	3038.88	2.63	No	Si
SLU 78	0	403.54	-10024	-0.0001015	0.0003743	0.0035	0.7401	2064.59	2546.48	2546.48	6.31	No	Si
SLU 78	2.5	-1136.83	-15968	-0.0002273	0.0003743	0.0035	0.7401	1735.16	3039.96	3039.96	2.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0	1710.51	723	-0.0685101	0.0005615	0.0035	0.5921		0	0	0		No
SLV 16	2.5	-1778.13	-12510	-0.0002118	0.0005615	0.0035	0.7401		3463.38	3463.38	1.95		Si
SLD 11	0	629.56	-181	-0.0231613	0.0005615	0.0035	0.5921		100.67	100.67	0.16		No
SLD 11	2.5	-694.7	-5796	-0.0000803	0.0005615	0.0035	0.7401		1995.51	1995.51	2.87		Si
SLV 11	0	854.46	4432	1.1201087	0.0005615	0.0035	0.5921		0	0	0		No
SLV 11	2.5	-617.83	-2162	-0.0000886	0.0005615	0.0035	0.5921		885.21	885.21	1.43		Si
SLD 15	0	1346.42	-1566	-0.0318398	0.0005615	0.0035	0.5921		590.67	590.67	0.44		No
SLD 15	2.5	-1570.3	-12610	-0.0001955	0.0005615	0.0035	0.7401		3481.97	3481.97	2.22		Si
SLD 12	0	524.78	-577	-0.0126117	0.0005615	0.0035	0.5921		243.62	243.62	0.46		No
SLD 12	2.5	-596.79	-5427	-0.0000717	0.0005615	0.0035	0.7401		1892.24	1892.24	3.17		Si
SLV 12	0	681.79	3781	0.9573222	0.0005615	0.0035	0.5921		0	0	0		No
SLV 12	2.5	-456.48	-1553	-0.0000691	0.0005615	0.0035	0.5921		681.2	681.2	1.49		Si
SLV 15	0	1967.01	1690	0.1791932	0.0005615	0.0035	0.5921		0	0	0		No
SLV 15	2.5	-2017.82	-13414	-0.0002419	0.0005615	0.0035	0.7401		3617.56	3617.56	1.79		Si
SLV 8	0	-265.47	599	0.1593732	0.0005615	0.0035	0.5921		0	0	0		No
SLV 8	2.5	343.56	1685	0.4249997	0.0005615	0.0035	0.5921		0	0	0		No
SLV 7	0	-92.81	1251	0.3257376	0.0005615	0.0035	0.5921		0	0	0		No
SLV 7	2.5	182.21	1076	0.2728838	0.0005615	0.0035	0.5921		0	0	0		No
SLD 16	0	1183.69	-2180	-0.0174698	0.0005615	0.0035	0.5921		798.72	798.72	0.67		No
SLD 16	2.5	-1418.24	-12036	-0.0001792	0.0005615	0.0035	0.7401		3376.06	3376.06	2.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0	435.3	-10204	-8593	1295	0.7401	0.7401	-38702	10833	3004	30925	6649	1887	8536	No	6.59	Si
SLU 83	2.5	-1172.31	-16349	-13768	3708	0.7401	0.7401	-62008	10833	4384	30925	6649	1887	8536	No	2.3	Si
SLU 78	0	403.54	-10024	-8441	1226	0.7401	0.7401	-38016	10833	2963	30925	6649	1887	8536	No	6.96	Si
SLU 78	2.5	-1136.83	-15968	-13447	3611	0.7401	0.7401	-60560	10833	4298	30925	6649	1887	8536	No	2.36	Si
SLU 80	0	401.02	-9969	-8395	1218	0.7401	0.7401	-37808	10833	2951	30925	6649	1887	8536	No	7.01	Si
SLU 80	2.5	-1130.18	-15874	-13368	3592	0.7401	0.7401	-60205	10833	4277	30925	6649	1887	8536	No	2.38	Si
SLU 76	0	392.57	-9935	-8367	1198	0.7401	0.7401	-37681	10833	2944	30925	6649	1887	8536	No	7.13	Si
SLU 76	2.5	-1118.28	-15774	-13284	3560	0.7401	0.7401	-59827	10833	4255	30925	6649	1887	8536	No	2.4	Si
SLU 81	0	428.46	-10139	-8538	1279	0.7401	0.7401	-38455	10833	2989	30925	6649	1887	8536	No	6.67	Si
SLU 81	2.5	-1157.55	-16187	-13631	3658	0.7401	0.7401	-61391	10833	4347	30925	6649	1887	8536	No	2.33	Si
SLU 84	0	432.89	-10252	-8633	1289	0.7401	0.7401	-38881	10833	3015	30925	6649	1887	8536	No	6.62	Si
SLU 84	2.5	-1176.59	-16444	-13847	3735	0.7401	0.7401	-62366	10833	4405	30925	6649	1887	8536	No	2.29	Si
SLU 75	0	396.7	-9958	-8386	1210	0.7401	0.7401	-37769	10833	2949	30925	6649	1887	8536	No	7.06	Si
SLU 75	2.5	-1122.07	-15805	-13310	3561	0.7401	0.7401	-59943	10833	4262	30925	6649	1887	8536	No	2.4	Si
SLU 79	0	403.43	-9921	-8355	1224	0.7401	0.7401	-37629	10833	2940	30925	6649	1887	8536	No	6.98	Si
SLU 79	2.5	-1125.9	-15780	-13288	3565	0.7401	0.7401	-59847	10833	4256	30925	6649	1887	8536	No	2.39	Si
SLU 77	0	405.95	-9976	-8401	1232	0.7401	0.7401	-37836	10833	2953	30925	6649	1887	8536	No	6.93	Si
SLU 77	2.5	-1132.55	-15873	-13367	3584	0.7401	0.7401	-60202	10833	4277	30925	6649	1887	8536	No	2.38	Si
SLU 82	0	426.05	-10187	-8578	1273	0.7401	0.7401	-38634	10833	3000	30925	6649	1887	8536	No	6.71	Si
SLU 82	2.5	-1161.83	-16281	-13710	3685	0.7401	0.7401	-61749	10833	4369	30925	6649	1887	8536	No	2.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0	583.21	-15112	-12726	1694	0.7401	0.7401	-57314	16250	4462	30925	9973	1887	11860		7	Si
SLV 10	2.5	-1677.74	-22487	-18936	4768	0.7401	0.7401	-85284	16250	6118	30925	9973	1887	11860		2.49	Si
SLD 14	0	1166.54	-5499	-4631	2364	0.7401	0.4738	-20857	14588	2304	30925	9973	1887	11860		5.02	Si
SLD 14	2.5	-1633.16	-15715	-13233	5377	0.7401	0.7401	-59600	16250	4598	30925	9973	1887	11860		2.21	Si
SLV 15	0	1967.01	1690	1423	3481	0.5921	0	0	0	0	30925	7979	1510	9488		2.73	Si
SLV 15	2.5	-2017.82	-13414	-11296	7213	0.7401	0.6589	-59300	16250	4081	30925	9973	1887	11860		1.64	Si
SLV 9	0	755.87	-14461	-12177	1955	0.7401	0.7401	-54844	16250	4316	30925	9973	1887	11860		6.07	Si
SLV 9	2.5	-1839.09	-23095	-19449	5358	0.7401	0.7401	-87592	16250	6255	30925	9973	1887	11860		2.21	Si
SLD 16	0	1183.69	-2180	-1836	2271	0.5921	0	0	0	0	30925	7979	1510	9488		4.18	Si
SLD 16	2.5	-1418.24	-12036	-10136	4932	0.7401	0.7401	-45648	16250	3772	30925	9973	1887	11860		2.4	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	0	1346.42	-1566	-1319	2516	0.5921	0	0	0	0	30925	7979	1510	9488		3.77	Si
SLD 15	2.5	-1570.3	-12610	-10619	5488	0.7401	0.7366	-47824	16250	3900	30925	9973	1887	11860		2.16	Si
SLV 13	0	1937.43	-3978	-3350	3639	0.5921	0	0	0	0	30925	7979	1510	9488		2.61	Si
SLV 13	2.5	-2384.2	-19694	-16585	7969	0.7401	0.7401	-74693	16250	5491	30925	9973	1887	11860		1.49	Si
SLD 13	0	1329.26	-4885	-4114	2609	0.7401	0.2939	-18528	14122	2166	30925	9973	1887	11860		4.55	Si
SLD 13	2.5	-1785.23	-16288	-13716	5932	0.7401	0.7401	-61776	16250	4726	30925	9973	1887	11860		2	Si
SLV 16	0	1710.51	723	609	3095	0.5921	0	0	0	0	30925	7979	1510	9488		3.07	Si
SLV 16	2.5	-1778.13	-12510	-10535	6338	0.7401	0.6838	-53024	16250	3878	30925	9973	1887	11860		1.87	Si
SLV 14	0	1680.94	-4945	-4164	3252	0.5921	0.0905	0	0	0	30925	7979	1510	9488		2.92	Si
SLV 14	2.5	-2144.5	-18790	-15823	7094	0.7401	0.7401	-71263	16250	5288	30925	9973	1887	11860		1.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.355 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.27	0	2262	34.63	0	0	No, Trazione
SLV 12	179667	0.27	0	2083	34.63	0	0	No, Trazione
SLV 7	179667	0.27	0	1634	34.63	0	0	No, Trazione
SLV 8	179667	0.27	0	1456	34.63	0	0	No, Trazione
SLV 15	179667	0.27	18757	-4165	34.63	547.98	15.83	Si
SLV 16	179667	0.27	19952	-4430	34.63	577.68	16.68	Si
SLV 3	179667	0.27	28181	-6257	34.63	765.39	22.1	Si
SLV 4	179667	0.27	29376	-6523	34.63	790.19	22.82	Si
SLV 13	179667	0.27	46561	-10338	34.63	1077.94	31.13	Si
SLV 14	179667	0.27	47756	-10604	34.63	1093.16	31.57	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.355 Wa = 0.05 Ta = 0.0409

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-18421	-14461	15	0.275	1961	0.986	4.05756	3.08532	Si
SLV 10	-18089	-15112	15	0.279	1927.2	0.986	4.11667	3.08532	Si
SLV 5	-16569	-17643	11	0.299	1772.2	0.985	4.41876	3.08532	Si
SLV 6	-16237	-18294	10	0.304	1738.4	0.985	4.49174	3.08532	Si
SLV 13	-14554	-3978	22	0.331	1566.9	0.983	4.89812	3.34615	Si
SLV 14	-14061	-4945	21	0.341	1516.7	0.982	5.03937	3.34615	Si
SLV 15	-9319	1690	23	0.478	1033.5	0.975	7.12322	3.34615	Si, Trazione
SLV 16	-8826	723	22	0.5	983.3	0.973	7.46511	3.34615	Si, Trazione
SLV 1	-8380	-14584	6	0.524	937.9	0.972	7.832	3.34615	Si
SLV 2	-7888	-15552	6	0.551	887.8	0.971	8.25536	3.34615	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.582	SLU 84	Si
V_SLU	2.285	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	1.488	SLV 13	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.315	SLV 9	Si

Maschio 267

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 271 cm	Z medio 611 cm	0.745	0.3	3.4	3.4	3.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	3.66	-198.73	-13401	-0.0001183	0.0003743	0.0035	0.745	2051.8	2981.39	2981.39	15	No	Si
SLU 76	5.66	-71.47	-8922	-0.0000695	0.0003743	0.0035	0.745	2020.22	2494.85	2494.85	34.91	No	Si
SLU 43	3.66	-177.67	-10339	-0.0000884	0.0003743	0.0035	0.745	2101.2	2680.85	2680.85	15.09	No	Si
SLU 43	5.66	-5.85	-7003	-0.0000502	0.0003743	0.0035	0.745	1805.7	2148.52	2148.52	367.07	No	Si
SLU 47	3.66	-180.61	-10644	-0.0000913	0.0003743	0.0035	0.745	2110.05	2721	2721	15.07	No	Si
SLU 47	5.66	-13.08	-7188	-0.0000521	0.0003743	0.0035	0.745	1831.64	2179.95	2179.95	166.62	No	Si
SLU 82	3.66	-202.86	-13737	-0.0001219	0.0003743	0.0035	0.745	2027.68	3004.92	3004.92	14.81	No	Si
SLU 82	5.66	-77.4	-9133	-0.0000716	0.0003743	0.0035	0.745	2036.42	2528.28	2528.28	32.66	No	Si
SLU 84	3.66	-201.2	-13903	-0.0001234	0.0003743	0.0035	0.745	2014.4	3016.82	3016.82	14.99	No	Si
SLU 84	5.66	-81.92	-9254	-0.0000729	0.0003743	0.0035	0.745	2045.04	2545.37	2545.37	31.07	No	Si
SLU 81	3.66	-200.1	-13653	-0.0001209	0.0003743	0.0035	0.745	2034.03	2999.02	2999.02	14.99	No	Si
SLU 81	5.66	-75.77	-9094	-0.0000712	0.0003743	0.0035	0.745	2033.55	2522.36	2522.36	33.29	No	Si
SLU 73	3.66	-200.39	-13234	-0.0001168	0.0003743	0.0035	0.745	2062.35	2969.56	2969.56	14.82	No	Si
SLU 73	5.66	-66.96	-8802	-0.0000682	0.0003743	0.0035	0.745	2010.29	2474.3	2474.3	36.95	No	Si
SLU 52	3.66	-192.32	-11780	-0.0001023	0.0003743	0.0035	0.745	2116.19	2874.75	2874.75	14.95	No	Si
SLU 52	5.66	-35.48	-7901	-0.000059	0.0003743	0.0035	0.745	1921.04	2305.56	2305.56	64.98	No	Si
SLU 44	3.66	-182.26	-10478	-0.0000899	0.0003743	0.0035	0.745	2105.61	2699.04	2699.04	14.81	No	Si
SLU 44	5.66	-8.57	-7068	-0.0000508	0.0003743	0.0035	0.745	1814.87	2159.43	2159.43	251.97	No	Si
SLU 61	3.66	-194.79	-12282	-0.0001072	0.0003743	0.0035	0.745	2105.44	2905.71	2905.71	14.92	No	Si
SLU 61	5.66	-45.93	-8232	-0.0000623	0.0003743	0.0035	0.745	1956.93	2366.47	2366.47	51.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	3.66	-528.7	30	-0.0032484	0.0005615	0.0035	0.596		84.79	84.79	0.16		No
SLV 8	5.66	641.71	-3221	-0.0000636	0.0005615	0.0035	0.745		1147.15	1147.15	1.79		Si
SLV 3	3.66	-1419.76	-4673	-0.0002697	0.0005615	0.0035	0.596		1686.21	1686.21	1.19		Si
SLV 3	5.66	1297.83	-8403	-0.0001401	0.0005615	0.0035	0.745		2564.96	2564.96	1.98		Si
SLD 15	3.66	897.21	-9130	-0.0001182	0.0005615	0.0035	0.745		2720.03	2720.03	3.03		Si
SLD 15	5.66	-991.63	-2592	-0.0006908	0.0005615	0.0035	0.596		1035.27	1035.27	1.04		Si
SLV 11	3.66	524.31	-1498	-0.0002487	0.0005615	0.0035	0.596		571.4	571.4	1.09		Si
SLV 11	5.66	-385.32	-351	-0.000947	0.0005615	0.0035	0.596		260.38	260.38	0.68		No
SLV 14	3.66	1131.81	-13575	-0.0001725	0.0005615	0.0035	0.745		3578.98	3578.98	3.16		Si
SLV 14	5.66	-1356.8	-3837	-0.0007089	0.0005615	0.0035	0.596		1434.34	1434.34	1.06		Si
SLV 15	3.66	1486.12	-8919	-0.0001601	0.0005615	0.0035	0.745		2674.67	2674.67	1.8		Si
SLV 15	5.66	-1528.35	-496	-0.0100682	0.0005615	0.0035	0.596		312.77	312.77	0.2		No
SLV 4	3.66	-1689	-4295	-0.0025084	0.0005615	0.0035	0.596		1572.9	1572.9	0.93		No
SLV 4	5.66	1563.99	-9144	-0.000169	0.0005615	0.0035	0.745		2722.93	2722.93	1.74		Si
SLV 16	3.66	1216.88	-8541	-0.0001344	0.0005615	0.0035	0.745		2594.17	2594.17	2.13		Si
SLV 16	5.66	-1262.19	-1237	-0.0059818	0.0005615	0.0035	0.596		575.72	575.72	0.46		No
SLV 13	3.66	1401.06	-13953	-0.0001944	0.0005615	0.0035	0.745		3635.76	3635.76	2.6		Si
SLV 13	5.66	-1622.96	-3097	-0.0048519	0.0005615	0.0035	0.596		1198.68	1198.68	0.74		No
SLV 7	3.66	-347.46	-224	-0.0009669	0.0005615	0.0035	0.596		214.49	214.49	0.62		No
SLV 7	5.66	462.54	-2723	-0.0000453	0.0005615	0.0035	0.745		985.08	985.08	2.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	3.66	-192.48	-13427	-11307	2441	0.745	0.745	-50594	10833	3732	38062	6692	1900	8592	No	3.52	Si
SLU 79	5.66	-73.27	-8978	-7561	-33	0.745	0.745	-33830	10833	2733	38062	6692	1900	8592	No	261.61	Si
SLU 75	3.66	-197.22	-13444	-11321	2438	0.745	0.745	-50656	10833	3736	38062	6692	1900	8592	No	3.52	Si
SLU 75	5.66	-72.68	-8960	-7546	-31	0.745	0.745	-33763	10833	2729	38062	6692	1900	8592	No	279.29	Si
SLU 76	3.66	-198.73	-13401	-11285	2430	0.745	0.745	-50493	10833	3726	38062	6692	1900	8592	No	3.54	Si
SLU 76	5.66	-71.47	-8922	-7514	-32	0.745	0.745	-33619	10833	2721	38062	6692	1900	8592	No	270.76	Si
SLU 82	3.66	-202.86	-13737	-11568	2501	0.745	0.745	-51759	10833	3802	38062	6692	1900	8592	No	3.44	Si
SLU 82	5.66	-77.4	-9133	-7691	-12	0.745	0.745	-34413	10833	2768	38062	6692	1900	8592	No	706.91	Si
SLU 77	3.66	-192.8	-13526	-11391	2461	0.745	0.745	-50967	10833	3755	38062	6692	1900	8592	No	3.49	Si
SLU 77	5.66	-75.57	-9042	-7614	-28	0.745	0.745	-34071	10833	2748	38062	6692	1900	8592	No	306.65	Si
SLU 83	3.66	-198.44	-13819	-11637	2524	0.745	0.745	-52070	10833	3820	38062	6692	1900	8592	No	3.4	Si
SLU 83	5.66	-80.29	-9215	-7760	-9	0.745	0.745	-34721	10833	2786	38062	6692	1900	8592	No	913.05	Si
SLU 81	3.66	-200.1	-13653	-11497	2483	0.745	0.745	-51445	10833	3783	38062	6692	1900	8592	No	3.46	Si
SLU 81	5.66	-75.77	-9094	-7658	-18	0.745	0.745	-34267	10833	2759	38062	6692	1900	8592	No	479.09	Si
SLU 78	3.66	-195.56	-13610	-11461	2479	0.745	0.745	-51282	10833	3773	38062	6692	1900	8592	No	3.47	Si
SLU 78	5.66	-77.2	-9081	-7647	-22	0.745	0.745	-34217	10833	2756	38062	6692	1900	8592	No	386.34	Si
SLU 84	3.66	-201.2	-13903	-11708	2542	0.745	0.745	-52385	10833	3839	38062	6692	1900	8592	No	3.38	Si
SLU 84	5.66	-81.92	-9254	-7792	-4	0.745	0.745	-34867	10833	2795	38062	6692	1900	8592	No	2366.74	Si
SLU 80	3.66	-195.23	-13511	-11378	2459	0.745	0.745	-50909	10833	3751	38062	6692	1900	8592	No	3.49	Si
SLU 80	5.66	-74.9	-9017	-7593	-27	0.745	0.745	-33976	10833	2742	38062	6692	1900	8592	No	317.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	3.66	1131.81	-13575	-11432	6763	0.745	0.745	-51152	16250	4124	38062	10038	1900	11938		1.77	Si
SLV 14	5.66	-1356.8	-3837	-3231	3964	0.596	0.0566	0	0	0	38062	8031	1520	9550		2.41	Si
SLV 9	3.66	240.75	-18279	-15393	5262	0.745	0.745	-68874	16250	5180	38062	10038	1900	11938		2.27	Si
SLV 9	5.66	-700.68	-9019	-7595	2033	0.745	0.745	-33984	16250	3632	38062	10038	1900	11938		5.87	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	3.66	1486.12	-8919	-7511	6646	0.745	0.6176	-33606	16250	3079	38062	10038	1900	11938		1.8	Si
SLV 15	5.66	-1528.35	-496	-418	4425	0.596	0	0	0	0	38062	8031	1520	9550		2.16	Si
SLV 13	3.66	1401.06	-13953	-11750	7731	0.745	0.745	-52575	16250	4209	38062	10038	1900	11938		1.54	Si
SLV 13	5.66	-1622.96	-3097	-2608	4767	0.596	0	0	0	0	38062	8031	1520	9550		2	Si
SLD 15	3.66	897.21	-9130	-7689	4857	0.745	0.745	-34403	16250	3632	38062	10038	1900	11938		2.46	Si
SLD 15	5.66	-991.63	-2592	-2182	2809	0.596	0	0	0	0	38062	8031	1520	9550		3.4	Si
SLV 10	3.66	59.51	-18024	-15178	4611	0.745	0.745	-67916	16250	5123	38062	10038	1900	11938		2.59	Si
SLV 10	5.66	-521.51	-9517	-8015	1493	0.745	0.745	-35862	16250	3632	38062	10038	1900	11938		8	Si
SLV 16	3.66	1216.88	-8541	-7193	5678	0.745	0.69	-32183	16250	3364	38062	10038	1900	11938		2.1	Si
SLV 16	5.66	-1262.19	-1237	-1041	3623	0.596	0	0	0	0	38062	8031	1520	9550		2.64	Si
SLV 4	3.66	-1689	-4295	-3617	-4542	0.596	0	0	0	0	38062	8031	1520	9550		2.1	Si
SLV 4	5.66	1563.99	-9144	-7700	-4952	0.745	0.6043	-34453	16250	3129	38062	10038	1900	11938		2.41	Si
SLD 13	3.66	847.7	-12077	-10170	5494	0.745	0.745	-45505	16250	3788	38062	10038	1900	11938		2.17	Si
SLD 13	5.66	-1047.06	-4112	-3463	3009	0.596	0.3536	0	0	0	38062	8031	1520	9550		3.17	Si
SLD 14	3.66	676.89	-11837	-9968	4881	0.745	0.745	-44603	16250	3734	38062	10038	1900	11938		2.45	Si
SLD 14	5.66	-878.2	-4582	-3859	2500	0.745	0.5425	-24002	15217	2476	38062	10038	1900	11938		4.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.41 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.34	5011	-1120	68.02	162.49	2.39	Si
SLV 8	179667	0.34	5014	-1121	68.02	162.56	2.39	Si
SLV 11	179667	0.34	5215	-1166	68.02	168.86	2.48	Si
SLV 12	179667	0.34	5218	-1166	68.02	168.93	2.48	Si
SLV 3	179667	0.34	22445	-5016	68.02	641.84	9.44	Si
SLV 4	179667	0.34	22448	-5017	68.02	641.93	9.44	Si
SLV 15	179667	0.34	23124	-5168	68.02	657.82	9.67	Si
SLV 16	179667	0.34	23128	-5169	68.02	657.9	9.67	Si
SLV 1	179667	0.34	37592	-8401	68.02	950.01	13.97	Si
SLV 2	179667	0.34	37596	-8402	68.02	950.07	13.97	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.41 Wa = 0.05 Ta = 0.0643

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-9058	-11323	-2	0.477	1029.2	0.968	7.15156	4.57006	Si
SLV 1	-8527	-10685	-2	0.501	975.1	0.967	7.53802	4.57006	Si
SLV 6	-9217	-12839	10	0.469	1045.3	0.969	7.03295	4.00004	Si
SLV 5	-8859	-12410	9	0.485	1009	0.968	7.27945	4.00004	Si
SLV 4	-7134	-7876	-8	0.582	833.4	0.962	8.79817	4.57006	Si
SLV 3	-6604	-7238	-8	0.621	779.4	0.959	9.41385	4.57006	Si
SLV 10	-7504	-10782	14	0.557	871	0.963	8.40819	4.00004	Si
SLV 9	-7146	-10353	14	0.581	834.6	0.962	8.77498	4.00004	Si
SLV 14	-3348	-4465	11	1.087	449.1	0.934	16.90595	4.57006	Si
SLV 13	-2817	-3828	11	1.245	395.5	0.927	19.51366	4.57006	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.808	SLU 44	Si
V_SLU	3.38	SLU 84	Si
PF_SLV	0.16	SLV 8	No
V_SLV	1.544	SLV 13	Si
PFFP_SLV	2.389	SLV 7	Si
R_SLV	1.565	SLV 2	Si

Maschio 268

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 271 cm	Z medio 611 cm	0.725	0.3	3.4	3.4	3.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	3.66	977.67	-11446	-0.0001623	0.0003743	0.0035	0.7251	2005.3	2672.22	2672.22	2.73	No	Si
SLU 82	5.66	-645.07	-11498	-0.000137	0.0003743	0.0035	0.7251	2004.62	2730.87	2730.87	4.23	No	Si
SLU 78	3.66	955.51	-11323	-0.0001592	0.0003743	0.0035	0.7251	2006.55	2664.37	2664.37	2.79	No	Si
SLU 78	5.66	-635.35	-11396	-0.0001352	0.0003743	0.0035	0.7251	2005.86	2717.66	2717.66	4.28	No	Si
SLU 81	3.66	970.39	-11376	-0.000161	0.0003743	0.0035	0.7251	2006.06	2667.78	2667.78	2.75	No	Si
SLU 81	5.66	-642.49	-11452	-0.0001363	0.0003743	0.0035	0.7251	2005.23	2725.31	2725.31	4.24	No	Si
SLU 79	3.66	941.85	-11181	-0.0001565	0.0003743	0.0035	0.7251	2007.37	2650.72	2650.72	2.81	No	Si
SLU 79	5.66	-628.15	-11271	-0.0001333	0.0003743	0.0035	0.7251	2006.92	2700.51	2700.51	4.3	No	Si
SLU 76	3.66	942.33	-11188	-0.0001566	0.0003743	0.0035	0.7251	2007.35	2651.79	2651.79	2.81	No	Si
SLU 76	5.66	-619.56	-11185	-0.0001318	0.0003743	0.0035	0.7251	2007.36	2688.69	2688.69	4.34	No	Si
SLU 80	3.66	949.13	-11251	-0.0001579	0.0003743	0.0035	0.7251	2007.05	2659.81	2659.81	2.8	No	Si
SLU 80	5.66	-630.74	-11318	-0.000134	0.0003743	0.0035	0.7251	2006.59	2706.84	2706.84	4.29	No	Si
SLU 75	3.66	943.85	-11213	-0.000157	0.0003743	0.0035	0.7251	2007.24	2655.81	2655.81	2.81	No	Si
SLU 75	5.66	-622.46	-11232	-0.0001325	0.0003743	0.0035	0.7251	2007.15	2695.18	2695.18	4.33	No	Si
SLU 83	3.66	982.05	-11486	-0.0001632	0.0003743	0.0035	0.7251	2004.79	2674.75	2674.75	2.72	No	Si
SLU 83	5.66	-655.39	-11616	-0.000139	0.0003743	0.0035	0.7251	2002.76	2737.85	2737.85	4.18	No	Si
SLU 84	3.66	989.33	-11555	-0.0001645	0.0003743	0.0035	0.7251	2003.77	2679.23	2679.23	2.71	No	Si
SLU 84	5.66	-657.97	-11662	-0.0001397	0.0003743	0.0035	0.7251	2001.9	2740.47	2740.47	4.17	No	Si
SLU 77	3.66	948.23	-11253	-0.0001578	0.0003743	0.0035	0.7251	2007.04	2659.97	2659.97	2.81	No	Si
SLU 77	5.66	-632.77	-11350	-0.0001345	0.0003743	0.0035	0.7251	2006.31	2711.28	2711.28	4.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	3.66	233.78	180	0.0104193	0.0005615	0.0035	0.5801		0	0	0		No
SLV 12	5.66	-494.34	-3528	-0.0000538	0.0005615	0.0035	0.7251		1299.33	1299.33	2.63		Si
SLV 16	3.66	1417	-2971	-0.0180559	0.0005615	0.0035	0.5801		1034.93	1034.93	0.73		No
SLV 16	5.66	-1603.89	-10355	-0.0001887	0.0005615	0.0035	0.7251		2995.54	2995.54	1.87		Si
SLD 15	3.66	1271.47	-4414	-0.0002328	0.0005615	0.0035	0.7251		1451.81	1451.81	1.14		Si
SLD 15	5.66	-1343.36	-9962	-0.0001619	0.0005615	0.0035	0.7251		2930.2	2930.2	2.18		Si
SLV 13	3.66	2008.23	-6708	-0.0005973	0.0005615	0.0035	0.7251		2067.27	2067.27	1.03		Si
SLV 13	5.66	-2010.93	-14287	-0.000259	0.0005615	0.0035	0.7251		3615.76	3615.76	1.8		Si
SLV 15	3.66	1619.48	-2362	-0.0341875	0.0005615	0.0035	0.5801		840.19	840.19	0.52		No
SLV 15	5.66	-1866.82	-11164	-0.0002225	0.0005615	0.0035	0.7251		3133.36	3133.36	1.68		Si
SLV 11	3.66	370.08	590	0.1275445	0.0005615	0.0035	0.5801		0	0	0		No
SLV 11	5.66	-671.33	-4073	-0.0000709	0.0005615	0.0035	0.7251		1462.92	1462.92	2.18		Si
SLV 14	3.66	1805.75	-7318	-0.0002527	0.0005615	0.0035	0.7251		2236.52	2236.52	1.24		Si
SLV 14	5.66	-1748	-13477	-0.0002261	0.0005615	0.0035	0.7251		3517.78	3517.78	2.01		Si
SLV 3	3.66	-559.85	-8133	-0.0000933	0.0005615	0.0035	0.7251		2538	2538	4.53		Si
SLV 3	5.66	945.72	-1690	-0.0157105	0.0005615	0.0035	0.5801		619.21	619.21	0.65		No
SLV 4	3.66	-762.33	-8742	-0.0001113	0.0005615	0.0035	0.7251		2678.63	2678.63	3.51		Si
SLV 4	5.66	1208.65	-880	-0.0381415	0.0005615	0.0035	0.5801		343.96	343.96	0.28		No
SLV 8	3.66	-420.02	-1551	-0.0000571	0.0005615	0.0035	0.5801		667	667	1.59		Si
SLV 8	5.66	349.42	-686	-0.0039251	0.0005615	0.0035	0.5801		276.05	276.05	0.79		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	3.66	989.33	-11555	-9731	1312	0.7251	0.7251	-44730	10833	3293	38062	6514	1849	8363	No	6.38	Si
SLU 84	5.66	-657.97	-11662	-9821	2317	0.7251	0.7251	-45144	10833	3317	38062	6514	1849	8363	No	3.61	Si
SLU 83	3.66	982.05	-11486	-9672	1313	0.7251	0.7251	-44461	10833	3277	38062	6514	1849	8363	No	6.37	Si
SLU 83	5.66	-655.39	-11616	-9782	2309	0.7251	0.7251	-44964	10833	3306	38062	6514	1849	8363	No	3.62	Si
SLU 75	3.66	943.85	-11213	-9443	1228	0.7251	0.7251	-43408	10833	3216	38062	6514	1849	8363	No	6.81	Si
SLU 75	5.66	-622.46	-11232	-9459	2205	0.7251	0.7251	-43481	10833	3220	38062	6514	1849	8363	No	3.79	Si
SLU 74	3.66	936.57	-11144	-9384	1229	0.7251	0.7251	-43138	10833	3201	38062	6514	1849	8363	No	6.81	Si
SLU 74	5.66	-619.88	-11186	-9420	2196	0.7251	0.7251	-43301	10833	3210	38062	6514	1849	8363	No	3.81	Si
SLU 79	3.66	941.85	-11181	-9416	1240	0.7251	0.7251	-43282	10833	3209	38062	6514	1849	8363	No	6.75	Si
SLU 79	5.66	-628.15	-11271	-9492	2226	0.7251	0.7251	-43632	10833	3229	38062	6514	1849	8363	No	3.76	Si
SLU 81	3.66	970.39	-11376	-9580	1291	0.7251	0.7251	-44038	10833	3253	38062	6514	1849	8363	No	6.48	Si
SLU 81	5.66	-642.49	-11452	-9644	2263	0.7251	0.7251	-44330	10833	3270	38062	6514	1849	8363	No	3.7	Si
SLU 77	3.66	948.23	-11253	-9476	1251	0.7251	0.7251	-43561	10833	3225	38062	6514	1849	8363	No	6.69	Si
SLU 77	5.66	-632.77	-11350	-9558	2242	0.7251	0.7251	-43936	10833	3247	38062	6514	1849	8363	No	3.73	Si
SLU 82	3.66	977.67	-11446	-9639	1290	0.7251	0.7251	-44308	10833	3268	38062	6514	1849	8363	No	6.48	Si
SLU 82	5.66	-645.07	-11498	-9683	2271	0.7251	0.7251	-44509	10833	3280	38062	6514	1849	8363	No	3.68	Si
SLU 78	3.66	955.51	-11323	-9535	1250	0.7251	0.7251	-43830	10833	3241	38062	6514	1849	8363	No	6.69	Si
SLU 78	5.66	-635.35	-11396	-9597	2250	0.7251	0.7251	-44115	10833	3257	38062	6514	1849	8363	No	3.72	Si
SLU 80	3.66	949.13	-11251	-9474	1238	0.7251	0.7251	-43551	10833	3225	38062	6514	1849	8363	No	6.75	Si
SLU 80	5.66	-630.74	-11318	-9531	2234	0.7251	0.7251	-43811	10833	3240	38062	6514	1849	8363	No	3.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	3.66	-762.33	-8742	-7362	-4518	0.7251	0.7251	-33840	16250	3535	38062	9771	1849	11620		2.57	Si
SLV 4	5.66	1208.65	-880	-741	-3421	0.5801	0	0	0	0	38062	7817	1479	9296		2.72	Si
SLD 15	3.66	1271.47	-4414	-3717	4131	0.7251	0.2235	-57434	16250	2038	38062	9771	1849	11620		2.81	Si
SLD 15	5.66	-1343.36	-9962	-8389	4296	0.7251	0.6832	-41918	16250	3330	38062	9771	1849	11620		2.71	Si
SLD 14	3.66	1370.76	-7344	-6185	3580	0.7251	0.5278	-28429	16103	2696	38062	9771	1849	11620		3.25	Si
SLD 14	5.66	-1261.07	-11275	-9495	4043	0.7251	0.7251	-43647	16250	3579	38062	9771	1849	11620		2.87	Si
SLV 16	3.66	1417	-2971	-2502	5098	0.5801	0	0	0	0	38062	7817	1479	9296		1.82	Si
SLV 16	5.66	-1603.89	-10355	-8720	5091	0.7251	0.623	-47977	16250	3372	38062	9771	1849	11620		2.28	Si
SLD 16	3.66	1143.02	-4800	-4042	3548	0.7251	0.3733	-18581	14133	2125	38062	9771	1849	11620		3.28	Si
SLD 16	5.66	-1176.55	-9448	-7957	3794	0.7251	0.7141	-36575	16250	3481	38062	9771	1849	11620		3.06	Si
SLV 15	3.66	1619.48	-2362	-1989	6016	0.5801	0	0	0	0	38062	7817	1479	9296		1.55	Si
SLV 15	5.66	-1866.82	-11164	-9402	5881	0.7251	0.5861	-55272	16250	3554	38062	9771	1849	11620		1.98	Si
SLD 13	3.66	1499.22	-6958	-5859	4162	0.7251	0.4413	-26933	15803	2610	38062	9771	1849	11620		2.79	Si
SLD 13	5.66	-1427.88	-11789	-9928	4544	0.7251	0.7244	-45636	16250	3695	38062	9771	1849	11620		2.56	Si
SLV 2	3.66	-373.57	-13088	-11022	-4467	0.7251	0.7251	-50666	16250	3986	38062	9771	1849	11620		2.6	Si
SLV 2	5.66	1064.53	-4003	-3371	-2997	0.7251	0.2898	-15494	13515	1946	38062	9771	1849	11620		3.88	Si
SLV 14	3.66	1805.75	-7318	-6162	5149	0.7251	0.3474	-28327	16082	2690	38062	9771	1849	11620		2.26	Si
SLV 14	5.66	-1748	-13477	-11349	5516	0.7251	0.6986	-52170	16250	4074	38062	9771	1849	11620		2.11	Si
SLV 13	3.66	2008.23	-6708	-5649	6068	0.7251	0.1896	-110809	16250	2554	38062	9771	1849	11620		1.92	Si
SLV 13	5.66	-2010.93	-14287	-12031	6306	0.7251	0.6654	-62727	16250	4255	38062	9771	1849	11620		1.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.41 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.34	5888	-1281	66.21	184.71	2.79	Si
SLV 12	179667	0.34	6221	-1353	66.21	194.72	2.94	Si
SLV 7	179667	0.34	6582	-1432	66.21	205.51	3.1	Si
SLV 8	179667	0.34	6915	-1504	66.21	215.42	3.25	Si
SLV 15	179667	0.34	21530	-4684	66.21	603.5	9.11	Si
SLV 16	179667	0.34	22025	-4791	66.21	615.05	9.29	Si
SLV 3	179667	0.34	23844	-5187	66.21	656.57	9.92	Si
SLV 4	179667	0.34	24339	-5295	66.21	667.63	10.08	Si
SLV 13	179667	0.34	35701	-7766	66.21	892.63	13.48	Si
SLV 14	179667	0.34	36196	-7874	66.21	901.18	13.61	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.41 Wa = 0.05 Ta = 0.0643

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-10110	-12157	1	0.425	1133.5	0.972	6.35179	4.57006	Si
SLV 14	-9626	-11689	1	0.443	1084.2	0.971	6.62783	4.57006	Si
SLV 9	-10644	-14800	17	0.405	1187.8	0.973	6.05501	4.00004	Si
SLV 10	-10318	-14485	16	0.416	1154.6	0.972	6.21984	4.00004	Si
SLV 15	-7833	-8092	-9	0.526	901.7	0.965	7.91726	4.57006	Si
SLV 5	-8892	-13066	20	0.471	1009.4	0.969	7.07026	4.00004	Si
SLV 6	-8566	-12752	20	0.486	976.3	0.968	7.30402	4.00004	Si
SLV 16	-7349	-7624	-9	0.555	852.4	0.963	8.37091	4.57006	Si
SLV 1	-4271	-6378	14	0.872	539.6	0.945	13.41839	4.57006	Si
SLV 2	-3787	-5910	14	0.962	490.5	0.94	14.87699	4.57006	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.708	SLU 84	Si
V_SLU	3.61	SLU 84	Si
PF_SLV	0	SLV 11	No
V_SLV	1.545	SLV 15	Si
PFFP_SLV	2.79	SLV 11	Si
R_SLV	1.39	SLV 13	Si

Maschio 273

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 611 cm	Z medio 959 cm	0.745	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	7.06	732.96	-8231	-0.000106	0.0003743	0.0035	0.745	1957.01	2305.36	2305.36	3.15	No	Si
SLU 82	9.06	-206.62	-6406	-0.0000576	0.0003743	0.0035	0.745	1714.48	2035.65	2035.65	9.85	No	Si
SLU 78	7.06	735.07	-8342	-0.0001071	0.0003743	0.0035	0.745	1968.18	2325.36	2325.36	3.16	No	Si
SLU 78	9.06	-202.26	-6545	-0.0000584	0.0003743	0.0035	0.745	1736.69	2064.83	2064.83	10.21	No	Si
SLU 83	7.06	743.4	-8373	-0.000108	0.0003743	0.0035	0.745	1971.26	2329.74	2329.74	3.13	No	Si
SLU 83	9.06	-209.2	-6548	-0.0000589	0.0003743	0.0035	0.745	1737.23	2065.5	2065.5	9.87	No	Si
SLU 81	7.06	727.79	-8209	-0.0001054	0.0003743	0.0035	0.745	1954.65	2300.69	2300.69	3.16	No	Si
SLU 81	9.06	-203.67	-6393	-0.0000573	0.0003743	0.0035	0.745	1712.29	2032.55	2032.55	9.98	No	Si
SLU 84	7.06	748.57	-8396	-0.0001085	0.0003743	0.0035	0.745	1973.5	2332.95	2332.95	3.12	No	Si
SLU 84	9.06	-212.15	-6561	-0.0000591	0.0003743	0.0035	0.745	1739.35	2068.15	2068.15	9.75	No	Si
SLU 42	7.06	658.16	-7140	-0.0000915	0.0003743	0.0035	0.745	1825.1	2061.15	2061.15	3.13	No	Si
SLU 42	9.06	-204.42	-5597	-0.0000512	0.0003743	0.0035	0.745	1572.05	1845.33	1845.33	9.03	No	Si
SLU 39	7.06	637.39	-6953	-0.0000885	0.0003743	0.0035	0.745	1798.55	2019.74	2019.74	3.17	No	Si
SLU 39	9.06	-195.94	-5428	-0.0000494	0.0003743	0.0035	0.745	1539.66	1803.85	1803.85	9.21	No	Si
SLU 41	7.06	652.99	-7117	-0.0000909	0.0003743	0.0035	0.745	1821.92	2056.08	2056.08	3.15	No	Si
SLU 41	9.06	-201.47	-5584	-0.0000509	0.0003743	0.0035	0.745	1569.5	1842.04	1842.04	9.14	No	Si
SLU 36	7.06	644.67	-7086	-0.0000901	0.0003743	0.0035	0.745	1817.55	2049.16	2049.16	3.18	No	Si
SLU 36	9.06	-194.53	-5580	-0.0000504	0.0003743	0.0035	0.745	1568.85	1841.2	1841.2	9.46	No	Si
SLU 40	7.06	642.55	-6976	-0.0000891	0.0003743	0.0035	0.745	1801.84	2024.77	2024.77	3.15	No	Si
SLU 40	9.06	-198.89	-5442	-0.0000496	0.0003743	0.0035	0.745	1542.27	1807.16	1807.16	9.09	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.06	-980.24	-4202	-0.0001067	0.0005615	0.0035	0.596		1545.04	1545.04	1.58		Si
SLV 3	9.06	1241.55	-4950	-0.000149	0.0005615	0.0035	0.745		1645.32	1645.32	1.33		Si
SLD 15	7.06	1393.57	-5431	-0.0001754	0.0005615	0.0035	0.745		1775.93	1775.93	1.27		Si
SLD 15	9.06	-1057.99	-2940	-0.0005085	0.0005615	0.0035	0.596		1148.53	1148.53	1.09		Si
SLV 15	7.06	1901.83	-5265	-0.0085482	0.0005615	0.0035	0.596		1730.82	1730.82	0.91		No
SLV 15	9.06	-1586.31	-2097	-0.0067699	0.0005615	0.0035	0.596		869.17	869.17	0.55		No
SLV 13	7.06	2187.62	-7065	-0.0007441	0.0005615	0.0035	0.745		2230.5	2230.5	1.02		Si
SLV 13	9.06	-1729.33	-3445	-0.0049926	0.0005615	0.0035	0.596		1309.9	1309.9	0.76		No
SLV 14	7.06	1917.27	-6970	-0.0002978	0.0005615	0.0035	0.745		2203.5	2203.5	1.15		Si
SLV 14	9.06	-1459.28	-3720	-0.0017093	0.0005615	0.0035	0.596		1397.45	1397.45	0.96		No
SLV 16	7.06	1631.47	-5170	-0.0004258	0.0005615	0.0035	0.745		1704.94	1704.94	1.05		Si
SLV 16	9.06	-1316.26	-2372	-0.0037	0.0005615	0.0035	0.596		961.7	961.7	0.73		No
SLD 16	7.06	1222.05	-5370	-0.000134	0.0005615	0.0035	0.745		1759.44	1759.44	1.44		Si
SLD 16	9.06	-886.66	-3114	-0.0001264	0.0005615	0.0035	0.596		1204.42	1204.42	1.36		Si
SLV 4	7.06	-1250.6	-4107	-0.0002315	0.0005615	0.0035	0.596		1516.29	1516.29	1.21		Si
SLV 4	9.06	1511.6	-5225	-0.0002507	0.0005615	0.0035	0.745		1719.83	1719.83	1.14		Si
SLV 8	7.06	-531.12	-2395	-0.0000539	0.0005615	0.0035	0.596		969.33	969.33	1.83		Si
SLV 8	9.06	644.57	-2609	-0.0000716	0.0005615	0.0035	0.745		947.52	947.52	1.47		Si
SLD 13	7.06	1560.81	-6483	-0.0001858	0.0005615	0.0035	0.745		2066.44	2066.44	1.32		Si
SLD 13	9.06	-1141.32	-3728	-0.0002113	0.0005615	0.0035	0.596		1399.98	1399.98	1.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.06	727.79	-8209	-6913	2230	0.745	0.745	-30929	10833	2561	38062	6693	1900	8592	No	3.85	Si
SLU 81	9.06	-203.67	-6393	-5383	152	0.745	0.745	-24087	10156	2270	38062	6693	1900	8592	No	56.37	Si
SLU 80	7.06	727.61	-8275	-6968	2230	0.745	0.745	-31177	10833	2575	38062	6693	1900	8592	No	3.85	Si
SLU 80	9.06	-198.17	-6488	-5464	131	0.745	0.745	-24446	10204	2281	38062	6693	1900	8592	No	65.83	Si
SLU 75	7.06	719.47	-8177	-6886	2200	0.745	0.745	-30811	10833	2554	38062	6693	1900	8592	No	3.91	Si
SLU 75	9.06	-196.73	-6389	-5381	131	0.745	0.745	-24074	10154	2269	38062	6693	1900	8592	No	65.7	Si
SLU 78	7.06	735.07	-8342	-7025	2248	0.745	0.745	-31430	10833	2590	38062	6693	1900	8592	No	3.82	Si
SLU 78	9.06	-202.26	-6545	-5511	136	0.745	0.745	-24659	10232	2287	38062	6693	1900	8592	No	63.35	Si
SLU 76	7.06	715.45	-8125	-6842	2190	0.745	0.745	-30615	10833	2542	38062	6693	1900	8592	No	3.92	Si
SLU 76	9.06	-194.61	-6342	-5340	128	0.745	0.745	-23895	10130	2264	38062	6693	1900	8592	No	67.22	Si
SLU 83	7.06	743.4	-8373	-7051	2279	0.745	0.745	-31548	10833	2597	38062	6693	1900	8592	No	3.77	Si
SLU 83	9.06	-209.2	-6548	-5514	157	0.745	0.745	-24672	10234	2287	38062	6693	1900	8592	No	54.63	Si
SLU 77	7.06	729.91	-8319	-7005	2237	0.745	0.745	-31345	10833	2585	38062	6693	1900	8592	No	3.84	Si
SLU 77	9.06	-199.31	-6531	-5500	132	0.745	0.745	-24608	10226	2285	38062	6693	1900	8592	No	64.89	Si
SLU 84	7.06	748.57	-8396	-7070	2291	0.745	0.745	-31634	10833	2603	38062	6693	1900	8592	No	3.75	Si
SLU 84	9.06	-212.15	-6561	-5525	161	0.745	0.745	-24722	10241	2289	38062	6693	1900	8592	No	53.53	Si
SLU 79	7.06	722.45	-8252	-6949	2218	0.745	0.745	-31091	10833	2570	38062	6693	1900	8592	No	3.87	Si
SLU 79	9.06	-195.22	-6475	-5452	127	0.745	0.745	-24395	10197	2279	38062	6693	1900	8592	No	67.5	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	7.06	732.96	-8231	-6932	2242	0.745	0.745	-31015	10833	2566	38062	6693	1900	8592	No	3.83	Si
SLU 82	9.06	-206.62	-6406	-5395	156	0.745	0.745	-24138	10163	2271	38062	6693	1900	8592	No	55.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	7.06	1901.83	-5265	-4434	5139	0.596	0.0339	0	0	0	38062	8031	1520	9551		1.86	Si
SLV 15	9.06	-1586.31	-2097	-1766	3085	0.596	0	0	0	0	38062	8031	1520	9551		3.1	Si
SLD 14	7.06	1389.3	-6422	-5408	3776	0.745	0.4685	-24198	15256	2518	38062	10039	1900	11939		3.16	Si
SLD 14	9.06	-970	-3902	-3286	1764	0.596	0.3718	0	0	0	38062	8031	1520	9551		5.42	Si
SLV 16	7.06	1631.47	-5170	-4354	4439	0.745	0.1708	-91110	16250	2237	38062	10039	1900	11939		2.69	Si
SLV 16	9.06	-1316.26	-2372	-1997	2532	0.596	0	0	0	0	38062	8031	1520	9551		3.77	Si
SLD 13	7.06	1560.81	-6483	-5459	4220	0.745	0.3952	-24426	15302	2532	38062	10039	1900	11939		2.83	Si
SLD 13	9.06	-1141.32	-3728	-3139	2115	0.596	0.199	0	0	0	38062	8031	1520	9551		4.52	Si
SLV 13	7.06	2187.62	-7065	-5950	5812	0.745	0.1886	-121370	16250	2662	38062	10039	1900	11939		2.05	Si
SLV 13	9.06	-1729.33	-3445	-2901	3297	0.596	0	0	0	0	38062	8031	1520	9551		2.9	Si
SLD 15	7.06	1393.57	-5431	-4573	3827	0.745	0.3477	-20463	14509	2295	38062	10039	1900	11939		3.12	Si
SLD 15	9.06	-1057.99	-2940	-2476	1990	0.596	0.0378	0	0	0	38062	8031	1520	9551		4.8	Si
SLV 10	7.06	1286.15	-8713	-7338	3432	0.745	0.6747	-32831	16250	3289	38062	10039	1900	11939		3.48	Si
SLV 10	9.06	-680.52	-6246	-5260	1065	0.745	0.745	-23533	15123	3380	38062	10039	1900	11939		11.21	Si
SLV 4	7.06	-1250.6	-4107	-3459	-2930	0.596	0.204	0	0	0	38062	8031	1520	9551		3.26	Si
SLV 4	9.06	1511.6	-5225	-4400	-3229	0.745	0.2496	-61075	16250	2249	38062	10039	1900	11939		3.7	Si
SLV 9	7.06	1468.14	-8778	-7392	3903	0.745	0.6157	-33072	16250	3047	38062	10039	1900	11939		3.06	Si
SLV 9	9.06	-862.3	-6061	-5104	1438	0.745	0.6907	-22835	14984	3105	38062	10039	1900	11939		8.3	Si
SLV 14	7.06	1917.27	-6970	-5869	5112	0.745	0.2923	-26262	15669	2641	38062	10039	1900	11939		2.34	Si
SLV 14	9.06	-1459.28	-3720	-3133	2744	0.596	0	0	0	0	38062	8031	1520	9551		3.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.85 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.41	10244	-2290	86.79	320.39	3.69	Si
SLV 7	179667	0.41	10336	-2310	86.79	323.05	3.72	Si
SLV 12	179667	0.41	10675	-2386	86.79	332.85	3.84	Si
SLV 11	179667	0.41	10766	-2406	86.79	335.49	3.87	Si
SLV 4	179667	0.41	18963	-4238	86.79	556.79	6.42	Si
SLV 3	179667	0.41	19099	-4269	86.79	560.22	6.45	Si
SLV 16	179667	0.41	20398	-4559	86.79	592.51	6.83	Si
SLV 15	179667	0.41	20535	-4589	86.79	595.85	6.87	Si
SLV 2	179667	0.41	26886	-6009	86.79	742.66	8.56	Si
SLV 1	179667	0.41	27022	-6039	86.79	745.62	8.59	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.85 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-6222	-6182	14	0.65	743.2	0.957	9.87567	4.70681	Si
SLV 13	-5281	-2792	14	0.745	647.6	0.951	11.39264	5.41575	Si
SLV 10	-6110	-6450	14	0.66	731.8	0.956	10.03321	4.70681	Si
SLV 14	-5115	-3191	14	0.765	630.8	0.95	11.71308	5.41575	Si
SLV 5	-5699	-7487	8	0.701	690.1	0.954	10.67655	4.70681	Si
SLV 6	-5588	-7756	8	0.712	678.7	0.953	10.86237	4.70681	Si
SLV 15	-3929	-1249	8	0.952	510.5	0.94	14.72048	5.41575	Si
SLV 16	-3763	-1647	8	0.986	493.7	0.938	15.27095	5.41575	Si
SLV 1	-3540	-7144	-7	1.036	471.1	0.936	16.08846	5.41575	Si
SLV 2	-3374	-7543	-7	1.076	454.3	0.934	16.75268	5.41575	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.117	SLU 84	Si
V_SLU	3.751	SLU 84	Si
PF_SLV	0.548	SLV 15	No
V_SLV	1.858	SLV 15	Si
PFFP_SLV	3.691	SLV 8	Si
R_SLV	2.098	SLV 9	Si

Maschio 274

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 611 cm	Z medio 959 cm	0.725	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	7.06	326.39	-6361	-0.000067	0.0003743	0.0035	0.725	1643.42	1826.35	1826.35	5.6	No	Si
SLU 42	9.06	-518.95	-6836	-0.0000835	0.0003743	0.0035	0.725	1713.12	2045.52	2045.52	3.94	No	Si
SLU 83	7.06	354.03	-7521	-0.0000786	0.0003743	0.0035	0.725	1800.34	2077.92	2077.92	5.87	No	Si
SLU 83	9.06	-580.9	-7937	-0.0000975	0.0003743	0.0035	0.725	1845.89	2231.41	2231.41	3.84	No	Si
SLU 81	7.06	344.67	-7396	-0.0000769	0.0003743	0.0035	0.725	1785.54	2050.13	2050.13	5.95	No	Si
SLU 81	9.06	-567.08	-7744	-0.0000948	0.0003743	0.0035	0.725	1825.47	2197.53	2197.53	3.88	No	Si
SLU 78	7.06	337.29	-7488	-0.0000772	0.0003743	0.0035	0.725	1796.55	2070.69	2070.69	6.14	No	Si
SLU 78	9.06	-567.78	-7897	-0.0000963	0.0003743	0.0035	0.725	1841.78	2224.39	2224.39	3.92	No	Si
SLU 82	7.06	345.8	-7413	-0.0000771	0.0003743	0.0035	0.725	1787.62	2053.97	2053.97	5.94	No	Si
SLU 82	9.06	-570.32	-7762	-0.0000952	0.0003743	0.0035	0.725	1827.42	2200.66	2200.66	3.86	No	Si
SLU 75	7.06	327.94	-7363	-0.0000755	0.0003743	0.0035	0.725	1781.62	2042.95	2042.95	6.23	No	Si
SLU 75	9.06	-553.96	-7704	-0.0000936	0.0003743	0.0035	0.725	1821.11	2190.62	2190.62	3.95	No	Si
SLU 79	7.06	333.31	-7415	-0.0000763	0.0003743	0.0035	0.725	1787.9	2054.48	2054.48	6.16	No	Si
SLU 79	9.06	-559.18	-7813	-0.0000949	0.0003743	0.0035	0.725	1832.93	2209.61	2209.61	3.95	No	Si
SLU 84	7.06	355.15	-7538	-0.0000788	0.0003743	0.0035	0.725	1802.35	2081.78	2081.78	5.86	No	Si
SLU 84	9.06	-584.14	-7955	-0.0000979	0.0003743	0.0035	0.725	1847.72	2234.59	2234.59	3.83	No	Si
SLU 80	7.06	334.44	-7433	-0.0000765	0.0003743	0.0035	0.725	1789.97	2058.32	2058.32	6.15	No	Si
SLU 80	9.06	-562.42	-7831	-0.0000953	0.0003743	0.0035	0.725	1834.83	2212.75	2212.75	3.93	No	Si
SLU 77	7.06	336.16	-7471	-0.000077	0.0003743	0.0035	0.725	1794.52	2066.84	2066.84	6.15	No	Si
SLU 77	9.06	-564.53	-7879	-0.0000959	0.0003743	0.0035	0.725	1839.91	2221.23	2221.23	3.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	7.06	1554.53	-4280	-0.0083925	0.0005615	0.0035	0.58		1416.76	1416.76	0.91		No
SLV 14	9.06	-1476.57	-9388	-0.0001705	0.0005615	0.0035	0.725		2818.29	2818.29	1.91		Si
SLV 15	7.06	1771.28	-2307	-0.0411815	0.0005615	0.0035	0.58		822.28	822.28	0.46		No
SLV 15	9.06	-1516.64	-8443	-0.0001723	0.0005615	0.0035	0.725		2609.35	2609.35	1.72		Si
SLV 2	7.06	-1379.7	-7883	-0.0001547	0.0005615	0.0035	0.725		2479.22	2479.22	1.8		Si
SLV 2	9.06	813.12	-1890	-0.0077035	0.0005615	0.0035	0.58		685.62	685.62	0.84		No
SLV 13	7.06	1832.8	-3876	-0.0230424	0.0005615	0.0035	0.58		1308.73	1308.73	0.71		No
SLV 13	9.06	-1695.66	-10039	-0.0001977	0.0005615	0.0035	0.725		2942.25	2942.25	1.74		Si
SLV 3	7.06	-1162.94	-5910	-0.0001284	0.0005615	0.0035	0.725		1980.91	1980.91	1.7		Si
SLV 3	9.06	773.05	-945	-0.0186899	0.0005615	0.0035	0.58		366.55	366.55	0.47		No
SLV 16	7.06	1493.01	-2711	-0.0244608	0.0005615	0.0035	0.58		952.43	952.43	0.64		No
SLV 16	9.06	-1297.55	-7792	-0.0001451	0.0005615	0.0035	0.725		2457.92	2457.92	1.89		Si
SLD 15	7.06	1205.66	-3356	-0.0058112	0.0005615	0.0035	0.58		1154.58	1154.58	0.96		No
SLD 15	9.06	-1101.79	-7307	-0.0001238	0.0005615	0.0035	0.725		2340.1	2340.1	2.12		Si
SLV 4	7.06	-1441.21	-6314	-0.0001759	0.0005615	0.0035	0.58		2088.48	2088.48	1.45		Si
SLV 4	9.06	992.14	-294	-0.0384318	0.0005615	0.0035	0.58		138.12	138.12	0.14		No
SLV 11	7.06	627.06	-1803	-0.0004936	0.0005615	0.0035	0.58		656.87	656.87	1.05		Si
SLV 11	9.06	-470.58	-3851	-0.0000544	0.0005615	0.0035	0.725		1397.13	1397.13	2.97		Si
SLD 13	7.06	1241.5	-4273	-0.0002333	0.0005615	0.0035	0.725		1414.99	1414.99	1.14		Si
SLD 13	9.06	-1206.54	-8239	-0.0001385	0.0005615	0.0035	0.725		2562.25	2562.25	2.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.06	327.94	-7363	-6201	109	0.725	0.725	-28508	10746	2351	38062	6513	1849	8362	No	76.7	Si
SLU 75	9.06	-553.96	-7704	-6488	2089	0.725	0.725	-29828	10833	2428	38062	6513	1849	8362	No	4	Si
SLU 80	7.06	334.44	-7433	-6259	109	0.725	0.725	-28777	10781	2367	38062	6513	1849	8362	No	76.75	Si
SLU 80	9.06	-562.42	-7831	-6594	2132	0.725	0.725	-30319	10833	2456	38062	6513	1849	8362	No	3.92	Si
SLU 74	7.06	326.81	-7346	-6186	106	0.725	0.725	-28441	10737	2348	38062	6513	1849	8362	No	78.69	Si
SLU 74	9.06	-550.72	-7686	-6473	2079	0.725	0.725	-29759	10833	2424	38062	6513	1849	8362	No	4.02	Si
SLU 84	7.06	355.15	-7538	-6348	143	0.725	0.725	-29185	10833	2391	38062	6513	1849	8362	No	58.46	Si
SLU 84	9.06	-584.14	-7955	-6699	2189	0.725	0.725	-30799	10833	2484	38062	6513	1849	8362	No	3.82	Si
SLU 81	7.06	344.67	-7396	-6228	136	0.725	0.725	-28634	10762	2359	38062	6513	1849	8362	No	61.59	Si
SLU 81	9.06	-567.08	-7744	-6521	2116	0.725	0.725	-29982	10833	2437	38062	6513	1849	8362	No	3.95	Si
SLU 82	7.06	345.8	-7413	-6242	139	0.725	0.725	-28701	10771	2363	38062	6513	1849	8362	No	60.37	Si
SLU 82	9.06	-570.32	-7762	-6536	2126	0.725	0.725	-30051	10833	2441	38062	6513	1849	8362	No	3.93	Si
SLU 77	7.06	336.16	-7471	-6291	111	0.725	0.725	-28926	10801	2376	38062	6513	1849	8362	No	75.48	Si
SLU 77	9.06	-564.53	-7879	-6635	2142	0.725	0.725	-30506	10833	2467	38062	6513	1849	8362	No	3.9	Si
SLU 79	7.06	333.31	-7415	-6244	106	0.725	0.725	-28710	10772	2363	38062	6513	1849	8362	No	78.74	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	9.06	-559.18	-7813	-6579	2123	0.725	0.725	-30250	10833	2452	38062	6513	1849	8362	No	3.94	Si
SLU 78	7.06	337.29	-7488	-6306	114	0.725	0.725	-28993	10810	2380	38062	6513	1849	8362	No	73.65	Si
SLU 78	9.06	-567.78	-7897	-6650	2152	0.725	0.725	-30575	10833	2471	38062	6513	1849	8362	No	3.89	Si
SLU 83	7.06	354.03	-7521	-6333	140	0.725	0.725	-29118	10827	2387	38062	6513	1849	8362	No	59.61	Si
SLU 83	9.06	-580.9	-7937	-6684	2179	0.725	0.725	-30729	10833	2480	38062	6513	1849	8362	No	3.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	7.06	1493.01	-2711	-2283	3059	0.58	0	0	0	0	38062	7816	1479	9295		3.04	Si
SLV 16	9.06	-1297.55	-7792	-6562	4789	0.725	0.5879	-37982	16250	2866	38062	9769	1849	11618		2.43	Si
SLD 15	7.06	1205.66	-3356	-2826	2391	0.58	0.0097	0	0	0	38062	7816	1479	9295		3.89	Si
SLD 15	9.06	-1101.79	-7307	-6153	4059	0.725	0.6352	-32872	16250	3096	38062	9769	1849	11618		2.86	Si
SLV 2	7.06	-1379.7	-7883	-6638	-3674	0.725	0.5624	-40239	16250	2817	38062	9769	1849	11618		3.16	Si
SLV 2	9.06	813.12	-1890	-1592	-2881	0.58	0	0	0	0	38062	7816	1479	9295		3.23	Si
SLV 13	7.06	1832.8	-3876	-3264	3859	0.58	0	0	0	0	38062	7816	1479	9295		2.41	Si
SLV 13	9.06	-1695.66	-10039	-8454	6093	0.725	0.5808	-49946	16250	3301	38062	9769	1849	11618		1.91	Si
SLD 14	7.06	1064.96	-4530	-3814	2056	0.725	0.3822	-17538	13924	2064	38062	9769	1849	11618		5.65	Si
SLD 14	9.06	-1067.55	-7826	-6591	3872	0.725	0.6783	-32972	16250	3307	38062	9769	1849	11618		3	Si
SLV 15	7.06	1771.28	-2307	-1943	3718	0.58	0	0	0	0	38062	7816	1479	9295		2.5	Si
SLV 15	9.06	-1516.64	-8443	-7110	5568	0.725	0.5486	-44308	16250	2943	38062	9769	1849	11618		2.09	Si
SLV 4	7.06	-1441.21	-6314	-5317	-3815	0.58	0.4027	0	0	0	38062	7816	1479	9295		2.44	Si
SLV 4	9.06	992.14	-294	-248	-3407	0.58	0	0	0	0	38062	7816	1479	9295		2.73	Si
SLV 9	7.06	832.11	-7034	-5923	1509	0.725	0.725	-27234	15863	3450	38062	9769	1849	11618		7.7	Si
SLV 9	9.06	-1067.32	-9170	-7722	3711	0.725	0.725	-35505	16250	3534	38062	9769	1849	11618		3.13	Si
SLV 14	7.06	1554.53	-4280	-3604	3199	0.58	0	0	0	0	38062	7816	1479	9295		2.91	Si
SLV 14	9.06	-1476.57	-9388	-7906	5315	0.725	0.6157	-43888	16250	3155	38062	9769	1849	11618		2.19	Si
SLD 13	7.06	1241.5	-4273	-3599	2474	0.725	0.2159	-57547	16250	2007	38062	9769	1849	11618		4.7	Si
SLD 13	9.06	-1206.54	-8239	-6938	4366	0.725	0.6482	-36403	16250	3160	38062	9769	1849	11618		2.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.85 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.41	8501	-1849	84.46	261.9	3.1	Si
SLV 12	179667	0.41	9278	-2018	84.46	284.3	3.37	Si
SLV 7	179667	0.41	11485	-2498	84.46	346.51	4.1	Si
SLV 8	179667	0.41	12262	-2667	84.46	367.91	4.36	Si
SLV 15	179667	0.41	12787	-2781	84.46	382.25	4.53	Si
SLV 16	179667	0.41	13941	-3032	84.46	413.31	4.89	Si
SLV 13	179667	0.41	19607	-4264	84.46	557.54	6.6	Si
SLV 14	179667	0.41	20761	-4515	84.46	585.24	6.93	Si
SLV 3	179667	0.41	22733	-4944	84.46	631.27	7.47	Si
SLV 4	179667	0.41	23887	-5195	84.46	657.42	7.78	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.85 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-6735	-7365	-3	0.596	792.4	0.96	9.01966	5.41575	Si
SLV 14	-6355	-7136	-3	0.626	753.8	0.958	9.48927	5.41575	Si
SLV 15	-5707	-5602	-8	0.684	687.9	0.955	10.41401	5.41575	Si
SLV 9	-6290	-8308	8	0.63	747.2	0.958	9.56432	4.70681	Si
SLV 16	-5327	-5373	-8	0.724	649.2	0.952	11.05826	5.41575	Si
SLV 10	-6034	-8154	8	0.653	721.1	0.956	9.91849	4.70681	Si
SLV 5	-4933	-7385	12	0.771	609.3	0.949	11.80946	4.70681	Si
SLV 6	-4677	-7231	12	0.806	583.3	0.947	12.36803	4.70681	Si
SLV 11	-2862	-2431	-8	1.198	399.6	0.928	18.76904	4.70681	Si
SLV 1	-2212	-4289	12	1.457	334.3	0.917	23.07357	5.41575	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.825	SLU 84	Si
V_SLU	3.82	SLU 84	Si
PF_SLV	0.139	SLV 4	No
V_SLV	1.907	SLV 13	Si
PFFP_SLV	3.101	SLV 11	Si
R_SLV	1.665	SLV 13	Si

Maschio 278

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.709	-13.763	-4.709	L2	L3	2.75	0.45	1.95	1.95	1.95			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.95	-5974.48	-14205	-0.0000343	0.0003743	0.0035	2.75	17329.96	21962.72	21962.72	3.68	No	Si
SLU 82	0	2536.79	-23513	-0.0000371	0.0003743	0.0035	2.75	26296.61	27807.3	27807.3	10.96	No	Si
SLU 74	-1.95	-5744.47	-13565	-0.0000328	0.0003743	0.0035	2.75	16643.66	21234.93	21234.93	3.7	No	Si
SLU 74	0	2439.15	-22349	-0.0000352	0.0003743	0.0035	2.75	25278.61	26581.49	26581.49	10.9	No	Si
SLU 80	-1.95	-5818.29	-13765	-0.0000333	0.0003743	0.0035	2.75	16858.57	21464.05	21464.05	3.69	No	Si
SLU 80	0	2516.21	-22563	-0.0000357	0.0003743	0.0035	2.75	25468.41	26806.57	26806.57	10.65	No	Si
SLU 77	-1.95	-5787.4	-13631	-0.000033	0.0003743	0.0035	2.75	16715.08	21311.97	21311.97	3.68	No	Si
SLU 77	0	2499.57	-22519	-0.0000356	0.0003743	0.0035	2.75	25429.78	26760.63	26760.63	10.71	No	Si
SLU 78	-1.95	-5846.43	-13817	-0.0000334	0.0003743	0.0035	2.75	16915.33	21524.17	21524.17	3.68	No	Si
SLU 78	0	2543.77	-22688	-0.000036	0.0003743	0.0035	2.75	25577.93	26937.17	26937.17	10.59	No	Si
SLU 75	-1.95	-5803.49	-13751	-0.0000332	0.0003743	0.0035	2.75	16844.18	21448.8	21448.8	3.7	No	Si
SLU 75	0	2483.35	-22517	-0.0000356	0.0003743	0.0035	2.75	25427.39	26757.8	26757.8	10.77	No	Si
SLU 81	-1.95	-5915.45	-14019	-0.0000339	0.0003743	0.0035	2.75	17131.28	21752.71	21752.71	3.68	No	Si
SLU 81	0	2492.59	-23345	-0.0000367	0.0003743	0.0035	2.75	26151.48	27629.79	27629.79	11.08	No	Si
SLU 79	-1.95	-5759.26	-13578	-0.0000329	0.0003743	0.0035	2.75	16658.1	21250.57	21250.57	3.69	No	Si
SLU 79	0	2472.02	-22395	-0.0000354	0.0003743	0.0035	2.75	25319.79	26630.2	26630.2	10.77	No	Si
SLU 84	-1.95	-6017.41	-14271	-0.0000345	0.0003743	0.0035	2.75	17400.45	22037.18	22037.18	3.66	No	Si
SLU 84	0	2597.21	-23684	-0.0000375	0.0003743	0.0035	2.75	26443.44	27987.89	27987.89	10.78	No	Si
SLU 83	-1.95	-5958.39	-14085	-0.0000341	0.0003743	0.0035	2.75	17202.04	21827.53	21827.53	3.66	No	Si
SLU 83	0	2553.01	-23516	-0.0000371	0.0003743	0.0035	2.75	26298.93	27810.15	27810.15	10.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	-1222.86	-5085	-0.0000095	0.0005615	0.0035	2.75		11094.35	11094.35	9.07		Si
SLV 3	0	-10479.27	-9681	-0.0000761	0.0005615	0.0035	2.2		16918.5	16918.5	1.61		Si
SLV 11	-1.95	-467.8	4467	0.1899654	0.0005615	0.0035	2.2		0	0	0		No
SLV 11	0	3593.68	5965	0.2461857	0.0005615	0.0035	2.2		0	0	0		No
SLV 8	-1.95	772.29	4565	0.1921157	0.0005615	0.0035	2.2		0	0	0		No
SLV 8	0	-5143.31	5208	0.2273288	0.0005615	0.0035	2.2		0	0	0		No
SLV 15	-1.95	-4580.74	-5414	-0.0000231	0.0005615	0.0035	2.2		11515.66	11515.66	2.51		Si
SLV 15	0	14183.28	-7702	-0.0106859	0.0005615	0.0035	2.75		10969.86	10969.86	0.77		No
SLD 11	-1.95	-1944.29	-1290	-0.0000509	0.0005615	0.0035	2.2		6109.12	6109.12	3.14		Si
SLD 11	0	2963.34	-2693	-0.0000221	0.0005615	0.0035	2.75		4430.31	4430.31	1.5		Si
SLV 4	-1.95	-877.13	-5086	-0.0000085	0.0005615	0.0035	2.75		11095.88	11095.88	12.65		Si
SLV 4	0	-12467.25	-9923	-0.0001653	0.0005615	0.0035	2.2		17221.94	17221.94	1.38		Si
SLV 7	-1.95	539.56	4566	0.1925427	0.0005615	0.0035	2.2		0	0	0		No
SLV 7	0	-3805.09	5371	0.2327643	0.0005615	0.0035	2.2		0	0	0		No
SLV 12	-1.95	-235.08	4467	0.1895735	0.0005615	0.0035	2.2		0	0	0		No
SLV 12	0	2255.46	5802	0.2418992	0.0005615	0.0035	2.2		0	0	0		No
SLV 16	-1.95	-4235.02	-5415	-0.0000206	0.0005615	0.0035	2.2		11517.18	11517.18	2.72		Si
SLV 16	0	12195.31	-7944	-0.0046671	0.0005615	0.0035	2.75		11278.38	11278.38	0.92		No
SLD 15	-1.95	-4424.31	-7088	-0.0000213	0.0005615	0.0035	2.75		13653.94	13653.94	3.09		Si
SLD 15	0	9672.62	-10657	-0.0000526	0.0005615	0.0035	2.75		14699.04	14699.04	1.52		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	-5803.49	-13751	-12223	-10770	2.75	2.75	-9877	8261	10846	42820	37056	7013	44069	No	4.09	Si
SLU 75	0	2483.35	-22517	-20015	-8008	2.75	2.75	-16174	9101	13963	42820	37056	7013	44069	No	5.5	Si
SLU 81	-1.95	-5915.45	-14019	-12461	-10926	2.75	2.75	-10070	8287	10942	42820	37056	7013	44069	No	4.03	Si
SLU 81	0	2492.59	-23345	-20751	-8219	2.75	2.75	-16768	9180	14257	42820	37056	7013	44069	No	5.36	Si
SLU 73	-1.95	-5771.77	-13756	-12228	-10703	2.75	2.75	-9881	8262	10848	42820	37056	7013	44069	No	4.12	Si
SLU 73	0	2424.83	-22334	-19852	-7923	2.75	2.75	-16042	9083	13898	42820	37056	7013	44069	No	5.56	Si
SLU 84	-1.95	-6017.41	-14271	-12686	-11191	2.75	2.75	-10251	8311	11031	42820	37056	7013	44069	No	3.94	Si
SLU 84	0	2597.21	-23684	-21052	-8387	2.75	2.75	-17012	9213	14378	42820	37056	7013	44069	No	5.25	Si
SLU 78	-1.95	-5846.43	-13817	-12282	-10875	2.75	2.75	-9925	8268	10870	42820	37056	7013	44069	No	4.05	Si
SLU 78	0	2543.77	-22688	-20167	-8096	2.75	2.75	-16296	9117	14024	42820	37056	7013	44069	No	5.44	Si
SLU 76	-1.95	-5814.7	-13822	-12287	-10808	2.75	2.75	-9929	8268	10872	42820	37056	7013	44069	No	4.08	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	0	2485.26	-22505	-20004	-8011	2.75	2.75	-16165	9100	13959	42820	37056	7013	44069	No	5.5	Si
SLU 82	-1.95	-5974.48	-14205	-12627	-11086	2.75	2.75	-10204	8305	11008	42820	37056	7013	44069	No	3.98	Si
SLU 82	0	2536.79	-23513	-20900	-8299	2.75	2.75	-16889	9196	14317	42820	37056	7013	44069	No	5.31	Si
SLU 77	-1.95	-5787.4	-13631	-12117	-10714	2.75	2.75	-9791	8250	10804	42820	37056	7013	44069	No	4.11	Si
SLU 77	0	2499.57	-22519	-20017	-8015	2.75	2.75	-16176	9101	13964	42820	37056	7013	44069	No	5.5	Si
SLU 83	-1.95	-5958.39	-14085	-12520	-11031	2.75	2.75	-10117	8293	10965	42820	37056	7013	44069	No	4	Si
SLU 83	0	2553.01	-23516	-20903	-8306	2.75	2.75	-16891	9197	14318	42820	37056	7013	44069	No	5.31	Si
SLU 80	-1.95	-5818.29	-13765	-12235	-10806	2.75	2.75	-9887	8263	10851	42820	37056	7013	44069	No	4.08	Si
SLU 80	0	2516.21	-22563	-20056	-8045	2.75	2.75	-16207	9105	13979	42820	37056	7013	44069	No	5.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	-8699.74	-23437	-20833	-23691	2.75	2.75	-16834	13784	17269	42820	55584	7013	60088		2.54	Si
SLV 9	0	8258.91	-35176	-31267	-16891	2.75	2.75	-25267	15470	21442	42820	55584	7013	62597		3.71	Si
SLV 14	-1.95	-6704.6	-13786	-12255	-26444	2.75	2.666	-10264	12470	14960	42820	55584	7013	57780		2.18	Si
SLV 14	0	13594.88	-20286	-18032	-22157	2.75	2.1145	-14571	13331	16148	42820	55584	7013	58968		2.66	Si
SLD 15	-1.95	-4424.31	-7088	-6301	-17528	2.75	2.2524	-6233	11663	11822	42820	55584	7013	54642		3.12	Si
SLD 15	0	9672.62	-10657	-9473	-15365	2.75	1.4022	-7655	11948	12725	42820	55584	7013	55545		3.61	Si
SLD 14	-1.95	-5652.45	-11995	-10662	-19368	2.75	2.7113	-8616	12140	14812	42820	55584	7013	57631		2.98	Si
SLD 14	0	9232.81	-18042	-16037	-16002	2.75	2.5898	-12959	13009	15351	42820	55584	7013	58170		3.64	Si
SLV 10	-1.95	-8467.02	-23438	-20833	-21804	2.75	2.75	-16835	13784	17269	42820	55584	7013	60089		2.76	Si
SLV 10	0	6920.69	-35339	-31412	-15344	2.75	2.75	-25384	15493	21500	42820	55584	7013	62597		4.08	Si
SLV 15	-1.95	-4580.74	-5414	-4812	-23078	2.2	1.5867	0	0	0	42820	44468	5610	42820		1.86	Si
SLV 15	0	14183.28	-7702	-6846	-20881	2.75	0	-153336	16250	11674	42820	55584	7013	54494		2.61	Si
SLV 4	-1.95	-877.13	-5086	-4521	14854	2.75	2.75	-3653	11147	13795	42820	55584	7013	56615		3.81	Si
SLV 4	0	-12467.25	-9923	-8821	13866	2.2	0.356	0	0	0	42820	44468	5610	42820		3.09	Si
SLD 13	-1.95	-5871.78	-11994	-10662	-21146	2.75	2.6563	-8956	12208	14593	42820	55584	7013	57413		2.72	Si
SLD 13	0	10494.01	-17888	-15901	-17460	2.75	2.3651	-12849	12986	15296	42820	55584	7013	58116		3.33	Si
SLV 13	-1.95	-7050.32	-13785	-12254	-29247	2.75	2.5907	-10562	12529	14606	42820	55584	7013	57426		1.96	Si
SLV 13	0	15582.85	-20044	-17817	-24454	2.75	1.7927	-14397	13296	16062	42820	55584	7013	58882		2.41	Si
SLV 16	-1.95	-4235.02	-5415	-4814	-20275	2.2	1.7788	0	0	0	42820	44468	5610	42820		2.11	Si
SLV 16	0	12195.31	-7944	-7061	-18583	2.75	0	-137283	16250	11760	42820	55584	7013	54580		2.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.975 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	0	5079	88.27	0	0	No, Trazione
SLV 7	179667	0.24	0	4784	88.27	0	0	No, Trazione
SLV 11	179667	0.24	0	5196	88.27	0	0	No, Trazione
SLV 8	179667	0.24	0	4667	88.27	0	0	No, Trazione
SLV 15	179667	0.24	6033	-7465	88.27	1613.35	18.28	Si
SLV 16	179667	0.24	6173	-7639	88.27	1649.25	18.68	Si
SLV 3	179667	0.24	7143	-8840	88.27	1895.95	21.48	Si
SLV 4	179667	0.24	7284	-9013	88.27	1931.28	21.88	Si
SLV 13	179667	0.24	15155	-18755	88.27	3801.01	43.06	Si
SLV 14	179667	0.24	15295	-18928	88.27	3832.25	43.42	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.975 Wa = 0.08 Ta = 0.0141

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-35933	-23339	537	0.513	3998.2	0.974	7.65962	2.39847	Si
SLV 5	-35770	-23338	535	0.515	3981.6	0.974	7.68674	2.39847	Si
SLV 10	-35339	-23438	525	0.52	3937.7	0.973	7.7616	2.39847	Si
SLV 9	-35176	-23437	523	0.522	3921.1	0.973	7.78961	2.39847	Si
SLV 2	-22266	-13457	334	0.744	2606.9	0.961	11.25132	2.46322	Si
SLV 1	-22024	-13456	331	0.75	2582.3	0.961	11.35231	2.46322	Si
SLV 14	-20286	-13786	293	0.801	2405.6	0.958	12.15442	2.46322	Si
SLV 13	-20044	-13785	290	0.809	2381	0.958	12.27485	2.46322	Si
SLV 4	-9923	-5086	148	1.401	1354.6	0.931	21.86078	2.46322	Si
SLV 3	-9681	-5085	145	1.427	1330.1	0.93	22.29868	2.46322	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.662	SLU 84	Si
V_SLU	3.938	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	1.855	SLV 15	Si
PFFP_SLV	0	SLV 12	No
R_SLV	3.194	SLV 6	Si

Maschio 280

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 959 cm	F1	0.745	0.3	4.377	4.377	4.376			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	10.54	486.51	-4560	-0.0000597	0.0003743	0.0035	0.745	1358.16	1454.86	1454.86	2.99	No	Si
SLU 39	12.54	-96.91	-952	-0.0000115	0.0003743	0.0035	0.745	339.75	471.95	471.95	4.87	No	Si
SLU 31	10.54	465.23	-4419	-0.0000574	0.0003743	0.0035	0.745	1326.42	1415.03	1415.03	3.04	No	Si
SLU 31	12.54	-87.5	-984	-0.0000112	0.0003743	0.0035	0.745	350.72	483.03	483.03	5.52	No	Si
SLU 84	10.54	571.92	-5569	-0.0000729	0.0003743	0.0035	0.745	1566.79	1723.9	1723.9	3.01	No	Si
SLU 84	12.54	-105.11	-1384	-0.0000149	0.0003743	0.0035	0.745	484.27	620.47	620.47	5.9	No	Si
SLU 41	10.54	503.45	-4774	-0.0000624	0.0003743	0.0035	0.745	1405.31	1516.14	1516.14	3.01	No	Si
SLU 41	12.54	-97.55	-1111	-0.0000127	0.0003743	0.0035	0.745	393.58	526.63	526.63	5.4	No	Si
SLU 83	10.54	568.14	-5557	-0.0000726	0.0003743	0.0035	0.745	1564.53	1721.45	1721.45	3.03	No	Si
SLU 83	12.54	-104.32	-1385	-0.0000149	0.0003743	0.0035	0.745	484.6	620.82	620.82	5.95	No	Si
SLU 34	10.54	482.17	-4634	-0.0000601	0.0003743	0.0035	0.745	1374.56	1475.89	1475.89	3.06	No	Si
SLU 34	12.54	-88.14	-1143	-0.0000124	0.0003743	0.0035	0.745	404.38	537.69	537.69	6.1	No	Si
SLU 82	10.54	554.97	-5355	-0.0000701	0.0003743	0.0035	0.745	1525.23	1679.71	1679.71	3.03	No	Si
SLU 82	12.54	-104.47	-1225	-0.0000138	0.0003743	0.0035	0.745	431.86	565.98	565.98	5.42	No	Si
SLU 40	10.54	490.29	-4572	-0.00006	0.0003743	0.0035	0.745	1360.8	1458.23	1458.23	2.97	No	Si
SLU 40	12.54	-97.7	-951	-0.0000116	0.0003743	0.0035	0.745	339.41	471.6	471.6	4.83	No	Si
SLU 81	10.54	551.19	-5343	-0.0000698	0.0003743	0.0035	0.745	1522.88	1677.29	1677.29	3.04	No	Si
SLU 81	12.54	-103.68	-1226	-0.0000138	0.0003743	0.0035	0.745	432.2	566.33	566.33	5.46	No	Si
SLU 42	10.54	507.24	-4786	-0.0000627	0.0003743	0.0035	0.745	1407.87	1519.55	1519.55	3	No	Si
SLU 42	12.54	-98.34	-1110	-0.0000127	0.0003743	0.0035	0.745	393.24	526.28	526.28	5.35	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	10.54	1450.07	-7192	-0.0001549	0.0005615	0.0035	0.745		2266.58	2266.58	1.56		Si
SLV 14	12.54	-635.43	2133	0.56366	0.0005615	0.0035	0.596		0	0	0		No
SLD 13	10.54	1178.99	-6255	-0.0001218	0.0005615	0.0035	0.745		2002.87	2002.87	1.7		Si
SLD 13	12.54	-487.15	1313	0.3482704	0.0005615	0.0035	0.596		0	0	0		No
SLD 14	10.54	1049.22	-5889	-0.0001073	0.0005615	0.0035	0.745		1901.5	1901.5	1.81		Si
SLD 14	12.54	-424.95	999	0.2654737	0.0005615	0.0035	0.596		0	0	0		No
SLD 16	10.54	916.66	-5217	-0.0000928	0.0005615	0.0035	0.745		1717.74	1717.74	1.87		Si
SLD 16	12.54	-395.12	866	0.2303721	0.0005615	0.0035	0.596		0	0	0		No
SLV 15	10.54	1428.04	-6619	-0.0001555	0.0005615	0.0035	0.745		2104.72	2104.72	1.47		Si
SLV 15	12.54	-682.56	2402	0.6343494	0.0005615	0.0035	0.596		0	0	0		No
SLV 4	10.54	-948.01	449	0.1182369	0.0005615	0.0035	0.596		0	0	0		No
SLV 4	12.54	622.63	-4613	-0.0000666	0.0005615	0.0035	0.745		1554.92	1554.92	2.5		Si
SLD 15	10.54	1046.42	-5583	-0.0001068	0.0005615	0.0035	0.745		1817.55	1817.55	1.74		Si
SLD 15	12.54	-457.33	1180	0.3131836	0.0005615	0.0035	0.596		0	0	0		No
SLV 10	10.54	987.8	-6356	-0.0001033	0.0005615	0.0035	0.745		2031.01	2031.01	2.06		Si
SLV 10	12.54	-288.38	197	0.0544009	0.0005615	0.0035	0.596		0	0	0		No
SLV 9	10.54	1125.49	-6744	-0.0001171	0.0005615	0.0035	0.745		2139.83	2139.83	1.9		Si
SLV 9	12.54	-354.38	530	0.1423509	0.0005615	0.0035	0.596		0	0	0		No
SLV 13	10.54	1654.61	-7769	-0.0001835	0.0005615	0.0035	0.745		2430.43	2430.43	1.47		Si
SLV 13	12.54	-733.49	2629	0.6940484	0.0005615	0.0035	0.596		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	10.54	571.92	-5569	-4690	2158	0.745	0.745	-20984	9742	2177	49956	6693	1900	8592	No	3.98	Si
SLU 84	12.54	-105.11	-1384	-1166	658	0.745	0.745	-5216	7640	1708	49956	6693	1900	8592	No	13.07	Si
SLU 83	10.54	568.14	-5557	-4680	2147	0.745	0.745	-20939	9736	2176	49956	6693	1900	8592	No	4	Si
SLU 83	12.54	-104.32	-1385	-1167	654	0.745	0.745	-5219	7640	1708	49956	6693	1900	8592	No	13.15	Si
SLU 79	10.54	557.5	-5612	-4725	2097	0.745	0.745	-21143	9764	2182	49956	6693	1900	8592	No	4.1	Si
SLU 79	12.54	-94.22	-1578	-1329	528	0.745	0.745	-5946	7737	1729	49956	6693	1900	8592	No	16.28	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	10.54	554.97	-5355	-4509	2097	0.745	0.745	-20175	9634	2153	49956	6693	1900	8592	No	4.1	Si
SLU 82	12.54	-104.47	-1225	-1032	707	0.745	0.745	-4617	7560	1690	49956	6693	1900	8592	No	12.16	Si
SLU 81	10.54	551.19	-5343	-4499	2086	0.745	0.745	-20131	9629	2152	49956	6693	1900	8592	No	4.12	Si
SLU 81	12.54	-103.68	-1226	-1033	703	0.745	0.745	-4621	7561	1690	49956	6693	1900	8592	No	12.22	Si
SLU 80	10.54	561.28	-5623	-4735	2108	0.745	0.745	-21188	9769	2183	49956	6693	1900	8592	No	4.08	Si
SLU 80	12.54	-95.01	-1577	-1328	532	0.745	0.745	-5942	7737	1729	49956	6693	1900	8592	No	16.16	Si
SLU 77	10.54	564.42	-5670	-4775	2119	0.745	0.745	-21364	9793	2189	49956	6693	1900	8592	No	4.06	Si
SLU 77	12.54	-95.63	-1576	-1327	559	0.745	0.745	-5938	7736	1729	49956	6693	1900	8592	No	15.38	Si
SLU 75	10.54	551.25	-5467	-4604	2069	0.745	0.745	-20600	9691	2166	49956	6693	1900	8592	No	4.15	Si
SLU 75	12.54	-95.78	-1416	-1193	612	0.745	0.745	-5336	7656	1711	49956	6693	1900	8592	No	14.04	Si
SLU 74	10.54	547.47	-5456	-4594	2058	0.745	0.745	-20556	9685	2165	49956	6693	1900	8592	No	4.18	Si
SLU 74	12.54	-94.99	-1417	-1193	608	0.745	0.745	-5340	7656	1711	49956	6693	1900	8592	No	14.13	Si
SLU 78	10.54	568.2	-5682	-4785	2130	0.745	0.745	-21409	9799	2190	49956	6693	1900	8592	No	4.03	Si
SLU 78	12.54	-96.42	-1575	-1326	563	0.745	0.745	-5934	7736	1729	49956	6693	1900	8592	No	15.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	10.54	987.8	-6356	-5352	3268	0.745	0.6513	-23948	15206	2971	49956	10039	1900	11939		3.65	Si
SLV 10	12.54	-288.38	197	166	1906	0.596	0	0	0	0	49956	8031	1520	9551		5.01	Si
SLV 15	10.54	1428.04	-6619	-5574	4924	0.745	0.4703	-24941	15405	2562	49956	10039	1900	11939		2.42	Si
SLV 15	12.54	-682.56	2402	2023	3296	0.596	0.265	0	0	0	49956	8031	1520	9551		2.9	Si
SLV 13	10.54	1654.61	-7769	-6543	5595	0.745	0.4786	-29273	16250	2821	49956	10039	1900	11939		2.13	Si
SLV 13	12.54	-733.49	2629	2214	3776	0.596	0.2804	0	0	0	49956	8031	1520	9551		2.53	Si
SLD 13	10.54	1178.99	-6255	-5267	4036	0.745	0.552	-23568	15130	2506	49956	10039	1900	11939		2.96	Si
SLD 13	12.54	-487.15	1313	1106	2527	0.596	0.0047	0	0	0	49956	8031	1520	9551		3.78	Si
SLV 16	10.54	1223.49	-6042	-5088	4197	0.745	0.5101	-22767	14970	2433	49956	10039	1900	11939		2.84	Si
SLV 16	12.54	-584.5	1906	1605	2874	0.596	0.1976	0	0	0	49956	8031	1520	9551		3.32	Si
SLV 14	10.54	1450.07	-7192	-6057	4868	0.745	0.5127	-27099	15837	2691	49956	10039	1900	11939		2.45	Si
SLV 14	12.54	-635.43	2133	1796	3354	0.596	0.2237	0	0	0	49956	8031	1520	9551		2.85	Si
SLD 14	10.54	1049.22	-5889	-4959	3575	0.745	0.583	-22188	14854	2598	49956	10039	1900	11939		3.34	Si
SLD 14	12.54	-424.95	999	841	2260	0.596	0	0	0	0	49956	8031	1520	9551		4.23	Si
SLD 15	10.54	1046.42	-5583	-4702	3643	0.745	0.5552	-21037	14624	2436	49956	10039	1900	11939		3.28	Si
SLD 15	12.54	-457.33	1180	994	2247	0.596	0	0	0	0	49956	8031	1520	9551		4.25	Si
SLV 4	10.54	-948.01	449	378	-2950	0.596	0	0	0	0	49956	8031	1520	9551		3.24	Si
SLV 4	12.54	622.63	-4613	-3885	-3058	0.745	0.7126	-17382	13893	2970	49956	10039	1900	11939		3.9	Si
SLV 9	10.54	1125.49	-6744	-5679	3757	0.745	0.6169	-25412	15499	2868	49956	10039	1900	11939		3.18	Si
SLV 9	12.54	-354.38	530	447	2190	0.596	0	0	0	0	49956	8031	1520	9551		4.36	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.778 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.5	6269	-1401	165.33	201.55	1.22	Si
SLV 7	179667	0.5	6443	-1440	165.33	206.89	1.25	Si
SLV 4	179667	0.5	7086	-1584	165.33	226.54	1.37	Si
SLV 3	179667	0.5	7344	-1641	165.33	234.36	1.42	Si
SLV 12	179667	0.5	7768	-1736	165.33	247.17	1.5	Si
SLV 11	179667	0.5	7941	-1775	165.33	252.39	1.53	Si
SLV 2	179667	0.5	9321	-2083	165.33	293.4	1.77	Si
SLV 1	179667	0.5	9578	-2141	165.33	300.97	1.82	Si
SLV 16	179667	0.5	12081	-2700	165.33	372.97	2.26	Si
SLV 15	179667	0.5	12339	-2758	165.33	380.23	2.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.778 Wa = 0.05 Ta = 0.1066

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-762	-5577	25	2.586	228.7	0.889	42.24866	8.31033	Si
SLV 14	-692	-5256	26	2.698	222.6	0.89	44.03761	8.31033	Si
SLV 15	-677	-4423	9	2.734	221.3	0.891	44.62173	8.31033	Si
SLV 16	-608	-4102	10	2.86	215.4	0.892	46.58443	8.31033	Si
SLV 1	-367	-2205	-13	3.403	196.5	0.906	54.59191	8.31033	Si
SLV 9	-711	-5690	30	2.664	224.3	0.89	43.49714	6.56627	Si
SLV 10	-664	-5474	31	2.743	220.2	0.891	44.75052	6.56627	Si
SLV 2	-297	-1885	-12	3.603	191.7	0.914	57.30193	8.31033	Si
SLV 3	-282	-1052	-29	3.635	190.7	0.916	57.68214	8.31033	Si
SLV 5	-593	-4679	19	2.883	214.1	0.893	46.93775	6.56627	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.974	SLU 40	Si
V_SLU	3.981	SLU 84	Si
PF_SLV	0	SLD 13	No
V_SLV	2.134	SLV 13	Si
PFFP_SLV	1.219	SLV 8	Si
R_SLV	5.084	SLV 13	Si

Maschio 281

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 959 cm	F1	0.725	0.3	4.375	4.376	4.375			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	10.54	236.28	-3451	-0.0000383	0.0003743	0.0035	0.725	1056.06	1111.51	1111.51	4.7	No	Si
SLU 84	12.54	-330.02	-3595	-0.0000451	0.0003743	0.0035	0.725	1091.59	1274.66	1274.66	3.86	No	Si
SLU 83	10.54	234.71	-3454	-0.0000383	0.0003743	0.0035	0.725	1056.69	1112.16	1112.16	4.74	No	Si
SLU 83	12.54	-327.95	-3582	-0.0000448	0.0003743	0.0035	0.725	1088.33	1270.99	1270.99	3.88	No	Si
SLU 73	10.54	210.06	-3267	-0.0000354	0.0003743	0.0035	0.725	1009.64	1063.41	1063.41	5.06	No	Si
SLU 73	12.54	-303.1	-3281	-0.000041	0.0003743	0.0035	0.725	1013.18	1186.06	1186.06	3.91	No	Si
SLU 81	10.54	231.33	-3299	-0.0000369	0.0003743	0.0035	0.725	1017.67	1071.6	1071.6	4.63	No	Si
SLU 81	12.54	-317.27	-3367	-0.0000426	0.0003743	0.0035	0.725	1034.98	1210.8	1210.8	3.82	No	Si
SLU 42	10.54	219.67	-2873	-0.000033	0.0003743	0.0035	0.725	906.35	961.9	961.9	4.38	No	Si
SLU 42	12.54	-294.06	-3099	-0.0000391	0.0003743	0.0035	0.725	966.06	1133.19	1133.19	3.85	No	Si
SLU 40	10.54	216.3	-2718	-0.0000316	0.0003743	0.0035	0.725	864.39	921.47	921.47	4.26	No	Si
SLU 40	12.54	-283.39	-2884	-0.0000369	0.0003743	0.0035	0.725	909.31	1070.48	1070.48	3.78	No	Si
SLU 41	10.54	218.1	-2876	-0.0000329	0.0003743	0.0035	0.725	907.02	962.54	962.54	4.41	No	Si
SLU 41	12.54	-291.99	-3085	-0.0000389	0.0003743	0.0035	0.725	962.58	1129.31	1129.31	3.87	No	Si
SLU 31	10.54	193.45	-2689	-0.0000301	0.0003743	0.0035	0.725	856.45	913.76	913.76	4.72	No	Si
SLU 31	12.54	-267.15	-2785	-0.0000352	0.0003743	0.0035	0.725	882.55	1041.36	1041.36	3.9	No	Si
SLU 39	10.54	214.72	-2721	-0.0000316	0.0003743	0.0035	0.725	865.07	922.13	922.13	4.29	No	Si
SLU 39	12.54	-281.32	-2871	-0.0000366	0.0003743	0.0035	0.725	905.74	1066.58	1066.58	3.79	No	Si
SLU 82	10.54	232.91	-3296	-0.000037	0.0003743	0.0035	0.725	1017.03	1070.95	1070.95	4.6	No	Si
SLU 82	12.54	-319.34	-3380	-0.0000428	0.0003743	0.0035	0.725	1038.33	1214.62	1214.62	3.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	10.54	841.48	-604	-0.0266428	0.0005615	0.0035	0.58		247.43	247.43	0.29		No
SLV 16	12.54	-704.03	-5270	-0.0000797	0.0005615	0.0035	0.725		1806.24	1806.24	2.57		Si
SLD 2	10.54	-439.24	-3796	-0.0000522	0.0005615	0.0035	0.725		1381.16	1381.16	3.14		Si
SLD 2	12.54	187.28	-51	-0.0067042	0.0005615	0.0035	0.58		51.44	51.44	0.27		No
SLD 4	10.54	-492.96	-3658	-0.0000546	0.0005615	0.0035	0.725		1339.16	1339.16	2.72		Si
SLD 4	12.54	254.14	284	0.0472789	0.0005615	0.0035	0.58		0	0	0		No
SLV 3	10.54	-684.21	-3985	-0.0000719	0.0005615	0.0035	0.725		1436.63	1436.63	2.1		Si
SLV 3	12.54	418.24	1250	0.3052003	0.0005615	0.0035	0.58		0	0	0		No
SLV 4	10.54	-845.33	-4351	-0.0000903	0.0005615	0.0035	0.725		1543.8	1543.8	1.83		Si
SLV 4	12.54	515.86	1770	0.4368398	0.0005615	0.0035	0.58		0	0	0		No
SLV 1	10.54	-592.6	-4223	-0.0000651	0.0005615	0.0035	0.725		1506.4	1506.4	2.54		Si
SLV 1	12.54	303.86	676	0.1592813	0.0005615	0.0035	0.58		0	0	0		No
SLV 13	10.54	1094.21	-476	-0.0397815	0.0005615	0.0035	0.58		202.39	202.39	0.18		No
SLV 13	12.54	-916.03	-6364	-0.0001027	0.0005615	0.0035	0.725		2101.37	2101.37	2.29		Si
SLD 3	10.54	-390.74	-3426	-0.0000465	0.0005615	0.0035	0.725		1267.27	1267.27	3.24		Si
SLD 3	12.54	192.21	-46	-0.0070503	0.0005615	0.0035	0.58		49.5	49.5	0.26		No
SLV 15	10.54	1002.6	-238	-0.0398986	0.0005615	0.0035	0.58		117.97	117.97	0.12		No
SLV 15	12.54	-801.64	-5790	-0.0000903	0.0005615	0.0035	0.725		1948.46	1948.46	2.43		Si
SLV 2	10.54	-753.73	-4589	-0.0000802	0.0005615	0.0035	0.725		1613.14	1613.14	2.14		Si
SLV 2	12.54	401.48	1196	0.2920426	0.0005615	0.0035	0.58		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	10.54	213.44	-3422	-2882	489	0.725	0.725	-13250	8711	1895	49956	6513	1849	8362	No	17.1	Si
SLU 76	12.54	-313.78	-3496	-2944	1308	0.725	0.725	-13534	8749	1903	49956	6513	1849	8362	No	6.39	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	10.54	215.76	-3579	-3014	491	0.725	0.725	-13856	8792	1912	49956	6513	1849	8362	No	17.02	Si
SLU 80	12.54	-323.07	-3701	-3117	1405	0.725	0.725	-14330	8855	1926	49956	6513	1849	8362	No	5.95	Si
SLU 75	10.54	214.19	-3455	-2910	492	0.725	0.725	-13377	8728	1898	49956	6513	1849	8362	No	17.01	Si
SLU 75	12.54	-315.95	-3509	-2955	1296	0.725	0.725	-13587	8756	1904	49956	6513	1849	8362	No	6.45	Si
SLU 83	10.54	234.71	-3454	-2908	544	0.725	0.725	-13372	8727	1898	49956	6513	1849	8362	No	15.38	Si
SLU 83	12.54	-327.95	-3582	-3016	1344	0.725	0.725	-13867	8793	1913	49956	6513	1849	8362	No	6.22	Si
SLU 74	10.54	212.61	-3458	-2912	485	0.725	0.725	-13387	8729	1899	49956	6513	1849	8362	No	17.23	Si
SLU 74	12.54	-313.88	-3496	-2944	1286	0.725	0.725	-13535	8749	1903	49956	6513	1849	8362	No	6.5	Si
SLU 72	10.54	160.01	-3515	-2960	339	0.725	0.725	-13609	8759	1905	49956	6513	1849	8362	No	24.67	Si
SLU 72	12.54	-281.95	-3449	-2904	1282	0.725	0.725	-13354	8725	1898	49956	6513	1849	8362	No	6.52	Si
SLU 84	10.54	236.28	-3451	-2906	550	0.725	0.725	-13362	8726	1898	49956	6513	1849	8362	No	15.2	Si
SLU 84	12.54	-330.02	-3595	-3027	1354	0.725	0.725	-13918	8800	1914	49956	6513	1849	8362	No	6.18	Si
SLU 77	10.54	215.99	-3612	-3042	492	0.725	0.725	-13986	8809	1916	49956	6513	1849	8362	No	17	Si
SLU 77	12.54	-324.55	-3710	-3124	1389	0.725	0.725	-14365	8860	1927	49956	6513	1849	8362	No	6.02	Si
SLU 78	10.54	217.56	-3610	-3040	498	0.725	0.725	-13977	8808	1916	49956	6513	1849	8362	No	16.78	Si
SLU 78	12.54	-326.62	-3724	-3136	1399	0.725	0.725	-14417	8867	1929	49956	6513	1849	8362	No	5.98	Si
SLU 79	10.54	214.19	-3581	-3016	485	0.725	0.725	-13865	8793	1913	49956	6513	1849	8362	No	17.24	Si
SLU 79	12.54	-321	-3688	-3106	1395	0.725	0.725	-14279	8848	1925	49956	6513	1849	8362	No	5.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	10.54	1002.6	-238	-200	3363	0.58	0	0	0	0	49956	7816	1479	9295		2.76	Si
SLV 15	12.54	-801.64	-5790	-4876	3663	0.725	0.6722	-24489	15315	3088	49956	9769	1849	11618		3.17	Si
SLV 13	10.54	1094.21	-476	-401	3671	0.58	0	0	0	0	49956	7816	1479	9295		2.53	Si
SLV 13	12.54	-916.03	-6364	-5359	3980	0.725	0.6557	-27644	15945	3137	49956	9769	1849	11618		2.92	Si
SLV 4	10.54	-845.33	-4351	-3664	-3129	0.725	0.5047	-24504	15318	2319	49956	9769	1849	11618		3.71	Si
SLV 4	12.54	515.86	1770	1490	-2334	0.58	0.2131	0	0	0	49956	7816	1479	9295		3.98	Si
SLV 16	10.54	841.48	-604	-509	2753	0.58	0	0	0	0	49956	7816	1479	9295		3.38	Si
SLV 16	12.54	-704.03	-5270	-4438	3266	0.725	0.6867	-20405	14498	2987	49956	9769	1849	11618		3.56	Si
SLV 3	10.54	-684.21	-3985	-3356	-2519	0.725	0.5724	-19729	14363	2466	49956	9769	1849	11618		4.61	Si
SLV 3	12.54	418.24	1250	1052	-1937	0.58	0.0834	0	0	0	49956	7816	1479	9295		4.8	Si
SLD 15	10.54	688.12	-1031	-868	2256	0.58	0	0	0	0	49956	7816	1479	9295		4.12	Si
SLD 15	12.54	-587.45	-4543	-3826	2644	0.725	0.6996	-17590	13935	2925	49956	9769	1849	11618		4.39	Si
SLV 2	10.54	-753.73	-4589	-3865	-2821	0.725	0.5948	-21898	14796	2640	49956	9769	1849	11618		4.12	Si
SLV 2	12.54	401.48	1196	1007	-2016	0.58	0.0805	0	0	0	49956	7816	1479	9295		4.61	Si
SLD 14	10.54	639.61	-1402	-1180	2050	0.58	0	0	0	0	49956	7816	1479	9295		4.53	Si
SLD 14	12.54	-592.38	-4549	-3830	2579	0.725	0.6968	-17611	13939	2914	49956	9769	1849	11618		4.51	Si
SLD 13	10.54	741.83	-1169	-985	2437	0.58	0	0	0	0	49956	7816	1479	9295		3.81	Si
SLD 13	12.54	-654.31	-4879	-4108	2830	0.725	0.6852	-18889	14194	2918	49956	9769	1849	11618		4.11	Si
SLV 14	10.54	933.09	-842	-709	3061	0.58	0	0	0	0	49956	7816	1479	9295		3.04	Si
SLV 14	12.54	-818.41	-5844	-4921	3584	0.725	0.6674	-24900	15397	3083	49956	9769	1849	11618		3.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.778 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.5	7552	-1642	160.78	234.19	1.46	Si
SLV 7	179667	0.5	7697	-1674	160.78	238.46	1.48	Si
SLV 12	179667	0.5	8115	-1765	160.78	250.68	1.56	Si
SLV 11	179667	0.5	8260	-1797	160.78	254.92	1.59	Si
SLV 4	179667	0.5	8824	-1919	160.78	271.26	1.69	Si
SLV 3	179667	0.5	9040	-1966	160.78	277.48	1.73	Si
SLV 2	179667	0.5	10509	-2286	160.78	319.26	1.99	Si
SLV 16	179667	0.5	10702	-2328	160.78	324.69	2.02	Si
SLV 1	179667	0.5	10725	-2333	160.78	325.32	2.02	Si
SLV 15	179667	0.5	10918	-2375	160.78	330.74	2.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.778 Wa = 0.05 Ta = 0.1066

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-498	-1763	11	3.055	201.9	0.896	49.56406	8.30591	Si
SLV 3	-430	-1845	12	3.212	196.6	0.9	51.88096	8.30591	Si
SLV 2	-403	-2384	28	3.269	194.5	0.902	52.6787	8.30591	Si
SLV 1	-336	-2467	29	3.45	189.7	0.908	55.22041	8.30591	Si
SLV 16	-193	-3051	-26	3.919	180.7	0.93	61.23156	8.30591	Si
SLV 8	-490	-1502	-21	3.065	201.3	0.896	49.69526	6.5639	Si
SLV 15	-125	-3134	-25	4.186	177.5	0.947	64.22896	8.30591	Si
SLV 7	-445	-1557	-20	3.17	197.7	0.899	51.26085	6.5639	Si
SLV 14	-98	-3673	-9	4.322	176.5	0.956	65.70111	8.30591	Si
SLV 12	-399	-1888	-32	3.277	194.2	0.902	52.78219	6.5639	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.777	SLU 40	Si
V_SLU	5.952	SLU 80	Si
PF_SLV	0	SLD 4	No
V_SLV	2.532	SLV 13	Si
PFFP_SLV	1.457	SLV 8	Si

Stato limite	Coeff.s.	Comb.	Verifica
R_SLV	5.967	SLV 4	Si

Maschio 285

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.906	L4	L6	1.26	0.28	7.23	7.23	7.23			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	0.67	493.35	-21344	-0.0001179	0.0003743	0.0035	1.26	5456.43	7907.28	7907.28	16.03	No	Si
SLU 39	7.9	-862.52	-12443	-0.0000763	0.0003743	0.0035	1.26	5123.44	6423.5	6423.5	7.45	No	Si
SLU 31	0.67	552.75	-20345	-0.0001133	0.0003743	0.0035	1.26	5557.46	7781.19	7781.19	14.08	No	Si
SLU 31	7.9	-862.66	-11607	-0.000072	0.0003743	0.0035	1.26	4949.6	6196.35	6196.35	7.18	No	Si
SLU 36	0.67	558.13	-21056	-0.0001179	0.0003743	0.0035	1.26	5489.15	7870.41	7870.41	14.1	No	Si
SLU 36	7.9	-876.64	-12110	-0.0000749	0.0003743	0.0035	1.26	5057.04	6331.41	6331.41	7.22	No	Si
SLU 42	0.67	560.37	-21665	-0.0001217	0.0003743	0.0035	1.26	5416.51	7947.39	7947.39	14.18	No	Si
SLU 42	7.9	-935.48	-12667	-0.0000792	0.0003743	0.0035	1.26	5165.9	6486.54	6486.54	6.93	No	Si
SLU 40	0.67	545.15	-21372	-0.0001195	0.0003743	0.0035	1.26	5453.09	7910.89	7910.89	14.51	No	Si
SLU 40	7.9	-917.81	-12458	-0.0000777	0.0003743	0.0035	1.26	5126.37	6427.74	6427.74	7	No	Si
SLU 38	0.67	548.66	-20913	-0.0001167	0.0003743	0.0035	1.26	5504.33	7852.24	7852.24	14.31	No	Si
SLU 38	7.9	-861.14	-12015	-0.0000741	0.0003743	0.0035	1.26	5037.47	6305.62	6305.62	7.32	No	Si
SLU 34	0.67	567.97	-20638	-0.0001155	0.0003743	0.0035	1.26	5531.43	7817.68	7817.68	13.76	No	Si
SLU 34	7.9	-880.33	-11816	-0.0000735	0.0003743	0.0035	1.26	4995.35	6251.97	6251.97	7.1	No	Si
SLU 84	0.67	566.79	-25386	-0.0001466	0.0003743	0.0035	1.26	4689.86	8250.63	8250.63	14.56	No	Si
SLU 84	7.9	-930.7	-14615	-0.0000897	0.0003743	0.0035	1.26	5461.08	7021.66	7021.66	7.54	No	Si
SLU 33	0.67	542.91	-20763	-0.0001156	0.0003743	0.0035	1.26	5519.47	7833.3	7833.3	14.43	No	Si
SLU 33	7.9	-858.97	-11901	-0.0000734	0.0003743	0.0035	1.26	5013.43	6274.7	6274.7	7.3	No	Si
SLU 41	0.67	508.57	-21637	-0.0001201	0.0003743	0.0035	1.26	5420.14	7943.98	7943.98	15.62	No	Si
SLU 41	7.9	-880.19	-12651	-0.0000778	0.0003743	0.0035	1.26	5163.08	6482.24	6482.24	7.36	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.67	499.77	-25065	-20872	555	1.26	1.26	-59161	10833	6698	166522	10564	3213	13777	No	24.81	Si
SLU 81	7.9	-857.74	-14391	-11984	16	1.26	1.26	-33967	10833	4328	166522	10564	3213	13777	No	878.73	Si
SLU 75	0.67	549.34	-24484	-20389	541	1.26	1.26	-57790	10833	6569	166522	10564	3213	13777	No	25.47	Si
SLU 75	7.9	-854.19	-13849	-11532	16	1.26	1.26	-32688	10833	4207	166522	10564	3213	13777	No	865.63	Si
SLU 79	0.67	503.28	-24606	-20490	552	1.26	1.26	-58078	10833	6596	166522	10564	3213	13777	No	24.96	Si
SLU 79	7.9	-801.07	-13948	-11615	16	1.26	1.26	-32922	10833	4229	166522	10564	3213	13777	No	874.18	Si
SLU 82	0.67	551.57	-25093	-20896	548	1.26	1.26	-59228	10833	6704	166522	10564	3213	13777	No	25.14	Si
SLU 82	7.9	-913.03	-14406	-11996	16	1.26	1.26	-34003	10833	4331	166522	10564	3213	13777	No	860.26	Si
SLU 77	0.67	512.75	-24749	-20609	555	1.26	1.26	-58416	10833	6628	166522	10564	3213	13777	No	24.82	Si
SLU 77	7.9	-816.57	-14043	-11694	16	1.26	1.26	-33145	10833	4250	166522	10564	3213	13777	No	860	Si
SLU 80	0.67	555.08	-24634	-20513	545	1.26	1.26	-58144	10833	6602	166522	10564	3213	13777	No	25.29	Si
SLU 80	7.9	-856.36	-13963	-11627	16	1.26	1.26	-32957	10833	4233	166522	10564	3213	13777	No	855.9	Si
SLU 84	0.67	566.79	-25386	-21140	555	1.26	1.26	-59919	10833	6769	166522	10564	3213	13777	No	24.82	Si
SLU 84	7.9	-930.7	-14615	-12170	16	1.26	1.26	-34495	10833	4377	166522	10564	3213	13777	No	837.21	Si
SLU 74	0.67	497.53	-24456	-20365	548	1.26	1.26	-57724	10833	6563	166522	10564	3213	13777	No	25.14	Si
SLU 74	7.9	-798.9	-13834	-11520	16	1.26	1.26	-32652	10833	4204	166522	10564	3213	13777	No	884.34	Si
SLU 83	0.67	514.99	-25358	-21116	562	1.26	1.26	-59853	10833	6763	166522	10564	3213	13777	No	24.5	Si
SLU 83	7.9	-875.41	-14600	-12157	16	1.26	1.26	-34460	10833	4374	166522	10564	3213	13777	No	854.69	Si
SLU 78	0.67	564.56	-24777	-20633	548	1.26	1.26	-58482	10833	6634	166522	10564	3213	13777	No	25.15	Si
SLU 78	7.9	-871.86	-14058	-11706	16	1.26	1.26	-33181	10833	4254	166522	10564	3213	13777	No	842.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.285 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.34	21981	-7755	495.36	929.42	1.88	Si
SLV 8	179667	0.34	22030	-7772	495.36	931.16	1.88	Si
SLV 11	179667	0.34	24432	-8620	495.36	1013.7	2.05	Si
SLV 12	179667	0.34	24482	-8637	495.36	1015.36	2.05	Si
SLV 3	179667	0.34	26990	-9522	495.36	1097.51	2.22	Si
SLV 4	179667	0.34	27064	-9548	495.36	1099.85	2.22	Si
SLV 1	179667	0.34	33746	-11906	495.36	1298.48	2.62	Si
SLV 2	179667	0.34	33819	-11932	495.36	1300.5	2.63	Si
SLV 15	179667	0.34	35161	-12405	495.36	1336.84	2.7	Si
SLV 16	179667	0.34	35235	-12431	495.36	1338.79	2.7	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.285 Wa = 0.05 Ta = 0.3118

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-10418	-19609	236	0.561	1424.6	0.931	8.75574	14.99226	No
SLV 13	-10405	-19557	236	0.562	1423.2	0.931	8.76505	14.99226	No
SLV 16	-9821	-18452	226	0.588	1364.4	0.929	9.20957	14.99226	No
SLV 15	-9807	-18400	226	0.589	1363	0.929	9.21987	14.99226	No
SLV 10	-10418	-19364	79	0.573	1424.7	0.931	8.94865	13.15527	No
SLV 9	-10409	-19329	79	0.574	1423.8	0.931	8.95505	13.15527	No
SLV 2	-8436	-15077	-248	0.66	1224.9	0.922	10.39681	14.99226	No
SLV 1	-8422	-15025	-248	0.661	1223.6	0.922	10.41011	14.99226	No
SLV 6	-9824	-18004	-66	0.602	1364.7	0.929	9.41323	13.15527	No
SLV 5	-9815	-17970	-66	0.602	1363.8	0.929	9.42037	13.15527	No

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.934	SLU 42	Si
V_SLU	24.502	SLU 83	Si
PFFP_SLV	1.876	SLV 7	Si
R_SLV	0.584	SLV 14	No

1.7 Verifiche travi di accoppiamento in muratura

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

X ini.: coordinata punto iniziale. [m]
Y ini.: coordinata punto iniziale. [m]
Z ini.inf.: coordinata punto iniziale. [m]
Z ini.sup.: coordinata punto iniziale. [m]
H ini.: altezza della sezione iniziale. [m]
X fin.: coordinata punto finale. [m]
Y fin.: coordinata punto finale. [m]
Z fin.inf.: coordinata punto finale. [m]
Z fin.sup: coordinata punto finale. [m]
H fin.: altezza della sezione finale. [m]
Luce: lunghezza della trave. [m]
Spessore: spessore. [m]
R. Trazione: resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]
fb_: resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/m²]
fhk: resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]
fvk0: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]
fhmedio: resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]
τ0: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]
fv0: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]
μ: coefficiente di attrito [C8.7.1.17].
φ: coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.
fvk,lim: valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/m²]
E: modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]
G: modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]
FC: fattore di confidenza della muratura.
Materiale: descrizione del materiale.
Fu Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
Fu Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
tfv: spessore di calcolo equivalente verticale di uno strato di rinforzo.
tfo: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.

E: modulo di elasticità longitudinale. [daN/m²]
εu: dilatazione a rottura.
Tipo fibra: natura della fibra.
materiale: materiale fibra del rinforzo.
lato applicazione: lato di applicazione del rinforzo.
esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.
ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.
ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.
ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.
ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.
strati: numero strati del rinforzo.
verifica taglio: tipo di verifica a taglio.
εlim,conv / ε,CNR DT-200: dati relativi ai parametri per il calcolo della deformazione di progetto.
αt: coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.
α: coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.
εlim,conv: deformazione limite convenzionale del rinforzo FRCM.
ε,fd: deformazione di progetto del rinforzo FRCM ovvero CRM.
γF,d: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.
connettori: presenza di connettori per la prevenzione del distacco del rinforzo.
tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.
CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.
CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.
intonaco: materiale intonaco FRCM ovvero CRM.
spessore intonaco: spessore intonaco. [m]
tipo blocco fibrenet: tipo blocco muratura per verifica a tglio tipo Fibrenet.
Comb.: combinazione.
Sez.: sezione di verifica.
*M: momento flettente nel piano. [daN*m]*
N: sforzo normale. [daN]
εm: deformazione della muratura.
εm_: deformazione elastica della muratura.
εmu: deformazione ultima della muratura.
df: distanza tra il lembo compresso e la fibra tesa più lontana. [m]
*M0d: momento resistente della sezione non rinforzata. [daN*m]*
*M1d: momento resistente della sezione rinforzata. [daN*m]*
*MRd: momento resistente della sezione. [daN*m]*
incremento > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
c.s.: coefficiente di sicurezza.
Verifica: stato di verifica.
V: taglio nel piano. [daN]
df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]
fvd: resistenza a taglio di calcolo. [daN/m²]
Vt: resistenza a taglio della muratura non rinforzata. [daN]
Vt,f: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]
Vt,c: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]
Vt,c int.: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]
Vt,R: resistenza a taglio della sezione rinforzata. [daN]
Stato limite: pF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche.
Coeff.s.: coefficiente di sicurezza.

Trave di accoppiamento 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-24.603	2.374	0.15	0.67	0.52	-24.603	1.574	0.15	0.67	0.52	0.8	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	975.26	993	-0.000735	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.77	Si
SLU 76	fin.	-1689.83	-3461	-0.0015131	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.6	Si
SLU 77	ini.	959.01	954	-0.0007199	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.82	Si
SLU 77	fin.	-1690.16	-3477	-0.0015135	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.6	Si
SLU 81	ini.	953.45	939	-0.0007147	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.84	Si
SLU 81	fin.	-1687.17	-3481	-0.0015096	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.61	Si
SLU 78	ini.	977.28	984	-0.0007369	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.77	Si
SLU 78	fin.	-1707.17	-3504	-0.001536	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.59	Si
SLU 79	ini.	954.45	951	-0.0007156	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.83	Si
SLU 79	fin.	-1680.6	-3457	-0.001501	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.61	Si
SLU 82	ini.	971.71	969	-0.0007317	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.78	Si
SLU 82	fin.	-1704.18	-3507	-0.001532	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.59	Si
SLU 83	ini.	963.07	947	-0.0007236	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.81	Si
SLU 83	fin.	-1706.29	-3521	-0.0015348	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.59	Si
SLU 75	ini.	967.65	977	-0.0007279	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.79	Si
SLU 75	fin.	-1688.05	-3464	-0.0015108	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.61	Si
SLU 80	ini.	972.72	981	-0.0007326	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.78	Si
SLU 80	fin.	-1697.61	-3483	-0.0015233	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.6	Si
SLU 84	ini.	981.34	977	-0.0007407	0.0001872	0.0035	0.52		2703.4	2703.4	No	2.75	Si
SLU 84	fin.	-1723.29	-3548	-0.0015575	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	954.45	-2512	0.52	10833	1607	8247	3504	3315	6819	No	2.71	Si
SLU 79	fin.	-1680.6	-6891	0.52	10833	1607	8247	3504	3315	6819	No	0.99	No
SLU 83	ini.	963.07	-2526	0.52	10833	1607	8247	3504	3315	6819	No	2.7	Si
SLU 83	fin.	-1706.29	-7000	0.52	10833	1607	8247	3504	3315	6819	No	0.97	No
SLU 78	ini.	977.28	-2589	0.52	10833	1607	8247	3504	3315	6819	No	2.63	Si
SLU 78	fin.	-1707.17	-6990	0.52	10833	1607	8247	3504	3315	6819	No	0.98	No
SLU 80	ini.	972.72	-2579	0.52	10833	1607	8247	3504	3315	6819	No	2.64	Si
SLU 80	fin.	-1697.61	-6950	0.52	10833	1607	8247	3504	3315	6819	No	0.98	No
SLU 84	ini.	981.34	-2594	0.52	10833	1607	8247	3504	3315	6819	No	2.63	Si
SLU 84	fin.	-1723.29	-7059	0.52	10833	1607	8247	3504	3315	6819	No	0.97	No
SLU 76	ini.	975.26	-2600	0.52	10833	1607	8247	3504	3315	6819	No	2.62	Si
SLU 76	fin.	-1689.83	-6910	0.52	10833	1607	8247	3504	3315	6819	No	0.99	No
SLU 82	ini.	971.71	-2570	0.52	10833	1607	8247	3504	3315	6819	No	2.65	Si
SLU 82	fin.	-1704.18	-6980	0.52	10833	1607	8247	3504	3315	6819	No	0.98	No
SLU 81	ini.	953.45	-2503	0.52	10833	1607	8247	3504	3315	6819	No	2.72	Si
SLU 81	fin.	-1687.17	-6921	0.52	10833	1607	8247	3504	3315	6819	No	0.99	No
SLU 75	ini.	967.65	-2566	0.52	10833	1607	8247	3504	3315	6819	No	2.66	Si
SLU 75	fin.	-1688.05	-6911	0.52	10833	1607	8247	3504	3315	6819	No	0.99	No
SLU 77	ini.	959.01	-2522	0.52	10833	1607	8247	3504	3315	6819	No	2.7	Si
SLU 77	fin.	-1690.16	-6931	0.52	10833	1607	8247	3504	3315	6819	No	0.98	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 5	ini.	1142.65	1288	-0.000847	0.0002807	0.0035	0.52		2765.05	2765.05		2.42	Si
SLD 5	fin.	-1670.87	-3168	-0.0014005	0.0002807	0.0035	0.52		2773.86	2773.86		1.66	Si
SLV 6	ini.	1331.7	1514	-0.0010317	0.0002807	0.0035	0.52		2765.05	2765.05		2.08	Si
SLV 6	fin.	-1875.61	-3472	-0.0016636	0.0002807	0.0035	0.52		2773.86	2773.86		1.48	Si
SLD 1	ini.	832.38	237	-0.0005734	0.0002807	0.0035	0.52		2765.05	2765.05		3.32	Si
SLD 1	fin.	-1550.66	-3110	-0.0012608	0.0002807	0.0035	0.52		2773.86	2773.86		1.79	Si
SLV 1	ini.	935.07	6	-0.0006602	0.0002807	0.0035	0.52		2765.05	2765.05		2.96	Si
SLV 1	fin.	-1777.45	-3531	-0.0015329	0.0002807	0.0035	0.52		2773.86	2773.86		1.56	Si
SLD 9	ini.	1169.7	1768	-0.0008726	0.0002807	0.0035	0.52		2765.05	2765.05		2.36	Si
SLD 9	fin.	-1557.15	-2908	-0.0012681	0.0002807	0.0035	0.52		2773.86	2773.86		1.78	Si
SLV 5	ini.	1466.15	1729	-0.0011729	0.0002807	0.0035	0.52		2765.05	2765.05		1.89	Si
SLV 5	fin.	-2007.36	-3684	-0.0018562	0.0002807	0.0035	0.52		2773.86	2773.86		1.38	Si
SLD 6	ini.	1061.06	1158	-0.0007717	0.0002807	0.0035	0.52		2765.05	2765.05		2.61	Si
SLD 6	fin.	-1590.93	-3039	-0.0013066	0.0002807	0.0035	0.52		2773.86	2773.86		1.74	Si
SLV 10	ini.	1373.88	2263	-0.001075	0.0002807	0.0035	0.52		2765.05	2765.05		2.01	Si
SLV 10	fin.	-1697.39	-3067	-0.0014326	0.0002807	0.0035	0.52		2773.86	2773.86		1.63	Si
SLV 2	ini.	735.35	-313	-0.0004948	0.0002807	0.0035	0.52		2765.05	2765.05		3.76	Si
SLV 2	fin.	-1581.74	-3217	-0.001296	0.0002807	0.0035	0.52		2773.86	2773.86		1.75	Si
SLV 9	ini.	1508.32	2478	-0.001219	0.0002807	0.0035	0.52		2765.05	2765.05		1.83	Si
SLV 9	fin.	-1829.13	-3278	-0.0016006	0.0002807	0.0035	0.52		2773.86	2773.86		1.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1331.7	-3931	0.52	16250	1829	8247	5255	3315	8570		2.18	Si
SLV 6	fin.	-1875.61	-7241	0.52	16250	1829	8247	5255	3315	8570		1.18	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	1061.06	-3040	0.52	0	1829	8247	5255	3315	8570		2.82	Si
SLD 6	fin.	-1590.93	-6251	0.52	16250	1829	8247	5255	3315	8570		1.37	Si
SLD 9	ini.	1169.7	-3647	0.52	0	1829	8247	5255	3315	8570		2.35	Si
SLD 9	fin.	-1557.15	-6201	0.52	16250	1829	8247	5255	3315	8570		1.38	Si
SLD 1	ini.	832.38	-1988	0.52	0	1829	8247	5255	3315	8570		4.31	Si
SLD 1	fin.	-1550.66	-6020	0.52	16250	1829	8247	5255	3315	8570		1.42	Si
SLD 5	ini.	1142.65	-3335	0.52	0	1829	8247	5255	3315	8570		2.57	Si
SLD 5	fin.	-1670.87	-6531	0.52	16250	1829	8247	5255	3315	8570		1.31	Si
SLV 5	ini.	1466.15	-4417	0.52	16250	1829	8247	5255	3315	8570		1.94	Si
SLV 5	fin.	-2007.36	-7702	0.52	16250	1829	8247	5255	3315	8570		1.11	Si
SLV 2	ini.	735.35	-1430	0.52	0	1829	8247	5255	3315	8570		5.99	Si
SLV 2	fin.	-1581.74	-6071	0.52	16250	1829	8247	5255	3315	8570		1.41	Si
SLV 9	ini.	1508.32	-4903	0.52	16250	1829	8247	5255	3315	8570		1.75	Si
SLV 9	fin.	-1829.13	-7183	0.52	16250	1829	8247	5255	3315	8570		1.19	Si
SLV 1	ini.	935.07	-2152	0.52	0	1829	8247	5255	3315	8570		3.98	Si
SLV 1	fin.	-1777.45	-6756	0.52	16250	1829	8247	5255	3315	8570		1.27	Si
SLV 10	ini.	1373.88	-4417	0.52	16250	1829	8247	5255	3315	8570		1.94	Si
SLV 10	fin.	-1697.39	-6722	0.52	16250	1829	8247	5255	3315	8570		1.27	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.382	SLV 5	Si
V_SLV	1.113	SLV 5	Si
PF_SLU	1.574	SLU 84	Si
V_SLU	0.966	SLU 84	No

Trave di accoppiamento 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.863	5.876	-1.95	0.05	2	-22.863	5.876	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1103.87	-6511	-0.000044	0.0001872	0.0035	2		39946.04	39946.04	No	36.19	Si
SLU 82	fin.	3226.53	-7798	-0.000133	0.0001872	0.0035	2		39913.02	39913.02	No	12.37	Si
SLU 84	ini.	-1118.89	-6623	-0.0000446	0.0001872	0.0035	2		39946.04	39946.04	No	35.7	Si
SLU 84	fin.	3268.1	-7927	-0.0001349	0.0001872	0.0035	2		39913.02	39913.02	No	12.21	Si
SLU 81	ini.	-1151.77	-6605	-0.0000459	0.0001872	0.0035	2		39946.04	39946.04	No	34.68	Si
SLU 81	fin.	3256.55	-7929	-0.0001344	0.0001872	0.0035	2		39913.02	39913.02	No	12.26	Si
SLU 75	ini.	-1120.91	-6451	-0.0000446	0.0001872	0.0035	2		39946.04	39946.04	No	35.64	Si
SLU 75	fin.	3196.81	-7753	-0.0001318	0.0001872	0.0035	2		39913.02	39913.02	No	12.49	Si
SLU 74	ini.	-1168.82	-6545	-0.0000466	0.0001872	0.0035	2		39946.04	39946.04	No	34.18	Si
SLU 74	fin.	3226.83	-7884	-0.0001331	0.0001872	0.0035	2		39913.02	39913.02	No	12.37	Si
SLU 83	ini.	-1166.8	-6717	-0.0000465	0.0001872	0.0035	2		39946.04	39946.04	No	34.24	Si
SLU 83	fin.	3298.12	-8059	-0.0001362	0.0001872	0.0035	2		39913.02	39913.02	No	12.1	Si
SLU 80	ini.	-1127.07	-6508	-0.0000449	0.0001872	0.0035	2		39946.04	39946.04	No	35.44	Si
SLU 80	fin.	3217.12	-7818	-0.0001326	0.0001872	0.0035	2		39913.02	39913.02	No	12.41	Si
SLU 77	ini.	-1183.84	-6656	-0.0000472	0.0001872	0.0035	2		39946.04	39946.04	No	33.74	Si
SLU 77	fin.	3268.41	-8013	-0.0001349	0.0001872	0.0035	2		39913.02	39913.02	No	12.21	Si
SLU 79	ini.	-1174.97	-6602	-0.0000468	0.0001872	0.0035	2		39946.04	39946.04	No	34	Si
SLU 79	fin.	3247.14	-7949	-0.0001339	0.0001872	0.0035	2		39913.02	39913.02	No	12.29	Si
SLU 78	ini.	-1135.94	-6562	-0.0000453	0.0001872	0.0035	2		39946.04	39946.04	No	35.17	Si
SLU 78	fin.	3238.39	-7882	-0.0001336	0.0001872	0.0035	2		39913.02	39913.02	No	12.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1103.87	2827	2	0	6250	15859	13475	12750	22109	No	7.82	Si
SLU 82	fin.	3226.53	7669	2	0	6250	15859	13475	12750	22109	No	2.88	Si
SLU 79	ini.	-1174.97	2980	2	0	6250	15859	13475	12750	22109	No	7.42	Si
SLU 79	fin.	3247.14	7821	2	0	6250	15859	13475	12750	22109	No	2.83	Si
SLU 78	ini.	-1135.94	2915	2	0	6250	15859	13475	12750	22109	No	7.58	Si
SLU 78	fin.	3238.39	7735	2	0	6250	15859	13475	12750	22109	No	2.86	Si
SLU 80	ini.	-1127.07	2899	2	0	6250	15859	13475	12750	22109	No	7.63	Si
SLU 80	fin.	3217.12	7676	2	0	6250	15859	13475	12750	22109	No	2.88	Si
SLU 83	ini.	-1166.8	2932	2	0	6250	15859	13475	12750	22109	No	7.54	Si
SLU 83	fin.	3298.12	7931	2	0	6250	15859	13475	12750	22109	No	2.79	Si
SLU 84	ini.	-1118.89	2852	2	0	6250	15859	13475	12750	22109	No	7.75	Si
SLU 84	fin.	3268.1	7785	2	0	6250	15859	13475	12750	22109	No	2.84	Si
SLU 77	ini.	-1183.84	2996	2	0	6250	15859	13475	12750	22109	No	7.38	Si
SLU 77	fin.	3268.41	7881	2	0	6250	15859	13475	12750	22109	No	2.81	Si
SLU 75	ini.	-1120.91	2890	2	0	6250	15859	13475	12750	22109	No	7.65	Si
SLU 75	fin.	3196.81	7619	2	0	6250	15859	13475	12750	22109	No	2.9	Si
SLU 74	ini.	-1168.82	2971	2	0	6250	15859	13475	12750	22109	No	7.44	Si
SLU 74	fin.	3226.83	7765	2	0	6250	15859	13475	12750	22109	No	2.85	Si
SLU 81	ini.	-1151.77	2907	2	0	6250	15859	13475	12750	22109	No	7.61	Si
SLU 81	fin.	3256.55	7814	2	0	6250	15859	13475	12750	22109	No	2.83	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-2557.08	-9081	-0.0001031	0.0002807	0.0035	2		40871.26	40871.26		15.98	Si
SLD 8	fin.	3520.65	-11435	-0.0001437	0.0002807	0.0035	2		40837.53	40837.53		11.6	Si
SLV 15	ini.	-2131.93	-3160	-0.0000855	0.0002807	0.0035	2		40871.26	40871.26		19.17	Si
SLV 15	fin.	3632.75	-5721	-0.0001485	0.0002807	0.0035	2		40837.53	40837.53		11.24	Si
SLD 7	ini.	-2316.75	-9018	-0.0000931	0.0002807	0.0035	2		40871.26	40871.26		17.64	Si
SLD 7	fin.	3377.61	-11097	-0.0001376	0.0002807	0.0035	2		40837.53	40837.53		12.09	Si
SLV 16	ini.	-2720.25	-3313	-0.0001099	0.0002807	0.0035	2		40871.26	40871.26		15.02	Si
SLV 16	fin.	3982.92	-6549	-0.0001635	0.0002807	0.0035	2		40837.53	40837.53		10.25	Si
SLV 7	ini.	-3365.63	-12125	-0.000137	0.0002807	0.0035	2		40871.26	40871.26		12.14	Si
SLV 7	fin.	4194.45	-15043	-0.0001726	0.0002807	0.0035	2		40837.53	40837.53		9.74	Si
SLV 8	ini.	-3761.66	-12228	-0.0001538	0.0002807	0.0035	2		40871.26	40871.26		10.87	Si
SLV 8	fin.	4430.17	-15601	-0.0001829	0.0002807	0.0035	2		40837.53	40837.53		9.22	Si
SLD 11	ini.	-2578.55	-7754	-0.000104	0.0002807	0.0035	2		40871.26	40871.26		15.85	Si
SLD 11	fin.	3703.81	-10306	-0.0001515	0.0002807	0.0035	2		40837.53	40837.53		11.03	Si
SLD 12	ini.	-2818.88	-7816	-0.000114	0.0002807	0.0035	2		40871.26	40871.26		14.5	Si
SLD 12	fin.	3846.85	-10644	-0.0001576	0.0002807	0.0035	2		40837.53	40837.53		10.62	Si
SLV 12	ini.	-4178.63	-10274	-0.0001718	0.0002807	0.0035	2		40871.26	40871.26		9.78	Si
SLV 12	fin.	4943.82	-14346	-0.0002055	0.0002807	0.0035	2		40837.53	40837.53		8.26	Si
SLV 11	ini.	-3782.6	-10171	-0.0001547	0.0002807	0.0035	2		40871.26	40871.26		10.81	Si
SLV 11	fin.	4708.1	-13789	-0.0001951	0.0002807	0.0035	2		40837.53	40837.53		8.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-3365.63	5845	2	0	6643	15859	20213	12750	22503		3.85	Si
SLV 7	fin.	4194.45	14049	2	0	6643	15859	20213	12750	22503		1.6	Si
SLD 11	ini.	-2578.55	5805	2	0	6643	15859	20213	12750	22503		3.88	Si
SLD 11	fin.	3703.81	11152	2	0	6643	15859	20213	12750	22503		2.02	Si
SLV 16	ini.	-2720.25	8526	2	0	6643	15859	20213	12750	22503		2.64	Si
SLV 16	fin.	3982.92	11050	2	0	6643	15859	20213	12750	22503		2.04	Si
SLV 12	ini.	-4178.63	9220	2	0	6643	15859	20213	12750	22503		2.44	Si
SLV 12	fin.	4943.82	16306	2	0	6643	15859	20213	12750	22503		1.38	Si
SLD 12	ini.	-2818.88	6425	2	0	6643	15859	20213	12750	22503		3.5	Si
SLD 12	fin.	3846.85	11838	2	0	6643	15859	20213	12750	22503		1.9	Si
SLD 8	ini.	-2557.08	4914	2	0	6643	15859	20213	12750	22503		4.58	Si
SLD 8	fin.	3520.65	11102	2	0	6643	15859	20213	12750	22503		2.03	Si
SLV 8	ini.	-3761.66	6866	2	0	6643	15859	20213	12750	22503		3.28	Si
SLV 8	fin.	4430.17	15178	2	0	6643	15859	20213	12750	22503		1.48	Si
SLV 15	ini.	-2131.93	7008	2	0	6643	15859	20213	12750	22503		3.21	Si
SLV 15	fin.	3632.75	9373	2	0	6643	15859	20213	12750	22503		2.4	Si
SLV 11	ini.	-3782.6	8199	2	0	6643	15859	20213	12750	22503		2.74	Si
SLV 11	fin.	4708.1	15177	2	0	6643	15859	20213	12750	22503		1.48	Si
SLD 7	ini.	-2316.75	4294	2	0	6643	15859	20213	12750	22503		5.24	Si
SLD 7	fin.	3377.61	10417	2	0	6643	15859	20213	12750	22503		2.16	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.26	SLV 12	Si
V_SLV	1.38	SLV 12	Si
PF_SLU	12.102	SLU 83	Si
V_SLU	2.788	SLU 83	Si

Trave di accoppiamento 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-19.618	1.366	0.05	0.67	0.62	-19.618	2.071	0.05	0.67	0.62	0.705	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	525.3	-1349	-0.0000897	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.86	Si
SLU 78	fin.	-1417.54	-4087	-0.0002844	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.52	Si
SLU 77	ini.	532.97	-1382	-0.0000911	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.64	Si
SLU 77	fin.	-1446.1	-4177	-0.0002921	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.41	Si
SLU 82	ini.	528.8	-1352	-0.0000903	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.76	Si
SLU 82	fin.	-1425.52	-4103	-0.0002866	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.49	Si
SLU 79	ini.	529.2	-1371	-0.0000904	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.75	Si
SLU 79	fin.	-1435.65	-4146	-0.0002893	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.45	Si
SLU 74	ini.	525.49	-1360	-0.0000897	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.85	Si
SLU 74	fin.	-1425.27	-4114	-0.0002865	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.49	Si
SLU 81	ini.	536.47	-1384	-0.0000917	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.55	Si
SLU 81	fin.	-1454.09	-4193	-0.0002943	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.38	Si
SLU 84	ini.	536.28	-1373	-0.0000917	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.55	Si
SLU 84	fin.	-1446.35	-4165	-0.0002922	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.41	Si
SLU 75	ini.	517.82	-1328	-0.0000883	0.0002246	0.0035	0.62		7803.94	7803.94	No	15.07	Si
SLU 75	fin.	-1396.7	-4024	-0.0002789	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.6	Si
SLU 83	ini.	543.95	-1406	-0.0000931	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.35	Si
SLU 83	fin.	-1474.92	-4255	-0.0003	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.31	Si
SLU 80	ini.	521.52	-1338	-0.000089	0.0002246	0.0035	0.62		7803.94	7803.94	No	14.96	Si
SLU 80	fin.	-1407.08	-4055	-0.0002816	0.0002246	0.0035	0.62		7824.59	7824.59	No	5.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	536.28	-1696	0.62	2624	1550	28093	3342	7905	11247	No	6.63	Si
SLU 84	fin.	-1446.35	-6326	0.62	6389	1550	28093	3342	7905	11247	No	1.78	Si
SLU 82	ini.	528.8	-1666	0.62	2589	1550	28093	3342	7905	11247	No	6.75	Si
SLU 82	fin.	-1425.52	-6240	0.62	6314	1550	28093	3342	7905	11247	No	1.8	Si
SLU 79	ini.	529.2	-1711	0.62	2591	1550	28093	3342	7905	11247	No	6.57	Si
SLU 79	fin.	-1435.65	-6247	0.62	6351	1550	28093	3342	7905	11247	No	1.8	Si
SLU 83	ini.	543.95	-1753	0.62	2660	1550	28093	3342	7905	11247	No	6.42	Si
SLU 83	fin.	-1474.92	-6422	0.62	6490	1550	28093	3342	7905	11247	No	1.75	Si
SLU 78	ini.	525.3	-1668	0.62	2573	1550	28093	3342	7905	11247	No	6.74	Si
SLU 78	fin.	-1417.54	-6193	0.62	6286	1550	28093	3342	7905	11247	No	1.82	Si
SLU 77	ini.	532.97	-1726	0.62	2609	1550	28093	3342	7905	11247	No	6.52	Si
SLU 77	fin.	-1446.1	-6290	0.62	6388	1550	28093	3342	7905	11247	No	1.79	Si
SLU 75	ini.	517.82	-1638	0.62	2538	1550	28093	3342	7905	11247	No	6.87	Si
SLU 75	fin.	-1396.7	-6108	0.62	6211	1550	28093	3342	7905	11247	No	1.84	Si
SLU 74	ini.	525.49	-1696	0.62	2574	1550	28093	3342	7905	11247	No	6.63	Si
SLU 74	fin.	-1425.27	-6204	0.62	6313	1550	28093	3342	7905	11247	No	1.81	Si
SLU 81	ini.	536.47	-1723	0.62	2625	1550	28093	3342	7905	11247	No	6.53	Si
SLU 81	fin.	-1454.09	-6337	0.62	6416	1550	28093	3342	7905	11247	No	1.77	Si
SLU 80	ini.	521.52	-1653	0.62	2555	1550	28093	3342	7905	11247	No	6.8	Si
SLU 80	fin.	-1407.08	-6150	0.62	6248	1550	28093	3342	7905	11247	No	1.83	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	594.67	-1955	-0.0000999	0.0003369	0.0035	0.62		8294.07	8294.07		13.95	Si
SLD 11	fin.	-1884.05	-5692	-0.0003666	0.0003369	0.0035	0.62		8316.03	8316.03		4.41	Si
SLV 11	ini.	766.24	-2693	-0.0001308	0.0003369	0.0035	0.62		8294.07	8294.07		10.82	Si
SLV 11	fin.	-2539.87	-7766	-0.0005504	0.0003369	0.0035	0.62		8316.03	8316.03		3.27	Si
SLD 7	ini.	634.72	-2030	-0.000107	0.0003369	0.0035	0.62		8294.07	8294.07		13.07	Si
SLD 7	fin.	-1955.59	-5894	-0.000385	0.0003369	0.0035	0.62		8316.03	8316.03		4.25	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	580.56	-1610	-0.0000974	0.0003369	0.0035	0.62		8294.07	8294.07		14.29	Si
SLV 3	fin.	-1592.98	-4701	-0.0002969	0.0003369	0.0035	0.62		8316.03	8316.03		5.22	Si
SLV 7	ini.	828.86	-2810	-0.0001423	0.0003369	0.0035	0.62		8294.07	8294.07		10.01	Si
SLV 7	fin.	-2651.54	-8081	-0.0005849	0.0003369	0.0035	0.62		8316.03	8316.03		3.14	Si
SLV 12	ini.	786.57	-2784	-0.0001345	0.0003369	0.0035	0.62		8294.07	8294.07		10.54	Si
SLV 12	fin.	-2618.07	-8014	-0.0005745	0.0003369	0.0035	0.62		8316.03	8316.03		3.18	Si
SLV 8	ini.	849.19	-2901	-0.000146	0.0003369	0.0035	0.62		8294.07	8294.07		9.77	Si
SLV 8	fin.	-2729.74	-8329	-0.0006094	0.0003369	0.0035	0.62		8316.03	8316.03		3.05	Si
SLD 12	ini.	607.01	-2010	-0.0001021	0.0003369	0.0035	0.62		8294.07	8294.07		13.66	Si
SLD 12	fin.	-1931.51	-5842	-0.0003787	0.0003369	0.0035	0.62		8316.03	8316.03		4.31	Si
SLD 8	ini.	647.06	-2085	-0.0001092	0.0003369	0.0035	0.62		8294.07	8294.07		12.82	Si
SLD 8	fin.	-2003.04	-6044	-0.0003974	0.0003369	0.0035	0.62		8316.03	8316.03		4.15	Si
SLV 4	ini.	610.76	-1744	-0.0001028	0.0003369	0.0035	0.62		8294.07	8294.07		13.58	Si
SLV 4	fin.	-1709.16	-5069	-0.0003238	0.0003369	0.0035	0.62		8316.03	8316.03		4.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	594.67	-3030	0.62	4412	2325	28093	5013	7905	12918		4.26	Si
SLD 11	fin.	-1884.05	-7275	0.62	12754	2325	28093	5013	7905	12918		1.78	Si
SLD 7	ini.	634.72	-3110	0.62	4699	2325	28093	5013	7905	12918		4.15	Si
SLD 7	fin.	-1955.59	-7612	0.62	13151	2325	28093	5013	7905	12918		1.7	Si
SLV 7	ini.	828.86	-4499	0.62	6069	2325	28093	5013	7905	12918		2.87	Si
SLV 7	fin.	-2651.54	-9995	0.62	16250	2325	28093	5013	7905	12918		1.29	Si
SLV 3	ini.	580.56	-2240	0.62	4310	2325	28093	5013	7905	12918		5.77	Si
SLV 3	fin.	-1592.98	-6584	0.62	11054	2325	28093	5013	7905	12918		1.96	Si
SLV 8	ini.	849.19	-4657	0.62	6211	2325	28093	5013	7905	12918		2.77	Si
SLV 8	fin.	-2729.74	-10253	0.62	16250	2325	28093	5013	7905	12918		1.26	Si
SLV 4	ini.	610.76	-2475	0.62	4527	2325	28093	5013	7905	12918		5.22	Si
SLV 4	fin.	-1709.16	-6968	0.62	11749	2325	28093	5013	7905	12918		1.85	Si
SLD 8	ini.	647.06	-3206	0.62	4787	2325	28093	5013	7905	12918		4.03	Si
SLD 8	fin.	-2003.04	-7769	0.62	13410	2325	28093	5013	7905	12918		1.66	Si
SLD 12	ini.	607.01	-3126	0.62	4500	2325	28093	5013	7905	12918		4.13	Si
SLD 12	fin.	-1931.51	-7432	0.62	13018	2325	28093	5013	7905	12918		1.74	Si
SLV 12	ini.	786.57	-4532	0.62	5774	2325	28093	5013	7905	12918		2.85	Si
SLV 12	fin.	-2618.07	-9728	0.62	16250	2325	28093	5013	7905	12918		1.33	Si
SLV 11	ini.	766.24	-4374	0.62	5631	2325	28093	5013	7905	12918		2.95	Si
SLV 11	fin.	-2539.87	-9470	0.62	16169	2325	28093	5013	7905	12918		1.36	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.046	SLV 8	Si
V_SLV	1.26	SLV 8	Si
PF_SLU	5.305	SLU 83	Si
V_SLU	1.751	SLU 83	Si

Trave di accoppiamento 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-19.618	4.851	0.05	0.67	0.62	-19.618	5.651	0.05	0.67	0.62	0.8	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-2215.45	-3643	-0.0005256	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.53	Si
SLU 79	fin.	1146.74	458	-0.0002171	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.81	Si
SLU 75	ini.	-2221.25	-3664	-0.0005275	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.52	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	1155.74	458	-0.0002192	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.75	Si
SLU 81	ini.	-2243.71	-3693	-0.000535	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.49	Si
SLU 81	fin.	1160.36	464	-0.0002203	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.73	Si
SLU 78	ini.	-2244.31	-3700	-0.0005352	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.49	Si
SLU 78	fin.	1166.24	461	-0.0002217	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.69	Si
SLU 82	ini.	-2260.47	-3730	-0.0005405	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.46	Si
SLU 82	fin.	1174.15	466	-0.0002235	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.65	Si
SLU 76	ini.	-2220.33	-3670	-0.0005272	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.52	Si
SLU 76	fin.	1159.25	458	-0.00022	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.73	Si
SLU 80	ini.	-2232.22	-3681	-0.0005311	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.51	Si
SLU 80	fin.	1160.54	460	-0.0002203	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.72	Si
SLU 84	ini.	-2283.53	-3766	-0.0005482	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.43	Si
SLU 84	fin.	1184.65	469	-0.0002261	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.59	Si
SLU 77	ini.	-2227.55	-3663	-0.0005296	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.51	Si
SLU 77	fin.	1152.44	459	-0.0002184	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.77	Si
SLU 83	ini.	-2266.77	-3729	-0.0005426	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.45	Si
SLU 83	fin.	1170.85	467	-0.0002228	0.0002246	0.0035	0.62		7803.94	7803.94	No	6.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-2260.47	9272	0.62	9056	1550	28093	3342	7905	11247	No	1.21	Si
SLU 82	fin.	1174.15	2229	0.62	5388	1550	28093	3342	7905	11247	No	5.05	Si
SLU 80	ini.	-2232.22	9157	0.62	8969	1550	28093	3342	7905	11247	No	1.23	Si
SLU 80	fin.	1160.54	2201	0.62	5334	1550	28093	3342	7905	11247	No	5.11	Si
SLU 76	ini.	-2220.33	9080	0.62	8932	1550	28093	3342	7905	11247	No	1.24	Si
SLU 76	fin.	1159.25	2242	0.62	5329	1550	28093	3342	7905	11247	No	5.02	Si
SLU 75	ini.	-2221.25	9107	0.62	8935	1550	28093	3342	7905	11247	No	1.23	Si
SLU 75	fin.	1155.74	2200	0.62	5315	1550	28093	3342	7905	11247	No	5.11	Si
SLU 81	ini.	-2243.71	9235	0.62	9004	1550	28093	3342	7905	11247	No	1.22	Si
SLU 81	fin.	1160.36	2157	0.62	5334	1550	28093	3342	7905	11247	No	5.21	Si
SLU 78	ini.	-2244.31	9209	0.62	9006	1550	28093	3342	7905	11247	No	1.22	Si
SLU 78	fin.	1166.24	2207	0.62	5357	1550	28093	3342	7905	11247	No	5.1	Si
SLU 83	ini.	-2266.77	9337	0.62	9076	1550	28093	3342	7905	11247	No	1.2	Si
SLU 83	fin.	1170.85	2164	0.62	5375	1550	28093	3342	7905	11247	No	5.2	Si
SLU 77	ini.	-2227.55	9172	0.62	8954	1550	28093	3342	7905	11247	No	1.23	Si
SLU 77	fin.	1152.44	2135	0.62	5302	1550	28093	3342	7905	11247	No	5.27	Si
SLU 79	ini.	-2215.45	9120	0.62	8917	1550	28093	3342	7905	11247	No	1.23	Si
SLU 79	fin.	1146.74	2129	0.62	5280	1550	28093	3342	7905	11247	No	5.28	Si
SLU 84	ini.	-2283.53	9374	0.62	9127	1550	28093	3342	7905	11247	No	1.2	Si
SLU 84	fin.	1184.65	2237	0.62	5429	1550	28093	3342	7905	11247	No	5.03	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-2385.69	-4721	-0.0005043	0.0003369	0.0035	0.62		8316.03	8316.03		3.49	Si
SLV 6	fin.	1527.3	322	-0.0002831	0.0003369	0.0035	0.62		8294.07	8294.07		5.43	Si
SLD 9	ini.	-1925.55	-3607	-0.0003772	0.0003369	0.0035	0.62		8316.03	8316.03		4.32	Si
SLD 9	fin.	1178.39	341	-0.0002096	0.0003369	0.0035	0.62		8294.07	8294.07		7.04	Si
SLV 10	ini.	-2122	-4202	-0.0004294	0.0003369	0.0035	0.62		8316.03	8316.03		3.92	Si
SLV 10	fin.	1385.05	350	-0.0002522	0.0003369	0.0035	0.62		8294.07	8294.07		5.99	Si
SLD 6	ini.	-2041.3	-3828	-0.0004075	0.0003369	0.0035	0.62		8316.03	8316.03		4.07	Si
SLD 6	fin.	1232.09	323	-0.0002204	0.0003369	0.0035	0.62		8294.07	8294.07		6.73	Si
SLV 9	ini.	-2209.66	-4386	-0.0004537	0.0003369	0.0035	0.62		8316.03	8316.03		3.76	Si
SLV 9	fin.	1446.64	350	-0.0002654	0.0003369	0.0035	0.62		8294.07	8294.07		5.73	Si
SLD 1	ini.	-1994.52	-3533	-0.0003951	0.0003369	0.0035	0.62		8316.03	8316.03		4.17	Si
SLD 1	fin.	1106.29	298	-0.0001952	0.0003369	0.0035	0.62		8294.07	8294.07		7.5	Si
SLV 1	ini.	-2270.5	-4145	-0.0004709	0.0003369	0.0035	0.62		8316.03	8316.03		3.66	Si
SLV 1	fin.	1292.84	283	-0.0002329	0.0003369	0.0035	0.62		8294.07	8294.07		6.42	Si
SLV 5	ini.	-2473.36	-4905	-0.0005303	0.0003369	0.0035	0.62		8316.03	8316.03		3.36	Si
SLV 5	fin.	1588.9	323	-0.0002969	0.0003369	0.0035	0.62		8294.07	8294.07		5.22	Si
SLD 5	ini.	-2094.5	-3940	-0.0004219	0.0003369	0.0035	0.62		8316.03	8316.03		3.97	Si
SLD 5	fin.	1269.46	323	-0.000228	0.0003369	0.0035	0.62		8294.07	8294.07		6.53	Si
SLV 2	ini.	-2140.28	-3871	-0.0004344	0.0003369	0.0035	0.62		8316.03	8316.03		3.89	Si
SLV 2	fin.	1201.34	282	-0.0002142	0.0003369	0.0035	0.62		8294.07	8294.07		6.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-2140.28	7818	0.62	14145	2156	28093	5013	7905	12918		1.65	Si
SLV 2	fin.	1201.34	3393	0.62	8596	2156	28093	5013	7905	12918		3.81	Si
SLD 4	ini.	-1644.65	7086	0.62	11365	2156	28093	5013	7905	12918		1.82	Si
SLD 4	fin.	808.44	1259	0.62	5927	2156	28093	5013	7905	12918		10.26	Si
SLD 1	ini.	-1994.52	7498	0.62	13364	2156	28093	5013	7905	12918		1.72	Si
SLD 1	fin.	1106.29	2928	0.62	7965	2156	28093	5013	7905	12918		4.41	Si
SLV 6	ini.	-2385.69	7133	0.62	15406	2156	28093	5013	7905	12918		1.81	Si
SLV 6	fin.	1527.3	5676	0.62	10677	2156	28093	5013	7905	12918		2.28	Si
SLV 4	ini.	-1684.47	7521	0.62	11603	2156	28093	5013	7905	12918		1.72	Si
SLV 4	fin.	792.5	991	0.62	5815	2156	28093	5013	7905	12918		13.04	Si
SLD 3	ini.	-1727.26	7318	0.62	11855	2156	28093	5013	7905	12918		1.77	Si
SLD 3	fin.	866.49	1518	0.62	6331	2156	28093	5013	7905	12918		8.51	Si
SLD 2	ini.	-1911.9	7267	0.62	12909	2156	28093	5013	7905	12918		1.78	Si
SLD 2	fin.	1048.24	2669	0.62	7575	2156	28093	5013	7905	12918		4.84	Si
SLV 3	ini.	-1814.69	7887	0.62	12361	2156	28093	5013	7905	12918		1.64	Si
SLV 3	fin.	884	1399	0.62	6452	2156	28093	5013	7905	12918		9.24	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-2270.5	8184	0.62	14821	2156	28093	5013	7905	12918		1.58	Si
SLV 1	fin.	1292.84	3801	0.62	9193	2156	28093	5013	7905	12918		3.4	Si
SLV 5	ini.	-2473.36	7379	0.62	15842	2156	28093	5013	7905	12918		1.75	Si
SLV 5	fin.	1588.9	5950	0.62	11055	2156	28093	5013	7905	12918		2.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.362	SLV 5	Si
V_SLV	1.579	SLV 1	Si
PF_SLU	3.427	SLU 84	Si
V_SLU	1.2	SLU 84	Si

Trave di accoppiamento 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.573	-3.284	-1.95	0.05	2	-22.573	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-3210.77	-3778	-0.0001322	0.0001872	0.0035	2		39946.04	39946.04	No	12.44	Si
SLU 84	fin.	2949.67	-7493	-0.000121	0.0001872	0.0035	2		39913.02	39913.02	No	13.53	Si
SLU 78	ini.	-3174.53	-3691	-0.0001307	0.0001872	0.0035	2		39946.04	39946.04	No	12.58	Si
SLU 78	fin.	2898.86	-7361	-0.0001189	0.0001872	0.0035	2		39913.02	39913.02	No	13.77	Si
SLU 76	ini.	-3140.93	-3659	-0.0001292	0.0001872	0.0035	2		39946.04	39946.04	No	12.72	Si
SLU 76	fin.	2856.9	-7276	-0.0001171	0.0001872	0.0035	2		39913.02	39913.02	No	13.97	Si
SLU 77	ini.	-3142.59	-3650	-0.0001293	0.0001872	0.0035	2		39946.04	39946.04	No	12.71	Si
SLU 77	fin.	2893.9	-7304	-0.0001186	0.0001872	0.0035	2		39913.02	39913.02	No	13.79	Si
SLU 79	ini.	-3121.69	-3627	-0.0001284	0.0001872	0.0035	2		39946.04	39946.04	No	12.8	Si
SLU 79	fin.	2875.57	-7256	-0.0001179	0.0001872	0.0035	2		39913.02	39913.02	No	13.88	Si
SLU 80	ini.	-3153.63	-3668	-0.0001298	0.0001872	0.0035	2		39946.04	39946.04	No	12.67	Si
SLU 80	fin.	2880.53	-7313	-0.0001181	0.0001872	0.0035	2		39913.02	39913.02	No	13.86	Si
SLU 83	ini.	-3178.83	-3737	-0.0001308	0.0001872	0.0035	2		39946.04	39946.04	No	12.57	Si
SLU 83	fin.	2944.7	-7436	-0.0001208	0.0001872	0.0035	2		39913.02	39913.02	No	13.55	Si
SLU 82	ini.	-3176.77	-3742	-0.0001308	0.0001872	0.0035	2		39946.04	39946.04	No	12.57	Si
SLU 82	fin.	2922.73	-7418	-0.0001199	0.0001872	0.0035	2		39913.02	39913.02	No	13.66	Si
SLU 75	ini.	-3140.53	-3655	-0.0001292	0.0001872	0.0035	2		39946.04	39946.04	No	12.72	Si
SLU 75	fin.	2871.93	-7286	-0.0001177	0.0001872	0.0035	2		39913.02	39913.02	No	13.9	Si
SLU 81	ini.	-3144.83	-3701	-0.0001294	0.0001872	0.0035	2		39946.04	39946.04	No	12.7	Si
SLU 81	fin.	2917.77	-7361	-0.0001197	0.0001872	0.0035	2		39913.02	39913.02	No	13.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-3121.69	7369	2	0	6250	15859	13475	12750	22109	No	3	Si
SLU 79	fin.	2875.57	11689	2	0	6250	15859	13475	12750	22109	No	1.89	Si
SLU 75	ini.	-3140.53	7360	2	0	6250	15859	13475	12750	22109	No	3	Si
SLU 75	fin.	2871.93	11736	2	0	6250	15859	13475	12750	22109	No	1.88	Si
SLU 81	ini.	-3144.83	7386	2	0	6250	15859	13475	12750	22109	No	2.99	Si
SLU 81	fin.	2917.77	11863	2	0	6250	15859	13475	12750	22109	No	1.86	Si
SLU 83	ini.	-3178.83	7461	2	0	6250	15859	13475	12750	22109	No	2.96	Si
SLU 83	fin.	2944.7	11986	2	0	6250	15859	13475	12750	22109	No	1.84	Si
SLU 80	ini.	-3153.63	7387	2	0	6250	15859	13475	12750	22109	No	2.99	Si
SLU 80	fin.	2880.53	11780	2	0	6250	15859	13475	12750	22109	No	1.88	Si
SLU 84	ini.	-3210.77	7479	2	0	6250	15859	13475	12750	22109	No	2.96	Si
SLU 84	fin.	2949.67	12077	2	0	6250	15859	13475	12750	22109	No	1.83	Si
SLU 78	ini.	-3174.53	7435	2	0	6250	15859	13475	12750	22109	No	2.97	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	2898.86	11859	2	0	6250	15859	13475	12750	22109	No	1.86	Si
SLU 77	ini.	-3142.59	7418	2	0	6250	15859	13475	12750	22109	No	2.98	Si
SLU 77	fin.	2893.9	11768	2	0	6250	15859	13475	12750	22109	No	1.88	Si
SLU 76	ini.	-3140.93	7323	2	0	6250	15859	13475	12750	22109	No	3.02	Si
SLU 76	fin.	2856.9	11718	2	0	6250	15859	13475	12750	22109	No	1.89	Si
SLU 82	ini.	-3176.77	7403	2	0	6250	15859	13475	12750	22109	No	2.99	Si
SLU 82	fin.	2922.73	11954	2	0	6250	15859	13475	12750	22109	No	1.85	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-6059.64	-9226	-0.0002555	0.0002807	0.0035	2		40871.26	40871.26		6.74	Si
SLV 5	fin.	3385.16	-14685	-0.0001379	0.0002807	0.0035	2		40837.53	40837.53		12.06	Si
SLD 5	ini.	-4443.24	-6469	-0.0001833	0.0002807	0.0035	2		40871.26	40871.26		9.2	Si
SLD 5	fin.	2795.63	-10703	-0.0001131	0.0002807	0.0035	2		40837.53	40837.53		14.61	Si
SLV 10	ini.	-6410.51	-7834	-0.0002717	0.0002807	0.0035	2		40871.26	40871.26		6.38	Si
SLV 10	fin.	3989.59	-13762	-0.0001638	0.0002807	0.0035	2		40837.53	40837.53		10.24	Si
SLV 14	ini.	-4364.78	-2341	-0.0001799	0.0002807	0.0035	2		40871.26	40871.26		9.36	Si
SLV 14	fin.	3616.18	-6874	-0.0001478	0.0002807	0.0035	2		40837.53	40837.53		11.29	Si
SLD 9	ini.	-4923.26	-5822	-0.0002044	0.0002807	0.0035	2		40871.26	40871.26		8.3	Si
SLD 9	fin.	3247.14	-10535	-0.0001321	0.0002807	0.0035	2		40837.53	40837.53		12.58	Si
SLD 10	ini.	-4673.63	-5585	-0.0001934	0.0002807	0.0035	2		40871.26	40871.26		8.75	Si
SLD 10	fin.	3179.73	-10121	-0.0001292	0.0002807	0.0035	2		40837.53	40837.53		12.84	Si
SLV 13	ini.	-4975.87	-2921	-0.0002067	0.0002807	0.0035	2		40871.26	40871.26		8.21	Si
SLV 13	fin.	3781.21	-7887	-0.0001548	0.0002807	0.0035	2		40837.53	40837.53		10.8	Si
SLV 6	ini.	-5648.29	-8836	-0.0002368	0.0002807	0.0035	2		40871.26	40871.26		7.24	Si
SLV 6	fin.	3274.08	-14004	-0.0001332	0.0002807	0.0035	2		40837.53	40837.53		12.47	Si
SLD 6	ini.	-4193.61	-6233	-0.0001724	0.0002807	0.0035	2		40871.26	40871.26		9.75	Si
SLD 6	fin.	2728.21	-10290	-0.0001103	0.0002807	0.0035	2		40837.53	40837.53		14.97	Si
SLV 9	ini.	-6821.87	-8225	-0.0002909	0.0002807	0.0035	2		40871.26	40871.26		5.99	Si
SLV 9	fin.	4100.68	-14444	-0.0001686	0.0002807	0.0035	2		40837.53	40837.53		9.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-6821.87	13699	2	0	6643	15859	20213	12750	22503		1.64	Si
SLV 9	fin.	4100.68	20146	2	0	6643	15859	20213	12750	22503		1.12	Si
SLD 9	ini.	-4923.26	10287	2	0	6643	15859	20213	12750	22503		2.19	Si
SLD 9	fin.	3247.14	15187	2	0	6643	15859	20213	12750	22503		1.48	Si
SLD 10	ini.	-4673.63	9827	2	0	6643	15859	20213	12750	22503		2.29	Si
SLD 10	fin.	3179.73	14659	2	0	6643	15859	20213	12750	22503		1.54	Si
SLV 14	ini.	-4364.78	10753	2	0	6643	15859	20213	12750	22503		2.09	Si
SLV 14	fin.	3616.18	12994	2	0	6643	15859	20213	12750	22503		1.73	Si
SLV 5	ini.	-6059.64	11288	2	0	6643	15859	20213	12750	22503		1.99	Si
SLV 5	fin.	3385.16	18772	2	0	6643	15859	20213	12750	22503		1.2	Si
SLD 6	ini.	-4193.61	8275	2	0	6643	15859	20213	12750	22503		2.72	Si
SLD 6	fin.	2728.21	13770	2	0	6643	15859	20213	12750	22503		1.63	Si
SLD 5	ini.	-4443.24	8735	2	0	6643	15859	20213	12750	22503		2.58	Si
SLD 5	fin.	2795.63	14299	2	0	6643	15859	20213	12750	22503		1.57	Si
SLV 6	ini.	-5648.29	10530	2	0	6643	15859	20213	12750	22503		2.14	Si
SLV 6	fin.	3274.08	17901	2	0	6643	15859	20213	12750	22503		1.26	Si
SLV 10	ini.	-6410.51	12940	2	0	6643	15859	20213	12750	22503		1.74	Si
SLV 10	fin.	3989.59	19275	2	0	6643	15859	20213	12750	22503		1.17	Si
SLV 13	ini.	-4975.87	11879	2	0	6643	15859	20213	12750	22503		1.89	Si
SLV 13	fin.	3781.21	14288	2	0	6643	15859	20213	12750	22503		1.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.991	SLV 9	Si
V_SLV	1.117	SLV 9	Si
PF_SLU	12.441	SLU 84	Si
V_SLU	1.831	SLU 84	Si

Trave di accoppiamento 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.273	-3.284	-1.95	0.05	2	-18.273	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 62	ini.	889.89	-16903	-0.0000354	0.0001872	0.0035	2		39913.02	39913.02	No	44.85	Si
SLU 62	fin.	-872.79	-8387	-0.0000346	0.0001872	0.0035	2		39946.04	39946.04	No	45.77	Si
SLU 41	ini.	893.43	-15998	-0.0000355	0.0001872	0.0035	2		39913.02	39913.02	No	44.67	Si
SLU 41	fin.	-696.93	-8165	-0.0000276	0.0001872	0.0035	2		39946.04	39946.04	No	57.32	Si
SLU 77	ini.	906.26	-18188	-0.000036	0.0001872	0.0035	2		39913.02	39913.02	No	44.04	Si
SLU 77	fin.	-888.62	-9149	-0.0000353	0.0001872	0.0035	2		39946.04	39946.04	No	44.95	Si
SLU 79	ini.	909.56	-18108	-0.0000361	0.0001872	0.0035	2		39913.02	39913.02	No	43.88	Si
SLU 79	fin.	-888.28	-9102	-0.0000353	0.0001872	0.0035	2		39946.04	39946.04	No	44.97	Si
SLU 39	ini.	880.43	-15860	-0.000035	0.0001872	0.0035	2		39913.02	39913.02	No	45.33	Si
SLU 39	fin.	-678.48	-8117	-0.0000269	0.0001872	0.0035	2		39946.04	39946.04	No	58.88	Si
SLU 83	ini.	993.69	-18765	-0.0000395	0.0001872	0.0035	2		39913.02	39913.02	No	40.17	Si
SLU 83	fin.	-882.14	-9477	-0.000035	0.0001872	0.0035	2		39946.04	39946.04	No	45.28	Si
SLU 84	ini.	928.18	-18860	-0.0000369	0.0001872	0.0035	2		39913.02	39913.02	No	43	Si
SLU 84	fin.	-816.22	-9632	-0.0000324	0.0001872	0.0035	2		39946.04	39946.04	No	48.94	Si
SLU 81	ini.	980.7	-18626	-0.000039	0.0001872	0.0035	2		39913.02	39913.02	No	40.7	Si
SLU 81	fin.	-863.69	-9429	-0.0000343	0.0001872	0.0035	2		39946.04	39946.04	No	46.25	Si
SLU 82	ini.	915.18	-18721	-0.0000364	0.0001872	0.0035	2		39913.02	39913.02	No	43.61	Si
SLU 82	fin.	-797.77	-9584	-0.0000316	0.0001872	0.0035	2		39946.04	39946.04	No	50.07	Si
SLU 74	ini.	893.26	-18050	-0.0000355	0.0001872	0.0035	2		39913.02	39913.02	No	44.68	Si
SLU 74	fin.	-870.16	-9101	-0.0000345	0.0001872	0.0035	2		39946.04	39946.04	No	45.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	993.69	-11422	2	0	6250	15859	13475	12750	22109	No	1.94	Si
SLU 83	fin.	-882.14	-10922	2	0	6250	15859	13475	12750	22109	No	2.02	Si
SLU 75	ini.	827.74	-10751	2	0	6250	15859	13475	12750	22109	No	2.06	Si
SLU 75	fin.	-804.24	-10316	2	0	6250	15859	13475	12750	22109	No	2.14	Si
SLU 81	ini.	980.7	-11294	2	0	6250	15859	13475	12750	22109	No	1.96	Si
SLU 81	fin.	-863.69	-10808	2	0	6250	15859	13475	12750	22109	No	2.05	Si
SLU 79	ini.	909.56	-11017	2	0	6250	15859	13475	12750	22109	No	2.01	Si
SLU 79	fin.	-888.28	-10608	2	0	6250	15859	13475	12750	22109	No	2.08	Si
SLU 74	ini.	893.26	-10923	2	0	6250	15859	13475	12750	22109	No	2.02	Si
SLU 74	fin.	-870.16	-10519	2	0	6250	15859	13475	12750	22109	No	2.1	Si
SLU 77	ini.	906.26	-11052	2	0	6250	15859	13475	12750	22109	No	2	Si
SLU 77	fin.	-888.62	-10633	2	0	6250	15859	13475	12750	22109	No	2.08	Si
SLU 84	ini.	928.18	-11250	2	0	6250	15859	13475	12750	22109	No	1.97	Si
SLU 84	fin.	-816.22	-10719	2	0	6250	15859	13475	12750	22109	No	2.06	Si
SLU 80	ini.	844.05	-10845	2	0	6250	15859	13475	12750	22109	No	2.04	Si
SLU 80	fin.	-822.36	-10405	2	0	6250	15859	13475	12750	22109	No	2.12	Si
SLU 78	ini.	840.74	-10880	2	0	6250	15859	13475	12750	22109	No	2.03	Si
SLU 78	fin.	-822.7	-10429	2	0	6250	15859	13475	12750	22109	No	2.12	Si
SLU 82	ini.	915.18	-11122	2	0	6250	15859	13475	12750	22109	No	1.99	Si
SLU 82	fin.	-797.77	-10605	2	0	6250	15859	13475	12750	22109	No	2.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	3115.24	-14286	-0.0001265	0.0002807	0.0035	2		40837.53	40837.53		13.11	Si
SLD 4	fin.	-2861.67	-2961	-0.0001158	0.0002807	0.0035	2		40871.26	40871.26		14.28	Si
SLV 14	ini.	-3085.7	-10104	-0.0001252	0.0002807	0.0035	2		40871.26	40871.26		13.25	Si
SLV 14	fin.	2460.79	-10744	-0.0000992	0.0002807	0.0035	2		40837.53	40837.53		16.6	Si
SLV 12	ini.	2675.22	-3823	-0.0001081	0.0002807	0.0035	2		40837.53	40837.53		15.27	Si
SLV 12	fin.	-3219.14	727	-0.0001308	0.0002807	0.0035	2		40871.26	40871.26		12.7	Si
SLV 7	ini.	4167.96	-6363	-0.0001715	0.0002807	0.0035	2		40837.53	40837.53		9.8	Si
SLV 7	fin.	-4344.48	1825	-0.000179	0.0002807	0.0035	2		40871.26	40871.26		9.41	Si
SLV 8	ini.	4474.02	-6654	-0.0001848	0.0002807	0.0035	2		40837.53	40837.53		9.13	Si
SLV 8	fin.	-4648.97	2319	-0.0001923	0.0002807	0.0035	2		40871.26	40871.26		8.79	Si
SLV 10	ini.	-3073.42	-18459	-0.0001246	0.0002807	0.0035	2		40871.26	40871.26		13.3	Si
SLV 10	fin.	3066.58	-14246	-0.0001245	0.0002807	0.0035	2		40837.53	40837.53		13.32	Si
SLV 4	ini.	4634.91	-15150	-0.0001918	0.0002807	0.0035	2		40837.53	40837.53		8.81	Si
SLV 4	fin.	-4191.02	-943	-0.0001723	0.0002807	0.0035	2		40871.26	40871.26		9.75	Si
SLV 3	ini.	4180.24	-14718	-0.000172	0.0002807	0.0035	2		40837.53	40837.53		9.77	Si
SLV 3	fin.	-3738.69	-1678	-0.0001529	0.0002807	0.0035	2		40871.26	40871.26		10.93	Si
SLV 13	ini.	-3540.37	-9672	-0.0001444	0.0002807	0.0035	2		40871.26	40871.26		11.54	Si
SLV 13	fin.	2913.12	-11479	-0.000118	0.0002807	0.0035	2		40837.53	40837.53		14.02	Si
SLV 9	ini.	-3379.48	-18168	-0.0001376	0.0002807	0.0035	2		40871.26	40871.26		12.09	Si
SLV 9	fin.	3371.06	-14741	-0.0001373	0.0002807	0.0035	2		40837.53	40837.53		12.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	4167.96	-15119	2	0	6643	15859	20213	12750	22503		1.49	Si
SLV 7	fin.	-4344.48	-17165	2	0	6643	15859	20213	12750	22503		1.31	Si
SLV 4	ini.	4634.91	-22466	2	0	6643	15859	20213	12750	22503		1	Si
SLV 4	fin.	-4191.02	-22666	2	0	6643	15859	20213	12750	22503		0.99	No
SLV 1	ini.	2455.65	-17683	2	0	6643	15859	20213	12750	22503		1.27	Si
SLV 1	fin.	-1852.98	-16476	2	0	6643	15859	20213	12750	22503		1.37	Si
SLV 3	ini.	4180.24	-20422	2	0	6643	15859	20213	12750	22503		1.1	Si
SLV 3	fin.	-3738.69	-20591	2	0	6643	15859	20213	12750	22503		1.09	Si
SLV 2	ini.	2910.32	-19727	2	0	6643	15859	20213	12750	22503		1.14	Si
SLV 2	fin.	-2305.31	-18550	2	0	6643	15859	20213	12750	22503		1.21	Si
SLD 3	ini.	2826.79	-15692	2	0	6643	15859	20213	12750	22503		1.43	Si
SLD 3	fin.	-2574.7	-15723	2	0	6643	15859	20213	12750	22503		1.43	Si
SLD 4	ini.	3115.24	-16989	2	0	6643	15859	20213	12750	22503		1.32	Si
SLD 4	fin.	-2861.67	-17039	2	0	6643	15859	20213	12750	22503		1.32	Si
SLV 8	ini.	4474.02	-16495	2	0	6643	15859	20213	12750	22503		1.36	Si
SLV 8	fin.	-4648.97	-18561	2	0	6643	15859	20213	12750	22503		1.21	Si
SLD 8	ini.	2901.13	-12982	2	0	6643	15859	20213	12750	22503		1.73	Si
SLD 8	fin.	-3033.45	-14139	2	0	6643	15859	20213	12750	22503		1.59	Si
SLD 2	ini.	2103.89	-15379	2	0	6643	15859	20213	12750	22503		1.46	Si
SLD 2	fin.	-1755.07	-14621	2	0	6643	15859	20213	12750	22503		1.54	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.791	SLV 8	Si
V_SLV	0.993	SLV 4	No
PF_SLU	40.166	SLU 83	Si
V_SLU	1.936	SLU 83	Si

Trave di accoppiamento 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-14.223	-3.284	0.15	0.67	0.52	-16.523	-3.284	0.15	0.67	0.52	2.3	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-176.87	-787	-0.0001062	0.0001872	0.0035	0.52		2711.96	2711.96	No	15.33	Si
SLU 83	fin.	-1654.1	-6366	-0.0014667	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.64	Si
SLU 77	ini.	-153.14	-747	-0.0000914	0.0001872	0.0035	0.52		2711.96	2711.96	No	17.71	Si
SLU 77	fin.	-1585.02	-6135	-0.00138	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.71	Si
SLU 79	ini.	-154.1	-743	-0.000092	0.0001872	0.0035	0.52		2711.96	2711.96	No	17.6	Si
SLU 79	fin.	-1579.13	-6108	-0.0013728	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.72	Si
SLU 78	ini.	-151.87	-749	-0.0000907	0.0001872	0.0035	0.52		2711.96	2711.96	No	17.86	Si
SLU 78	fin.	-1590.17	-6154	-0.0013864	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.71	Si
SLU 80	ini.	-152.84	-745	-0.0000913	0.0001872	0.0035	0.52		2711.96	2711.96	No	17.74	Si
SLU 80	fin.	-1584.29	-6127	-0.0013791	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.71	Si
SLU 81	ini.	-179.99	-786	-0.0001082	0.0001872	0.0035	0.52		2711.96	2711.96	No	15.07	Si
SLU 81	fin.	-1642.73	-6314	-0.0014522	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.65	Si
SLU 84	ini.	-175.61	-789	-0.0001054	0.0001872	0.0035	0.52		2711.96	2711.96	No	15.44	Si
SLU 84	fin.	-1659.26	-6384	-0.0014734	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.63	Si
SLU 75	ini.	-154.99	-748	-0.0000926	0.0001872	0.0035	0.52		2711.96	2711.96	No	17.5	Si
SLU 75	fin.	-1578.81	-6103	-0.0013724	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.72	Si
SLU 82	ini.	-178.72	-788	-0.0001074	0.0001872	0.0035	0.52		2711.96	2711.96	No	15.17	Si
SLU 82	fin.	-1647.89	-6333	-0.0014588	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.65	Si
SLU 76	ini.	-155.11	-745	-0.0000927	0.0001872	0.0035	0.52		2711.96	2711.96	No	17.48	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	fin.	-1576.37	-6088	-0.0013694	0.0001872	0.0035	0.52		2711.96	2711.96	No	1.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-154.99	2163	0.52	0	559	8247	3503	3315	6818	No	3.15	Si
SLU 75	fin.	-1578.81	-5643	0.52	10833	559	8247	3504	3315	6819	No	1.21	Si
SLU 77	ini.	-153.14	2160	0.52	0	559	8247	3503	3315	6818	No	3.16	Si
SLU 77	fin.	-1585.02	-5659	0.52	10833	559	8247	3504	3315	6819	No	1.2	Si
SLU 82	ini.	-178.72	2320	0.52	0	559	8247	3503	3315	6818	No	2.94	Si
SLU 82	fin.	-1647.89	-5922	0.52	10833	559	8247	3504	3315	6819	No	1.15	Si
SLU 81	ini.	-179.99	2320	0.52	0	559	8247	3503	3315	6818	No	2.94	Si
SLU 81	fin.	-1642.73	-5908	0.52	10833	559	8247	3504	3315	6819	No	1.15	Si
SLU 83	ini.	-176.87	2317	0.52	0	559	8247	3503	3315	6818	No	2.94	Si
SLU 83	fin.	-1654.1	-5939	0.52	10833	559	8247	3504	3315	6819	No	1.15	Si
SLU 78	ini.	-151.87	2161	0.52	0	559	8247	3503	3315	6818	No	3.16	Si
SLU 78	fin.	-1590.17	-5673	0.52	10833	559	8247	3504	3315	6819	No	1.2	Si
SLU 79	ini.	-154.1	2159	0.52	0	559	8247	3503	3315	6818	No	3.16	Si
SLU 79	fin.	-1579.13	-5642	0.52	10833	559	8247	3504	3315	6819	No	1.21	Si
SLU 76	ini.	-155.11	2162	0.52	0	559	8247	3503	3315	6818	No	3.15	Si
SLU 76	fin.	-1576.37	-5634	0.52	10833	559	8247	3504	3315	6819	No	1.21	Si
SLU 80	ini.	-152.84	2159	0.52	0	559	8247	3503	3315	6818	No	3.16	Si
SLU 80	fin.	-1584.29	-5656	0.52	10833	559	8247	3504	3315	6819	No	1.21	Si
SLU 84	ini.	-175.61	2318	0.52	0	559	8247	3503	3315	6818	No	2.94	Si
SLU 84	fin.	-1659.26	-5952	0.52	10833	559	8247	3504	3315	6819	No	1.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	135.05	227	-0.0000799	0.0002807	0.0035	0.52		2765.05	2765.05		20.47	Si
SLV 5	fin.	-1847.74	-7318	-0.0016256	0.0002807	0.0035	0.52		2773.86	2773.86		1.5	Si
SLD 1	ini.	263.79	862	-0.0001597	0.0002807	0.0035	0.52		2765.05	2765.05		10.48	Si
SLD 1	fin.	-1608.86	-6334	-0.0013273	0.0002807	0.0035	0.52		2773.86	2773.86		1.72	Si
SLV 3	ini.	418.41	1537	-0.0002612	0.0002807	0.0035	0.52		2765.05	2765.05		6.61	Si
SLV 3	fin.	-1578.07	-6192	-0.0012918	0.0002807	0.0035	0.52		2773.86	2773.86		1.76	Si
SLD 2	ini.	297.73	1000	-0.0001814	0.0002807	0.0035	0.52		2765.05	2765.05		9.29	Si
SLD 2	fin.	-1646.25	-6486	-0.0013711	0.0002807	0.0035	0.52		2773.86	2773.86		1.68	Si
SLV 2	ini.	516.35	1833	-0.0003294	0.0002807	0.0035	0.52		2765.05	2765.05		5.36	Si
SLV 2	fin.	-1991.08	-7873	-0.0018312	0.0002807	0.0035	0.52		2773.86	2773.86		1.39	Si
SLD 6	ini.	73.3	59	-0.000043	0.0002807	0.0035	0.52		2765.05	2765.05		37.72	Si
SLD 6	fin.	-1556.84	-6140	-0.0012678	0.0002807	0.0035	0.52		2773.86	2773.86		1.78	Si
SLV 4	ini.	471.92	1755	-0.000298	0.0002807	0.0035	0.52		2765.05	2765.05		5.86	Si
SLV 4	fin.	-1636.99	-6432	-0.0013602	0.0002807	0.0035	0.52		2773.86	2773.86		1.69	Si
SLV 1	ini.	462.84	1614	-0.0002917	0.0002807	0.0035	0.52		2765.05	2765.05		5.97	Si
SLV 1	fin.	-1932.16	-7632	-0.0017436	0.0002807	0.0035	0.52		2773.86	2773.86		1.44	Si
SLD 5	ini.	51.44	-30	-0.00003	0.0002807	0.0035	0.52		2765.05	2765.05		53.75	Si
SLD 5	fin.	-1532.77	-6042	-0.0012408	0.0002807	0.0035	0.52		2773.86	2773.86		1.81	Si
SLV 6	ini.	171.07	374	-0.0001019	0.0002807	0.0035	0.52		2765.05	2765.05		16.16	Si
SLV 6	fin.	-1887.4	-7480	-0.00168	0.0002807	0.0035	0.52		2773.86	2773.86		1.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 5	ini.	51.44	1428	0.52	0	636	8247	5255	3315	8570		6	Si
SLD 5	fin.	-1532.77	-5141	0.52	16250	636	8247	5255	3315	8570		1.67	Si
SLV 9	ini.	-197.83	2399	0.52	0	636	8247	5255	3315	8570		3.57	Si
SLV 9	fin.	-1413.03	-5057	0.52	16250	636	8247	5255	3315	8570		1.69	Si
SLV 5	ini.	135.05	1486	0.52	0	636	8247	5255	3315	8570		5.77	Si
SLV 5	fin.	-1847.74	-6068	0.52	16250	636	8247	5255	3315	8570		1.41	Si
SLD 2	ini.	297.73	457	0.52	0	636	8247	5255	3315	8570		18.75	Si
SLD 2	fin.	-1646.25	-5209	0.52	16250	636	8247	5255	3315	8570		1.65	Si
SLD 1	ini.	263.79	567	0.52	0	636	8247	5255	3315	8570		15.13	Si
SLD 1	fin.	-1608.86	-5128	0.52	16250	636	8247	5255	3315	8570		1.67	Si
SLV 6	ini.	171.07	1370	0.52	0	636	8247	5255	3315	8570		6.26	Si
SLV 6	fin.	-1887.4	-6154	0.52	16250	636	8247	5255	3315	8570		1.39	Si
SLV 10	ini.	-161.81	2283	0.52	0	636	8247	5255	3315	8570		3.75	Si
SLV 10	fin.	-1452.7	-5143	0.52	16250	636	8247	5255	3315	8570		1.67	Si
SLV 1	ini.	462.84	110	0.52	0	636	8247	5255	3315	8570		77.69	Si
SLV 1	fin.	-1932.16	-5940	0.52	16250	636	8247	5255	3315	8570		1.44	Si
SLV 2	ini.	516.35	-62	0.52	0	636	8247	5255	3315	8570		137.9	Si
SLV 2	fin.	-1991.08	-6067	0.52	16250	636	8247	5255	3315	8570		1.41	Si
SLD 6	ini.	73.3	1357	0.52	0	636	8247	5255	3315	8570		6.31	Si
SLD 6	fin.	-1556.84	-5193	0.52	16250	636	8247	5255	3315	8570		1.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.393	SLV 2	Si
V_SLV	1.393	SLV 6	Si
PF_SLU	1.634	SLU 84	Si
V_SLU	1.146	SLU 84	Si

Trave di accoppiamento 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.813	6.576	-1.95	0.05	2	-16.813	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	2780.31	-7612	-0.0001138	0.0001872	0.0035	2		39913.02	39913.02	No	14.36	Si
SLU 79	fin.	-444.07	-7485	-0.0000175	0.0001872	0.0035	2		39946.04	39946.04	No	89.95	Si
SLU 75	ini.	2748.82	-7450	-0.0001124	0.0001872	0.0035	2		39913.02	39913.02	No	14.52	Si
SLU 75	fin.	-429.07	-7340	-0.0000169	0.0001872	0.0035	2		39946.04	39946.04	No	93.1	Si
SLU 84	ini.	2821.19	-7680	-0.0001155	0.0001872	0.0035	2		39913.02	39913.02	No	14.15	Si
SLU 84	fin.	-425.73	-7588	-0.0000168	0.0001872	0.0035	2		39946.04	39946.04	No	93.83	Si
SLU 74	ini.	2761.13	-7553	-0.0001129	0.0001872	0.0035	2		39913.02	39913.02	No	14.46	Si
SLU 74	fin.	-444.39	-7426	-0.0000175	0.0001872	0.0035	2		39946.04	39946.04	No	89.89	Si
SLU 80	ini.	2768	-7509	-0.0001132	0.0001872	0.0035	2		39913.02	39913.02	No	14.42	Si
SLU 80	fin.	-428.75	-7398	-0.0000169	0.0001872	0.0035	2		39946.04	39946.04	No	93.17	Si
SLU 82	ini.	2784.68	-7568	-0.000114	0.0001872	0.0035	2		39913.02	39913.02	No	14.33	Si
SLU 82	fin.	-427.19	-7472	-0.0000168	0.0001872	0.0035	2		39946.04	39946.04	No	93.51	Si
SLU 83	ini.	2833.5	-7783	-0.000116	0.0001872	0.0035	2		39913.02	39913.02	No	14.09	Si
SLU 83	fin.	-441.05	-7675	-0.0000174	0.0001872	0.0035	2		39946.04	39946.04	No	90.57	Si
SLU 78	ini.	2785.33	-7563	-0.000114	0.0001872	0.0035	2		39913.02	39913.02	No	14.33	Si
SLU 78	fin.	-427.61	-7456	-0.0000169	0.0001872	0.0035	2		39946.04	39946.04	No	93.42	Si
SLU 81	ini.	2796.99	-7670	-0.0001145	0.0001872	0.0035	2		39913.02	39913.02	No	14.27	Si
SLU 81	fin.	-442.51	-7559	-0.0000175	0.0001872	0.0035	2		39946.04	39946.04	No	90.27	Si
SLU 77	ini.	2797.64	-7666	-0.0001145	0.0001872	0.0035	2		39913.02	39913.02	No	14.27	Si
SLU 77	fin.	-442.93	-7543	-0.0000175	0.0001872	0.0035	2		39946.04	39946.04	No	90.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	2833.5	-5104	2	0	6250	15859	13475	12750	22109	No	4.33	Si
SLU 83	fin.	-441.05	-369	2	0	6250	15859	13475	12750	22109	No	59.85	Si
SLU 82	ini.	2784.68	-4958	2	0	6250	15859	13475	12750	22109	No	4.46	Si
SLU 82	fin.	-427.19	-391	2	0	6250	15859	13475	12750	22109	No	56.62	Si
SLU 79	ini.	2780.31	-5009	2	0	6250	15859	13475	12750	22109	No	4.41	Si
SLU 79	fin.	-444.07	-427	2	0	6250	15859	13475	12750	22109	No	51.8	Si
SLU 74	ini.	2761.13	-4969	2	0	6250	15859	13475	12750	22109	No	4.45	Si
SLU 74	fin.	-444.39	-436	2	0	6250	15859	13475	12750	22109	No	50.74	Si
SLU 78	ini.	2785.33	-4965	2	0	6250	15859	13475	12750	22109	No	4.45	Si
SLU 78	fin.	-427.61	-410	2	0	6250	15859	13475	12750	22109	No	53.86	Si
SLU 75	ini.	2748.82	-4893	2	0	6250	15859	13475	12750	22109	No	4.52	Si
SLU 75	fin.	-429.07	-434	2	0	6250	15859	13475	12750	22109	No	50.98	Si
SLU 84	ini.	2821.19	-5029	2	0	6250	15859	13475	12750	22109	No	4.4	Si
SLU 84	fin.	-425.73	-367	2	0	6250	15859	13475	12750	22109	No	60.19	Si
SLU 77	ini.	2797.64	-5040	2	0	6250	15859	13475	12750	22109	No	4.39	Si
SLU 77	fin.	-442.93	-413	2	0	6250	15859	13475	12750	22109	No	53.59	Si
SLU 81	ini.	2796.99	-5033	2	0	6250	15859	13475	12750	22109	No	4.39	Si
SLU 81	fin.	-442.51	-393	2	0	6250	15859	13475	12750	22109	No	56.32	Si
SLU 80	ini.	2768	-4933	2	0	6250	15859	13475	12750	22109	No	4.48	Si
SLU 80	fin.	-428.75	-425	2	0	6250	15859	13475	12750	22109	No	52.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	3978.49	-7192	-0.0001633	0.0002807	0.0035	2		40837.53	40837.53		10.26	Si
SLD 16	fin.	-1740.06	-3282	-0.0000695	0.0002807	0.0035	2		40871.26	40871.26		23.49	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	3779.43	-12586	-0.0001547	0.0002807	0.0035	2		40837.53	40837.53		10.81	Si
SLV 11	fin.	-1782.6	-10036	-0.0000712	0.0002807	0.0035	2		40871.26	40871.26		22.93	Si
SLD 14	ini.	3561.45	-4605	-0.0001454	0.0002807	0.0035	2		40837.53	40837.53		11.47	Si
SLD 14	fin.	-1369.23	-1119	-0.0000545	0.0002807	0.0035	2		40871.26	40871.26		29.85	Si
SLV 14	ini.	4459.97	-4122	-0.0001842	0.0002807	0.0035	2		40837.53	40837.53		9.16	Si
SLV 14	fin.	-1921.89	1228	-0.0000769	0.0002807	0.0035	2		40871.26	40871.26		21.27	Si
SLV 12	ini.	4046.63	-12950	-0.0001662	0.0002807	0.0035	2		40837.53	40837.53		10.09	Si
SLV 12	fin.	-2029.25	-9781	-0.0000813	0.0002807	0.0035	2		40871.26	40871.26		20.14	Si
SLV 15	ini.	4774.42	-7985	-0.000198	0.0002807	0.0035	2		40837.53	40837.53		8.55	Si
SLV 15	fin.	-2183.07	-2843	-0.0000876	0.0002807	0.0035	2		40871.26	40871.26		18.72	Si
SLD 13	ini.	3309.63	-4262	-0.0001347	0.0002807	0.0035	2		40837.53	40837.53		12.34	Si
SLD 13	fin.	-1136.78	-1359	-0.0000451	0.0002807	0.0035	2		40871.26	40871.26		35.95	Si
SLD 15	ini.	3726.67	-6848	-0.0001525	0.0002807	0.0035	2		40837.53	40837.53		10.96	Si
SLD 15	fin.	-1507.61	-3523	-0.0000601	0.0002807	0.0035	2		40871.26	40871.26		27.11	Si
SLV 13	ini.	4063.03	-3581	-0.0001669	0.0002807	0.0035	2		40837.53	40837.53		10.05	Si
SLV 13	fin.	-1555.48	849	-0.000062	0.0002807	0.0035	2		40871.26	40871.26		26.28	Si
SLV 16	ini.	5171.36	-8526	-0.0002156	0.0002807	0.0035	2		40837.53	40837.53		7.9	Si
SLV 16	fin.	-2549.48	-2464	-0.0001028	0.0002807	0.0035	2		40871.26	40871.26		16.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	4063.03	-9921	2	0	6643	15859	20213	12750	22503		2.27	Si
SLV 13	fin.	-1555.48	-9398	2	0	6643	15859	20213	12750	22503		2.39	Si
SLD 15	ini.	3726.67	-9569	2	0	6643	15859	20213	12750	22503		2.35	Si
SLD 15	fin.	-1507.61	-6264	2	0	6643	15859	20213	12750	22503		3.59	Si
SLV 11	ini.	3779.43	-10949	2	0	6643	15859	20213	12750	22503		2.06	Si
SLV 11	fin.	-1782.6	-3072	2	0	6643	15859	20213	12750	22503		7.32	Si
SLV 16	ini.	5171.36	-14867	2	0	6643	15859	20213	12750	22503		1.51	Si
SLV 16	fin.	-2549.48	-11119	2	0	6643	15859	20213	12750	22503		2.02	Si
SLV 3	ini.	-625.03	4765	2	0	6643	15859	20213	12750	22503		4.72	Si
SLV 3	fin.	1224.19	10005	2	0	6643	15859	20213	12750	22503		2.25	Si
SLV 1	ini.	-1336.42	8007	2	0	6643	15859	20213	12750	22503		2.81	Si
SLV 1	fin.	1851.78	10116	2	0	6643	15859	20213	12750	22503		2.22	Si
SLV 14	ini.	4459.97	-11625	2	0	6643	15859	20213	12750	22503		1.94	Si
SLV 14	fin.	-1921.89	-11008	2	0	6643	15859	20213	12750	22503		2.04	Si
SLV 15	ini.	4774.42	-13163	2	0	6643	15859	20213	12750	22503		1.71	Si
SLV 15	fin.	-2183.07	-9509	2	0	6643	15859	20213	12750	22503		2.37	Si
SLD 16	ini.	3978.49	-10650	2	0	6643	15859	20213	12750	22503		2.11	Si
SLD 16	fin.	-1740.06	-7285	2	0	6643	15859	20213	12750	22503		3.09	Si
SLV 12	ini.	4046.63	-12096	2	0	6643	15859	20213	12750	22503		1.86	Si
SLV 12	fin.	-2029.25	-4156	2	0	6643	15859	20213	12750	22503		5.41	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.897	SLV 16	Si
V_SLV	1.514	SLV 16	Si
PF_SLU	14.086	SLU 83	Si
V_SLU	4.331	SLU 83	Si

Trave di accoppiamento 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.813	6.576	0.45	0.67	0.22	-16.813	6.576	0.45	0.67	0.22	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	3.32	556	-0.0000108	0.0001872	0.0035	0.22		482.44	482.44	No	145.2	Si
SLU 78	fin.	-226.72	-1329	-0.001016	0.0001872	0.0035	0.22		486.06	486.06	No	2.14	Si
SLU 75	ini.	3.74	552	-0.0000122	0.0001872	0.0035	0.22		482.44	482.44	No	129.16	Si
SLU 75	fin.	-223.82	-1312	-0.0009991	0.0001872	0.0035	0.22		486.06	486.06	No	2.17	Si
SLU 81	ini.	4.08	564	-0.0000133	0.0001872	0.0035	0.22		482.44	482.44	No	118.34	Si
SLU 81	fin.	-228.61	-1342	-0.0010271	0.0001872	0.0035	0.22		486.06	486.06	No	2.13	Si
SLU 84	ini.	3.18	561	-0.0000103	0.0001872	0.0035	0.22		482.44	482.44	No	151.75	Si
SLU 84	fin.	-229.54	-1345	-0.0010325	0.0001872	0.0035	0.22		486.06	486.06	No	2.12	Si
SLU 77	ini.	3.81	564	-0.0000124	0.0001872	0.0035	0.22		482.44	482.44	No	126.7	Si
SLU 77	fin.	-228.68	-1342	-0.0010275	0.0001872	0.0035	0.22		486.06	486.06	No	2.13	Si
SLU 83	ini.	3.66	569	-0.0000119	0.0001872	0.0035	0.22		482.44	482.44	No	131.66	Si
SLU 83	fin.	-231.51	-1358	-0.0010441	0.0001872	0.0035	0.22		486.06	486.06	No	2.1	Si
SLU 74	ini.	4.22	560	-0.0000137	0.0001872	0.0035	0.22		482.44	482.44	No	114.32	Si
SLU 74	fin.	-225.78	-1326	-0.0010106	0.0001872	0.0035	0.22		486.06	486.06	No	2.15	Si
SLU 80	ini.	3.55	555	-0.0000115	0.0001872	0.0035	0.22		482.44	482.44	No	136.06	Si
SLU 80	fin.	-225.31	-1321	-0.0010078	0.0001872	0.0035	0.22		486.06	486.06	No	2.16	Si
SLU 82	ini.	3.59	557	-0.0000117	0.0001872	0.0035	0.22		482.44	482.44	No	134.32	Si
SLU 82	fin.	-226.64	-1329	-0.0010156	0.0001872	0.0035	0.22		486.06	486.06	No	2.14	Si
SLU 79	ini.	4.03	562	-0.0000131	0.0001872	0.0035	0.22		482.44	482.44	No	119.69	Si
SLU 79	fin.	-227.28	-1334	-0.0010192	0.0001872	0.0035	0.22		486.06	486.06	No	2.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	4.08	165	0.22	0	276	3489	1482	1403	2885	No	17.44	Si
SLU 81	fin.	-228.61	-1155	0.22	10833	276	3489	1482	1403	2885	No	2.5	Si
SLU 77	ini.	3.81	167	0.22	0	276	3489	1482	1403	2885	No	17.27	Si
SLU 77	fin.	-228.68	-1155	0.22	10833	276	3489	1482	1403	2885	No	2.5	Si
SLU 80	ini.	3.55	166	0.22	0	276	3489	1482	1403	2885	No	17.36	Si
SLU 80	fin.	-225.31	-1139	0.22	10833	276	3489	1482	1403	2885	No	2.53	Si
SLU 78	ini.	3.32	168	0.22	0	276	3489	1482	1403	2885	No	17.16	Si
SLU 78	fin.	-226.72	-1146	0.22	10833	276	3489	1482	1403	2885	No	2.52	Si
SLU 79	ini.	4.03	165	0.22	0	276	3489	1482	1403	2885	No	17.47	Si
SLU 79	fin.	-227.28	-1148	0.22	10833	276	3489	1482	1403	2885	No	2.51	Si
SLU 82	ini.	3.59	166	0.22	0	276	3489	1482	1403	2885	No	17.33	Si
SLU 82	fin.	-226.64	-1145	0.22	10833	276	3489	1482	1403	2885	No	2.52	Si
SLU 75	ini.	3.74	164	0.22	0	276	3489	1482	1403	2885	No	17.57	Si
SLU 75	fin.	-223.82	-1132	0.22	10833	276	3489	1482	1403	2885	No	2.55	Si
SLU 84	ini.	3.18	170	0.22	0	276	3489	1482	1403	2885	No	16.93	Si
SLU 84	fin.	-229.54	-1160	0.22	10833	276	3489	1482	1403	2885	No	2.49	Si
SLU 74	ini.	4.22	163	0.22	0	276	3489	1482	1403	2885	No	17.68	Si
SLU 74	fin.	-225.78	-1141	0.22	10833	276	3489	1482	1403	2885	No	2.53	Si
SLU 83	ini.	3.66	169	0.22	0	276	3489	1482	1403	2885	No	17.03	Si
SLU 83	fin.	-231.51	-1169	0.22	10833	276	3489	1482	1403	2885	No	2.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	122.33	1428	-0.0004549	0.0002807	0.0035	0.22		493.71	493.71		4.04	Si
SLD 15	fin.	-284.48	-1939	-0.0012999	0.0002807	0.0035	0.22		497.41	497.41		1.75	Si
SLV 11	ini.	92.08	1416	-0.0003286	0.0002807	0.0035	0.22		493.71	493.71		5.36	Si
SLV 11	fin.	-354.12	-2164	-0.001804	0.0002807	0.0035	0.22		497.41	497.41		1.4	Si
SLV 16	ini.	220.73	2287	-0.0009356	0.0002807	0.0035	0.22		493.71	493.71		2.24	Si
SLV 16	fin.	-390.77	-2804	-0.0021414	0.0002807	0.0035	0.22		497.41	497.41		1.27	Si
SLV 12	ini.	113.56	1599	-0.0004172	0.0002807	0.0035	0.22		493.71	493.71		4.35	Si
SLV 12	fin.	-375.15	-2345	-0.0019897	0.0002807	0.0035	0.22		497.41	497.41		1.33	Si
SLD 12	ini.	72.69	1142	-0.0002533	0.0002807	0.0035	0.22		493.71	493.71		6.79	Si
SLD 12	fin.	-288.95	-1776	-0.0013286	0.0002807	0.0035	0.22		497.41	497.41		1.72	Si
SLV 15	ini.	188.81	2014	-0.0007676	0.0002807	0.0035	0.22		493.71	493.71		2.61	Si
SLV 15	fin.	-359.54	-2535	-0.00185	0.0002807	0.0035	0.22		497.41	497.41		1.38	Si
SLD 16	ini.	142.58	1601	-0.0005451	0.0002807	0.0035	0.22		493.71	493.71		3.46	Si
SLD 16	fin.	-304.3	-2110	-0.0014303	0.0002807	0.0035	0.22		497.41	497.41		1.63	Si
SLV 14	ini.	195.79	1906	-0.0008033	0.0002807	0.0035	0.22		493.71	493.71		2.52	Si
SLV 14	fin.	-297.1	-2273	-0.001382	0.0002807	0.0035	0.22		497.41	497.41		1.67	Si
SLV 8	ini.	1.24	666	-0.000004	0.0002807	0.0035	0.22		493.71	493.71		398.56	Si
SLV 8	fin.	-272.45	-1458	-0.0012245	0.0002807	0.0035	0.22		497.41	497.41		1.83	Si
SLD 11	ini.	59.65	1030	-0.0002048	0.0002807	0.0035	0.22		493.71	493.71		8.28	Si
SLD 11	fin.	-276.19	-1666	-0.0012476	0.0002807	0.0035	0.22		497.41	497.41		1.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	113.56	-58	0.22	0	413	3489	2223	1403	3626		62.37	Si
SLV 12	fin.	-375.15	-1745	0.22	16250	413	3489	2223	1403	3626		2.08	Si
SLD 12	ini.	72.69	11	0.22	0	413	3489	2223	1403	3626		345.11	Si
SLD 12	fin.	-288.95	-1368	0.22	16250	413	3489	2223	1403	3626		2.65	Si
SLV 16	ini.	220.73	-733	0.22	0	413	3489	2223	1403	3626		4.95	Si
SLV 16	fin.	-390.77	-1797	0.22	16250	413	3489	2223	1403	3626		2.02	Si
SLV 14	ini.	195.79	-807	0.22	0	413	3489	2223	1403	3626		4.49	Si
SLV 14	fin.	-297.1	-1385	0.22	16250	413	3489	2223	1403	3626		2.62	Si
SLV 15	ini.	188.81	-601	0.22	0	413	3489	2223	1403	3626		6.04	Si
SLV 15	fin.	-359.54	-1668	0.22	16250	413	3489	2223	1403	3626		2.17	Si
SLD 11	ini.	59.65	65	0.22	0	413	3489	2223	1403	3626		56.11	Si
SLD 11	fin.	-276.19	-1315	0.22	16250	413	3489	2223	1403	3626		2.76	Si
SLD 15	ini.	122.33	-344	0.22	0	413	3489	2223	1403	3626		10.54	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	fin.	-284.48	-1343	0.22	16250	413	3489	2223	1403	3626		2.7	Si
SLV 8	ini.	1.24	428	0.22	0	413	3489	2223	1403	3626		8.47	Si
SLV 8	fin.	-272.45	-1307	0.22	16250	413	3489	2223	1403	3626		2.78	Si
SLV 11	ini.	92.08	31	0.22	0	413	3489	2223	1403	3626		116.81	Si
SLV 11	fin.	-354.12	-1658	0.22	16250	413	3489	2223	1403	3626		2.19	Si
SLD 16	ini.	142.58	-428	0.22	0	413	3489	2223	1403	3626		8.47	Si
SLD 16	fin.	-304.3	-1425	0.22	16250	413	3489	2223	1403	3626		2.54	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.273	SLV 16	Si
V_SLV	2.018	SLV 16	Si
PF_SLU	2.099	SLU 83	Si
V_SLU	2.468	SLU 83	Si

Trave di accoppiamento 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.366	0.05	0.67	0.62	-15.058	2.071	0.05	0.67	0.62	0.705	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	914.43	-5216	-0.0001656	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.53	Si
SLU 78	fin.	-2253.08	-5216	-0.0005381	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.47	Si
SLU 80	ini.	907.87	-5173	-0.0001642	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.6	Si
SLU 80	fin.	-2235.47	-5173	-0.0005322	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.5	Si
SLU 74	ini.	920.08	-5257	-0.0001668	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.48	Si
SLU 74	fin.	-2274.5	-5257	-0.0005452	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.44	Si
SLU 79	ini.	927.57	-5306	-0.0001684	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.41	Si
SLU 79	fin.	-2294.97	-5306	-0.0005521	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.41	Si
SLU 83	ini.	955.71	-5431	-0.0001743	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.17	Si
SLU 83	fin.	-2357.59	-5431	-0.0005732	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.32	Si
SLU 81	ini.	941.65	-5339	-0.0001714	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.29	Si
SLU 81	fin.	-2319.52	-5339	-0.0005603	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.37	Si
SLU 82	ini.	921.96	-5207	-0.0001672	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.46	Si
SLU 82	fin.	-2260.03	-5207	-0.0005404	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.46	Si
SLU 75	ini.	900.38	-5124	-0.0001627	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.67	Si
SLU 75	fin.	-2215.01	-5124	-0.0005254	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.53	Si
SLU 84	ini.	936.01	-5299	-0.0001702	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.34	Si
SLU 84	fin.	-2298.1	-5299	-0.0005531	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.4	Si
SLU 77	ini.	934.13	-5349	-0.0001698	0.0002246	0.0035	0.62		7803.94	7803.94	No	8.35	Si
SLU 77	fin.	-2312.57	-5349	-0.000558	0.0002246	0.0035	0.62		7824.59	7824.59	No	3.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	914.43	-3599	0.62	4321	1550	28093	3342	7905	11247	No	3.13	Si
SLU 78	fin.	-2253.08	-5249	0.62	9033	1550	28093	3342	7905	11247	No	2.14	Si
SLU 82	ini.	921.96	-3550	0.62	4353	1550	28093	3342	7905	11247	No	3.17	Si
SLU 82	fin.	-2260.03	-5323	0.62	9055	1550	28093	3342	7905	11247	No	2.11	Si
SLU 77	ini.	934.13	-3711	0.62	4405	1550	28093	3342	7905	11247	No	3.03	Si
SLU 77	fin.	-2312.57	-5362	0.62	9216	1550	28093	3342	7905	11247	No	2.1	Si
SLU 80	ini.	907.87	-3564	0.62	4293	1550	28093	3342	7905	11247	No	3.16	Si
SLU 80	fin.	-2235.47	-5215	0.62	8979	1550	28093	3342	7905	11247	No	2.16	Si
SLU 81	ini.	941.65	-3662	0.62	4437	1550	28093	3342	7905	11247	No	3.07	Si
SLU 81	fin.	-2319.52	-5436	0.62	9238	1550	28093	3342	7905	11247	No	2.07	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	920.08	-3637	0.62	4345	1550	28093	3342	7905	11247	No	3.09	Si
SLU 74	fin.	-2274.5	-5288	0.62	9099	1550	28093	3342	7905	11247	No	2.13	Si
SLU 83	ini.	955.71	-3736	0.62	4496	1550	28093	3342	7905	11247	No	3.01	Si
SLU 83	fin.	-2357.59	-5510	0.62	9354	1550	28093	3342	7905	11247	No	2.04	Si
SLU 79	ini.	927.57	-3677	0.62	4377	1550	28093	3342	7905	11247	No	3.06	Si
SLU 79	fin.	-2294.97	-5327	0.62	9162	1550	28093	3342	7905	11247	No	2.11	Si
SLU 75	ini.	900.38	-3525	0.62	4261	1550	28093	3342	7905	11247	No	3.19	Si
SLU 75	fin.	-2215.01	-5175	0.62	8915	1550	28093	3342	7905	11247	No	2.17	Si
SLU 84	ini.	936.01	-3624	0.62	4413	1550	28093	3342	7905	11247	No	3.1	Si
SLU 84	fin.	-2298.1	-5397	0.62	9172	1550	28093	3342	7905	11247	No	2.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	1312.16	-8208	-0.0002369	0.0003369	0.0035	0.62		8294.07	8294.07		6.32	Si
SLD 8	fin.	-3626.69	-8240	-0.0009175	0.0003369	0.0035	0.62		8316.03	8316.03		2.29	Si
SLD 7	ini.	1299.17	-8119	-0.0002342	0.0003369	0.0035	0.62		8294.07	8294.07		6.38	Si
SLD 7	fin.	-3586.6	-8151	-0.0009027	0.0003369	0.0035	0.62		8316.03	8316.03		2.32	Si
SLV 11	ini.	1902.78	-12203	-0.0003727	0.0003369	0.0035	0.62		8294.07	8294.07		4.36	Si
SLV 11	fin.	-5434.82	-12254	-0.0017007	0.0003369	0.0035	0.62		8316.03	8316.03		1.53	Si
SLD 12	ini.	1387.16	-8732	-0.0002527	0.0003369	0.0035	0.62		8294.07	8294.07		5.98	Si
SLD 12	fin.	-3867.95	-8761	-0.0010084	0.0003369	0.0035	0.62		8316.03	8316.03		2.15	Si
SLV 16	ini.	1199.98	-7517	-0.0002139	0.0003369	0.0035	0.62		8294.07	8294.07		6.91	Si
SLV 16	fin.	-3330.37	-7527	-0.0008106	0.0003369	0.0035	0.62		8316.03	8316.03		2.5	Si
SLV 15	ini.	1168.17	-7298	-0.0002075	0.0003369	0.0035	0.62		8294.07	8294.07		7.1	Si
SLV 15	fin.	-3232.23	-7308	-0.0007763	0.0003369	0.0035	0.62		8316.03	8316.03		2.57	Si
SLD 11	ini.	1374.16	-8643	-0.0002499	0.0003369	0.0035	0.62		8294.07	8294.07		6.04	Si
SLD 11	fin.	-3827.86	-8672	-0.0009932	0.0003369	0.0035	0.62		8316.03	8316.03		2.17	Si
SLV 7	ini.	1785.68	-11385	-0.0003433	0.0003369	0.0035	0.62		8294.07	8294.07		4.64	Si
SLV 7	fin.	-5057.96	-11439	-0.0015147	0.0003369	0.0035	0.62		8316.03	8316.03		1.64	Si
SLV 8	ini.	1807.09	-11532	-0.0003486	0.0003369	0.0035	0.62		8294.07	8294.07		4.59	Si
SLV 8	fin.	-5124.03	-11586	-0.0015463	0.0003369	0.0035	0.62		8316.03	8316.03		1.62	Si
SLV 12	ini.	1924.2	-12350	-0.0003782	0.0003369	0.0035	0.62		8294.07	8294.07		4.31	Si
SLV 12	fin.	-5500.89	-12401	-0.001735	0.0003369	0.0035	0.62		8316.03	8316.03		1.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	1902.78	-9855	0.62	12886	2325	28093	5013	7905	12918		1.31	Si
SLV 11	fin.	-5434.82	-10933	0.62	16250	2325	28093	5013	7905	12918		1.18	Si
SLD 12	ini.	1387.16	-6892	0.62	9799	2325	28093	5013	7905	12918		1.87	Si
SLD 12	fin.	-3867.95	-7966	0.62	16250	2325	28093	5013	7905	12918		1.62	Si
SLV 16	ini.	1199.98	-5859	0.62	8587	2325	28093	5013	7905	12918		2.2	Si
SLV 16	fin.	-3330.37	-6931	0.62	16250	2325	28093	5013	7905	12918		1.86	Si
SLD 11	ini.	1374.16	-6817	0.62	9716	2325	28093	5013	7905	12918		1.9	Si
SLD 11	fin.	-3827.86	-7891	0.62	16250	2325	28093	5013	7905	12918		1.64	Si
SLD 7	ini.	1299.17	-6367	0.62	9234	2325	28093	5013	7905	12918		2.03	Si
SLD 7	fin.	-3586.6	-7442	0.62	16250	2325	28093	5013	7905	12918		1.74	Si
SLV 12	ini.	1924.2	-9979	0.62	13006	2325	28093	5013	7905	12918		1.29	Si
SLV 12	fin.	-5500.89	-11057	0.62	16250	2325	28093	5013	7905	12918		1.17	Si
SLV 15	ini.	1168.17	-5675	0.62	8377	2325	28093	5013	7905	12918		2.28	Si
SLV 15	fin.	-3232.23	-6747	0.62	16250	2325	28093	5013	7905	12918		1.91	Si
SLV 8	ini.	1807.09	-9277	0.62	12345	2325	28093	5013	7905	12918		1.39	Si
SLV 8	fin.	-5124.03	-10356	0.62	16250	2325	28093	5013	7905	12918		1.25	Si
SLV 7	ini.	1785.68	-9153	0.62	12222	2325	28093	5013	7905	12918		1.41	Si
SLV 7	fin.	-5057.96	-10232	0.62	16250	2325	28093	5013	7905	12918		1.26	Si
SLD 8	ini.	1312.16	-6443	0.62	9318	2325	28093	5013	7905	12918		2.01	Si
SLD 8	fin.	-3626.69	-7517	0.62	16250	2325	28093	5013	7905	12918		1.72	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.512	SLV 12	Si
V_SLV	1.168	SLV 12	Si
PF_SLU	3.319	SLU 83	Si
V_SLU	2.041	SLU 83	Si

Trave di accoppiamento 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-13.858	3.316	0.05	0.67	0.62	-14.658	3.316	0.05	0.67	0.62	0.8	0.2	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-2802.4	-7133	-0.0008218	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.66	Si
SLU 77	fin.	1639.2	-2102	-0.0004074	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.54	Si
SLU 81	ini.	-2810.12	-7115	-0.0008248	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.65	Si
SLU 81	fin.	1644.62	-2066	-0.0004091	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.52	Si
SLU 80	ini.	-2777.41	-7066	-0.0008121	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.68	Si
SLU 80	fin.	1624.27	-2081	-0.0004025	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.58	Si
SLU 74	ini.	-2766.29	-7034	-0.0008078	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.7	Si
SLU 74	fin.	1618.24	-2068	-0.0004006	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.6	Si
SLU 82	ini.	-2804.26	-7101	-0.0008225	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.66	Si
SLU 82	fin.	1640.79	-2062	-0.0004079	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.53	Si
SLU 84	ini.	-2840.37	-7199	-0.0008366	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.63	Si
SLU 84	fin.	1661.74	-2097	-0.0004147	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.48	Si
SLU 75	ini.	-2760.43	-7020	-0.0008055	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.7	Si
SLU 75	fin.	1614.41	-2064	-0.0003993	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.61	Si
SLU 83	ini.	-2846.23	-7214	-0.0008389	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.62	Si
SLU 83	fin.	1665.58	-2100	-0.000416	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.47	Si
SLU 79	ini.	-2783.27	-7080	-0.0008144	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.68	Si
SLU 79	fin.	1628.1	-2084	-0.0004038	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.57	Si
SLU 78	ini.	-2796.55	-7118	-0.0008195	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.67	Si
SLU 78	fin.	1635.36	-2099	-0.0004061	0.0002246	0.0035	0.62		7437.4	7437.4	No	4.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-2802.4	8139	0.62	10833	1033	28093	2228	7905	10133	No	1.24	Si
SLU 77	fin.	1639.2	6863	0.62	7722	1033	28093	2228	7905	10133	No	1.48	Si
SLU 83	ini.	-2846.23	8308	0.62	10833	1033	28093	2228	7905	10133	No	1.22	Si
SLU 83	fin.	1665.58	6934	0.62	7824	1033	28093	2228	7905	10133	No	1.46	Si
SLU 80	ini.	-2777.41	8072	0.62	10833	1033	28093	2228	7905	10133	No	1.26	Si
SLU 80	fin.	1624.27	6796	0.62	7664	1033	28093	2228	7905	10133	No	1.49	Si
SLU 74	ini.	-2766.29	8043	0.62	10833	1033	28093	2228	7905	10133	No	1.26	Si
SLU 74	fin.	1618.24	6767	0.62	7640	1033	28093	2228	7905	10133	No	1.5	Si
SLU 79	ini.	-2783.27	8089	0.62	10833	1033	28093	2228	7905	10133	No	1.25	Si
SLU 79	fin.	1628.1	6812	0.62	7678	1033	28093	2228	7905	10133	No	1.49	Si
SLU 75	ini.	-2760.43	8027	0.62	10833	1033	28093	2228	7905	10133	No	1.26	Si
SLU 75	fin.	1614.41	6751	0.62	7625	1033	28093	2228	7905	10133	No	1.5	Si
SLU 81	ini.	-2810.12	8212	0.62	10833	1033	28093	2228	7905	10133	No	1.23	Si
SLU 81	fin.	1644.62	6838	0.62	7743	1033	28093	2228	7905	10133	No	1.48	Si
SLU 78	ini.	-2796.55	8123	0.62	10833	1033	28093	2228	7905	10133	No	1.25	Si
SLU 78	fin.	1635.36	6847	0.62	7707	1033	28093	2228	7905	10133	No	1.48	Si
SLU 84	ini.	-2840.37	8292	0.62	10833	1033	28093	2228	7905	10133	No	1.22	Si
SLU 84	fin.	1661.74	6918	0.62	7809	1033	28093	2228	7905	10133	No	1.46	Si
SLU 82	ini.	-2804.26	8196	0.62	10833	1033	28093	2228	7905	10133	No	1.24	Si
SLU 82	fin.	1640.79	6822	0.62	7728	1033	28093	2228	7905	10133	No	1.49	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-3098.36	-7931	-0.0008498	0.0003369	0.0035	0.62		7787.08	7787.08		2.51	Si
SLV 16	fin.	1845.23	-2304	-0.0004259	0.0003369	0.0035	0.62		7766.54	7766.54		4.21	Si
SLV 14	ini.	-2817.22	-7225	-0.0007461	0.0003369	0.0035	0.62		7787.08	7787.08		2.76	Si
SLV 14	fin.	1663.58	-2122	-0.0003731	0.0003369	0.0035	0.62		7766.54	7766.54		4.67	Si
SLD 13	ini.	-2479.83	-6353	-0.0006278	0.0003369	0.0035	0.62		7787.08	7787.08		3.14	Si
SLD 13	fin.	1459.75	-1876	-0.0003175	0.0003369	0.0035	0.62		7766.54	7766.54		5.32	Si
SLV 12	ini.	-2695.89	-6873	-0.0007028	0.0003369	0.0035	0.62		7787.08	7787.08		2.89	Si
SLV 12	fin.	1612.92	-1987	-0.0003589	0.0003369	0.0035	0.62		7766.54	7766.54		4.82	Si
SLV 11	ini.	-2677.63	-6828	-0.0006963	0.0003369	0.0035	0.62		7787.08	7787.08		2.91	Si
SLV 11	fin.	1601.34	-1975	-0.0003557	0.0003369	0.0035	0.62		7766.54	7766.54		4.85	Si
SLV 13	ini.	-2790.09	-7157	-0.0007364	0.0003369	0.0035	0.62		7787.08	7787.08		2.79	Si
SLV 13	fin.	1646.39	-2105	-0.0003682	0.0003369	0.0035	0.62		7766.54	7766.54		4.72	Si
SLV 15	ini.	-3071.23	-7864	-0.0008396	0.0003369	0.0035	0.62		7787.08	7787.08		2.54	Si
SLV 15	fin.	1828.04	-2288	-0.0004208	0.0003369	0.0035	0.62		7766.54	7766.54		4.25	Si
SLD 15	ini.	-2644.39	-6767	-0.0006847	0.0003369	0.0035	0.62		7787.08	7787.08		2.94	Si
SLD 15	fin.	1566.08	-1982	-0.000346	0.0003369	0.0035	0.62		7766.54	7766.54		4.96	Si
SLD 14	ini.	-2497.04	-6396	-0.0006337	0.0003369	0.0035	0.62		7787.08	7787.08		3.12	Si
SLD 14	fin.	1470.65	-1886	-0.0003204	0.0003369	0.0035	0.62		7766.54	7766.54		5.28	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-2661.6	-6809	-0.0006907	0.0003369	0.0035	0.62		7787.08	7787.08		2.93	Si
SLD 16	fin.	1576.99	-1993	-0.000349	0.0003369	0.0035	0.62		7766.54	7766.54		4.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-2661.6	7568	0.62	16250	1550	28093	3342	7905	11247		1.49	Si
SLD 16	fin.	1576.99	6744	0.62	11882	1550	28093	3342	7905	11247		1.67	Si
SLD 14	ini.	-2497.04	7110	0.62	16250	1550	28093	3342	7905	11247		1.58	Si
SLD 14	fin.	1470.65	6286	0.62	11176	1550	28093	3342	7905	11247		1.79	Si
SLV 15	ini.	-3071.23	8681	0.62	16250	1550	28093	3342	7905	11247		1.3	Si
SLV 15	fin.	1828.04	7857	0.62	13481	1550	28093	3342	7905	11247		1.43	Si
SLV 14	ini.	-2817.22	7974	0.62	16250	1550	28093	3342	7905	11247		1.41	Si
SLV 14	fin.	1663.58	7150	0.62	12443	1550	28093	3342	7905	11247		1.57	Si
SLV 11	ini.	-2677.63	7636	0.62	16250	1550	28093	3342	7905	11247		1.47	Si
SLV 11	fin.	1601.34	6812	0.62	12041	1550	28093	3342	7905	11247		1.65	Si
SLD 15	ini.	-2644.39	7520	0.62	16250	1550	28093	3342	7905	11247		1.5	Si
SLD 15	fin.	1566.08	6696	0.62	11811	1550	28093	3342	7905	11247		1.68	Si
SLV 13	ini.	-2790.09	7899	0.62	16250	1550	28093	3342	7905	11247		1.42	Si
SLV 13	fin.	1646.39	7075	0.62	12333	1550	28093	3342	7905	11247		1.59	Si
SLV 12	ini.	-2695.89	7687	0.62	16250	1550	28093	3342	7905	11247		1.46	Si
SLV 12	fin.	1612.92	6862	0.62	12116	1550	28093	3342	7905	11247		1.64	Si
SLV 16	ini.	-3098.36	8756	0.62	16250	1550	28093	3342	7905	11247		1.28	Si
SLV 16	fin.	1845.23	7931	0.62	13587	1550	28093	3342	7905	11247		1.42	Si
SLD 13	ini.	-2479.83	7063	0.62	16250	1550	28093	3342	7905	11247		1.59	Si
SLD 13	fin.	1459.75	6239	0.62	11103	1550	28093	3342	7905	11247		1.8	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.513	SLV 16	Si
V_SLV	1.285	SLV 16	Si
PF_SLU	2.62	SLU 83	Si
V_SLU	1.22	SLU 83	Si

Trave di accoppiamento 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-14.163	1.141	0.15	0.67	0.52	-14.963	1.141	0.15	0.67	0.52	0.8	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	301.98	-162	-0.0000604	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.44	Si
SLU 78	fin.	-2096.32	-2370	-0.0006727	0.0002246	0.0035	0.52		5890	5890	No	2.81	Si
SLU 81	ini.	310.06	-153	-0.0000621	0.0002246	0.0035	0.52		5871.46	5871.46	No	18.94	Si
SLU 81	fin.	-2140.2	-2473	-0.0006938	0.0002246	0.0035	0.52		5890	5890	No	2.75	Si
SLU 75	ini.	298.69	-163	-0.0000597	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.66	Si
SLU 75	fin.	-2070.72	-2342	-0.0006606	0.0002246	0.0035	0.52		5890	5890	No	2.84	Si
SLU 84	ini.	307.61	-187	-0.0000616	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.09	Si
SLU 84	fin.	-2152.22	-2466	-0.0006996	0.0002246	0.0035	0.52		5890	5890	No	2.74	Si
SLU 80	ini.	300.55	-161	-0.0000601	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.54	Si
SLU 80	fin.	-2084.02	-2360	-0.0006669	0.0002246	0.0035	0.52		5890	5890	No	2.83	Si
SLU 83	ini.	313.36	-152	-0.0000628	0.0002246	0.0035	0.52		5871.46	5871.46	No	18.74	Si
SLU 83	fin.	-2165.8	-2501	-0.0007062	0.0002246	0.0035	0.52		5890	5890	No	2.72	Si
SLU 77	ini.	307.73	-126	-0.0000616	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.08	Si
SLU 77	fin.	-2109.9	-2405	-0.0006792	0.0002246	0.0035	0.52		5890	5890	No	2.79	Si
SLU 82	ini.	304.31	-189	-0.0000609	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.29	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	fin.	-2126.62	-2438	-0.0006873	0.0002246	0.0035	0.52		5890	5890	No	2.77	Si
SLU 74	ini.	304.44	-127	-0.0000609	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.29	Si
SLU 74	fin.	-2084.31	-2377	-0.000667	0.0002246	0.0035	0.52		5890	5890	No	2.83	Si
SLU 79	ini.	306.3	-125	-0.0000613	0.0002246	0.0035	0.52		5871.46	5871.46	No	19.17	Si
SLU 79	fin.	-2097.6	-2395	-0.0006734	0.0002246	0.0035	0.52		5890	5890	No	2.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	304.31	10069	0.52	1922	1718	23562	4205	6630	10835	No	1.08	Si
SLU 82	fin.	-2126.62	-9787	0.52	9971	1718	23562	4205	6630	10835	No	1.11	Si
SLU 75	ini.	298.69	9800	0.52	1888	1718	23562	4205	6630	10835	No	1.11	Si
SLU 75	fin.	-2070.72	-9533	0.52	9784	1718	23562	4205	6630	10835	No	1.14	Si
SLU 81	ini.	310.06	10004	0.52	1957	1718	23562	4205	6630	10835	No	1.08	Si
SLU 81	fin.	-2140.2	-9840	0.52	10016	1718	23562	4205	6630	10835	No	1.1	Si
SLU 83	ini.	313.36	10122	0.52	1977	1718	23562	4205	6630	10835	No	1.07	Si
SLU 83	fin.	-2165.8	-9956	0.52	10101	1718	23562	4205	6630	10835	No	1.09	Si
SLU 79	ini.	306.3	9788	0.52	1934	1718	23562	4205	6630	10835	No	1.11	Si
SLU 79	fin.	-2097.6	-9646	0.52	9874	1718	23562	4205	6630	10835	No	1.12	Si
SLU 80	ini.	300.55	9854	0.52	1899	1718	23562	4205	6630	10835	No	1.1	Si
SLU 80	fin.	-2084.02	-9593	0.52	9829	1718	23562	4205	6630	10835	No	1.13	Si
SLU 84	ini.	307.61	10188	0.52	1942	1718	23562	4205	6630	10835	No	1.06	Si
SLU 84	fin.	-2152.22	-9904	0.52	10056	1718	23562	4205	6630	10835	No	1.09	Si
SLU 77	ini.	307.73	9853	0.52	1943	1718	23562	4205	6630	10835	No	1.1	Si
SLU 77	fin.	-2109.9	-9702	0.52	9915	1718	23562	4205	6630	10835	No	1.12	Si
SLU 76	ini.	293.43	9779	0.52	1855	1718	23562	4205	6630	10835	No	1.11	Si
SLU 76	fin.	-2049.36	-9442	0.52	9713	1718	23562	4205	6630	10835	No	1.15	Si
SLU 78	ini.	301.98	9918	0.52	1908	1718	23562	4205	6630	10835	No	1.09	Si
SLU 78	fin.	-2096.32	-9649	0.52	9870	1718	23562	4205	6630	10835	No	1.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	506.41	2592	-0.000102	0.0003369	0.0035	0.52		6372.78	6372.78		12.58	Si
SLV 11	fin.	-2044.64	-2006	-0.0005406	0.0003369	0.0035	0.52		6392.92	6392.92		3.13	Si
SLD 7	ini.	455.08	1018	-0.0000911	0.0003369	0.0035	0.52		6372.78	6372.78		14	Si
SLD 7	fin.	-2041.52	-4036	-0.0005394	0.0003369	0.0035	0.52		6392.92	6392.92		3.13	Si
SLV 3	ini.	508.63	-675	-0.0001025	0.0003369	0.0035	0.52		6372.78	6372.78		12.53	Si
SLV 3	fin.	-2365.15	-8187	-0.0006719	0.0003369	0.0035	0.52		6392.92	6392.92		2.7	Si
SLV 12	ini.	506.93	2588	-0.0001021	0.0003369	0.0035	0.52		6372.78	6372.78		12.57	Si
SLV 12	fin.	-2044.33	-2083	-0.0005405	0.0003369	0.0035	0.52		6392.92	6392.92		3.13	Si
SLD 8	ini.	455.4	1016	-0.0000912	0.0003369	0.0035	0.52		6372.78	6372.78		13.99	Si
SLD 8	fin.	-2041.32	-4083	-0.0005393	0.0003369	0.0035	0.52		6392.92	6392.92		3.13	Si
SLV 8	ini.	621.33	1809	-0.0001268	0.0003369	0.0035	0.52		6372.78	6372.78		10.26	Si
SLV 8	fin.	-2462.07	-5667	-0.0007141	0.0003369	0.0035	0.52		6392.92	6392.92		2.6	Si
SLV 4	ini.	509.41	-679	-0.0001026	0.0003369	0.0035	0.52		6372.78	6372.78		12.51	Si
SLV 4	fin.	-2364.68	-8301	-0.0006717	0.0003369	0.0035	0.52		6392.92	6392.92		2.7	Si
SLD 3	ini.	396.47	-488	-0.0000789	0.0003369	0.0035	0.52		6372.78	6372.78		16.07	Si
SLD 3	fin.	-2010.65	-5780	-0.0005274	0.0003369	0.0035	0.52		6392.92	6392.92		3.18	Si
SLD 4	ini.	396.96	-491	-0.000079	0.0003369	0.0035	0.52		6372.78	6372.78		16.05	Si
SLD 4	fin.	-2010.36	-5853	-0.0005273	0.0003369	0.0035	0.52		6392.92	6392.92		3.18	Si
SLV 7	ini.	620.81	1812	-0.0001267	0.0003369	0.0035	0.52		6372.78	6372.78		10.27	Si
SLV 7	fin.	-2462.39	-5589	-0.0007142	0.0003369	0.0035	0.52		6392.92	6392.92		2.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	508.63	2081	0.52	4798	1904	23562	6307	6630	12937		6.22	Si
SLV 3	fin.	-2365.15	-10448	0.52	16250	1904	23562	6307	6630	12937		1.24	Si
SLV 4	ini.	509.41	1993	0.52	4805	1904	23562	6307	6630	12937		6.49	Si
SLV 4	fin.	-2364.68	-10473	0.52	16250	1904	23562	6307	6630	12937		1.24	Si
SLV 8	ini.	621.33	1420	0.52	5811	1904	23562	6307	6630	12937		9.11	Si
SLV 8	fin.	-2462.07	-10688	0.52	16250	1904	23562	6307	6630	12937		1.21	Si
SLV 14	ini.	-82.4	11008	0.52	798	1904	23562	6307	6630	12937		1.18	Si
SLV 14	fin.	-471.04	-2604	0.52	4442	1904	23562	6307	6630	12937		4.97	Si
SLV 6	ini.	-80.17	9645	0.52	776	1904	23562	6307	6630	12937		1.34	Si
SLV 6	fin.	-791.54	-4153	0.52	7281	1904	23562	6307	6630	12937		3.12	Si
SLV 13	ini.	-83.17	11095	0.52	805	1904	23562	6307	6630	12937		1.17	Si
SLV 13	fin.	-471.5	-2580	0.52	4446	1904	23562	6307	6630	12937		5.01	Si
SLV 10	ini.	-194.58	11609	0.52	1870	1904	23562	6307	6630	12937		1.11	Si
SLV 10	fin.	-373.79	-2381	0.52	3549	1904	23562	6307	6630	12937		5.43	Si
SLV 7	ini.	620.81	1479	0.52	5807	1904	23562	6307	6630	12937		8.75	Si
SLV 7	fin.	-2462.39	-10672	0.52	16250	1904	23562	6307	6630	12937		1.21	Si
SLV 5	ini.	-80.69	9704	0.52	781	1904	23562	6307	6630	12937		1.33	Si
SLV 5	fin.	-791.86	-4137	0.52	7284	1904	23562	6307	6630	12937		3.13	Si
SLV 9	ini.	-195.1	11669	0.52	1875	1904	23562	6307	6630	12937		1.11	Si
SLV 9	fin.	-374.11	-2364	0.52	3552	1904	23562	6307	6630	12937		5.47	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.596	SLV 7	Si
V_SLV	1.109	SLV 9	Si
PF_SLU	2.72	SLU 83	Si
V_SLU	1.064	SLU 84	Si

Trave di accoppiamento 17

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.613	1.141	0.21	0.67	0.46	-13.583	1.141	0.21	0.67	0.46	0.97	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	370.78	-878	-0.0000978	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.37	Si
SLU 75	fin.	-584.13	1000	-0.0001622	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.88	Si
SLU 80	ini.	373.43	-881	-0.0000986	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.28	Si
SLU 80	fin.	-587.41	1010	-0.0001633	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.84	Si
SLU 77	ini.	376.86	-873	-0.0000995	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.17	Si
SLU 77	fin.	-590.11	1026	-0.0001641	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.8	Si
SLU 78	ini.	376.18	-888	-0.0000993	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.2	Si
SLU 78	fin.	-590.91	1017	-0.0001644	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.79	Si
SLU 82	ini.	377.32	-864	-0.0000997	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.16	Si
SLU 82	fin.	-601.74	1034	-0.000168	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.65	Si
SLU 83	ini.	383.4	-858	-0.0001014	0.0002246	0.0035	0.46		4587.61	4587.61	No	11.97	Si
SLU 83	fin.	-607.72	1060	-0.0001699	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.58	Si
SLU 79	ini.	374.12	-866	-0.0000988	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.26	Si
SLU 79	fin.	-586.61	1019	-0.000163	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.85	Si
SLU 81	ini.	378.01	-849	-0.0000999	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.14	Si
SLU 81	fin.	-600.93	1042	-0.0001677	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.66	Si
SLU 74	ini.	371.46	-863	-0.000098	0.0002246	0.0035	0.46		4587.61	4587.61	No	12.35	Si
SLU 74	fin.	-583.33	1008	-0.0001619	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.89	Si
SLU 84	ini.	382.72	-873	-0.0001012	0.0002246	0.0035	0.46		4587.61	4587.61	No	11.99	Si
SLU 84	fin.	-608.52	1051	-0.0001702	0.0002246	0.0035	0.46		4603.99	4603.99	No	7.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	382.72	3531	0.46	3030	1200	20844	3720	5865	9585	No	2.71	Si
SLU 84	fin.	-608.52	-2424	0.46	4621	1200	20844	3720	5865	9585	No	3.95	Si
SLU 77	ini.	376.86	3426	0.46	2986	1200	20844	3720	5865	9585	No	2.8	Si
SLU 77	fin.	-590.11	-2338	0.46	4497	1200	20844	3720	5865	9585	No	4.1	Si
SLU 83	ini.	383.4	3515	0.46	3035	1200	20844	3720	5865	9585	No	2.73	Si
SLU 83	fin.	-607.72	-2420	0.46	4616	1200	20844	3720	5865	9585	No	3.96	Si
SLU 76	ini.	367.58	3381	0.46	2917	1200	20844	3720	5865	9585	No	2.83	Si
SLU 76	fin.	-581.16	-2303	0.46	4436	1200	20844	3720	5865	9585	No	4.16	Si
SLU 82	ini.	377.32	3484	0.46	2989	1200	20844	3720	5865	9585	No	2.75	Si
SLU 82	fin.	-601.74	-2395	0.46	4576	1200	20844	3720	5865	9585	No	4	Si
SLU 79	ini.	374.12	3402	0.46	2966	1200	20844	3720	5865	9585	No	2.82	Si
SLU 79	fin.	-586.61	-2324	0.46	4473	1200	20844	3720	5865	9585	No	4.12	Si
SLU 78	ini.	376.18	3442	0.46	2981	1200	20844	3720	5865	9585	No	2.78	Si
SLU 78	fin.	-590.91	-2343	0.46	4503	1200	20844	3720	5865	9585	No	4.09	Si
SLU 75	ini.	370.78	3395	0.46	2941	1200	20844	3720	5865	9585	No	2.82	Si
SLU 75	fin.	-584.13	-2314	0.46	4456	1200	20844	3720	5865	9585	No	4.14	Si
SLU 80	ini.	373.43	3417	0.46	2960	1200	20844	3720	5865	9585	No	2.8	Si
SLU 80	fin.	-587.41	-2328	0.46	4479	1200	20844	3720	5865	9585	No	4.12	Si
SLU 81	ini.	378.01	3468	0.46	2995	1200	20844	3720	5865	9585	No	2.76	Si
SLU 81	fin.	-600.93	-2391	0.46	4570	1200	20844	3720	5865	9585	No	4.01	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	584.04	-820	-0.0001549	0.0003369	0.0035	0.46		4979.33	4979.33		8.53	Si
SLV 15	fin.	-331.84	1918	-0.0000845	0.0003369	0.0035	0.46		4997.11	4997.11		15.06	Si
SLV 2	ini.	-77.98	-423	-0.0000192	0.0003369	0.0035	0.46		4997.11	4997.11		64.08	Si
SLV 2	fin.	-455.49	-590	-0.000118	0.0003369	0.0035	0.46		4997.11	4997.11		10.97	Si
SLV 16	ini.	576.04	-785	-0.0001526	0.0003369	0.0035	0.46		4979.33	4979.33		8.64	Si
SLV 16	fin.	-329.79	1911	-0.0000839	0.0003369	0.0035	0.46		4997.11	4997.11		15.15	Si
SLV 6	ini.	109	-1509	-0.0000271	0.0003369	0.0035	0.46		4979.33	4979.33		45.68	Si
SLV 6	fin.	-457.85	-312	-0.0001187	0.0003369	0.0035	0.46		4997.11	4997.11		10.91	Si
SLV 1	ini.	-69.98	-458	-0.0000172	0.0003369	0.0035	0.46		4997.11	4997.11		71.41	Si
SLV 1	fin.	-457.54	-583	-0.0001186	0.0003369	0.0035	0.46		4997.11	4997.11		10.92	Si
SLV 13	ini.	555.53	-1449	-0.0001467	0.0003369	0.0035	0.46		4979.33	4979.33		8.96	Si
SLV 13	fin.	-362.18	1523	-0.0000926	0.0003369	0.0035	0.46		4997.11	4997.11		13.8	Si
SLV 14	ini.	547.53	-1414	-0.0001444	0.0003369	0.0035	0.46		4979.33	4979.33		9.09	Si
SLV 14	fin.	-360.14	1517	-0.000092	0.0003369	0.0035	0.46		4997.11	4997.11		13.88	Si
SLD 15	ini.	464.17	-765	-0.0001209	0.0003369	0.0035	0.46		4979.33	4979.33		10.73	Si
SLD 15	fin.	-354.93	1455	-0.0000906	0.0003369	0.0035	0.46		4997.11	4997.11		14.08	Si
SLV 5	ini.	114.38	-1533	-0.0000284	0.0003369	0.0035	0.46		4979.33	4979.33		43.53	Si
SLV 5	fin.	-459.23	-307	-0.000119	0.0003369	0.0035	0.46		4997.11	4997.11		10.88	Si
SLD 16	ini.	459.1	-743	-0.0001195	0.0003369	0.0035	0.46		4979.33	4979.33		10.85	Si
SLD 16	fin.	-353.64	1451	-0.0000903	0.0003369	0.0035	0.46		4997.11	4997.11		14.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	302.04	3344	0.46	3679	1354	20844	5579	5865	11444		3.42	Si
SLV 9	fin.	-430.62	-1960	0.46	5165	1354	20844	5579	5865	11444		5.84	Si
SLV 14	ini.	547.53	2865	0.46	6513	1354	20844	5579	5865	11444		3.99	Si
SLV 14	fin.	-360.14	-2166	0.46	4348	1354	20844	5579	5865	11444		5.28	Si
SLV 10	ini.	296.65	3357	0.46	3615	1354	20844	5579	5865	11444		3.41	Si
SLV 10	fin.	-429.25	-1960	0.46	5149	1354	20844	5579	5865	11444		5.84	Si
SLV 6	ini.	109	3183	0.46	1350	1354	20844	5579	5865	11444		3.59	Si
SLV 6	fin.	-457.85	-1631	0.46	5477	1354	20844	5579	5865	11444		7.02	Si
SLD 9	ini.	287.05	2903	0.46	3501	1354	20844	5579	5865	11444		3.94	Si
SLD 9	fin.	-414.55	-1791	0.46	4980	1354	20844	5579	5865	11444		6.39	Si
SLD 10	ini.	283.78	2911	0.46	3462	1354	20844	5579	5865	11444		3.93	Si
SLD 10	fin.	-413.72	-1791	0.46	4970	1354	20844	5579	5865	11444		6.39	Si
SLD 5	ini.	166.87	2791	0.46	2057	1354	20844	5579	5865	11444		4.1	Si
SLD 5	fin.	-432.85	-1589	0.46	5190	1354	20844	5579	5865	11444		7.2	Si
SLD 6	ini.	163.6	2799	0.46	2017	1354	20844	5579	5865	11444		4.09	Si
SLD 6	fin.	-432.01	-1589	0.46	5181	1354	20844	5579	5865	11444		7.2	Si
SLV 5	ini.	114.38	3170	0.46	1416	1354	20844	5579	5865	11444		3.61	Si
SLV 5	fin.	-459.23	-1631	0.46	5493	1354	20844	5579	5865	11444		7.02	Si
SLV 13	ini.	555.53	2845	0.46	6603	1354	20844	5579	5865	11444		4.02	Si
SLV 13	fin.	-362.18	-2166	0.46	4372	1354	20844	5579	5865	11444		5.28	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.526	SLV 15	Si
V_SLV	3.409	SLV 10	Si
PF_SLU	7.566	SLU 84	Si
V_SLU	2.715	SLU 84	Si

Trave di accoppiamento 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.238	1.141	0.21	0.67	0.46	-12.238	1.141	0.21	0.67	0.46	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1540.21	-7901	-0.0006136	0.0002246	0.0035	0.46		4603.99	4603.99	No	2.99	Si
SLU 81	fin.	666.65	-1691	-0.0001907	0.0002246	0.0035	0.46		4587.61	4587.61	No	6.88	Si
SLU 79	ini.	-1486.82	-7710	-0.0005823	0.0002246	0.0035	0.46		4603.99	4603.99	No	3.1	Si
SLU 79	fin.	654.93	-1718	-0.0001866	0.0002246	0.0035	0.46		4587.61	4587.61	No	7	Si
SLU 84	ini.	-1556.59	-8004	-0.0006233	0.0002246	0.0035	0.46		4603.99	4603.99	No	2.96	Si
SLU 84	fin.	673.03	-1738	-0.0001929	0.0002246	0.0035	0.46		4587.61	4587.61	No	6.82	Si
SLU 83	ini.	-1558.24	-8002	-0.0006243	0.0002246	0.0035	0.46		4603.99	4603.99	No	2.95	Si
SLU 83	fin.	676.82	-1716	-0.0001943	0.0002246	0.0035	0.46		4587.61	4587.61	No	6.78	Si
SLU 77	ini.	-1495.93	-7762	-0.0005876	0.0002246	0.0035	0.46		4603.99	4603.99	No	3.08	Si
SLU 77	fin.	659.75	-1733	-0.0001883	0.0002246	0.0035	0.46		4587.61	4587.61	No	6.95	Si
SLU 80	ini.	-1485.17	-7712	-0.0005813	0.0002246	0.0035	0.46		4603.99	4603.99	No	3.1	Si
SLU 80	fin.	651.14	-1740	-0.0001853	0.0002246	0.0035	0.46		4587.61	4587.61	No	7.05	Si
SLU 82	ini.	-1538.56	-7903	-0.0006126	0.0002246	0.0035	0.46		4603.99	4603.99	No	2.99	Si
SLU 82	fin.	662.86	-1713	-0.0001894	0.0002246	0.0035	0.46		4587.61	4587.61	No	6.92	Si
SLU 74	ini.	-1477.91	-7661	-0.0005771	0.0002246	0.0035	0.46		4603.99	4603.99	No	3.12	Si
SLU 74	fin.	649.58	-1708	-0.0001848	0.0002246	0.0035	0.46		4587.61	4587.61	No	7.06	Si
SLU 78	ini.	-1494.28	-7764	-0.0005866	0.0002246	0.0035	0.46		4603.99	4603.99	No	3.08	Si
SLU 78	fin.	655.96	-1755	-0.000187	0.0002246	0.0035	0.46		4587.61	4587.61	No	6.99	Si
SLU 75	ini.	-1476.26	-7663	-0.0005761	0.0002246	0.0035	0.46		4603.99	4603.99	No	3.12	Si
SLU 75	fin.	645.79	-1730	-0.0001835	0.0002246	0.0035	0.46		4587.61	4587.61	No	7.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1556.59	4973	0.46	9517	1164	20844	3720	5865	9585	No	1.93	Si
SLU 84	fin.	673.03	4239	0.46	5062	1164	20844	3720	5865	9585	No	2.26	Si
SLU 82	ini.	-1538.56	4925	0.46	9439	1164	20844	3720	5865	9585	No	1.95	Si
SLU 82	fin.	662.86	4173	0.46	4996	1164	20844	3720	5865	9585	No	2.3	Si
SLU 79	ini.	-1486.82	4687	0.46	9213	1164	20844	3720	5865	9585	No	2.05	Si
SLU 79	fin.	654.93	4140	0.46	4944	1164	20844	3720	5865	9585	No	2.31	Si
SLU 78	ini.	-1494.28	4699	0.46	9246	1164	20844	3720	5865	9585	No	2.04	Si
SLU 78	fin.	655.96	4165	0.46	4951	1164	20844	3720	5865	9585	No	2.3	Si
SLU 74	ini.	-1477.91	4662	0.46	9174	1164	20844	3720	5865	9585	No	2.06	Si
SLU 74	fin.	649.58	4107	0.46	4909	1164	20844	3720	5865	9585	No	2.33	Si
SLU 83	ini.	-1558.24	4984	0.46	9525	1164	20844	3720	5865	9585	No	1.92	Si
SLU 83	fin.	676.82	4247	0.46	5087	1164	20844	3720	5865	9585	No	2.26	Si
SLU 80	ini.	-1485.17	4676	0.46	9206	1164	20844	3720	5865	9585	No	2.05	Si
SLU 80	fin.	651.14	4132	0.46	4920	1164	20844	3720	5865	9585	No	2.32	Si
SLU 77	ini.	-1495.93	4710	0.46	9253	1164	20844	3720	5865	9585	No	2.03	Si
SLU 77	fin.	659.75	4173	0.46	4976	1164	20844	3720	5865	9585	No	2.3	Si
SLU 81	ini.	-1540.21	4936	0.46	9446	1164	20844	3720	5865	9585	No	1.94	Si
SLU 81	fin.	666.65	4181	0.46	5021	1164	20844	3720	5865	9585	No	2.29	Si
SLU 75	ini.	-1476.26	4651	0.46	9167	1164	20844	3720	5865	9585	No	2.06	Si
SLU 75	fin.	645.79	4099	0.46	4884	1164	20844	3720	5865	9585	No	2.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-2579.42	-12951	-0.0011233	0.0003369	0.0035	0.46		4997.11	4997.11		1.94	Si
SLV 15	fin.	1638.28	-927	-0.0005637	0.0003369	0.0035	0.46		4979.33	4979.33		3.04	Si
SLD 13	ini.	-1959.91	-10170	-0.0007341	0.0003369	0.0035	0.46		4997.11	4997.11		2.55	Si
SLD 13	fin.	1101.89	-1547	-0.0003241	0.0003369	0.0035	0.46		4979.33	4979.33		4.52	Si
SLV 13	ini.	-2509.84	-13003	-0.0010758	0.0003369	0.0035	0.46		4997.11	4997.11		1.99	Si
SLV 13	fin.	1469.43	-1766	-0.0004807	0.0003369	0.0035	0.46		4979.33	4979.33		3.39	Si
SLV 16	ini.	-2556.09	-12843	-0.0011073	0.0003369	0.0035	0.46		4997.11	4997.11		1.95	Si
SLV 16	fin.	1617.99	-942	-0.0005534	0.0003369	0.0035	0.46		4979.33	4979.33		3.08	Si
SLV 14	ini.	-2486.51	-12895	-0.0010601	0.0003369	0.0035	0.46		4997.11	4997.11		2.01	Si
SLV 14	fin.	1449.14	-1781	-0.0004712	0.0003369	0.0035	0.46		4979.33	4979.33		3.44	Si
SLV 11	ini.	-1564.77	-7407	-0.0005241	0.0003369	0.0035	0.46		4997.11	4997.11		3.19	Si
SLV 11	fin.	1055.11	152	-0.0003068	0.0003369	0.0035	0.46		4979.33	4979.33		4.72	Si
SLD 14	ini.	-1945.11	-10102	-0.0007257	0.0003369	0.0035	0.46		4997.11	4997.11		2.57	Si
SLD 14	fin.	1089.02	-1557	-0.0003193	0.0003369	0.0035	0.46		4979.33	4979.33		4.57	Si
SLD 15	ini.	-2000.13	-10137	-0.0007572	0.0003369	0.0035	0.46		4997.11	4997.11		2.5	Si
SLD 15	fin.	1200.84	-1056	-0.0003628	0.0003369	0.0035	0.46		4979.33	4979.33		4.15	Si
SLV 12	ini.	-1549.07	-7334	-0.0005164	0.0003369	0.0035	0.46		4997.11	4997.11		3.23	Si
SLV 12	fin.	1041.45	142	-0.0003019	0.0003369	0.0035	0.46		4979.33	4979.33		4.78	Si
SLD 16	ini.	-1985.33	-10068	-0.0007487	0.0003369	0.0035	0.46		4997.11	4997.11		2.52	Si
SLD 16	fin.	1187.96	-1066	-0.0003576	0.0003369	0.0035	0.46		4979.33	4979.33		4.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-1985.33	6205	0.46	16250	1313	20844	5579	5865	11444		1.84	Si
SLD 16	fin.	1187.96	6330	0.46	13010	1313	20844	5579	5865	11444		1.81	Si
SLD 14	ini.	-1945.11	5905	0.46	16250	1313	20844	5579	5865	11444		1.94	Si
SLD 14	fin.	1089.02	6110	0.46	12117	1313	20844	5579	5865	11444		1.87	Si
SLV 13	ini.	-2509.84	7585	0.46	16250	1313	20844	5579	5865	11444		1.51	Si
SLV 13	fin.	1469.43	8055	0.46	15310	1313	20844	5579	5865	11444		1.42	Si
SLV 15	ini.	-2579.42	8098	0.46	16250	1313	20844	5579	5865	11444		1.41	Si
SLV 15	fin.	1638.28	8433	0.46	16250	1313	20844	5579	5865	11444		1.36	Si
SLD 13	ini.	-1959.91	5955	0.46	16250	1313	20844	5579	5865	11444		1.92	Si
SLD 13	fin.	1101.89	6166	0.46	12236	1313	20844	5579	5865	11444		1.86	Si
SLV 11	ini.	-1564.77	5331	0.46	15985	1313	20844	5579	5865	11444		2.15	Si
SLV 11	fin.	1055.11	5061	0.46	11800	1313	20844	5579	5865	11444		2.26	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2556.09	8019	0.46	16250	1313	20844	5579	5865	11444		1.43	Si
SLV 16	fin.	1617.99	8344	0.46	16250	1313	20844	5579	5865	11444		1.37	Si
SLV 14	ini.	-2486.51	7505	0.46	16250	1313	20844	5579	5865	11444		1.52	Si
SLV 14	fin.	1449.14	7965	0.46	15154	1313	20844	5579	5865	11444		1.44	Si
SLD 15	ini.	-2000.13	6256	0.46	16250	1313	20844	5579	5865	11444		1.83	Si
SLD 15	fin.	1200.84	6386	0.46	13123	1313	20844	5579	5865	11444		1.79	Si
SLV 12	ini.	-1549.07	5277	0.46	15869	1313	20844	5579	5865	11444		2.17	Si
SLV 12	fin.	1041.45	5001	0.46	11671	1313	20844	5579	5865	11444		2.29	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.937	SLV 15	Si
V_SLV	1.357	SLV 15	Si
PF_SLU	2.955	SLU 83	Si
V_SLU	1.923	SLU 83	Si

Trave di accoppiamento 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.463	1.141	-1.95	0.67	2.62	-9.778	1.141	-1.95	0.67	2.62	0.315	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-2001.94	-17225	-0.0001202	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.55	Si
SLU 78	fin.	-3756.48	-17262	-0.0002358	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.56	Si
SLU 79	ini.	-1985.34	-17128	-0.0001191	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.62	Si
SLU 79	fin.	-3730.68	-17160	-0.000234	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.59	Si
SLU 83	ini.	-1994.64	-17708	-0.0001197	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.58	Si
SLU 83	fin.	-3746.34	-17741	-0.0002351	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.57	Si
SLU 84	ini.	-1997.83	-17705	-0.0001199	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.57	Si
SLU 84	fin.	-3744.04	-17743	-0.0002349	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.57	Si
SLU 80	ini.	-1988.54	-17125	-0.0001193	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.61	Si
SLU 80	fin.	-3728.37	-17162	-0.0002338	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.59	Si
SLU 82	ini.	-1977.62	-17523	-0.0001187	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.66	Si
SLU 82	fin.	-3700.51	-17566	-0.0002319	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.63	Si
SLU 74	ini.	-1978.52	-17046	-0.0001187	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.65	Si
SLU 74	fin.	-3715.26	-17083	-0.0002329	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.61	Si
SLU 81	ini.	-1974.42	-17526	-0.0001185	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.67	Si
SLU 81	fin.	-3702.82	-17564	-0.000232	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.62	Si
SLU 77	ini.	-1998.74	-17228	-0.00012	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.56	Si
SLU 77	fin.	-3758.78	-17259	-0.0002359	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.55	Si
SLU 75	ini.	-1981.72	-17043	-0.0001189	0.0002246	0.0035	2.62		17118.32	17118.32	No	8.64	Si
SLU 75	fin.	-3712.95	-17085	-0.0002327	0.0002246	0.0035	2.62		17118.32	17118.32	No	4.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1981.72	-7445	2.62	0	9825	2498	21185	6681	12323	No	1.66	Si
SLU 75	fin.	-3712.95	-4115	2.62	0	9825	2498	21185	6681	12323	No	2.99	Si
SLU 82	ini.	-1977.62	-7518	2.62	0	9825	2498	21185	6681	12323	No	1.64	Si
SLU 82	fin.	-3700.51	-4029	2.62	0	9825	2498	21185	6681	12323	No	3.06	Si
SLU 80	ini.	-1988.54	-7534	2.62	0	9825	2498	21185	6681	12323	No	1.64	Si
SLU 80	fin.	-3728.37	-4141	2.62	0	9825	2498	21185	6681	12323	No	2.98	Si
SLU 79	ini.	-1985.34	-7509	2.62	0	9825	2498	21185	6681	12323	No	1.64	Si
SLU 79	fin.	-3730.68	-4205	2.62	0	9825	2498	21185	6681	12323	No	2.93	Si
SLU 78	ini.	-2001.94	-7600	2.62	0	9825	2498	21185	6681	12323	No	1.62	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-3756.48	-4178	2.62	0	9825	2498	21185	6681	12323	No	2.95	Si
SLU 74	ini.	-1978.52	-7420	2.62	0	9825	2498	21185	6681	12323	No	1.66	Si
SLU 74	fin.	-3715.26	-4178	2.62	0	9825	2498	21185	6681	12323	No	2.95	Si
SLU 77	ini.	-1998.74	-7575	2.62	0	9825	2498	21185	6681	12323	No	1.63	Si
SLU 77	fin.	-3758.78	-4241	2.62	0	9825	2498	21185	6681	12323	No	2.91	Si
SLU 84	ini.	-1997.83	-7673	2.62	0	9825	2498	21185	6681	12323	No	1.61	Si
SLU 84	fin.	-3744.04	-4093	2.62	0	9825	2498	21185	6681	12323	No	3.01	Si
SLU 83	ini.	-1994.64	-7649	2.62	0	9825	2498	21185	6681	12323	No	1.61	Si
SLU 83	fin.	-3746.34	-4156	2.62	0	9825	2498	21185	6681	12323	No	2.97	Si
SLU 81	ini.	-1974.42	-7493	2.62	0	9825	2498	21185	6681	12323	No	1.64	Si
SLU 81	fin.	-3702.82	-4093	2.62	0	9825	2498	21185	6681	12323	No	3.01	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-663.22	-10082	-0.0000386	0.0003369	0.0035	2.62		16049.37	16049.37		24.2	Si
SLV 3	fin.	-5101.64	-7689	-0.0003207	0.0003369	0.0035	2.62		16049.37	16049.37		3.15	Si
SLD 4	ini.	-961.22	-10573	-0.0000561	0.0003369	0.0035	2.62		16049.37	16049.37		16.7	Si
SLD 4	fin.	-4236.7	-9088	-0.0002617	0.0003369	0.0035	2.62		16049.37	16049.37		3.79	Si
SLD 1	ini.	-1055.21	-10589	-0.0000617	0.0003369	0.0035	2.62		16049.37	16049.37		15.21	Si
SLD 1	fin.	-4230.92	-9182	-0.0002613	0.0003369	0.0035	2.62		16049.37	16049.37		3.79	Si
SLV 2	ini.	-879.43	-9965	-0.0000513	0.0003369	0.0035	2.62		16049.37	16049.37		18.25	Si
SLV 2	fin.	-5135.81	-7780	-0.000323	0.0003369	0.0035	2.62		16049.37	16049.37		3.12	Si
SLV 4	ini.	-690.25	-10013	-0.0000402	0.0003369	0.0035	2.62		16049.37	16049.37		23.25	Si
SLV 4	fin.	-5122.75	-7656	-0.0003221	0.0003369	0.0035	2.62		16049.37	16049.37		3.13	Si
SLV 6	ini.	-1558.26	-11016	-0.0000919	0.0003369	0.0035	2.62		16049.37	16049.37		10.3	Si
SLV 6	fin.	-3426.88	-10666	-0.0002085	0.0003369	0.0035	2.62		16049.37	16049.37		4.68	Si
SLV 1	ini.	-852.4	-10034	-0.0000497	0.0003369	0.0035	2.62		16049.37	16049.37		18.83	Si
SLV 1	fin.	-5114.7	-7814	-0.0003216	0.0003369	0.0035	2.62		16049.37	16049.37		3.14	Si
SLD 3	ini.	-944.08	-10616	-0.0000551	0.0003369	0.0035	2.62		16049.37	16049.37		17	Si
SLD 3	fin.	-4223.31	-9109	-0.0002608	0.0003369	0.0035	2.62		16049.37	16049.37		3.8	Si
SLV 5	ini.	-1540.06	-11062	-0.0000908	0.0003369	0.0035	2.62		16049.37	16049.37		10.42	Si
SLV 5	fin.	-3412.66	-10688	-0.0002076	0.0003369	0.0035	2.62		16049.37	16049.37		4.7	Si
SLD 2	ini.	-1072.35	-10545	-0.0000627	0.0003369	0.0035	2.62		16049.37	16049.37		14.97	Si
SLD 2	fin.	-4244.31	-9161	-0.0002622	0.0003369	0.0035	2.62		16049.37	16049.37		3.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-690.25	-24657	2.62	0	14738	2498	31778	6681	17235		0.7	No
SLV 4	fin.	-5122.75	-22901	2.62	0	14738	2498	31778	6681	17235		0.75	No
SLV 1	ini.	-852.4	-26049	2.62	0	14738	2498	31778	6681	17235		0.66	No
SLV 1	fin.	-5114.7	-20837	2.62	0	14738	2498	31778	6681	17235		0.83	No
SLV 14	ini.	-2200.95	14940	2.62	0	14738	2498	31778	6681	17235		1.15	Si
SLV 14	fin.	-219.45	17122	2.62	0	14738	2498	31778	6681	17235		1.01	Si
SLV 13	ini.	-2173.93	14877	2.62	0	14738	2498	31778	6681	17235		1.16	Si
SLV 13	fin.	-198.34	16919	2.62	0	14738	2498	31778	6681	17235		1.02	Si
SLD 4	ini.	-961.22	-17583	2.62	0	14738	2498	31778	6681	17235		0.98	No
SLD 4	fin.	-4236.7	-15685	2.62	0	14738	2498	31778	6681	17235		1.1	Si
SLD 1	ini.	-1055.21	-18401	2.62	0	14738	2498	31778	6681	17235		0.94	No
SLD 1	fin.	-4230.92	-14482	2.62	0	14738	2498	31778	6681	17235		1.19	Si
SLD 3	ini.	-944.08	-17622	2.62	0	14738	2498	31778	6681	17235		0.98	No
SLD 3	fin.	-4223.31	-15814	2.62	0	14738	2498	31778	6681	17235		1.09	Si
SLV 2	ini.	-879.43	-25987	2.62	0	14738	2498	31778	6681	17235		0.66	No
SLV 2	fin.	-5135.81	-20633	2.62	0	14738	2498	31778	6681	17235		0.84	No
SLD 2	ini.	-1072.35	-18362	2.62	0	14738	2498	31778	6681	17235		0.94	No
SLD 2	fin.	-4244.31	-14353	2.62	0	14738	2498	31778	6681	17235		1.2	Si
SLV 3	ini.	-663.22	-24720	2.62	0	14738	2498	31778	6681	17235		0.7	No
SLV 3	fin.	-5101.64	-23104	2.62	0	14738	2498	31778	6681	17235		0.75	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.125	SLV 2	Si
V_SLV	0.662	SLV 1	No
PF_SLU	4.554	SLU 77	Si
V_SLU	1.606	SLU 84	Si

Trave di accoppiamento 20

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.528	1.141	0.15	0.67	0.52	-7.428	1.141	0.15	0.67	0.52	0.9	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-972.75	-6965	-0.0002238	0.0002246	0.0035	0.52		5890	5890	No	6.05	Si
SLU 84	fin.	-269.84	-4143	-0.0000535	0.0002246	0.0035	0.52		5890	5890	No	21.83	Si
SLU 82	ini.	-964.14	-6899	-0.0002213	0.0002246	0.0035	0.52		5890	5890	No	6.11	Si
SLU 82	fin.	-266.7	-4093	-0.0000529	0.0002246	0.0035	0.52		5890	5890	No	22.09	Si
SLU 78	ini.	-939.96	-6758	-0.0002142	0.0002246	0.0035	0.52		5890	5890	No	6.27	Si
SLU 78	fin.	-266.73	-4073	-0.0000529	0.0002246	0.0035	0.52		5890	5890	No	22.08	Si
SLU 77	ini.	-925.55	-6671	-0.0002101	0.0002246	0.0035	0.52		5890	5890	No	6.36	Si
SLU 77	fin.	-276.72	-4092	-0.000055	0.0002246	0.0035	0.52		5890	5890	No	21.28	Si
SLU 81	ini.	-949.73	-6811	-0.0002171	0.0002246	0.0035	0.52		5890	5890	No	6.2	Si
SLU 81	fin.	-276.69	-4111	-0.000055	0.0002246	0.0035	0.52		5890	5890	No	21.29	Si
SLU 73	ini.	-927.96	-6648	-0.0002108	0.0002246	0.0035	0.52		5890	5890	No	6.35	Si
SLU 73	fin.	-251.8	-3931	-0.0000498	0.0002246	0.0035	0.52		5890	5890	No	23.39	Si
SLU 83	ini.	-958.34	-6878	-0.0002196	0.0002246	0.0035	0.52		5890	5890	No	6.15	Si
SLU 83	fin.	-279.83	-4162	-0.0000556	0.0002246	0.0035	0.52		5890	5890	No	21.05	Si
SLU 75	ini.	-931.35	-6692	-0.0002118	0.0002246	0.0035	0.52		5890	5890	No	6.32	Si
SLU 75	fin.	-263.59	-4022	-0.0000522	0.0002246	0.0035	0.52		5890	5890	No	22.35	Si
SLU 76	ini.	-936.57	-6715	-0.0002133	0.0002246	0.0035	0.52		5890	5890	No	6.29	Si
SLU 76	fin.	-254.94	-3982	-0.0000505	0.0002246	0.0035	0.52		5890	5890	No	23.1	Si
SLU 80	ini.	-935.58	-6723	-0.000213	0.0002246	0.0035	0.52		5890	5890	No	6.3	Si
SLU 80	fin.	-264.74	-4045	-0.0000525	0.0002246	0.0035	0.52		5890	5890	No	22.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-964.14	2752	0.52	5554	1527	23562	4205	6630	10835	No	3.94	Si
SLU 82	fin.	-266.7	561	0.52	1686	1527	23562	4205	6630	10835	No	19.32	Si
SLU 84	ini.	-972.75	2763	0.52	5595	1527	23562	4205	6630	10835	No	3.92	Si
SLU 84	fin.	-269.84	571	0.52	1705	1527	23562	4205	6630	10835	No	18.96	Si
SLU 75	ini.	-931.35	2603	0.52	5396	1527	23562	4205	6630	10835	No	4.16	Si
SLU 75	fin.	-263.59	554	0.52	1667	1527	23562	4205	6630	10835	No	19.55	Si
SLU 78	ini.	-939.96	2613	0.52	5438	1527	23562	4205	6630	10835	No	4.15	Si
SLU 78	fin.	-266.73	565	0.52	1686	1527	23562	4205	6630	10835	No	19.18	Si
SLU 80	ini.	-935.58	2609	0.52	5416	1527	23562	4205	6630	10835	No	4.15	Si
SLU 80	fin.	-264.74	560	0.52	1674	1527	23562	4205	6630	10835	No	19.34	Si
SLU 83	ini.	-958.34	2705	0.52	5526	1527	23562	4205	6630	10835	No	4.01	Si
SLU 83	fin.	-279.83	514	0.52	1767	1527	23562	4205	6630	10835	No	21.09	Si
SLU 77	ini.	-925.55	2556	0.52	5368	1527	23562	4205	6630	10835	No	4.24	Si
SLU 77	fin.	-276.72	507	0.52	1747	1527	23562	4205	6630	10835	No	21.36	Si
SLU 76	ini.	-936.57	2637	0.52	5421	1527	23562	4205	6630	10835	No	4.11	Si
SLU 76	fin.	-254.94	588	0.52	1614	1527	23562	4205	6630	10835	No	18.42	Si
SLU 73	ini.	-927.96	2626	0.52	5379	1527	23562	4205	6630	10835	No	4.13	Si
SLU 73	fin.	-251.8	577	0.52	1594	1527	23562	4205	6630	10835	No	18.77	Si
SLU 81	ini.	-949.73	2694	0.52	5485	1527	23562	4205	6630	10835	No	4.02	Si
SLU 81	fin.	-276.69	503	0.52	1747	1527	23562	4205	6630	10835	No	21.54	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-1435.27	-7939	-0.0003302	0.0003369	0.0035	0.52		6392.92	6392.92		4.45	Si
SLD 13	fin.	999.78	2301	-0.0002144	0.0003369	0.0035	0.52		6372.78	6372.78		6.37	Si
SLV 14	ini.	-1958.73	-10285	-0.0005076	0.0003369	0.0035	0.52		6392.92	6392.92		3.26	Si
SLV 14	fin.	1708.95	5217	-0.0004195	0.0003369	0.0035	0.52		6372.78	6372.78		3.73	Si
SLV 2	ini.	139.83	-2235	-0.0000271	0.0003369	0.0035	0.52		6372.78	6372.78		45.58	Si
SLV 2	fin.	-1685.21	-10027	-0.0004096	0.0003369	0.0035	0.52		6392.92	6392.92		3.79	Si
SLV 13	ini.	-1914.21	-10013	-0.0004909	0.0003369	0.0035	0.52		6392.92	6392.92		3.34	Si
SLV 13	fin.	1680.38	5168	-0.0004098	0.0003369	0.0035	0.52		6372.78	6372.78		3.79	Si
SLV 1	ini.	184.34	-1963	-0.0000359	0.0003369	0.0035	0.52		6372.78	6372.78		34.57	Si
SLV 1	fin.	-1713.78	-10076	-0.0004193	0.0003369	0.0035	0.52		6392.92	6392.92		3.73	Si
SLV 10	ini.	-1835.6	-11226	-0.0004622	0.0003369	0.0035	0.52		6392.92	6392.92		3.48	Si
SLV 10	fin.	942.73	637	-0.0002006	0.0003369	0.0035	0.52		6372.78	6372.78		6.76	Si
SLV 3	ini.	714.61	1298	-0.0001475	0.0003369	0.0035	0.52		6372.78	6372.78		8.92	Si
SLV 3	fin.	-2079.27	-10730	-0.0005542	0.0003369	0.0035	0.52		6392.92	6392.92		3.07	Si
SLD 14	ini.	-1463.51	-8112	-0.0003386	0.0003369	0.0035	0.52		6392.92	6392.92		4.37	Si
SLD 14	fin.	1017.91	2332	-0.0002189	0.0003369	0.0035	0.52		6372.78	6372.78		6.26	Si
SLV 9	ini.	-1805.63	-11043	-0.0004514	0.0003369	0.0035	0.52		6392.92	6392.92		3.54	Si
SLV 9	fin.	923.5	604	-0.0001959	0.0003369	0.0035	0.52		6372.78	6372.78		6.9	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	670.09	1025	-0.0001376	0.0003369	0.0035	0.52		6372.78	6372.78		9.51	Si
SLV 4	fin.	-2050.7	-10681	-0.000543	0.0003369	0.0035	0.52		6392.92	6392.92		3.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1914.21	9115	0.52	15474	1692	23562	6307	6630	12937		1.42	Si
SLV 13	fin.	1680.38	7769	0.52	14070	1692	23562	6307	6630	12937		1.67	Si
SLV 10	ini.	-1835.6	7300	0.52	15003	1692	23562	6307	6630	12937		1.77	Si
SLV 10	fin.	942.73	5897	0.52	8585	1692	23562	6307	6630	12937		2.19	Si
SLD 13	ini.	-1435.27	6389	0.52	12383	1692	23562	6307	6630	12937		2.02	Si
SLD 13	fin.	999.78	5042	0.52	9057	1692	23562	6307	6630	12937		2.57	Si
SLD 14	ini.	-1463.51	6500	0.52	12583	1692	23562	6307	6630	12937		1.99	Si
SLD 14	fin.	1017.91	5152	0.52	9206	1692	23562	6307	6630	12937		2.51	Si
SLV 4	ini.	670.09	-5714	0.52	6243	1692	23562	6307	6630	12937		2.26	Si
SLV 4	fin.	-2050.7	-7056	0.52	16250	1692	23562	6307	6630	12937		1.83	Si
SLV 3	ini.	714.61	-5888	0.52	6635	1692	23562	6307	6630	12937		2.2	Si
SLV 3	fin.	-2079.27	-7230	0.52	16250	1692	23562	6307	6630	12937		1.79	Si
SLV 16	ini.	-1428.47	7120	0.52	12335	1692	23562	6307	6630	12937		1.82	Si
SLV 16	fin.	1343.46	5812	0.52	11749	1692	23562	6307	6630	12937		2.23	Si
SLV 15	ini.	-1383.95	6946	0.52	12014	1692	23562	6307	6630	12937		1.86	Si
SLV 15	fin.	1314.89	5638	0.52	11536	1692	23562	6307	6630	12937		2.29	Si
SLV 9	ini.	-1805.63	7183	0.52	14820	1692	23562	6307	6630	12937		1.8	Si
SLV 9	fin.	923.5	5779	0.52	8424	1692	23562	6307	6630	12937		2.24	Si
SLV 14	ini.	-1958.73	9289	0.52	15735	1692	23562	6307	6630	12937		1.39	Si
SLV 14	fin.	1708.95	7943	0.52	14252	1692	23562	6307	6630	12937		1.63	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.075	SLV 3	Si
V_SLV	1.393	SLV 14	Si
PF_SLU	6.055	SLU 84	Si
V_SLU	3.921	SLU 84	Si

Trave di accoppiamento 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.888	6.576	-1.95	0.05	2	-11.888	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	1999.97	-9869	-0.0000808	0.0001872	0.0035	2		39913.02	39913.02	No	19.96	Si
SLU 78	fin.	630.27	-9028	-0.0000249	0.0001872	0.0035	2		39913.02	39913.02	No	63.33	Si
SLU 84	ini.	2041.78	-9975	-0.0000826	0.0001872	0.0035	2		39913.02	39913.02	No	19.55	Si
SLU 84	fin.	655.41	-9126	-0.000026	0.0001872	0.0035	2		39913.02	39913.02	No	60.9	Si
SLU 83	ini.	2040.13	-10108	-0.0000825	0.0001872	0.0035	2		39913.02	39913.02	No	19.56	Si
SLU 83	fin.	647.35	-9249	-0.0000256	0.0001872	0.0035	2		39913.02	39913.02	No	61.66	Si
SLU 79	ini.	1983.42	-9928	-0.0000801	0.0001872	0.0035	2		39913.02	39913.02	No	20.12	Si
SLU 79	fin.	615.32	-9082	-0.0000244	0.0001872	0.0035	2		39913.02	39913.02	No	64.87	Si
SLU 81	ini.	2011.03	-9953	-0.0000813	0.0001872	0.0035	2		39913.02	39913.02	No	19.85	Si
SLU 81	fin.	639.68	-9109	-0.0000253	0.0001872	0.0035	2		39913.02	39913.02	No	62.4	Si
SLU 80	ini.	1985.07	-9794	-0.0000802	0.0001872	0.0035	2		39913.02	39913.02	No	20.11	Si
SLU 80	fin.	623.39	-8959	-0.0000247	0.0001872	0.0035	2		39913.02	39913.02	No	64.03	Si
SLU 82	ini.	2012.68	-9820	-0.0000813	0.0001872	0.0035	2		39913.02	39913.02	No	19.83	Si
SLU 82	fin.	647.74	-8986	-0.0000256	0.0001872	0.0035	2		39913.02	39913.02	No	61.62	Si
SLU 75	ini.	1970.87	-9715	-0.0000796	0.0001872	0.0035	2		39913.02	39913.02	No	20.25	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	622.6	-8888	-0.0000246	0.0001872	0.0035	2		39913.02	39913.02	No	64.11	Si
SLU 74	ini.	1969.22	-9848	-0.0000795	0.0001872	0.0035	2		39913.02	39913.02	No	20.27	Si
SLU 74	fin.	614.53	-9012	-0.0000243	0.0001872	0.0035	2		39913.02	39913.02	No	64.95	Si
SLU 77	ini.	1998.32	-10002	-0.0000807	0.0001872	0.0035	2		39913.02	39913.02	No	19.97	Si
SLU 77	fin.	622.2	-9152	-0.0000246	0.0001872	0.0035	2		39913.02	39913.02	No	64.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	2040.13	-4020	2	0	6250	15859	13475	12750	22109	No	5.5	Si
SLU 83	fin.	647.35	-728	2	0	6250	15859	13475	12750	22109	No	30.38	Si
SLU 82	ini.	2012.68	-3898	2	0	6250	15859	13475	12750	22109	No	5.67	Si
SLU 82	fin.	647.74	-737	2	0	6250	15859	13475	12750	22109	No	30	Si
SLU 75	ini.	1970.87	-3822	2	0	6250	15859	13475	12750	22109	No	5.78	Si
SLU 75	fin.	622.6	-757	2	0	6250	15859	13475	12750	22109	No	29.22	Si
SLU 84	ini.	2041.78	-3974	2	0	6250	15859	13475	12750	22109	No	5.56	Si
SLU 84	fin.	655.41	-737	2	0	6250	15859	13475	12750	22109	No	29.99	Si
SLU 80	ini.	1985.07	-3864	2	0	6250	15859	13475	12750	22109	No	5.72	Si
SLU 80	fin.	623.39	-761	2	0	6250	15859	13475	12750	22109	No	29.04	Si
SLU 81	ini.	2011.03	-3944	2	0	6250	15859	13475	12750	22109	No	5.61	Si
SLU 81	fin.	639.68	-728	2	0	6250	15859	13475	12750	22109	No	30.38	Si
SLU 77	ini.	1998.32	-3943	2	0	6250	15859	13475	12750	22109	No	5.61	Si
SLU 77	fin.	622.2	-747	2	0	6250	15859	13475	12750	22109	No	29.58	Si
SLU 79	ini.	1983.42	-3910	2	0	6250	15859	13475	12750	22109	No	5.65	Si
SLU 79	fin.	615.32	-752	2	0	6250	15859	13475	12750	22109	No	29.4	Si
SLU 74	ini.	1969.22	-3868	2	0	6250	15859	13475	12750	22109	No	5.72	Si
SLU 74	fin.	614.53	-747	2	0	6250	15859	13475	12750	22109	No	29.58	Si
SLU 78	ini.	1999.97	-3898	2	0	6250	15859	13475	12750	22109	No	5.67	Si
SLU 78	fin.	630.27	-757	2	0	6250	15859	13475	12750	22109	No	29.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	4398.57	-6391	-0.0001815	0.0002807	0.0035	2		40837.53	40837.53		9.28	Si
SLV 13	fin.	-2927.84	-1977	-0.0001185	0.0002807	0.0035	2		40871.26	40871.26		13.96	Si
SLD 16	ini.	3557.27	-10169	-0.0001452	0.0002807	0.0035	2		40837.53	40837.53		11.48	Si
SLD 16	fin.	-2107.23	-6518	-0.0000845	0.0002807	0.0035	2		40871.26	40871.26		19.4	Si
SLV 1	ini.	-2156.98	-1232	-0.0000866	0.0002807	0.0035	2		40871.26	40871.26		18.95	Si
SLV 1	fin.	4308.45	-5479	-0.0001776	0.0002807	0.0035	2		40837.53	40837.53		9.48	Si
SLV 2	ini.	-1794.74	-1604	-0.0000717	0.0002807	0.0035	2		40871.26	40871.26		22.77	Si
SLV 2	fin.	3891.13	-5236	-0.0001595	0.0002807	0.0035	2		40837.53	40837.53		10.5	Si
SLV 14	ini.	4760.82	-6764	-0.0001974	0.0002807	0.0035	2		40837.53	40837.53		8.58	Si
SLV 14	fin.	-3345.16	-1734	-0.0001361	0.0002807	0.0035	2		40871.26	40871.26		12.22	Si
SLV 16	ini.	4813.6	-12313	-0.0001997	0.0002807	0.0035	2		40837.53	40837.53		8.48	Si
SLV 16	fin.	-3523.07	-6913	-0.0001437	0.0002807	0.0035	2		40871.26	40871.26		11.6	Si
SLV 15	ini.	4451.36	-11941	-0.0001838	0.0002807	0.0035	2		40837.53	40837.53		9.17	Si
SLV 15	fin.	-3105.75	-7156	-0.000126	0.0002807	0.0035	2		40871.26	40871.26		13.16	Si
SLV 3	ini.	-2104.19	-6781	-0.0000844	0.0002807	0.0035	2		40871.26	40871.26		19.42	Si
SLV 3	fin.	4130.53	-10658	-0.0001699	0.0002807	0.0035	2		40837.53	40837.53		9.89	Si
SLD 14	ini.	3526.09	-6912	-0.0001439	0.0002807	0.0035	2		40837.53	40837.53		11.58	Si
SLD 14	fin.	-2003.77	-3477	-0.0000803	0.0002807	0.0035	2		40871.26	40871.26		20.4	Si
SLV 4	ini.	-1741.95	-7154	-0.0000696	0.0002807	0.0035	2		40871.26	40871.26		23.46	Si
SLV 4	fin.	3713.21	-10415	-0.0001519	0.0002807	0.0035	2		40837.53	40837.53		11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	3327.46	-9774	2	0	6643	15859	20213	12750	22503		2.3	Si
SLD 15	fin.	-1842.48	-7109	2	0	6643	15859	20213	12750	22503		3.17	Si
SLV 14	ini.	4760.82	-13460	2	0	6643	15859	20213	12750	22503		1.67	Si
SLV 14	fin.	-3345.16	-12612	2	0	6643	15859	20213	12750	22503		1.78	Si
SLV 15	ini.	4451.36	-13910	2	0	6643	15859	20213	12750	22503		1.62	Si
SLV 15	fin.	-3105.75	-10733	2	0	6643	15859	20213	12750	22503		2.1	Si
SLV 13	ini.	4398.57	-12070	2	0	6643	15859	20213	12750	22503		1.86	Si
SLV 13	fin.	-2927.84	-11239	2	0	6643	15859	20213	12750	22503		2	Si
SLV 4	ini.	-1741.95	6960	2	0	6643	15859	20213	12750	22503		3.23	Si
SLV 4	fin.	3713.21	9999	2	0	6643	15859	20213	12750	22503		2.25	Si
SLD 14	ini.	3526.09	-9580	2	0	6643	15859	20213	12750	22503		2.35	Si
SLD 14	fin.	-2003.77	-8277	2	0	6643	15859	20213	12750	22503		2.72	Si
SLD 16	ini.	3557.27	-10656	2	0	6643	15859	20213	12750	22503		2.11	Si
SLD 16	fin.	-2107.23	-7980	2	0	6643	15859	20213	12750	22503		2.82	Si
SLV 3	ini.	-2104.19	8349	2	0	6643	15859	20213	12750	22503		2.7	Si
SLV 3	fin.	4130.53	11372	2	0	6643	15859	20213	12750	22503		1.98	Si
SLV 16	ini.	4813.6	-15300	2	0	6643	15859	20213	12750	22503		1.47	Si
SLV 16	fin.	-3523.07	-12106	2	0	6643	15859	20213	12750	22503		1.86	Si
SLV 1	ini.	-2156.98	10189	2	0	6643	15859	20213	12750	22503		2.21	Si
SLV 1	fin.	4308.45	10866	2	0	6643	15859	20213	12750	22503		2.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.484	SLV 16	Si
V_SLV	1.471	SLV 16	Si
PF_SLU	19.548	SLU 84	Si
V_SLU	5.5	SLU 83	Si

Trave di accoppiamento 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.888	6.576	0.45	0.67	0.22	-11.888	6.576	0.45	0.67	0.22	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-165.47	-218	-0.000683	0.0001872	0.0035	0.22		486.06	486.06	No	2.94	Si
SLU 77	fin.	-277.18	-995	-0.0013307	0.0001872	0.0035	0.22		486.06	486.06	No	1.75	Si
SLU 79	ini.	-164.83	-216	-0.0006798	0.0001872	0.0035	0.22		486.06	486.06	No	2.95	Si
SLU 79	fin.	-275.76	-988	-0.0013212	0.0001872	0.0035	0.22		486.06	486.06	No	1.76	Si
SLU 78	ini.	-164.94	-216	-0.0006804	0.0001872	0.0035	0.22		486.06	486.06	No	2.95	Si
SLU 78	fin.	-275.88	-988	-0.001322	0.0001872	0.0035	0.22		486.06	486.06	No	1.76	Si
SLU 75	ini.	-163.83	-215	-0.0006747	0.0001872	0.0035	0.22		486.06	486.06	No	2.97	Si
SLU 75	fin.	-273.14	-975	-0.0013038	0.0001872	0.0035	0.22		486.06	486.06	No	1.78	Si
SLU 83	ini.	-174.78	-230	-0.0007308	0.0001872	0.0035	0.22		486.06	486.06	No	2.78	Si
SLU 83	fin.	-288.01	-1018	-0.0014045	0.0001872	0.0035	0.22		486.06	486.06	No	1.69	Si
SLU 82	ini.	-173.14	-227	-0.0007223	0.0001872	0.0035	0.22		486.06	486.06	No	2.81	Si
SLU 82	fin.	-283.97	-998	-0.0013766	0.0001872	0.0035	0.22		486.06	486.06	No	1.71	Si
SLU 74	ini.	-164.36	-216	-0.0006774	0.0001872	0.0035	0.22		486.06	486.06	No	2.96	Si
SLU 74	fin.	-274.44	-981	-0.0013125	0.0001872	0.0035	0.22		486.06	486.06	No	1.77	Si
SLU 84	ini.	-174.25	-229	-0.000728	0.0001872	0.0035	0.22		486.06	486.06	No	2.79	Si
SLU 84	fin.	-286.71	-1011	-0.0013954	0.0001872	0.0035	0.22		486.06	486.06	No	1.7	Si
SLU 81	ini.	-173.67	-229	-0.000725	0.0001872	0.0035	0.22		486.06	486.06	No	2.8	Si
SLU 81	fin.	-285.27	-1004	-0.0013856	0.0001872	0.0035	0.22		486.06	486.06	No	1.7	Si
SLU 80	ini.	-164.3	-215	-0.0006771	0.0001872	0.0035	0.22		486.06	486.06	No	2.96	Si
SLU 80	fin.	-274.45	-982	-0.0013125	0.0001872	0.0035	0.22		486.06	486.06	No	1.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-163.83	1032	0.22	10833	276	3489	1482	1403	2885	No	2.79	Si
SLU 75	fin.	-273.14	-1528	0.22	10833	276	3489	1482	1403	2885	No	1.89	Si
SLU 83	ini.	-174.78	1098	0.22	10833	276	3489	1482	1403	2885	No	2.63	Si
SLU 83	fin.	-288.01	-1611	0.22	10833	276	3489	1482	1403	2885	No	1.79	Si
SLU 79	ini.	-164.83	1038	0.22	10833	276	3489	1482	1403	2885	No	2.78	Si
SLU 79	fin.	-275.76	-1541	0.22	10833	276	3489	1482	1403	2885	No	1.87	Si
SLU 77	ini.	-165.47	1042	0.22	10833	276	3489	1482	1403	2885	No	2.77	Si
SLU 77	fin.	-277.18	-1549	0.22	10833	276	3489	1482	1403	2885	No	1.86	Si
SLU 84	ini.	-174.25	1095	0.22	10833	276	3489	1482	1403	2885	No	2.64	Si
SLU 84	fin.	-286.71	-1604	0.22	10833	276	3489	1482	1403	2885	No	1.8	Si
SLU 80	ini.	-164.3	1035	0.22	10833	276	3489	1482	1403	2885	No	2.79	Si
SLU 80	fin.	-274.45	-1535	0.22	10833	276	3489	1482	1403	2885	No	1.88	Si
SLU 74	ini.	-164.36	1035	0.22	10833	276	3489	1482	1403	2885	No	2.79	Si
SLU 74	fin.	-274.44	-1535	0.22	10833	276	3489	1482	1403	2885	No	1.88	Si
SLU 78	ini.	-164.94	1039	0.22	10833	276	3489	1482	1403	2885	No	2.78	Si
SLU 78	fin.	-275.88	-1542	0.22	10833	276	3489	1482	1403	2885	No	1.87	Si
SLU 82	ini.	-173.14	1088	0.22	10833	276	3489	1482	1403	2885	No	2.65	Si
SLU 82	fin.	-283.97	-1590	0.22	10833	276	3489	1482	1403	2885	No	1.81	Si
SLU 81	ini.	-173.67	1091	0.22	10833	276	3489	1482	1403	2885	No	2.64	Si
SLU 81	fin.	-285.27	-1597	0.22	10833	276	3489	1482	1403	2885	No	1.81	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	73.6	1516	-0.0002567	0.0002807	0.0035	0.22		493.71	493.71		6.71	Si
SLV 15	fin.	-433.18	-2509	-0.0026202	0.0002807	0.0035	0.22		497.41	497.41		1.15	Si
SLD 15	ini.	9.62	924	-0.0000314	0.0002807	0.0035	0.22		493.71	493.71		51.33	Si
SLD 15	fin.	-341.26	-1838	-0.0016998	0.0002807	0.0035	0.22		497.41	497.41		1.46	Si
SLV 14	ini.	136.9	1833	-0.0005193	0.0002807	0.0035	0.22		493.71	493.71		3.61	Si
SLV 14	fin.	-372.05	-2492	-0.0019611	0.0002807	0.0035	0.22		497.41	497.41		1.34	Si
SLV 16	ini.	97.55	1727	-0.0003507	0.0002807	0.0035	0.22		493.71	493.71		5.06	Si
SLV 16	fin.	-458.04	-2722	-0.0029529	0.0002807	0.0035	0.22		497.41	497.41		1.09	Si
SLD 16	ini.	24.81	1058	-0.0000822	0.0002807	0.0035	0.22		493.71	493.71		19.9	Si
SLD 16	fin.	-357.04	-1973	-0.0018286	0.0002807	0.0035	0.22		497.41	497.41		1.39	Si
SLV 4	ini.	-326.24	-1898	-0.0015855	0.0002807	0.0035	0.22		497.41	497.41		1.52	Si
SLV 4	fin.	-17.43	950	-0.000057	0.0002807	0.0035	0.22		497.41	497.41		28.53	Si
SLV 11	ini.	-116.72	159	-0.000427	0.0002807	0.0035	0.22		497.41	497.41		4.26	Si
SLV 11	fin.	-383.35	-1526	-0.0020678	0.0002807	0.0035	0.22		497.41	497.41		1.3	Si
SLV 3	ini.	-350.19	-2109	-0.0017715	0.0002807	0.0035	0.22		497.41	497.41		1.42	Si
SLV 3	fin.	7.43	1164	-0.0000242	0.0002807	0.0035	0.22		493.71	493.71		66.46	Si
SLV 12	ini.	-100.59	301	-0.0003601	0.0002807	0.0035	0.22		497.41	497.41		4.94	Si
SLV 12	fin.	-400.08	-1670	-0.0022378	0.0002807	0.0035	0.22		497.41	497.41		1.24	Si
SLV 13	ini.	112.94	1622	-0.0004146	0.0002807	0.0035	0.22		493.71	493.71		4.37	Si
SLV 13	fin.	-347.19	-2279	-0.001747	0.0002807	0.0035	0.22		497.41	497.41		1.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	73.6	7	0.22	0	413	3489	2223	1403	3626		522.86	Si
SLV 15	fin.	-433.18	-2127	0.22	16250	413	3489	2223	1403	3626		1.7	Si
SLD 16	ini.	24.81	181	0.22	0	413	3489	2223	1403	3626		20.04	Si
SLD 16	fin.	-357.04	-1785	0.22	16250	413	3489	2223	1403	3626		2.03	Si
SLV 13	ini.	112.94	-336	0.22	0	413	3489	2223	1403	3626		10.8	Si
SLV 13	fin.	-347.19	-1691	0.22	16250	413	3489	2223	1403	3626		2.14	Si
SLV 4	ini.	-326.24	1691	0.22	16250	413	3489	2223	1403	3626		2.14	Si
SLV 4	fin.	-17.43	-350	0.22	0	413	3489	2223	1403	3626		10.35	Si
SLV 3	ini.	-350.19	1789	0.22	16250	413	3489	2223	1403	3626		2.03	Si
SLV 3	fin.	7.43	-247	0.22	0	413	3489	2223	1403	3626		14.65	Si
SLV 14	ini.	136.9	-434	0.22	0	413	3489	2223	1403	3626		8.36	Si
SLV 14	fin.	-372.05	-1794	0.22	16250	413	3489	2223	1403	3626		2.02	Si
SLD 15	ini.	9.62	243	0.22	0	413	3489	2223	1403	3626		14.91	Si
SLD 15	fin.	-341.26	-1720	0.22	16250	413	3489	2223	1403	3626		2.11	Si
SLV 12	ini.	-100.59	948	0.22	0	413	3489	2223	1403	3626		3.82	Si
SLV 12	fin.	-400.08	-2063	0.22	16250	413	3489	2223	1403	3626		1.76	Si
SLV 11	ini.	-116.72	1014	0.22	0	413	3489	2223	1403	3626		3.58	Si
SLV 11	fin.	-383.35	-1994	0.22	16250	413	3489	2223	1403	3626		1.82	Si
SLV 16	ini.	97.55	-91	0.22	0	413	3489	2223	1403	3626		39.84	Si
SLV 16	fin.	-458.04	-2229	0.22	16250	413	3489	2223	1403	3626		1.63	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.086	SLV 16	Si
V_SLV	1.626	SLV 16	Si
PF_SLU	1.688	SLU 83	Si
V_SLU	1.79	SLU 83	Si

Trave di accoppiamento 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.576	-1.95	0.05	2	-6.963	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-365.31	-6609	-0.0000144	0.0001872	0.0035	2		39946.04	39946.04	No	109.35	Si
SLU 75	fin.	2229.86	-6135	-0.0000904	0.0001872	0.0035	2		39913.02	39913.02	No	17.9	Si
SLU 79	ini.	-391.68	-6713	-0.0000154	0.0001872	0.0035	2		39946.04	39946.04	No	101.99	Si
SLU 79	fin.	2256.94	-6242	-0.0000916	0.0001872	0.0035	2		39913.02	39913.02	No	17.68	Si
SLU 82	ini.	-347.6	-6740	-0.0000137	0.0001872	0.0035	2		39946.04	39946.04	No	114.92	Si
SLU 82	fin.	2246.69	-6231	-0.0000911	0.0001872	0.0035	2		39913.02	39913.02	No	17.77	Si
SLU 84	ini.	-354.05	-6831	-0.0000139	0.0001872	0.0035	2		39946.04	39946.04	No	112.83	Si
SLU 84	fin.	2277.91	-6314	-0.0000924	0.0001872	0.0035	2		39913.02	39913.02	No	17.52	Si
SLU 77	ini.	-385.99	-6770	-0.0000152	0.0001872	0.0035	2		39946.04	39946.04	No	103.49	Si
SLU 77	fin.	2266.54	-6287	-0.000092	0.0001872	0.0035	2		39913.02	39913.02	No	17.61	Si
SLU 74	ini.	-379.54	-6680	-0.000015	0.0001872	0.0035	2		39946.04	39946.04	No	105.25	Si
SLU 74	fin.	2235.33	-6204	-0.0000907	0.0001872	0.0035	2		39913.02	39913.02	No	17.86	Si
SLU 80	ini.	-377.44	-6642	-0.0000149	0.0001872	0.0035	2		39946.04	39946.04	No	105.83	Si
SLU 80	fin.	2251.47	-6174	-0.0000913	0.0001872	0.0035	2		39913.02	39913.02	No	17.73	Si
SLU 78	ini.	-371.75	-6700	-0.0000146	0.0001872	0.0035	2		39946.04	39946.04	No	107.45	Si
SLU 78	fin.	2261.07	-6219	-0.0000917	0.0001872	0.0035	2		39913.02	39913.02	No	17.65	Si
SLU 83	ini.	-368.28	-6901	-0.0000145	0.0001872	0.0035	2		39946.04	39946.04	No	108.47	Si
SLU 83	fin.	2283.38	-6383	-0.0000927	0.0001872	0.0035	2		39913.02	39913.02	No	17.48	Si
SLU 81	ini.	-361.83	-6811	-0.0000143	0.0001872	0.0035	2		39946.04	39946.04	No	110.4	Si
SLU 81	fin.	2252.16	-6299	-0.0000914	0.0001872	0.0035	2		39913.02	39913.02	No	17.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-385.99	219	2	0	6250	15859	13475	12750	22109	No	100.78	Si
SLU 77	fin.	2266.54	3189	2	0	6250	15859	13475	12750	22109	No	6.93	Si
SLU 81	ini.	-361.83	148	2	0	6250	15859	13475	12750	22109	No	149.67	Si
SLU 81	fin.	2252.16	3129	2	0	6250	15859	13475	12750	22109	No	7.06	Si
SLU 83	ini.	-368.28	139	2	0	6250	15859	13475	12750	22109	No	159.29	Si
SLU 83	fin.	2283.38	3186	2	0	6250	15859	13475	12750	22109	No	6.94	Si
SLU 78	ini.	-371.75	233	2	0	6250	15859	13475	12750	22109	No	94.95	Si
SLU 78	fin.	2261.07	3151	2	0	6250	15859	13475	12750	22109	No	7.02	Si
SLU 84	ini.	-354.05	152	2	0	6250	15859	13475	12750	22109	No	145.19	Si
SLU 84	fin.	2277.91	3149	2	0	6250	15859	13475	12750	22109	No	7.02	Si
SLU 82	ini.	-347.6	161	2	0	6250	15859	13475	12750	22109	No	137.16	Si
SLU 82	fin.	2246.69	3091	2	0	6250	15859	13475	12750	22109	No	7.15	Si
SLU 79	ini.	-391.68	247	2	0	6250	15859	13475	12750	22109	No	89.51	Si
SLU 79	fin.	2256.94	3182	2	0	6250	15859	13475	12750	22109	No	6.95	Si
SLU 75	ini.	-365.31	242	2	0	6250	15859	13475	12750	22109	No	91.45	Si
SLU 75	fin.	2229.86	3094	2	0	6250	15859	13475	12750	22109	No	7.15	Si
SLU 74	ini.	-379.54	228	2	0	6250	15859	13475	12750	22109	No	96.84	Si
SLU 74	fin.	2235.33	3132	2	0	6250	15859	13475	12750	22109	No	7.06	Si
SLU 80	ini.	-377.44	260	2	0	6250	15859	13475	12750	22109	No	84.88	Si
SLU 80	fin.	2251.47	3144	2	0	6250	15859	13475	12750	22109	No	7.03	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-2556.17	-1725	-0.000103	0.0002807	0.0035	2		40871.26	40871.26		15.99	Si
SLV 4	fin.	4251.82	-4487	-0.0001751	0.0002807	0.0035	2		40837.53	40837.53		9.6	Si
SLV 8	ini.	-1782.69	-8322	-0.0000712	0.0002807	0.0035	2		40871.26	40871.26		22.93	Si
SLV 8	fin.	2819.9	-8764	-0.0001141	0.0002807	0.0035	2		40837.53	40837.53		14.48	Si
SLD 2	ini.	-1401.59	-896	-0.0000558	0.0002807	0.0035	2		40871.26	40871.26		29.16	Si
SLD 2	fin.	3087.32	-2616	-0.0001253	0.0002807	0.0035	2		40837.53	40837.53		13.23	Si
SLV 2	ini.	-1987.55	1266	-0.0000796	0.0002807	0.0035	2		40871.26	40871.26		20.56	Si
SLV 2	fin.	3919.65	-1568	-0.0001608	0.0002807	0.0035	2		40837.53	40837.53		10.42	Si
SLD 4	ini.	-1738.51	-2647	-0.0000694	0.0002807	0.0035	2		40871.26	40871.26		23.51	Si
SLD 4	fin.	3280.7	-4326	-0.0001335	0.0002807	0.0035	2		40837.53	40837.53		12.45	Si
SLV 3	ini.	-2918.84	-1161	-0.0001182	0.0002807	0.0035	2		40871.26	40871.26		14	Si
SLV 3	fin.	4599.53	-4450	-0.0001903	0.0002807	0.0035	2		40837.53	40837.53		8.88	Si
SLV 7	ini.	-2026.82	-7943	-0.0000812	0.0002807	0.0035	2		40871.26	40871.26		20.17	Si
SLV 7	fin.	3053.96	-8739	-0.0001239	0.0002807	0.0035	2		40837.53	40837.53		13.37	Si
SLD 1	ini.	-1631.67	-539	-0.0000651	0.0002807	0.0035	2		40871.26	40871.26		25.05	Si
SLD 1	fin.	3307.91	-2592	-0.0001347	0.0002807	0.0035	2		40837.53	40837.53		12.35	Si
SLD 3	ini.	-1968.6	-2290	-0.0000788	0.0002807	0.0035	2		40871.26	40871.26		20.76	Si
SLD 3	fin.	3501.29	-4303	-0.0001429	0.0002807	0.0035	2		40837.53	40837.53		11.66	Si
SLV 1	ini.	-2350.22	1829	-0.0000945	0.0002807	0.0035	2		40871.26	40871.26		17.39	Si
SLV 1	fin.	4267.36	-1531	-0.0001758	0.0002807	0.0035	2		40837.53	40837.53		9.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-1968.6	5900	2	0	6643	15859	20213	12750	22503		3.81	Si
SLD 3	fin.	3501.29	7889	2	0	6643	15859	20213	12750	22503		2.85	Si
SLV 1	ini.	-2350.22	9614	2	0	6643	15859	20213	12750	22503		2.34	Si
SLV 1	fin.	4267.36	9565	2	0	6643	15859	20213	12750	22503		2.35	Si
SLV 3	ini.	-2918.84	8971	2	0	6643	15859	20213	12750	22503		2.51	Si
SLV 3	fin.	4599.53	11145	2	0	6643	15859	20213	12750	22503		2.02	Si
SLV 2	ini.	-1987.55	8430	2	0	6643	15859	20213	12750	22503		2.67	Si
SLV 2	fin.	3919.65	8361	2	0	6643	15859	20213	12750	22503		2.69	Si
SLV 7	ini.	-2026.82	2218	2	0	6643	15859	20213	12750	22503		10.14	Si
SLV 7	fin.	3053.96	7530	2	0	6643	15859	20213	12750	22503		2.99	Si
SLV 16	ini.	1718.51	-8812	2	0	6643	15859	20213	12750	22503		2.55	Si
SLV 16	fin.	-1108.95	-5093	2	0	6643	15859	20213	12750	22503		4.42	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	-1738.51	5149	2	0	6643	15859	20213	12750	22503		4.37	Si
SLD 4	fin.	3280.7	7125	2	0	6643	15859	20213	12750	22503		3.16	Si
SLV 4	ini.	-2556.17	7787	2	0	6643	15859	20213	12750	22503		2.89	Si
SLV 4	fin.	4251.82	9941	2	0	6643	15859	20213	12750	22503		2.26	Si
SLV 15	ini.	1355.84	-7628	2	0	6643	15859	20213	12750	22503		2.95	Si
SLV 15	fin.	-761.24	-3888	2	0	6643	15859	20213	12750	22503		5.79	Si
SLV 14	ini.	2287.13	-8169	2	0	6643	15859	20213	12750	22503		2.75	Si
SLV 14	fin.	-1441.12	-6673	2	0	6643	15859	20213	12750	22503		3.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.879	SLV 3	Si
V_SLV	2.019	SLV 3	Si
PF_SLU	17.48	SLU 83	Si
V_SLU	6.934	SLU 77	Si

Trave di accoppiamento 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.576	0.45	0.67	0.22	-6.963	6.576	0.45	0.67	0.22	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-252.73	-1443	-0.0011728	0.0001872	0.0035	0.22		486.06	486.06	No	1.92	Si
SLU 83	fin.	-18.04	652	-0.0000593	0.0001872	0.0035	0.22		486.06	486.06	No	26.94	Si
SLU 75	ini.	-244.74	-1397	-0.0011235	0.0001872	0.0035	0.22		486.06	486.06	No	1.99	Si
SLU 75	fin.	-16.32	637	-0.0000535	0.0001872	0.0035	0.22		486.06	486.06	No	29.79	Si
SLU 78	ini.	-248.28	-1418	-0.0011452	0.0001872	0.0035	0.22		486.06	486.06	No	1.96	Si
SLU 78	fin.	-16.47	646	-0.000054	0.0001872	0.0035	0.22		486.06	486.06	No	29.5	Si
SLU 82	ini.	-247.23	-1409	-0.0011387	0.0001872	0.0035	0.22		486.06	486.06	No	1.97	Si
SLU 82	fin.	-17.85	636	-0.0000587	0.0001872	0.0035	0.22		486.06	486.06	No	27.23	Si
SLU 74	ini.	-246.7	-1410	-0.0011355	0.0001872	0.0035	0.22		486.06	486.06	No	1.97	Si
SLU 74	fin.	-16.34	643	-0.0000536	0.0001872	0.0035	0.22		486.06	486.06	No	29.74	Si
SLU 81	ini.	-249.19	-1422	-0.0011508	0.0001872	0.0035	0.22		486.06	486.06	No	1.95	Si
SLU 81	fin.	-17.88	643	-0.0000588	0.0001872	0.0035	0.22		486.06	486.06	No	27.18	Si
SLU 80	ini.	-246.85	-1411	-0.0011364	0.0001872	0.0035	0.22		486.06	486.06	No	1.97	Si
SLU 80	fin.	-15.85	646	-0.000052	0.0001872	0.0035	0.22		486.06	486.06	No	30.66	Si
SLU 79	ini.	-248.81	-1424	-0.0011485	0.0001872	0.0035	0.22		486.06	486.06	No	1.95	Si
SLU 79	fin.	-15.88	652	-0.0000521	0.0001872	0.0035	0.22		486.06	486.06	No	30.61	Si
SLU 84	ini.	-250.77	-1430	-0.0011606	0.0001872	0.0035	0.22		486.06	486.06	No	1.94	Si
SLU 84	fin.	-18.01	646	-0.0000592	0.0001872	0.0035	0.22		486.06	486.06	No	26.98	Si
SLU 77	ini.	-250.24	-1431	-0.0011573	0.0001872	0.0035	0.22		486.06	486.06	No	1.94	Si
SLU 77	fin.	-16.5	653	-0.0000541	0.0001872	0.0035	0.22		486.06	486.06	No	29.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-248.81	1268	0.22	10833	276	3489	1482	1403	2885	No	2.27	Si
SLU 79	fin.	-15.88	-314	0.22	0	276	3489	1482	1403	2885	No	9.19	Si
SLU 77	ini.	-250.24	1276	0.22	10833	276	3489	1482	1403	2885	No	2.26	Si
SLU 77	fin.	-16.5	-318	0.22	0	276	3489	1482	1403	2885	No	9.06	Si
SLU 74	ini.	-246.7	1258	0.22	10833	276	3489	1482	1403	2885	No	2.29	Si
SLU 74	fin.	-16.34	-315	0.22	0	276	3489	1482	1403	2885	No	9.17	Si
SLU 75	ini.	-244.74	1249	0.22	10833	276	3489	1482	1403	2885	No	2.31	Si
SLU 75	fin.	-16.32	-313	0.22	0	276	3489	1482	1403	2885	No	9.22	Si
SLU 84	ini.	-250.77	1279	0.22	10833	276	3489	1482	1403	2885	No	2.25	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-18.01	-326	0.22	0	276	3489	1482	1403	2885	No	8.84	Si
SLU 80	ini.	-246.85	1259	0.22	10833	276	3489	1482	1403	2885	No	2.29	Si
SLU 80	fin.	-15.85	-312	0.22	0	276	3489	1482	1403	2885	No	9.24	Si
SLU 82	ini.	-247.23	1262	0.22	10833	276	3489	1482	1403	2885	No	2.29	Si
SLU 82	fin.	-17.85	-323	0.22	0	276	3489	1482	1403	2885	No	8.94	Si
SLU 78	ini.	-248.28	1266	0.22	10833	276	3489	1482	1403	2885	No	2.28	Si
SLU 78	fin.	-16.47	-316	0.22	0	276	3489	1482	1403	2885	No	9.12	Si
SLU 83	ini.	-252.73	1289	0.22	10833	276	3489	1482	1403	2885	No	2.24	Si
SLU 83	fin.	-18.04	-328	0.22	0	276	3489	1482	1403	2885	No	8.79	Si
SLU 81	ini.	-249.19	1271	0.22	10833	276	3489	1482	1403	2885	No	2.27	Si
SLU 81	fin.	-17.88	-324	0.22	0	276	3489	1482	1403	2885	No	8.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-354.46	-2305	-0.0018069	0.0002807	0.0035	0.22		497.41	497.41		1.4	Si
SLV 7	fin.	48.32	1504	-0.0001639	0.0002807	0.0035	0.22		493.71	493.71		10.22	Si
SLV 1	ini.	-286.13	-2119	-0.0013104	0.0002807	0.0035	0.22		497.41	497.41		1.74	Si
SLV 1	fin.	168.77	1808	-0.0006683	0.0002807	0.0035	0.22		493.71	493.71		2.93	Si
SLV 3	ini.	-365.3	-2636	-0.0019003	0.0002807	0.0035	0.22		497.41	497.41		1.36	Si
SLV 3	fin.	168.18	2135	-0.0006655	0.0002807	0.0035	0.22		493.71	493.71		2.94	Si
SLD 4	ini.	-278.57	-1894	-0.0012625	0.0002807	0.0035	0.22		497.41	497.41		1.79	Si
SLD 4	fin.	90.01	1389	-0.0003204	0.0002807	0.0035	0.22		493.71	493.71		5.48	Si
SLD 8	ini.	-271.82	-1692	-0.0012206	0.0002807	0.0035	0.22		497.41	497.41		1.83	Si
SLD 8	fin.	18.21	1018	-0.00006	0.0002807	0.0035	0.22		493.71	493.71		27.11	Si
SLV 4	ini.	-341.77	-2426	-0.0017037	0.0002807	0.0035	0.22		497.41	497.41		1.46	Si
SLV 4	fin.	144.75	1919	-0.000555	0.0002807	0.0035	0.22		493.71	493.71		3.41	Si
SLV 11	ini.	-269.3	-1534	-0.0012051	0.0002807	0.0035	0.22		497.41	497.41		1.85	Si
SLV 11	fin.	-50.55	666	-0.0001705	0.0002807	0.0035	0.22		497.41	497.41		9.84	Si
SLD 3	ini.	-293.49	-2027	-0.0013582	0.0002807	0.0035	0.22		497.41	497.41		1.69	Si
SLD 3	fin.	104.88	1527	-0.0003808	0.0002807	0.0035	0.22		493.71	493.71		4.71	Si
SLV 8	ini.	-338.62	-2164	-0.0016791	0.0002807	0.0035	0.22		497.41	497.41		1.47	Si
SLV 8	fin.	32.55	1358	-0.0001087	0.0002807	0.0035	0.22		493.71	493.71		15.17	Si
SLD 7	ini.	-281.43	-1778	-0.0012805	0.0002807	0.0035	0.22		497.41	497.41		1.77	Si
SLD 7	fin.	27.78	1106	-0.0000923	0.0002807	0.0035	0.22		493.71	493.71		17.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-253.46	1330	0.22	16250	413	3489	2223	1403	3626		2.73	Si
SLV 12	fin.	-66.32	-640	0.22	0	413	3489	2223	1403	3626		5.66	Si
SLV 7	ini.	-354.46	1744	0.22	16250	413	3489	2223	1403	3626		2.08	Si
SLV 7	fin.	48.32	-148	0.22	0	413	3489	2223	1403	3626		24.58	Si
SLV 8	ini.	-338.62	1680	0.22	16250	413	3489	2223	1403	3626		2.16	Si
SLV 8	fin.	32.55	-211	0.22	0	413	3489	2223	1403	3626		17.18	Si
SLD 3	ini.	-293.49	1397	0.22	16250	413	3489	2223	1403	3626		2.6	Si
SLD 3	fin.	104.88	248	0.22	0	413	3489	2223	1403	3626		14.65	Si
SLD 4	ini.	-278.57	1337	0.22	16250	413	3489	2223	1403	3626		2.71	Si
SLD 4	fin.	90.01	188	0.22	0	413	3489	2223	1403	3626		19.32	Si
SLV 11	ini.	-269.3	1394	0.22	16250	413	3489	2223	1403	3626		2.6	Si
SLV 11	fin.	-50.55	-577	0.22	0	413	3489	2223	1403	3626		6.29	Si
SLV 4	ini.	-341.77	1612	0.22	16250	413	3489	2223	1403	3626		2.25	Si
SLV 4	fin.	144.75	407	0.22	0	413	3489	2223	1403	3626		8.92	Si
SLV 3	ini.	-365.3	1707	0.22	16250	413	3489	2223	1403	3626		2.12	Si
SLV 3	fin.	168.18	501	0.22	0	413	3489	2223	1403	3626		7.24	Si
SLD 8	ini.	-271.82	1359	0.22	16250	413	3489	2223	1403	3626		2.67	Si
SLD 8	fin.	18.21	-204	0.22	0	413	3489	2223	1403	3626		17.77	Si
SLD 7	ini.	-281.43	1398	0.22	16250	413	3489	2223	1403	3626		2.59	Si
SLD 7	fin.	27.78	-166	0.22	0	413	3489	2223	1403	3626		21.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.362	SLV 3	Si
V_SLV	2.08	SLV 7	Si
PF_SLU	1.923	SLU 83	Si
V_SLU	2.238	SLU 83	Si

Trave di accoppiamento 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.778	1.366	0.05	0.67	0.62	-9.778	2.071	0.05	0.67	0.62	0.705	0.2	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	2126.18	-1407	-0.0005731	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.5	Si
SLU 74	fin.	-2674.28	-6460	-0.0007724	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.79	Si
SLU 78	ini.	2151.52	-1366	-0.0005821	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.46	Si
SLU 78	fin.	-2677.93	-6438	-0.0007738	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.78	Si
SLU 75	ini.	2121.58	-1338	-0.0005714	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.51	Si
SLU 75	fin.	-2638.16	-6337	-0.0007587	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.83	Si
SLU 77	ini.	2156.12	-1434	-0.0005837	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.45	Si
SLU 77	fin.	-2714.04	-6561	-0.0007877	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.75	Si
SLU 84	ini.	2182.36	-1361	-0.0005931	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.41	Si
SLU 84	fin.	-2711.76	-6501	-0.0007868	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.75	Si
SLU 80	ini.	2135.68	-1354	-0.0005764	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.48	Si
SLU 80	fin.	-2658.24	-6389	-0.0007663	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.81	Si
SLU 81	ini.	2157.02	-1402	-0.000584	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.45	Si
SLU 81	fin.	-2708.11	-6523	-0.0007854	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.75	Si
SLU 79	ini.	2140.28	-1423	-0.0005781	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.47	Si
SLU 79	fin.	-2694.35	-6512	-0.0007801	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.77	Si
SLU 82	ini.	2152.42	-1333	-0.0005824	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.46	Si
SLU 82	fin.	-2672	-6400	-0.0007716	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.79	Si
SLU 83	ini.	2186.96	-1429	-0.0005947	0.0002246	0.0035	0.62		7437.4	7437.4	No	3.4	Si
SLU 83	fin.	-2747.88	-6624	-0.0008007	0.0002246	0.0035	0.62		7457.08	7457.08	No	2.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	2156.12	-8572	0.62	9675	1033	28093	2228	7905	10133	No	1.18	Si
SLU 77	fin.	-2714.04	-10650	0.62	10833	1033	28093	2228	7905	10133	No	0.95	No
SLU 74	ini.	2126.18	-8441	0.62	9565	1033	28093	2228	7905	10133	No	1.2	Si
SLU 74	fin.	-2674.28	-10504	0.62	10833	1033	28093	2228	7905	10133	No	0.96	No
SLU 83	ini.	2186.96	-8655	0.62	9789	1033	28093	2228	7905	10133	No	1.17	Si
SLU 83	fin.	-2747.88	-10819	0.62	10833	1033	28093	2228	7905	10133	No	0.94	No
SLU 78	ini.	2151.52	-8486	0.62	9658	1033	28093	2228	7905	10133	No	1.19	Si
SLU 78	fin.	-2677.93	-10564	0.62	10833	1033	28093	2228	7905	10133	No	0.96	No
SLU 82	ini.	2152.42	-8439	0.62	9661	1033	28093	2228	7905	10133	No	1.2	Si
SLU 82	fin.	-2672	-10586	0.62	10833	1033	28093	2228	7905	10133	No	0.96	No
SLU 81	ini.	2157.02	-8524	0.62	9678	1033	28093	2228	7905	10133	No	1.19	Si
SLU 81	fin.	-2708.11	-10673	0.62	10833	1033	28093	2228	7905	10133	No	0.95	No
SLU 84	ini.	2182.36	-8570	0.62	9772	1033	28093	2228	7905	10133	No	1.18	Si
SLU 84	fin.	-2711.76	-10732	0.62	10833	1033	28093	2228	7905	10133	No	0.94	No
SLU 79	ini.	2140.28	-8506	0.62	9617	1033	28093	2228	7905	10133	No	1.19	Si
SLU 79	fin.	-2694.35	-10576	0.62	10833	1033	28093	2228	7905	10133	No	0.96	No
SLU 75	ini.	2121.58	-8356	0.62	9548	1033	28093	2228	7905	10133	No	1.21	Si
SLU 75	fin.	-2638.16	-10417	0.62	10833	1033	28093	2228	7905	10133	No	0.97	No
SLU 80	ini.	2135.68	-8420	0.62	9600	1033	28093	2228	7905	10133	No	1.2	Si
SLU 80	fin.	-2658.24	-10489	0.62	10833	1033	28093	2228	7905	10133	No	0.97	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	1546.88	-2589	-0.0003407	0.0003369	0.0035	0.62		7766.54	7766.54		5.02	Si
SLV 4	fin.	-2721.2	-7380	-0.0007118	0.0003369	0.0035	0.62		7787.08	7787.08		2.86	Si
SLV 7	ini.	1670.04	-5518	-0.0003749	0.0003369	0.0035	0.62		7766.54	7766.54		4.65	Si
SLV 7	fin.	-4150.39	-12428	-0.0012808	0.0003369	0.0035	0.62		7787.08	7787.08		1.88	Si
SLD 8	ini.	1583.28	-3606	-0.0003507	0.0003369	0.0035	0.62		7766.54	7766.54		4.91	Si
SLD 8	fin.	-3177.24	-9069	-0.0008797	0.0003369	0.0035	0.62		7787.08	7787.08		2.45	Si
SLV 12	ini.	1655.42	-5247	-0.0003708	0.0003369	0.0035	0.62		7766.54	7766.54		4.69	Si
SLV 12	fin.	-3975.47	-11894	-0.0012039	0.0003369	0.0035	0.62		7787.08	7787.08		1.96	Si
SLD 11	ini.	1574.37	-3523	-0.0003482	0.0003369	0.0035	0.62		7766.54	7766.54		4.93	Si
SLD 11	fin.	-3109.88	-8883	-0.0008541	0.0003369	0.0035	0.62		7787.08	7787.08		2.5	Si
SLV 8	ini.	1670.63	-5448	-0.0003751	0.0003369	0.0035	0.62		7766.54	7766.54		4.65	Si
SLV 8	fin.	-4118.05	-12312	-0.0012664	0.0003369	0.0035	0.62		7787.08	7787.08		1.89	Si
SLV 11	ini.	1654.83	-5317	-0.0003706	0.0003369	0.0035	0.62		7766.54	7766.54		4.69	Si
SLV 11	fin.	-4007.81	-12011	-0.0012179	0.0003369	0.0035	0.62		7787.08	7787.08		1.94	Si
SLD 7	ini.	1582.91	-3649	-0.0003506	0.0003369	0.0035	0.62		7766.54	7766.54		4.91	Si
SLD 7	fin.	-3196.87	-9140	-0.0008872	0.0003369	0.0035	0.62		7787.08	7787.08		2.44	Si
SLV 3	ini.	1545.99	-2693	-0.0003405	0.0003369	0.0035	0.62		7766.54	7766.54		5.02	Si
SLV 3	fin.	-2769.24	-7553	-0.0007289	0.0003369	0.0035	0.62		7787.08	7787.08		2.81	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	1574.73	-3480	-0.0003483	0.0003369	0.0035	0.62		7766.54	7766.54		4.93	Si
SLD 12	fin.	-3090.26	-8812	-0.0008467	0.0003369	0.0035	0.62		7787.08	7787.08		2.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1670.04	-10747	0.62	12485	1550	28093	3342	7905	11247		1.05	Si
SLV 7	fin.	-4150.39	-12701	0.62	16250	1550	28093	3342	7905	11247		0.89	No
SLV 8	ini.	1670.63	-10678	0.62	12489	1550	28093	3342	7905	11247		1.05	Si
SLV 8	fin.	-4118.05	-12634	0.62	16250	1550	28093	3342	7905	11247		0.89	No
SLD 7	ini.	1582.91	-8717	0.62	11921	1550	28093	3342	7905	11247		1.29	Si
SLD 7	fin.	-3196.87	-10433	0.62	16250	1550	28093	3342	7905	11247		1.08	Si
SLD 8	ini.	1583.28	-8675	0.62	11923	1550	28093	3342	7905	11247		1.3	Si
SLD 8	fin.	-3177.24	-10392	0.62	16250	1550	28093	3342	7905	11247		1.08	Si
SLD 12	ini.	1574.73	-8825	0.62	11867	1550	28093	3342	7905	11247		1.27	Si
SLD 12	fin.	-3090.26	-10157	0.62	16250	1550	28093	3342	7905	11247		1.11	Si
SLV 3	ini.	1545.99	-6921	0.62	11678	1550	28093	3342	7905	11247		1.63	Si
SLV 3	fin.	-2769.24	-9476	0.62	16250	1550	28093	3342	7905	11247		1.19	Si
SLV 4	ini.	1546.88	-6818	0.62	11684	1550	28093	3342	7905	11247		1.65	Si
SLV 4	fin.	-2721.2	-9376	0.62	16250	1550	28093	3342	7905	11247		1.2	Si
SLD 11	ini.	1574.37	-8867	0.62	11865	1550	28093	3342	7905	11247		1.27	Si
SLD 11	fin.	-3109.88	-10199	0.62	16250	1550	28093	3342	7905	11247		1.1	Si
SLV 11	ini.	1654.83	-11025	0.62	12387	1550	28093	3342	7905	11247		1.02	Si
SLV 11	fin.	-4007.81	-12318	0.62	16250	1550	28093	3342	7905	11247		0.91	No
SLV 12	ini.	1655.42	-10956	0.62	12391	1550	28093	3342	7905	11247		1.03	Si
SLV 12	fin.	-3975.47	-12251	0.62	16250	1550	28093	3342	7905	11247		0.92	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.876	SLV 7	Si
V_SLV	0.886	SLV 7	No
PF_SLU	2.714	SLU 83	Si
V_SLU	0.937	SLU 83	No

Trave di accoppiamento 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-10.553	-3.284	0.1	0.67	0.57	-8.253	-3.284	0.1	0.67	0.57	2.3	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-244.62	-1237	-0.0001236	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.27	Si
SLU 78	fin.	-1450.06	-4989	-0.0009625	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.24	Si
SLU 83	ini.	-246.32	-1286	-0.0001245	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.18	Si
SLU 83	fin.	-1505.88	-5154	-0.0010107	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.16	Si
SLU 82	ini.	-246.04	-1291	-0.0001243	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.19	Si
SLU 82	fin.	-1499.15	-5128	-0.0010049	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.17	Si
SLU 75	ini.	-242.37	-1237	-0.0001224	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.39	Si
SLU 75	fin.	-1439.4	-4948	-0.0009534	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.26	Si
SLU 84	ini.	-248.29	-1292	-0.0001255	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.08	Si
SLU 84	fin.	-1509.81	-5169	-0.0010141	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.15	Si
SLU 76	ini.	-242.15	-1237	-0.0001223	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.41	Si
SLU 76	fin.	-1436.4	-4936	-0.0009508	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.26	Si
SLU 77	ini.	-242.65	-1231	-0.0001225	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.38	Si
SLU 77	fin.	-1446.13	-4975	-0.0009591	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.24	Si
SLU 79	ini.	-241.13	-1227	-0.0001217	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.46	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-1440.5	-4952	-0.0009543	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.25	Si
SLU 80	ini.	-243.1	-1233	-0.0001228	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.35	Si
SLU 80	fin.	-1444.43	-4967	-0.0009577	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.25	Si
SLU 81	ini.	-244.07	-1285	-0.0001233	0.0001872	0.0035	0.57		3246.46	3246.46	No	13.3	Si
SLU 81	fin.	-1495.22	-5114	-0.0010014	0.0001872	0.0035	0.57		3246.46	3246.46	No	2.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-244.07	-1403	0.57	0	635	9040	3840	3634	7474	No	5.33	Si
SLU 81	fin.	-1495.22	-5689	0.57	10833	635	9040	3840	3634	7474	No	1.31	Si
SLU 84	ini.	-248.29	-1449	0.57	0	635	9040	3840	3634	7474	No	5.16	Si
SLU 84	fin.	-1509.81	-5731	0.57	10833	635	9040	3840	3634	7474	No	1.3	Si
SLU 74	ini.	-240.4	-1445	0.57	0	635	9040	3840	3634	7474	No	5.17	Si
SLU 74	fin.	-1435.47	-5430	0.57	10833	635	9040	3840	3634	7474	No	1.38	Si
SLU 77	ini.	-242.65	-1476	0.57	0	635	9040	3840	3634	7474	No	5.06	Si
SLU 77	fin.	-1446.13	-5462	0.57	10833	635	9040	3840	3634	7474	No	1.37	Si
SLU 83	ini.	-246.32	-1434	0.57	0	635	9040	3840	3634	7474	No	5.21	Si
SLU 83	fin.	-1505.88	-5720	0.57	10833	635	9040	3840	3634	7474	No	1.31	Si
SLU 75	ini.	-242.37	-1461	0.57	0	635	9040	3840	3634	7474	No	5.11	Si
SLU 75	fin.	-1439.4	-5441	0.57	10833	635	9040	3840	3634	7474	No	1.37	Si
SLU 78	ini.	-244.62	-1492	0.57	0	635	9040	3840	3634	7474	No	5.01	Si
SLU 78	fin.	-1450.06	-5473	0.57	10833	635	9040	3840	3634	7474	No	1.37	Si
SLU 82	ini.	-246.04	-1418	0.57	0	635	9040	3840	3634	7474	No	5.27	Si
SLU 82	fin.	-1499.15	-5700	0.57	10833	635	9040	3840	3634	7474	No	1.31	Si
SLU 79	ini.	-241.13	-1459	0.57	0	635	9040	3840	3634	7474	No	5.12	Si
SLU 79	fin.	-1440.5	-5443	0.57	10833	635	9040	3840	3634	7474	No	1.37	Si
SLU 80	ini.	-243.1	-1474	0.57	0	635	9040	3840	3634	7474	No	5.07	Si
SLU 80	fin.	-1444.43	-5454	0.57	10833	635	9040	3840	3634	7474	No	1.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-69.74	763	-0.000034	0.0002807	0.0035	0.57		3323.83	3323.83		47.66	Si
SLV 15	fin.	-1740.09	-6033	-0.0011546	0.0002807	0.0035	0.57		3323.83	3323.83		1.91	Si
SLV 16	ini.	-73.26	611	-0.0000357	0.0002807	0.0035	0.57		3323.83	3323.83		45.37	Si
SLV 16	fin.	-1681.39	-5830	-0.0011027	0.0002807	0.0035	0.57		3323.83	3323.83		1.98	Si
SLD 15	ini.	-107.84	179	-0.0000528	0.0002807	0.0035	0.57		3323.83	3323.83		30.82	Si
SLD 15	fin.	-1470.26	-5099	-0.0009252	0.0002807	0.0035	0.57		3323.83	3323.83		2.26	Si
SLV 13	ini.	-158.93	491	-0.0000783	0.0002807	0.0035	0.57		3323.83	3323.83		20.91	Si
SLV 13	fin.	-1989.03	-7029	-0.0013897	0.0002807	0.0035	0.57		3323.83	3323.83		1.67	Si
SLD 13	ini.	-160.13	20	-0.0000789	0.0002807	0.0035	0.57		3323.83	3323.83		20.76	Si
SLD 13	fin.	-1616.33	-5684	-0.0010465	0.0002807	0.0035	0.57		3323.83	3323.83		2.06	Si
SLD 16	ini.	-110.08	82	-0.0000539	0.0002807	0.0035	0.57		3323.83	3323.83		30.2	Si
SLD 16	fin.	-1433.02	-4970	-0.0008953	0.0002807	0.0035	0.57		3323.83	3323.83		2.32	Si
SLD 14	ini.	-162.37	-76	-0.00008	0.0002807	0.0035	0.57		3323.83	3323.83		20.47	Si
SLD 14	fin.	-1579.09	-5555	-0.001015	0.0002807	0.0035	0.57		3323.83	3323.83		2.1	Si
SLV 14	ini.	-162.45	340	-0.0000801	0.0002807	0.0035	0.57		3323.83	3323.83		20.46	Si
SLV 14	fin.	-1930.33	-6826	-0.0013319	0.0002807	0.0035	0.57		3323.83	3323.83		1.72	Si
SLV 10	ini.	-303.27	-926	-0.0001526	0.0002807	0.0035	0.57		3323.83	3323.83		10.96	Si
SLV 10	fin.	-1625.85	-5874	-0.0010547	0.0002807	0.0035	0.57		3323.83	3323.83		2.04	Si
SLV 9	ini.	-300.89	-824	-0.0001513	0.0002807	0.0035	0.57		3323.83	3323.83		11.05	Si
SLV 9	fin.	-1665.37	-6011	-0.0010887	0.0002807	0.0035	0.57		3323.83	3323.83		2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-158.93	-2595	0.57	0	712	9040	5761	3634	9394		3.62	Si
SLV 13	fin.	-1989.03	-6193	0.57	16250	712	9040	5761	3634	9394		1.52	Si
SLV 9	ini.	-300.89	-2713	0.57	0	712	9040	5761	3634	9394		3.46	Si
SLV 9	fin.	-1665.37	-5646	0.57	16250	712	9040	5761	3634	9394		1.66	Si
SLV 10	ini.	-303.27	-2654	0.57	0	712	9040	5761	3634	9394		3.54	Si
SLV 10	fin.	-1625.85	-5551	0.57	16250	712	9040	5761	3634	9394		1.69	Si
SLV 15	ini.	-69.74	-1823	0.57	0	712	9040	5761	3634	9394		5.15	Si
SLV 15	fin.	-1740.09	-5396	0.57	16250	712	9040	5761	3634	9394		1.74	Si
SLV 14	ini.	-162.45	-2508	0.57	0	712	9040	5761	3634	9394		3.75	Si
SLV 14	fin.	-1930.33	-6052	0.57	16250	712	9040	5761	3634	9394		1.55	Si
SLD 13	ini.	-160.13	-2024	0.57	0	712	9040	5761	3634	9394		4.64	Si
SLD 13	fin.	-1616.33	-5255	0.57	16250	712	9040	5761	3634	9394		1.79	Si
SLV 16	ini.	-73.26	-1736	0.57	0	712	9040	5761	3634	9394		5.41	Si
SLV 16	fin.	-1681.39	-5254	0.57	16250	712	9040	5761	3634	9394		1.79	Si
SLD 10	ini.	-247.01	-2013	0.57	0	712	9040	5761	3634	9394		4.67	Si
SLD 10	fin.	-1369	-4797	0.57	0	712	9040	5761	3634	9394		1.96	Si
SLD 14	ini.	-162.37	-1969	0.57	0	712	9040	5761	3634	9394		4.77	Si
SLD 14	fin.	-1579.09	-5166	0.57	0	712	9040	5761	3634	9394		1.82	Si
SLD 9	ini.	-245.57	-2049	0.57	0	712	9040	5761	3634	9394		4.59	Si
SLD 9	fin.	-1392.98	-4855	0.57	0	712	9040	5761	3634	9394		1.94	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.671	SLV 13	Si
V_SLV	1.517	SLV 13	Si
PF_SLU	2.15	SLU 84	Si
V_SLU	1.304	SLU 84	Si

Trave di accoppiamento 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	1.366	0.15	0.67	0.52	-5.158	2.071	0.15	0.67	0.52	0.705	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	241.87	-159	-0.0000572	0.0002246	0.0035	0.52		5497.96	5497.96	No	22.73	Si
SLU 82	fin.	-1114.38	-3537	-0.0003295	0.0002246	0.0035	0.52		5515.31	5515.31	No	4.95	Si
SLU 83	ini.	250.87	-196	-0.0000595	0.0002246	0.0035	0.52		5497.96	5497.96	No	21.92	Si
SLU 83	fin.	-1152.27	-3691	-0.0003449	0.0002246	0.0035	0.52		5515.31	5515.31	No	4.79	Si
SLU 80	ini.	237.88	-159	-0.0000563	0.0002246	0.0035	0.52		5497.96	5497.96	No	23.11	Si
SLU 80	fin.	-1095.18	-3480	-0.0003218	0.0002246	0.0035	0.52		5515.31	5515.31	No	5.04	Si
SLU 81	ini.	247.68	-192	-0.0000587	0.0002246	0.0035	0.52		5497.96	5497.96	No	22.2	Si
SLU 81	fin.	-1138.04	-3644	-0.0003391	0.0002246	0.0035	0.52		5515.31	5515.31	No	4.85	Si
SLU 78	ini.	239.84	-162	-0.0000567	0.0002246	0.0035	0.52		5497.96	5497.96	No	22.92	Si
SLU 78	fin.	-1103.57	-3509	-0.0003252	0.0002246	0.0035	0.52		5515.31	5515.31	No	5	Si
SLU 79	ini.	243.69	-192	-0.0000577	0.0002246	0.0035	0.52		5497.96	5497.96	No	22.56	Si
SLU 79	fin.	-1118.84	-3587	-0.0003314	0.0002246	0.0035	0.52		5515.31	5515.31	No	4.93	Si
SLU 77	ini.	245.65	-196	-0.0000582	0.0002246	0.0035	0.52		5497.96	5497.96	No	22.38	Si
SLU 77	fin.	-1127.23	-3616	-0.0003347	0.0002246	0.0035	0.52		5515.31	5515.31	No	4.89	Si
SLU 75	ini.	236.65	-159	-0.000056	0.0002246	0.0035	0.52		5497.96	5497.96	No	23.23	Si
SLU 75	fin.	-1089.34	-3462	-0.0003195	0.0002246	0.0035	0.52		5515.31	5515.31	No	5.06	Si
SLU 84	ini.	245.06	-163	-0.000058	0.0002246	0.0035	0.52		5497.96	5497.96	No	22.44	Si
SLU 84	fin.	-1128.61	-3584	-0.0003353	0.0002246	0.0035	0.52		5515.31	5515.31	No	4.89	Si
SLU 74	ini.	242.46	-192	-0.0000574	0.0002246	0.0035	0.52		5497.96	5497.96	No	22.68	Si
SLU 74	fin.	-1113	-3569	-0.000329	0.0002246	0.0035	0.52		5515.31	5515.31	No	4.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	239.84	-860	0.52	1692	1300	23562	2803	6630	9433	No	10.97	Si
SLU 78	fin.	-1103.57	-5336	0.52	6806	1300	23562	2803	6630	9433	No	1.77	Si
SLU 77	ini.	245.65	-909	0.52	1732	1300	23562	2803	6630	9433	No	10.38	Si
SLU 77	fin.	-1127.23	-5426	0.52	6921	1300	23562	2803	6630	9433	No	1.74	Si
SLU 82	ini.	241.87	-864	0.52	1706	1300	23562	2803	6630	9433	No	10.92	Si
SLU 82	fin.	-1114.38	-5392	0.52	6859	1300	23562	2803	6630	9433	No	1.75	Si
SLU 83	ini.	250.87	-926	0.52	1768	1300	23562	2803	6630	9433	No	10.19	Si
SLU 83	fin.	-1152.27	-5549	0.52	7042	1300	23562	2803	6630	9433	No	1.7	Si
SLU 74	ini.	242.46	-895	0.52	1710	1300	23562	2803	6630	9433	No	10.54	Si
SLU 74	fin.	-1113	-5360	0.52	6852	1300	23562	2803	6630	9433	No	1.76	Si
SLU 84	ini.	245.06	-877	0.52	1728	1300	23562	2803	6630	9433	No	10.75	Si
SLU 84	fin.	-1128.61	-5459	0.52	6928	1300	23562	2803	6630	9433	No	1.73	Si
SLU 75	ini.	236.65	-846	0.52	1670	1300	23562	2803	6630	9433	No	11.14	Si
SLU 75	fin.	-1089.34	-5269	0.52	6736	1300	23562	2803	6630	9433	No	1.79	Si
SLU 79	ini.	243.69	-899	0.52	1719	1300	23562	2803	6630	9433	No	10.49	Si
SLU 79	fin.	-1118.84	-5388	0.52	6881	1300	23562	2803	6630	9433	No	1.75	Si
SLU 80	ini.	237.88	-850	0.52	1679	1300	23562	2803	6630	9433	No	11.1	Si
SLU 80	fin.	-1095.18	-5298	0.52	6765	1300	23562	2803	6630	9433	No	1.78	Si
SLU 81	ini.	247.68	-913	0.52	1746	1300	23562	2803	6630	9433	No	10.34	Si
SLU 81	fin.	-1138.04	-5483	0.52	6974	1300	23562	2803	6630	9433	No	1.72	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	295.21	-348	-0.0000694	0.0003369	0.0035	0.52		5843.28	5843.28		19.79	Si
SLV 16	fin.	-1220.59	-4025	-0.0003291	0.0003369	0.0035	0.52		5861.73	5861.73		4.8	Si
SLV 15	ini.	317.51	-484	-0.0000748	0.0003369	0.0035	0.52		5843.28	5843.28		18.4	Si
SLV 15	fin.	-1313.25	-4450	-0.0003613	0.0003369	0.0035	0.52		5861.73	5861.73		4.46	Si
SLD 7	ini.	356.06	-1389	-0.0000843	0.0003369	0.0035	0.52		5843.28	5843.28		16.41	Si
SLD 7	fin.	-1570.04	-6197	-0.0004587	0.0003369	0.0035	0.52		5861.73	5861.73		3.73	Si
SLD 8	ini.	346.95	-1334	-0.000082	0.0003369	0.0035	0.52		5843.28	5843.28		16.84	Si
SLD 8	fin.	-1532.19	-6024	-0.0004437	0.0003369	0.0035	0.52		5861.73	5861.73		3.83	Si
SLD 12	ini.	363.19	-1216	-0.000086	0.0003369	0.0035	0.52		5843.28	5843.28		16.09	Si
SLD 12	fin.	-1568.69	-5999	-0.0004582	0.0003369	0.0035	0.52		5861.73	5861.73		3.74	Si
SLV 8	ini.	477.68	-2181	-0.0001148	0.0003369	0.0035	0.52		5843.28	5843.28		12.23	Si
SLV 8	fin.	-2085.69	-8577	-0.0006837	0.0003369	0.0035	0.52		5861.73	5861.73		2.81	Si
SLV 11	ini.	518.13	-2086	-0.0001251	0.0003369	0.0035	0.52		5843.28	5843.28		11.28	Si
SLV 11	fin.	-2205.93	-8827	-0.000741	0.0003369	0.0035	0.52		5861.73	5861.73		2.66	Si
SLD 11	ini.	372.3	-1271	-0.0000883	0.0003369	0.0035	0.52		5843.28	5843.28		15.69	Si
SLD 11	fin.	-1606.54	-6173	-0.0004734	0.0003369	0.0035	0.52		5861.73	5861.73		3.65	Si
SLV 7	ini.	492.69	-2272	-0.0001186	0.0003369	0.0035	0.52		5843.28	5843.28		11.86	Si
SLV 7	fin.	-2148.06	-8863	-0.0007132	0.0003369	0.0035	0.52		5861.73	5861.73		2.73	Si
SLV 12	ini.	503.11	-1995	-0.0001213	0.0003369	0.0035	0.52		5843.28	5843.28		11.61	Si
SLV 12	fin.	-2143.55	-8542	-0.000711	0.0003369	0.0035	0.52		5861.73	5861.73		2.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	317.51	-1449	0.52	3369	1950	23562	4205	6630	10835		7.48	Si
SLV 15	fin.	-1313.25	-5957	0.52	12636	1950	23562	4205	6630	10835		1.82	Si
SLV 11	ini.	518.13	-3517	0.52	5414	1950	23562	4205	6630	10835		3.08	Si
SLV 11	fin.	-2205.93	-9245	0.52	16250	1950	23562	4205	6630	10835		1.17	Si
SLV 8	ini.	477.68	-3453	0.52	5007	1950	23562	4205	6630	10835		3.14	Si
SLV 8	fin.	-2085.69	-8679	0.52	16250	1950	23562	4205	6630	10835		1.25	Si
SLD 12	ini.	363.19	-2230	0.52	3841	1950	23562	4205	6630	10835		4.86	Si
SLD 12	fin.	-1568.69	-6791	0.52	14589	1950	23562	4205	6630	10835		1.6	Si
SLV 16	ini.	295.21	-1259	0.52	3138	1950	23562	4205	6630	10835		8.61	Si
SLV 16	fin.	-1220.59	-5606	0.52	11881	1950	23562	4205	6630	10835		1.93	Si
SLD 11	ini.	372.3	-2307	0.52	3934	1950	23562	4205	6630	10835		4.7	Si
SLD 11	fin.	-1606.54	-6934	0.52	14866	1950	23562	4205	6630	10835		1.56	Si
SLV 7	ini.	492.69	-3581	0.52	5159	1950	23562	4205	6630	10835		3.03	Si
SLV 7	fin.	-2148.06	-8915	0.52	16250	1950	23562	4205	6630	10835		1.22	Si
SLD 7	ini.	356.06	-2349	0.52	3767	1950	23562	4205	6630	10835		4.61	Si
SLD 7	fin.	-1570.04	-6723	0.52	14599	1950	23562	4205	6630	10835		1.61	Si
SLD 8	ini.	346.95	-2271	0.52	3673	1950	23562	4205	6630	10835		4.77	Si
SLD 8	fin.	-1532.19	-6580	0.52	14320	1950	23562	4205	6630	10835		1.65	Si
SLV 12	ini.	503.11	-3388	0.52	5263	1950	23562	4205	6630	10835		3.2	Si
SLV 12	fin.	-2143.55	-9009	0.52	16250	1950	23562	4205	6630	10835		1.2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.657	SLV 11	Si
V_SLV	1.172	SLV 11	Si
PF_SLU	4.786	SLU 83	Si
V_SLU	1.7	SLU 83	Si

Trave di accoppiamento 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.498	-3.284	-1.95	0.05	2	-6.503	-3.284	-1.95	0.05	2	0.995	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 60	ini.	1350.42	-14676	-0.000054	0.0001872	0.0035	2		39913.02	39913.02	No	29.56	Si
SLU 60	fin.	-233.19	-6979	-0.0000092	0.0001872	0.0035	2		39946.04	39946.04	No	171.3	Si
SLU 84	ini.	1356.85	-16540	-0.0000543	0.0001872	0.0035	2		39913.02	39913.02	No	29.42	Si
SLU 84	fin.	-105.58	-8101	-0.0000041	0.0001872	0.0035	2		39946.04	39946.04	No	378.36	Si
SLU 81	ini.	1422.29	-16315	-0.000057	0.0001872	0.0035	2		39913.02	39913.02	No	28.06	Si
SLU 81	fin.	-159.29	-7918	-0.0000063	0.0001872	0.0035	2		39946.04	39946.04	No	250.77	Si
SLU 74	ini.	1352.33	-15812	-0.0000541	0.0001872	0.0035	2		39913.02	39913.02	No	29.51	Si
SLU 74	fin.	-178.64	-7632	-0.000007	0.0001872	0.0035	2		39946.04	39946.04	No	223.61	Si
SLU 62	ini.	1376.68	-14783	-0.0000551	0.0001872	0.0035	2		39913.02	39913.02	No	28.99	Si
SLU 62	fin.	-243.89	-7009	-0.0000096	0.0001872	0.0035	2		39946.04	39946.04	No	163.79	Si
SLU 77	ini.	1378.59	-15920	-0.0000552	0.0001872	0.0035	2		39913.02	39913.02	No	28.95	Si
SLU 77	fin.	-189.34	-7662	-0.0000074	0.0001872	0.0035	2		39946.04	39946.04	No	210.97	Si
SLU 82	ini.	1330.59	-16433	-0.0000532	0.0001872	0.0035	2		39913.02	39913.02	No	30	Si
SLU 82	fin.	-94.87	-8071	-0.0000037	0.0001872	0.0035	2		39946.04	39946.04	No	421.04	Si
SLU 58	ini.	1311.33	-14204	-0.0000524	0.0001872	0.0035	2		39913.02	39913.02	No	30.44	Si
SLU 58	fin.	-268.88	-6677	-0.0000106	0.0001872	0.0035	2		39946.04	39946.04	No	148.56	Si
SLU 83	ini.	1448.55	-16422	-0.000058	0.0001872	0.0035	2		39913.02	39913.02	No	27.55	Si
SLU 83	fin.	-170	-7949	-0.0000067	0.0001872	0.0035	2		39946.04	39946.04	No	234.98	Si
SLU 79	ini.	1383.2	-15844	-0.0000554	0.0001872	0.0035	2		39913.02	39913.02	No	28.86	Si
SLU 79	fin.	-194.99	-7617	-0.0000077	0.0001872	0.0035	2		39946.04	39946.04	No	204.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	1378.59	-9371	2	0	6250	15780	13475	12750	22030	No	2.35	Si
SLU 77	fin.	-189.34	-9274	2	0	6250	15780	13475	12750	22030	No	2.38	Si
SLU 83	ini.	1448.55	-9657	2	0	6250	15780	13475	12750	22030	No	2.28	Si
SLU 83	fin.	-170	-9499	2	0	6250	15780	13475	12750	22030	No	2.32	Si
SLU 84	ini.	1356.85	-9477	2	0	6250	15780	13475	12750	22030	No	2.32	Si
SLU 84	fin.	-105.58	-9294	2	0	6250	15780	13475	12750	22030	No	2.37	Si
SLU 80	ini.	1291.5	-9168	2	0	6250	15780	13475	12750	22030	No	2.4	Si
SLU 80	fin.	-130.57	-9054	2	0	6250	15780	13475	12750	22030	No	2.43	Si
SLU 75	ini.	1260.63	-9074	2	0	6250	15780	13475	12750	22030	No	2.43	Si
SLU 75	fin.	-114.22	-8962	2	0	6250	15780	13475	12750	22030	No	2.46	Si
SLU 79	ini.	1383.2	-9348	2	0	6250	15780	13475	12750	22030	No	2.36	Si
SLU 79	fin.	-194.99	-9259	2	0	6250	15780	13475	12750	22030	No	2.38	Si
SLU 74	ini.	1352.33	-9254	2	0	6250	15780	13475	12750	22030	No	2.38	Si
SLU 74	fin.	-178.64	-9167	2	0	6250	15780	13475	12750	22030	No	2.4	Si
SLU 81	ini.	1422.29	-9540	2	0	6250	15780	13475	12750	22030	No	2.31	Si
SLU 81	fin.	-159.29	-9392	2	0	6250	15780	13475	12750	22030	No	2.35	Si
SLU 82	ini.	1330.59	-9360	2	0	6250	15780	13475	12750	22030	No	2.35	Si
SLU 82	fin.	-94.87	-9188	2	0	6250	15780	13475	12750	22030	No	2.4	Si
SLU 78	ini.	1286.89	-9190	2	0	6250	15780	13475	12750	22030	No	2.4	Si
SLU 78	fin.	-124.92	-9069	2	0	6250	15780	13475	12750	22030	No	2.43	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	4778.63	-16652	-0.0001982	0.0002807	0.0035	2		40837.53	40837.53		8.55	Si
SLV 13	fin.	-1727.23	-4531	-0.000069	0.0002807	0.0035	2		40871.26	40871.26		23.66	Si
SLV 6	ini.	-5088.17	-17660	-0.0002117	0.0002807	0.0035	2		40871.26	40871.26		8.03	Si
SLV 6	fin.	4129.19	-13568	-0.0001698	0.0002807	0.0035	2		40837.53	40837.53		9.89	Si
SLV 12	ini.	6451.26	-4040	-0.0002738	0.0002807	0.0035	2		40837.53	40837.53		6.33	Si
SLV 12	fin.	-4168.29	2699	-0.0001713	0.0002807	0.0035	2		40871.26	40871.26		9.81	Si
SLD 15	ini.	4970.46	-11702	-0.0002067	0.0002807	0.0035	2		40837.53	40837.53		8.22	Si
SLD 15	fin.	-2428.94	-2058	-0.0000978	0.0002807	0.0035	2		40871.26	40871.26		16.83	Si
SLV 1	ini.	-4898.33	-9926	-0.0002033	0.0002807	0.0035	2		40871.26	40871.26		8.34	Si
SLV 1	fin.	3022.45	-9581	-0.0001226	0.0002807	0.0035	2		40837.53	40837.53		13.51	Si
SLV 11	ini.	6897.08	-4115	-0.0002947	0.0002807	0.0035	2		40837.53	40837.53		5.92	Si
SLV 11	fin.	-4460.97	3175	-0.0001841	0.0002807	0.0035	2		40871.26	40871.26		9.16	Si
SLV 2	ini.	-5560.62	-9814	-0.0002328	0.0002807	0.0035	2		40871.26	40871.26		7.35	Si
SLV 2	fin.	3457.23	-10288	-0.000141	0.0002807	0.0035	2		40837.53	40837.53		11.81	Si
SLV 5	ini.	-4642.35	-17735	-0.000192	0.0002807	0.0035	2		40871.26	40871.26		8.8	Si
SLV 5	fin.	3836.51	-13092	-0.0001572	0.0002807	0.0035	2		40837.53	40837.53		10.64	Si
SLV 15	ini.	7369.53	-11960	-0.0003172	0.0002807	0.0035	2		40837.53	40837.53		5.54	Si
SLV 15	fin.	-3789.01	-105	-0.000155	0.0002807	0.0035	2		40871.26	40871.26		10.79	Si
SLV 16	ini.	6707.24	-11849	-0.0002858	0.0002807	0.0035	2		40837.53	40837.53		6.09	Si
SLV 16	fin.	-3354.22	-813	-0.0001365	0.0002807	0.0035	2		40871.26	40871.26		12.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	4499.47	-13178	2	0	6677	15780	20213	12750	22457		1.7	Si
SLD 11	fin.	-2725.54	-14307	2	0	6677	15780	20213	12750	22457		1.57	Si
SLV 14	ini.	4116.34	-16443	2	0	6677	15780	20213	12750	22457		1.37	Si
SLV 14	fin.	-1292.45	-15819	2	0	6677	15780	20213	12750	22457		1.42	Si
SLD 16	ini.	4550.3	-15283	2	0	6677	15780	20213	12750	22457		1.47	Si
SLD 16	fin.	-2153.11	-15585	2	0	6677	15780	20213	12750	22457		1.44	Si
SLV 15	ini.	7369.53	-22360	2	0	6677	15780	20213	12750	22457		1	Si
SLV 15	fin.	-3789.01	-22860	2	0	6677	15780	20213	12750	22457		0.98	No
SLD 15	ini.	4970.46	-16494	2	0	6677	15780	20213	12750	22457		1.36	Si
SLD 15	fin.	-2428.94	-16807	2	0	6677	15780	20213	12750	22457		1.34	Si
SLV 16	ini.	6707.24	-20452	2	0	6677	15780	20213	12750	22457		1.1	Si
SLV 16	fin.	-3354.22	-20933	2	0	6677	15780	20213	12750	22457		1.07	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	6451.26	-16317	2	0	6677	15780	20213	12750	22457		1.38	Si
SLV 12	fin.	-4168.29	-18183	2	0	6677	15780	20213	12750	22457		1.24	Si
SLV 13	ini.	4778.63	-18352	2	0	6677	15780	20213	12750	22457		1.22	Si
SLV 13	fin.	-1727.23	-17746	2	0	6677	15780	20213	12750	22457		1.27	Si
SLD 13	ini.	3452.02	-14144	2	0	6677	15780	20213	12750	22457		1.59	Si
SLD 13	fin.	-1220.17	-13808	2	0	6677	15780	20213	12750	22457		1.63	Si
SLV 11	ini.	6897.08	-17601	2	0	6677	15780	20213	12750	22457		1.28	Si
SLV 11	fin.	-4460.97	-19480	2	0	6677	15780	20213	12750	22457		1.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.541	SLV 15	Si
V_SLV	0.982	SLV 15	No
PF_SLU	27.554	SLU 83	Si
V_SLU	2.281	SLU 83	Si

Trave di accoppiamento 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-3.403	-3.284	-1.95	0.05	2	-2.403	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-2738.2	-2906	-0.0001119	0.0001872	0.0035	2		39946.04	39946.04	No	14.59	Si
SLU 80	fin.	2279.48	-5262	-0.0000925	0.0001872	0.0035	2		39913.02	39913.02	No	17.51	Si
SLU 74	ini.	-2714.44	-2871	-0.0001109	0.0001872	0.0035	2		39946.04	39946.04	No	14.72	Si
SLU 74	fin.	2279.78	-5221	-0.0000925	0.0001872	0.0035	2		39913.02	39913.02	No	17.51	Si
SLU 81	ini.	-2759.05	-2941	-0.0001128	0.0001872	0.0035	2		39946.04	39946.04	No	14.48	Si
SLU 81	fin.	2331.03	-5329	-0.0000947	0.0001872	0.0035	2		39913.02	39913.02	No	17.12	Si
SLU 82	ini.	-2782.85	-2971	-0.0001138	0.0001872	0.0035	2		39946.04	39946.04	No	14.35	Si
SLU 82	fin.	2333.31	-5369	-0.0000948	0.0001872	0.0035	2		39913.02	39913.02	No	17.11	Si
SLU 76	ini.	-2733	-2901	-0.0001116	0.0001872	0.0035	2		39946.04	39946.04	No	14.62	Si
SLU 76	fin.	2266.67	-5247	-0.000092	0.0001872	0.0035	2		39913.02	39913.02	No	17.61	Si
SLU 83	ini.	-2780.12	-2966	-0.0001137	0.0001872	0.0035	2		39946.04	39946.04	No	14.37	Si
SLU 83	fin.	2345.36	-5370	-0.0000953	0.0001872	0.0035	2		39913.02	39913.02	No	17.02	Si
SLU 75	ini.	-2738.23	-2901	-0.0001119	0.0001872	0.0035	2		39946.04	39946.04	No	14.59	Si
SLU 75	fin.	2282.06	-5261	-0.0000926	0.0001872	0.0035	2		39913.02	39913.02	No	17.49	Si
SLU 78	ini.	-2759.3	-2926	-0.0001128	0.0001872	0.0035	2		39946.04	39946.04	No	14.48	Si
SLU 78	fin.	2296.4	-5302	-0.0000932	0.0001872	0.0035	2		39913.02	39913.02	No	17.38	Si
SLU 77	ini.	-2735.51	-2896	-0.0001118	0.0001872	0.0035	2		39946.04	39946.04	No	14.6	Si
SLU 77	fin.	2294.11	-5263	-0.0000931	0.0001872	0.0035	2		39913.02	39913.02	No	17.4	Si
SLU 84	ini.	-2803.92	-2996	-0.0001147	0.0001872	0.0035	2		39946.04	39946.04	No	14.25	Si
SLU 84	fin.	2347.65	-5410	-0.0000954	0.0001872	0.0035	2		39913.02	39913.02	No	17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-2738.23	5654	2	0	6250	15859	13475	12750	22109	No	3.91	Si
SLU 75	fin.	2282.06	9776	2	0	6250	15859	13475	12750	22109	No	2.26	Si
SLU 81	ini.	-2759.05	5702	2	0	6250	15859	13475	12750	22109	No	3.88	Si
SLU 81	fin.	2331.03	9934	2	0	6250	15859	13475	12750	22109	No	2.23	Si
SLU 77	ini.	-2735.51	5686	2	0	6250	15859	13475	12750	22109	No	3.89	Si
SLU 77	fin.	2294.11	9769	2	0	6250	15859	13475	12750	22109	No	2.26	Si
SLU 76	ini.	-2733	5611	2	0	6250	15859	13475	12750	22109	No	3.94	Si
SLU 76	fin.	2266.67	9752	2	0	6250	15859	13475	12750	22109	No	2.27	Si
SLU 83	ini.	-2780.12	5738	2	0	6250	15859	13475	12750	22109	No	3.85	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	2345.36	10004	2	0	6250	15859	13475	12750	22109	No	2.21	Si
SLU 84	ini.	-2803.92	5742	2	0	6250	15859	13475	12750	22109	No	3.85	Si
SLU 84	fin.	2347.65	10082	2	0	6250	15859	13475	12750	22109	No	2.19	Si
SLU 82	ini.	-2782.85	5706	2	0	6250	15859	13475	12750	22109	No	3.87	Si
SLU 82	fin.	2333.31	10011	2	0	6250	15859	13475	12750	22109	No	2.21	Si
SLU 78	ini.	-2759.3	5690	2	0	6250	15859	13475	12750	22109	No	3.89	Si
SLU 78	fin.	2296.4	9847	2	0	6250	15859	13475	12750	22109	No	2.25	Si
SLU 80	ini.	-2738.2	5645	2	0	6250	15859	13475	12750	22109	No	3.92	Si
SLU 80	fin.	2279.48	9771	2	0	6250	15859	13475	12750	22109	No	2.26	Si
SLU 74	ini.	-2714.44	5650	2	0	6250	15859	13475	12750	22109	No	3.91	Si
SLU 74	fin.	2279.78	9699	2	0	6250	15859	13475	12750	22109	No	2.28	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-5567.88	-6990	-0.0002331	0.0002807	0.0035	2		40871.26	40871.26		7.34	Si
SLV 6	fin.	2958.73	-11388	-0.0001199	0.0002807	0.0035	2		40837.53	40837.53		13.8	Si
SLD 2	ini.	-3443.15	-2033	-0.0001403	0.0002807	0.0035	2		40871.26	40871.26		11.87	Si
SLD 2	fin.	2810.25	-5516	-0.0001137	0.0002807	0.0035	2		40837.53	40837.53		14.53	Si
SLV 1	ini.	-3892.47	-1678	-0.0001595	0.0002807	0.0035	2		40871.26	40871.26		10.5	Si
SLV 1	fin.	3391.58	-5870	-0.0001382	0.0002807	0.0035	2		40837.53	40837.53		12.04	Si
SLV 10	ini.	-4778.2	-7970	-0.000198	0.0002807	0.0035	2		40871.26	40871.26		8.55	Si
SLV 10	fin.	1983.4	-11078	-0.0000795	0.0002807	0.0035	2		40837.53	40837.53		20.59	Si
SLV 2	ini.	-4403.15	-2208	-0.0001815	0.0002807	0.0035	2		40871.26	40871.26		9.28	Si
SLV 2	fin.	3531.61	-6791	-0.0001441	0.0002807	0.0035	2		40837.53	40837.53		11.56	Si
SLD 6	ini.	-4071.72	-4891	-0.0001672	0.0002807	0.0035	2		40871.26	40871.26		10.04	Si
SLD 6	fin.	2416.18	-8185	-0.0000973	0.0002807	0.0035	2		40837.53	40837.53		16.9	Si
SLV 9	ini.	-4434.44	-7613	-0.0001829	0.0002807	0.0035	2		40871.26	40871.26		9.22	Si
SLV 9	fin.	1889.14	-10458	-0.0000756	0.0002807	0.0035	2		40837.53	40837.53		21.62	Si
SLV 5	ini.	-5224.11	-6634	-0.0002177	0.0002807	0.0035	2		40871.26	40871.26		7.82	Si
SLV 5	fin.	2864.48	-10768	-0.000116	0.0002807	0.0035	2		40837.53	40837.53		14.26	Si
SLD 10	ini.	-3570.87	-5520	-0.0001457	0.0002807	0.0035	2		40871.26	40871.26		11.45	Si
SLD 10	fin.	1795.95	-7996	-0.0000718	0.0002807	0.0035	2		40837.53	40837.53		22.74	Si
SLD 5	ini.	-3863.1	-4674	-0.0001582	0.0002807	0.0035	2		40871.26	40871.26		10.58	Si
SLD 5	fin.	2358.99	-7809	-0.000095	0.0002807	0.0035	2		40837.53	40837.53		17.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-4434.44	6387	2	0	6643	15859	20213	12750	22503		3.52	Si
SLV 9	fin.	1889.14	13557	2	0	6643	15859	20213	12750	22503		1.66	Si
SLV 5	ini.	-5224.11	9693	2	0	6643	15859	20213	12750	22503		2.32	Si
SLV 5	fin.	2864.48	15774	2	0	6643	15859	20213	12750	22503		1.43	Si
SLV 2	ini.	-4403.15	11331	2	0	6643	15859	20213	12750	22503		1.99	Si
SLV 2	fin.	3531.61	13455	2	0	6643	15859	20213	12750	22503		1.67	Si
SLV 10	ini.	-4778.2	7041	2	0	6643	15859	20213	12750	22503		3.2	Si
SLV 10	fin.	1983.4	14320	2	0	6643	15859	20213	12750	22503		1.57	Si
SLD 2	ini.	-3443.15	8623	2	0	6643	15859	20213	12750	22503		2.61	Si
SLD 2	fin.	2810.25	10875	2	0	6643	15859	20213	12750	22503		2.07	Si
SLV 6	ini.	-5567.88	10348	2	0	6643	15859	20213	12750	22503		2.17	Si
SLV 6	fin.	2958.73	16537	2	0	6643	15859	20213	12750	22503		1.36	Si
SLD 5	ini.	-3863.1	7442	2	0	6643	15859	20213	12750	22503		3.02	Si
SLD 5	fin.	2358.99	12058	2	0	6643	15859	20213	12750	22503		1.87	Si
SLD 6	ini.	-4071.72	7839	2	0	6643	15859	20213	12750	22503		2.87	Si
SLD 6	fin.	2416.18	12521	2	0	6643	15859	20213	12750	22503		1.8	Si
SLV 1	ini.	-3892.47	10358	2	0	6643	15859	20213	12750	22503		2.17	Si
SLV 1	fin.	3391.58	12321	2	0	6643	15859	20213	12750	22503		1.83	Si
SLD 10	ini.	-3570.87	5731	2	0	6643	15859	20213	12750	22503		3.93	Si
SLD 10	fin.	1795.95	11104	2	0	6643	15859	20213	12750	22503		2.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.341	SLV 6	Si
V_SLV	1.361	SLV 6	Si
PF_SLU	14.247	SLU 84	Si
V_SLU	2.193	SLU 84	Si

Trave di accoppiamento 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-3.403	-3.284	0.45	0.67	0.22	-2.403	-3.284	0.45	0.67	0.22	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-356.64	-1559	-0.0019529	0.0001872	0.0035	0.22		486.06	486.06	No	1.36	Si
SLU 77	fin.	3.35	1089	-0.0000109	0.0001872	0.0035	0.22		482.44	482.44	No	144.14	Si
SLU 78	ini.	-368.07	-1579	-0.0020638	0.0001872	0.0035	0.22		486.06	486.06	No	1.32	Si
SLU 78	fin.	-6.53	1082	-0.0000212	0.0001872	0.0035	0.22		486.06	486.06	No	74.46	Si
SLU 84	ini.	-384.24	-1621	-0.0022331	0.0001872	0.0035	0.22		486.06	486.06	No	1.26	Si
SLU 84	fin.	-15.18	1093	-0.0000497	0.0001872	0.0035	0.22		486.06	486.06	No	32.03	Si
SLU 83	ini.	-372.82	-1601	-0.002112	0.0001872	0.0035	0.22		486.06	486.06	No	1.3	Si
SLU 83	fin.	-5.3	1099	-0.0000172	0.0001872	0.0035	0.22		486.06	486.06	No	91.69	Si
SLU 73	ini.	-370.73	-1562	-0.0020907	0.0001872	0.0035	0.22		486.06	486.06	No	1.31	Si
SLU 73	fin.	-15.85	1052	-0.000052	0.0001872	0.0035	0.22		486.06	486.06	No	30.67	Si
SLU 81	ini.	-371.2	-1592	-0.0020955	0.0001872	0.0035	0.22		486.06	486.06	No	1.31	Si
SLU 81	fin.	-6.18	1091	-0.00002	0.0001872	0.0035	0.22		486.06	486.06	No	78.6	Si
SLU 80	ini.	-366.35	-1568	-0.0020467	0.0001872	0.0035	0.22		486.06	486.06	No	1.33	Si
SLU 80	fin.	-7.5	1073	-0.0000243	0.0001872	0.0035	0.22		486.06	486.06	No	64.8	Si
SLU 82	ini.	-382.62	-1611	-0.0022155	0.0001872	0.0035	0.22		486.06	486.06	No	1.27	Si
SLU 82	fin.	-16.06	1084	-0.0000527	0.0001872	0.0035	0.22		486.06	486.06	No	30.27	Si
SLU 75	ini.	-366.45	-1569	-0.0020477	0.0001872	0.0035	0.22		486.06	486.06	No	1.33	Si
SLU 75	fin.	-7.41	1074	-0.000024	0.0001872	0.0035	0.22		486.06	486.06	No	65.59	Si
SLU 76	ini.	-372.35	-1571	-0.0021072	0.0001872	0.0035	0.22		486.06	486.06	No	1.31	Si
SLU 76	fin.	-14.97	1060	-0.000049	0.0001872	0.0035	0.22		486.06	486.06	No	32.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-370.73	1974	0.22	10833	276	3489	1482	1403	2885	No	1.46	Si
SLU 73	fin.	-15.85	-402	0.22	0	276	3489	1482	1403	2885	No	7.18	Si
SLU 83	ini.	-372.82	1978	0.22	10833	276	3489	1482	1403	2885	No	1.46	Si
SLU 83	fin.	-5.3	-348	0.22	0	276	3489	1482	1403	2885	No	8.28	Si
SLU 78	ini.	-368.07	1953	0.22	10833	276	3489	1482	1403	2885	No	1.48	Si
SLU 78	fin.	-6.53	-351	0.22	0	276	3489	1482	1403	2885	No	8.21	Si
SLU 75	ini.	-366.45	1946	0.22	10833	276	3489	1482	1403	2885	No	1.48	Si
SLU 75	fin.	-7.41	-355	0.22	0	276	3489	1482	1403	2885	No	8.13	Si
SLU 80	ini.	-366.35	1945	0.22	10833	276	3489	1482	1403	2885	No	1.48	Si
SLU 80	fin.	-7.5	-355	0.22	0	276	3489	1482	1403	2885	No	8.12	Si
SLU 81	ini.	-371.2	1970	0.22	10833	276	3489	1482	1403	2885	No	1.46	Si
SLU 81	fin.	-6.18	-352	0.22	0	276	3489	1482	1403	2885	No	8.2	Si
SLU 84	ini.	-384.24	2044	0.22	10833	276	3489	1482	1403	2885	No	1.41	Si
SLU 84	fin.	-15.18	-408	0.22	0	276	3489	1482	1403	2885	No	7.06	Si
SLU 77	ini.	-356.64	1887	0.22	10833	276	3489	1482	1403	2885	No	1.53	Si
SLU 77	fin.	3.35	-292	0.22	0	276	3489	1482	1403	2885	No	9.89	Si
SLU 76	ini.	-372.35	1982	0.22	10833	276	3489	1482	1403	2885	No	1.46	Si
SLU 76	fin.	-14.97	-399	0.22	0	276	3489	1482	1403	2885	No	7.24	Si
SLU 82	ini.	-382.62	2036	0.22	10833	276	3489	1482	1403	2885	No	1.42	Si
SLU 82	fin.	-16.06	-412	0.22	0	276	3489	1482	1403	2885	No	7.01	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-374.65	-1882	-0.0019851	0.0002807	0.0035	0.22		497.41	497.41		1.33	Si
SLD 6	fin.	84.5	1577	-0.0002987	0.0002807	0.0035	0.22		493.71	493.71		5.84	Si
SLD 10	ini.	-343.58	-1576	-0.0017181	0.0002807	0.0035	0.22		497.41	497.41		1.45	Si
SLD 10	fin.	50.06	1260	-0.0001701	0.0002807	0.0035	0.22		493.71	493.71		9.86	Si
SLV 6	ini.	-466.48	-2443	-0.0030749	0.0002807	0.0035	0.22		497.41	497.41		1.07	Si
SLV 6	fin.	133.76	2114	-0.0005053	0.0002807	0.0035	0.22		493.71	493.71		3.69	Si
SLD 5	ini.	-366.16	-1809	-0.0019079	0.0002807	0.0035	0.22		497.41	497.41		1.36	Si
SLD 5	fin.	76.2	1508	-0.0002666	0.0002807	0.0035	0.22		493.71	493.71		6.48	Si
SLV 1	ini.	-368.04	-2102	-0.0019247	0.0002807	0.0035	0.22		497.41	497.41		1.35	Si
SLV 1	fin.	117.26	1822	-0.000433	0.0002807	0.0035	0.22		493.71	493.71		4.21	Si
SLV 5	ini.	-452.5	-2324	-0.0028752	0.0002807	0.0035	0.22		497.41	497.41		1.1	Si
SLV 5	fin.	120.08	1999	-0.0004451	0.0002807	0.0035	0.22		493.71	493.71		4.11	Si
SLV 9	ini.	-403.71	-1844	-0.0022766	0.0002807	0.0035	0.22		497.41	497.41		1.23	Si
SLV 9	fin.	66.08	1501	-0.0002285	0.0002807	0.0035	0.22		493.71	493.71		7.47	Si
SLV 2	ini.	-388.81	-2280	-0.0021217	0.0002807	0.0035	0.22		497.41	497.41		1.28	Si
SLV 2	fin.	137.59	1993	-0.0005225	0.0002807	0.0035	0.22		493.71	493.71		3.59	Si
SLV 10	ini.	-417.69	-1963	-0.0024333	0.0002807	0.0035	0.22		497.41	497.41		1.19	Si
SLV 10	fin.	79.76	1616	-0.0002803	0.0002807	0.0035	0.22		493.71	493.71		6.19	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-335.1	-1503	-0.001652	0.0002807	0.0035	0.22		497.41	497.41		1.48	Si
SLD 9	fin.	41.76	1191	-0.0001407	0.0002807	0.0035	0.22		493.71	493.71		11.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-388.81	2017	0.22	16250	413	3489	2223	1403	3626		1.8	Si
SLV 2	fin.	137.59	515	0.22	0	413	3489	2223	1403	3626		7.03	Si
SLV 10	ini.	-417.69	2125	0.22	16250	413	3489	2223	1403	3626		1.71	Si
SLV 10	fin.	79.76	315	0.22	0	413	3489	2223	1403	3626		11.5	Si
SLD 5	ini.	-366.16	1899	0.22	16250	413	3489	2223	1403	3626		1.91	Si
SLD 5	fin.	76.2	271	0.22	0	413	3489	2223	1403	3626		13.39	Si
SLD 10	ini.	-343.58	1771	0.22	16250	413	3489	2223	1403	3626		2.05	Si
SLD 10	fin.	50.06	131	0.22	0	413	3489	2223	1403	3626		27.63	Si
SLD 6	ini.	-374.65	1934	0.22	16250	413	3489	2223	1403	3626		1.87	Si
SLD 6	fin.	84.5	306	0.22	0	413	3489	2223	1403	3626		11.87	Si
SLV 9	ini.	-403.71	2067	0.22	16250	413	3489	2223	1403	3626		1.75	Si
SLV 9	fin.	66.08	258	0.22	0	413	3489	2223	1403	3626		14.05	Si
SLV 1	ini.	-368.04	1931	0.22	16250	413	3489	2223	1403	3626		1.88	Si
SLV 1	fin.	117.26	430	0.22	0	413	3489	2223	1403	3626		8.43	Si
SLV 6	ini.	-466.48	2382	0.22	16250	413	3489	2223	1403	3626		1.52	Si
SLV 6	fin.	133.76	588	0.22	0	413	3489	2223	1403	3626		6.16	Si
SLV 5	ini.	-452.5	2324	0.22	16250	413	3489	2223	1403	3626		1.56	Si
SLV 5	fin.	120.08	531	0.22	0	413	3489	2223	1403	3626		6.83	Si
SLD 9	ini.	-335.1	1736	0.22	16250	413	3489	2223	1403	3626		2.09	Si
SLD 9	fin.	41.76	96	0.22	0	413	3489	2223	1403	3626		37.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.066	SLV 6	Si
V_SLV	1.522	SLV 6	Si
PF_SLU	1.265	SLU 84	Si
V_SLU	1.411	SLU 84	Si

Trave di accoppiamento 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.914	5.876	-1.95	0.05	2	-1.914	5.876	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1680.49	-6085	-0.0000675	0.0001872	0.0035	2		39946.04	39946.04	No	23.77	Si
SLU 75	fin.	3231.23	-8862	-0.0001333	0.0001872	0.0035	2		39913.02	39913.02	No	12.35	Si
SLU 77	ini.	-1752.65	-6273	-0.0000705	0.0001872	0.0035	2		39946.04	39946.04	No	22.79	Si
SLU 77	fin.	3306.62	-9156	-0.0001365	0.0001872	0.0035	2		39913.02	39913.02	No	12.07	Si
SLU 82	ini.	-1678.82	-6157	-0.0000674	0.0001872	0.0035	2		39946.04	39946.04	No	23.79	Si
SLU 82	fin.	3270.44	-8920	-0.000135	0.0001872	0.0035	2		39913.02	39913.02	No	12.2	Si
SLU 79	ini.	-1739.95	-6223	-0.00007	0.0001872	0.0035	2		39946.04	39946.04	No	22.96	Si
SLU 79	fin.	3286.25	-9087	-0.0001357	0.0001872	0.0035	2		39913.02	39913.02	No	12.15	Si
SLU 78	ini.	-1705.47	-6187	-0.0000685	0.0001872	0.0035	2		39946.04	39946.04	No	23.42	Si
SLU 78	fin.	3277.08	-9016	-0.0001353	0.0001872	0.0035	2		39913.02	39913.02	No	12.18	Si
SLU 83	ini.	-1750.98	-6345	-0.0000704	0.0001872	0.0035	2		39946.04	39946.04	No	22.81	Si
SLU 83	fin.	3345.83	-9214	-0.0001383	0.0001872	0.0035	2		39913.02	39913.02	No	11.93	Si
SLU 81	ini.	-1725.99	-6243	-0.0000694	0.0001872	0.0035	2		39946.04	39946.04	No	23.14	Si
SLU 81	fin.	3299.98	-9060	-0.0001363	0.0001872	0.0035	2		39913.02	39913.02	No	12.09	Si
SLU 80	ini.	-1692.78	-6136	-0.000068	0.0001872	0.0035	2		39946.04	39946.04	No	23.6	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	fin.	3256.71	-8947	-0.0001344	0.0001872	0.0035	2		39913.02	39913.02	No	12.26	Si
SLU 84	ini.	-1703.8	-6259	-0.0000685	0.0001872	0.0035	2		39946.04	39946.04	No	23.45	Si
SLU 84	fin.	3316.29	-9074	-0.000137	0.0001872	0.0035	2		39913.02	39913.02	No	12.04	Si
SLU 74	ini.	-1727.66	-6171	-0.0000695	0.0001872	0.0035	2		39946.04	39946.04	No	23.12	Si
SLU 74	fin.	3260.77	-9002	-0.0001345	0.0001872	0.0035	2		39913.02	39913.02	No	12.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1678.82	4733	2	0	6250	15859	13475	12750	22109	No	4.67	Si
SLU 82	fin.	3270.44	11913	2	0	6250	15859	13475	12750	22109	No	1.86	Si
SLU 79	ini.	-1739.95	4903	2	0	6250	15859	13475	12750	22109	No	4.51	Si
SLU 79	fin.	3286.25	12090	2	0	6250	15859	13475	12750	22109	No	1.83	Si
SLU 84	ini.	-1703.8	4804	2	0	6250	15859	13475	12750	22109	No	4.6	Si
SLU 84	fin.	3316.29	12103	2	0	6250	15859	13475	12750	22109	No	1.83	Si
SLU 74	ini.	-1727.66	4860	2	0	6250	15859	13475	12750	22109	No	4.55	Si
SLU 74	fin.	3260.77	11984	2	0	6250	15859	13475	12750	22109	No	1.84	Si
SLU 83	ini.	-1750.98	4894	2	0	6250	15859	13475	12750	22109	No	4.52	Si
SLU 83	fin.	3345.83	12283	2	0	6250	15859	13475	12750	22109	No	1.8	Si
SLU 75	ini.	-1680.49	4769	2	0	6250	15859	13475	12750	22109	No	4.64	Si
SLU 75	fin.	3231.23	11804	2	0	6250	15859	13475	12750	22109	No	1.87	Si
SLU 80	ini.	-1692.78	4813	2	0	6250	15859	13475	12750	22109	No	4.59	Si
SLU 80	fin.	3256.71	11910	2	0	6250	15859	13475	12750	22109	No	1.86	Si
SLU 81	ini.	-1725.99	4823	2	0	6250	15859	13475	12750	22109	No	4.58	Si
SLU 81	fin.	3299.98	12093	2	0	6250	15859	13475	12750	22109	No	1.83	Si
SLU 78	ini.	-1705.47	4841	2	0	6250	15859	13475	12750	22109	No	4.57	Si
SLU 78	fin.	3277.08	11994	2	0	6250	15859	13475	12750	22109	No	1.84	Si
SLU 77	ini.	-1752.65	4931	2	0	6250	15859	13475	12750	22109	No	4.48	Si
SLU 77	fin.	3306.62	12174	2	0	6250	15859	13475	12750	22109	No	1.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-3986.7	-11111	-0.0001635	0.0002807	0.0035	2		40871.26	40871.26		10.25	Si
SLV 12	fin.	4354.28	-16308	-0.0001796	0.0002807	0.0035	2		40837.53	40837.53		9.38	Si
SLD 11	ini.	-3030.7	-8374	-0.0001229	0.0002807	0.0035	2		40871.26	40871.26		13.49	Si
SLD 11	fin.	3571.23	-12530	-0.0001458	0.0002807	0.0035	2		40837.53	40837.53		11.44	Si
SLV 3	ini.	-2937.15	-3947	-0.0001189	0.0002807	0.0035	2		40871.26	40871.26		13.92	Si
SLV 3	fin.	3569.72	-9401	-0.0001458	0.0002807	0.0035	2		40837.53	40837.53		11.44	Si
SLV 11	ini.	-4310.73	-11248	-0.0001775	0.0002807	0.0035	2		40871.26	40871.26		9.48	Si
SLV 11	fin.	4508.74	-16963	-0.0001863	0.0002807	0.0035	2		40837.53	40837.53		9.06	Si
SLD 8	ini.	-3040.87	-7420	-0.0001233	0.0002807	0.0035	2		40871.26	40871.26		13.44	Si
SLD 8	fin.	3668.95	-11975	-0.00015	0.0002807	0.0035	2		40837.53	40837.53		11.13	Si
SLV 8	ini.	-4313.56	-9760	-0.0001776	0.0002807	0.0035	2		40871.26	40871.26		9.48	Si
SLV 8	fin.	4652.43	-16072	-0.0001926	0.0002807	0.0035	2		40837.53	40837.53		8.78	Si
SLV 7	ini.	-4637.59	-9897	-0.0001918	0.0002807	0.0035	2		40871.26	40871.26		8.81	Si
SLV 7	fin.	4806.88	-16727	-0.0001994	0.0002807	0.0035	2		40837.53	40837.53		8.5	Si
SLD 12	ini.	-2834.07	-8291	-0.0001146	0.0002807	0.0035	2		40871.26	40871.26		14.42	Si
SLD 12	fin.	3477.49	-12132	-0.0001418	0.0002807	0.0035	2		40837.53	40837.53		11.74	Si
SLD 7	ini.	-3237.51	-7503	-0.0001316	0.0002807	0.0035	2		40871.26	40871.26		12.62	Si
SLD 7	fin.	3762.69	-12373	-0.000154	0.0002807	0.0035	2		40837.53	40837.53		10.85	Si
SLV 4	ini.	-2455.79	-3745	-0.0000989	0.0002807	0.0035	2		40871.26	40871.26		16.64	Si
SLV 4	fin.	3340.27	-8428	-0.000136	0.0002807	0.0035	2		40837.53	40837.53		12.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-3040.87	7843	2	0	6643	15859	20213	12750	22503		2.87	Si
SLD 8	fin.	3668.95	15734	2	0	6643	15859	20213	12750	22503		1.43	Si
SLV 3	ini.	-2937.15	9869	2	0	6643	15859	20213	12750	22503		2.28	Si
SLV 3	fin.	3569.72	14023	2	0	6643	15859	20213	12750	22503		1.6	Si
SLV 8	ini.	-4313.56	10798	2	0	6643	15859	20213	12750	22503		2.08	Si
SLV 8	fin.	4652.43	20976	2	0	6643	15859	20213	12750	22503		1.07	Si
SLV 4	ini.	-2455.79	8518	2	0	6643	15859	20213	12750	22503		2.64	Si
SLV 4	fin.	3340.27	12416	2	0	6643	15859	20213	12750	22503		1.81	Si
SLV 12	ini.	-3986.7	8589	2	0	6643	15859	20213	12750	22503		2.62	Si
SLV 12	fin.	4354.28	20342	2	0	6643	15859	20213	12750	22503		1.11	Si
SLV 11	ini.	-4310.73	9498	2	0	6643	15859	20213	12750	22503		2.37	Si
SLV 11	fin.	4508.74	21424	2	0	6643	15859	20213	12750	22503		1.05	Si
SLD 11	ini.	-3030.7	6980	2	0	6643	15859	20213	12750	22503		3.22	Si
SLD 11	fin.	3571.23	15967	2	0	6643	15859	20213	12750	22503		1.41	Si
SLD 7	ini.	-3237.51	8395	2	0	6643	15859	20213	12750	22503		2.68	Si
SLD 7	fin.	3762.69	16390	2	0	6643	15859	20213	12750	22503		1.37	Si
SLV 7	ini.	-4637.59	11708	2	0	6643	15859	20213	12750	22503		1.92	Si
SLV 7	fin.	4806.88	22057	2	0	6643	15859	20213	12750	22503		1.02	Si
SLD 12	ini.	-2834.07	6427	2	0	6643	15859	20213	12750	22503		3.5	Si
SLD 12	fin.	3477.49	15311	2	0	6643	15859	20213	12750	22503		1.47	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.496	SLV 7	Si
V_SLV	1.02	SLV 7	Si
PF_SLU	11.929	SLU 83	Si
V_SLU	1.8	SLU 83	Si

Trave di accoppiamento 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.828	5.951	0.67	1.57	0.9	-22.828	5.951	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	199.3	-1348	-0.0000392	0.0001872	0.0035	0.9		8130.8	8130.8	No	40.8	Si
SLU 81	fin.	784.73	-3207	-0.0001619	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.36	Si
SLU 83	ini.	206.96	-1393	-0.0000407	0.0001872	0.0035	0.9		8130.8	8130.8	No	39.29	Si
SLU 83	fin.	792.93	-3254	-0.0001637	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.25	Si
SLU 75	ini.	200.53	-1348	-0.0000395	0.0001872	0.0035	0.9		8130.8	8130.8	No	40.55	Si
SLU 75	fin.	767.29	-3147	-0.000158	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.6	Si
SLU 77	ini.	202.42	-1375	-0.0000398	0.0001872	0.0035	0.9		8130.8	8130.8	No	40.17	Si
SLU 77	fin.	796.29	-3246	-0.0001645	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.21	Si
SLU 79	ini.	199.74	-1357	-0.0000393	0.0001872	0.0035	0.9		8130.8	8130.8	No	40.71	Si
SLU 79	fin.	790.84	-3221	-0.0001633	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.28	Si
SLU 78	ini.	208.19	-1394	-0.000041	0.0001872	0.0035	0.9		8130.8	8130.8	No	39.05	Si
SLU 78	fin.	775.49	-3195	-0.0001599	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.48	Si
SLU 69	ini.	167.71	-1185	-0.0000329	0.0001872	0.0035	0.9		8130.8	8130.8	No	48.48	Si
SLU 69	fin.	772.29	-3057	-0.0001592	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.53	Si
SLU 80	ini.	205.51	-1376	-0.0000405	0.0001872	0.0035	0.9		8130.8	8130.8	No	39.56	Si
SLU 80	fin.	770.04	-3170	-0.0001587	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.56	Si
SLU 74	ini.	194.76	-1329	-0.0000383	0.0001872	0.0035	0.9		8130.8	8130.8	No	41.75	Si
SLU 74	fin.	788.09	-3198	-0.0001626	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.32	Si
SLU 84	ini.	212.73	-1412	-0.0000419	0.0001872	0.0035	0.9		8130.8	8130.8	No	38.22	Si
SLU 84	fin.	772.13	-3203	-0.0001591	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	167.71	-64	0.9	2564	1750	14273	3773	5738	9510	No	148.87	Si
SLU 69	fin.	772.29	1496	0.9	9359	1750	14273	3773	5738	9510	No	6.36	Si
SLU 81	ini.	199.3	-207	0.9	3011	1750	14273	3773	5738	9510	No	45.93	Si
SLU 81	fin.	784.73	1460	0.9	9462	1750	14273	3773	5738	9510	No	6.51	Si
SLU 71	ini.	165.02	-54	0.9	2526	1750	14273	3773	5738	9510	No	177.51	Si
SLU 71	fin.	766.84	1486	0.9	9313	1750	14273	3773	5738	9510	No	6.4	Si
SLU 74	ini.	194.76	-184	0.9	2948	1750	14273	3773	5738	9510	No	51.57	Si
SLU 74	fin.	788.09	1482	0.9	9490	1750	14273	3773	5738	9510	No	6.42	Si
SLU 79	ini.	199.74	-207	0.9	3017	1750	14273	3773	5738	9510	No	45.97	Si
SLU 79	fin.	790.84	1482	0.9	9513	1750	14273	3773	5738	9510	No	6.42	Si
SLU 66	ini.	160.05	-31	0.9	2454	1750	14273	3773	5738	9510	No	305.81	Si
SLU 66	fin.	764.09	1486	0.9	9289	1750	14273	3773	5738	9510	No	6.4	Si
SLU 48	ini.	123.03	115	0.9	1913	1750	14273	3773	5738	9510	No	82.41	Si
SLU 48	fin.	718.48	1439	0.9	8895	1750	14273	3773	5738	9510	No	6.61	Si
SLU 83	ini.	206.96	-240	0.9	3118	1750	14273	3773	5738	9510	No	39.66	Si
SLU 83	fin.	792.93	1470	0.9	9530	1750	14273	3773	5738	9510	No	6.47	Si
SLU 64	ini.	149.71	12	0.9	2304	1750	14273	3773	5738	9510	No	792.96	Si
SLU 64	fin.	750.44	1466	0.9	9173	1750	14273	3773	5738	9510	No	6.49	Si
SLU 77	ini.	202.42	-217	0.9	3055	1750	14273	3773	5738	9510	No	43.78	Si
SLU 77	fin.	796.29	1492	0.9	9557	1750	14273	3773	5738	9510	No	6.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	25.45	-676	-0.0000049	0.0002807	0.0035	0.9		8287.07	8287.07		325.59	Si
SLD 8	fin.	1346.33	-4448	-0.0002834	0.0002807	0.0035	0.9		8287.07	8287.07		6.16	Si
SLV 12	ini.	-404.93	1174	-0.0000801	0.0002807	0.0035	0.9		8302.25	8302.25		20.5	Si
SLV 12	fin.	2392.81	-6572	-0.000548	0.0002807	0.0035	0.9		8287.07	8287.07		3.46	Si
SLV 7	ini.	80.49	-1086	-0.0000157	0.0002807	0.0035	0.9		8287.07	8287.07		102.96	Si
SLV 7	fin.	1671.79	-5627	-0.0003609	0.0002807	0.0035	0.9		8287.07	8287.07		4.96	Si
SLD 12	ini.	-201.15	396	-0.0000394	0.0002807	0.0035	0.9		8302.25	8302.25		41.27	Si
SLD 12	fin.	1652.4	-4790	-0.0003562	0.0002807	0.0035	0.9		8287.07	8287.07		5.02	Si
SLD 16	ini.	-372.97	1388	-0.0000737	0.0002807	0.0035	0.9		8302.25	8302.25		22.26	Si
SLD 16	fin.	1451.74	-3681	-0.0003081	0.0002807	0.0035	0.9		8287.07	8287.07		5.71	Si
SLV 16	ini.	-656.39	2664	-0.0001318	0.0002807	0.0035	0.9		8302.25	8302.25		12.65	Si
SLV 16	fin.	1990.35	-4604	-0.000441	0.0002807	0.0035	0.9		8287.07	8287.07		4.16	Si
SLD 11	ini.	-121.92	43	-0.0000238	0.0002807	0.0035	0.9		8302.25	8302.25		68.1	Si
SLD 11	fin.	1506.83	-4546	-0.0003211	0.0002807	0.0035	0.9		8287.07	8287.07		5.5	Si
SLV 11	ini.	-274.37	592	-0.0000539	0.0002807	0.0035	0.9		8302.25	8302.25		30.26	Si
SLV 11	fin.	2152.92	-6170	-0.0004835	0.0002807	0.0035	0.9		8287.07	8287.07		3.85	Si
SLV 8	ini.	-50.07	-505	-0.0000097	0.0002807	0.0035	0.9		8302.25	8302.25		165.83	Si
SLV 8	fin.	1911.68	-6029	-0.0004209	0.0002807	0.0035	0.9		8287.07	8287.07		4.33	Si
SLV 15	ini.	-462.45	1800	-0.0000918	0.0002807	0.0035	0.9		8302.25	8302.25		17.95	Si
SLV 15	fin.	1633.99	-4007	-0.0003517	0.0002807	0.0035	0.9		8287.07	8287.07		5.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	635.44	-4708	0.9	13391	2577	14273	5660	5738	11397		2.42	Si
SLV 5	fin.	-1248.22	-3995	0.9	16250	2577	14273	5660	5738	11397		2.85	Si
SLV 15	ini.	-462.45	3930	0.9	10208	2577	14273	5660	5738	11397		2.9	Si
SLV 15	fin.	1633.99	4554	0.9	16250	2577	14273	5660	5738	11397		2.5	Si
SLV 8	ini.	-50.07	2600	0.9	1219	2577	14273	5660	5738	11397		4.38	Si
SLV 8	fin.	1911.68	4486	0.9	16250	2577	14273	5660	5738	11397		2.54	Si
SLD 16	ini.	-372.97	3202	0.9	8412	2577	14273	5660	5738	11397		3.56	Si
SLD 16	fin.	1451.74	4016	0.9	16250	2577	14273	5660	5738	11397		2.84	Si
SLV 16	ini.	-656.39	5096	0.9	13820	2577	14273	5660	5738	11397		2.24	Si
SLV 16	fin.	1990.35	5764	0.9	16250	2577	14273	5660	5738	11397		1.98	Si
SLV 11	ini.	-274.37	3932	0.9	6335	2577	14273	5660	5738	11397		2.9	Si
SLV 11	fin.	2152.92	5408	0.9	16250	2577	14273	5660	5738	11397		2.11	Si
SLD 12	ini.	-201.15	2847	0.9	4726	2577	14273	5660	5738	11397		4	Si
SLD 12	fin.	1652.4	4161	0.9	16250	2577	14273	5660	5738	11397		2.74	Si
SLV 6	ini.	504.89	-3923	0.9	10975	2577	14273	5660	5738	11397		2.91	Si
SLV 6	fin.	-1008.33	-3180	0.9	16250	2577	14273	5660	5738	11397		3.58	Si
SLV 1	ini.	886.91	-5086	0.9	16250	2577	14273	5660	5738	11397		2.24	Si
SLV 1	fin.	-845.77	-3536	0.9	16250	2577	14273	5660	5738	11397		3.22	Si
SLV 12	ini.	-404.93	4717	0.9	9063	2577	14273	5660	5738	11397		2.42	Si
SLV 12	fin.	2392.81	6223	0.9	16250	2577	14273	5660	5738	11397		1.83	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.463	SLV 12	Si
V_SLV	1.832	SLV 12	Si
PF_SLU	10.211	SLU 77	Si
V_SLU	6.358	SLU 69	Si

Trave di accoppiamento 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.828	5.951	3.47	4.35	0.88	-22.828	5.951	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-781.04	-4347	-0.0001685	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.98	Si
SLU 77	fin.	-99.25	-1286	-0.0000202	0.0001872	0.0035	0.88		7794.51	7794.51	No	78.53	Si
SLU 79	ini.	-775.06	-4313	-0.0001672	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.06	Si
SLU 79	fin.	-97.03	-1270	-0.0000198	0.0001872	0.0035	0.88		7794.51	7794.51	No	80.33	Si
SLU 83	ini.	-781.7	-4369	-0.0001687	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.97	Si
SLU 83	fin.	-103.85	-1312	-0.0000212	0.0001872	0.0035	0.88		7794.51	7794.51	No	75.06	Si
SLU 78	ini.	-766.06	-4280	-0.0001651	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.17	Si
SLU 78	fin.	-107.04	-1306	-0.0000218	0.0001872	0.0035	0.88		7794.51	7794.51	No	72.82	Si
SLU 82	ini.	-756.43	-4239	-0.0001628	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.3	Si
SLU 82	fin.	-104.6	-1291	-0.0000213	0.0001872	0.0035	0.88		7794.51	7794.51	No	74.52	Si
SLU 81	ini.	-771.4	-4306	-0.0001663	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.1	Si
SLU 81	fin.	-96.82	-1270	-0.0000197	0.0001872	0.0035	0.88		7794.51	7794.51	No	80.51	Si
SLU 84	ini.	-766.73	-4302	-0.0001652	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.17	Si
SLU 84	fin.	-111.63	-1332	-0.0000228	0.0001872	0.0035	0.88		7794.51	7794.51	No	69.83	Si
SLU 74	ini.	-770.74	-4285	-0.0001662	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.11	Si
SLU 74	fin.	-92.23	-1244	-0.0000188	0.0001872	0.0035	0.88		7794.51	7794.51	No	84.52	Si
SLU 80	ini.	-760.09	-4246	-0.0001637	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.25	Si
SLU 80	fin.	-104.81	-1290	-0.0000214	0.0001872	0.0035	0.88		7794.51	7794.51	No	74.37	Si
SLU 75	ini.	-755.76	-4217	-0.0001627	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.31	Si
SLU 75	fin.	-100.01	-1265	-0.0000204	0.0001872	0.0035	0.88		7794.51	7794.51	No	77.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-775.06	6407	0.88	9681	1711	13956	3689	5610	9299	No	1.45	Si
SLU 79	fin.	-97.03	-1710	0.88	1601	1711	13956	3689	5610	9299	No	5.44	Si
SLU 75	ini.	-755.76	6282	0.88	9517	1711	13956	3689	5610	9299	No	1.48	Si
SLU 75	fin.	-100.01	-1720	0.88	1648	1711	13956	3689	5610	9299	No	5.41	Si
SLU 82	ini.	-756.43	6361	0.88	9523	1711	13956	3689	5610	9299	No	1.46	Si
SLU 82	fin.	-104.6	-1801	0.88	1721	1711	13956	3689	5610	9299	No	5.16	Si
SLU 74	ini.	-770.74	6369	0.88	9645	1711	13956	3689	5610	9299	No	1.46	Si
SLU 74	fin.	-92.23	-1679	0.88	1525	1711	13956	3689	5610	9299	No	5.54	Si
SLU 81	ini.	-771.4	6448	0.88	9650	1711	13956	3689	5610	9299	No	1.44	Si
SLU 81	fin.	-96.82	-1760	0.88	1598	1711	13956	3689	5610	9299	No	5.28	Si
SLU 83	ini.	-781.7	6534	0.88	9736	1711	13956	3689	5610	9299	No	1.42	Si
SLU 83	fin.	-103.85	-1810	0.88	1709	1711	13956	3689	5610	9299	No	5.14	Si
SLU 80	ini.	-760.09	6320	0.88	9554	1711	13956	3689	5610	9299	No	1.47	Si
SLU 80	fin.	-104.81	-1751	0.88	1724	1711	13956	3689	5610	9299	No	5.31	Si
SLU 77	ini.	-781.04	6455	0.88	9731	1711	13956	3689	5610	9299	No	1.44	Si
SLU 77	fin.	-99.25	-1729	0.88	1636	1711	13956	3689	5610	9299	No	5.38	Si
SLU 84	ini.	-766.73	6447	0.88	9611	1711	13956	3689	5610	9299	No	1.44	Si
SLU 84	fin.	-111.63	-1851	0.88	1831	1711	13956	3689	5610	9299	No	5.02	Si
SLU 78	ini.	-766.06	6368	0.88	9605	1711	13956	3689	5610	9299	No	1.46	Si
SLU 78	fin.	-107.04	-1770	0.88	1759	1711	13956	3689	5610	9299	No	5.25	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	-1253.09	-6212	-0.0002744	0.0002807	0.0035	0.88		7944.15	7944.15		6.34	Si
SLD 11	fin.	294.67	21	-0.0000607	0.0002807	0.0035	0.88		7929.3	7929.3		26.91	Si
SLV 11	ini.	-1743.94	-8456	-0.0003975	0.0002807	0.0035	0.88		7944.15	7944.15		4.56	Si
SLV 11	fin.	516.79	523	-0.0001079	0.0002807	0.0035	0.88		7929.3	7929.3		15.34	Si
SLV 12	ini.	-1901.98	-9105	-0.0004394	0.0002807	0.0035	0.88		7944.15	7944.15		4.18	Si
SLV 12	fin.	668.38	1030	-0.0001409	0.0002807	0.0035	0.88		7929.3	7929.3		11.86	Si
SLV 15	ini.	-1250.97	-5929	-0.0002739	0.0002807	0.0035	0.88		7944.15	7944.15		6.35	Si
SLV 15	fin.	608.87	1352	-0.0001278	0.0002807	0.0035	0.88		7929.3	7929.3		13.02	Si
SLD 8	ini.	-1164.82	-5900	-0.0002534	0.0002807	0.0035	0.88		7944.15	7944.15		6.82	Si
SLD 8	fin.	146.1	-526	-0.0000299	0.0002807	0.0035	0.88		7929.3	7929.3		54.27	Si
SLD 16	ini.	-1126.38	-5393	-0.0002443	0.0002807	0.0035	0.88		7944.15	7944.15		7.05	Si
SLD 16	fin.	510.8	1055	-0.0001066	0.0002807	0.0035	0.88		7929.3	7929.3		15.52	Si
SLV 16	ini.	-1485.76	-6894	-0.0003314	0.0002807	0.0035	0.88		7944.15	7944.15		5.35	Si
SLV 16	fin.	834.06	2105	-0.0001777	0.0002807	0.0035	0.88		7929.3	7929.3		9.51	Si
SLV 8	ini.	-1612.38	-7995	-0.0003634	0.0002807	0.0035	0.88		7944.15	7944.15		4.93	Si
SLV 8	fin.	291.65	-308	-0.0000601	0.0002807	0.0035	0.88		7929.3	7929.3		27.19	Si
SLV 7	ini.	-1454.34	-7346	-0.0003235	0.0002807	0.0035	0.88		7944.15	7944.15		5.46	Si
SLV 7	fin.	140.06	-815	-0.0000286	0.0002807	0.0035	0.88		7929.3	7929.3		56.61	Si
SLD 12	ini.	-1349	-6606	-0.0002976	0.0002807	0.0035	0.88		7944.15	7944.15		5.89	Si
SLD 12	fin.	386.66	329	-0.0000801	0.0002807	0.0035	0.88		7929.3	7929.3		20.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-1349	9025	0.88	16250	2507	13956	5534	5610	11144		1.23	Si
SLD 12	fin.	386.66	1228	0.88	8994	2507	13956	5534	5610	11144		9.07	Si
SLD 16	ini.	-1126.38	7680	0.88	16250	2507	13956	5534	5610	11144		1.45	Si
SLD 16	fin.	510.8	1812	0.88	11525	2507	13956	5534	5610	11144		6.15	Si
SLV 16	ini.	-1485.76	9718	0.88	16250	2507	13956	5534	5610	11144		1.15	Si
SLV 16	fin.	834.06	3457	0.88	16250	2507	13956	5534	5610	11144		3.22	Si
SLV 12	ini.	-1901.98	12214	0.88	16250	2507	13956	5534	5610	11144		0.91	No
SLV 12	fin.	668.38	2694	0.88	14499	2507	13956	5534	5610	11144		4.14	Si
SLV 11	ini.	-1743.94	11323	0.88	16250	2507	13956	5534	5610	11144		0.98	No
SLV 11	fin.	516.79	1933	0.88	11643	2507	13956	5534	5610	11144		5.77	Si
SLD 8	ini.	-1164.82	7999	0.88	16250	2507	13956	5534	5610	11144		1.39	Si
SLD 8	fin.	146.1	14	0.88	3601	2507	13956	5534	5610	11144		803.48	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-1612.38	10601	0.88	16250	2507	13956	5534	5610	11144		1.05	Si
SLV 8	fin.	291.65	792	0.88	6942	2507	13956	5534	5610	11144		14.07	Si
SLV 7	ini.	-1454.34	9710	0.88	16250	2507	13956	5534	5610	11144		1.15	Si
SLV 7	fin.	140.06	31	0.88	3457	2507	13956	5534	5610	11144		365.18	Si
SLV 15	ini.	-1250.97	8394	0.88	16250	2507	13956	5534	5610	11144		1.33	Si
SLV 15	fin.	608.87	2326	0.88	13406	2507	13956	5534	5610	11144		4.79	Si
SLD 11	ini.	-1253.09	8484	0.88	16250	2507	13956	5534	5610	11144		1.31	Si
SLD 11	fin.	294.67	766	0.88	7009	2507	13956	5534	5610	11144		14.55	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.177	SLV 12	Si
V_SLV	0.912	SLV 12	No
PF_SLU	9.971	SLU 83	Si
V_SLU	1.423	SLU 83	Si

Trave di accoppiamento 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.528	-3.169	0.67	1.57	0.9	-22.528	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	785.25	-3121	-0.000162	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.35	Si
SLU 80	fin.	310.89	-2433	-0.0000617	0.0001872	0.0035	0.9		8130.8	8130.8	No	26.15	Si
SLU 78	ini.	792.33	-3149	-0.0001636	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.26	Si
SLU 78	fin.	311.13	-2447	-0.0000617	0.0001872	0.0035	0.9		8130.8	8130.8	No	26.13	Si
SLU 79	ini.	809.54	-3148	-0.0001674	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.04	Si
SLU 79	fin.	287.93	-2398	-0.000057	0.0001872	0.0035	0.9		8130.8	8130.8	No	28.24	Si
SLU 83	ini.	847.25	-3292	-0.0001758	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.6	Si
SLU 83	fin.	270.38	-2427	-0.0000535	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.07	Si
SLU 81	ini.	842.76	-3273	-0.0001748	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.65	Si
SLU 81	fin.	261.32	-2395	-0.0000517	0.0001872	0.0035	0.9		8130.8	8130.8	No	31.11	Si
SLU 82	ini.	818.48	-3245	-0.0001694	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.93	Si
SLU 82	fin.	284.28	-2429	-0.0000563	0.0001872	0.0035	0.9		8130.8	8130.8	No	28.6	Si
SLU 84	ini.	822.97	-3265	-0.0001704	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.88	Si
SLU 84	fin.	293.34	-2462	-0.0000581	0.0001872	0.0035	0.9		8130.8	8130.8	No	27.72	Si
SLU 74	ini.	812.13	-3157	-0.000168	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.01	Si
SLU 74	fin.	279.1	-2380	-0.0000552	0.0001872	0.0035	0.9		8130.8	8130.8	No	29.13	Si
SLU 77	ini.	816.62	-3176	-0.000169	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.96	Si
SLU 77	fin.	288.17	-2412	-0.0000571	0.0001872	0.0035	0.9		8130.8	8130.8	No	28.22	Si
SLU 75	ini.	787.84	-3129	-0.0001626	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.32	Si
SLU 75	fin.	302.07	-2415	-0.0000599	0.0001872	0.0035	0.9		8130.8	8130.8	No	26.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	764.57	-2063	0.9	9294	1750	14273	3773	5738	9511	No	4.61	Si
SLU 76	fin.	317.14	-1258	0.9	4584	1750	14273	3773	5738	9511	No	7.56	Si
SLU 78	ini.	792.33	-2055	0.9	9525	1750	14273	3773	5738	9511	No	4.63	Si
SLU 78	fin.	311.13	-1357	0.9	4507	1750	14273	3773	5738	9511	No	7.01	Si
SLU 81	ini.	842.76	-2120	0.9	9928	1750	14273	3773	5738	9511	No	4.49	Si
SLU 81	fin.	261.32	-1614	0.9	3858	1750	14273	3773	5738	9511	No	5.89	Si
SLU 75	ini.	787.84	-2051	0.9	9488	1750	14273	3773	5738	9511	No	4.64	Si
SLU 75	fin.	302.07	-1367	0.9	4391	1750	14273	3773	5738	9511	No	6.96	Si
SLU 83	ini.	847.25	-2124	0.9	9962	1750	14273	3773	5738	9511	No	4.48	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	270.38	-1605	0.9	3978	1750	14273	3773	5738	9511	No	5.93	Si
SLU 84	ini.	822.97	-2177	0.9	9772	1750	14273	3773	5738	9511	No	4.37	Si
SLU 84	fin.	293.34	-1463	0.9	4278	1750	14273	3773	5738	9511	No	6.5	Si
SLU 73	ini.	760.09	-2059	0.9	9256	1750	14273	3773	5738	9511	No	4.62	Si
SLU 73	fin.	308.08	-1268	0.9	4468	1750	14273	3773	5738	9511	No	7.5	Si
SLU 77	ini.	816.62	-2002	0.9	9722	1750	14273	3773	5738	9511	No	4.75	Si
SLU 77	fin.	288.17	-1499	0.9	4211	1750	14273	3773	5738	9511	No	6.34	Si
SLU 80	ini.	785.25	-2031	0.9	9466	1750	14273	3773	5738	9511	No	4.68	Si
SLU 80	fin.	310.89	-1343	0.9	4504	1750	14273	3773	5738	9511	No	7.08	Si
SLU 82	ini.	818.48	-2173	0.9	9736	1750	14273	3773	5738	9511	No	4.38	Si
SLU 82	fin.	284.28	-1472	0.9	4160	1750	14273	3773	5738	9511	No	6.46	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	66.81	-778	-0.000013	0.0002807	0.0035	0.9		8287.07	8287.07		124.04	Si
SLV 10	fin.	1936.36	-5482	-0.0004272	0.0002807	0.0035	0.9		8287.07	8287.07		4.28	Si
SLV 3	ini.	1434.11	-5067	-0.0003039	0.0002807	0.0035	0.9		8287.07	8287.07		5.78	Si
SLV 3	fin.	-1266.02	697	-0.0002644	0.0002807	0.0035	0.9		8302.25	8302.25		6.56	Si
SLV 14	ini.	-343.16	832	-0.0000677	0.0002807	0.0035	0.9		8302.25	8302.25		24.19	Si
SLV 14	fin.	1700.22	-4055	-0.0003679	0.0002807	0.0035	0.9		8287.07	8287.07		4.87	Si
SLV 5	ini.	457.64	-2116	-0.000091	0.0002807	0.0035	0.9		8287.07	8287.07		18.11	Si
SLV 5	fin.	1476.01	-4953	-0.0003138	0.0002807	0.0035	0.9		8287.07	8287.07		5.61	Si
SLV 4	ini.	1678.96	-5900	-0.0003627	0.0002807	0.0035	0.9		8287.07	8287.07		4.94	Si
SLV 4	fin.	-1698.78	1395	-0.0003668	0.0002807	0.0035	0.9		8302.25	8302.25		4.89	Si
SLV 13	ini.	-588	1665	-0.0001176	0.0002807	0.0035	0.9		8302.25	8302.25		14.12	Si
SLV 13	fin.	2132.98	-4753	-0.0004782	0.0002807	0.0035	0.9		8287.07	8287.07		3.89	Si
SLV 2	ini.	1509.01	-5498	-0.0003216	0.0002807	0.0035	0.9		8287.07	8287.07		5.49	Si
SLV 2	fin.	-805.33	-728	-0.0001631	0.0002807	0.0035	0.9		8302.25	8302.25		10.31	Si
SLV 7	ini.	1024.15	-3457	-0.0002108	0.0002807	0.0035	0.9		8287.07	8287.07		8.09	Si
SLV 7	fin.	-1502.16	2124	-0.0003193	0.0002807	0.0035	0.9		8302.25	8302.25		5.53	Si
SLV 9	ini.	-98.01	-217	-0.0000191	0.0002807	0.0035	0.9		8302.25	8302.25		84.71	Si
SLV 9	fin.	2227.67	-5951	-0.0005033	0.0002807	0.0035	0.9		8287.07	8287.07		3.72	Si
SLV 8	ini.	1188.97	-4018	-0.0002475	0.0002807	0.0035	0.9		8287.07	8287.07		6.97	Si
SLV 8	fin.	-1793.47	2593	-0.0003902	0.0002807	0.0035	0.9		8302.25	8302.25		4.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1434.11	-5822	0.9	16250	2577	14273	5660	5738	11397		1.96	Si
SLV 3	fin.	-1266.02	-5831	0.9	16250	2577	14273	5660	5738	11397		1.95	Si
SLV 1	ini.	1264.16	-4367	0.9	16250	2577	14273	5660	5738	11397		2.61	Si
SLV 1	fin.	-372.57	-3536	0.9	8403	2577	14273	5660	5738	11397		3.22	Si
SLV 13	ini.	-588	4596	0.9	12590	2577	14273	5660	5738	11397		2.48	Si
SLV 13	fin.	2132.98	5216	0.9	16250	2577	14273	5660	5738	11397		2.19	Si
SLV 7	ini.	1024.15	-4598	0.9	16250	2577	14273	5660	5738	11397		2.48	Si
SLV 7	fin.	-1502.16	-5667	0.9	16250	2577	14273	5660	5738	11397		2.01	Si
SLV 9	ini.	-98.01	2940	0.9	2359	2577	14273	5660	5738	11397		3.88	Si
SLV 9	fin.	2227.67	4610	0.9	16250	2577	14273	5660	5738	11397		2.47	Si
SLD 8	ini.	942.76	-3821	0.9	16250	2577	14273	5660	5738	11397		2.98	Si
SLD 8	fin.	-984.86	-4357	0.9	16250	2577	14273	5660	5738	11397		2.62	Si
SLV 4	ini.	1678.96	-7142	0.9	16250	2577	14273	5660	5738	11397		1.6	Si
SLV 4	fin.	-1698.78	-7183	0.9	16250	2577	14273	5660	5738	11397		1.59	Si
SLV 2	ini.	1509.01	-5687	0.9	16250	2577	14273	5660	5738	11397		2	Si
SLV 2	fin.	-805.33	-4887	0.9	16250	2577	14273	5660	5738	11397		2.33	Si
SLD 4	ini.	1266.53	-4980	0.9	16250	2577	14273	5660	5738	11397		2.29	Si
SLD 4	fin.	-982.07	-4887	0.9	16250	2577	14273	5660	5738	11397		2.33	Si
SLV 8	ini.	1188.97	-5486	0.9	16250	2577	14273	5660	5738	11397		2.08	Si
SLV 8	fin.	-1793.47	-6576	0.9	16250	2577	14273	5660	5738	11397		1.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.72	SLV 9	Si
V_SLV	1.587	SLV 4	Si
PF_SLU	9.597	SLU 83	Si
V_SLU	4.369	SLU 84	Si

Trave di accoppiamento 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.528	-3.169	3.47	4.35	0.88	-22.528	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-415.85	-3514	-0.0000869	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.74	Si
SLU 75	fin.	-817.75	-3236	-0.0001771	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.53	Si
SLU 78	ini.	-424.9	-3566	-0.0000888	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.34	Si
SLU 78	fin.	-821.41	-3262	-0.000178	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.49	Si
SLU 74	ini.	-404.91	-3453	-0.0000845	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.25	Si
SLU 74	fin.	-842.57	-3292	-0.0001829	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.25	Si
SLU 79	ini.	-412.22	-3482	-0.0000861	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.91	Si
SLU 79	fin.	-837.91	-3287	-0.0001818	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.3	Si
SLU 77	ini.	-413.96	-3505	-0.0000865	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.83	Si
SLU 77	fin.	-846.24	-3318	-0.0001838	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.21	Si
SLU 81	ini.	-397.64	-3489	-0.0000829	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.6	Si
SLU 81	fin.	-880.4	-3409	-0.0001919	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.85	Si
SLU 83	ini.	-406.68	-3542	-0.0000849	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.17	Si
SLU 83	fin.	-884.06	-3435	-0.0001927	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.82	Si
SLU 80	ini.	-423.17	-3543	-0.0000885	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.42	Si
SLU 80	fin.	-813.08	-3231	-0.000176	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.59	Si
SLU 82	ini.	-408.58	-3550	-0.0000853	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.08	Si
SLU 82	fin.	-855.57	-3353	-0.000186	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.11	Si
SLU 84	ini.	-417.63	-3602	-0.0000873	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.66	Si
SLU 84	fin.	-859.24	-3379	-0.0001869	0.0001872	0.0035	0.88		7794.51	7794.51	No	9.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-406.68	4471	0.88	5920	1711	13956	3689	5610	9299	No	2.08	Si
SLU 83	fin.	-884.06	-3656	0.88	10538	1711	13956	3689	5610	9299	No	2.54	Si
SLU 78	ini.	-424.9	4531	0.88	6139	1711	13956	3689	5610	9299	No	2.05	Si
SLU 78	fin.	-821.41	-3414	0.88	10059	1711	13956	3689	5610	9299	No	2.72	Si
SLU 77	ini.	-413.96	4410	0.88	6008	1711	13956	3689	5610	9299	No	2.11	Si
SLU 77	fin.	-846.24	-3486	0.88	10253	1711	13956	3689	5610	9299	No	2.67	Si
SLU 73	ini.	-412.37	4450	0.88	5989	1711	13956	3689	5610	9299	No	2.09	Si
SLU 73	fin.	-789.2	-3302	0.88	9798	1711	13956	3689	5610	9299	No	2.82	Si
SLU 81	ini.	-397.64	4405	0.88	5810	1711	13956	3689	5610	9299	No	2.11	Si
SLU 81	fin.	-880.4	-3640	0.88	10511	1711	13956	3689	5610	9299	No	2.55	Si
SLU 75	ini.	-415.85	4465	0.88	6031	1711	13956	3689	5610	9299	No	2.08	Si
SLU 75	fin.	-817.75	-3398	0.88	10030	1711	13956	3689	5610	9299	No	2.74	Si
SLU 80	ini.	-423.17	4501	0.88	6119	1711	13956	3689	5610	9299	No	2.07	Si
SLU 80	fin.	-813.08	-3381	0.88	9993	1711	13956	3689	5610	9299	No	2.75	Si
SLU 82	ini.	-408.58	4526	0.88	5943	1711	13956	3689	5610	9299	No	2.05	Si
SLU 82	fin.	-855.57	-3568	0.88	10325	1711	13956	3689	5610	9299	No	2.61	Si
SLU 84	ini.	-417.63	4592	0.88	6052	1711	13956	3689	5610	9299	No	2.03	Si
SLU 84	fin.	-859.24	-3584	0.88	10353	1711	13956	3689	5610	9299	No	2.59	Si
SLU 76	ini.	-421.42	4516	0.88	6098	1711	13956	3689	5610	9299	No	2.06	Si
SLU 76	fin.	-792.86	-3318	0.88	9828	1711	13956	3689	5610	9299	No	2.8	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	459.6	445	-0.0000956	0.0002807	0.0035	0.88		7929.3	7929.3		17.25	Si
SLD 4	fin.	-1539.69	-4317	-0.0003449	0.0002807	0.0035	0.88		7944.15	7944.15		5.16	Si
SLV 13	ini.	-1498.34	-6944	-0.0003345	0.0002807	0.0035	0.88		7944.15	7944.15		5.3	Si
SLV 13	fin.	991.49	1113	-0.0002135	0.0002807	0.0035	0.88		7929.3	7929.3		8	Si
SLV 9	ini.	-1642.76	-7950	-0.0003712	0.0002807	0.0035	0.88		7944.15	7944.15		4.84	Si
SLV 9	fin.	426.54	-840	-0.0000886	0.0002807	0.0035	0.88		7929.3	7929.3		18.59	Si
SLV 10	ini.	-1455.25	-7243	-0.0003238	0.0002807	0.0035	0.88		7944.15	7944.15		5.46	Si
SLV 10	fin.	194.93	-1329	-0.0000399	0.0002807	0.0035	0.88		7929.3	7929.3		40.68	Si
SLV 3	ini.	632.57	1113	-0.000133	0.0002807	0.0035	0.88		7929.3	7929.3		12.54	Si
SLV 3	fin.	-1760.95	-4788	-0.0004019	0.0002807	0.0035	0.88		7944.15	7944.15		4.51	Si
SLV 8	ini.	1055.55	3167	-0.0002283	0.0002807	0.0035	0.88		7929.3	7929.3		7.51	Si
SLV 8	fin.	-1540.06	-3559	-0.000345	0.0002807	0.0035	0.88		7944.15	7944.15		5.16	Si
SLV 1	ini.	15.58	-1523	-0.0000032	0.0002807	0.0035	0.88		7929.3	7929.3		508.84	Si
SLV 1	fin.	-1461.19	-4636	-0.0003252	0.0002807	0.0035	0.88		7944.15	7944.15		5.44	Si
SLV 2	ini.	294.14	-474	-0.0000606	0.0002807	0.0035	0.88		7929.3	7929.3		26.96	Si
SLV 2	fin.	-1805.26	-5361	-0.0004136	0.0002807	0.0035	0.88		7944.15	7944.15		4.4	Si
SLV 4	ini.	911.12	2162	-0.0001951	0.0002807	0.0035	0.88		7929.3	7929.3		8.7	Si
SLV 4	fin.	-2105.02	-5513	-0.0004948	0.0002807	0.0035	0.88		7944.15	7944.15		3.77	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	97.66	-1100	-0.0000199	0.0002807	0.0035	0.88		7929.3	7929.3		81.2	Si
SLD 2	fin.	-1361.74	-4222	-0.0003007	0.0002807	0.0035	0.88		7944.15	7944.15		5.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1455.25	9133	0.88	16250	2507	13956	5534	5610	11144		1.22	Si
SLV 10	fin.	194.93	1166	0.88	4749	2507	13956	5534	5610	11144		9.55	Si
SLV 9	ini.	-1642.76	10129	0.88	16250	2507	13956	5534	5610	11144		1.1	Si
SLV 9	fin.	426.54	2102	0.88	9825	2507	13956	5534	5610	11144		5.3	Si
SLV 13	ini.	-1498.34	9430	0.88	16250	2507	13956	5534	5610	11144		1.18	Si
SLV 13	fin.	991.49	3950	0.88	16250	2507	13956	5534	5610	11144		2.82	Si
SLV 2	ini.	294.14	-212	0.88	6997	2507	13956	5534	5610	11144		52.52	Si
SLV 2	fin.	-1805.26	-7011	0.88	16250	2507	13956	5534	5610	11144		1.59	Si
SLD 9	ini.	-1098.9	7254	0.88	16250	2507	13956	5534	5610	11144		1.54	Si
SLD 9	fin.	45.54	387	0.88	1149	2507	13956	5534	5610	11144		28.82	Si
SLV 5	ini.	-1188.58	7680	0.88	16250	2507	13956	5534	5610	11144		1.45	Si
SLV 5	fin.	-309.26	-770	0.88	7376	2507	13956	5534	5610	11144		14.48	Si
SLV 4	ini.	911.12	-3467	0.88	16250	2507	13956	5534	5610	11144		3.21	Si
SLV 4	fin.	-2105.02	-8493	0.88	16250	2507	13956	5534	5610	11144		1.31	Si
SLV 3	ini.	632.57	-1988	0.88	13846	2507	13956	5534	5610	11144		5.61	Si
SLV 3	fin.	-1760.95	-7103	0.88	16250	2507	13956	5534	5610	11144		1.57	Si
SLD 13	ini.	-1046.81	7020	0.88	16250	2507	13956	5534	5610	11144		1.59	Si
SLD 13	fin.	426.16	1668	0.88	9817	2507	13956	5534	5610	11144		6.68	Si
SLV 14	ini.	-1219.78	7950	0.88	16250	2507	13956	5534	5610	11144		1.4	Si
SLV 14	fin.	647.42	2561	0.88	14118	2507	13956	5534	5610	11144		4.35	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.774	SLV 4	Si
V_SLV	1.1	SLV 9	Si
PF_SLU	8.817	SLU 83	Si
V_SLU	2.025	SLU 84	Si

Trave di accoppiamento 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	3.47	4.35	0.88	-19.293	-3.169	3.47	4.35	0.88	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-399.54	-2250	-0.0000834	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.51	Si
SLU 80	fin.	389.34	249	-0.0000813	0.0001872	0.0035	0.88		7779.95	7779.95	No	19.98	Si
SLU 84	ini.	-420.43	-2366	-0.0000879	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.54	Si
SLU 84	fin.	388.77	199	-0.0000812	0.0001872	0.0035	0.88		7779.95	7779.95	No	20.01	Si
SLU 81	ini.	-420.21	-2344	-0.0000878	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.55	Si
SLU 81	fin.	387.37	235	-0.0000809	0.0001872	0.0035	0.88		7779.95	7779.95	No	20.08	Si
SLU 75	ini.	-396.58	-2239	-0.0000827	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.65	Si
SLU 75	fin.	390.11	253	-0.0000815	0.0001872	0.0035	0.88		7779.95	7779.95	No	19.94	Si
SLU 83	ini.	-423.93	-2366	-0.0000886	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.39	Si
SLU 83	fin.	391.24	236	-0.0000817	0.0001872	0.0035	0.88		7779.95	7779.95	No	19.89	Si
SLU 82	ini.	-416.71	-2344	-0.0000871	0.0001872	0.0035	0.88		7794.51	7794.51	No	18.7	Si
SLU 82	fin.	384.91	199	-0.0000804	0.0001872	0.0035	0.88		7779.95	7779.95	No	20.21	Si
SLU 74	ini.	-400.08	-2239	-0.0000835	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.48	Si
SLU 74	fin.	392.57	289	-0.000082	0.0001872	0.0035	0.88		7779.95	7779.95	No	19.82	Si
SLU 78	ini.	-400.3	-2261	-0.0000835	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.47	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	fin.	393.97	253	-0.0000823	0.0001872	0.0035	0.88		7779.95	7779.95	No	19.75	Si
SLU 79	ini.	-403.03	-2251	-0.0000841	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.34	Si
SLU 79	fin.	391.8	286	-0.0000818	0.0001872	0.0035	0.88		7779.95	7779.95	No	19.86	Si
SLU 77	ini.	-403.8	-2261	-0.0000843	0.0001872	0.0035	0.88		7794.51	7794.51	No	19.3	Si
SLU 77	fin.	396.43	289	-0.0000828	0.0001872	0.0035	0.88		7779.95	7779.95	No	19.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-423.93	7304	0.88	6128	1711	7930	3689	5610	9299	No	1.27	Si
SLU 83	fin.	391.24	-221	0.88	5708	1711	7930	3689	5610	9299	No	42.16	Si
SLU 74	ini.	-400.08	7073	0.88	5840	1711	7930	3689	5610	9299	No	1.31	Si
SLU 74	fin.	392.57	-175	0.88	5724	1711	7930	3689	5610	9299	No	53.03	Si
SLU 79	ini.	-403.03	7088	0.88	5876	1711	7930	3689	5610	9299	No	1.31	Si
SLU 79	fin.	391.8	-168	0.88	5715	1711	7930	3689	5610	9299	No	55.34	Si
SLU 84	ini.	-420.43	7286	0.88	6086	1711	7930	3689	5610	9299	No	1.28	Si
SLU 84	fin.	388.77	-298	0.88	5677	1711	7930	3689	5610	9299	No	31.25	Si
SLU 82	ini.	-416.71	7218	0.88	6041	1711	7930	3689	5610	9299	No	1.29	Si
SLU 82	fin.	384.91	-292	0.88	5630	1711	7930	3689	5610	9299	No	31.84	Si
SLU 75	ini.	-396.58	7054	0.88	5797	1711	7930	3689	5610	9299	No	1.32	Si
SLU 75	fin.	390.11	-252	0.88	5694	1711	7930	3689	5610	9299	No	36.84	Si
SLU 78	ini.	-400.3	7122	0.88	5842	1711	7930	3689	5610	9299	No	1.31	Si
SLU 78	fin.	393.97	-258	0.88	5741	1711	7930	3689	5610	9299	No	36.05	Si
SLU 80	ini.	-399.54	7069	0.88	5833	1711	7930	3689	5610	9299	No	1.32	Si
SLU 80	fin.	389.34	-245	0.88	5684	1711	7930	3689	5610	9299	No	37.94	Si
SLU 81	ini.	-420.21	7236	0.88	6083	1711	7930	3689	5610	9299	No	1.29	Si
SLU 81	fin.	387.37	-215	0.88	5660	1711	7930	3689	5610	9299	No	43.25	Si
SLU 77	ini.	-403.8	7140	0.88	5885	1711	7930	3689	5610	9299	No	1.3	Si
SLU 77	fin.	396.43	-181	0.88	5772	1711	7930	3689	5610	9299	No	51.41	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-101.24	-894	-0.0000206	0.0002807	0.0035	0.88		7944.15	7944.15		78.47	Si
SLD 10	fin.	714.37	1465	-0.000151	0.0002807	0.0035	0.88		7929.3	7929.3		11.1	Si
SLD 9	ini.	-75.88	-760	-0.0000154	0.0002807	0.0035	0.88		7944.15	7944.15		104.69	Si
SLD 9	fin.	794.23	1769	-0.0001687	0.0002807	0.0035	0.88		7929.3	7929.3		9.98	Si
SLV 14	ini.	92.56	239	-0.0000189	0.0002807	0.0035	0.88		7929.3	7929.3		85.67	Si
SLV 14	fin.	1083.95	3208	-0.0002349	0.0002807	0.0035	0.88		7929.3	7929.3		7.32	Si
SLD 13	ini.	-0.13	-180	0	0.0002807	0.0035	0.88		7944.15	7944.15		60220.08	Si
SLD 13	fin.	910.42	2604	-0.0001949	0.0002807	0.0035	0.88		7929.3	7929.3		8.71	Si
SLV 10	ini.	7.77	-522	-0.0000016	0.0002807	0.0035	0.88		7929.3	7929.3		1020.88	Si
SLV 10	fin.	1000.93	2232	-0.0002156	0.0002807	0.0035	0.88		7929.3	7929.3		7.92	Si
SLV 9	ini.	49.56	-301	-0.0000101	0.0002807	0.0035	0.88		7929.3	7929.3		160.01	Si
SLV 9	fin.	1132.53	2732	-0.0002463	0.0002807	0.0035	0.88		7929.3	7929.3		7	Si
SLV 16	ini.	-25.48	-96	-0.0000052	0.0002807	0.0035	0.88		7944.15	7944.15		311.76	Si
SLV 16	fin.	744.53	2408	-0.0001577	0.0002807	0.0035	0.88		7929.3	7929.3		10.65	Si
SLD 14	ini.	-39.52	-389	-0.000008	0.0002807	0.0035	0.88		7944.15	7944.15		201.04	Si
SLD 14	fin.	786.39	2132	-0.000167	0.0002807	0.0035	0.88		7929.3	7929.3		10.08	Si
SLV 15	ini.	36.6	233	-0.0000074	0.0002807	0.0035	0.88		7929.3	7929.3		216.66	Si
SLV 15	fin.	940.03	3151	-0.0002017	0.0002807	0.0035	0.88		7929.3	7929.3		8.44	Si
SLV 13	ini.	154.63	567	-0.0000316	0.0002807	0.0035	0.88		7929.3	7929.3		51.28	Si
SLV 13	fin.	1279.45	3951	-0.0002813	0.0002807	0.0035	0.88		7929.3	7929.3		6.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	49.56	8391	0.88	1250	2567	7930	5534	5610	10496		1.25	Si
SLV 9	fin.	1132.53	814	0.88	16250	2567	7930	5534	5610	10496		12.89	Si
SLV 13	ini.	154.63	7641	0.88	3803	2567	7930	5534	5610	10496		1.37	Si
SLV 13	fin.	1279.45	2640	0.88	16250	2567	7930	5534	5610	10496		3.98	Si
SLV 6	ini.	-191.64	6980	0.88	4706	2567	7930	5534	5610	10496		1.5	Si
SLV 6	fin.	562.97	-1044	0.88	12539	2567	7930	5534	5610	10496		10.05	Si
SLV 10	ini.	7.77	7944	0.88	198	2567	7930	5534	5610	10496		1.32	Si
SLV 10	fin.	1000.93	377	0.88	16250	2567	7930	5534	5610	10496		27.87	Si
SLD 9	ini.	-75.88	6952	0.88	1917	2567	7930	5534	5610	10496		1.51	Si
SLD 9	fin.	794.23	509	0.88	16250	2567	7930	5534	5610	10496		20.61	Si
SLD 13	ini.	-0.13	6578	0.88	3	2567	7930	5534	5610	10496		1.6	Si
SLD 13	fin.	910.42	1675	0.88	16250	2567	7930	5534	5610	10496		6.27	Si
SLV 5	ini.	-149.85	7427	0.88	3718	2567	7930	5534	5610	10496		1.41	Si
SLV 5	fin.	694.57	-606	0.88	14967	2567	7930	5534	5610	10496		17.31	Si
SLD 10	ini.	-101.24	6681	0.88	2542	2567	7930	5534	5610	10496		1.57	Si
SLD 10	fin.	714.37	244	0.88	15317	2567	7930	5534	5610	10496		43.08	Si
SLV 14	ini.	92.56	6976	0.88	2310	2567	7930	5534	5610	10496		1.5	Si
SLV 14	fin.	1083.95	1990	0.88	16250	2567	7930	5534	5610	10496		5.28	Si
SLD 5	ini.	-203.91	6342	0.88	4992	2567	7930	5534	5610	10496		1.66	Si
SLD 5	fin.	514.23	-397	0.88	11592	2567	7930	5534	5610	10496		26.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.197	SLV 13	Si
V_SLV	1.251	SLV 9	Si
PF_SLU	18.386	SLU 83	Si
V_SLU	1.273	SLU 83	Si

Trave di accoppiamento 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.263	-3.169	0.67	1.57	0.9	-18.263	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-259.31	-1151	-0.0000511	0.0001872	0.0035	0.9		8145.69	8145.69	No	31.41	Si
SLU 84	fin.	-540.56	-356	-0.000109	0.0001872	0.0035	0.9		8145.69	8145.69	No	15.07	Si
SLU 82	ini.	-257.64	-1137	-0.0000508	0.0001872	0.0035	0.9		8145.69	8145.69	No	31.62	Si
SLU 82	fin.	-538.04	-348	-0.0001085	0.0001872	0.0035	0.9		8145.69	8145.69	No	15.14	Si
SLU 74	ini.	-268.91	-1066	-0.0000531	0.0001872	0.0035	0.9		8145.69	8145.69	No	30.29	Si
SLU 74	fin.	-519.39	-330	-0.0001045	0.0001872	0.0035	0.9		8145.69	8145.69	No	15.68	Si
SLU 77	ini.	-270.59	-1079	-0.0000534	0.0001872	0.0035	0.9		8145.69	8145.69	No	30.1	Si
SLU 77	fin.	-521.91	-338	-0.0001051	0.0001872	0.0035	0.9		8145.69	8145.69	No	15.61	Si
SLU 79	ini.	-264.31	-1079	-0.0000522	0.0001872	0.0035	0.9		8145.69	8145.69	No	30.82	Si
SLU 79	fin.	-522.43	-331	-0.0001052	0.0001872	0.0035	0.9		8145.69	8145.69	No	15.59	Si
SLU 62	ini.	-197.3	-1075	-0.0000387	0.0001872	0.0035	0.9		8145.69	8145.69	No	41.29	Si
SLU 62	fin.	-516.4	-273	-0.0001039	0.0001872	0.0035	0.9		8145.69	8145.69	No	15.77	Si
SLU 80	ini.	-271.78	-1086	-0.0000537	0.0001872	0.0035	0.9		8145.69	8145.69	No	29.97	Si
SLU 80	fin.	-505.3	-373	-0.0001016	0.0001872	0.0035	0.9		8145.69	8145.69	No	16.12	Si
SLU 81	ini.	-250.17	-1131	-0.0000493	0.0001872	0.0035	0.9		8145.69	8145.69	No	32.56	Si
SLU 81	fin.	-555.17	-306	-0.0001121	0.0001872	0.0035	0.9		8145.69	8145.69	No	14.67	Si
SLU 60	ini.	-195.62	-1062	-0.0000384	0.0001872	0.0035	0.9		8145.69	8145.69	No	41.64	Si
SLU 60	fin.	-513.88	-264	-0.0001034	0.0001872	0.0035	0.9		8145.69	8145.69	No	15.85	Si
SLU 83	ini.	-251.84	-1144	-0.0000496	0.0001872	0.0035	0.9		8145.69	8145.69	No	32.34	Si
SLU 83	fin.	-557.69	-315	-0.0001126	0.0001872	0.0035	0.9		8145.69	8145.69	No	14.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 60	ini.	-195.62	-1355	0.9	2979	1750	14273	3773	5738	9511	No	7.02	Si
SLU 60	fin.	-513.88	-71	0.9	6913	1750	14273	3773	5738	9511	No	134.18	Si
SLU 84	ini.	-259.31	-1452	0.9	3853	1750	14273	3773	5738	9511	No	6.55	Si
SLU 84	fin.	-540.56	81	0.9	7196	1750	14273	3773	5738	9511	No	116.92	Si
SLU 63	ini.	-204.76	-1340	0.9	3107	1750	14273	3773	5738	9511	No	7.1	Si
SLU 63	fin.	-499.27	-20	0.9	6755	1750	14273	3773	5738	9511	No	465.55	Si
SLU 74	ini.	-268.91	-1351	0.9	3980	1750	14273	3773	5738	9511	No	7.04	Si
SLU 74	fin.	-519.39	106	0.9	6972	1750	14273	3773	5738	9511	No	89.89	Si
SLU 77	ini.	-270.59	-1364	0.9	4003	1750	14273	3773	5738	9511	No	6.97	Si
SLU 77	fin.	-521.91	114	0.9	6999	1750	14273	3773	5738	9511	No	83.56	Si
SLU 79	ini.	-264.31	-1366	0.9	3919	1750	14273	3773	5738	9511	No	6.96	Si
SLU 79	fin.	-522.43	96	0.9	7005	1750	14273	3773	5738	9511	No	98.83	Si
SLU 82	ini.	-257.64	-1439	0.9	3830	1750	14273	3773	5738	9511	No	6.61	Si
SLU 82	fin.	-538.04	73	0.9	7170	1750	14273	3773	5738	9511	No	129.71	Si
SLU 81	ini.	-250.17	-1468	0.9	3730	1750	14273	3773	5738	9511	No	6.48	Si
SLU 81	fin.	-555.17	31	0.9	7348	1750	14273	3773	5738	9511	No	307.86	Si
SLU 62	ini.	-197.3	-1369	0.9	3002	1750	14273	3773	5738	9511	No	6.95	Si
SLU 62	fin.	-516.4	-63	0.9	6940	1750	14273	3773	5738	9511	No	151.3	Si
SLU 83	ini.	-251.84	-1481	0.9	3752	1750	14273	3773	5738	9511	No	6.42	Si
SLU 83	fin.	-557.69	39	0.9	7374	1750	14273	3773	5738	9511	No	244.43	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-2055.15	1198	-0.0004568	0.0002807	0.0035	0.9		8302.25	8302.25		4.04	Si
SLV 9	fin.	1162.36	-2935	-0.0002415	0.0002807	0.0035	0.9		8287.07	8287.07		7.13	Si
SLV 14	ini.	-2110.89	2220	-0.0004714	0.0002807	0.0035	0.9		8302.25	8302.25		3.93	Si
SLV 14	fin.	1181.61	-2137	-0.0002458	0.0002807	0.0035	0.9		8287.07	8287.07		7.01	Si
SLV 3	ini.	1709.02	-3632	-0.0003701	0.0002807	0.0035	0.9		8287.07	8287.07		4.85	Si
SLV 3	fin.	-1874.21	1654	-0.0004105	0.0002807	0.0035	0.9		8302.25	8302.25		4.43	Si
SLV 4	ini.	2135.93	-4296	-0.000479	0.0002807	0.0035	0.9		8287.07	8287.07		3.88	Si
SLV 4	fin.	-2203.24	2051	-0.0004957	0.0002807	0.0035	0.9		8302.25	8302.25		3.77	Si
SLV 7	ini.	1365.91	-2164	-0.000288	0.0002807	0.0035	0.9		8287.07	8287.07		6.07	Si
SLV 7	fin.	-1633.47	2186	-0.0003509	0.0002807	0.0035	0.9		8302.25	8302.25		5.08	Si
SLV 15	ini.	-1830	2420	-0.0003994	0.0002807	0.0035	0.9		8302.25	8302.25		4.54	Si
SLV 15	fin.	923.7	-1259	-0.0001889	0.0002807	0.0035	0.9		8287.07	8287.07		8.97	Si
SLD 13	ini.	-1676.23	1577	-0.0003613	0.0002807	0.0035	0.9		8302.25	8302.25		4.95	Si
SLD 13	fin.	825.62	-1672	-0.0001678	0.0002807	0.0035	0.9		8287.07	8287.07		10.04	Si
SLV 10	ini.	-1767.78	751	-0.0003838	0.0002807	0.0035	0.9		8302.25	8302.25		4.7	Si
SLV 10	fin.	940.87	-2668	-0.0001926	0.0002807	0.0035	0.9		8287.07	8287.07		8.81	Si
SLV 13	ini.	-2537.8	2883	-0.0005867	0.0002807	0.0035	0.9		8302.25	8302.25		3.27	Si
SLV 13	fin.	1510.64	-2533	-0.000322	0.0002807	0.0035	0.9		8287.07	8287.07		5.49	Si
SLV 8	ini.	1653.28	-2611	-0.0003564	0.0002807	0.0035	0.9		8287.07	8287.07		5.01	Si
SLV 8	fin.	-1854.96	2452	-0.0004056	0.0002807	0.0035	0.9		8302.25	8302.25		4.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-2055.15	3649	0.9	16250	2577	14273	5660	5738	11397		3.12	Si
SLV 9	fin.	1162.36	6048	0.9	16250	2577	14273	5660	5738	11397		1.88	Si
SLV 10	ini.	-1767.78	2858	0.9	16250	2577	14273	5660	5738	11397		3.99	Si
SLV 10	fin.	940.87	5216	0.9	16250	2577	14273	5660	5738	11397		2.19	Si
SLV 3	ini.	1709.02	-6172	0.9	16250	2577	14273	5660	5738	11397		1.85	Si
SLV 3	fin.	-1874.21	-5558	0.9	16250	2577	14273	5660	5738	11397		2.05	Si
SLV 4	ini.	2135.93	-7347	0.9	16250	2577	14273	5660	5738	11397		1.55	Si
SLV 4	fin.	-2203.24	-6794	0.9	16250	2577	14273	5660	5738	11397		1.68	Si
SLV 7	ini.	1365.91	-4579	0.9	16250	2577	14273	5660	5738	11397		2.49	Si
SLV 7	fin.	-1633.47	-5026	0.9	16250	2577	14273	5660	5738	11397		2.27	Si
SLV 13	ini.	-2537.8	5626	0.9	16250	2577	14273	5660	5738	11397		2.03	Si
SLV 13	fin.	1510.64	6984	0.9	16250	2577	14273	5660	5738	11397		1.63	Si
SLD 4	ini.	1274.36	-4966	0.9	16250	2577	14273	5660	5738	11397		2.29	Si
SLD 4	fin.	-1518.22	-4239	0.9	16250	2577	14273	5660	5738	11397		2.69	Si
SLV 14	ini.	-2110.89	4452	0.9	16250	2577	14273	5660	5738	11397		2.56	Si
SLV 14	fin.	1181.61	5748	0.9	16250	2577	14273	5660	5738	11397		1.98	Si
SLV 2	ini.	1428.13	-5801	0.9	16250	2577	14273	5660	5738	11397		1.96	Si
SLV 2	fin.	-1616.3	-4384	0.9	16250	2577	14273	5660	5738	11397		2.6	Si
SLV 8	ini.	1653.28	-5369	0.9	16250	2577	14273	5660	5738	11397		2.12	Si
SLV 8	fin.	-1854.96	-5858	0.9	16250	2577	14273	5660	5738	11397		1.95	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.271	SLV 13	Si
V_SLV	1.551	SLV 4	Si
PF_SLU	14.606	SLU 83	Si
V_SLU	6.422	SLU 83	Si

Trave di accoppiamento 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.263	-3.169	3.47	4.35	0.88	-18.263	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-322.49	-1618	-0.0000669	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.17	Si
SLU 78	fin.	60.86	-1585	-0.0000124	0.0001872	0.0035	0.88		7779.95	7779.95	No	127.82	Si
SLU 67	ini.	-319.01	-1473	-0.0000661	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.43	Si
SLU 67	fin.	102.06	-1259	-0.0000208	0.0001872	0.0035	0.88		7779.95	7779.95	No	76.23	Si
SLU 77	ini.	-315.46	-1600	-0.0000654	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.71	Si
SLU 77	fin.	60.22	-1576	-0.0000123	0.0001872	0.0035	0.88		7779.95	7779.95	No	129.19	Si
SLU 69	ini.	-318.81	-1481	-0.0000661	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.45	Si
SLU 69	fin.	102.37	-1266	-0.0000209	0.0001872	0.0035	0.88		7779.95	7779.95	No	76	Si
SLU 80	ini.	-318.42	-1603	-0.000066	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.48	Si
SLU 80	fin.	57.33	-1581	-0.0000117	0.0001872	0.0035	0.88		7779.95	7779.95	No	135.7	Si
SLU 75	ini.	-315.66	-1592	-0.0000654	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.69	Si
SLU 75	fin.	59.91	-1570	-0.0000122	0.0001872	0.0035	0.88		7779.95	7779.95	No	129.85	Si
SLU 72	ini.	-321.77	-1484	-0.0000667	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.22	Si
SLU 72	fin.	99.47	-1271	-0.0000203	0.0001872	0.0035	0.88		7779.95	7779.95	No	78.21	Si
SLU 68	ini.	-319.63	-1470	-0.0000663	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.39	Si
SLU 68	fin.	98.95	-1261	-0.0000202	0.0001872	0.0035	0.88		7779.95	7779.95	No	78.62	Si
SLU 76	ini.	-316.28	-1589	-0.0000655	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.64	Si
SLU 76	fin.	56.81	-1571	-0.0000116	0.0001872	0.0035	0.88		7779.95	7779.95	No	136.96	Si
SLU 70	ini.	-325.84	-1499	-0.0000676	0.0001872	0.0035	0.88		7794.51	7794.51	No	23.92	Si
SLU 70	fin.	103.01	-1275	-0.000021	0.0001872	0.0035	0.88		7779.95	7779.95	No	75.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-315.66	3300	0.88	4769	1711	13956	3689	5610	9299	No	2.82	Si
SLU 75	fin.	59.91	-3781	0.88	996	1711	13956	3689	5610	9299	No	2.46	Si
SLU 82	ini.	-303.33	3310	0.88	4605	1711	13956	3689	5610	9299	No	2.81	Si
SLU 82	fin.	37.36	-3991	0.88	626	1711	13956	3689	5610	9299	No	2.33	Si
SLU 76	ini.	-316.28	3284	0.88	4777	1711	13956	3689	5610	9299	No	2.83	Si
SLU 76	fin.	56.81	-3769	0.88	945	1711	13956	3689	5610	9299	No	2.47	Si
SLU 83	ini.	-303.13	3323	0.88	4603	1711	13956	3689	5610	9299	No	2.8	Si
SLU 83	fin.	37.67	-4007	0.88	631	1711	13956	3689	5610	9299	No	2.32	Si
SLU 77	ini.	-315.46	3312	0.88	4766	1711	13956	3689	5610	9299	No	2.81	Si
SLU 77	fin.	60.22	-3797	0.88	1001	1711	13956	3689	5610	9299	No	2.45	Si
SLU 81	ini.	-296.31	3283	0.88	4512	1711	13956	3689	5610	9299	No	2.83	Si
SLU 81	fin.	36.72	-3978	0.88	616	1711	13956	3689	5610	9299	No	2.34	Si
SLU 79	ini.	-311.4	3278	0.88	4712	1711	13956	3689	5610	9299	No	2.84	Si
SLU 79	fin.	56.69	-3776	0.88	943	1711	13956	3689	5610	9299	No	2.46	Si
SLU 80	ini.	-318.42	3306	0.88	4805	1711	13956	3689	5610	9299	No	2.81	Si
SLU 80	fin.	57.33	-3790	0.88	954	1711	13956	3689	5610	9299	No	2.45	Si
SLU 78	ini.	-322.49	3340	0.88	4858	1711	13956	3689	5610	9299	No	2.78	Si
SLU 78	fin.	60.86	-3810	0.88	1011	1711	13956	3689	5610	9299	No	2.44	Si
SLU 84	ini.	-310.16	3350	0.88	4696	1711	13956	3689	5610	9299	No	2.78	Si
SLU 84	fin.	38.32	-4020	0.88	642	1711	13956	3689	5610	9299	No	2.31	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-884.37	-1746	-0.0001886	0.0002807	0.0035	0.88		7944.15	7944.15		8.98	Si
SLV 14	fin.	1269.21	2286	-0.0002788	0.0002807	0.0035	0.88		7929.3	7929.3		6.25	Si
SLD 13	ini.	-733.07	-1589	-0.0001548	0.0002807	0.0035	0.88		7944.15	7944.15		10.84	Si
SLD 13	fin.	997.98	1553	-0.000215	0.0002807	0.0035	0.88		7929.3	7929.3		7.95	Si
SLV 15	ini.	-509.16	-769	-0.0001061	0.0002807	0.0035	0.88		7944.15	7944.15		15.6	Si
SLV 15	fin.	1072.31	2161	-0.0002322	0.0002807	0.0035	0.88		7929.3	7929.3		7.39	Si
SLV 3	ini.	431.77	-429	-0.0000897	0.0002807	0.0035	0.88		7929.3	7929.3		18.36	Si
SLV 3	fin.	-1149.16	-4274	-0.0002497	0.0002807	0.0035	0.88		7944.15	7944.15		6.91	Si
SLV 9	ini.	-1308.49	-3119	-0.0002877	0.0002807	0.0035	0.88		7944.15	7944.15		6.07	Si
SLV 9	fin.	1277.33	1662	-0.0002808	0.0002807	0.0035	0.88		7929.3	7929.3		6.21	Si
SLV 5	ini.	-1026.21	-3018	-0.000221	0.0002807	0.0035	0.88		7944.15	7944.15		7.74	Si
SLV 5	fin.	610.88	-269	-0.0001283	0.0002807	0.0035	0.88		7929.3	7929.3		12.98	Si
SLV 4	ini.	589.37	-253	-0.0001236	0.0002807	0.0035	0.88		7929.3	7929.3		13.45	Si
SLV 4	fin.	-1426.67	-5015	-0.0003167	0.0002807	0.0035	0.88		7944.15	7944.15		5.57	Si
SLV 13	ini.	-1041.97	-1922	-0.0002247	0.0002807	0.0035	0.88		7944.15	7944.15		7.62	Si
SLV 13	fin.	1546.72	3026	-0.0003474	0.0002807	0.0035	0.88		7929.3	7929.3		5.13	Si
SLV 10	ini.	-1202.41	-3001	-0.0002623	0.0002807	0.0035	0.88		7944.15	7944.15		6.61	Si
SLV 10	fin.	1090.52	1163	-0.0002364	0.0002807	0.0035	0.88		7929.3	7929.3		7.27	Si
SLV 8	ini.	855.89	945	-0.0001826	0.0002807	0.0035	0.88		7929.3	7929.3		9.26	Si
SLV 8	fin.	-1157.28	-3650	-0.0002516	0.0002807	0.0035	0.88		7944.15	7944.15		6.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-1026.21	6061	0.88	16250	2507	13956	5534	5610	11144		1.84	Si
SLV 5	fin.	610.88	-1894	0.88	13444	2507	13956	5534	5610	11144		5.88	Si
SLV 2	ini.	56.56	647	0.88	1424	2507	13956	5534	5610	11144		17.23	Si
SLV 2	fin.	-952.27	-6387	0.88	16250	2507	13956	5534	5610	11144		1.74	Si
SLV 4	ini.	589.37	-1914	0.88	13040	2507	13956	5534	5610	11144		5.82	Si
SLV 4	fin.	-1426.67	-7240	0.88	16250	2507	13956	5534	5610	11144		1.54	Si
SLV 6	ini.	-920.12	5529	0.88	16250	2507	13956	5534	5610	11144		2.02	Si
SLV 6	fin.	424.07	-2512	0.88	9774	2507	13956	5534	5610	11144		4.44	Si
SLV 3	ini.	431.77	-1123	0.88	9933	2507	13956	5534	5610	11144		9.92	Si
SLV 3	fin.	-1149.16	-6322	0.88	16250	2507	13956	5534	5610	11144		1.76	Si
SLD 4	ini.	280.47	-330	0.88	6694	2507	13956	5534	5610	11144		33.81	Si
SLD 4	fin.	-877.94	-5491	0.88	16250	2507	13956	5534	5610	11144		2.03	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-884.37	5692	0.88	16250	2507	13956	5534	5610	11144		1.96	Si
SLV 14	fin.	1269.21	1410	0.88	16250	2507	13956	5534	5610	11144		7.9	Si
SLV 13	ini.	-1041.97	6483	0.88	16250	2507	13956	5534	5610	11144		1.72	Si
SLV 13	fin.	1546.72	2328	0.88	16250	2507	13956	5534	5610	11144		4.79	Si
SLV 9	ini.	-1308.49	7575	0.88	16250	2507	13956	5534	5610	11144		1.47	Si
SLV 9	fin.	1277.33	445	0.88	16250	2507	13956	5534	5610	11144		25.07	Si
SLV 10	ini.	-1202.41	7043	0.88	16250	2507	13956	5534	5610	11144		1.58	Si
SLV 10	fin.	1090.52	-173	0.88	16250	2507	13956	5534	5610	11144		64.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.127	SLV 13	Si
V_SLV	1.471	SLV 9	Si
PF_SLU	23.922	SLU 70	Si
V_SLU	2.313	SLU 84	Si

Trave di accoppiamento 43

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	2.77	4.35	1.58	-18.498	0.841	2.77	4.35	1.58	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	2975.65	1279	-0.0001025	0.0002246	0.0035	1.58		46838.49	46838.49	No	15.74	Si
SLU 74	fin.	190.37	-203	-0.0000062	0.0002246	0.0035	1.58		46838.49	46838.49	No	246.04	Si
SLU 77	ini.	3000.34	1274	-0.0001034	0.0002246	0.0035	1.58		46838.49	46838.49	No	15.61	Si
SLU 77	fin.	197.24	-216	-0.0000064	0.0002246	0.0035	1.58		46838.49	46838.49	No	237.47	Si
SLU 83	ini.	3017.57	1245	-0.000104	0.0002246	0.0035	1.58		46838.49	46838.49	No	15.52	Si
SLU 83	fin.	208.94	-250	-0.0000068	0.0002246	0.0035	1.58		46838.49	46838.49	No	224.18	Si
SLU 82	ini.	2925.4	1168	-0.0001006	0.0002246	0.0035	1.58		46838.49	46838.49	No	16.01	Si
SLU 82	fin.	217.54	-276	-0.0000071	0.0002246	0.0035	1.58		46838.49	46838.49	No	215.31	Si
SLU 78	ini.	2932.86	1192	-0.0001009	0.0002246	0.0035	1.58		46838.49	46838.49	No	15.97	Si
SLU 78	fin.	212.72	-256	-0.0000069	0.0002246	0.0035	1.58		46838.49	46838.49	No	220.19	Si
SLU 81	ini.	2992.88	1249	-0.0001031	0.0002246	0.0035	1.58		46838.49	46838.49	No	15.65	Si
SLU 81	fin.	202.06	-237	-0.0000066	0.0002246	0.0035	1.58		46838.49	46838.49	No	231.8	Si
SLU 84	ini.	2950.09	1163	-0.0001016	0.0002246	0.0035	1.58		46838.49	46838.49	No	15.88	Si
SLU 84	fin.	224.42	-290	-0.0000073	0.0002246	0.0035	1.58		46838.49	46838.49	No	208.71	Si
SLU 75	ini.	2908.17	1197	-0.0001	0.0002246	0.0035	1.58		46838.49	46838.49	No	16.11	Si
SLU 75	fin.	205.85	-242	-0.0000067	0.0002246	0.0035	1.58		46838.49	46838.49	No	227.54	Si
SLU 79	ini.	2976.41	1265	-0.0001025	0.0002246	0.0035	1.58		46838.49	46838.49	No	15.74	Si
SLU 79	fin.	195.38	-214	-0.0000064	0.0002246	0.0035	1.58		46838.49	46838.49	No	239.73	Si
SLU 80	ini.	2908.93	1183	-0.0001	0.0002246	0.0035	1.58		46838.49	46838.49	No	16.1	Si
SLU 80	fin.	210.86	-254	-0.0000069	0.0002246	0.0035	1.58		46838.49	46838.49	No	222.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	2992.88	-4727	1.58	2602	1843	36250	3975	20145	24120	No	5.1	Si
SLU 81	fin.	202.06	-5179	1.58	181	1843	36250	3975	20145	24120	No	4.66	Si
SLU 74	ini.	2975.65	-4716	1.58	2587	1843	36250	3975	20145	24120	No	5.11	Si
SLU 74	fin.	190.37	-5168	1.58	171	1843	36250	3975	20145	24120	No	4.67	Si
SLU 80	ini.	2908.93	-4563	1.58	2531	1843	36250	3975	20145	24120	No	5.29	Si
SLU 80	fin.	210.86	-5015	1.58	189	1843	36250	3975	20145	24120	No	4.81	Si
SLU 84	ini.	2950.09	-4613	1.58	2566	1843	36250	3975	20145	24120	No	5.23	Si
SLU 84	fin.	224.42	-5065	1.58	201	1843	36250	3975	20145	24120	No	4.76	Si
SLU 83	ini.	3017.57	-4759	1.58	2622	1843	36250	3975	20145	24120	No	5.07	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	208.94	-5211	1.58	187	1843	36250	3975	20145	24120	No	4.63	Si
SLU 78	ini.	2932.86	-4602	1.58	2551	1843	36250	3975	20145	24120	No	5.24	Si
SLU 78	fin.	212.72	-5054	1.58	191	1843	36250	3975	20145	24120	No	4.77	Si
SLU 77	ini.	3000.34	-4747	1.58	2608	1843	36250	3975	20145	24120	No	5.08	Si
SLU 77	fin.	197.24	-5199	1.58	177	1843	36250	3975	20145	24120	No	4.64	Si
SLU 79	ini.	2976.41	-4708	1.58	2588	1843	36250	3975	20145	24120	No	5.12	Si
SLU 79	fin.	195.38	-5160	1.58	175	1843	36250	3975	20145	24120	No	4.67	Si
SLU 82	ini.	2925.4	-4582	1.58	2545	1843	36250	3975	20145	24120	No	5.26	Si
SLU 82	fin.	217.54	-5034	1.58	195	1843	36250	3975	20145	24120	No	4.79	Si
SLU 75	ini.	2908.17	-4571	1.58	2531	1843	36250	3975	20145	24120	No	5.28	Si
SLU 75	fin.	205.85	-5023	1.58	185	1843	36250	3975	20145	24120	No	4.8	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	6588.96	6880	-0.0002357	0.0003369	0.0035	1.58		48310.4	48310.4		7.33	Si
SLV 11	fin.	-978.81	2711	-0.0000322	0.0003369	0.0035	1.58		48360.56	48360.56		49.41	Si
SLV 4	ini.	3881.29	3181	-0.0001329	0.0003369	0.0035	1.58		48310.4	48310.4		12.45	Si
SLV 4	fin.	-195.93	898	-0.0000064	0.0003369	0.0035	1.58		48360.56	48360.56		246.82	Si
SLD 12	ini.	4774.11	4501	-0.0001657	0.0003369	0.0035	1.58		48310.4	48310.4		10.12	Si
SLD 12	fin.	-543.39	1586	-0.0000178	0.0003369	0.0035	1.58		48360.56	48360.56		89	Si
SLV 7	ini.	6790.43	7067	-0.0002438	0.0003369	0.0035	1.58		48310.4	48310.4		7.11	Si
SLV 7	fin.	-958.16	2759	-0.0000315	0.0003369	0.0035	1.58		48360.56	48360.56		50.47	Si
SLV 3	ini.	3795.05	3060	-0.0001298	0.0003369	0.0035	1.58		48310.4	48310.4		12.73	Si
SLV 3	fin.	-172.86	831	-0.0000056	0.0003369	0.0035	1.58		48360.56	48360.56		279.76	Si
SLD 11	ini.	4738.89	4452	-0.0001644	0.0003369	0.0035	1.58		48310.4	48310.4		10.19	Si
SLD 11	fin.	-533.96	1559	-0.0000175	0.0003369	0.0035	1.58		48360.56	48360.56		90.57	Si
SLV 8	ini.	6848.48	7148	-0.0002462	0.0003369	0.0035	1.58		48310.4	48310.4		7.05	Si
SLV 8	fin.	-973.69	2804	-0.000032	0.0003369	0.0035	1.58		48360.56	48360.56		49.67	Si
SLD 7	ini.	4861.69	4559	-0.000169	0.0003369	0.0035	1.58		48310.4	48310.4		9.94	Si
SLD 7	fin.	-520.8	1587	-0.000017	0.0003369	0.0035	1.58		48360.56	48360.56		92.86	Si
SLD 8	ini.	4896.92	4609	-0.0001703	0.0003369	0.0035	1.58		48310.4	48310.4		9.87	Si
SLD 8	fin.	-530.22	1614	-0.0000173	0.0003369	0.0035	1.58		48360.56	48360.56		91.21	Si
SLV 12	ini.	6647.01	6962	-0.0002381	0.0003369	0.0035	1.58		48310.4	48310.4		7.27	Si
SLV 12	fin.	-994.34	2755	-0.0000327	0.0003369	0.0035	1.58		48360.56	48360.56		48.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	6647.01	-13007	1.58	8484	2765	36250	5962	20145	26107		2.01	Si
SLV 12	fin.	-994.34	-13516	1.58	1329	2765	36250	5962	20145	26107		1.93	Si
SLV 7	ini.	6790.43	-13362	1.58	8655	2765	36250	5962	20145	26107		1.95	Si
SLV 7	fin.	-958.16	-13528	1.58	1281	2765	36250	5962	20145	26107		1.93	Si
SLV 4	ini.	3881.29	-7241	1.58	5078	2765	36250	5962	20145	26107		3.61	Si
SLV 4	fin.	-195.93	-7011	1.58	263	2765	36250	5962	20145	26107		3.72	Si
SLD 12	ini.	4774.11	-9031	1.58	6199	2765	36250	5962	20145	26107		2.89	Si
SLD 12	fin.	-543.39	-9469	1.58	729	2765	36250	5962	20145	26107		2.76	Si
SLD 7	ini.	4861.69	-9243	1.58	6308	2765	36250	5962	20145	26107		2.82	Si
SLD 7	fin.	-520.8	-9486	1.58	699	2765	36250	5962	20145	26107		2.75	Si
SLV 3	ini.	3795.05	-7050	1.58	4969	2765	36250	5962	20145	26107		3.7	Si
SLV 3	fin.	-172.86	-6820	1.58	232	2765	36250	5962	20145	26107		3.83	Si
SLD 11	ini.	4738.89	-8953	1.58	6155	2765	36250	5962	20145	26107		2.92	Si
SLD 11	fin.	-533.96	-9391	1.58	716	2765	36250	5962	20145	26107		2.78	Si
SLV 11	ini.	6588.96	-12879	1.58	8415	2765	36250	5962	20145	26107		2.03	Si
SLV 11	fin.	-978.81	-13387	1.58	1309	2765	36250	5962	20145	26107		1.95	Si
SLV 8	ini.	6848.48	-13490	1.58	8724	2765	36250	5962	20145	26107		1.94	Si
SLV 8	fin.	-973.69	-13657	1.58	1302	2765	36250	5962	20145	26107		1.91	Si
SLD 8	ini.	4896.92	-9321	1.58	6352	2765	36250	5962	20145	26107		2.8	Si
SLD 8	fin.	-530.22	-9564	1.58	711	2765	36250	5962	20145	26107		2.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.054	SLV 8	Si
V_SLV	1.912	SLV 8	Si
PF_SLU	15.522	SLU 83	Si
V_SLU	4.629	SLU 83	Si

Trave di accoppiamento 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.343	-3.169	2.77	4.35	1.58	-16.243	-3.169	2.77	4.35	1.58	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1113.96	-4289	-0.0000718	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.56	Si
SLU 75	fin.	-597.69	-4611	-0.000038	0.0001872	0.0035	1.58		25129.23	25129.23	No	42.04	Si
SLU 72	ini.	-1109.94	-3913	-0.0000715	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.64	Si
SLU 72	fin.	-520.61	-4222	-0.0000331	0.0001872	0.0035	1.58		25129.23	25129.23	No	48.27	Si
SLU 67	ini.	-1114.18	-3914	-0.0000718	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.55	Si
SLU 67	fin.	-505.41	-4199	-0.0000321	0.0001872	0.0035	1.58		25129.23	25129.23	No	49.72	Si
SLU 76	ini.	-1106.05	-4266	-0.0000712	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.72	Si
SLU 76	fin.	-600.42	-4594	-0.0000382	0.0001872	0.0035	1.58		25129.23	25129.23	No	41.85	Si
SLU 78	ini.	-1123.73	-4329	-0.0000724	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.36	Si
SLU 78	fin.	-609.84	-4671	-0.0000388	0.0001872	0.0035	1.58		25129.23	25129.23	No	41.21	Si
SLU 77	ini.	-1114.59	-4302	-0.0000718	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.55	Si
SLU 77	fin.	-610.3	-4642	-0.0000388	0.0001872	0.0035	1.58		25129.23	25129.23	No	41.17	Si
SLU 69	ini.	-1114.81	-3926	-0.0000718	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.54	Si
SLU 69	fin.	-518.03	-4230	-0.0000329	0.0001872	0.0035	1.58		25129.23	25129.23	No	48.51	Si
SLU 68	ini.	-1106.26	-3891	-0.0000713	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.72	Si
SLU 68	fin.	-508.15	-4182	-0.0000323	0.0001872	0.0035	1.58		25129.23	25129.23	No	49.45	Si
SLU 80	ini.	-1109.72	-4288	-0.0000715	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.64	Si
SLU 80	fin.	-612.88	-4634	-0.000039	0.0001872	0.0035	1.58		25129.23	25129.23	No	41	Si
SLU 70	ini.	-1123.95	-3954	-0.0000724	0.0001872	0.0035	1.58		25129.23	25129.23	No	22.36	Si
SLU 70	fin.	-517.56	-4259	-0.0000329	0.0001872	0.0035	1.58		25129.23	25129.23	No	48.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1090.1	3542	1.58	5062	3072	14273	6624	10073	16696	No	4.71	Si
SLU 82	fin.	-628.13	-927	1.58	3091	3072	14273	6624	10073	16696	No	18.01	Si
SLU 74	ini.	-1104.83	3423	1.58	5120	3072	14273	6624	10073	16696	No	4.88	Si
SLU 74	fin.	-598.15	-800	1.58	2954	3072	14273	6624	10073	16696	No	20.86	Si
SLU 81	ini.	-1080.96	3524	1.58	5025	3072	14273	6624	10073	16696	No	4.74	Si
SLU 81	fin.	-628.6	-936	1.58	3093	3072	14273	6624	10073	16696	No	17.83	Si
SLU 80	ini.	-1109.72	3423	1.58	5140	3072	14273	6624	10073	16696	No	4.88	Si
SLU 80	fin.	-612.88	-835	1.58	3022	3072	14273	6624	10073	16696	No	20	Si
SLU 83	ini.	-1090.73	3541	1.58	5064	3072	14273	6624	10073	16696	No	4.72	Si
SLU 83	fin.	-640.75	-957	1.58	3148	3072	14273	6624	10073	16696	No	17.44	Si
SLU 75	ini.	-1113.96	3441	1.58	5157	3072	14273	6624	10073	16696	No	4.85	Si
SLU 75	fin.	-597.69	-791	1.58	2952	3072	14273	6624	10073	16696	No	21.1	Si
SLU 84	ini.	-1099.86	3559	1.58	5101	3072	14273	6624	10073	16696	No	4.69	Si
SLU 84	fin.	-640.28	-948	1.58	3146	3072	14273	6624	10073	16696	No	17.61	Si
SLU 77	ini.	-1114.59	3439	1.58	5159	3072	14273	6624	10073	16696	No	4.85	Si
SLU 77	fin.	-610.3	-821	1.58	3010	3072	14273	6624	10073	16696	No	20.33	Si
SLU 78	ini.	-1123.73	3458	1.58	5196	3072	14273	6624	10073	16696	No	4.83	Si
SLU 78	fin.	-609.84	-812	1.58	3008	3072	14273	6624	10073	16696	No	20.55	Si
SLU 76	ini.	-1106.05	3419	1.58	5125	3072	14273	6624	10073	16696	No	4.88	Si
SLU 76	fin.	-600.42	-808	1.58	2965	3072	14273	6624	10073	16696	No	20.67	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	729.7	-59	-0.0000464	0.0002807	0.0035	1.58		25585.7	25585.7		35.06	Si
SLD 4	fin.	-2475.18	-3099	-0.0001625	0.0002807	0.0035	1.58		25612.32	25612.32		10.35	Si
SLV 4	ini.	1617.79	1624	-0.0001046	0.0002807	0.0035	1.58		25585.7	25585.7		15.82	Si
SLV 4	fin.	-3645.48	-2995	-0.0002454	0.0002807	0.0035	1.58		25612.32	25612.32		7.03	Si
SLD 2	ini.	348.56	-1154	-0.000022	0.0002807	0.0035	1.58		25585.7	25585.7		73.4	Si
SLD 2	fin.	-2342.3	-4144	-0.0001534	0.0002807	0.0035	1.58		25612.32	25612.32		10.93	Si
SLV 13	ini.	-3216.04	-7444	-0.0002144	0.0002807	0.0035	1.58		25612.32	25612.32		7.96	Si
SLV 13	fin.	2820.02	-3302	-0.0001867	0.0002807	0.0035	1.58		25585.7	25585.7		9.07	Si
SLV 14	ini.	-2788.34	-6660	-0.0001842	0.0002807	0.0035	1.58		25612.32	25612.32		9.19	Si
SLV 14	fin.	2233.22	-3300	-0.0001461	0.0002807	0.0035	1.58		25585.7	25585.7		11.46	Si
SLV 2	ini.	968.31	-243	-0.0000619	0.0002807	0.0035	1.58		25585.7	25585.7		26.42	Si
SLV 2	fin.	-3420.25	-4779	-0.0002291	0.0002807	0.0035	1.58		25612.32	25612.32		7.49	Si
SLV 1	ini.	540.61	-1027	-0.0000343	0.0002807	0.0035	1.58		25585.7	25585.7		47.33	Si
SLV 1	fin.	-2833.45	-4781	-0.0001874	0.0002807	0.0035	1.58		25612.32	25612.32		9.04	Si
SLV 15	ini.	-2566.57	-5577	-0.0001688	0.0002807	0.0035	1.58		25612.32	25612.32		9.98	Si
SLV 15	fin.	2594.78	-1517	-0.000171	0.0002807	0.0035	1.58		25585.7	25585.7		9.86	Si
SLV 9	ini.	-2589.04	-7248	-0.0001704	0.0002807	0.0035	1.58		25612.32	25612.32		9.89	Si
SLV 9	fin.	1008.18	-5901	-0.0000645	0.0002807	0.0035	1.58		25585.7	25585.7		25.38	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1190.08	840	-0.0000763	0.0002807	0.0035	1.58		25585.7	25585.7		21.5	Si
SLV 3	fin.	-3058.68	-2996	-0.0002032	0.0002807	0.0035	1.58		25612.32	25612.32		8.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1190.08	-4014	1.58	8617	4608	14273	9936	10073	18882		4.7	Si
SLV 3	fin.	-3058.68	-8798	1.58	16250	4608	14273	9936	10073	18882		2.15	Si
SLV 9	ini.	-2589.04	6994	1.58	16250	4608	14273	9936	10073	18882		2.7	Si
SLV 9	fin.	1008.18	4410	1.58	7400	4608	14273	9936	10073	18882		4.28	Si
SLD 13	ini.	-2327.96	7096	1.58	15507	4608	14273	9936	10073	18882		2.66	Si
SLD 13	fin.	1649.71	5969	1.58	11535	4608	14273	9936	10073	18882		3.16	Si
SLV 14	ini.	-2788.34	8557	1.58	16250	4608	14273	9936	10073	18882		2.21	Si
SLV 14	fin.	2233.22	7819	1.58	14924	4608	14273	9936	10073	18882		2.41	Si
SLV 13	ini.	-3216.04	9875	1.58	16250	4608	14273	9936	10073	18882		1.91	Si
SLV 13	fin.	2820.02	9648	1.58	16250	4608	14273	9936	10073	18882		1.96	Si
SLV 4	ini.	1617.79	-5332	1.58	11339	4608	14273	9936	10073	18882		3.54	Si
SLV 4	fin.	-3645.48	-10627	1.58	16250	4608	14273	9936	10073	18882		1.78	Si
SLV 15	ini.	-2566.57	8427	1.58	16250	4608	14273	9936	10073	18882		2.24	Si
SLV 15	fin.	2594.78	8648	1.58	16250	4608	14273	9936	10073	18882		2.18	Si
SLV 2	ini.	968.31	-3884	1.58	7129	4608	14273	9936	10073	18882		4.86	Si
SLV 2	fin.	-3420.25	-9627	1.58	16250	4608	14273	9936	10073	18882		1.96	Si
SLV 1	ini.	540.61	-2566	1.58	4108	4608	14273	9936	10073	18882		7.36	Si
SLV 1	fin.	-2833.45	-7797	1.58	16250	4608	14273	9936	10073	18882		2.42	Si
SLV 16	ini.	-2138.86	7109	1.58	14465	4608	14273	9936	10073	18882		2.66	Si
SLV 16	fin.	2007.98	6818	1.58	13657	4608	14273	9936	10073	18882		2.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.026	SLV 4	Si
V_SLV	1.777	SLV 4	Si
PF_SLU	22.358	SLU 70	Si
V_SLU	4.691	SLU 84	Si

Trave di accoppiamento 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	2.77	4.35	1.58	-15.058	2.206	2.77	4.35	1.58	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	1148.09	-3548	-0.0000381	0.0002246	0.0035	1.58		46838.49	46838.49	No	40.8	Si
SLU 80	fin.	-2003.45	-5146	-0.0000675	0.0002246	0.0035	1.58		46887.13	46887.13	No	23.4	Si
SLU 75	ini.	1135.5	-3510	-0.0000377	0.0002246	0.0035	1.58		46838.49	46838.49	No	41.25	Si
SLU 75	fin.	-1970.92	-5083	-0.0000664	0.0002246	0.0035	1.58		46887.13	46887.13	No	23.79	Si
SLU 81	ini.	1177.71	-3670	-0.0000391	0.0002246	0.0035	1.58		46838.49	46838.49	No	39.77	Si
SLU 81	fin.	-2150.03	-5359	-0.0000727	0.0002246	0.0035	1.58		46887.13	46887.13	No	21.81	Si
SLU 78	ini.	1157.85	-3577	-0.0000384	0.0002246	0.0035	1.58		46838.49	46838.49	No	40.45	Si
SLU 78	fin.	-2020.54	-5189	-0.0000681	0.0002246	0.0035	1.58		46887.13	46887.13	No	23.21	Si
SLU 82	ini.	1157.76	-3598	-0.0000384	0.0002246	0.0035	1.58		46838.49	46838.49	No	40.46	Si
SLU 82	fin.	-2040.92	-5218	-0.0000689	0.0002246	0.0035	1.58		46887.13	46887.13	No	22.97	Si
SLU 84	ini.	1180.1	-3665	-0.0000392	0.0002246	0.0035	1.58		46838.49	46838.49	No	39.69	Si
SLU 84	fin.	-2090.53	-5323	-0.0000706	0.0002246	0.0035	1.58		46887.13	46887.13	No	22.43	Si
SLU 79	ini.	1168.05	-3621	-0.0000388	0.0002246	0.0035	1.58		46838.49	46838.49	No	40.1	Si
SLU 79	fin.	-2112.56	-5287	-0.0000714	0.0002246	0.0035	1.58		46887.13	46887.13	No	22.19	Si
SLU 83	ini.	1200.06	-3738	-0.0000399	0.0002246	0.0035	1.58		46838.49	46838.49	No	39.03	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-2199.65	-5465	-0.0000745	0.0002246	0.0035	1.58		46887.13	46887.13	No	21.32	Si
SLU 74	ini.	1155.46	-3582	-0.0000384	0.0002246	0.0035	1.58		46838.49	46838.49	No	40.54	Si
SLU 74	fin.	-2080.04	-5224	-0.0000702	0.0002246	0.0035	1.58		46887.13	46887.13	No	22.54	Si
SLU 77	ini.	1177.8	-3649	-0.0000391	0.0002246	0.0035	1.58		46838.49	46838.49	No	39.77	Si
SLU 77	fin.	-2129.65	-5330	-0.000072	0.0002246	0.0035	1.58		46887.13	46887.13	No	22.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	1157.85	-5348	1.58	1028	1843	36250	3975	20145	24120	No	4.51	Si
SLU 78	fin.	-2020.54	-5793	1.58	1775	1843	36250	3975	20145	24120	No	4.16	Si
SLU 74	ini.	1155.46	-5450	1.58	1026	1843	36250	3975	20145	24120	No	4.43	Si
SLU 74	fin.	-2080.04	-5895	1.58	1826	1843	36250	3975	20145	24120	No	4.09	Si
SLU 77	ini.	1177.8	-5578	1.58	1045	1843	36250	3975	20145	24120	No	4.32	Si
SLU 77	fin.	-2129.65	-6022	1.58	1868	1843	36250	3975	20145	24120	No	4.01	Si
SLU 84	ini.	1180.1	-5510	1.58	1047	1843	36250	3975	20145	24120	No	4.38	Si
SLU 84	fin.	-2090.53	-5954	1.58	1835	1843	36250	3975	20145	24120	No	4.05	Si
SLU 83	ini.	1200.06	-5739	1.58	1065	1843	36250	3975	20145	24120	No	4.2	Si
SLU 83	fin.	-2199.65	-6184	1.58	1928	1843	36250	3975	20145	24120	No	3.9	Si
SLU 82	ini.	1157.76	-5382	1.58	1028	1843	36250	3975	20145	24120	No	4.48	Si
SLU 82	fin.	-2040.92	-5827	1.58	1792	1843	36250	3975	20145	24120	No	4.14	Si
SLU 79	ini.	1168.05	-5531	1.58	1037	1843	36250	3975	20145	24120	No	4.36	Si
SLU 79	fin.	-2112.56	-5975	1.58	1854	1843	36250	3975	20145	24120	No	4.04	Si
SLU 75	ini.	1135.5	-5221	1.58	1008	1843	36250	3975	20145	24120	No	4.62	Si
SLU 75	fin.	-1970.92	-5665	1.58	1732	1843	36250	3975	20145	24120	No	4.26	Si
SLU 81	ini.	1177.71	-5611	1.58	1045	1843	36250	3975	20145	24120	No	4.3	Si
SLU 81	fin.	-2150.03	-6056	1.58	1886	1843	36250	3975	20145	24120	No	3.98	Si
SLU 80	ini.	1148.09	-5301	1.58	1019	1843	36250	3975	20145	24120	No	4.55	Si
SLU 80	fin.	-2003.45	-5746	1.58	1760	1843	36250	3975	20145	24120	No	4.2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-306.7	2689	-0.00001	0.0003369	0.0035	1.58		48360.56	48360.56		157.68	Si
SLV 10	fin.	5962.98	6224	-0.0002111	0.0003369	0.0035	1.58		48310.4	48310.4		8.1	Si
SLD 12	ini.	1450.12	-5558	-0.000048	0.0003369	0.0035	1.58		48310.4	48310.4		33.31	Si
SLD 12	fin.	-5981.71	-9526	-0.0002115	0.0003369	0.0035	1.58		48360.56	48360.56		8.08	Si
SLV 7	ini.	1843.7	-7420	-0.0000614	0.0003369	0.0035	1.58		48310.4	48310.4		26.2	Si
SLV 7	fin.	-8608.37	-13070	-0.0003197	0.0003369	0.0035	1.58		48360.56	48360.56		5.62	Si
SLV 5	ini.	-391.03	3064	-0.0000128	0.0003369	0.0035	1.58		48360.56	48360.56		123.68	Si
SLV 5	fin.	6598.8	6958	-0.0002361	0.0003369	0.0035	1.58		48310.4	48310.4		7.32	Si
SLD 11	ini.	1441.66	-5530	-0.0000477	0.0003369	0.0035	1.58		48310.4	48310.4		33.51	Si
SLD 11	fin.	-5935.5	-9469	-0.0002097	0.0003369	0.0035	1.58		48360.56	48360.56		8.15	Si
SLV 6	ini.	-377.08	3018	-0.0000123	0.0003369	0.0035	1.58		48360.56	48360.56		128.25	Si
SLV 6	fin.	6522.66	6864	-0.0002331	0.0003369	0.0035	1.58		48310.4	48310.4		7.41	Si
SLV 8	ini.	1857.65	-7466	-0.0000618	0.0003369	0.0035	1.58		48310.4	48310.4		26.01	Si
SLV 8	fin.	-8684.5	-13163	-0.0003231	0.0003369	0.0035	1.58		48360.56	48360.56		5.57	Si
SLV 9	ini.	-320.64	2735	-0.0000105	0.0003369	0.0035	1.58		48360.56	48360.56		150.82	Si
SLV 9	fin.	6039.11	6318	-0.000214	0.0003369	0.0035	1.58		48310.4	48310.4		8	Si
SLV 12	ini.	1928.04	-7795	-0.0000642	0.0003369	0.0035	1.58		48310.4	48310.4		25.06	Si
SLV 12	fin.	-9244.19	-13803	-0.000348	0.0003369	0.0035	1.58		48360.56	48360.56		5.23	Si
SLV 11	ini.	1914.09	-7749	-0.0000638	0.0003369	0.0035	1.58		48310.4	48310.4		25.24	Si
SLV 11	fin.	-9168.05	-13710	-0.0003446	0.0003369	0.0035	1.58		48360.56	48360.56		5.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1843.7	-18556	1.58	2452	2765	36250	5962	20145	26107		1.41	Si
SLV 7	fin.	-8608.37	-18897	1.58	10757	2765	36250	5962	20145	26107		1.38	Si
SLV 6	ini.	-377.08	12725	1.58	506	2765	36250	5962	20145	26107		2.05	Si
SLV 6	fin.	6522.66	12388	1.58	8335	2765	36250	5962	20145	26107		2.11	Si
SLV 5	ini.	-391.03	12884	1.58	525	2765	36250	5962	20145	26107		2.03	Si
SLV 5	fin.	6598.8	12547	1.58	8426	2765	36250	5962	20145	26107		2.08	Si
SLD 12	ini.	1450.12	-13128	1.58	1934	2765	36250	5962	20145	26107		1.99	Si
SLD 12	fin.	-5981.71	-13464	1.58	7676	2765	36250	5962	20145	26107		1.94	Si
SLD 7	ini.	1396.38	-12289	1.58	1863	2765	36250	5962	20145	26107		2.12	Si
SLD 7	fin.	-5577.12	-12628	1.58	7183	2765	36250	5962	20145	26107		2.07	Si
SLD 11	ini.	1441.66	-13031	1.58	1923	2765	36250	5962	20145	26107		2	Si
SLD 11	fin.	-5935.5	-13368	1.58	7620	2765	36250	5962	20145	26107		1.95	Si
SLV 11	ini.	1914.09	-19715	1.58	2544	2765	36250	5962	20145	26107		1.32	Si
SLV 11	fin.	-9168.05	-20052	1.58	11384	2765	36250	5962	20145	26107		1.3	Si
SLV 12	ini.	1928.04	-19874	1.58	2562	2765	36250	5962	20145	26107		1.31	Si
SLV 12	fin.	-9244.19	-20211	1.58	11469	2765	36250	5962	20145	26107		1.29	Si
SLD 8	ini.	1404.84	-12386	1.58	1874	2765	36250	5962	20145	26107		2.11	Si
SLD 8	fin.	-5623.33	-12725	1.58	7240	2765	36250	5962	20145	26107		2.05	Si
SLV 8	ini.	1857.65	-18715	1.58	2470	2765	36250	5962	20145	26107		1.39	Si
SLV 8	fin.	-8684.5	-19056	1.58	10843	2765	36250	5962	20145	26107		1.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.231	SLV 12	Si
V_SLV	1.292	SLV 12	Si
PF_SLU	21.316	SLU 83	Si
V_SLU	3.9	SLU 83	Si

Trave di accoppiamento 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-13.753	0.051	2.77	4.35	1.58	-13.753	0.951	2.77	4.35	1.58	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 60	ini.	3889.95	-284	-0.0004501	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.89	Si
SLU 60	fin.	319.87	-284	-0.0000307	0.0001872	0.0035	1.58		15150.68	15150.68	No	47.37	Si
SLU 83	ini.	3949.24	-714	-0.0004585	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.84	Si
SLU 83	fin.	561.39	-714	-0.0000544	0.0001872	0.0035	1.58		15150.68	15150.68	No	26.99	Si
SLU 74	ini.	3835.13	-652	-0.0004425	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.95	Si
SLU 74	fin.	524.04	-652	-0.0000507	0.0001872	0.0035	1.58		15150.68	15150.68	No	28.91	Si
SLU 77	ini.	3872.39	-680	-0.0004477	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.91	Si
SLU 77	fin.	541.61	-680	-0.0000525	0.0001872	0.0035	1.58		15150.68	15150.68	No	27.97	Si
SLU 81	ini.	3911.97	-686	-0.0004532	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.87	Si
SLU 81	fin.	543.81	-686	-0.0000527	0.0001872	0.0035	1.58		15150.68	15150.68	No	27.86	Si
SLU 53	ini.	3813.1	-250	-0.0004394	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.97	Si
SLU 53	fin.	300.1	-250	-0.0000288	0.0001872	0.0035	1.58		15150.68	15150.68	No	50.49	Si
SLU 62	ini.	3927.21	-312	-0.0004554	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.86	Si
SLU 62	fin.	337.44	-312	-0.0000324	0.0001872	0.0035	1.58		15150.68	15150.68	No	44.9	Si
SLU 79	ini.	3863.84	-659	-0.0004465	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.92	Si
SLU 79	fin.	529.56	-659	-0.0000513	0.0001872	0.0035	1.58		15150.68	15150.68	No	28.61	Si
SLU 56	ini.	3850.36	-278	-0.0004446	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.93	Si
SLU 56	fin.	317.67	-278	-0.0000305	0.0001872	0.0035	1.58		15150.68	15150.68	No	47.69	Si
SLU 58	ini.	3841.81	-258	-0.0004434	0.0001872	0.0035	1.58		15150.68	15150.68	No	3.94	Si
SLU 58	fin.	305.61	-258	-0.0000293	0.0001872	0.0035	1.58		15150.68	15150.68	No	49.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	3863.84	-3183	1.58	0	3072	14273	6624	6044	12667	No	3.98	Si
SLU 79	fin.	529.56	-4140	1.58	0	3072	14273	6624	6044	12667	No	3.06	Si
SLU 50	ini.	3555.6	-3231	1.58	0	3072	14273	6624	6044	12667	No	3.92	Si
SLU 50	fin.	190.34	-4158	1.58	0	3072	14273	6624	6044	12667	No	3.05	Si
SLU 48	ini.	3564.15	-3227	1.58	0	3072	14273	6624	6044	12667	No	3.93	Si
SLU 48	fin.	202.4	-4155	1.58	0	3072	14273	6624	6044	12667	No	3.05	Si
SLU 60	ini.	3889.95	-3459	1.58	0	3072	14273	6624	6044	12667	No	3.66	Si
SLU 60	fin.	319.87	-4386	1.58	0	3072	14273	6624	6044	12667	No	2.89	Si
SLU 56	ini.	3850.36	-3417	1.58	0	3072	14273	6624	6044	12667	No	3.71	Si
SLU 56	fin.	317.67	-4345	1.58	0	3072	14273	6624	6044	12667	No	2.92	Si
SLU 53	ini.	3813.1	-3395	1.58	0	3072	14273	6624	6044	12667	No	3.73	Si
SLU 53	fin.	300.1	-4323	1.58	0	3072	14273	6624	6044	12667	No	2.93	Si
SLU 58	ini.	3841.81	-3421	1.58	0	3072	14273	6624	6044	12667	No	3.7	Si
SLU 58	fin.	305.61	-4348	1.58	0	3072	14273	6624	6044	12667	No	2.91	Si
SLU 83	ini.	3949.24	-3243	1.58	0	3072	14273	6624	6044	12667	No	3.91	Si
SLU 83	fin.	561.39	-4200	1.58	0	3072	14273	6624	6044	12667	No	3.02	Si
SLU 81	ini.	3911.97	-3221	1.58	0	3072	14273	6624	6044	12667	No	3.93	Si
SLU 81	fin.	543.81	-4178	1.58	0	3072	14273	6624	6044	12667	No	3.03	Si
SLU 62	ini.	3927.21	-3480	1.58	0	3072	14273	6624	6044	12667	No	3.64	Si
SLU 62	fin.	337.44	-4408	1.58	0	3072	14273	6624	6044	12667	No	2.87	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	15128.1	8477	-0.0032589	0.0002807	0.0035	1.58		15586.94	15586.94		1.03	Si
SLV 11	fin.	-3860.45	8433	-0.0004208	0.0002807	0.0035	1.58		15603.34	15603.34		4.04	Si
SLV 8	ini.	16371.72	9420	-0.0038448	0.0002807	0.0035	1.58		15586.94	15586.94		0.95	No
SLV 8	fin.	-4302.32	9386	-0.0004787	0.0002807	0.0035	1.58		15603.34	15603.34		3.63	Si
SLV 12	ini.	15173.43	8517	-0.0032817	0.0002807	0.0035	1.58		15586.94	15586.94		1.03	Si
SLV 12	fin.	-3880.24	8473	-0.0004234	0.0002807	0.0035	1.58		15603.34	15603.34		4.02	Si
SLV 9	ini.	-10828.47	-9986	-0.0016388	0.0002807	0.0035	1.58		15603.34	15603.34		1.44	Si
SLV 9	fin.	4853.05	-9952	-0.0005545	0.0002807	0.0035	1.58		15586.94	15586.94		3.21	Si
SLV 7	ini.	16326.4	9380	-0.0038248	0.0002807	0.0035	1.58		15586.94	15586.94		0.95	No
SLV 7	fin.	-4282.53	9345	-0.000476	0.0002807	0.0035	1.58		15603.34	15603.34		3.64	Si
SLD 8	ini.	10778.76	5432	-0.0016294	0.0002807	0.0035	1.58		15586.94	15586.94		1.45	Si
SLD 8	fin.	-2419.6	5412	-0.0002479	0.0002807	0.0035	1.58		15603.34	15603.34		6.45	Si
SLD 12	ini.	10010.74	4854	-0.001451	0.0002807	0.0035	1.58		15586.94	15586.94		1.56	Si
SLD 12	fin.	-2149.04	4827	-0.0002179	0.0002807	0.0035	1.58		15603.34	15603.34		7.26	Si
SLD 11	ini.	9983.23	4829	-0.0014449	0.0002807	0.0035	1.58		15586.94	15586.94		1.56	Si
SLD 11	fin.	-2137.03	4803	-0.0002166	0.0002807	0.0035	1.58		15603.34	15603.34		7.3	Si
SLD 7	ini.	10751.25	5408	-0.0016226	0.0002807	0.0035	1.58		15586.94	15586.94		1.45	Si
SLD 7	fin.	-2407.59	5388	-0.0002465	0.0002807	0.0035	1.58		15603.34	15603.34		6.48	Si
SLV 10	ini.	-10783.15	-9946	-0.0016277	0.0002807	0.0035	1.58		15603.34	15603.34		1.45	Si
SLV 10	fin.	4833.26	-9912	-0.0005518	0.0002807	0.0035	1.58		15586.94	15586.94		3.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-10783.15	17887	1.58	0	4608	14273	9936	6044	15979		0.89	No
SLV 10	fin.	4833.26	17081	1.58	0	4608	14273	9936	6044	15979		0.94	No
SLV 9	ini.	-10828.47	17959	1.58	0	4608	14273	9936	6044	15979		0.89	No
SLV 9	fin.	4853.05	17153	1.58	0	4608	14273	9936	6044	15979		0.93	No
SLV 12	ini.	15173.43	-20832	1.58	16250	4608	14273	9936	6044	15979		0.77	No
SLV 12	fin.	-3880.24	-21540	1.58	0	4608	14273	9936	6044	15979		0.74	No
SLV 7	ini.	16326.4	-22637	1.58	16250	4608	14273	9936	6044	15979		0.71	No
SLV 7	fin.	-4282.53	-23290	1.58	0	4608	14273	9936	6044	15979		0.69	No
SLV 8	ini.	16371.72	-22710	1.58	16250	4608	14273	9936	6044	15979		0.7	No
SLV 8	fin.	-4302.32	-23363	1.58	0	4608	14273	9936	6044	15979		0.68	No
SLD 8	ini.	10778.76	-14348	1.58	0	4608	14273	9936	6044	15979		1.11	Si
SLD 8	fin.	-2419.6	-15032	1.58	0	4608	14273	9936	6044	15979		1.06	Si
SLV 5	ini.	-9630.18	16082	1.58	0	4608	14273	9936	6044	15979		0.99	No
SLV 5	fin.	4430.97	15330	1.58	0	4608	14273	9936	6044	15979		1.04	Si
SLD 7	ini.	10751.25	-14304	1.58	0	4608	14273	9936	6044	15979		1.12	Si
SLD 7	fin.	-2407.59	-14988	1.58	0	4608	14273	9936	6044	15979		1.07	Si
SLV 6	ini.	-9584.85	16010	1.58	0	4608	14273	9936	6044	15979		1	No
SLV 6	fin.	4411.18	15258	1.58	0	4608	14273	9936	6044	15979		1.05	Si
SLV 11	ini.	15128.1	-20760	1.58	16250	4608	14273	9936	6044	15979		0.77	No
SLV 11	fin.	-3860.45	-21468	1.58	0	4608	14273	9936	6044	15979		0.74	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.952	SLV 8	No
V_SLV	0.684	SLV 8	No
PF_SLU	3.836	SLU 83	Si
V_SLU	2.874	SLU 62	Si

Trave di accoppiamento 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.793	6.661	0.67	1.57	0.9	-16.793	6.661	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	848.47	-3471	-0.0001761	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.58	Si
SLU 83	fin.	271.87	-1544	-0.0000538	0.0001872	0.0035	0.9		8130.8	8130.8	No	29.91	Si
SLU 80	ini.	822.76	-3373	-0.0001703	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.88	Si
SLU 80	fin.	266.17	-1504	-0.0000526	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.55	Si
SLU 78	ini.	828.28	-3400	-0.0001716	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.82	Si
SLU 78	fin.	269.77	-1523	-0.0000534	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.14	Si
SLU 74	ini.	832.37	-3387	-0.0001725	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.77	Si
SLU 74	fin.	260.48	-1481	-0.0000515	0.0001872	0.0035	0.9		8130.8	8130.8	No	31.21	Si
SLU 75	ini.	816.97	-3346	-0.0001691	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.95	Si
SLU 75	fin.	262.65	-1485	-0.0000519	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.96	Si
SLU 82	ini.	821.76	-3375	-0.0001701	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.89	Si
SLU 82	fin.	266.92	-1511	-0.0000528	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.46	Si
SLU 81	ini.	837.16	-3416	-0.0001736	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.71	Si
SLU 81	fin.	264.75	-1506	-0.0000523	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.71	Si
SLU 77	ini.	843.68	-3442	-0.000175	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.64	Si
SLU 77	fin.	267.59	-1518	-0.0000529	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.38	Si
SLU 79	ini.	838.16	-3415	-0.0001738	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.7	Si
SLU 79	fin.	264	-1499	-0.0000522	0.0001872	0.0035	0.9		8130.8	8130.8	No	30.8	Si
SLU 84	ini.	833.07	-3429	-0.0001726	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.76	Si
SLU 84	fin.	274.04	-1549	-0.0000542	0.0001872	0.0035	0.9		8130.8	8130.8	No	29.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	828.28	-1560	0.9	9814	1750	14273	3773	5738	9511	No	6.1	Si
SLU 78	fin.	269.77	261	0.9	3970	1750	14273	3773	5738	9511	No	36.38	Si
SLU 82	ini.	821.76	-1549	0.9	9763	1750	14273	3773	5738	9511	No	6.14	Si
SLU 82	fin.	266.92	269	0.9	3932	1750	14273	3773	5738	9511	No	35.38	Si
SLU 75	ini.	816.97	-1539	0.9	9724	1750	14273	3773	5738	9511	No	6.18	Si
SLU 75	fin.	262.65	241	0.9	3875	1750	14273	3773	5738	9511	No	39.45	Si
SLU 80	ini.	822.76	-1550	0.9	9771	1750	14273	3773	5738	9511	No	6.13	Si
SLU 80	fin.	266.17	251	0.9	3922	1750	14273	3773	5738	9511	No	37.91	Si
SLU 81	ini.	837.16	-1592	0.9	9884	1750	14273	3773	5738	9511	No	5.97	Si
SLU 81	fin.	264.75	244	0.9	3903	1750	14273	3773	5738	9511	No	38.91	Si
SLU 83	ini.	848.47	-1613	0.9	9972	1750	14273	3773	5738	9511	No	5.9	Si
SLU 83	fin.	271.87	265	0.9	3997	1750	14273	3773	5738	9511	No	35.92	Si
SLU 77	ini.	843.68	-1603	0.9	9935	1750	14273	3773	5738	9511	No	5.93	Si
SLU 77	fin.	267.59	237	0.9	3941	1750	14273	3773	5738	9511	No	40.13	Si
SLU 79	ini.	838.16	-1593	0.9	9892	1750	14273	3773	5738	9511	No	5.97	Si
SLU 79	fin.	264	226	0.9	3893	1750	14273	3773	5738	9511	No	42	Si
SLU 84	ini.	833.07	-1570	0.9	9852	1750	14273	3773	5738	9511	No	6.06	Si
SLU 84	fin.	274.04	289	0.9	4026	1750	14273	3773	5738	9511	No	32.89	Si
SLU 74	ini.	832.37	-1582	0.9	9846	1750	14273	3773	5738	9511	No	6.01	Si
SLU 74	fin.	260.48	217	0.9	3846	1750	14273	3773	5738	9511	No	43.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	2406.2	-5393	-0.0005516	0.0002807	0.0035	0.9		8287.07	8287.07		3.44	Si
SLV 15	fin.	-755.44	3096	-0.0001526	0.0002807	0.0035	0.9		8302.25	8302.25		10.99	Si
SLV 1	ini.	-1636.31	1347	-0.0003515	0.0002807	0.0035	0.9		8302.25	8302.25		5.07	Si
SLV 1	fin.	1302.6	-5959	-0.0002734	0.0002807	0.0035	0.9		8287.07	8287.07		6.36	Si
SLD 15	ini.	1731.6	-4238	-0.0003757	0.0002807	0.0035	0.9		8287.07	8287.07		4.79	Si
SLD 15	fin.	-422.3	1640	-0.0000836	0.0002807	0.0035	0.9		8302.25	8302.25		19.66	Si
SLV 11	ini.	2162.1	-6198	-0.0004859	0.0002807	0.0035	0.9		8287.07	8287.07		3.83	Si
SLV 11	fin.	-192.08	354	-0.0000376	0.0002807	0.0035	0.9		8302.25	8302.25		43.22	Si
SLV 14	ini.	2079.17	-3999	-0.0004641	0.0002807	0.0035	0.9		8287.07	8287.07		3.99	Si
SLV 14	fin.	-893.08	3895	-0.0001819	0.0002807	0.0035	0.9		8302.25	8302.25		9.3	Si
SLD 16	ini.	1986.41	-4634	-0.00044	0.0002807	0.0035	0.9		8287.07	8287.07		4.17	Si
SLD 16	fin.	-560.4	2258	-0.0001119	0.0002807	0.0035	0.9		8302.25	8302.25		14.81	Si
SLV 12	ini.	2432.47	-6619	-0.0005588	0.0002807	0.0035	0.9		8287.07	8287.07		3.41	Si
SLV 12	fin.	-338.61	1010	-0.0000668	0.0002807	0.0035	0.9		8302.25	8302.25		24.52	Si
SLD 12	ini.	1696.51	-4885	-0.000367	0.0002807	0.0035	0.9		8287.07	8287.07		4.88	Si
SLD 12	fin.	-147.33	283	-0.0000288	0.0002807	0.0035	0.9		8302.25	8302.25		56.35	Si
SLV 13	ini.	1677.54	-3374	-0.0003624	0.0002807	0.0035	0.9		8287.07	8287.07		4.94	Si
SLV 13	fin.	-675.4	2920	-0.0001358	0.0002807	0.0035	0.9		8302.25	8302.25		12.29	Si
SLV 16	ini.	2807.84	-6018	-0.0006648	0.0002807	0.0035	0.9		8287.07	8287.07		2.95	Si
SLV 16	fin.	-973.11	4071	-0.0001993	0.0002807	0.0035	0.9		8302.25	8302.25		8.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	2406.2	-7067	0.9	16250	2577	14273	5660	5738	11397		1.61	Si
SLV 15	fin.	-755.44	-5814	0.9	15521	2577	14273	5660	5738	11397		1.96	Si
SLV 11	ini.	2162.1	-5735	0.9	16250	2577	14273	5660	5738	11397		1.99	Si
SLV 11	fin.	-192.08	-3661	0.9	4522	2577	14273	5660	5738	11397		3.11	Si
SLV 13	ini.	1677.54	-5033	0.9	16250	2577	14273	5660	5738	11397		2.26	Si
SLV 13	fin.	-675.4	-4365	0.9	14154	2577	14273	5660	5738	11397		2.61	Si
SLV 1	ini.	-1636.31	6170	0.9	16250	2577	14273	5660	5738	11397		1.85	Si
SLV 1	fin.	1302.6	7242	0.9	16250	2577	14273	5660	5738	11397		1.57	Si
SLV 12	ini.	2432.47	-6629	0.9	16250	2577	14273	5660	5738	11397		1.72	Si
SLV 12	fin.	-338.61	-4565	0.9	7700	2577	14273	5660	5738	11397		2.5	Si
SLD 16	ini.	1986.41	-5712	0.9	16250	2577	14273	5660	5738	11397		2	Si
SLD 16	fin.	-560.4	-4531	0.9	12080	2577	14273	5660	5738	11397		2.52	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1234.68	4842	0.9	16250	2577	14273	5660	5738	11397		2.35	Si
SLV 2	fin.	1084.93	5899	0.9	16250	2577	14273	5660	5738	11397		1.93	Si
SLV 16	ini.	2807.84	-8394	0.9	16250	2577	14273	5660	5738	11397		1.36	Si
SLV 16	fin.	-973.11	-7157	0.9	16250	2577	14273	5660	5738	11397		1.59	Si
SLV 3	ini.	-907.64	4136	0.9	16250	2577	14273	5660	5738	11397		2.76	Si
SLV 3	fin.	1222.57	5793	0.9	16250	2577	14273	5660	5738	11397		1.97	Si
SLV 14	ini.	2079.17	-6361	0.9	16250	2577	14273	5660	5738	11397		1.79	Si
SLV 14	fin.	-893.08	-5709	0.9	16250	2577	14273	5660	5738	11397		2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.951	SLV 16	Si
V_SLV	1.358	SLV 16	Si
PF_SLU	9.583	SLU 83	Si
V_SLU	5.895	SLU 83	Si

Trave di accoppiamento 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.793	6.661	3.47	4.35	0.88	-16.793	6.661	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-308.5	-2080	-0.0000639	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.27	Si
SLU 77	fin.	-623.33	-4833	-0.0001326	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.5	Si
SLU 81	ini.	-303.5	-2053	-0.0000628	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.68	Si
SLU 81	fin.	-619.59	-4823	-0.0001317	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.58	Si
SLU 83	ini.	-313.22	-2104	-0.0000649	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.89	Si
SLU 83	fin.	-629.07	-4903	-0.0001338	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.39	Si
SLU 78	ini.	-312.19	-2081	-0.0000647	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.97	Si
SLU 78	fin.	-615.11	-4792	-0.0001307	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.67	Si
SLU 74	ini.	-298.78	-2029	-0.0000618	0.0001872	0.0035	0.88		7794.51	7794.51	No	26.09	Si
SLU 74	fin.	-613.85	-4753	-0.0001304	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.7	Si
SLU 80	ini.	-307.52	-2056	-0.0000637	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.35	Si
SLU 80	fin.	-610.21	-4750	-0.0001296	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.77	Si
SLU 79	ini.	-303.84	-2055	-0.0000629	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.65	Si
SLU 79	fin.	-618.44	-4791	-0.0001315	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.6	Si
SLU 84	ini.	-316.91	-2105	-0.0000657	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.6	Si
SLU 84	fin.	-620.85	-4862	-0.000132	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.55	Si
SLU 82	ini.	-307.18	-2054	-0.0000636	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.37	Si
SLU 82	fin.	-611.36	-4782	-0.0001299	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.75	Si
SLU 75	ini.	-302.47	-2030	-0.0000626	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.77	Si
SLU 75	fin.	-605.62	-4712	-0.0001286	0.0001872	0.0035	0.88		7794.51	7794.51	No	12.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-298.78	2530	0.88	4545	1711	13956	3689	5610	9299	No	3.68	Si
SLU 74	fin.	-613.85	-7683	0.88	8205	1711	13956	3689	5610	9299	No	1.21	Si
SLU 83	ini.	-313.22	2652	0.88	4736	1711	13956	3689	5610	9299	No	3.51	Si
SLU 83	fin.	-629.07	-7966	0.88	8355	1711	13956	3689	5610	9299	No	1.17	Si
SLU 84	ini.	-316.91	2672	0.88	4785	1711	13956	3689	5610	9299	No	3.48	Si
SLU 84	fin.	-620.85	-7917	0.88	8274	1711	13956	3689	5610	9299	No	1.17	Si
SLU 80	ini.	-307.52	2580	0.88	4661	1711	13956	3689	5610	9299	No	3.6	Si
SLU 80	fin.	-610.21	-7697	0.88	8169	1711	13956	3689	5610	9299	No	1.21	Si
SLU 77	ini.	-308.5	2589	0.88	4674	1711	13956	3689	5610	9299	No	3.59	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-623.33	-7811	0.88	8299	1711	13956	3689	5610	9299	No	1.19	Si
SLU 75	ini.	-302.47	2550	0.88	4594	1711	13956	3689	5610	9299	No	3.65	Si
SLU 75	fin.	-605.62	-7635	0.88	8123	1711	13956	3689	5610	9299	No	1.22	Si
SLU 82	ini.	-307.18	2614	0.88	4657	1711	13956	3689	5610	9299	No	3.56	Si
SLU 82	fin.	-611.36	-7789	0.88	8180	1711	13956	3689	5610	9299	No	1.19	Si
SLU 81	ini.	-303.5	2594	0.88	4608	1711	13956	3689	5610	9299	No	3.59	Si
SLU 81	fin.	-619.59	-7838	0.88	8262	1711	13956	3689	5610	9299	No	1.19	Si
SLU 78	ini.	-312.19	2609	0.88	4723	1711	13956	3689	5610	9299	No	3.56	Si
SLU 78	fin.	-615.11	-7762	0.88	8217	1711	13956	3689	5610	9299	No	1.2	Si
SLU 79	ini.	-303.84	2560	0.88	4612	1711	13956	3689	5610	9299	No	3.63	Si
SLU 79	fin.	-618.44	-7745	0.88	8250	1711	13956	3689	5610	9299	No	1.2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1741.22	-5008	-0.0003968	0.0002807	0.0035	0.88		7944.15	7944.15		4.56	Si
SLV 1	fin.	757.02	1859	-0.0001604	0.0002807	0.0035	0.88		7929.3	7929.3		10.47	Si
SLV 12	ini.	551.62	-195	-0.0001154	0.0002807	0.0035	0.88		7929.3	7929.3		14.37	Si
SLV 12	fin.	-1417.59	-7925	-0.0003144	0.0002807	0.0035	0.88		7944.15	7944.15		5.6	Si
SLV 16	ini.	1373.6	2368	-0.0003042	0.0002807	0.0035	0.88		7929.3	7929.3		5.77	Si
SLV 16	fin.	-1604.15	-8285	-0.0003613	0.0002807	0.0035	0.88		7944.15	7944.15		4.95	Si
SLV 4	ini.	-1300.62	-4352	-0.0002858	0.0002807	0.0035	0.88		7944.15	7944.15		6.11	Si
SLV 4	fin.	148.92	-1023	-0.0000304	0.0002807	0.0035	0.88		7929.3	7929.3		53.25	Si
SLV 15	ini.	1072.84	1635	-0.0002323	0.0002807	0.0035	0.88		7929.3	7929.3		7.39	Si
SLV 15	fin.	-1391.8	-7397	-0.0003081	0.0002807	0.0035	0.88		7944.15	7944.15		5.71	Si
SLV 11	ini.	349.16	-689	-0.0000722	0.0002807	0.0035	0.88		7929.3	7929.3		22.71	Si
SLV 11	fin.	-1274.64	-7327	-0.0002796	0.0002807	0.0035	0.88		7944.15	7944.15		6.23	Si
SLD 1	ini.	-1175.79	-3680	-0.000256	0.0002807	0.0035	0.88		7944.15	7944.15		6.76	Si
SLD 1	fin.	320.14	-27	-0.0000661	0.0002807	0.0035	0.88		7929.3	7929.3		24.77	Si
SLV 14	ini.	1233.77	2447	-0.0002703	0.0002807	0.0035	0.88		7929.3	7929.3		6.43	Si
SLV 14	fin.	-1208.4	-6291	-0.0002637	0.0002807	0.0035	0.88		7944.15	7944.15		6.57	Si
SLV 2	ini.	-1440.46	-4274	-0.0003201	0.0002807	0.0035	0.88		7944.15	7944.15		5.52	Si
SLV 2	fin.	544.67	971	-0.0001139	0.0002807	0.0035	0.88		7929.3	7929.3		14.56	Si
SLV 3	ini.	-1601.38	-5086	-0.0003606	0.0002807	0.0035	0.88		7944.15	7944.15		4.96	Si
SLV 3	fin.	361.27	-135	-0.0000747	0.0002807	0.0035	0.88		7929.3	7929.3		21.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1233.77	-4474	0.88	16250	2507	13956	5534	5610	11144		2.49	Si
SLV 14	fin.	-1208.4	-9153	0.88	16250	2507	13956	5534	5610	11144		1.22	Si
SLD 15	ini.	617.37	-1931	0.88	13565	2507	13956	5534	5610	11144		5.77	Si
SLD 15	fin.	-1032.55	-8433	0.88	16250	2507	13956	5534	5610	11144		1.32	Si
SLV 1	ini.	-1741.22	8520	0.88	16250	2507	13956	5534	5610	11144		1.31	Si
SLV 1	fin.	757.02	1199	0.88	16056	2507	13956	5534	5610	11144		9.29	Si
SLD 12	ini.	270.77	-582	0.88	6477	2507	13956	5534	5610	11144		19.14	Si
SLD 12	fin.	-1021.08	-8512	0.88	16250	2507	13956	5534	5610	11144		1.31	Si
SLV 15	ini.	1072.84	-3952	0.88	16250	2507	13956	5534	5610	11144		2.82	Si
SLV 15	fin.	-1391.8	-10393	0.88	16250	2507	13956	5534	5610	11144		1.07	Si
SLV 12	ini.	551.62	-1957	0.88	12321	2507	13956	5534	5610	11144		5.69	Si
SLV 12	fin.	-1417.59	-10765	0.88	16250	2507	13956	5534	5610	11144		1.04	Si
SLV 13	ini.	933.01	-3130	0.88	16250	2507	13956	5534	5610	11144		3.56	Si
SLV 13	fin.	-996.05	-8070	0.88	16250	2507	13956	5534	5610	11144		1.38	Si
SLD 16	ini.	808.18	-2783	0.88	16250	2507	13956	5534	5610	11144		4	Si
SLD 16	fin.	-1167.27	-9120	0.88	16250	2507	13956	5534	5610	11144		1.22	Si
SLV 11	ini.	349.16	-1053	0.88	8196	2507	13956	5534	5610	11144		10.58	Si
SLV 11	fin.	-1274.64	-10036	0.88	16250	2507	13956	5534	5610	11144		1.11	Si
SLV 16	ini.	1373.6	-5296	0.88	16250	2507	13956	5534	5610	11144		2.1	Si
SLV 16	fin.	-1604.15	-11476	0.88	16250	2507	13956	5534	5610	11144		0.97	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.562	SLV 1	Si
V_SLV	0.971	SLV 16	No
PF_SLU	12.39	SLU 83	Si
V_SLU	1.167	SLU 83	Si

Trave di accoppiamento 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	6.661	0.67	1.57	0.9	-11.868	6.661	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	376.95	-3302	-0.0000752	0.0001872	0.0035	0.9		8130.8	8130.8	No	21.57	Si
SLU 74	fin.	714.59	-3448	-0.0001465	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.38	Si
SLU 78	ini.	383.95	-3339	-0.0000766	0.0001872	0.0035	0.9		8130.8	8130.8	No	21.18	Si
SLU 78	fin.	720.61	-3472	-0.0001478	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.28	Si
SLU 83	ini.	395.32	-3421	-0.0000789	0.0001872	0.0035	0.9		8130.8	8130.8	No	20.57	Si
SLU 83	fin.	735.67	-3545	-0.0001511	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.05	Si
SLU 77	ini.	385	-3358	-0.0000768	0.0001872	0.0035	0.9		8130.8	8130.8	No	21.12	Si
SLU 77	fin.	725.56	-3503	-0.0001489	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.21	Si
SLU 81	ini.	387.27	-3365	-0.0000773	0.0001872	0.0035	0.9		8130.8	8130.8	No	21	Si
SLU 81	fin.	724.7	-3491	-0.0001487	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.22	Si
SLU 84	ini.	394.28	-3401	-0.0000787	0.0001872	0.0035	0.9		8130.8	8130.8	No	20.62	Si
SLU 84	fin.	730.72	-3515	-0.00015	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.13	Si
SLU 79	ini.	382.02	-3330	-0.0000762	0.0001872	0.0035	0.9		8130.8	8130.8	No	21.28	Si
SLU 79	fin.	718.61	-3468	-0.0001474	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.31	Si
SLU 80	ini.	380.97	-3310	-0.000076	0.0001872	0.0035	0.9		8130.8	8130.8	No	21.34	Si
SLU 80	fin.	713.66	-3438	-0.0001463	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.39	Si
SLU 75	ini.	375.9	-3283	-0.0000749	0.0001872	0.0035	0.9		8130.8	8130.8	No	21.63	Si
SLU 75	fin.	709.64	-3417	-0.0001454	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.46	Si
SLU 82	ini.	386.23	-3345	-0.0000771	0.0001872	0.0035	0.9		8130.8	8130.8	No	21.05	Si
SLU 82	fin.	719.75	-3460	-0.0001476	0.0001872	0.0035	0.9		8130.8	8130.8	No	11.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	380.97	121	0.9	5375	1750	14273	3773	5738	9511	No	78.56	Si
SLU 80	fin.	713.66	2437	0.9	8852	1750	14273	3773	5738	9511	No	3.9	Si
SLU 79	ini.	382.02	125	0.9	5388	1750	14273	3773	5738	9511	No	76.11	Si
SLU 79	fin.	718.61	2465	0.9	8896	1750	14273	3773	5738	9511	No	3.86	Si
SLU 81	ini.	387.27	123	0.9	5451	1750	14273	3773	5738	9511	No	77.07	Si
SLU 81	fin.	724.7	2473	0.9	8950	1750	14273	3773	5738	9511	No	3.85	Si
SLU 77	ini.	385	126	0.9	5424	1750	14273	3773	5738	9511	No	75.69	Si
SLU 77	fin.	725.56	2494	0.9	8957	1750	14273	3773	5738	9511	No	3.81	Si
SLU 75	ini.	375.9	130	0.9	5314	1750	14273	3773	5738	9511	No	72.91	Si
SLU 75	fin.	709.64	2423	0.9	8816	1750	14273	3773	5738	9511	No	3.92	Si
SLU 78	ini.	383.95	122	0.9	5411	1750	14273	3773	5738	9511	No	78.12	Si
SLU 78	fin.	720.61	2466	0.9	8914	1750	14273	3773	5738	9511	No	3.86	Si
SLU 83	ini.	395.32	115	0.9	5547	1750	14273	3773	5738	9511	No	82.92	Si
SLU 83	fin.	735.67	2516	0.9	9046	1750	14273	3773	5738	9511	No	3.78	Si
SLU 74	ini.	376.95	134	0.9	5326	1750	14273	3773	5738	9511	No	70.79	Si
SLU 74	fin.	714.59	2451	0.9	8860	1750	14273	3773	5738	9511	No	3.88	Si
SLU 82	ini.	386.23	119	0.9	5438	1750	14273	3773	5738	9511	No	79.6	Si
SLU 82	fin.	719.75	2445	0.9	8906	1750	14273	3773	5738	9511	No	3.89	Si
SLU 84	ini.	394.28	111	0.9	5535	1750	14273	3773	5738	9511	No	85.85	Si
SLU 84	fin.	730.72	2488	0.9	9002	1750	14273	3773	5738	9511	No	3.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	2303.73	-5040	-0.0005238	0.0002807	0.0035	0.9		8287.07	8287.07		3.6	Si
SLV 14	fin.	-674.83	3972	-0.0001356	0.0002807	0.0035	0.9		8302.25	8302.25		12.3	Si
SLV 2	ini.	-1534.34	1006	-0.000327	0.0002807	0.0035	0.9		8302.25	8302.25		5.41	Si
SLV 2	fin.	1254.1	-6181	-0.0002623	0.0002807	0.0035	0.9		8287.07	8287.07		6.61	Si
SLV 13	ini.	1953.13	-4496	-0.0004315	0.0002807	0.0035	0.9		8287.07	8287.07		4.24	Si
SLV 13	fin.	-498.22	3038	-0.0000991	0.0002807	0.0035	0.9		8302.25	8302.25		16.66	Si
SLV 3	ini.	-1813.9	616	-0.0003953	0.0002807	0.0035	0.9		8302.25	8302.25		4.58	Si
SLV 3	fin.	1642.74	-8646	-0.0003538	0.0002807	0.0035	0.9		8287.07	8287.07		5.04	Si
SLV 16	ini.	2374.75	-5973	-0.000543	0.0002807	0.0035	0.9		8287.07	8287.07		3.49	Si
SLV 16	fin.	-462.82	2441	-0.0000919	0.0002807	0.0035	0.9		8302.25	8302.25		17.94	Si
SLD 16	ini.	1604.62	-4593	-0.0003446	0.0002807	0.0035	0.9		8287.07	8287.07		5.16	Si
SLD 16	fin.	-127.44	756	-0.0000248	0.0002807	0.0035	0.9		8302.25	8302.25		65.15	Si
SLV 1	ini.	-1884.93	1549	-0.0004132	0.0002807	0.0035	0.9		8302.25	8302.25		4.4	Si
SLV 1	fin.	1430.72	-7115	-0.0003031	0.0002807	0.0035	0.9		8287.07	8287.07		5.79	Si
SLD 14	ini.	1563.42	-4044	-0.0003346	0.0002807	0.0035	0.9		8287.07	8287.07		5.3	Si
SLD 14	fin.	-250.65	1660	-0.0000492	0.0002807	0.0035	0.9		8302.25	8302.25		33.12	Si
SLV 4	ini.	-1463.31	73	-0.0003102	0.0002807	0.0035	0.9		8302.25	8302.25		5.67	Si
SLV 4	fin.	1466.12	-7711	-0.0003115	0.0002807	0.0035	0.9		8287.07	8287.07		5.65	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	2024.16	-5430	-0.0004498	0.0002807	0.0035	0.9		8287.07	8287.07		4.09	Si
SLV 15	fin.	-286.2	1507	-0.0000563	0.0002807	0.0035	0.9		8302.25	8302.25		29.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-330.42	2300	0.9	7528	2577	14273	5660	5738	11397		4.95	Si
SLV 7	fin.	1186.1	6396	0.9	16250	2577	14273	5660	5738	11397		1.78	Si
SLD 3	ini.	-1073.59	4618	0.9	16250	2577	14273	5660	5738	11397		2.47	Si
SLD 3	fin.	1218.55	6547	0.9	16250	2577	14273	5660	5738	11397		1.74	Si
SLV 3	ini.	-1813.9	7150	0.9	16250	2577	14273	5660	5738	11397		1.59	Si
SLV 3	fin.	1642.74	9359	0.9	16250	2577	14273	5660	5738	11397		1.22	Si
SLD 4	ini.	-851.17	3864	0.9	16250	2577	14273	5660	5738	11397		2.95	Si
SLD 4	fin.	1106.5	5788	0.9	16250	2577	14273	5660	5738	11397		1.97	Si
SLV 2	ini.	-1534.34	6068	0.9	16250	2577	14273	5660	5738	11397		1.88	Si
SLV 2	fin.	1254.1	6706	0.9	16250	2577	14273	5660	5738	11397		1.7	Si
SLV 14	ini.	2303.73	-6876	0.9	16250	2577	14273	5660	5738	11397		1.66	Si
SLV 14	fin.	-674.83	-6054	0.9	14144	2577	14273	5660	5738	11397		1.88	Si
SLV 4	ini.	-1463.31	5961	0.9	16250	2577	14273	5660	5738	11397		1.91	Si
SLV 4	fin.	1466.12	8162	0.9	16250	2577	14273	5660	5738	11397		1.4	Si
SLV 1	ini.	-1884.93	7257	0.9	16250	2577	14273	5660	5738	11397		1.57	Si
SLV 1	fin.	1430.72	7903	0.9	16250	2577	14273	5660	5738	11397		1.44	Si
SLV 15	ini.	2024.16	-5794	0.9	16250	2577	14273	5660	5738	11397		1.97	Si
SLV 15	fin.	-286.2	-3401	0.9	6590	2577	14273	5660	5738	11397		3.35	Si
SLV 16	ini.	2374.75	-6983	0.9	16250	2577	14273	5660	5738	11397		1.63	Si
SLV 16	fin.	-462.82	-4597	0.9	10215	2577	14273	5660	5738	11397		2.48	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.49	SLV 16	Si
V_SLV	1.218	SLV 3	Si
PF_SLU	11.052	SLU 83	Si
V_SLU	3.78	SLU 83	Si

Trave di accoppiamento 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	6.661	3.47	4.35	0.88	-11.868	6.661	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-895.56	-4061	-0.0001955	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.7	Si
SLU 75	fin.	-726.96	-3097	-0.0001561	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.72	Si
SLU 78	ini.	-909.95	-4130	-0.0001989	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.57	Si
SLU 78	fin.	-739.96	-3152	-0.0001591	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.53	Si
SLU 80	ini.	-900.54	-4088	-0.0001967	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.66	Si
SLU 80	fin.	-732.77	-3120	-0.0001574	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.64	Si
SLU 77	ini.	-915.71	-4152	-0.0002003	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.51	Si
SLU 77	fin.	-741.41	-3163	-0.0001594	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.51	Si
SLU 84	ini.	-923.07	-4200	-0.000202	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.44	Si
SLU 84	fin.	-760.57	-3223	-0.0001638	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.25	Si
SLU 74	ini.	-901.31	-4083	-0.0001968	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.65	Si
SLU 74	fin.	-728.41	-3108	-0.0001564	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.7	Si
SLU 83	ini.	-928.82	-4222	-0.0002034	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.39	Si
SLU 83	fin.	-762.02	-3234	-0.0001641	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.23	Si
SLU 81	ini.	-914.43	-4152	-0.0002	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.52	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-749.02	-3179	-0.0001611	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.41	Si
SLU 82	ini.	-908.67	-4131	-0.0001986	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.58	Si
SLU 82	fin.	-747.58	-3168	-0.0001608	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.43	Si
SLU 79	ini.	-906.29	-4110	-0.000198	0.0001872	0.0035	0.88		7794.51	7794.51	No	8.6	Si
SLU 79	fin.	-734.22	-3131	-0.0001577	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-900.54	4848	0.88	10658	1711	13956	3689	5610	9299	No	1.92	Si
SLU 80	fin.	-732.77	-3381	0.88	9318	1711	13956	3689	5610	9299	No	2.75	Si
SLU 77	ini.	-915.71	4919	0.88	10767	1711	13956	3689	5610	9299	No	1.89	Si
SLU 77	fin.	-741.41	-3415	0.88	9394	1711	13956	3689	5610	9299	No	2.72	Si
SLU 78	ini.	-909.95	4896	0.88	10726	1711	13956	3689	5610	9299	No	1.9	Si
SLU 78	fin.	-739.96	-3412	0.88	9381	1711	13956	3689	5610	9299	No	2.73	Si
SLU 84	ini.	-923.07	4986	0.88	10819	1711	13956	3689	5610	9299	No	1.86	Si
SLU 84	fin.	-760.57	-3509	0.88	9559	1711	13956	3689	5610	9299	No	2.65	Si
SLU 82	ini.	-908.67	4911	0.88	10717	1711	13956	3689	5610	9299	No	1.89	Si
SLU 82	fin.	-747.58	-3457	0.88	9447	1711	13956	3689	5610	9299	No	2.69	Si
SLU 79	ini.	-906.29	4870	0.88	10700	1711	13956	3689	5610	9299	No	1.91	Si
SLU 79	fin.	-734.22	-3384	0.88	9331	1711	13956	3689	5610	9299	No	2.75	Si
SLU 75	ini.	-895.56	4821	0.88	10622	1711	13956	3689	5610	9299	No	1.93	Si
SLU 75	fin.	-726.96	-3359	0.88	9267	1711	13956	3689	5610	9299	No	2.77	Si
SLU 83	ini.	-928.82	5009	0.88	10833	1711	13956	3689	5610	9299	No	1.86	Si
SLU 83	fin.	-762.02	-3513	0.88	9571	1711	13956	3689	5610	9299	No	2.65	Si
SLU 81	ini.	-914.43	4933	0.88	10758	1711	13956	3689	5610	9299	No	1.88	Si
SLU 81	fin.	-749.02	-3460	0.88	9460	1711	13956	3689	5610	9299	No	2.69	Si
SLU 74	ini.	-901.31	4844	0.88	10664	1711	13956	3689	5610	9299	No	1.92	Si
SLU 74	fin.	-728.41	-3362	0.88	9280	1711	13956	3689	5610	9299	No	2.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-2366.32	-6000	-0.0005687	0.0002807	0.0035	0.88		7944.15	7944.15		3.36	Si
SLV 1	fin.	1454.22	1994	-0.0003242	0.0002807	0.0035	0.88		7929.3	7929.3		5.45	Si
SLV 15	ini.	822.75	-110	-0.0001751	0.0002807	0.0035	0.88		7929.3	7929.3		9.64	Si
SLV 15	fin.	-2073.16	-5434	-0.000486	0.0002807	0.0035	0.88		7944.15	7944.15		3.83	Si
SLV 4	ini.	-2305.22	-6422	-0.0005512	0.0002807	0.0035	0.88		7944.15	7944.15		3.45	Si
SLV 4	fin.	1035.71	735	-0.0002237	0.0002807	0.0035	0.88		7929.3	7929.3		7.66	Si
SLV 14	ini.	1423.5	1640	-0.0003166	0.0002807	0.0035	0.88		7929.3	7929.3		5.57	Si
SLV 14	fin.	-2312.88	-5475	-0.0005534	0.0002807	0.0035	0.88		7944.15	7944.15		3.43	Si
SLV 2	ini.	-2035.4	-5336	-0.0004756	0.0002807	0.0035	0.88		7944.15	7944.15		3.9	Si
SLV 2	fin.	1125.1	1344	-0.0002445	0.0002807	0.0035	0.88		7929.3	7929.3		7.05	Si
SLD 3	ini.	-1897.51	-5485	-0.0004382	0.0002807	0.0035	0.88		7944.15	7944.15		4.19	Si
SLD 3	fin.	704.61	165	-0.0001488	0.0002807	0.0035	0.88		7929.3	7929.3		11.25	Si
SLV 3	ini.	-2636.15	-7086	-0.0006481	0.0002807	0.0035	0.88		7944.15	7944.15		3.01	Si
SLV 3	fin.	1364.83	1385	-0.0003021	0.0002807	0.0035	0.88		7929.3	7929.3		5.81	Si
SLD 1	ini.	-1739.14	-4847	-0.0003962	0.0002807	0.0035	0.88		7944.15	7944.15		4.57	Si
SLD 1	fin.	756.78	522	-0.0001604	0.0002807	0.0035	0.88		7929.3	7929.3		10.48	Si
SLV 13	ini.	1092.58	976	-0.0002369	0.0002807	0.0035	0.88		7929.3	7929.3		7.26	Si
SLV 13	fin.	-1983.76	-4825	-0.0004615	0.0002807	0.0035	0.88		7944.15	7944.15		4	Si
SLV 16	ini.	1153.68	554	-0.0002513	0.0002807	0.0035	0.88		7929.3	7929.3		6.87	Si
SLV 16	fin.	-2402.28	-6084	-0.0005791	0.0002807	0.0035	0.88		7944.15	7944.15		3.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-2035.4	8672	0.88	16250	2507	13956	5534	5610	11144		1.29	Si
SLV 2	fin.	1125.1	3643	0.88	16250	2507	13956	5534	5610	11144		3.06	Si
SLV 14	ini.	1423.5	-4527	0.88	16250	2507	13956	5534	5610	11144		2.46	Si
SLV 14	fin.	-2312.88	-9036	0.88	16250	2507	13956	5534	5610	11144		1.23	Si
SLV 3	ini.	-2636.15	11008	0.88	16250	2507	13956	5534	5610	11144		1.01	Si
SLV 3	fin.	1364.83	4619	0.88	16250	2507	13956	5534	5610	11144		2.41	Si
SLD 3	ini.	-1897.51	8180	0.88	16250	2507	13956	5534	5610	11144		1.36	Si
SLD 3	fin.	704.61	2165	0.88	15145	2507	13956	5534	5610	11144		5.15	Si
SLD 1	ini.	-1739.14	7545	0.88	16250	2507	13956	5534	5610	11144		1.48	Si
SLD 1	fin.	756.78	2303	0.88	16052	2507	13956	5534	5610	11144		4.84	Si
SLV 13	ini.	1092.58	-3272	0.88	16250	2507	13956	5534	5610	11144		3.41	Si
SLV 13	fin.	-1983.76	-7823	0.88	16250	2507	13956	5534	5610	11144		1.42	Si
SLV 4	ini.	-2305.22	9754	0.88	16250	2507	13956	5534	5610	11144		1.14	Si
SLV 4	fin.	1035.71	3406	0.88	16250	2507	13956	5534	5610	11144		3.27	Si
SLV 15	ini.	822.75	-2191	0.88	16250	2507	13956	5534	5610	11144		5.09	Si
SLV 15	fin.	-2073.16	-8060	0.88	16250	2507	13956	5534	5610	11144		1.38	Si
SLV 16	ini.	1153.68	-3445	0.88	16250	2507	13956	5534	5610	11144		3.23	Si
SLV 16	fin.	-2402.28	-9273	0.88	16250	2507	13956	5534	5610	11144		1.2	Si
SLV 1	ini.	-2366.32	9926	0.88	16250	2507	13956	5534	5610	11144		1.12	Si
SLV 1	fin.	1454.22	4856	0.88	16250	2507	13956	5534	5610	11144		2.29	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.014	SLV 3	Si
V_SLV	1.012	SLV 3	Si
PF_SLU	8.392	SLU 83	Si
V_SLU	1.857	SLU 83	Si

Trave di accoppiamento 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.661	0.67	1.57	0.9	-6.963	6.661	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-12.52	-1788	-0.0000024	0.0001872	0.0035	0.9		8145.69	8145.69	No	650.5	Si
SLU 69	fin.	490.96	-2400	-0.0000988	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.56	Si
SLU 81	ini.	31.76	-2000	-0.0000062	0.0001872	0.0035	0.9		8130.8	8130.8	No	255.99	Si
SLU 81	fin.	485.69	-2536	-0.0000977	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.74	Si
SLU 79	ini.	15.59	-1975	-0.000003	0.0001872	0.0035	0.9		8130.8	8130.8	No	521.58	Si
SLU 79	fin.	503.98	-2558	-0.0001015	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.13	Si
SLU 71	ini.	-16.81	-1763	-0.0000033	0.0001872	0.0035	0.9		8145.69	8145.69	No	484.5	Si
SLU 71	fin.	489.22	-2380	-0.0000984	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.62	Si
SLU 78	ini.	25.58	-1994	-0.000005	0.0001872	0.0035	0.9		8130.8	8130.8	No	317.84	Si
SLU 78	fin.	496.55	-2553	-0.0000999	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.37	Si
SLU 74	ini.	21.02	-1967	-0.0000041	0.0001872	0.0035	0.9		8130.8	8130.8	No	386.76	Si
SLU 74	fin.	493.41	-2529	-0.0000993	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.48	Si
SLU 83	ini.	30.62	-2033	-0.000006	0.0001872	0.0035	0.9		8130.8	8130.8	No	265.55	Si
SLU 83	fin.	498	-2585	-0.0001002	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.33	Si
SLU 80	ini.	21.29	-1969	-0.0000041	0.0001872	0.0035	0.9		8130.8	8130.8	No	381.89	Si
SLU 80	fin.	494.8	-2533	-0.0000996	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.43	Si
SLU 84	ini.	36.32	-2027	-0.0000071	0.0001872	0.0035	0.9		8130.8	8130.8	No	223.86	Si
SLU 84	fin.	488.82	-2560	-0.0000983	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.63	Si
SLU 77	ini.	19.88	-1999	-0.0000039	0.0001872	0.0035	0.9		8130.8	8130.8	No	409.01	Si
SLU 77	fin.	505.72	-2578	-0.0001019	0.0001872	0.0035	0.9		8130.8	8130.8	No	16.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-6.82	549	0.9	112	1750	14273	3773	5738	9511	No	17.33	Si
SLU 70	fin.	481.79	803	0.9	6541	1750	14273	3773	5738	9511	No	11.84	Si
SLU 77	ini.	19.88	473	0.9	321	1750	14273	3773	5738	9511	No	20.11	Si
SLU 77	fin.	505.72	837	0.9	6803	1750	14273	3773	5738	9511	No	11.37	Si
SLU 79	ini.	15.59	483	0.9	252	1750	14273	3773	5738	9511	No	19.69	Si
SLU 79	fin.	503.98	838	0.9	6784	1750	14273	3773	5738	9511	No	11.36	Si
SLU 80	ini.	21.29	464	0.9	344	1750	14273	3773	5738	9511	No	20.5	Si
SLU 80	fin.	494.8	810	0.9	6684	1750	14273	3773	5738	9511	No	11.74	Si
SLU 74	ini.	21.02	461	0.9	339	1750	14273	3773	5738	9511	No	20.62	Si
SLU 74	fin.	493.41	809	0.9	6669	1750	14273	3773	5738	9511	No	11.75	Si
SLU 69	ini.	-12.52	568	0.9	205	1750	14273	3773	5738	9511	No	16.75	Si
SLU 69	fin.	490.96	830	0.9	6642	1750	14273	3773	5738	9511	No	11.45	Si
SLU 72	ini.	-11.11	559	0.9	182	1750	14273	3773	5738	9511	No	17.02	Si
SLU 72	fin.	480.04	804	0.9	6521	1750	14273	3773	5738	9511	No	11.83	Si
SLU 83	ini.	30.62	431	0.9	493	1750	14273	3773	5738	9511	No	22.08	Si
SLU 83	fin.	498	813	0.9	6719	1750	14273	3773	5738	9511	No	11.7	Si
SLU 71	ini.	-16.81	578	0.9	274	1750	14273	3773	5738	9511	No	16.46	Si
SLU 71	fin.	489.22	831	0.9	6623	1750	14273	3773	5738	9511	No	11.44	Si
SLU 78	ini.	25.58	454	0.9	412	1750	14273	3773	5738	9511	No	20.96	Si
SLU 78	fin.	496.55	809	0.9	6703	1750	14273	3773	5738	9511	No	11.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1917.66	2096	-0.0004215	0.0002807	0.0035	0.9		8302.25	8302.25		4.33	Si
SLV 1	fin.	1931.24	-3125	-0.0004259	0.0002807	0.0035	0.9		8287.07	8287.07		4.29	Si
SLV 16	ini.	1903.72	-4709	-0.0004188	0.0002807	0.0035	0.9		8287.07	8287.07		4.35	Si
SLV 16	fin.	-1227.7	-361	-0.0002557	0.0002807	0.0035	0.9		8302.25	8302.25		6.76	Si
SLV 13	ini.	1771.74	-3744	-0.0003856	0.0002807	0.0035	0.9		8287.07	8287.07		4.68	Si
SLV 13	fin.	-1319.9	486	-0.0002768	0.0002807	0.0035	0.9		8302.25	8302.25		6.29	Si
SLV 15	ini.	1509.67	-4112	-0.0003218	0.0002807	0.0035	0.9		8287.07	8287.07		5.49	Si
SLV 15	fin.	-874.26	-776	-0.0001779	0.0002807	0.0035	0.9		8302.25	8302.25		9.5	Si
SLV 14	ini.	2165.79	-4341	-0.0004869	0.0002807	0.0035	0.9		8287.07	8287.07		3.83	Si
SLV 14	fin.	-1673.35	902	-0.0003606	0.0002807	0.0035	0.9		8302.25	8302.25		4.96	Si
SLV 3	ini.	-2179.72	1728	-0.0004895	0.0002807	0.0035	0.9		8302.25	8302.25		3.81	Si
SLV 3	fin.	2376.88	-4387	-0.0005436	0.0002807	0.0035	0.9		8287.07	8287.07		3.49	Si
SLV 7	ini.	-1129.78	-843	-0.0002338	0.0002807	0.0035	0.9		8302.25	8302.25		7.35	Si
SLV 7	fin.	1701.14	-4528	-0.0003681	0.0002807	0.0035	0.9		8287.07	8287.07		4.87	Si
SLV 2	ini.	-1523.61	1499	-0.0003244	0.0002807	0.0035	0.9		8302.25	8302.25		5.45	Si
SLV 2	fin.	1577.79	-2710	-0.0003381	0.0002807	0.0035	0.9		8287.07	8287.07		5.25	Si
SLV 4	ini.	-1785.67	1131	-0.0003883	0.0002807	0.0035	0.9		8302.25	8302.25		4.65	Si
SLV 4	fin.	2023.44	-3972	-0.0004496	0.0002807	0.0035	0.9		8287.07	8287.07		4.1	Si
SLD 3	ini.	-1389.62	643	-0.0002929	0.0002807	0.0035	0.9		8302.25	8302.25		5.97	Si
SLD 3	fin.	1634.59	-3400	-0.0003519	0.0002807	0.0035	0.9		8287.07	8287.07		5.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1785.67	6024	0.9	16250	2577	14273	5660	5738	11397		1.89	Si
SLV 4	fin.	2023.44	5980	0.9	16250	2577	14273	5660	5738	11397		1.91	Si
SLD 3	ini.	-1389.62	4761	0.9	16250	2577	14273	5660	5738	11397		2.39	Si
SLD 3	fin.	1634.59	4751	0.9	16250	2577	14273	5660	5738	11397		2.4	Si
SLV 14	ini.	2165.79	-6434	0.9	16250	2577	14273	5660	5738	11397		1.77	Si
SLV 14	fin.	-1673.35	-5988	0.9	16250	2577	14273	5660	5738	11397		1.9	Si
SLV 7	ini.	-1129.78	4087	0.9	16250	2577	14273	5660	5738	11397		2.79	Si
SLV 7	fin.	1701.14	4589	0.9	16250	2577	14273	5660	5738	11397		2.48	Si
SLV 15	ini.	1509.67	-4285	0.9	16250	2577	14273	5660	5738	11397		2.66	Si
SLV 15	fin.	-874.26	-3617	0.9	16250	2577	14273	5660	5738	11397		3.15	Si
SLV 16	ini.	1903.72	-5515	0.9	16250	2577	14273	5660	5738	11397		2.07	Si
SLV 16	fin.	-1227.7	-4791	0.9	16250	2577	14273	5660	5738	11397		2.38	Si
SLV 13	ini.	1771.74	-5204	0.9	16250	2577	14273	5660	5738	11397		2.19	Si
SLV 13	fin.	-1319.9	-4815	0.9	16250	2577	14273	5660	5738	11397		2.37	Si
SLV 3	ini.	-2179.72	7254	0.9	16250	2577	14273	5660	5738	11397		1.57	Si
SLV 3	fin.	2376.88	7153	0.9	16250	2577	14273	5660	5738	11397		1.59	Si
SLV 1	ini.	-1917.66	6335	0.9	16250	2577	14273	5660	5738	11397		1.8	Si
SLV 1	fin.	1931.24	5956	0.9	16250	2577	14273	5660	5738	11397		1.91	Si
SLV 2	ini.	-1523.61	5105	0.9	16250	2577	14273	5660	5738	11397		2.23	Si
SLV 2	fin.	1577.79	4782	0.9	16250	2577	14273	5660	5738	11397		2.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.487	SLV 3	Si
V_SLV	1.571	SLV 3	Si
PF_SLU	16.078	SLU 77	Si
V_SLU	11.355	SLU 79	Si

Trave di accoppiamento 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.661	3.47	4.35	0.88	-6.963	6.661	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-1111.51	-3045	-0.0002483	0.0001872	0.0035	0.88		7794.51	7794.51	No	7.01	Si
SLU 80	fin.	-18.71	-1667	-0.0000038	0.0001872	0.0035	0.88		7794.51	7794.51	No	416.7	Si
SLU 78	ini.	-1120.74	-3075	-0.0002506	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.95	Si
SLU 78	fin.	-22.36	-1692	-0.0000045	0.0001872	0.0035	0.88		7794.51	7794.51	No	348.55	Si
SLU 83	ini.	-1147.92	-3134	-0.0002574	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.79	Si
SLU 83	fin.	-19.37	-1715	-0.0000039	0.0001872	0.0035	0.88		7794.51	7794.51	No	402.44	Si
SLU 74	ini.	-1114.83	-3044	-0.0002491	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.99	Si
SLU 74	fin.	-14.48	-1656	-0.0000029	0.0001872	0.0035	0.88		7794.51	7794.51	No	538.28	Si
SLU 79	ini.	-1121.41	-3068	-0.0002507	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.95	Si
SLU 79	fin.	-12.26	-1664	-0.0000025	0.0001872	0.0035	0.88		7794.51	7794.51	No	635.88	Si
SLU 77	ini.	-1130.65	-3097	-0.0002531	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.89	Si
SLU 77	fin.	-15.91	-1689	-0.0000032	0.0001872	0.0035	0.88		7794.51	7794.51	No	489.76	Si
SLU 82	ini.	-1122.21	-3058	-0.0002509	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.95	Si
SLU 82	fin.	-24.38	-1684	-0.0000049	0.0001872	0.0035	0.88		7794.51	7794.51	No	319.7	Si
SLU 75	ini.	-1104.93	-3022	-0.0002466	0.0001872	0.0035	0.88		7794.51	7794.51	No	7.05	Si
SLU 75	fin.	-20.93	-1658	-0.0000042	0.0001872	0.0035	0.88		7794.51	7794.51	No	372.45	Si
SLU 84	ini.	-1138.02	-3111	-0.0002549	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.85	Si
SLU 84	fin.	-25.82	-1717	-0.0000052	0.0001872	0.0035	0.88		7794.51	7794.51	No	301.93	Si
SLU 81	ini.	-1132.11	-3080	-0.0002534	0.0001872	0.0035	0.88		7794.51	7794.51	No	6.88	Si
SLU 81	fin.	-17.93	-1682	-0.0000036	0.0001872	0.0035	0.88		7794.51	7794.51	No	434.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-1111.51	4650	0.88	10833	1711	13956	3689	5610	9299	No	2	Si
SLU 80	fin.	-18.71	-1437	0.88	319	1711	13956	3689	5610	9299	No	6.47	Si
SLU 84	ini.	-1138.02	4794	0.88	10833	1711	13956	3689	5610	9299	No	1.94	Si
SLU 84	fin.	-25.82	-1542	0.88	438	1711	13956	3689	5610	9299	No	6.03	Si
SLU 78	ini.	-1120.74	4690	0.88	10833	1711	13956	3689	5610	9299	No	1.98	Si
SLU 78	fin.	-22.36	-1465	0.88	380	1711	13956	3689	5610	9299	No	6.35	Si
SLU 81	ini.	-1132.11	4772	0.88	10833	1711	13956	3689	5610	9299	No	1.95	Si
SLU 81	fin.	-17.93	-1510	0.88	306	1711	13956	3689	5610	9299	No	6.16	Si
SLU 82	ini.	-1122.21	4740	0.88	10833	1711	13956	3689	5610	9299	No	1.96	Si
SLU 82	fin.	-24.38	-1533	0.88	414	1711	13956	3689	5610	9299	No	6.07	Si
SLU 79	ini.	-1121.41	4681	0.88	10833	1711	13956	3689	5610	9299	No	1.99	Si
SLU 79	fin.	-12.26	-1413	0.88	209	1711	13956	3689	5610	9299	No	6.58	Si
SLU 75	ini.	-1104.93	4636	0.88	10833	1711	13956	3689	5610	9299	No	2.01	Si
SLU 75	fin.	-20.93	-1456	0.88	356	1711	13956	3689	5610	9299	No	6.39	Si
SLU 74	ini.	-1114.83	4668	0.88	10833	1711	13956	3689	5610	9299	No	1.99	Si
SLU 74	fin.	-14.48	-1433	0.88	247	1711	13956	3689	5610	9299	No	6.49	Si
SLU 83	ini.	-1147.92	4825	0.88	10833	1711	13956	3689	5610	9299	No	1.93	Si
SLU 83	fin.	-19.37	-1519	0.88	330	1711	13956	3689	5610	9299	No	6.12	Si
SLU 77	ini.	-1130.65	4721	0.88	10833	1711	13956	3689	5610	9299	No	1.97	Si
SLU 77	fin.	-15.91	-1442	0.88	271	1711	13956	3689	5610	9299	No	6.45	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1819.03	-3398	-0.0004172	0.0002807	0.0035	0.88		7944.15	7944.15		4.37	Si
SLV 2	fin.	1375.58	1575	-0.0003047	0.0002807	0.0035	0.88		7929.3	7929.3		5.76	Si
SLV 4	ini.	-2277.95	-4554	-0.0005434	0.0002807	0.0035	0.88		7944.15	7944.15		3.49	Si
SLV 4	fin.	1622.14	1494	-0.0003667	0.0002807	0.0035	0.88		7929.3	7929.3		4.89	Si
SLV 8	ini.	-1851.51	-4467	-0.0004259	0.0002807	0.0035	0.88		7944.15	7944.15		4.29	Si
SLV 8	fin.	796.61	-545	-0.0001693	0.0002807	0.0035	0.88		7929.3	7929.3		9.95	Si
SLD 3	ini.	-1920.2	-3939	-0.0004443	0.0002807	0.0035	0.88		7944.15	7944.15		4.14	Si
SLD 3	fin.	1264.72	960	-0.0002778	0.0002807	0.0035	0.88		7929.3	7929.3		6.27	Si
SLD 4	ini.	-1718.73	-3624	-0.0003909	0.0002807	0.0035	0.88		7944.15	7944.15		4.62	Si
SLD 4	fin.	1034.53	572	-0.0002234	0.0002807	0.0035	0.88		7929.3	7929.3		7.66	Si
SLV 3	ini.	-2595.52	-5050	-0.0006359	0.0002807	0.0035	0.88		7944.15	7944.15		3.06	Si
SLV 3	fin.	1984.98	2105	-0.0004629	0.0002807	0.0035	0.88		7929.3	7929.3		3.99	Si
SLV 14	ini.	1077.38	937	-0.0002334	0.0002807	0.0035	0.88		7929.3	7929.3		7.36	Si
SLV 14	fin.	-1974.37	-4263	-0.000459	0.0002807	0.0035	0.88		7944.15	7944.15		4.02	Si
SLV 1	ini.	-2136.6	-3894	-0.0005036	0.0002807	0.0035	0.88		7944.15	7944.15		3.72	Si
SLV 1	fin.	1738.42	2186	-0.0003969	0.0002807	0.0035	0.88		7929.3	7929.3		4.56	Si
SLV 7	ini.	-2065.28	-4801	-0.0004838	0.0002807	0.0035	0.88		7944.15	7944.15		3.85	Si
SLV 7	fin.	1040.85	-133	-0.0002249	0.0002807	0.0035	0.88		7929.3	7929.3		7.62	Si
SLV 16	ini.	618.46	-219	-0.0001299	0.0002807	0.0035	0.88		7929.3	7929.3		12.82	Si
SLV 16	fin.	-1727.81	-4344	-0.0003933	0.0002807	0.0035	0.88		7944.15	7944.15		4.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1077.38	-2685	0.88	16250	2507	13956	5534	5610	11144		4.15	Si
SLV 14	fin.	-1974.37	-8086	0.88	16250	2507	13956	5534	5610	11144		1.38	Si
SLD 3	ini.	-1920.2	6857	0.88	16250	2507	13956	5534	5610	11144		1.63	Si
SLD 3	fin.	1264.72	3698	0.88	16250	2507	13956	5534	5610	11144		3.01	Si
SLV 1	ini.	-2136.6	7589	0.88	16250	2507	13956	5534	5610	11144		1.47	Si
SLV 1	fin.	1738.42	5402	0.88	16250	2507	13956	5534	5610	11144		2.06	Si
SLV 3	ini.	-2595.52	9005	0.88	16250	2507	13956	5534	5610	11144		1.24	Si
SLV 3	fin.	1984.98	6316	0.88	16250	2507	13956	5534	5610	11144		1.76	Si
SLV 2	ini.	-1819.03	6585	0.88	16250	2507	13956	5534	5610	11144		1.69	Si
SLV 2	fin.	1375.58	4060	0.88	16250	2507	13956	5534	5610	11144		2.74	Si
SLV 16	ini.	618.46	-1270	0.88	13585	2507	13956	5534	5610	11144		8.77	Si
SLV 16	fin.	-1727.81	-7173	0.88	16250	2507	13956	5534	5610	11144		1.55	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	759.81	-1681	0.88	16104	2507	13956	5534	5610	11144		6.63	Si
SLV 13	fin.	-1611.53	-6744	0.88	16250	2507	13956	5534	5610	11144		1.65	Si
SLV 4	ini.	-2277.95	8000	0.88	16250	2507	13956	5534	5610	11144		1.39	Si
SLV 4	fin.	1622.14	4974	0.88	16250	2507	13956	5534	5610	11144		2.24	Si
SLV 7	ini.	-2065.28	7247	0.88	16250	2507	13956	5534	5610	11144		1.54	Si
SLV 7	fin.	1040.85	2911	0.88	16250	2507	13956	5534	5610	11144		3.83	Si
SLV 8	ini.	-1851.51	6571	0.88	16250	2507	13956	5534	5610	11144		1.7	Si
SLV 8	fin.	796.61	2007	0.88	16250	2507	13956	5534	5610	11144		5.55	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.061	SLV 3	Si
V_SLV	1.238	SLV 3	Si
PF_SLU	6.79	SLU 83	Si
V_SLU	1.927	SLU 83	Si

Trave di accoppiamento 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	3.17	4.35	1.18	-12.263	1.141	3.17	4.35	1.18	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-2241.62	-7631	-0.00011	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.51	Si
SLU 81	fin.	357.99	-5171	-0.0000165	0.0002246	0.0035	1.18		28006	28006	No	78.23	Si
SLU 77	ini.	-2193.05	-7613	-0.0001074	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.79	Si
SLU 77	fin.	339.65	-5211	-0.0000156	0.0002246	0.0035	1.18		28006	28006	No	82.46	Si
SLU 79	ini.	-2176.31	-7552	-0.0001065	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.89	Si
SLU 79	fin.	333.85	-5170	-0.0000153	0.0002246	0.0035	1.18		28006	28006	No	83.89	Si
SLU 82	ini.	-2244.69	-7660	-0.0001102	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.49	Si
SLU 82	fin.	338.58	-5219	-0.0000156	0.0002246	0.0035	1.18		28006	28006	No	82.72	Si
SLU 80	ini.	-2179.38	-7581	-0.0001067	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.87	Si
SLU 80	fin.	314.44	-5217	-0.0000144	0.0002246	0.0035	1.18		28006	28006	No	89.07	Si
SLU 78	ini.	-2196.11	-7642	-0.0001076	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.77	Si
SLU 78	fin.	320.24	-5258	-0.0000147	0.0002246	0.0035	1.18		28006	28006	No	87.45	Si
SLU 84	ini.	-2272.56	-7773	-0.0001117	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.34	Si
SLU 84	fin.	350.15	-5294	-0.0000161	0.0002246	0.0035	1.18		28006	28006	No	79.98	Si
SLU 75	ini.	-2168.24	-7528	-0.0001061	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.93	Si
SLU 75	fin.	308.68	-5182	-0.0000142	0.0002246	0.0035	1.18		28006	28006	No	90.73	Si
SLU 74	ini.	-2165.18	-7499	-0.0001059	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.95	Si
SLU 74	fin.	328.08	-5135	-0.0000151	0.0002246	0.0035	1.18		28006	28006	No	85.36	Si
SLU 83	ini.	-2269.5	-7744	-0.0001115	0.0002246	0.0035	1.18		28044.95	28044.95	No	12.36	Si
SLU 83	fin.	369.55	-5247	-0.000017	0.0002246	0.0035	1.18		28006	28006	No	75.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-2244.69	5268	1.18	3053	2753	50749	5937	15045	20982	No	3.98	Si
SLU 82	fin.	338.58	1957	1.18	481	2753	50749	5937	15045	20982	No	10.72	Si
SLU 80	ini.	-2179.38	4995	1.18	2969	2753	50749	5937	15045	20982	No	4.2	Si
SLU 80	fin.	314.44	1979	1.18	446	2753	50749	5937	15045	20982	No	10.6	Si
SLU 79	ini.	-2176.31	5020	1.18	2965	2753	50749	5937	15045	20982	No	4.18	Si
SLU 79	fin.	333.85	2004	1.18	474	2753	50749	5937	15045	20982	No	10.47	Si
SLU 74	ini.	-2165.18	4996	1.18	2951	2753	50749	5937	15045	20982	No	4.2	Si
SLU 74	fin.	328.08	1980	1.18	466	2753	50749	5937	15045	20982	No	10.6	Si
SLU 81	ini.	-2241.62	5292	1.18	3049	2753	50749	5937	15045	20982	No	3.96	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	fin.	357.99	1981	1.18	508	2753	50749	5937	15045	20982	No	10.59	Si
SLU 83	ini.	-2269.5	5348	1.18	3085	2753	50749	5937	15045	20982	No	3.92	Si
SLU 83	fin.	369.55	2036	1.18	524	2753	50749	5937	15045	20982	No	10.31	Si
SLU 78	ini.	-2196.11	5026	1.18	2991	2753	50749	5937	15045	20982	No	4.17	Si
SLU 78	fin.	320.24	2010	1.18	455	2753	50749	5937	15045	20982	No	10.44	Si
SLU 77	ini.	-2193.05	5051	1.18	2987	2753	50749	5937	15045	20982	No	4.15	Si
SLU 77	fin.	339.65	2035	1.18	482	2753	50749	5937	15045	20982	No	10.31	Si
SLU 84	ini.	-2272.56	5323	1.18	3089	2753	50749	5937	15045	20982	No	3.94	Si
SLU 84	fin.	350.15	2012	1.18	497	2753	50749	5937	15045	20982	No	10.43	Si
SLU 75	ini.	-2168.24	4971	1.18	2955	2753	50749	5937	15045	20982	No	4.22	Si
SLU 75	fin.	308.68	1955	1.18	438	2753	50749	5937	15045	20982	No	10.73	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1227.56	-6728	-0.0000574	0.0003369	0.0035	1.18		29667.92	29667.92		24.17	Si
SLV 2	fin.	-6062.08	-13749	-0.000326	0.0003369	0.0035	1.18		29709.19	29709.19		4.9	Si
SLV 3	ini.	1260.47	-5506	-0.0000589	0.0003369	0.0035	1.18		29667.92	29667.92		23.54	Si
SLV 3	fin.	-5023.88	-11434	-0.0002599	0.0003369	0.0035	1.18		29709.19	29709.19		5.91	Si
SLV 4	ini.	1319.3	-5550	-0.0000618	0.0003369	0.0035	1.18		29667.92	29667.92		22.49	Si
SLV 4	fin.	-5163.68	-11671	-0.0002685	0.0003369	0.0035	1.18		29709.19	29709.19		5.75	Si
SLV 14	ini.	-4104.23	-4633	-0.0002062	0.0003369	0.0035	1.18		29709.19	29709.19		7.24	Si
SLV 14	fin.	5365.09	4335	-0.0002814	0.0003369	0.0035	1.18		29667.92	29667.92		5.53	Si
SLV 15	ini.	-4071.31	-3411	-0.0002043	0.0003369	0.0035	1.18		29709.19	29709.19		7.3	Si
SLV 15	fin.	6403.28	6649	-0.0003499	0.0003369	0.0035	1.18		29667.92	29667.92		4.63	Si
SLV 16	ini.	-4012.48	-3455	-0.000201	0.0003369	0.0035	1.18		29709.19	29709.19		7.4	Si
SLV 16	fin.	6263.49	6412	-0.0003402	0.0003369	0.0035	1.18		29667.92	29667.92		4.74	Si
SLD 16	ini.	-3084.65	-4068	-0.0001506	0.0003369	0.0035	1.18		29709.19	29709.19		9.63	Si
SLD 16	fin.	4049.41	2776	-0.0002034	0.0003369	0.0035	1.18		29667.92	29667.92		7.33	Si
SLV 13	ini.	-4163.06	-4589	-0.0002095	0.0003369	0.0035	1.18		29709.19	29709.19		7.14	Si
SLV 13	fin.	5504.88	4571	-0.0002902	0.0003369	0.0035	1.18		29667.92	29667.92		5.39	Si
SLV 1	ini.	1168.73	-6684	-0.0000545	0.0003369	0.0035	1.18		29667.92	29667.92		25.38	Si
SLV 1	fin.	-5922.29	-13512	-0.0003167	0.0003369	0.0035	1.18		29709.19	29709.19		5.02	Si
SLD 15	ini.	-3121.97	-4040	-0.0001525	0.0003369	0.0035	1.18		29709.19	29709.19		9.52	Si
SLD 15	fin.	4138.1	2926	-0.0002084	0.0003369	0.0035	1.18		29667.92	29667.92		7.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-4012.48	15268	1.18	8085	3261	50749	8905	15045	23950		1.57	Si
SLV 16	fin.	6263.49	13467	1.18	12066	3261	50749	8905	15045	23950		1.78	Si
SLV 2	ini.	1227.56	-9226	1.18	2588	3261	50749	8905	15045	23950		2.6	Si
SLV 2	fin.	-6062.08	-11151	1.18	11720	3261	50749	8905	15045	23950		2.15	Si
SLD 16	ini.	-3084.65	10886	1.18	6314	3261	50749	8905	15045	23950		2.2	Si
SLD 16	fin.	4049.41	9056	1.18	8165	3261	50749	8905	15045	23950		2.64	Si
SLV 15	ini.	-4071.31	15546	1.18	8195	3261	50749	8905	15045	23950		1.54	Si
SLV 15	fin.	6403.28	13746	1.18	12294	3261	50749	8905	15045	23950		1.74	Si
SLD 14	ini.	-3138.86	10196	1.18	6420	3261	50749	8905	15045	23950		2.35	Si
SLD 14	fin.	3523.89	8356	1.18	7170	3261	50749	8905	15045	23950		2.87	Si
SLV 14	ini.	-4104.23	14086	1.18	8256	3261	50749	8905	15045	23950		1.7	Si
SLV 14	fin.	5365.09	12268	1.18	10545	3261	50749	8905	15045	23950		1.95	Si
SLD 13	ini.	-3176.18	10373	1.18	6492	3261	50749	8905	15045	23950		2.31	Si
SLD 13	fin.	3612.57	8532	1.18	7340	3261	50749	8905	15045	23950		2.81	Si
SLV 1	ini.	1168.73	-8947	1.18	2466	3261	50749	8905	15045	23950		2.68	Si
SLV 1	fin.	-5922.29	-10873	1.18	11486	3261	50749	8905	15045	23950		2.2	Si
SLV 13	ini.	-4163.06	14365	1.18	8366	3261	50749	8905	15045	23950		1.67	Si
SLV 13	fin.	5504.88	12546	1.18	10788	3261	50749	8905	15045	23950		1.91	Si
SLD 15	ini.	-3121.97	11063	1.18	6387	3261	50749	8905	15045	23950		2.16	Si
SLD 15	fin.	4138.1	9233	1.18	8330	3261	50749	8905	15045	23950		2.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.633	SLV 15	Si
V_SLV	1.541	SLV 15	Si
PF_SLU	12.341	SLU 84	Si
V_SLU	3.924	SLU 83	Si

Trave di accoppiamento 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	3.17	4.35	1.18	-10.466	1.141	3.17	4.35	1.18	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-1233.11	-7483	-0.0000583	0.0002246	0.0035	1.18		28044.95	28044.95	No	22.74	Si
SLU 83	fin.	-1366.79	-7585	-0.0000649	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.52	Si
SLU 76	ini.	-1165.67	-6939	-0.000055	0.0002246	0.0035	1.18		28044.95	28044.95	No	24.06	Si
SLU 76	fin.	-1375.85	-7183	-0.0000654	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.38	Si
SLU 75	ini.	-1174.91	-7040	-0.0000554	0.0002246	0.0035	1.18		28044.95	28044.95	No	23.87	Si
SLU 75	fin.	-1369.02	-7256	-0.000065	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.49	Si
SLU 78	ini.	-1185.27	-7146	-0.0000559	0.0002246	0.0035	1.18		28044.95	28044.95	No	23.66	Si
SLU 78	fin.	-1385.88	-7369	-0.0000659	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.24	Si
SLU 81	ini.	-1222.74	-7377	-0.0000578	0.0002246	0.0035	1.18		28044.95	28044.95	No	22.94	Si
SLU 81	fin.	-1349.94	-7472	-0.0000641	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.78	Si
SLU 82	ini.	-1220.54	-7298	-0.0000577	0.0002246	0.0035	1.18		28044.95	28044.95	No	22.98	Si
SLU 82	fin.	-1378.78	-7447	-0.0000655	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.34	Si
SLU 77	ini.	-1187.47	-7225	-0.000056	0.0002246	0.0035	1.18		28044.95	28044.95	No	23.62	Si
SLU 77	fin.	-1357.04	-7394	-0.0000644	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.67	Si
SLU 84	ini.	-1230.9	-7404	-0.0000582	0.0002246	0.0035	1.18		28044.95	28044.95	No	22.78	Si
SLU 84	fin.	-1395.63	-7560	-0.0000663	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.09	Si
SLU 80	ini.	-1177.5	-7098	-0.0000556	0.0002246	0.0035	1.18		28044.95	28044.95	No	23.82	Si
SLU 80	fin.	-1373.48	-7313	-0.0000652	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.42	Si
SLU 73	ini.	-1155.31	-6833	-0.0000545	0.0002246	0.0035	1.18		28044.95	28044.95	No	24.27	Si
SLU 73	fin.	-1359	-7070	-0.0000645	0.0002246	0.0035	1.18		28044.95	28044.95	No	20.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-1006.53	2367	1.18	1408	2753	48937	5937	15045	20982	No	8.86	Si
SLU 65	fin.	-1267.98	-2658	1.18	1764	2753	48937	5937	15045	20982	No	7.89	Si
SLU 80	ini.	-1177.5	2227	1.18	1641	2753	48937	5937	15045	20982	No	9.42	Si
SLU 80	fin.	-1373.48	-2562	1.18	1906	2753	48937	5937	15045	20982	No	8.19	Si
SLU 78	ini.	-1185.27	2246	1.18	1651	2753	48937	5937	15045	20982	No	9.34	Si
SLU 78	fin.	-1385.88	-2586	1.18	1923	2753	48937	5937	15045	20982	No	8.11	Si
SLU 67	ini.	-1026.13	2270	1.18	1434	2753	48937	5937	15045	20982	No	9.24	Si
SLU 67	fin.	-1278	-2588	1.18	1777	2753	48937	5937	15045	20982	No	8.11	Si
SLU 76	ini.	-1165.67	2343	1.18	1625	2753	48937	5937	15045	20982	No	8.95	Si
SLU 76	fin.	-1375.85	-2657	1.18	1909	2753	48937	5937	15045	20982	No	7.9	Si
SLU 68	ini.	-1016.89	2361	1.18	1422	2753	48937	5937	15045	20982	No	8.89	Si
SLU 68	fin.	-1284.84	-2673	1.18	1786	2753	48937	5937	15045	20982	No	7.85	Si
SLU 73	ini.	-1155.31	2350	1.18	1611	2753	48937	5937	15045	20982	No	8.93	Si
SLU 73	fin.	-1359	-2641	1.18	1886	2753	48937	5937	15045	20982	No	7.94	Si
SLU 70	ini.	-1036.49	2263	1.18	1449	2753	48937	5937	15045	20982	No	9.27	Si
SLU 70	fin.	-1294.86	-2603	1.18	1800	2753	48937	5937	15045	20982	No	8.06	Si
SLU 75	ini.	-1174.91	2253	1.18	1637	2753	48937	5937	15045	20982	No	9.31	Si
SLU 75	fin.	-1369.02	-2571	1.18	1900	2753	48937	5937	15045	20982	No	8.16	Si
SLU 72	ini.	-1028.72	2244	1.18	1438	2753	48937	5937	15045	20982	No	9.35	Si
SLU 72	fin.	-1282.46	-2579	1.18	1783	2753	48937	5937	15045	20982	No	8.14	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	522.27	2633	-0.000024	0.0003369	0.0035	1.18		29667.92	29667.92		56.81	Si
SLV 6	fin.	-3212.33	-2383	-0.0001573	0.0003369	0.0035	1.18		29709.19	29709.19		9.25	Si
SLV 14	ini.	-4355.1	-8736	-0.0002205	0.0003369	0.0035	1.18		29709.19	29709.19		6.82	Si
SLV 14	fin.	-574.75	-6249	-0.0000264	0.0003369	0.0035	1.18		29709.19	29709.19		51.69	Si
SLV 13	ini.	-4404.63	-8987	-0.0002233	0.0003369	0.0035	1.18		29709.19	29709.19		6.74	Si
SLV 13	fin.	-529.74	-6368	-0.0000243	0.0003369	0.0035	1.18		29709.19	29709.19		56.08	Si
SLD 13	ini.	-3110.94	-7529	-0.000152	0.0003369	0.0035	1.18		29709.19	29709.19		9.55	Si
SLD 13	fin.	-638.97	-5849	-0.0000294	0.0003369	0.0035	1.18		29709.19	29709.19		46.5	Si
SLD 15	ini.	-3185.12	-9454	-0.0001559	0.0003369	0.0035	1.18		29709.19	29709.19		9.33	Si
SLD 15	fin.	60.49	-6485	-0.0000028	0.0003369	0.0035	1.18		29667.92	29667.92		490.47	Si
SLV 15	ini.	-4532.71	-12274	-0.0002308	0.0003369	0.0035	1.18		29709.19	29709.19		6.55	Si
SLV 15	fin.	663.96	-7454	-0.0000306	0.0003369	0.0035	1.18		29667.92	29667.92		44.68	Si
SLD 16	ini.	-3153.7	-9295	-0.0001542	0.0003369	0.0035	1.18		29709.19	29709.19		9.42	Si
SLD 16	fin.	31.94	-6409	-0.0000015	0.0003369	0.0035	1.18		29667.92	29667.92		929.01	Si
SLV 5	ini.	488.93	2464	-0.0000225	0.0003369	0.0035	1.18		29667.92	29667.92		60.68	Si
SLV 5	fin.	-3182.03	-2463	-0.0001557	0.0003369	0.0035	1.18		29709.19	29709.19		9.34	Si
SLV 16	ini.	-4483.18	-12023	-0.0002279	0.0003369	0.0035	1.18		29709.19	29709.19		6.63	Si
SLV 16	fin.	618.95	-7334	-0.0000285	0.0003369	0.0035	1.18		29667.92	29667.92		47.93	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-3079.52	-7369	-0.0001503	0.0003369	0.0035	1.18		29709.19	29709.19		9.65	Si
SLD 14	fin.	-667.52	-5773	-0.0000308	0.0003369	0.0035	1.18		29709.19	29709.19		44.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1663.59	15168	1.18	3480	3382	48937	8905	15045	23950		1.58	Si
SLV 10	fin.	-2634.35	-11704	1.18	5431	3382	48937	8905	15045	23950		2.05	Si
SLV 6	ini.	522.27	10470	1.18	1111	3382	48937	8905	15045	23950		2.29	Si
SLV 6	fin.	-3212.33	-14940	1.18	6562	3382	48937	8905	15045	23950		1.6	Si
SLV 12	ini.	-2090.53	-7051	1.18	4346	3382	48937	8905	15045	23950		3.4	Si
SLV 12	fin.	1344.65	11197	1.18	2830	3382	48937	8905	15045	23950		2.14	Si
SLV 13	ini.	-4404.63	12668	1.18	8812	3382	48937	8905	15045	23950		1.89	Si
SLV 13	fin.	-529.74	383	1.18	1126	3382	48937	8905	15045	23950		62.52	Si
SLV 9	ini.	-1696.93	15003	1.18	3548	3382	48937	8905	15045	23950		1.6	Si
SLV 9	fin.	-2604.05	-11466	1.18	5371	3382	48937	8905	15045	23950		2.09	Si
SLV 5	ini.	488.93	10305	1.18	1041	3382	48937	8905	15045	23950		2.32	Si
SLV 5	fin.	-3182.03	-14702	1.18	6503	3382	48937	8905	15045	23950		1.63	Si
SLV 8	ini.	95.33	-11750	1.18	204	3382	48937	8905	15045	23950		2.04	Si
SLV 8	fin.	766.67	7960	1.18	1626	3382	48937	8905	15045	23950		3.01	Si
SLV 11	ini.	-2123.87	-7216	1.18	4413	3382	48937	8905	15045	23950		3.32	Si
SLV 11	fin.	1374.94	11435	1.18	2892	3382	48937	8905	15045	23950		2.09	Si
SLV 14	ini.	-4355.1	12913	1.18	8721	3382	48937	8905	15045	23950		1.85	Si
SLV 14	fin.	-574.75	30	1.18	1221	3382	48937	8905	15045	23950		809.16	Si
SLV 7	ini.	61.99	-11914	1.18	133	3382	48937	8905	15045	23950		2.01	Si
SLV 7	fin.	796.97	8198	1.18	1690	3382	48937	8905	15045	23950		2.92	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.554	SLV 15	Si
V_SLV	1.579	SLV 10	Si
PF_SLU	20.095	SLU 84	Si
V_SLU	7.849	SLU 68	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	2.77	4.35	1.58	-7.443	1.141	2.77	4.35	1.58	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	304.37	-7383	-0.0000078	0.0002246	0.0035	1.58		50211.46	50211.46	No	164.97	Si
SLU 82	fin.	-2016.1	-9200	-0.000053	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.93	Si
SLU 83	ini.	313.37	-7478	-0.000008	0.0002246	0.0035	1.58		50211.46	50211.46	No	160.23	Si
SLU 83	fin.	-2038.73	-9320	-0.0000536	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.65	Si
SLU 75	ini.	336.03	-7198	-0.0000086	0.0002246	0.0035	1.58		50211.46	50211.46	No	149.43	Si
SLU 75	fin.	-2013.64	-9039	-0.0000529	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.96	Si
SLU 74	ini.	342.62	-7186	-0.0000087	0.0002246	0.0035	1.58		50211.46	50211.46	No	146.55	Si
SLU 74	fin.	-2019.61	-9038	-0.0000531	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.89	Si
SLU 81	ini.	310.96	-7371	-0.0000079	0.0002246	0.0035	1.58		50211.46	50211.46	No	161.47	Si
SLU 81	fin.	-2022.07	-9198	-0.0000531	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.86	Si
SLU 78	ini.	338.44	-7304	-0.0000086	0.0002246	0.0035	1.58		50211.46	50211.46	No	148.36	Si
SLU 78	fin.	-2030.3	-9161	-0.0000534	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.76	Si
SLU 84	ini.	306.78	-7490	-0.0000078	0.0002246	0.0035	1.58		50211.46	50211.46	No	163.67	Si
SLU 84	fin.	-2032.76	-9321	-0.0000534	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.73	Si
SLU 77	ini.	345.03	-7292	-0.0000088	0.0002246	0.0035	1.58		50211.46	50211.46	No	145.53	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-2036.27	-9159	-0.0000535	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.68	Si
SLU 79	ini.	342.84	-7233	-0.0000088	0.0002246	0.0035	1.58		50211.46	50211.46	No	146.46	Si
SLU 79	fin.	-2021.56	-9088	-0.0000531	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.86	Si
SLU 80	ini.	336.25	-7245	-0.0000086	0.0002246	0.0035	1.58		50211.46	50211.46	No	149.33	Si
SLU 80	fin.	-2015.59	-9089	-0.000053	0.0002246	0.0035	1.58		50263.61	50263.61	No	24.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	313.37	-1785	1.58	249	3687	45312	7949	20145	28094	No	15.74	Si
SLU 83	fin.	-2038.73	-5901	1.58	1586	3687	45312	7949	20145	28094	No	4.76	Si
SLU 78	ini.	338.44	-1979	1.58	269	3687	45312	7949	20145	28094	No	14.2	Si
SLU 78	fin.	-2030.3	-5763	1.58	1580	3687	45312	7949	20145	28094	No	4.88	Si
SLU 79	ini.	342.84	-1973	1.58	272	3687	45312	7949	20145	28094	No	14.24	Si
SLU 79	fin.	-2021.56	-5757	1.58	1573	3687	45312	7949	20145	28094	No	4.88	Si
SLU 81	ini.	310.96	-1754	1.58	247	3687	45312	7949	20145	28094	No	16.02	Si
SLU 81	fin.	-2022.07	-5870	1.58	1574	3687	45312	7949	20145	28094	No	4.79	Si
SLU 77	ini.	345.03	-2000	1.58	274	3687	45312	7949	20145	28094	No	14.05	Si
SLU 77	fin.	-2036.27	-5784	1.58	1585	3687	45312	7949	20145	28094	No	4.86	Si
SLU 75	ini.	336.03	-1948	1.58	267	3687	45312	7949	20145	28094	No	14.42	Si
SLU 75	fin.	-2013.64	-5732	1.58	1567	3687	45312	7949	20145	28094	No	4.9	Si
SLU 80	ini.	336.25	-1952	1.58	267	3687	45312	7949	20145	28094	No	14.39	Si
SLU 80	fin.	-2015.59	-5736	1.58	1569	3687	45312	7949	20145	28094	No	4.9	Si
SLU 82	ini.	304.37	-1733	1.58	242	3687	45312	7949	20145	28094	No	16.21	Si
SLU 82	fin.	-2016.1	-5849	1.58	1569	3687	45312	7949	20145	28094	No	4.8	Si
SLU 84	ini.	306.78	-1764	1.58	244	3687	45312	7949	20145	28094	No	15.93	Si
SLU 84	fin.	-2032.76	-5880	1.58	1582	3687	45312	7949	20145	28094	No	4.78	Si
SLU 74	ini.	342.62	-1969	1.58	272	3687	45312	7949	20145	28094	No	14.27	Si
SLU 74	fin.	-2019.61	-5753	1.58	1572	3687	45312	7949	20145	28094	No	4.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-4300.56	-10126	-0.0001151	0.0003369	0.0035	1.58		53246.24	53246.24		12.38	Si
SLV 14	fin.	2530.48	-5029	-0.0000662	0.0003369	0.0035	1.58		53190.98	53190.98		21.02	Si
SLV 2	ini.	4568.92	-205	-0.0001229	0.0003369	0.0035	1.58		53190.98	53190.98		11.64	Si
SLV 2	fin.	-5177.96	-7442	-0.0001403	0.0003369	0.0035	1.58		53246.24	53246.24		10.28	Si
SLV 13	ini.	-4343.83	-10161	-0.0001163	0.0003369	0.0035	1.58		53246.24	53246.24		12.26	Si
SLV 13	fin.	2557.94	-5023	-0.000067	0.0003369	0.0035	1.58		53190.98	53190.98		20.79	Si
SLV 1	ini.	4525.65	-240	-0.0001216	0.0003369	0.0035	1.58		53190.98	53190.98		11.75	Si
SLV 1	fin.	-5150.5	-7436	-0.0001395	0.0003369	0.0035	1.58		53246.24	53246.24		10.34	Si
SLV 3	ini.	4871.97	523	-0.0001316	0.0003369	0.0035	1.58		53190.98	53190.98		10.92	Si
SLV 3	fin.	-5425.87	-7303	-0.0001475	0.0003369	0.0035	1.58		53246.24	53246.24		9.81	Si
SLV 4	ini.	4915.24	558	-0.0001328	0.0003369	0.0035	1.58		53190.98	53190.98		10.82	Si
SLV 4	fin.	-5453.33	-7309	-0.0001484	0.0003369	0.0035	1.58		53246.24	53246.24		9.76	Si
SLV 16	ini.	-3954.24	-9363	-0.0001053	0.0003369	0.0035	1.58		53246.24	53246.24		13.47	Si
SLV 16	fin.	2255.11	-4897	-0.0000588	0.0003369	0.0035	1.58		53190.98	53190.98		23.59	Si
SLD 4	ini.	3243.13	-1387	-0.0000856	0.0003369	0.0035	1.58		53190.98	53190.98		16.4	Si
SLD 4	fin.	-4006.55	-6900	-0.0001068	0.0003369	0.0035	1.58		53246.24	53246.24		13.29	Si
SLV 15	ini.	-3997.51	-9398	-0.0001065	0.0003369	0.0035	1.58		53246.24	53246.24		13.32	Si
SLV 15	fin.	2282.57	-4891	-0.0000595	0.0003369	0.0035	1.58		53190.98	53190.98		23.3	Si
SLD 3	ini.	3215.68	-1409	-0.0000849	0.0003369	0.0035	1.58		53190.98	53190.98		16.54	Si
SLD 3	fin.	-3989.13	-6897	-0.0001063	0.0003369	0.0035	1.58		53246.24	53246.24		13.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	4525.65	-14121	1.58	5220	5053	45312	11924	20145	32069		2.27	Si
SLV 1	fin.	-5150.5	-16530	1.58	5903	5053	45312	11924	20145	32069		1.94	Si
SLD 2	ini.	3039.35	-9738	1.58	3550	5053	45312	11924	20145	32069		3.29	Si
SLD 2	fin.	-3844.09	-12126	1.58	4455	5053	45312	11924	20145	32069		2.64	Si
SLV 3	ini.	4871.97	-15217	1.58	5603	5053	45312	11924	20145	32069		2.11	Si
SLV 3	fin.	-5425.87	-17592	1.58	6203	5053	45312	11924	20145	32069		1.82	Si
SLV 4	ini.	4915.24	-15320	1.58	5650	5053	45312	11924	20145	32069		2.09	Si
SLV 4	fin.	-5453.33	-17696	1.58	6233	5053	45312	11924	20145	32069		1.81	Si
SLD 3	ini.	3215.68	-10317	1.58	3750	5053	45312	11924	20145	32069		3.11	Si
SLD 3	fin.	-3989.13	-12685	1.58	4618	5053	45312	11924	20145	32069		2.53	Si
SLV 14	ini.	-4300.56	11901	1.58	4965	5053	45312	11924	20145	32069		2.69	Si
SLV 14	fin.	2530.48	9553	1.58	2967	5053	45312	11924	20145	32069		3.36	Si
SLD 1	ini.	3011.9	-9673	1.58	3518	5053	45312	11924	20145	32069		3.32	Si
SLD 1	fin.	-3826.67	-12061	1.58	4436	5053	45312	11924	20145	32069		2.66	Si
SLV 2	ini.	4568.92	-14224	1.58	5268	5053	45312	11924	20145	32069		2.25	Si
SLV 2	fin.	-5177.96	-16633	1.58	5933	5053	45312	11924	20145	32069		1.93	Si
SLD 4	ini.	3243.13	-10383	1.58	3781	5053	45312	11924	20145	32069		3.09	Si
SLD 4	fin.	-4006.55	-12751	1.58	4637	5053	45312	11924	20145	32069		2.52	Si
SLV 13	ini.	-4343.83	12004	1.58	5013	5053	45312	11924	20145	32069		2.67	Si
SLV 13	fin.	2557.94	9656	1.58	2999	5053	45312	11924	20145	32069		3.32	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	9.764	SLV 4	Si
V_SLV	1.812	SLV 4	Si
PF_SLU	24.654	SLU 83	Si
V_SLU	4.761	SLU 83	Si

Trave di accoppiamento 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	2.77	4.35	1.58	-4.893	1.141	2.77	4.35	1.58	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	480.38	-7446	-0.0000123	0.0002246	0.0035	1.58		50211.46	50211.46	No	104.52	Si
SLU 73	fin.	-1769.97	-8316	-0.0000463	0.0002246	0.0035	1.58		50263.61	50263.61	No	28.4	Si
SLU 75	ini.	471.62	-7611	-0.0000121	0.0002246	0.0035	1.58		50211.46	50211.46	No	106.47	Si
SLU 75	fin.	-1769.49	-8475	-0.0000463	0.0002246	0.0035	1.58		50263.61	50263.61	No	28.41	Si
SLU 74	ini.	480.85	-7588	-0.0000123	0.0002246	0.0035	1.58		50211.46	50211.46	No	104.42	Si
SLU 74	fin.	-1760.25	-8452	-0.000046	0.0002246	0.0035	1.58		50263.61	50263.61	No	28.55	Si
SLU 83	ini.	463.18	-7904	-0.0000119	0.0002246	0.0035	1.58		50211.46	50211.46	No	108.41	Si
SLU 83	fin.	-1818.58	-8785	-0.0000476	0.0002246	0.0035	1.58		50263.61	50263.61	No	27.64	Si
SLU 81	ini.	482.53	-7783	-0.0000123	0.0002246	0.0035	1.58		50211.46	50211.46	No	104.06	Si
SLU 81	fin.	-1824.04	-8675	-0.0000478	0.0002246	0.0035	1.58		50263.61	50263.61	No	27.56	Si
SLU 78	ini.	452.27	-7732	-0.0000116	0.0002246	0.0035	1.58		50211.46	50211.46	No	111.02	Si
SLU 78	fin.	-1764.03	-8585	-0.0000461	0.0002246	0.0035	1.58		50263.61	50263.61	No	28.49	Si
SLU 77	ini.	461.5	-7709	-0.0000118	0.0002246	0.0035	1.58		50211.46	50211.46	No	108.8	Si
SLU 77	fin.	-1754.79	-8562	-0.0000459	0.0002246	0.0035	1.58		50263.61	50263.61	No	28.64	Si
SLU 82	ini.	473.3	-7806	-0.0000121	0.0002246	0.0035	1.58		50211.46	50211.46	No	106.09	Si
SLU 82	fin.	-1833.28	-8699	-0.000048	0.0002246	0.0035	1.58		50263.61	50263.61	No	27.42	Si
SLU 84	ini.	453.95	-7927	-0.0000116	0.0002246	0.0035	1.58		50211.46	50211.46	No	110.61	Si
SLU 84	fin.	-1827.82	-8808	-0.0000479	0.0002246	0.0035	1.58		50263.61	50263.61	No	27.5	Si
SLU 76	ini.	461.03	-7567	-0.0000118	0.0002246	0.0035	1.58		50211.46	50211.46	No	108.91	Si
SLU 76	fin.	-1764.51	-8425	-0.0000462	0.0002246	0.0035	1.58		50263.61	50263.61	No	28.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	471.62	-2503	1.58	374	3687	36250	7949	20145	28094	No	11.22	Si
SLU 75	fin.	-1769.49	-4738	1.58	1381	3687	36250	7949	20145	28094	No	5.93	Si
SLU 73	ini.	480.38	-2520	1.58	381	3687	36250	7949	20145	28094	No	11.15	Si
SLU 73	fin.	-1769.97	-4755	1.58	1382	3687	36250	7949	20145	28094	No	5.91	Si
SLU 77	ini.	461.5	-2461	1.58	366	3687	36250	7949	20145	28094	No	11.42	Si
SLU 77	fin.	-1754.79	-4696	1.58	1370	3687	36250	7949	20145	28094	No	5.98	Si
SLU 82	ini.	473.3	-2530	1.58	375	3687	36250	7949	20145	28094	No	11.1	Si
SLU 82	fin.	-1833.28	-4930	1.58	1430	3687	36250	7949	20145	28094	No	5.7	Si
SLU 84	ini.	453.95	-2488	1.58	360	3687	36250	7949	20145	28094	No	11.29	Si
SLU 84	fin.	-1827.82	-4888	1.58	1426	3687	36250	7949	20145	28094	No	5.75	Si
SLU 78	ini.	452.27	-2461	1.58	359	3687	36250	7949	20145	28094	No	11.42	Si
SLU 78	fin.	-1764.03	-4696	1.58	1377	3687	36250	7949	20145	28094	No	5.98	Si
SLU 81	ini.	482.53	-2530	1.58	382	3687	36250	7949	20145	28094	No	11.1	Si
SLU 81	fin.	-1824.04	-4930	1.58	1423	3687	36250	7949	20145	28094	No	5.7	Si
SLU 76	ini.	461.03	-2478	1.58	366	3687	36250	7949	20145	28094	No	11.34	Si
SLU 76	fin.	-1764.51	-4713	1.58	1377	3687	36250	7949	20145	28094	No	5.96	Si
SLU 74	ini.	480.85	-2503	1.58	381	3687	36250	7949	20145	28094	No	11.23	Si
SLU 74	fin.	-1760.25	-4738	1.58	1374	3687	36250	7949	20145	28094	No	5.93	Si
SLU 83	ini.	463.18	-2488	1.58	367	3687	36250	7949	20145	28094	No	11.29	Si
SLU 83	fin.	-1818.58	-4888	1.58	1419	3687	36250	7949	20145	28094	No	5.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-3460.16	-9949	-0.0000915	0.0003369	0.0035	1.58		53246.24	53246.24		15.39	Si
SLV 16	fin.	775.67	-8196	-0.0000199	0.0003369	0.0035	1.58		53190.98	53190.98		68.57	Si
SLV 15	ini.	-3488.12	-9946	-0.0000923	0.0003369	0.0035	1.58		53246.24	53246.24		15.27	Si
SLV 15	fin.	826.47	-8163	-0.0000212	0.0003369	0.0035	1.58		53190.98	53190.98		64.36	Si
SLV 13	ini.	-3841.77	-10924	-0.0001022	0.0003369	0.0035	1.58		53246.24	53246.24		13.86	Si
SLV 13	fin.	502.52	-9122	-0.0000128	0.0003369	0.0035	1.58		53190.98	53190.98		105.85	Si
SLV 4	ini.	4630.02	819	-0.0001246	0.0003369	0.0035	1.58		53190.98	53190.98		11.49	Si
SLV 4	fin.	-2964.79	-2237	-0.0000779	0.0003369	0.0035	1.58		53246.24	53246.24		17.96	Si
SLD 4	ini.	3095.56	-1319	-0.0000816	0.0003369	0.0035	1.58		53190.98	53190.98		17.18	Si
SLD 4	fin.	-2348.33	-3500	-0.0000612	0.0003369	0.0035	1.58		53246.24	53246.24		22.67	Si
SLV 14	ini.	-3813.81	-10927	-0.0001014	0.0003369	0.0035	1.58		53246.24	53246.24		13.96	Si
SLV 14	fin.	451.72	-9156	-0.0000115	0.0003369	0.0035	1.58		53190.98	53190.98		117.75	Si
SLV 1	ini.	4248.42	-156	-0.0001137	0.0003369	0.0035	1.58		53190.98	53190.98		12.52	Si
SLV 1	fin.	-3237.93	-3163	-0.0000854	0.0003369	0.0035	1.58		53246.24	53246.24		16.44	Si
SLV 3	ini.	4602.06	822	-0.0001238	0.0003369	0.0035	1.58		53190.98	53190.98		11.56	Si
SLV 3	fin.	-2913.98	-2204	-0.0000765	0.0003369	0.0035	1.58		53246.24	53246.24		18.27	Si
SLD 3	ini.	3077.82	-1317	-0.0000811	0.0003369	0.0035	1.58		53190.98	53190.98		17.28	Si
SLD 3	fin.	-2316.1	-3479	-0.0000604	0.0003369	0.0035	1.58		53246.24	53246.24		22.99	Si
SLV 2	ini.	4276.37	-159	-0.0001145	0.0003369	0.0035	1.58		53190.98	53190.98		12.44	Si
SLV 2	fin.	-3288.73	-3196	-0.0000868	0.0003369	0.0035	1.58		53246.24	53246.24		16.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	3095.56	-8141	1.58	3614	5530	36250	11924	20145	32069		3.94	Si
SLD 4	fin.	-2348.33	-9619	1.58	2755	5530	36250	11924	20145	32069		3.33	Si
SLV 3	ini.	4602.06	-11526	1.58	5305	5530	36250	11924	20145	32069		2.78	Si
SLV 3	fin.	-2913.98	-13026	1.58	3403	5530	36250	11924	20145	32069		2.46	Si
SLV 1	ini.	4248.42	-11534	1.58	4912	5530	36250	11924	20145	32069		2.78	Si
SLV 1	fin.	-3237.93	-12968	1.58	3772	5530	36250	11924	20145	32069		2.47	Si
SLV 4	ini.	4630.02	-11654	1.58	5336	5530	36250	11924	20145	32069		2.75	Si
SLV 4	fin.	-2964.79	-13154	1.58	3461	5530	36250	11924	20145	32069		2.44	Si
SLD 3	ini.	3077.82	-8060	1.58	3593	5530	36250	11924	20145	32069		3.98	Si
SLD 3	fin.	-2316.1	-9538	1.58	2718	5530	36250	11924	20145	32069		3.36	Si
SLV 15	ini.	-3488.12	7859	1.58	4055	5530	36250	11924	20145	32069		4.08	Si
SLV 15	fin.	826.47	6402	1.58	982	5530	36250	11924	20145	32069		5.01	Si
SLD 2	ini.	2886.94	-8144	1.58	3376	5530	36250	11924	20145	32069		3.94	Si
SLD 2	fin.	-2537.66	-9582	1.58	2973	5530	36250	11924	20145	32069		3.35	Si
SLV 13	ini.	-3841.77	7852	1.58	4453	5530	36250	11924	20145	32069		4.08	Si
SLV 13	fin.	502.52	6459	1.58	598	5530	36250	11924	20145	32069		4.96	Si
SLD 1	ini.	2869.2	-8063	1.58	3356	5530	36250	11924	20145	32069		3.98	Si
SLD 1	fin.	-2505.43	-9501	1.58	2936	5530	36250	11924	20145	32069		3.38	Si
SLV 2	ini.	4276.37	-11662	1.58	4943	5530	36250	11924	20145	32069		2.75	Si
SLV 2	fin.	-3288.73	-13096	1.58	3829	5530	36250	11924	20145	32069		2.45	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	11.488	SLV 4	Si
V_SLV	2.438	SLV 4	Si
PF_SLU	27.417	SLU 82	Si
V_SLU	5.699	SLU 82	Si

Trave di accoppiamento 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	2.77	4.35	1.58	-9.443	-3.169	2.77	4.35	1.58	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-186.37	-6149	-0.0000117	0.0001872	0.0035	1.58		25129.23	25129.23	No	134.83	Si
SLU 73	fin.	-2525.17	-7284	-0.0001691	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.95	Si
SLU 80	ini.	-239.16	-6246	-0.0000151	0.0001872	0.0035	1.58		25129.23	25129.23	No	105.07	Si
SLU 80	fin.	-2498.5	-7355	-0.0001671	0.0001872	0.0035	1.58		25129.23	25129.23	No	10.06	Si
SLU 75	ini.	-207.98	-6235	-0.0000131	0.0001872	0.0035	1.58		25129.23	25129.23	No	120.82	Si
SLU 75	fin.	-2531.66	-7368	-0.0001695	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.93	Si
SLU 78	ini.	-228.81	-6296	-0.0000144	0.0001872	0.0035	1.58		25129.23	25129.23	No	109.83	Si
SLU 78	fin.	-2529.6	-7423	-0.0001694	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.93	Si
SLU 76	ini.	-207.2	-6210	-0.0000131	0.0001872	0.0035	1.58		25129.23	25129.23	No	121.28	Si
SLU 76	fin.	-2523.11	-7338	-0.0001689	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.96	Si
SLU 81	ini.	-242.73	-6336	-0.0000153	0.0001872	0.0035	1.58		25129.23	25129.23	No	103.53	Si
SLU 81	fin.	-2551.75	-7468	-0.000171	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.85	Si
SLU 84	ini.	-246.85	-6435	-0.0000156	0.0001872	0.0035	1.58		25129.23	25129.23	No	101.8	Si
SLU 84	fin.	-2583.52	-7578	-0.0001733	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.73	Si
SLU 82	ini.	-226.02	-6374	-0.0000143	0.0001872	0.0035	1.58		25129.23	25129.23	No	111.18	Si
SLU 82	fin.	-2585.57	-7524	-0.0001734	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.72	Si
SLU 83	ini.	-263.55	-6397	-0.0000166	0.0001872	0.0035	1.58		25129.23	25129.23	No	95.35	Si
SLU 83	fin.	-2549.69	-7522	-0.0001708	0.0001872	0.0035	1.58		25129.23	25129.23	No	9.86	Si
SLU 74	ini.	-224.69	-6197	-0.0000142	0.0001872	0.0035	1.58		25129.23	25129.23	No	111.84	Si
SLU 74	fin.	-2497.83	-7312	-0.0001671	0.0001872	0.0035	1.58		25129.23	25129.23	No	10.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-207.98	-2561	1.58	1079	3072	14273	6624	10073	16696	No	6.52	Si
SLU 75	fin.	-2531.66	-4556	1.58	9766	3072	14273	6624	10073	16696	No	3.66	Si
SLU 83	ini.	-263.55	-2454	1.58	1357	3072	14273	6624	10073	16696	No	6.8	Si
SLU 83	fin.	-2549.69	-4567	1.58	9812	3072	14273	6624	10073	16696	No	3.66	Si
SLU 74	ini.	-224.69	-2490	1.58	1163	3072	14273	6624	10073	16696	No	6.71	Si
SLU 74	fin.	-2497.83	-4484	1.58	9678	3072	14273	6624	10073	16696	No	3.72	Si
SLU 82	ini.	-226.02	-2557	1.58	1170	3072	14273	6624	10073	16696	No	6.53	Si
SLU 82	fin.	-2585.57	-4670	1.58	9903	3072	14273	6624	10073	16696	No	3.58	Si
SLU 78	ini.	-228.81	-2530	1.58	1184	3072	14273	6624	10073	16696	No	6.6	Si
SLU 78	fin.	-2529.6	-4525	1.58	9761	3072	14273	6624	10073	16696	No	3.69	Si
SLU 73	ini.	-186.37	-2579	1.58	969	3072	14273	6624	10073	16696	No	6.47	Si
SLU 73	fin.	-2525.17	-4574	1.58	9749	3072	14273	6624	10073	16696	No	3.65	Si
SLU 84	ini.	-246.85	-2526	1.58	1274	3072	14273	6624	10073	16696	No	6.61	Si
SLU 84	fin.	-2583.52	-4639	1.58	9898	3072	14273	6624	10073	16696	No	3.6	Si
SLU 81	ini.	-242.73	-2485	1.58	1253	3072	14273	6624	10073	16696	No	6.72	Si
SLU 81	fin.	-2551.75	-4598	1.58	9817	3072	14273	6624	10073	16696	No	3.63	Si
SLU 80	ini.	-239.16	-2469	1.58	1235	3072	14273	6624	10073	16696	No	6.76	Si
SLU 80	fin.	-2498.5	-4464	1.58	9680	3072	14273	6624	10073	16696	No	3.74	Si
SLU 76	ini.	-207.2	-2548	1.58	1075	3072	14273	6624	10073	16696	No	6.55	Si
SLU 76	fin.	-2523.11	-4543	1.58	9744	3072	14273	6624	10073	16696	No	3.68	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	3694.05	-2725	-0.0002492	0.0002807	0.0035	1.58		25585.7	25585.7		6.93	Si
SLV 4	fin.	-5448.21	-6298	-0.0003834	0.0002807	0.0035	1.58		25612.32	25612.32		4.7	Si
SLV 2	ini.	4610.08	-4977	-0.0003179	0.0002807	0.0035	1.58		25585.7	25585.7		5.55	Si
SLV 2	fin.	-7300.15	-9513	-0.0005396	0.0002807	0.0035	1.58		25612.32	25612.32		3.51	Si
SLD 6	ini.	1638.41	-6389	-0.000106	0.0002807	0.0035	1.58		25585.7	25585.7		15.62	Si
SLD 6	fin.	-4502.28	-8785	-0.0003092	0.0002807	0.0035	1.58		25612.32	25612.32		5.69	Si
SLV 15	ini.	-4921.51	-3528	-0.0003416	0.0002807	0.0035	1.58		25612.32	25612.32		5.2	Si
SLV 15	fin.	3872.77	-527	-0.0002623	0.0002807	0.0035	1.58		25585.7	25585.7		6.61	Si
SLD 1	ini.	2435.99	-4571	-0.00016	0.0002807	0.0035	1.58		25585.7	25585.7		10.5	Si
SLD 1	fin.	-4725.92	-7389	-0.0003264	0.0002807	0.0035	1.58		25612.32	25612.32		5.42	Si
SLV 3	ini.	3012.73	-2591	-0.0002002	0.0002807	0.0035	1.58		25585.7	25585.7		8.49	Si
SLV 3	fin.	-4640.49	-5637	-0.0003198	0.0002807	0.0035	1.58		25612.32	25612.32		5.52	Si
SLD 2	ini.	2868.22	-4656	-0.00019	0.0002807	0.0035	1.58		25585.7	25585.7		8.92	Si
SLD 2	fin.	-5238.35	-7808	-0.0003666	0.0002807	0.0035	1.58		25612.32	25612.32		4.89	Si
SLV 6	ini.	2790.45	-7910	-0.0001846	0.0002807	0.0035	1.58		25585.7	25585.7		9.17	Si
SLV 6	fin.	-6349.11	-11368	-0.0004576	0.0002807	0.0035	1.58		25612.32	25612.32		4.03	Si
SLV 5	ini.	2331.82	-7820	-0.0001528	0.0002807	0.0035	1.58		25585.7	25585.7		10.97	Si
SLV 5	fin.	-5805.4	-10923	-0.0004124	0.0002807	0.0035	1.58		25612.32	25612.32		4.41	Si
SLV 1	ini.	3928.76	-4842	-0.0002665	0.0002807	0.0035	1.58		25585.7	25585.7		6.51	Si
SLV 1	fin.	-6492.44	-8852	-0.0004697	0.0002807	0.0035	1.58		25612.32	25612.32		3.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	3012.73	-10410	1.58	16250	4608	14273	9936	10073	18882		1.81	Si
SLV 3	fin.	-4640.49	-11791	1.58	16250	4608	14273	9936	10073	18882		1.6	Si
SLV 6	ini.	2790.45	-12502	1.58	16250	4608	14273	9936	10073	18882		1.51	Si
SLV 6	fin.	-6349.11	-13840	1.58	16250	4608	14273	9936	10073	18882		1.36	Si
SLD 1	ini.	2435.99	-9704	1.58	16021	4608	14273	9936	10073	18882		1.95	Si
SLD 1	fin.	-4725.92	-11061	1.58	16250	4608	14273	9936	10073	18882		1.71	Si
SLV 15	ini.	-4921.51	13015	1.58	16250	4608	14273	9936	10073	18882		1.45	Si
SLV 15	fin.	3872.77	11712	1.58	16250	4608	14273	9936	10073	18882		1.61	Si
SLV 1	ini.	3928.76	-14343	1.58	16250	4608	14273	9936	10073	18882		1.32	Si
SLV 1	fin.	-6492.44	-15716	1.58	16250	4608	14273	9936	10073	18882		1.2	Si
SLV 5	ini.	2331.82	-11077	1.58	15463	4608	14273	9936	10073	18882		1.7	Si
SLV 5	fin.	-5805.4	-12415	1.58	16250	4608	14273	9936	10073	18882		1.52	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	4610.08	-16459	1.58	16250	4608	14273	9936	10073	18882		1.15	Si
SLV 2	fin.	-7300.15	-17833	1.58	16250	4608	14273	9936	10073	18882		1.06	Si
SLV 4	ini.	3694.05	-12526	1.58	16250	4608	14273	9936	10073	18882		1.51	Si
SLV 4	fin.	-5448.21	-13908	1.58	16250	4608	14273	9936	10073	18882		1.36	Si
SLV 16	ini.	-4240.2	10899	1.58	16250	4608	14273	9936	10073	18882		1.73	Si
SLV 16	fin.	3065.05	9596	1.58	16250	4608	14273	9936	10073	18882		1.97	Si
SLD 2	ini.	2868.22	-11046	1.58	16250	4608	14273	9936	10073	18882		1.71	Si
SLD 2	fin.	-5238.35	-12404	1.58	16250	4608	14273	9936	10073	18882		1.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.508	SLV 2	Si
V_SLV	1.059	SLV 2	Si
PF_SLU	9.719	SLU 82	Si
V_SLU	3.575	SLU 82	Si

Trave di accoppiamento 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.453	-3.169	0.67	1.57	0.9	-7.453	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-100.57	1974	-0.0000196	0.0001872	0.0035	0.9		8145.69	8145.69	No	80.99	Si
SLU 79	fin.	315.97	-790	-0.0000627	0.0001872	0.0035	0.9		8130.8	8130.8	No	25.73	Si
SLU 58	ini.	-101.77	1804	-0.0000198	0.0001872	0.0035	0.9		8145.69	8145.69	No	80.04	Si
SLU 58	fin.	313.18	-813	-0.0000621	0.0001872	0.0035	0.9		8130.8	8130.8	No	25.96	Si
SLU 63	ini.	-97.41	1833	-0.000019	0.0001872	0.0035	0.9		8145.69	8145.69	No	83.62	Si
SLU 63	fin.	323.8	-838	-0.0000643	0.0001872	0.0035	0.9		8130.8	8130.8	No	25.11	Si
SLU 60	ini.	-108.18	1865	-0.0000211	0.0001872	0.0035	0.9		8145.69	8145.69	No	75.3	Si
SLU 60	fin.	323.07	-836	-0.0000642	0.0001872	0.0035	0.9		8130.8	8130.8	No	25.17	Si
SLU 81	ini.	-106.98	2035	-0.0000209	0.0001872	0.0035	0.9		8145.69	8145.69	No	76.14	Si
SLU 81	fin.	325.86	-812	-0.0000647	0.0001872	0.0035	0.9		8130.8	8130.8	No	24.95	Si
SLU 83	ini.	-109.79	2058	-0.0000214	0.0001872	0.0035	0.9		8145.69	8145.69	No	74.2	Si
SLU 83	fin.	334.37	-838	-0.0000665	0.0001872	0.0035	0.9		8130.8	8130.8	No	24.32	Si
SLU 62	ini.	-110.98	1888	-0.0000217	0.0001872	0.0035	0.9		8145.69	8145.69	No	73.4	Si
SLU 62	fin.	331.58	-862	-0.0000659	0.0001872	0.0035	0.9		8130.8	8130.8	No	24.52	Si
SLU 61	ini.	-94.61	1811	-0.0000184	0.0001872	0.0035	0.9		8145.69	8145.69	No	86.1	Si
SLU 61	fin.	315.29	-812	-0.0000626	0.0001872	0.0035	0.9		8130.8	8130.8	No	25.79	Si
SLU 82	ini.	-93.42	1981	-0.0000182	0.0001872	0.0035	0.9		8145.69	8145.69	No	87.2	Si
SLU 82	fin.	318.08	-788	-0.0000631	0.0001872	0.0035	0.9		8130.8	8130.8	No	25.56	Si
SLU 84	ini.	-96.22	2003	-0.0000188	0.0001872	0.0035	0.9		8145.69	8145.69	No	84.66	Si
SLU 84	fin.	326.59	-815	-0.0000649	0.0001872	0.0035	0.9		8130.8	8130.8	No	24.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-81.59	-1206	0.9	1298	1750	14273	3773	5738	9511	No	7.88	Si
SLU 75	fin.	296.37	3477	0.9	4318	1750	14273	3773	5738	9510	No	2.74	Si
SLU 74	ini.	-95.16	-1147	0.9	1506	1750	14273	3773	5738	9511	No	8.29	Si
SLU 74	fin.	304.15	3513	0.9	4418	1750	14273	3773	5738	9510	No	2.71	Si
SLU 79	ini.	-100.57	-1106	0.9	1589	1750	14273	3773	5738	9511	No	8.6	Si
SLU 79	fin.	315.97	3557	0.9	4569	1750	14273	3773	5738	9510	No	2.67	Si
SLU 83	ini.	-109.79	-1108	0.9	1728	1750	14273	3773	5738	9511	No	8.58	Si
SLU 83	fin.	334.37	3711	0.9	4802	1750	14273	3773	5738	9510	No	2.56	Si
SLU 84	ini.	-96.22	-1167	0.9	1522	1750	14273	3773	5738	9511	No	8.15	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	326.59	3676	0.9	4704	1750	14273	3773	5738	9510	No	2.59	Si
SLU 78	ini.	-84.4	-1198	0.9	1341	1750	14273	3773	5738	9511	No	7.94	Si
SLU 78	fin.	304.89	3528	0.9	4427	1750	14273	3773	5738	9510	No	2.7	Si
SLU 77	ini.	-97.96	-1139	0.9	1549	1750	14273	3773	5738	9511	No	8.35	Si
SLU 77	fin.	312.67	3563	0.9	4527	1750	14273	3773	5738	9510	No	2.67	Si
SLU 82	ini.	-93.42	-1175	0.9	1480	1750	14273	3773	5738	9511	No	8.09	Si
SLU 82	fin.	318.08	3625	0.9	4596	1750	14273	3773	5738	9510	No	2.62	Si
SLU 81	ini.	-106.98	-1116	0.9	1686	1750	14273	3773	5738	9511	No	8.52	Si
SLU 81	fin.	325.86	3661	0.9	4695	1750	14273	3773	5738	9510	No	2.6	Si
SLU 80	ini.	-87.01	-1165	0.9	1382	1750	14273	3773	5738	9511	No	8.16	Si
SLU 80	fin.	308.19	3522	0.9	4470	1750	14273	3773	5738	9510	No	2.7	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1259.57	5063	-0.000263	0.0002807	0.0035	0.9		8302.25	8302.25		6.59	Si
SLV 11	fin.	1824.57	-5688	-0.0003988	0.0002807	0.0035	0.9		8287.07	8287.07		4.54	Si
SLV 2	ini.	1125.84	-2863	-0.0002333	0.0002807	0.0035	0.9		8287.07	8287.07		7.36	Si
SLV 2	fin.	-1876.4	6170	-0.000411	0.0002807	0.0035	0.9		8302.25	8302.25		4.42	Si
SLV 15	ini.	-1245.36	5515	-0.0002598	0.0002807	0.0035	0.9		8302.25	8302.25		6.67	Si
SLV 15	fin.	2274.35	-7145	-0.0005158	0.0002807	0.0035	0.9		8287.07	8287.07		3.64	Si
SLV 13	ini.	-710.33	3955	-0.0001431	0.0002807	0.0035	0.9		8302.25	8302.25		11.69	Si
SLV 13	fin.	1651.05	-5155	-0.0003559	0.0002807	0.0035	0.9		8287.07	8287.07		5.02	Si
SLV 6	ini.	1140.05	-2411	-0.0002365	0.0002807	0.0035	0.9		8287.07	8287.07		7.27	Si
SLV 6	fin.	-1426.62	4713	-0.0003015	0.0002807	0.0035	0.9		8302.25	8302.25		5.82	Si
SLV 14	ini.	-535.2	3342	-0.0001067	0.0002807	0.0035	0.9		8302.25	8302.25		15.51	Si
SLV 14	fin.	1342.09	-4165	-0.0002825	0.0002807	0.0035	0.9		8287.07	8287.07		6.17	Si
SLV 12	ini.	-1141.68	4651	-0.0002364	0.0002807	0.0035	0.9		8302.25	8302.25		7.27	Si
SLV 12	fin.	1616.6	-5022	-0.0003475	0.0002807	0.0035	0.9		8287.07	8287.07		5.13	Si
SLD 15	ini.	-803.37	3963	-0.0001627	0.0002807	0.0035	0.9		8302.25	8302.25		10.33	Si
SLD 15	fin.	1509.64	-4692	-0.0003218	0.0002807	0.0035	0.9		8287.07	8287.07		5.49	Si
SLV 1	ini.	950.71	-2250	-0.0001948	0.0002807	0.0035	0.9		8287.07	8287.07		8.72	Si
SLV 1	fin.	-1567.44	5180	-0.0003349	0.0002807	0.0035	0.9		8302.25	8302.25		5.3	Si
SLV 16	ini.	-1070.23	4903	-0.0002205	0.0002807	0.0035	0.9		8302.25	8302.25		7.76	Si
SLV 16	fin.	1965.39	-6156	-0.0004346	0.0002807	0.0035	0.9		8287.07	8287.07		4.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1140.05	-9402	0.9	16250	2577	14273	5660	5738	11397		1.21	Si
SLV 6	fin.	-1426.62	-2730	0.9	16250	2577	14273	5660	5738	11397		4.17	Si
SLV 5	ini.	1022.16	-8564	0.9	16250	2577	14273	5660	5738	11397		1.33	Si
SLV 5	fin.	-1218.65	-1976	0.9	16250	2577	14273	5660	5738	11397		5.77	Si
SLV 11	ini.	-1259.57	7769	0.9	16250	2577	14273	5660	5738	11397		1.47	Si
SLV 11	fin.	1824.57	7457	0.9	16250	2577	14273	5660	5738	11397		1.53	Si
SLV 16	ini.	-1070.23	6297	0.9	16250	2577	14273	5660	5738	11397		1.81	Si
SLV 16	fin.	1965.39	8857	0.9	16250	2577	14273	5660	5738	11397		1.29	Si
SLV 2	ini.	1125.84	-9176	0.9	16250	2577	14273	5660	5738	11397		1.24	Si
SLV 2	fin.	-1876.4	-5250	0.9	16250	2577	14273	5660	5738	11397		2.17	Si
SLV 14	ini.	-535.2	2443	0.9	11607	2577	14273	5660	5738	11397		4.66	Si
SLV 14	fin.	1342.09	7142	0.9	16250	2577	14273	5660	5738	11397		1.6	Si
SLV 15	ini.	-1245.36	7542	0.9	16250	2577	14273	5660	5738	11397		1.51	Si
SLV 15	fin.	2274.35	9977	0.9	16250	2577	14273	5660	5738	11397		1.14	Si
SLV 1	ini.	950.71	-7930	0.9	16250	2577	14273	5660	5738	11397		1.44	Si
SLV 1	fin.	-1567.44	-4130	0.9	16250	2577	14273	5660	5738	11397		2.76	Si
SLD 15	ini.	-803.37	4424	0.9	16250	2577	14273	5660	5738	11397		2.58	Si
SLD 15	fin.	1509.64	7189	0.9	16250	2577	14273	5660	5738	11397		1.59	Si
SLV 13	ini.	-710.33	3688	0.9	14758	2577	14273	5660	5738	11397		3.09	Si
SLV 13	fin.	1651.05	8262	0.9	16250	2577	14273	5660	5738	11397		1.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.644	SLV 15	Si
V_SLV	1.142	SLV 15	Si
PF_SLU	24.317	SLU 83	Si
V_SLU	2.562	SLU 83	Si

Trave di accoppiamento 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.453	-3.169	3.47	4.35	0.88	-7.453	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-203.66	-1666	-0.0000418	0.0001872	0.0035	0.88		7794.51	7794.51	No	38.27	Si
SLU 79	fin.	-174.1	-2074	-0.0000357	0.0001872	0.0035	0.88		7794.51	7794.51	No	44.77	Si
SLU 81	ini.	-216.01	-1744	-0.0000444	0.0001872	0.0035	0.88		7794.51	7794.51	No	36.08	Si
SLU 81	fin.	-169.73	-2102	-0.0000348	0.0001872	0.0035	0.88		7794.51	7794.51	No	45.92	Si
SLU 61	ini.	-200.07	-1580	-0.0000411	0.0001872	0.0035	0.88		7794.51	7794.51	No	38.96	Si
SLU 61	fin.	-160.62	-1894	-0.0000329	0.0001872	0.0035	0.88		7794.51	7794.51	No	48.53	Si
SLU 77	ini.	-201.94	-1667	-0.0000415	0.0001872	0.0035	0.88		7794.51	7794.51	No	38.6	Si
SLU 77	fin.	-178.44	-2101	-0.0000366	0.0001872	0.0035	0.88		7794.51	7794.51	No	43.68	Si
SLU 83	ini.	-220.47	-1766	-0.0000453	0.0001872	0.0035	0.88		7794.51	7794.51	No	35.35	Si
SLU 83	fin.	-170.59	-2118	-0.000035	0.0001872	0.0035	0.88		7794.51	7794.51	No	45.69	Si
SLU 84	ini.	-216.46	-1748	-0.0000445	0.0001872	0.0035	0.88		7794.51	7794.51	No	36.01	Si
SLU 84	fin.	-178.59	-2153	-0.0000366	0.0001872	0.0035	0.88		7794.51	7794.51	No	43.64	Si
SLU 82	ini.	-212	-1726	-0.0000436	0.0001872	0.0035	0.88		7794.51	7794.51	No	36.77	Si
SLU 82	fin.	-177.74	-2136	-0.0000364	0.0001872	0.0035	0.88		7794.51	7794.51	No	43.85	Si
SLU 63	ini.	-204.53	-1602	-0.000042	0.0001872	0.0035	0.88		7794.51	7794.51	No	38.11	Si
SLU 63	fin.	-161.47	-1910	-0.0000331	0.0001872	0.0035	0.88		7794.51	7794.51	No	48.27	Si
SLU 60	ini.	-204.08	-1597	-0.0000419	0.0001872	0.0035	0.88		7794.51	7794.51	No	38.19	Si
SLU 60	fin.	-152.61	-1859	-0.0000312	0.0001872	0.0035	0.88		7794.51	7794.51	No	51.07	Si
SLU 62	ini.	-208.54	-1619	-0.0000429	0.0001872	0.0035	0.88		7794.51	7794.51	No	37.38	Si
SLU 62	fin.	-153.47	-1876	-0.0000314	0.0001872	0.0035	0.88		7794.51	7794.51	No	50.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-193.47	4362	0.88	3071	1711	13956	3689	5610	9299	No	2.13	Si
SLU 75	fin.	-185.59	-5093	0.88	2955	1711	13956	3689	5610	9299	No	1.83	Si
SLU 80	ini.	-199.65	4388	0.88	3161	1711	13956	3689	5610	9299	No	2.12	Si
SLU 80	fin.	-182.1	-5074	0.88	2904	1711	13956	3689	5610	9299	No	1.83	Si
SLU 84	ini.	-216.46	4608	0.88	3404	1711	13956	3689	5610	9299	No	2.02	Si
SLU 84	fin.	-178.59	-5222	0.88	2852	1711	13956	3689	5610	9299	No	1.78	Si
SLU 83	ini.	-220.47	4620	0.88	3462	1711	13956	3689	5610	9299	No	2.01	Si
SLU 83	fin.	-170.59	-5165	0.88	2733	1711	13956	3689	5610	9299	No	1.8	Si
SLU 73	ini.	-188.05	4289	0.88	2991	1711	13956	3689	5610	9299	No	2.17	Si
SLU 73	fin.	-185.73	-5039	0.88	2957	1711	13956	3689	5610	9299	No	1.85	Si
SLU 77	ini.	-201.94	4420	0.88	3194	1711	13956	3689	5610	9299	No	2.1	Si
SLU 77	fin.	-178.44	-5073	0.88	2850	1711	13956	3689	5610	9299	No	1.83	Si
SLU 81	ini.	-216.01	4574	0.88	3398	1711	13956	3689	5610	9299	No	2.03	Si
SLU 81	fin.	-169.73	-5128	0.88	2720	1711	13956	3689	5610	9299	No	1.81	Si
SLU 78	ini.	-197.93	4408	0.88	3136	1711	13956	3689	5610	9299	No	2.11	Si
SLU 78	fin.	-186.44	-5130	0.88	2968	1711	13956	3689	5610	9299	No	1.81	Si
SLU 76	ini.	-192.51	4335	0.88	3057	1711	13956	3689	5610	9299	No	2.15	Si
SLU 76	fin.	-186.58	-5076	0.88	2970	1711	13956	3689	5610	9299	No	1.83	Si
SLU 82	ini.	-212	4562	0.88	3340	1711	13956	3689	5610	9299	No	2.04	Si
SLU 82	fin.	-177.74	-5185	0.88	2839	1711	13956	3689	5610	9299	No	1.79	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	976.83	3018	-0.0002101	0.0002807	0.0035	0.88		7929.3	7929.3		8.12	Si
SLV 1	fin.	-867.72	-4092	-0.0001849	0.0002807	0.0035	0.88		7944.15	7944.15		9.16	Si
SLV 15	ini.	-1415.42	-5836	-0.0003139	0.0002807	0.0035	0.88		7944.15	7944.15		5.61	Si
SLV 15	fin.	748.03	1724	-0.0001584	0.0002807	0.0035	0.88		7929.3	7929.3		10.6	Si
SLD 15	ini.	-937	-4076	-0.0002006	0.0002807	0.0035	0.88		7944.15	7944.15		8.48	Si
SLD 15	fin.	416.55	519	-0.0000865	0.0002807	0.0035	0.88		7929.3	7929.3		19.04	Si
SLV 12	ini.	-1138.7	-4810	-0.0002472	0.0002807	0.0035	0.88		7944.15	7944.15		6.98	Si
SLV 12	fin.	868.09	2739	-0.0001853	0.0002807	0.0035	0.88		7929.3	7929.3		9.13	Si
SLV 13	ini.	-939.79	-4104	-0.0002012	0.0002807	0.0035	0.88		7944.15	7944.15		8.45	Si
SLV 13	fin.	216.59	-577	-0.0000444	0.0002807	0.0035	0.88		7929.3	7929.3		36.61	Si
SLV 5	ini.	892.33	2655	-0.0001908	0.0002807	0.0035	0.88		7929.3	7929.3		8.89	Si
SLV 5	fin.	-1131.77	-5632	-0.0002456	0.0002807	0.0035	0.88		7944.15	7944.15		7.02	Si
SLV 6	ini.	1021.73	3100	-0.0002204	0.0002807	0.0035	0.88		7929.3	7929.3		7.76	Si
SLV 6	fin.	-1228.7	-5986	-0.0002686	0.0002807	0.0035	0.88		7944.15	7944.15		6.47	Si
SLV 2	ini.	1169.05	3680	-0.0002549	0.0002807	0.0035	0.88		7929.3	7929.3		6.78	Si
SLV 2	fin.	-1011.71	-4617	-0.0002177	0.0002807	0.0035	0.88		7944.15	7944.15		7.85	Si
SLV 11	ini.	-1268.09	-5256	-0.000278	0.0002807	0.0035	0.88		7944.15	7944.15		6.26	Si
SLV 11	fin.	965.02	3092	-0.0002074	0.0002807	0.0035	0.88		7929.3	7929.3		8.22	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-1223.2	-5174	-0.0002672	0.0002807	0.0035	0.88		7944.15	7944.15		6.49	Si
SLV 16	fin.	604.04	1198	-0.0001268	0.0002807	0.0035	0.88		7929.3	7929.3		13.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	446.74	1093	0.88	10240	2507	13956	5534	5610	11144		10.19	Si
SLV 10	fin.	-903.41	-9358	0.88	16250	2507	13956	5534	5610	11144		1.19	Si
SLV 16	ini.	-1223.2	7805	0.88	16250	2507	13956	5534	5610	11144		1.43	Si
SLV 16	fin.	604.04	1207	0.88	13316	2507	13956	5534	5610	11144		9.23	Si
SLV 5	ini.	892.33	-1015	0.88	16250	2507	13956	5534	5610	11144		10.98	Si
SLV 5	fin.	-1131.77	-10655	0.88	16250	2507	13956	5534	5610	11144		1.05	Si
SLD 5	ini.	485.55	542	0.88	11024	2507	13956	5534	5610	11144		20.58	Si
SLD 5	fin.	-725.29	-7714	0.88	15563	2507	13956	5534	5610	11144		1.44	Si
SLV 9	ini.	317.34	1667	0.88	7507	2507	13956	5534	5610	11144		6.68	Si
SLV 9	fin.	-806.47	-8784	0.88	16250	2507	13956	5534	5610	11144		1.27	Si
SLV 6	ini.	1021.73	-1589	0.88	16250	2507	13956	5534	5610	11144		7.01	Si
SLV 6	fin.	-1228.7	-11230	0.88	16250	2507	13956	5534	5610	11144		0.99	No
SLV 15	ini.	-1415.42	8657	0.88	16250	2507	13956	5534	5610	11144		1.29	Si
SLV 15	fin.	748.03	2060	0.88	15902	2507	13956	5534	5610	11144		5.41	Si
SLV 2	ini.	1169.05	-2853	0.88	16250	2507	13956	5534	5610	11144		3.91	Si
SLV 2	fin.	-1011.71	-8964	0.88	16250	2507	13956	5534	5610	11144		1.24	Si
SLV 1	ini.	976.83	-2001	0.88	16250	2507	13956	5534	5610	11144		5.57	Si
SLV 1	fin.	-867.72	-8110	0.88	16250	2507	13956	5534	5610	11144		1.37	Si
SLD 6	ini.	564.07	193	0.88	12560	2507	13956	5534	5610	11144		57.59	Si
SLD 6	fin.	-784.12	-8063	0.88	16250	2507	13956	5534	5610	11144		1.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.613	SLV 15	Si
V_SLV	0.992	SLV 6	No
PF_SLU	35.354	SLU 83	Si
V_SLU	1.781	SLU 84	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	0.67	2.67	2	-5.158	6.521	0.67	2.67	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-3676.19	5557	-0.0001527	0.0001872	0.0035	2		40238.64	40238.64	No	10.95	Si
SLU 75	fin.	604.82	2907	-0.0000239	0.0001872	0.0035	2		40205.56	40205.56	No	66.48	Si
SLU 81	ini.	-3771.73	5728	-0.0001569	0.0001872	0.0035	2		40238.64	40238.64	No	10.67	Si
SLU 81	fin.	635.72	3001	-0.0000252	0.0001872	0.0035	2		40205.56	40205.56	No	63.24	Si
SLU 77	ini.	-3646.43	5551	-0.0001513	0.0001872	0.0035	2		40238.64	40238.64	No	11.04	Si
SLU 77	fin.	598.76	2900	-0.0000237	0.0001872	0.0035	2		40205.56	40205.56	No	67.15	Si
SLU 82	ini.	-3806.8	5756	-0.0001585	0.0001872	0.0035	2		40238.64	40238.64	No	10.57	Si
SLU 82	fin.	639.55	3017	-0.0000253	0.0001872	0.0035	2		40205.56	40205.56	No	62.87	Si
SLU 76	ini.	-3647.44	5508	-0.0001514	0.0001872	0.0035	2		40238.64	40238.64	No	11.03	Si
SLU 76	fin.	602.76	2884	-0.0000239	0.0001872	0.0035	2		40205.56	40205.56	No	66.7	Si
SLU 84	ini.	-3812.12	5778	-0.0001587	0.0001872	0.0035	2		40238.64	40238.64	No	10.56	Si
SLU 84	fin.	637.32	3025	-0.0000252	0.0001872	0.0035	2		40205.56	40205.56	No	63.09	Si
SLU 83	ini.	-3777.05	5750	-0.0001571	0.0001872	0.0035	2		40238.64	40238.64	No	10.65	Si
SLU 83	fin.	633.49	3010	-0.0000251	0.0001872	0.0035	2		40205.56	40205.56	No	63.47	Si
SLU 74	ini.	-3641.12	5529	-0.0001511	0.0001872	0.0035	2		40238.64	40238.64	No	11.05	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	600.99	2891	-0.0000238	0.0001872	0.0035	2		40205.56	40205.56	No	66.9	Si
SLU 78	ini.	-3681.51	5579	-0.0001529	0.0001872	0.0035	2		40238.64	40238.64	No	10.93	Si
SLU 78	fin.	602.59	2915	-0.0000238	0.0001872	0.0035	2		40205.56	40205.56	No	66.72	Si
SLU 73	ini.	-3642.12	5487	-0.0001512	0.0001872	0.0035	2		40238.64	40238.64	No	11.05	Si
SLU 73	fin.	604.99	2875	-0.0000239	0.0001872	0.0035	2		40205.56	40205.56	No	66.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-3629.38	5951	2	9053	3889	7928	8384	12750	11817	No	1.99	Si
SLU 80	fin.	597.98	14271	2	1881	3889	7928	8384	12750	11817	No	0.83	No
SLU 83	ini.	-3777.05	6329	2	9308	3889	7928	8384	12750	11817	No	1.87	Si
SLU 83	fin.	633.49	14872	2	1988	3889	7928	8384	12750	11817	No	0.79	No
SLU 76	ini.	-3647.44	6123	2	9084	3889	7928	8384	12750	11817	No	1.93	Si
SLU 76	fin.	602.76	14293	2	1896	3889	7928	8384	12750	11817	No	0.83	No
SLU 75	ini.	-3676.19	6151	2	9134	3889	7928	8384	12750	11817	No	1.92	Si
SLU 75	fin.	604.82	14414	2	1902	3889	7928	8384	12750	11817	No	0.82	No
SLU 77	ini.	-3646.43	5935	2	9082	3889	7928	8384	12750	11817	No	1.99	Si
SLU 77	fin.	598.76	14358	2	1884	3889	7928	8384	12750	11817	No	0.82	No
SLU 84	ini.	-3812.12	6460	2	9367	3889	7928	8384	12750	11817	No	1.83	Si
SLU 84	fin.	637.32	14975	2	1999	3889	7928	8384	12750	11817	No	0.79	No
SLU 78	ini.	-3681.51	6066	2	9144	3889	7928	8384	12750	11817	No	1.95	Si
SLU 78	fin.	602.59	14461	2	1895	3889	7928	8384	12750	11817	No	0.82	No
SLU 81	ini.	-3771.73	6414	2	9299	3889	7928	8384	12750	11817	No	1.84	Si
SLU 81	fin.	635.72	14826	2	1994	3889	7928	8384	12750	11817	No	0.8	No
SLU 74	ini.	-3641.12	6020	2	9073	3889	7928	8384	12750	11817	No	1.96	Si
SLU 74	fin.	600.99	14312	2	1890	3889	7928	8384	12750	11817	No	0.83	No
SLU 82	ini.	-3806.8	6545	2	9358	3889	7928	8384	12750	11817	No	1.81	Si
SLU 82	fin.	639.55	14929	2	2006	3889	7928	8384	12750	11817	No	0.79	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-6370.53	7038	-0.0002698	0.0002807	0.0035	2		41007.26	41007.26		6.44	Si
SLV 10	fin.	864.94	3629	-0.0000342	0.0002807	0.0035	2		40973.54	40973.54		47.37	Si
SLD 10	ini.	-4815.77	5745	-0.0001996	0.0002807	0.0035	2		41007.26	41007.26		8.52	Si
SLD 10	fin.	684.16	2968	-0.000027	0.0002807	0.0035	2		40973.54	40973.54		59.89	Si
SLV 15	ini.	-5420.23	7910	-0.0002265	0.0002807	0.0035	2		41007.26	41007.26		7.57	Si
SLV 15	fin.	719.72	3863	-0.0000285	0.0002807	0.0035	2		40973.54	40973.54		56.93	Si
SLD 13	ini.	-5210.71	6906	-0.0002171	0.0002807	0.0035	2		41007.26	41007.26		7.87	Si
SLD 13	fin.	712.2	3452	-0.0000282	0.0002807	0.0035	2		40973.54	40973.54		57.53	Si
SLV 14	ini.	-7833.64	9925	-0.0003393	0.0002807	0.0035	2		41007.26	41007.26		5.23	Si
SLV 14	fin.	1006.41	4903	-0.0000399	0.0002807	0.0035	2		40973.54	40973.54		40.71	Si
SLV 13	ini.	-6822.14	8738	-0.0002909	0.0002807	0.0035	2		41007.26	41007.26		6.01	Si
SLV 13	fin.	892.6	4322	-0.0000354	0.0002807	0.0035	2		40973.54	40973.54		45.9	Si
SLD 14	ini.	-5852.42	7659	-0.000246	0.0002807	0.0035	2		41007.26	41007.26		7.01	Si
SLD 14	fin.	784.41	3821	-0.000031	0.0002807	0.0035	2		40973.54	40973.54		52.23	Si
SLV 16	ini.	-6431.73	9097	-0.0002727	0.0002807	0.0035	2		41007.26	41007.26		6.38	Si
SLV 16	fin.	833.54	4444	-0.000033	0.0002807	0.0035	2		40973.54	40973.54		49.16	Si
SLV 9	ini.	-5689.63	6239	-0.0002387	0.0002807	0.0035	2		41007.26	41007.26		7.21	Si
SLV 9	fin.	788.33	3238	-0.0000312	0.0002807	0.0035	2		40973.54	40973.54		51.98	Si
SLD 16	ini.	-5032.05	7174	-0.0002092	0.0002807	0.0035	2		41007.26	41007.26		8.15	Si
SLD 16	fin.	681.01	3554	-0.0000269	0.0002807	0.0035	2		40973.54	40973.54		60.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-5689.63	15842	2	16250	5833	7928	12577	12750	13762		0.87	No
SLV 9	fin.	788.33	18936	2	3754	5833	7928	12577	12750	13762		0.73	No
SLV 13	ini.	-6822.14	17620	2	16250	5833	7928	12577	12750	13762		0.78	No
SLV 13	fin.	892.6	24615	2	4230	5833	7928	12577	12750	13762		0.56	No
SLV 16	ini.	-6431.73	15258	2	16250	5833	7928	12577	12750	13762		0.9	No
SLV 16	fin.	833.54	24453	2	3961	5833	7928	12577	12750	13762		0.56	No
SLV 14	ini.	-7833.64	20802	2	16250	5833	7928	12577	12750	13762		0.66	No
SLV 14	fin.	1006.41	28092	2	4744	5833	7928	12577	12750	13762		0.49	No
SLD 15	ini.	-4390.35	9305	2	16250	5833	7928	12577	12750	13762		1.48	Si
SLD 15	fin.	608.8	16978	2	2923	5833	7928	12577	12750	13762		0.81	No
SLD 16	ini.	-5032.05	11324	2	16250	5833	7928	12577	12750	13762		1.22	Si
SLD 16	fin.	681.01	19184	2	3259	5833	7928	12577	12750	13762		0.72	No
SLV 10	ini.	-6370.53	17984	2	16250	5833	7928	12577	12750	13762		0.77	No
SLV 10	fin.	864.94	21277	2	4104	5833	7928	12577	12750	13762		0.65	No
SLV 15	ini.	-5420.23	12075	2	16250	5833	7928	12577	12750	13762		1.14	Si
SLV 15	fin.	719.72	20975	2	3438	5833	7928	12577	12750	13762		0.66	No
SLD 13	ini.	-5210.71	12554	2	16250	5833	7928	12577	12750	13762		1.1	Si
SLD 13	fin.	712.2	19112	2	3403	5833	7928	12577	12750	13762		0.72	No
SLD 14	ini.	-5852.42	14573	2	16250	5833	7928	12577	12750	13762		0.94	No
SLD 14	fin.	784.41	21319	2	3736	5833	7928	12577	12750	13762		0.65	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.235	SLV 14	Si
V_SLV	0.49	SLV 14	No
PF_SLU	10.555	SLU 84	Si
V_SLU	0.789	SLU 84	No

Trave di accoppiamento 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	3.471	4.35	0.879	-5.158	6.521	3.47	4.35	0.88	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-1218.97	-5060	-0.0002758	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.39	Si
SLU 74	fin.	554.12	-2330	-0.0001173	0.0001872	0.0035	0.88		7779.95	7779.95	No	14.04	Si
SLU 81	ini.	-1284.34	-5268	-0.0002927	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.06	Si
SLU 81	fin.	552.74	-2432	-0.000117	0.0001872	0.0035	0.88		7779.95	7779.95	No	14.08	Si
SLU 77	ini.	-1208.74	-5057	-0.0002732	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.44	Si
SLU 77	fin.	570.1	-2326	-0.0001209	0.0001872	0.0035	0.88		7779.95	7779.95	No	13.65	Si
SLU 75	ini.	-1236.86	-5109	-0.0002804	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.3	Si
SLU 75	fin.	549.06	-2352	-0.0001162	0.0001872	0.0035	0.88		7779.95	7779.95	No	14.17	Si
SLU 82	ini.	-1302.23	-5317	-0.0002974	0.0001872	0.0035	0.8791		7786.82	7786.82	No	5.98	Si
SLU 82	fin.	547.68	-2454	-0.0001159	0.0001872	0.0035	0.88		7779.95	7779.95	No	14.21	Si
SLU 78	ini.	-1226.63	-5106	-0.0002778	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.35	Si
SLU 78	fin.	565.04	-2348	-0.0001198	0.0001872	0.0035	0.88		7779.95	7779.95	No	13.77	Si
SLU 83	ini.	-1274.11	-5266	-0.00029	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.11	Si
SLU 83	fin.	568.72	-2428	-0.0001206	0.0001872	0.0035	0.88		7779.95	7779.95	No	13.68	Si
SLU 84	ini.	-1292	-5315	-0.0002947	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.03	Si
SLU 84	fin.	563.66	-2450	-0.0001195	0.0001872	0.0035	0.88		7779.95	7779.95	No	13.8	Si
SLU 76	ini.	-1226.6	-5062	-0.0002778	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.35	Si
SLU 76	fin.	542.28	-2329	-0.0001147	0.0001872	0.0035	0.88		7779.95	7779.95	No	14.35	Si
SLU 73	ini.	-1236.83	-5065	-0.0002804	0.0001872	0.0035	0.8791		7786.82	7786.82	No	6.3	Si
SLU 73	fin.	526.3	-2333	-0.0001112	0.0001872	0.0035	0.88		7779.95	7779.95	No	14.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-1204.44	8110	0.8791	10833	1709	7928	3686	5604	9290	No	1.15	Si
SLU 80	fin.	561.63	4784	0.88	7651	1711	7928	3689	5610	9299	No	1.94	Si
SLU 78	ini.	-1226.63	8201	0.8791	10833	1709	7928	3686	5604	9290	No	1.13	Si
SLU 78	fin.	565.04	4868	0.88	7687	1711	7928	3689	5610	9299	No	1.91	Si
SLU 82	ini.	-1302.23	8259	0.8791	10833	1709	7928	3686	5604	9290	No	1.12	Si
SLU 82	fin.	547.68	5141	0.88	7503	1711	7928	3689	5610	9299	No	1.81	Si
SLU 81	ini.	-1284.34	8242	0.8791	10833	1709	7928	3686	5604	9290	No	1.13	Si
SLU 81	fin.	552.74	5078	0.88	7557	1711	7928	3689	5610	9299	No	1.83	Si
SLU 75	ini.	-1236.86	8098	0.8791	10833	1709	7928	3686	5604	9290	No	1.15	Si
SLU 75	fin.	549.06	4895	0.88	7518	1711	7928	3689	5610	9299	No	1.9	Si
SLU 83	ini.	-1274.11	8345	0.8791	10833	1709	7928	3686	5604	9290	No	1.11	Si
SLU 83	fin.	568.72	5052	0.88	7725	1711	7928	3689	5610	9299	No	1.84	Si
SLU 77	ini.	-1208.74	8184	0.8791	10833	1709	7928	3686	5604	9290	No	1.14	Si
SLU 77	fin.	570.1	4805	0.88	7740	1711	7928	3689	5610	9299	No	1.94	Si
SLU 74	ini.	-1218.97	8082	0.8791	10833	1709	7928	3686	5604	9290	No	1.15	Si
SLU 74	fin.	554.12	4832	0.88	7572	1711	7928	3689	5610	9299	No	1.92	Si
SLU 79	ini.	-1186.54	8093	0.8791	10833	1709	7928	3686	5604	9290	No	1.15	Si
SLU 79	fin.	566.68	4722	0.88	7704	1711	7928	3689	5610	9299	No	1.97	Si
SLU 84	ini.	-1292	8362	0.8791	10833	1709	7928	3686	5604	9290	No	1.11	Si
SLU 84	fin.	563.66	5114	0.88	7672	1711	7928	3689	5610	9299	No	1.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-1949.98	-6556	-0.0004529	0.0002807	0.0035	0.8791		7936	7936		4.07	Si
SLD 10	fin.	107.64	-2818	-0.000022	0.0002807	0.0035	0.88		7929.3	7929.3		73.66	Si
SLV 9	ini.	-2393.75	-7718	-0.0005773	0.0002807	0.0035	0.8791		7936	7936		3.32	Si
SLV 9	fin.	-41.98	-3204	-0.0000085	0.0002807	0.0035	0.88		7944.15	7944.15		189.25	Si
SLV 16	ini.	-2467.87	-8576	-0.0005989	0.0002807	0.0035	0.8791		7936	7936		3.22	Si
SLV 16	fin.	337.28	-4105	-0.0000697	0.0002807	0.0035	0.88		7929.3	7929.3		23.51	Si
SLV 15	ini.	-2003.58	-7196	-0.0004674	0.0002807	0.0035	0.8791		7936	7936		3.96	Si
SLV 15	fin.	393.27	-3450	-0.0000815	0.0002807	0.0035	0.88		7929.3	7929.3		20.16	Si
SLD 13	ini.	-2017.96	-6992	-0.0004714	0.0002807	0.0035	0.8791		7936	7936		3.93	Si
SLD 13	fin.	240.88	-3174	-0.0000495	0.0002807	0.0035	0.88		7929.3	7929.3		32.92	Si
SLD 14	ini.	-2312.51	-7867	-0.0005539	0.0002807	0.0035	0.8791		7936	7936		3.43	Si
SLD 14	fin.	205.36	-3589	-0.0000421	0.0002807	0.0035	0.88		7929.3	7929.3		38.61	Si
SLV 14	ini.	-3194.07	-10487	-0.0008231	0.0002807	0.0035	0.8791		7936	7936		2.48	Si
SLV 14	fin.	98.52	-4774	-0.0000201	0.0002807	0.0035	0.88		7929.3	7929.3		80.49	Si
SLV 13	ini.	-2729.79	-9107	-0.0006771	0.0002807	0.0035	0.8791		7936	7936		2.91	Si
SLV 13	fin.	154.5	-4120	-0.0000316	0.0002807	0.0035	0.88		7929.3	7929.3		51.32	Si
SLD 16	ini.	-1886.86	-6746	-0.0004358	0.0002807	0.0035	0.8791		7936	7936		4.21	Si
SLD 16	fin.	344.62	-3197	-0.0000712	0.0002807	0.0035	0.88		7929.3	7929.3		23.01	Si
SLV 10	ini.	-2706.29	-8646	-0.00067	0.0002807	0.0035	0.8791		7936	7936		2.93	Si
SLV 10	fin.	-79.66	-3644	-0.0000162	0.0002807	0.0035	0.88		7944.15	7944.15		99.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-2706.29	7599	0.8791	16250	2564	7928	5528	5604	10492		1.38	Si
SLV 10	fin.	-79.66	10118	0.88	2011	2567	7928	5534	5610	10495		1.04	Si
SLD 16	ini.	-1886.86	8590	0.8791	16250	2564	7928	5528	5604	10492		1.22	Si
SLD 16	fin.	344.62	7033	0.88	8098	2567	7928	5534	5610	10495		1.49	Si
SLV 9	ini.	-2393.75	6944	0.8791	16250	2564	7928	5528	5604	10492		1.51	Si
SLV 9	fin.	-41.98	9008	0.88	1069	2567	7928	5534	5610	10495		1.17	Si
SLV 14	ini.	-3194.07	10633	0.8791	16250	2564	7928	5528	5604	10492		0.99	No
SLV 14	fin.	98.52	11774	0.88	2456	2567	7928	5534	5610	10495		0.89	No
SLD 14	ini.	-2312.51	8753	0.8791	16250	2564	7928	5528	5604	10492		1.2	Si
SLD 14	fin.	205.36	8600	0.88	4990	2567	7928	5534	5610	10495		1.22	Si
SLD 13	ini.	-2017.96	8136	0.8791	16250	2564	7928	5528	5604	10492		1.29	Si
SLD 13	fin.	240.88	7554	0.88	5804	2567	7928	5534	5610	10495		1.39	Si
SLV 16	ini.	-2467.87	10354	0.8791	16250	2564	7928	5528	5604	10492		1.01	Si
SLV 16	fin.	337.28	9096	0.88	7940	2567	7928	5534	5610	10495		1.15	Si
SLD 15	ini.	-1592.31	7973	0.8791	16250	2564	7928	5528	5604	10492		1.32	Si
SLD 15	fin.	380.14	5987	0.88	8856	2567	7928	5534	5610	10495		1.75	Si
SLV 15	ini.	-2003.58	9381	0.8791	16250	2564	7928	5528	5604	10492		1.12	Si
SLV 15	fin.	393.27	7447	0.88	9133	2567	7928	5534	5610	10495		1.41	Si
SLV 13	ini.	-2729.79	9660	0.8791	16250	2564	7928	5528	5604	10492		1.09	Si
SLV 13	fin.	154.5	10125	0.88	3800	2567	7928	5534	5610	10495		1.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.485	SLV 14	Si
V_SLV	0.891	SLV 14	No
PF_SLU	5.98	SLU 82	Si
V_SLU	1.111	SLU 84	Si

Trave di accoppiamento 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	3.47	4.35	0.88	-5.938	-3.169	3.47	4.35	0.88	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	511.21	324	-0.0001079	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.22	Si
SLU 77	fin.	-451.99	-2258	-0.0000947	0.0001872	0.0035	0.88		7794.51	7794.51	No	17.24	Si
SLU 82	ini.	512.55	273	-0.0001082	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.18	Si
SLU 82	fin.	-460.65	-2319	-0.0000966	0.0001872	0.0035	0.88		7794.51	7794.51	No	16.92	Si
SLU 79	ini.	504.27	314	-0.0001063	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.43	Si
SLU 79	fin.	-450.01	-2250	-0.0000943	0.0001872	0.0035	0.88		7794.51	7794.51	No	17.32	Si
SLU 83	ini.	513.38	283	-0.0001083	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.15	Si
SLU 83	fin.	-469.36	-2365	-0.0000985	0.0001872	0.0035	0.88		7794.51	7794.51	No	16.61	Si
SLU 84	ini.	512.31	257	-0.0001081	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.19	Si
SLU 84	fin.	-463.61	-2340	-0.0000972	0.0001872	0.0035	0.88		7794.51	7794.51	No	16.81	Si
SLU 80	ini.	503.2	287	-0.0001061	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.46	Si
SLU 80	fin.	-444.26	-2225	-0.000093	0.0001872	0.0035	0.88		7794.51	7794.51	No	17.54	Si
SLU 75	ini.	510.37	313	-0.0001077	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.24	Si
SLU 75	fin.	-443.28	-2212	-0.0000928	0.0001872	0.0035	0.88		7794.51	7794.51	No	17.58	Si
SLU 78	ini.	510.13	298	-0.0001076	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.25	Si
SLU 78	fin.	-446.24	-2232	-0.0000935	0.0001872	0.0035	0.88		7794.51	7794.51	No	17.47	Si
SLU 74	ini.	511.45	340	-0.0001079	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.21	Si
SLU 74	fin.	-449.03	-2237	-0.0000941	0.0001872	0.0035	0.88		7794.51	7794.51	No	17.36	Si
SLU 81	ini.	513.62	299	-0.0001084	0.0001872	0.0035	0.88		7779.95	7779.95	No	15.15	Si
SLU 81	fin.	-466.4	-2345	-0.0000978	0.0001872	0.0035	0.88		7794.51	7794.51	No	16.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	511.21	-349	0.88	7108	1711	7930	3689	5610	9299	No	26.64	Si
SLU 77	fin.	-451.99	-7788	0.88	6459	1711	7930	3689	5610	9299	No	1.19	Si
SLU 81	ini.	513.62	-357	0.88	7134	1711	7930	3689	5610	9299	No	26.04	Si
SLU 81	fin.	-466.4	-7949	0.88	6625	1711	7930	3689	5610	9299	No	1.17	Si
SLU 80	ini.	503.2	-260	0.88	7019	1711	7930	3689	5610	9299	No	35.76	Si
SLU 80	fin.	-444.26	-7689	0.88	6369	1711	7930	3689	5610	9299	No	1.21	Si
SLU 74	ini.	511.45	-373	0.88	7110	1711	7930	3689	5610	9299	No	24.94	Si
SLU 74	fin.	-449.03	-7746	0.88	6424	1711	7930	3689	5610	9299	No	1.2	Si
SLU 84	ini.	512.31	-242	0.88	7120	1711	7930	3689	5610	9299	No	38.36	Si
SLU 84	fin.	-463.61	-7959	0.88	6593	1711	7930	3689	5610	9299	No	1.17	Si
SLU 83	ini.	513.38	-333	0.88	7132	1711	7930	3689	5610	9299	No	27.9	Si
SLU 83	fin.	-469.36	-7990	0.88	6659	1711	7930	3689	5610	9299	No	1.16	Si
SLU 75	ini.	510.37	-282	0.88	7099	1711	7930	3689	5610	9299	No	32.97	Si
SLU 75	fin.	-443.28	-7715	0.88	6357	1711	7930	3689	5610	9299	No	1.21	Si
SLU 79	ini.	504.27	-351	0.88	7031	1711	7930	3689	5610	9299	No	26.5	Si
SLU 79	fin.	-450.01	-7721	0.88	6436	1711	7930	3689	5610	9299	No	1.2	Si
SLU 82	ini.	512.55	-266	0.88	7122	1711	7930	3689	5610	9299	No	34.92	Si
SLU 82	fin.	-460.65	-7917	0.88	6559	1711	7930	3689	5610	9299	No	1.17	Si
SLU 78	ini.	510.13	-258	0.88	7096	1711	7930	3689	5610	9299	No	36.01	Si
SLU 78	fin.	-446.24	-7756	0.88	6392	1711	7930	3689	5610	9299	No	1.2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1552.19	4800	-0.0003488	0.0002807	0.0035	0.88		7929.3	7929.3		5.11	Si
SLV 2	fin.	34.78	2245	-0.0000071	0.0002807	0.0035	0.88		7929.3	7929.3		227.96	Si
SLV 4	ini.	1074.18	3511	-0.0002326	0.0002807	0.0035	0.88		7929.3	7929.3		7.38	Si
SLV 4	fin.	-113.16	765	-0.000023	0.0002807	0.0035	0.88		7944.15	7944.15		70.2	Si
SLD 6	ini.	1035.69	2384	-0.0002237	0.0002807	0.0035	0.88		7929.3	7929.3		7.66	Si
SLD 6	fin.	-107.43	572	-0.0000219	0.0002807	0.0035	0.88		7944.15	7944.15		73.95	Si
SLV 10	ini.	973.95	1674	-0.0002094	0.0002807	0.0035	0.88		7929.3	7929.3		8.14	Si
SLV 10	fin.	-125.27	286	-0.0000255	0.0002807	0.0035	0.88		7944.15	7944.15		63.42	Si
SLV 5	ini.	1349.56	3251	-0.0002983	0.0002807	0.0035	0.88		7929.3	7929.3		5.88	Si
SLV 5	fin.	4.01	1647	-0.0000008	0.0002807	0.0035	0.88		7929.3	7929.3		1977.04	Si
SLD 5	ini.	954.57	2078	-0.000205	0.0002807	0.0035	0.88		7929.3	7929.3		8.31	Si
SLD 5	fin.	-120.66	386	-0.0000246	0.0002807	0.0035	0.88		7944.15	7944.15		65.84	Si
SLD 2	ini.	1111.38	3142	-0.0002413	0.0002807	0.0035	0.88		7929.3	7929.3		7.13	Si
SLD 2	fin.	-90.83	854	-0.0000185	0.0002807	0.0035	0.88		7944.15	7944.15		87.46	Si
SLV 6	ini.	1483.24	3754	-0.0003314	0.0002807	0.0035	0.88		7929.3	7929.3		5.35	Si
SLV 6	fin.	25.82	1952	-0.0000052	0.0002807	0.0035	0.88		7929.3	7929.3		307.07	Si
SLV 1	ini.	1353.6	4052	-0.0002993	0.0002807	0.0035	0.88		7929.3	7929.3		5.86	Si
SLV 1	fin.	2.38	1791	-0.0000005	0.0002807	0.0035	0.88		7929.3	7929.3		3329.12	Si
SLD 1	ini.	985.39	2667	-0.0002121	0.0002807	0.0035	0.88		7929.3	7929.3		8.05	Si
SLD 1	fin.	-111.39	566	-0.0000227	0.0002807	0.0035	0.88		7944.15	7944.15		71.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	973.95	869	0.88	16250	2567	7930	5534	5610	10496		12.08	Si
SLV 10	fin.	-125.27	-7394	0.88	3127	2567	7930	5534	5610	10496		1.42	Si
SLV 2	ini.	1552.19	-2954	0.88	16250	2567	7930	5534	5610	10496		3.55	Si
SLV 2	fin.	34.78	-7780	0.88	880	2567	7930	5534	5610	10496		1.35	Si
SLD 6	ini.	1035.69	-548	0.88	16250	2567	7930	5534	5610	10496		19.17	Si
SLD 6	fin.	-107.43	-7076	0.88	2693	2567	7930	5534	5610	10496		1.48	Si
SLD 5	ini.	954.57	-295	0.88	16250	2567	7930	5534	5610	10496		35.53	Si
SLD 5	fin.	-120.66	-6842	0.88	3015	2567	7930	5534	5610	10496		1.53	Si
SLV 9	ini.	840.26	1285	0.88	16250	2567	7930	5534	5610	10496		8.17	Si
SLV 9	fin.	-147.08	-7010	0.88	3652	2567	7930	5534	5610	10496		1.5	Si
SLV 5	ini.	1349.56	-207	0.88	16250	2567	7930	5534	5610	10496		50.82	Si
SLV 5	fin.	4.01	-7890	0.88	102	2567	7930	5534	5610	10496		1.33	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 10	ini.	709.78	401	0.88	15236	2567	7930	5534	5610	10496		26.16	Si
SLD 10	fin.	-205.1	-6523	0.88	5020	2567	7930	5534	5610	10496		1.61	Si
SLD 2	ini.	1111.38	-2021	0.88	16250	2567	7930	5534	5610	10496		5.19	Si
SLD 2	fin.	-90.83	-6842	0.88	2287	2567	7930	5534	5610	10496		1.53	Si
SLV 6	ini.	1483.24	-622	0.88	16250	2567	7930	5534	5610	10496		16.88	Si
SLV 6	fin.	25.82	-8274	0.88	655	2567	7930	5534	5610	10496		1.27	Si
SLV 1	ini.	1353.6	-2337	0.88	16250	2567	7930	5534	5610	10496		4.49	Si
SLV 1	fin.	2.38	-7209	0.88	61	2567	7930	5534	5610	10496		1.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.108	SLV 2	Si
V_SLV	1.269	SLV 6	Si
PF_SLU	15.147	SLU 81	Si
V_SLU	1.164	SLU 83	Si

Trave di accoppiamento 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.163	-3.169	0.67	1.57	0.9	-3.163	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	133.62	-1695	-0.0000262	0.0001872	0.0035	0.9		8130.8	8130.8	No	60.85	Si
SLU 81	fin.	820.27	-3580	-0.0001698	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.91	Si
SLU 82	ini.	154.53	-1742	-0.0000303	0.0001872	0.0035	0.9		8130.8	8130.8	No	52.62	Si
SLU 82	fin.	805.62	-3556	-0.0001665	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.09	Si
SLU 78	ini.	163.25	-1746	-0.000032	0.0001872	0.0035	0.9		8130.8	8130.8	No	49.81	Si
SLU 78	fin.	785.81	-3478	-0.0001621	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.35	Si
SLU 80	ini.	161.08	-1730	-0.0000316	0.0001872	0.0035	0.9		8130.8	8130.8	No	50.48	Si
SLU 80	fin.	779.98	-3452	-0.0001608	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.42	Si
SLU 75	ini.	165.74	-1742	-0.0000325	0.0001872	0.0035	0.9		8130.8	8130.8	No	49.06	Si
SLU 75	fin.	776.76	-3441	-0.0001601	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.47	Si
SLU 74	ini.	144.84	-1694	-0.0000284	0.0001872	0.0035	0.9		8130.8	8130.8	No	56.14	Si
SLU 74	fin.	791.42	-3464	-0.0001634	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.27	Si
SLU 84	ini.	152.03	-1747	-0.0000298	0.0001872	0.0035	0.9		8130.8	8130.8	No	53.48	Si
SLU 84	fin.	814.66	-3593	-0.0001685	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.98	Si
SLU 83	ini.	131.13	-1700	-0.0000257	0.0001872	0.0035	0.9		8130.8	8130.8	No	62.01	Si
SLU 83	fin.	829.32	-3616	-0.0001718	0.0001872	0.0035	0.9		8130.8	8130.8	No	9.8	Si
SLU 79	ini.	140.18	-1683	-0.0000275	0.0001872	0.0035	0.9		8130.8	8130.8	No	58	Si
SLU 79	fin.	794.64	-3475	-0.0001641	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.23	Si
SLU 77	ini.	142.34	-1699	-0.0000279	0.0001872	0.0035	0.9		8130.8	8130.8	No	57.12	Si
SLU 77	fin.	800.46	-3501	-0.0001654	0.0001872	0.0035	0.9		8130.8	8130.8	No	10.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	165.74	1336	0.9	2536	1750	14273	3773	5738	9511	No	7.12	Si
SLU 75	fin.	776.76	1808	0.9	9396	1750	14273	3773	5738	9511	No	5.26	Si
SLU 83	ini.	131.13	1602	0.9	2032	1750	14273	3773	5738	9511	No	5.94	Si
SLU 83	fin.	829.32	1898	0.9	9822	1750	14273	3773	5738	9511	No	5.01	Si
SLU 81	ini.	133.62	1579	0.9	2069	1750	14273	3773	5738	9511	No	6.02	Si
SLU 81	fin.	820.27	1866	0.9	9751	1750	14273	3773	5738	9511	No	5.1	Si
SLU 78	ini.	163.25	1360	0.9	2500	1750	14273	3773	5738	9511	No	7	Si
SLU 78	fin.	785.81	1840	0.9	9471	1750	14273	3773	5738	9511	No	5.17	Si
SLU 73	ini.	180	1205	0.9	2739	1750	14273	3773	5738	9511	No	7.89	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	fin.	752.13	1789	0.9	9188	1750	14273	3773	5738	9511	No	5.31	Si
SLU 82	ini.	154.53	1425	0.9	2374	1750	14273	3773	5738	9511	No	6.68	Si
SLU 82	fin.	805.62	1906	0.9	9633	1750	14273	3773	5738	9511	No	4.99	Si
SLU 84	ini.	152.03	1448	0.9	2338	1750	14273	3773	5738	9511	No	6.57	Si
SLU 84	fin.	814.66	1938	0.9	9706	1750	14273	3773	5738	9511	No	4.91	Si
SLU 77	ini.	142.34	1514	0.9	2197	1750	14273	3773	5738	9511	No	6.28	Si
SLU 77	fin.	800.46	1800	0.9	9591	1750	14273	3773	5738	9511	No	5.28	Si
SLU 80	ini.	161.08	1354	0.9	2469	1750	14273	3773	5738	9511	No	7.02	Si
SLU 80	fin.	779.98	1826	0.9	9423	1750	14273	3773	5738	9511	No	5.21	Si
SLU 76	ini.	177.51	1228	0.9	2704	1750	14273	3773	5738	9511	No	7.74	Si
SLU 76	fin.	761.17	1821	0.9	9265	1750	14273	3773	5738	9511	No	5.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-478.69	-245	-0.0000951	0.0002807	0.0035	0.9		8302.25	8302.25		17.34	Si
SLV 14	fin.	1272.87	-5065	-0.0002665	0.0002807	0.0035	0.9		8287.07	8287.07		6.51	Si
SLV 5	ini.	1411.75	-5256	-0.0002987	0.0002807	0.0035	0.9		8287.07	8287.07		5.87	Si
SLV 5	fin.	93.66	-1561	-0.0000183	0.0002807	0.0035	0.9		8287.07	8287.07		88.48	Si
SLV 6	ini.	1623.94	-5779	-0.0003493	0.0002807	0.0035	0.9		8287.07	8287.07		5.1	Si
SLV 6	fin.	-57.07	-1078	-0.0000111	0.0002807	0.0035	0.9		8302.25	8302.25		145.46	Si
SLV 15	ini.	-1433.47	2658	-0.0003031	0.0002807	0.0035	0.9		8302.25	8302.25		5.79	Si
SLV 15	fin.	1633.71	-5819	-0.0003516	0.0002807	0.0035	0.9		8287.07	8287.07		5.07	Si
SLV 16	ini.	-1118.25	1882	-0.0002312	0.0002807	0.0035	0.9		8302.25	8302.25		7.42	Si
SLV 16	fin.	1409.78	-5102	-0.0002982	0.0002807	0.0035	0.9		8287.07	8287.07		5.88	Si
SLV 11	ini.	-1369.97	3302	-0.0002883	0.0002807	0.0035	0.9		8302.25	8302.25		6.06	Si
SLV 11	fin.	1107.03	-3560	-0.0002292	0.0002807	0.0035	0.9		8287.07	8287.07		7.49	Si
SLV 13	ini.	-793.91	531	-0.0001607	0.0002807	0.0035	0.9		8302.25	8302.25		10.46	Si
SLV 13	fin.	1496.79	-5782	-0.0003187	0.0002807	0.0035	0.9		8287.07	8287.07		5.54	Si
SLV 2	ini.	1687.44	-5135	-0.0003648	0.0002807	0.0035	0.9		8287.07	8287.07		4.91	Si
SLV 2	fin.	-583.76	1181	-0.0001167	0.0002807	0.0035	0.9		8302.25	8302.25		14.22	Si
SLD 15	ini.	-852.75	1194	-0.0001733	0.0002807	0.0035	0.9		8302.25	8302.25		9.74	Si
SLD 15	fin.	1230.52	-4556	-0.0002569	0.0002807	0.0035	0.9		8287.07	8287.07		6.73	Si
SLV 1	ini.	1372.23	-4359	-0.0002894	0.0002807	0.0035	0.9		8287.07	8287.07		6.04	Si
SLV 1	fin.	-359.83	464	-0.000071	0.0002807	0.0035	0.9		8302.25	8302.25		23.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1369.97	5960	0.9	16250	2577	14273	5660	5738	11397		1.91	Si
SLV 11	fin.	1107.03	5222	0.9	16250	2577	14273	5660	5738	11397		2.18	Si
SLD 16	ini.	-652.77	3986	0.9	13756	2577	14273	5660	5738	11397		2.86	Si
SLD 16	fin.	1088.46	4070	0.9	16250	2577	14273	5660	5738	11397		2.8	Si
SLV 6	ini.	1623.94	-4081	0.9	16250	2577	14273	5660	5738	11397		2.79	Si
SLV 6	fin.	-57.07	-3034	0.9	1387	2577	14273	5660	5738	11397		3.76	Si
SLV 14	ini.	-478.69	3815	0.9	10525	2577	14273	5660	5738	11397		2.99	Si
SLV 14	fin.	1272.87	4388	0.9	16250	2577	14273	5660	5738	11397		2.6	Si
SLV 13	ini.	-793.91	5034	0.9	16156	2577	14273	5660	5738	11397		2.26	Si
SLV 13	fin.	1496.79	5586	0.9	16250	2577	14273	5660	5738	11397		2.04	Si
SLV 12	ini.	-1157.78	5140	0.9	16250	2577	14273	5660	5738	11397		2.22	Si
SLV 12	fin.	956.29	4416	0.9	16250	2577	14273	5660	5738	11397		2.58	Si
SLV 16	ini.	-1118.25	5777	0.9	16250	2577	14273	5660	5738	11397		1.97	Si
SLV 16	fin.	1409.78	5796	0.9	16250	2577	14273	5660	5738	11397		1.97	Si
SLV 15	ini.	-1433.47	6996	0.9	16250	2577	14273	5660	5738	11397		1.63	Si
SLV 15	fin.	1633.71	6994	0.9	16250	2577	14273	5660	5738	11397		1.63	Si
SLD 15	ini.	-852.75	4760	0.9	16250	2577	14273	5660	5738	11397		2.39	Si
SLD 15	fin.	1230.52	4830	0.9	16250	2577	14273	5660	5738	11397		2.36	Si
SLV 2	ini.	1687.44	-5117	0.9	16250	2577	14273	5660	5738	11397		2.23	Si
SLV 2	fin.	-583.76	-4806	0.9	12512	2577	14273	5660	5738	11397		2.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.911	SLV 2	Si
V_SLV	1.629	SLV 15	Si
PF_SLU	9.804	SLU 83	Si
V_SLU	4.908	SLU 84	Si

Trave di accoppiamento 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.163	-3.169	3.47	4.35	0.88	-3.163	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-691.49	-2765	-0.000148	0.0001872	0.0035	0.88		7794.51	7794.51	No	11.27	Si
SLU 78	fin.	-572.5	-2948	-0.0001212	0.0001872	0.0035	0.88		7794.51	7794.51	No	13.61	Si
SLU 84	ini.	-724.03	-2856	-0.0001554	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.77	Si
SLU 84	fin.	-572.65	-2996	-0.0001212	0.0001872	0.0035	0.88		7794.51	7794.51	No	13.61	Si
SLU 82	ini.	-714.28	-2826	-0.0001532	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.91	Si
SLU 82	fin.	-572.87	-2981	-0.0001213	0.0001872	0.0035	0.88		7794.51	7794.51	No	13.61	Si
SLU 75	ini.	-681.75	-2736	-0.0001457	0.0001872	0.0035	0.88		7794.51	7794.51	No	11.43	Si
SLU 75	fin.	-572.71	-2932	-0.0001212	0.0001872	0.0035	0.88		7794.51	7794.51	No	13.61	Si
SLU 77	ini.	-712.63	-2803	-0.0001528	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.94	Si
SLU 77	fin.	-551.35	-2907	-0.0001165	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.14	Si
SLU 83	ini.	-745.17	-2894	-0.0001603	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.46	Si
SLU 83	fin.	-551.51	-2955	-0.0001165	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.13	Si
SLU 80	ini.	-686.26	-2742	-0.0001468	0.0001872	0.0035	0.88		7794.51	7794.51	No	11.36	Si
SLU 80	fin.	-566.77	-2919	-0.0001199	0.0001872	0.0035	0.88		7794.51	7794.51	No	13.75	Si
SLU 74	ini.	-702.88	-2773	-0.0001506	0.0001872	0.0035	0.88		7794.51	7794.51	No	11.09	Si
SLU 74	fin.	-551.57	-2891	-0.0001166	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.13	Si
SLU 81	ini.	-735.42	-2864	-0.000158	0.0001872	0.0035	0.88		7794.51	7794.51	No	10.6	Si
SLU 81	fin.	-551.72	-2940	-0.0001166	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.13	Si
SLU 79	ini.	-707.39	-2779	-0.0001516	0.0001872	0.0035	0.88		7794.51	7794.51	No	11.02	Si
SLU 79	fin.	-545.63	-2879	-0.0001152	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-662.42	2419	0.88	8676	1711	13956	3689	5610	9299	No	3.84	Si
SLU 76	fin.	-581.09	-2669	0.88	7873	1711	13956	3689	5610	9299	No	3.48	Si
SLU 75	ini.	-681.75	2478	0.88	8857	1711	13956	3689	5610	9299	No	3.75	Si
SLU 75	fin.	-572.71	-2630	0.88	7787	1711	13956	3689	5610	9299	No	3.54	Si
SLU 78	ini.	-691.49	2509	0.88	8947	1711	13956	3689	5610	9299	No	3.71	Si
SLU 78	fin.	-572.5	-2631	0.88	7785	1711	13956	3689	5610	9299	No	3.53	Si
SLU 81	ini.	-735.42	2662	0.88	9341	1711	13956	3689	5610	9299	No	3.49	Si
SLU 81	fin.	-551.72	-2566	0.88	7567	1711	13956	3689	5610	9299	No	3.62	Si
SLU 82	ini.	-714.28	2602	0.88	9154	1711	13956	3689	5610	9299	No	3.57	Si
SLU 82	fin.	-572.87	-2662	0.88	7789	1711	13956	3689	5610	9299	No	3.49	Si
SLU 80	ini.	-686.26	2491	0.88	8899	1711	13956	3689	5610	9299	No	3.73	Si
SLU 80	fin.	-566.77	-2605	0.88	7725	1711	13956	3689	5610	9299	No	3.57	Si
SLU 84	ini.	-724.03	2633	0.88	9241	1711	13956	3689	5610	9299	No	3.53	Si
SLU 84	fin.	-572.65	-2663	0.88	7786	1711	13956	3689	5610	9299	No	3.49	Si
SLU 73	ini.	-652.67	2388	0.88	8584	1711	13956	3689	5610	9299	No	3.89	Si
SLU 73	fin.	-581.31	-2668	0.88	7876	1711	13956	3689	5610	9299	No	3.49	Si
SLU 77	ini.	-712.63	2570	0.88	9139	1711	13956	3689	5610	9299	No	3.62	Si
SLU 77	fin.	-551.35	-2535	0.88	7563	1711	13956	3689	5610	9299	No	3.67	Si
SLU 83	ini.	-745.17	2693	0.88	9426	1711	13956	3689	5610	9299	No	3.45	Si
SLU 83	fin.	-551.51	-2567	0.88	7565	1711	13956	3689	5610	9299	No	3.62	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-1526.52	-3540	-0.0003416	0.0002807	0.0035	0.88		7944.15	7944.15		5.2	Si
SLD 15	fin.	751.15	185	-0.0001591	0.0002807	0.0035	0.88		7929.3	7929.3		10.56	Si
SLV 6	ini.	668.68	-986	-0.0001409	0.0002807	0.0035	0.88		7929.3	7929.3		11.86	Si
SLV 6	fin.	-2221.62	-6431	-0.0005275	0.0002807	0.0035	0.88		7944.15	7944.15		3.58	Si
SLV 15	ini.	-2146.93	-4489	-0.0005065	0.0002807	0.0035	0.88		7944.15	7944.15		3.7	Si
SLV 15	fin.	1437.63	1523	-0.0003201	0.0002807	0.0035	0.88		7929.3	7929.3		5.52	Si
SLV 16	ini.	-1797.15	-3955	-0.0004115	0.0002807	0.0035	0.88		7944.15	7944.15		4.42	Si
SLV 16	fin.	1056.35	789	-0.0002285	0.0002807	0.0035	0.88		7929.3	7929.3		7.51	Si
SLV 11	ini.	-1573.28	-2715	-0.0003534	0.0002807	0.0035	0.88		7944.15	7944.15		5.05	Si
SLV 11	fin.	1412.1	2388	-0.0003137	0.0002807	0.0035	0.88		7929.3	7929.3		5.62	Si
SLV 5	ini.	433.22	-1346	-0.00009	0.0002807	0.0035	0.88		7929.3	7929.3		18.3	Si
SLV 5	fin.	-1964.96	-5937	-0.0004564	0.0002807	0.0035	0.88		7944.15	7944.15		4.04	Si
SLV 2	ini.	1242.33	788	-0.0002724	0.0002807	0.0035	0.88		7929.3	7929.3		6.38	Si
SLV 2	fin.	-2247.16	-5566	-0.0005347	0.0002807	0.0035	0.88		7944.15	7944.15		3.54	Si
SLV 1	ini.	892.55	254	-0.0001909	0.0002807	0.0035	0.88		7929.3	7929.3		8.88	Si
SLV 1	fin.	-1865.88	-4831	-0.0004297	0.0002807	0.0035	0.88		7944.15	7944.15		4.26	Si
SLV 13	ini.	-1786.05	-4507	-0.0004085	0.0002807	0.0035	0.88		7944.15	7944.15		4.45	Si
SLV 13	fin.	651.04	-593	-0.0001371	0.0002807	0.0035	0.88		7929.3	7929.3		12.18	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	621.91	-161	-0.0001307	0.0002807	0.0035	0.88		7929.3	7929.3		12.75	Si
SLD 2	fin.	-1560.68	-4228	-0.0003502	0.0002807	0.0035	0.88		7944.15	7944.15		5.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1786.05	6133	0.88	16250	2507	13956	5534	5610	11144		1.82	Si
SLV 13	fin.	651.04	2007	0.88	14184	2507	13956	5534	5610	11144		5.55	Si
SLV 2	ini.	1242.33	-4316	0.88	16250	2507	13956	5534	5610	11144		2.58	Si
SLV 2	fin.	-2247.16	-8338	0.88	16250	2507	13956	5534	5610	11144		1.34	Si
SLD 2	ini.	621.91	-2130	0.88	13649	2507	13956	5534	5610	11144		5.23	Si
SLD 2	fin.	-1560.68	-5907	0.88	16250	2507	13956	5534	5610	11144		1.89	Si
SLV 15	ini.	-2146.93	7586	0.88	16250	2507	13956	5534	5610	11144		1.47	Si
SLV 15	fin.	1437.63	4715	0.88	16250	2507	13956	5534	5610	11144		2.36	Si
SLV 1	ini.	892.55	-3090	0.88	16250	2507	13956	5534	5610	11144		3.61	Si
SLV 1	fin.	-1865.88	-6991	0.88	16250	2507	13956	5534	5610	11144		1.59	Si
SLV 6	ini.	668.68	-2582	0.88	14504	2507	13956	5534	5610	11144		4.32	Si
SLV 6	fin.	-2221.62	-8128	0.88	16250	2507	13956	5534	5610	11144		1.37	Si
SLV 5	ini.	433.22	-1757	0.88	9963	2507	13956	5534	5610	11144		6.34	Si
SLV 5	fin.	-1964.96	-7221	0.88	16250	2507	13956	5534	5610	11144		1.54	Si
SLV 11	ini.	-1573.28	5853	0.88	16250	2507	13956	5534	5610	11144		1.9	Si
SLV 11	fin.	1412.1	4505	0.88	16250	2507	13956	5534	5610	11144		2.47	Si
SLV 16	ini.	-1797.15	6361	0.88	16250	2507	13956	5534	5610	11144		1.75	Si
SLV 16	fin.	1056.35	3368	0.88	16250	2507	13956	5534	5610	11144		3.31	Si
SLV 4	ini.	881.45	-2863	0.88	16250	2507	13956	5534	5610	11144		3.89	Si
SLV 4	fin.	-1460.56	-5630	0.88	16250	2507	13956	5534	5610	11144		1.98	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.535	SLV 2	Si
V_SLV	1.336	SLV 2	Si
PF_SLU	10.46	SLU 83	Si
V_SLU	3.452	SLU 83	Si

Trave di accoppiamento 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.903	5.951	0.67	1.57	0.9	-2.903	5.951	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	611.37	-2846	-0.0001242	0.0001872	0.0035	0.9		8130.8	8130.8	No	13.3	Si
SLU 69	fin.	101.38	-2092	-0.0000198	0.0001872	0.0035	0.9		8130.8	8130.8	No	80.2	Si
SLU 78	ini.	621.34	-2879	-0.0001264	0.0001872	0.0035	0.9		8130.8	8130.8	No	13.09	Si
SLU 78	fin.	164.98	-2326	-0.0000324	0.0001872	0.0035	0.9		8130.8	8130.8	No	49.28	Si
SLU 84	ini.	616.73	-2851	-0.0001254	0.0001872	0.0035	0.9		8130.8	8130.8	No	13.18	Si
SLU 84	fin.	176.65	-2356	-0.0000347	0.0001872	0.0035	0.9		8130.8	8130.8	No	46.03	Si
SLU 77	ini.	633.18	-2940	-0.0001289	0.0001872	0.0035	0.9		8130.8	8130.8	No	12.84	Si
SLU 77	fin.	155.32	-2330	-0.0000305	0.0001872	0.0035	0.9		8130.8	8130.8	No	52.35	Si
SLU 75	ini.	611.48	-2832	-0.0001243	0.0001872	0.0035	0.9		8130.8	8130.8	No	13.3	Si
SLU 75	fin.	156.51	-2274	-0.0000307	0.0001872	0.0035	0.9		8130.8	8130.8	No	51.95	Si
SLU 79	ini.	629.08	-2919	-0.000128	0.0001872	0.0035	0.9		8130.8	8130.8	No	12.92	Si
SLU 79	fin.	152.35	-2310	-0.0000299	0.0001872	0.0035	0.9		8130.8	8130.8	No	53.37	Si
SLU 80	ini.	617.24	-2858	-0.0001255	0.0001872	0.0035	0.9		8130.8	8130.8	No	13.17	Si
SLU 80	fin.	162.01	-2306	-0.0000318	0.0001872	0.0035	0.9		8130.8	8130.8	No	50.19	Si
SLU 81	ini.	618.71	-2865	-0.0001258	0.0001872	0.0035	0.9		8130.8	8130.8	No	13.14	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	158.51	-2308	-0.0000311	0.0001872	0.0035	0.9		8130.8	8130.8	No	51.3	Si
SLU 83	ini.	628.57	-2912	-0.0001279	0.0001872	0.0035	0.9		8130.8	8130.8	No	12.94	Si
SLU 83	fin.	166.99	-2360	-0.0000328	0.0001872	0.0035	0.9		8130.8	8130.8	No	48.69	Si
SLU 74	ini.	623.32	-2893	-0.0001268	0.0001872	0.0035	0.9		8130.8	8130.8	No	13.04	Si
SLU 74	fin.	146.84	-2278	-0.0000288	0.0001872	0.0035	0.9		8130.8	8130.8	No	55.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	ini.	601.51	-1521	0.9	7796	1750	14273	3773	5738	9511	No	6.25	Si
SLU 66	fin.	92.9	-622	0.9	1461	1750	14273	3773	5738	9511	No	15.3	Si
SLU 48	ini.	563.28	-1483	0.9	7410	1750	14273	3773	5738	9511	No	6.41	Si
SLU 48	fin.	43.66	-708	0.9	699	1750	14273	3773	5738	9511	No	13.43	Si
SLU 64	ini.	587.54	-1486	0.9	7657	1750	14273	3773	5738	9511	No	6.4	Si
SLU 64	fin.	81.45	-639	0.9	1286	1750	14273	3773	5738	9511	No	14.88	Si
SLU 71	ini.	607.26	-1532	0.9	7853	1750	14273	3773	5738	9511	No	6.21	Si
SLU 71	fin.	98.41	-612	0.9	1544	1750	14273	3773	5738	9511	No	15.54	Si
SLU 74	ini.	623.32	-1492	0.9	8011	1750	14273	3773	5738	9511	No	6.38	Si
SLU 74	fin.	146.84	-501	0.9	2263	1750	14273	3773	5738	9511	No	18.98	Si
SLU 72	ini.	595.42	-1473	0.9	7736	1750	14273	3773	5738	9511	No	6.46	Si
SLU 72	fin.	108.07	-572	0.9	1689	1750	14273	3773	5738	9511	No	16.64	Si
SLU 79	ini.	629.08	-1503	0.9	8067	1750	14273	3773	5738	9511	No	6.33	Si
SLU 79	fin.	152.35	-491	0.9	2343	1750	14273	3773	5738	9511	No	19.35	Si
SLU 77	ini.	633.18	-1515	0.9	8106	1750	14273	3773	5738	9511	No	6.28	Si
SLU 77	fin.	155.32	-488	0.9	2386	1750	14273	3773	5738	9511	No	19.51	Si
SLU 69	ini.	611.37	-1544	0.9	7894	1750	14273	3773	5738	9511	No	6.16	Si
SLU 69	fin.	101.38	-608	0.9	1589	1750	14273	3773	5738	9511	No	15.63	Si
SLU 70	ini.	599.52	-1484	0.9	7777	1750	14273	3773	5738	9511	No	6.41	Si
SLU 70	fin.	111.04	-568	0.9	1734	1750	14273	3773	5738	9511	No	16.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 7	ini.	1110.59	-5207	-0.0002299	0.0002807	0.0035	0.9		8287.07	8287.07		7.46	Si
SLD 7	fin.	-507.44	-1577	-0.000101	0.0002807	0.0035	0.9		8302.25	8302.25		16.36	Si
SLV 8	ini.	1436.02	-6739	-0.0003044	0.0002807	0.0035	0.9		8287.07	8287.07		5.77	Si
SLV 8	fin.	-663.36	-1986	-0.0001332	0.0002807	0.0035	0.9		8302.25	8302.25		12.52	Si
SLV 13	ini.	-174.96	715	-0.0000342	0.0002807	0.0035	0.9		8302.25	8302.25		47.45	Si
SLV 13	fin.	1055.03	-2850	-0.0002176	0.0002807	0.0035	0.9		8287.07	8287.07		7.85	Si
SLV 4	ini.	1070.21	-4871	-0.000221	0.0002807	0.0035	0.9		8287.07	8287.07		7.74	Si
SLV 4	fin.	-924.27	-170	-0.0001887	0.0002807	0.0035	0.9		8302.25	8302.25		8.98	Si
SLV 3	ini.	1263.19	-5793	-0.0002643	0.0002807	0.0035	0.9		8287.07	8287.07		6.56	Si
SLV 3	fin.	-1244.5	274	-0.0002596	0.0002807	0.0035	0.9		8302.25	8302.25		6.67	Si
SLV 16	ini.	184.33	-997	-0.0000361	0.0002807	0.0035	0.9		8287.07	8287.07		44.96	Si
SLV 16	fin.	1051.14	-3818	-0.0002168	0.0002807	0.0035	0.9		8287.07	8287.07		7.88	Si
SLV 12	ini.	1170.26	-5577	-0.0002433	0.0002807	0.0035	0.9		8287.07	8287.07		7.08	Si
SLV 12	fin.	-70.73	-3080	-0.0000137	0.0002807	0.0035	0.9		8302.25	8302.25		117.37	Si
SLV 11	ini.	1300.17	-6198	-0.0002728	0.0002807	0.0035	0.9		8287.07	8287.07		6.37	Si
SLV 11	fin.	-286.3	-2781	-0.0000563	0.0002807	0.0035	0.9		8302.25	8302.25		29	Si
SLV 14	ini.	-367.95	1637	-0.0000727	0.0002807	0.0035	0.9		8302.25	8302.25		22.56	Si
SLV 14	fin.	1375.26	-3295	-0.0002902	0.0002807	0.0035	0.9		8287.07	8287.07		6.03	Si
SLV 7	ini.	1565.93	-7360	-0.0003353	0.0002807	0.0035	0.9		8287.07	8287.07		5.29	Si
SLV 7	fin.	-878.92	-1686	-0.0001789	0.0002807	0.0035	0.9		8302.25	8302.25		9.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	952.42	-3944	0.9	16250	2577	14273	5660	5738	11397		2.89	Si
SLD 3	fin.	-761.93	-3431	0.9	15629	2577	14273	5660	5738	11397		3.32	Si
SLV 14	ini.	-367.95	3389	0.9	8308	2577	14273	5660	5738	11397		3.36	Si
SLV 14	fin.	1375.26	4222	0.9	16250	2577	14273	5660	5738	11397		2.7	Si
SLD 7	ini.	1110.59	-4028	0.9	16250	2577	14273	5660	5738	11397		2.83	Si
SLD 7	fin.	-507.44	-2991	0.9	11080	2577	14273	5660	5738	11397		3.81	Si
SLV 3	ini.	1263.19	-5632	0.9	16250	2577	14273	5660	5738	11397		2.02	Si
SLV 3	fin.	-1244.5	-5180	0.9	16250	2577	14273	5660	5738	11397		2.2	Si
SLV 4	ini.	1070.21	-4465	0.9	16250	2577	14273	5660	5738	11397		2.55	Si
SLV 4	fin.	-924.27	-4073	0.9	16250	2577	14273	5660	5738	11397		2.8	Si
SLV 10	ini.	-670.69	3722	0.9	14072	2577	14273	5660	5738	11397		3.06	Si
SLV 10	fin.	1009.68	3707	0.9	16250	2577	14273	5660	5738	11397		3.07	Si
SLV 7	ini.	1565.93	-5965	0.9	16250	2577	14273	5660	5738	11397		1.91	Si
SLV 7	fin.	-878.92	-4665	0.9	16250	2577	14273	5660	5738	11397		2.44	Si
SLV 8	ini.	1436.02	-5180	0.9	16250	2577	14273	5660	5738	11397		2.2	Si
SLV 8	fin.	-663.36	-3920	0.9	13943	2577	14273	5660	5738	11397		2.91	Si
SLD 8	ini.	1031.75	-3552	0.9	16250	2577	14273	5660	5738	11397		3.21	Si
SLD 8	fin.	-376.63	-2539	0.9	8487	2577	14273	5660	5738	11397		4.49	Si
SLV 11	ini.	1300.17	-4256	0.9	16250	2577	14273	5660	5738	11397		2.68	Si
SLV 11	fin.	-286.3	-2685	0.9	6592	2577	14273	5660	5738	11397		4.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.292	SLV 7	Si
V_SLV	1.911	SLV 7	Si
PF_SLU	12.841	SLU 77	Si
V_SLU	6.16	SLU 69	Si

Trave di accoppiamento 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.903	5.951	3.47	4.35	0.88	-2.903	5.951	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.05	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-312.18	-1870	-0.0000647	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.97	Si
SLU 78	fin.	-548.45	-3815	-0.0001159	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.21	Si
SLU 77	ini.	-307.23	-1860	-0.0000636	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.37	Si
SLU 77	fin.	-559.84	-3871	-0.0001184	0.0001872	0.0035	0.88		7794.51	7794.51	No	13.92	Si
SLU 69	ini.	-249.64	-1604	-0.0000515	0.0001872	0.0035	0.88		7794.51	7794.51	No	31.22	Si
SLU 69	fin.	-546.93	-3682	-0.0001155	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.25	Si
SLU 79	ini.	-303.57	-1841	-0.0000628	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.68	Si
SLU 79	fin.	-556.17	-3846	-0.0001176	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.01	Si
SLU 74	ini.	-296.04	-1804	-0.0000612	0.0001872	0.0035	0.88		7794.51	7794.51	No	26.33	Si
SLU 74	fin.	-551.01	-3799	-0.0001164	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.15	Si
SLU 80	ini.	-308.52	-1851	-0.0000639	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.26	Si
SLU 80	fin.	-544.77	-3789	-0.000115	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.31	Si
SLU 81	ini.	-305.86	-1839	-0.0000633	0.0001872	0.0035	0.88		7794.51	7794.51	No	25.48	Si
SLU 81	fin.	-544.04	-3783	-0.0001149	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.33	Si
SLU 84	ini.	-322.01	-1905	-0.0000668	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.21	Si
SLU 84	fin.	-541.48	-3798	-0.0001143	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.39	Si
SLU 83	ini.	-317.06	-1895	-0.0000657	0.0001872	0.0035	0.88		7794.51	7794.51	No	24.58	Si
SLU 83	fin.	-552.87	-3855	-0.0001168	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.1	Si
SLU 71	ini.	-245.98	-1585	-0.0000507	0.0001872	0.0035	0.88		7794.51	7794.51	No	31.69	Si
SLU 71	fin.	-543.26	-3657	-0.0001147	0.0001872	0.0035	0.88		7794.51	7794.51	No	14.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-322.01	2644	0.88	4852	1711	13956	3689	5610	9299	No	3.52	Si
SLU 84	fin.	-541.48	-5758	0.88	7458	1711	13956	3689	5610	9299	No	1.62	Si
SLU 79	ini.	-303.57	2505	0.88	4608	1711	13956	3689	5610	9299	No	3.71	Si
SLU 79	fin.	-556.17	-5779	0.88	7614	1711	13956	3689	5610	9299	No	1.61	Si
SLU 77	ini.	-307.23	2527	0.88	4657	1711	13956	3689	5610	9299	No	3.68	Si
SLU 77	fin.	-559.84	-5813	0.88	7653	1711	13956	3689	5610	9299	No	1.6	Si
SLU 75	ini.	-300.99	2479	0.88	4574	1711	13956	3689	5610	9299	No	3.75	Si
SLU 75	fin.	-539.62	-5630	0.88	7438	1711	13956	3689	5610	9299	No	1.65	Si
SLU 83	ini.	-317.06	2618	0.88	4787	1711	13956	3689	5610	9299	No	3.55	Si
SLU 83	fin.	-552.87	-5831	0.88	7579	1711	13956	3689	5610	9299	No	1.59	Si
SLU 80	ini.	-308.52	2531	0.88	4674	1711	13956	3689	5610	9299	No	3.67	Si
SLU 80	fin.	-544.77	-5706	0.88	7493	1711	13956	3689	5610	9299	No	1.63	Si
SLU 81	ini.	-305.86	2545	0.88	4639	1711	13956	3689	5610	9299	No	3.65	Si
SLU 81	fin.	-544.04	-5720	0.88	7485	1711	13956	3689	5610	9299	No	1.63	Si
SLU 78	ini.	-312.18	2553	0.88	4723	1711	13956	3689	5610	9299	No	3.64	Si
SLU 78	fin.	-548.45	-5740	0.88	7532	1711	13956	3689	5610	9299	No	1.62	Si
SLU 82	ini.	-310.82	2570	0.88	4705	1711	13956	3689	5610	9299	No	3.62	Si
SLU 82	fin.	-532.65	-5647	0.88	7363	1711	13956	3689	5610	9299	No	1.65	Si
SLU 74	ini.	-296.04	2453	0.88	4508	1711	13956	3689	5610	9299	No	3.79	Si
SLU 74	fin.	-551.01	-5702	0.88	7559	1711	13956	3689	5610	9299	No	1.63	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-134.02	-1482	-0.0000273	0.0002807	0.0035	0.88		7944.15	7944.15		59.28	Si
SLV 11	fin.	-1186.23	-6849	-0.0002585	0.0002807	0.0035	0.88		7944.15	7944.15		6.7	Si
SLV 12	ini.	-281.68	-1946	-0.0000579	0.0002807	0.0035	0.88		7944.15	7944.15		28.2	Si
SLV 12	fin.	-1041.76	-6196	-0.0002246	0.0002807	0.0035	0.88		7944.15	7944.15		7.63	Si
SLV 7	ini.	275.1	-123	-0.0000566	0.0002807	0.0035	0.88		7929.3	7929.3		28.82	Si
SLV 7	fin.	-1489.14	-8138	-0.0003322	0.0002807	0.0035	0.88		7944.15	7944.15		5.33	Si
SLV 14	ini.	-1016.07	-3776	-0.0002187	0.0002807	0.0035	0.88		7944.15	7944.15		7.82	Si
SLV 14	fin.	472.21	1301	-0.0000983	0.0002807	0.0035	0.88		7929.3	7929.3		16.79	Si
SLD 7	ini.	103.22	-497	-0.000021	0.0002807	0.0035	0.88		7929.3	7929.3		76.82	Si
SLD 7	fin.	-1047.47	-5918	-0.0002259	0.0002807	0.0035	0.88		7944.15	7944.15		7.58	Si
SLV 3	ini.	669.11	1504	-0.000141	0.0002807	0.0035	0.88		7929.3	7929.3		11.85	Si
SLV 3	fin.	-1271.56	-6660	-0.0002788	0.0002807	0.0035	0.88		7944.15	7944.15		6.25	Si
SLD 3	ini.	361.89	549	-0.0000749	0.0002807	0.0035	0.88		7929.3	7929.3		21.91	Si
SLD 3	fin.	-941.95	-5147	-0.0002017	0.0002807	0.0035	0.88		7944.15	7944.15		8.43	Si
SLV 4	ini.	449.75	814	-0.0000935	0.0002807	0.0035	0.88		7929.3	7929.3		17.63	Si
SLV 4	fin.	-1056.93	-5690	-0.0002281	0.0002807	0.0035	0.88		7944.15	7944.15		7.52	Si
SLD 8	ini.	13.61	-779	-0.0000028	0.0002807	0.0035	0.88		7929.3	7929.3		582.57	Si
SLD 8	fin.	-959.8	-5521	-0.0002058	0.0002807	0.0035	0.88		7944.15	7944.15		8.28	Si
SLV 8	ini.	127.43	-588	-0.000026	0.0002807	0.0035	0.88		7929.3	7929.3		62.22	Si
SLV 8	fin.	-1344.66	-7485	-0.0002965	0.0002807	0.0035	0.88		7944.15	7944.15		5.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	-158.02	1401	0.88	3913	2507	13956	5534	5610	11144		7.95	Si
SLD 11	fin.	-854.28	-6897	0.88	16250	2507	13956	5534	5610	11144		1.62	Si
SLD 7	ini.	103.22	134	0.88	2570	2507	13956	5534	5610	11144		83.33	Si
SLD 7	fin.	-1047.47	-8050	0.88	16250	2507	13956	5534	5610	11144		1.38	Si
SLD 3	ini.	361.89	-1114	0.88	8469	2507	13956	5534	5610	11144		10.01	Si
SLD 3	fin.	-941.95	-7269	0.88	16250	2507	13956	5534	5610	11144		1.53	Si
SLV 3	ini.	669.11	-2611	0.88	14512	2507	13956	5534	5610	11144		4.27	Si
SLV 3	fin.	-1271.56	-9287	0.88	16250	2507	13956	5534	5610	11144		1.2	Si
SLV 11	ini.	-134.02	1268	0.88	3338	2507	13956	5534	5610	11144		8.79	Si
SLV 11	fin.	-1186.23	-9034	0.88	16250	2507	13956	5534	5610	11144		1.23	Si
SLV 8	ini.	127.43	5	0.88	3155	2507	13956	5534	5610	11144		2279.69	Si
SLV 8	fin.	-1344.66	-9961	0.88	16250	2507	13956	5534	5610	11144		1.12	Si
SLD 8	ini.	13.61	572	0.88	346	2507	13956	5534	5610	11144		19.48	Si
SLD 8	fin.	-959.8	-7516	0.88	16250	2507	13956	5534	5610	11144		1.48	Si
SLV 12	ini.	-281.68	1990	0.88	6764	2507	13956	5534	5610	11144		5.6	Si
SLV 12	fin.	-1041.76	-8154	0.88	16250	2507	13956	5534	5610	11144		1.37	Si
SLV 4	ini.	449.75	-1538	0.88	10301	2507	13956	5534	5610	11144		7.25	Si
SLV 4	fin.	-1056.93	-7979	0.88	16250	2507	13956	5534	5610	11144		1.4	Si
SLV 7	ini.	275.1	-718	0.88	6574	2507	13956	5534	5610	11144		15.53	Si
SLV 7	fin.	-1489.14	-10841	0.88	16250	2507	13956	5534	5610	11144		1.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.335	SLV 7	Si
V_SLV	1.028	SLV 7	Si
PF_SLU	13.923	SLU 77	Si
V_SLU	1.595	SLU 83	Si

Trave di accoppiamento 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	4.35	5.25	0.9	-22.778	5.951	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	30.23	-998	-0.0000116	0.0001872	0.0035	0.9		3572.55	3572.55	No	118.17	Si
SLU 77	fin.	315.83	-1754	-0.0001268	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.31	Si
SLU 78	ini.	37.41	-1019	-0.0000143	0.0001872	0.0035	0.9		3572.55	3572.55	No	95.48	Si
SLU 78	fin.	306.38	-1713	-0.0001228	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.66	Si
SLU 81	ini.	26.85	-933	-0.0000103	0.0001872	0.0035	0.9		3572.55	3572.55	No	133.06	Si
SLU 81	fin.	310.46	-1701	-0.0001245	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.51	Si
SLU 64	ini.	-3.66	-757	-0.0000014	0.0001872	0.0035	0.9		3579.32	3579.32	No	976.78	Si
SLU 64	fin.	305.79	-1658	-0.0001226	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.68	Si
SLU 83	ini.	32.78	-985	-0.0000125	0.0001872	0.0035	0.9		3572.55	3572.55	No	108.97	Si
SLU 83	fin.	312.78	-1726	-0.0001255	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.42	Si
SLU 66	ini.	2.94	-823	-0.0000011	0.0001872	0.0035	0.9		3572.55	3572.55	No	1215.9	Si
SLU 66	fin.	310.24	-1698	-0.0001244	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.52	Si
SLU 79	ini.	29.57	-985	-0.0000113	0.0001872	0.0035	0.9		3572.55	3572.55	No	120.83	Si
SLU 79	fin.	313.7	-1739	-0.0001259	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.39	Si
SLU 69	ini.	8.87	-875	-0.0000034	0.0001872	0.0035	0.9		3572.55	3572.55	No	402.61	Si
SLU 69	fin.	312.56	-1724	-0.0001254	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.43	Si
SLU 71	ini.	8.21	-862	-0.0000031	0.0001872	0.0035	0.9		3572.55	3572.55	No	435.36	Si
SLU 71	fin.	310.43	-1709	-0.0001245	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.51	Si
SLU 74	ini.	24.3	-946	-0.0000093	0.0001872	0.0035	0.9		3572.55	3572.55	No	147.03	Si
SLU 74	fin.	313.52	-1728	-0.0001258	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	29.57	-2085	0.9	0	1750	14273	3773	2295	6068	No	2.91	Si
SLU 79	fin.	313.7	2854	0.9	0	1750	14273	3773	2295	6068	No	2.13	Si
SLU 78	ini.	37.41	-2143	0.9	0	1750	14273	3773	2295	6068	No	2.83	Si
SLU 78	fin.	306.38	2817	0.9	0	1750	14273	3773	2295	6068	No	2.15	Si
SLU 74	ini.	24.3	-2027	0.9	0	1750	14273	3773	2295	6068	No	2.99	Si
SLU 74	fin.	313.52	2842	0.9	0	1750	14273	3773	2295	6068	No	2.13	Si
SLU 70	ini.	16.06	-1939	0.9	0	1750	14273	3773	2295	6068	No	3.13	Si
SLU 70	fin.	303.11	2791	0.9	0	1750	14273	3773	2295	6068	No	2.17	Si
SLU 80	ini.	36.75	-2109	0.9	0	1750	14273	3773	2295	6068	No	2.88	Si
SLU 80	fin.	304.24	2784	0.9	0	1750	14273	3773	2295	6068	No	2.18	Si
SLU 66	ini.	2.94	-1824	0.9	0	1750	14273	3773	2295	6068	No	3.33	Si
SLU 66	fin.	310.24	2817	0.9	0	1750	14273	3773	2295	6068	No	2.15	Si
SLU 77	ini.	30.23	-2119	0.9	0	1750	14273	3773	2295	6068	No	2.86	Si
SLU 77	fin.	315.83	2886	0.9	0	1750	14273	3773	2295	6068	No	2.1	Si
SLU 71	ini.	8.21	-1882	0.9	0	1750	14273	3773	2295	6068	No	3.22	Si
SLU 71	fin.	310.43	2829	0.9	0	1750	14273	3773	2295	6068	No	2.15	Si
SLU 83	ini.	32.78	-2081	0.9	0	1750	14273	3773	2295	6068	No	2.92	Si
SLU 83	fin.	312.78	2821	0.9	0	1750	14273	3773	2295	6068	No	2.15	Si
SLU 69	ini.	8.87	-1916	0.9	0	1750	14273	3773	2295	6068	No	3.17	Si
SLU 69	fin.	312.56	2861	0.9	0	1750	14273	3773	2295	6068	No	2.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-399.08	657	-0.0001593	0.0002807	0.0035	0.9		3575.64	3575.64		8.96	Si
SLD 12	fin.	787.54	-3676	-0.0003354	0.0002807	0.0035	0.9		3568.61	3568.61		4.53	Si
SLV 16	ini.	-648.63	2094	-0.000269	0.0002807	0.0035	0.9		3575.64	3575.64		5.51	Si
SLV 16	fin.	1012.7	-4304	-0.0004504	0.0002807	0.0035	0.9		3568.61	3568.61		3.52	Si
SLD 16	ini.	-407.29	1110	-0.0001628	0.0002807	0.0035	0.9		3575.64	3575.64		8.78	Si
SLD 16	fin.	719.28	-3150	-0.0003026	0.0002807	0.0035	0.9		3568.61	3568.61		4.96	Si
SLV 11	ini.	-543.92	954	-0.0002218	0.0002807	0.0035	0.9		3575.64	3575.64		6.57	Si
SLV 11	fin.	1026.87	-4802	-0.0004579	0.0002807	0.0035	0.9		3568.61	3568.61		3.48	Si
SLV 7	ini.	-296.69	-203	-0.0001168	0.0002807	0.0035	0.9		3575.64	3575.64		12.05	Si
SLV 7	fin.	751.02	-3808	-0.0003177	0.0002807	0.0035	0.9		3568.61	3568.61		4.75	Si
SLV 8	ini.	-418.9	310	-0.0001677	0.0002807	0.0035	0.9		3575.64	3575.64		8.54	Si
SLV 8	fin.	889.13	-4338	-0.000386	0.0002807	0.0035	0.9		3568.61	3568.61		4.01	Si
SLV 12	ini.	-666.13	1467	-0.0002771	0.0002807	0.0035	0.9		3575.64	3575.64		5.37	Si
SLV 12	fin.	1164.98	-5332	-0.0005337	0.0002807	0.0035	0.9		3568.61	3568.61		3.06	Si
SLD 11	ini.	-324.92	346	-0.0001284	0.0002807	0.0035	0.9		3575.64	3575.64		11	Si
SLD 11	fin.	703.72	-3354	-0.0002952	0.0002807	0.0035	0.9		3568.61	3568.61		5.07	Si
SLV 5	ini.	662.16	-2621	-0.0002758	0.0002807	0.0035	0.9		3568.61	3568.61		5.39	Si
SLV 5	fin.	-699.38	2813	-0.0002926	0.0002807	0.0035	0.9		3575.64	3575.64		5.11	Si
SLV 15	ini.	-467.09	1332	-0.0001883	0.0002807	0.0035	0.9		3575.64	3575.64		7.66	Si
SLV 15	fin.	807.53	-3516	-0.0003452	0.0002807	0.0035	0.9		3568.61	3568.61		4.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-543.92	432	0.9	0	2625	14273	5660	2295	7955		18.4	Si
SLV 11	fin.	1026.87	7958	0.9	0	2625	14273	5660	2295	7955		1	No
SLD 12	ini.	-399.08	207	0.9	0	2625	14273	5660	2295	7955		38.39	Si
SLD 12	fin.	787.54	6078	0.9	0	2625	14273	5660	2295	7955		1.31	Si
SLV 12	ini.	-666.13	1170	0.9	0	2625	14273	5660	2295	7955		6.8	Si
SLV 12	fin.	1164.98	8825	0.9	0	2625	14273	5660	2295	7955		0.9	No
SLV 8	ini.	-418.9	-641	0.9	0	2625	14273	5660	2295	7955		12.4	Si
SLV 8	fin.	889.13	7331	0.9	0	2625	14273	5660	2295	7955		1.09	Si
SLV 15	ini.	-467.09	1535	0.9	0	2625	14273	5660	2295	7955		5.18	Si
SLV 15	fin.	807.53	5594	0.9	0	2625	14273	5660	2295	7955		1.42	Si
SLV 16	ini.	-648.63	2631	0.9	0	2625	14273	5660	2295	7955		3.02	Si
SLV 16	fin.	1012.7	6882	0.9	0	2625	14273	5660	2295	7955		1.16	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	644.66	-5215	0.9	0	2625	14273	5660	2295	7955		1.53	Si
SLV 1	fin.	-547.1	-2724	0.9	0	2625	14273	5660	2295	7955		2.92	Si
SLD 11	ini.	-324.92	-241	0.9	0	2625	14273	5660	2295	7955		33.06	Si
SLD 11	fin.	703.72	5552	0.9	0	2625	14273	5660	2295	7955		1.43	Si
SLD 8	ini.	-241.03	-952	0.9	0	2625	14273	5660	2295	7955		8.36	Si
SLD 8	fin.	611.13	5124	0.9	0	2625	14273	5660	2295	7955		1.55	Si
SLV 7	ini.	-296.69	-1379	0.9	0	2625	14273	5660	2295	7955		5.77	Si
SLV 7	fin.	751.02	6464	0.9	0	2625	14273	5660	2295	7955		1.23	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.063	SLV 12	Si
V_SLV	0.901	SLV 12	No
PF_SLU	11.311	SLU 77	Si
V_SLU	2.102	SLU 77	Si

Trave di accoppiamento 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	7.05	7.9	0.85	-22.778	5.951	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 43	ini.	-173.43	-1522	-0.000076	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.87	Si
SLU 43	fin.	13.18	-344	-0.0000056	0.0001872	0.0035	0.85		3266.1	3266.1	No	247.79	Si
SLU 64	ini.	-174.04	-1667	-0.0000763	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.8	Si
SLU 64	fin.	-14.16	-542	-0.000006	0.0001872	0.0035	0.85		3272.39	3272.39	No	231.11	Si
SLU 70	ini.	-172.81	-1701	-0.0000757	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.94	Si
SLU 70	fin.	-34.09	-656	-0.0000146	0.0001872	0.0035	0.85		3272.39	3272.39	No	95.99	Si
SLU 48	ini.	-179.69	-1594	-0.0000788	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.21	Si
SLU 48	fin.	-0.06	-429	0	0.0001872	0.0035	0.85		3272.39	3272.39	No	56287.02	Si
SLU 69	ini.	-180.3	-1739	-0.0000791	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.15	Si
SLU 69	fin.	-27.4	-627	-0.0000117	0.0001872	0.0035	0.85		3272.39	3272.39	No	119.44	Si
SLU 71	ini.	-179.44	-1724	-0.0000787	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.24	Si
SLU 71	fin.	-25.56	-614	-0.0000109	0.0001872	0.0035	0.85		3272.39	3272.39	No	128.05	Si
SLU 50	ini.	-178.83	-1578	-0.0000785	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.3	Si
SLU 50	fin.	1.79	-416	-0.0000008	0.0001872	0.0035	0.85		3266.1	3266.1	No	1829.55	Si
SLU 49	ini.	-172.2	-1556	-0.0000755	0.0001872	0.0035	0.85		3272.39	3272.39	No	19	Si
SLU 49	fin.	-6.75	-457	-0.0000029	0.0001872	0.0035	0.85		3272.39	3272.39	No	484.83	Si
SLU 66	ini.	-177.6	-1711	-0.0000779	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.43	Si
SLU 66	fin.	-21.7	-591	-0.0000092	0.0001872	0.0035	0.85		3272.39	3272.39	No	150.8	Si
SLU 45	ini.	-176.99	-1566	-0.0000776	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.49	Si
SLU 45	fin.	5.64	-393	-0.0000024	0.0001872	0.0035	0.85		3266.1	3266.1	No	579.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-154.57	3959	0.85	0	1653	13480	3563	2168	5731	No	1.45	Si
SLU 82	fin.	-54.37	-2308	0.85	0	1653	13480	3563	2168	5731	No	2.48	Si
SLU 75	ini.	-161.72	3934	0.85	0	1653	13480	3563	2168	5731	No	1.46	Si
SLU 75	fin.	-51.86	-2241	0.85	0	1653	13480	3563	2168	5731	No	2.56	Si
SLU 83	ini.	-164.76	4070	0.85	0	1653	13480	3563	2168	5731	No	1.41	Si
SLU 83	fin.	-53.38	-2331	0.85	0	1653	13480	3563	2168	5731	No	2.46	Si
SLU 74	ini.	-169.21	3993	0.85	0	1653	13480	3563	2168	5731	No	1.44	Si
SLU 74	fin.	-45.17	-2201	0.85	0	1653	13480	3563	2168	5731	No	2.6	Si
SLU 78	ini.	-164.42	3987	0.85	0	1653	13480	3563	2168	5731	No	1.44	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-57.56	-2304	0.85	0	1653	13480	3563	2168	5731	No	2.49	Si
SLU 81	ini.	-162.06	4018	0.85	0	1653	13480	3563	2168	5731	No	1.43	Si
SLU 81	fin.	-47.68	-2268	0.85	0	1653	13480	3563	2168	5731	No	2.53	Si
SLU 84	ini.	-157.27	4012	0.85	0	1653	13480	3563	2168	5731	No	1.43	Si
SLU 84	fin.	-60.07	-2372	0.85	0	1653	13480	3563	2168	5731	No	2.42	Si
SLU 80	ini.	-163.56	3947	0.85	0	1653	13480	3563	2168	5731	No	1.45	Si
SLU 80	fin.	-55.71	-2273	0.85	0	1653	13480	3563	2168	5731	No	2.52	Si
SLU 77	ini.	-171.91	4046	0.85	0	1653	13480	3563	2168	5731	No	1.42	Si
SLU 77	fin.	-50.87	-2264	0.85	0	1653	13480	3563	2168	5731	No	2.53	Si
SLU 79	ini.	-171.05	4006	0.85	0	1653	13480	3563	2168	5731	No	1.43	Si
SLU 79	fin.	-49.02	-2233	0.85	0	1653	13480	3563	2168	5731	No	2.57	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	481.16	1768	-0.0002197	0.0002807	0.0035	0.85		3181.12	3181.12		6.61	Si
SLV 1	fin.	-604.45	-2814	-0.0002817	0.0002807	0.0035	0.85		3187.76	3187.76		5.27	Si
SLV 15	ini.	-576.3	-3467	-0.0002671	0.0002807	0.0035	0.85		3187.76	3187.76		5.53	Si
SLV 15	fin.	406.46	1247	-0.0001833	0.0002807	0.0035	0.85		3181.12	3181.12		7.83	Si
SLV 6	ini.	519.35	2083	-0.0002388	0.0002807	0.0035	0.85		3181.12	3181.12		6.13	Si
SLV 6	fin.	-534.69	-2502	-0.000246	0.0002807	0.0035	0.85		3187.76	3187.76		5.96	Si
SLV 7	ini.	-573.3	-3618	-0.0002656	0.0002807	0.0035	0.85		3187.76	3187.76		5.56	Si
SLV 7	fin.	293.36	784	-0.00013	0.0002807	0.0035	0.85		3181.12	3181.12		10.84	Si
SLV 5	ini.	632.14	2650	-0.0002968	0.0002807	0.0035	0.85		3181.12	3181.12		5.03	Si
SLV 5	fin.	-652.37	-2992	-0.0003069	0.0002807	0.0035	0.85		3187.76	3187.76		4.89	Si
SLV 16	ini.	-743.85	-4310	-0.0003565	0.0002807	0.0035	0.85		3187.76	3187.76		4.29	Si
SLV 16	fin.	581.28	1975	-0.0002703	0.0002807	0.0035	0.85		3181.12	3181.12		5.47	Si
SLV 8	ini.	-686.09	-4185	-0.0003249	0.0002807	0.0035	0.85		3187.76	3187.76		4.65	Si
SLV 8	fin.	411.04	1274	-0.0001855	0.0002807	0.0035	0.85		3181.12	3181.12		7.74	Si
SLV 12	ini.	-894.83	-5192	-0.0004431	0.0002807	0.0035	0.85		3187.76	3187.76		3.56	Si
SLV 12	fin.	629.2	2153	-0.0002953	0.0002807	0.0035	0.85		3181.12	3181.12		5.06	Si
SLV 11	ini.	-782.05	-4625	-0.0003779	0.0002807	0.0035	0.85		3187.76	3187.76		4.08	Si
SLV 11	fin.	511.52	1663	-0.0002348	0.0002807	0.0035	0.85		3181.12	3181.12		6.22	Si
SLD 12	ini.	-585.26	-3600	-0.0002718	0.0002807	0.0035	0.85		3187.76	3187.76		5.45	Si
SLD 12	fin.	370.99	1117	-0.0001664	0.0002807	0.0035	0.85		3181.12	3181.12		8.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-576.3	5959	0.85	0	2479	13480	5345	2168	7513		1.26	Si
SLV 15	fin.	406.46	1250	0.85	0	2479	13480	5345	2168	7513		6.01	Si
SLD 16	ini.	-512.67	5529	0.85	0	2479	13480	5345	2168	7513		1.36	Si
SLD 16	fin.	359.2	953	0.85	0	2479	13480	5345	2168	7513		7.88	Si
SLV 12	ini.	-894.83	8711	0.85	0	2479	13480	5345	2168	7513		0.86	No
SLV 12	fin.	629.2	2407	0.85	0	2479	13480	5345	2168	7513		3.12	Si
SLV 8	ini.	-686.09	7290	0.85	0	2479	13480	5345	2168	7513		1.03	Si
SLV 8	fin.	411.04	1017	0.85	0	2479	13480	5345	2168	7513		7.38	Si
SLV 7	ini.	-573.3	6447	0.85	0	2479	13480	5345	2168	7513		1.17	Si
SLV 7	fin.	293.36	297	0.85	0	2479	13480	5345	2168	7513		25.29	Si
SLD 11	ini.	-516.81	5787	0.85	0	2479	13480	5345	2168	7513		1.3	Si
SLD 11	fin.	299.58	464	0.85	0	2479	13480	5345	2168	7513		16.21	Si
SLV 16	ini.	-743.85	7211	0.85	0	2479	13480	5345	2168	7513		1.04	Si
SLV 16	fin.	581.28	2320	0.85	0	2479	13480	5345	2168	7513		3.24	Si
SLD 12	ini.	-585.26	6299	0.85	0	2479	13480	5345	2168	7513		1.19	Si
SLD 12	fin.	370.99	901	0.85	0	2479	13480	5345	2168	7513		8.34	Si
SLD 8	ini.	-451.89	5391	0.85	0	2479	13480	5345	2168	7513		1.39	Si
SLD 8	fin.	231.7	14	0.85	0	2479	13480	5345	2168	7513		533.16	Si
SLV 11	ini.	-782.05	7868	0.85	0	2479	13480	5345	2168	7513		0.95	No
SLV 11	fin.	511.52	1686	0.85	0	2479	13480	5345	2168	7513		4.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.562	SLV 12	Si
V_SLV	0.862	SLV 12	No
PF_SLU	18.15	SLU 69	Si
V_SLU	1.408	SLU 83	Si

Trave di accoppiamento 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	4.35	5.25	0.9	-22.478	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	576.56	-2080	-0.0002454	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.2	Si
SLU 79	fin.	68.76	-1039	-0.0000264	0.0001872	0.0035	0.9		3572.55	3572.55	No	51.96	Si
SLU 80	ini.	560.88	-2070	-0.0002378	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.37	Si
SLU 80	fin.	81.88	-1082	-0.0000315	0.0001872	0.0035	0.9		3572.55	3572.55	No	43.63	Si
SLU 78	ini.	569.29	-2095	-0.0002419	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.28	Si
SLU 78	fin.	81.43	-1090	-0.0000314	0.0001872	0.0035	0.9		3572.55	3572.55	No	43.87	Si
SLU 75	ini.	569.96	-2077	-0.0002422	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.27	Si
SLU 75	fin.	73.83	-1056	-0.0000284	0.0001872	0.0035	0.9		3572.55	3572.55	No	48.39	Si
SLU 84	ini.	599.77	-2145	-0.0002568	0.0001872	0.0035	0.9		3572.55	3572.55	No	5.96	Si
SLU 84	fin.	63.43	-1044	-0.0000244	0.0001872	0.0035	0.9		3572.55	3572.55	No	56.33	Si
SLU 74	ini.	585.64	-2088	-0.0002498	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.1	Si
SLU 74	fin.	60.71	-1012	-0.0000233	0.0001872	0.0035	0.9		3572.55	3572.55	No	58.85	Si
SLU 83	ini.	615.44	-2155	-0.0002645	0.0001872	0.0035	0.9		3572.55	3572.55	No	5.8	Si
SLU 83	fin.	50.3	-1000	-0.0000193	0.0001872	0.0035	0.9		3572.55	3572.55	No	71.02	Si
SLU 81	ini.	616.12	-2138	-0.0002649	0.0001872	0.0035	0.9		3572.55	3572.55	No	5.8	Si
SLU 81	fin.	42.7	-966	-0.0000163	0.0001872	0.0035	0.9		3572.55	3572.55	No	83.66	Si
SLU 82	ini.	600.44	-2127	-0.0002571	0.0001872	0.0035	0.9		3572.55	3572.55	No	5.95	Si
SLU 82	fin.	55.83	-1009	-0.0000214	0.0001872	0.0035	0.9		3572.55	3572.55	No	63.99	Si
SLU 77	ini.	584.97	-2106	-0.0002495	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.11	Si
SLU 77	fin.	68.31	-1047	-0.0000263	0.0001872	0.0035	0.9		3572.55	3572.55	No	52.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	576.56	-2105	0.9	0	1750	14273	3773	2295	6068	No	2.88	Si
SLU 79	fin.	68.76	667	0.9	0	1750	14273	3773	2295	6068	No	9.1	Si
SLU 80	ini.	560.88	-2058	0.9	0	1750	14273	3773	2295	6068	No	2.95	Si
SLU 80	fin.	81.88	741	0.9	0	1750	14273	3773	2295	6068	No	8.19	Si
SLU 84	ini.	599.77	-2189	0.9	0	1750	14273	3773	2295	6068	No	2.77	Si
SLU 84	fin.	63.43	637	0.9	0	1750	14273	3773	2295	6068	No	9.53	Si
SLU 77	ini.	584.97	-2139	0.9	0	1750	14273	3773	2295	6068	No	2.84	Si
SLU 77	fin.	68.31	672	0.9	0	1750	14273	3773	2295	6068	No	9.04	Si
SLU 75	ini.	569.96	-2088	0.9	0	1750	14273	3773	2295	6068	No	2.91	Si
SLU 75	fin.	73.83	695	0.9	0	1750	14273	3773	2295	6068	No	8.73	Si
SLU 82	ini.	600.44	-2186	0.9	0	1750	14273	3773	2295	6068	No	2.78	Si
SLU 82	fin.	55.83	587	0.9	0	1750	14273	3773	2295	6068	No	10.34	Si
SLU 81	ini.	616.12	-2234	0.9	0	1750	14273	3773	2295	6068	No	2.72	Si
SLU 81	fin.	42.7	513	0.9	0	1750	14273	3773	2295	6068	No	11.83	Si
SLU 78	ini.	569.29	-2091	0.9	0	1750	14273	3773	2295	6068	No	2.9	Si
SLU 78	fin.	81.43	745	0.9	0	1750	14273	3773	2295	6068	No	8.14	Si
SLU 74	ini.	585.64	-2136	0.9	0	1750	14273	3773	2295	6068	No	2.84	Si
SLU 74	fin.	60.71	622	0.9	0	1750	14273	3773	2295	6068	No	9.76	Si
SLU 83	ini.	615.44	-2237	0.9	0	1750	14273	3773	2295	6068	No	2.71	Si
SLU 83	fin.	50.3	563	0.9	0	1750	14273	3773	2295	6068	No	10.78	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1440.32	-2586	-0.0006958	0.0002807	0.0035	0.9		3568.61	3568.61		2.48	Si
SLV 3	fin.	-739.19	1586	-0.0003114	0.0002807	0.0035	0.9		3575.64	3575.64		4.84	Si
SLD 3	ini.	1048.03	-2160	-0.0004693	0.0002807	0.0035	0.9		3568.61	3568.61		3.41	Si
SLD 3	fin.	-441.12	708	-0.0001771	0.0002807	0.0035	0.9		3575.64	3575.64		8.11	Si
SLV 4	ini.	1765.19	-2952	-0.0009071	0.0002807	0.0035	0.9		3568.61	3568.61		2.02	Si
SLV 4	fin.	-983.02	2299	-0.0004337	0.0002807	0.0035	0.9		3575.64	3575.64		3.64	Si
SLV 9	ini.	-805.87	-565	-0.0003437	0.0002807	0.0035	0.9		3575.64	3575.64		4.44	Si
SLV 9	fin.	1127.98	-4248	-0.0005131	0.0002807	0.0035	0.9		3568.61	3568.61		3.16	Si
SLD 8	ini.	1096.59	-1932	-0.0004957	0.0002807	0.0035	0.9		3568.61	3568.61		3.25	Si
SLD 8	fin.	-584.8	1351	-0.00024	0.0002807	0.0035	0.9		3575.64	3575.64		6.11	Si
SLV 7	ini.	1350.02	-2011	-0.000641	0.0002807	0.0035	0.9		3568.61	3568.61		2.64	Si
SLV 7	fin.	-850.95	2287	-0.000366	0.0002807	0.0035	0.9		3575.64	3575.64		4.2	Si
SLV 2	ini.	1296.04	-2744	-0.0006091	0.0002807	0.0035	0.9		3568.61	3568.61		2.75	Si
SLV 2	fin.	-512.12	675	-0.0002078	0.0002807	0.0035	0.9		3575.64	3575.64		6.98	Si
SLV 8	ini.	1568.71	-2258	-0.0007766	0.0002807	0.0035	0.9		3568.61	3568.61		2.27	Si
SLV 8	fin.	-1015.08	2766	-0.0004506	0.0002807	0.0035	0.9		3575.64	3575.64		3.52	Si
SLD 4	ini.	1254.13	-2392	-0.0005846	0.0002807	0.0035	0.9		3568.61	3568.61		2.85	Si
SLD 4	fin.	-595.81	1160	-0.000245	0.0002807	0.0035	0.9		3575.64	3575.64		6	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1002.36	129	-0.0004439	0.0002807	0.0035	0.9		3575.64	3575.64		3.57	Si
SLV 13	fin.	1095.92	-3780	-0.0004954	0.0002807	0.0035	0.9		3568.61	3568.61		3.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1296.04	-4817	0.9	0	2625	14273	5660	2295	7955		1.65	Si
SLV 2	fin.	-512.12	-1810	0.9	0	2625	14273	5660	2295	7955		4.4	Si
SLV 5	ini.	-213.82	374	0.9	0	2625	14273	5660	2295	7955		21.25	Si
SLV 5	fin.	718.72	4424	0.9	0	2625	14273	5660	2295	7955		1.8	Si
SLV 3	ini.	1440.32	-5151	0.9	0	2625	14273	5660	2295	7955		1.54	Si
SLV 3	fin.	-739.19	-3289	0.9	0	2625	14273	5660	2295	7955		2.42	Si
SLV 8	ini.	1568.71	-5310	0.9	0	2625	14273	5660	2295	7955		1.5	Si
SLV 8	fin.	-1015.08	-5240	0.9	0	2625	14273	5660	2295	7955		1.52	Si
SLV 9	ini.	-805.87	2531	0.9	0	2625	14273	5660	2295	7955		3.14	Si
SLV 9	fin.	1127.98	6260	0.9	0	2625	14273	5660	2295	7955		1.27	Si
SLV 4	ini.	1765.19	-6292	0.9	0	2625	14273	5660	2295	7955		1.26	Si
SLV 4	fin.	-983.02	-4470	0.9	0	2625	14273	5660	2295	7955		1.78	Si
SLV 7	ini.	1350.02	-4542	0.9	0	2625	14273	5660	2295	7955		1.75	Si
SLV 7	fin.	-850.95	-4444	0.9	0	2625	14273	5660	2295	7955		1.79	Si
SLV 13	ini.	-1002.36	3513	0.9	0	2625	14273	5660	2295	7955		2.26	Si
SLV 13	fin.	1095.92	5490	0.9	0	2625	14273	5660	2295	7955		1.45	Si
SLD 4	ini.	1254.13	-4485	0.9	0	2625	14273	5660	2295	7955		1.77	Si
SLD 4	fin.	-595.81	-2604	0.9	0	2625	14273	5660	2295	7955		3.05	Si
SLV 10	ini.	-587.19	1762	0.9	0	2625	14273	5660	2295	7955		4.51	Si
SLV 10	fin.	963.84	5464	0.9	0	2625	14273	5660	2295	7955		1.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.022	SLV 4	Si
V_SLV	1.264	SLV 4	Si
PF_SLU	5.799	SLU 81	Si
V_SLU	2.713	SLU 83	Si

Trave di accoppiamento 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	7.05	7.9	0.85	-22.478	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-91.83	-1254	-0.0000396	0.0001872	0.0035	0.85		3272.39	3272.39	No	35.64	Si
SLU 75	fin.	-381.17	-1910	-0.0001748	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.59	Si
SLU 82	ini.	-65.01	-1235	-0.0000279	0.0001872	0.0035	0.85		3272.39	3272.39	No	50.34	Si
SLU 82	fin.	-403.31	-1994	-0.000186	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.11	Si
SLU 79	ini.	-89.56	-1251	-0.0000386	0.0001872	0.0035	0.85		3272.39	3272.39	No	36.54	Si
SLU 79	fin.	-383.24	-1922	-0.0001758	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.54	Si
SLU 77	ini.	-88.23	-1266	-0.000038	0.0001872	0.0035	0.85		3272.39	3272.39	No	37.09	Si
SLU 77	fin.	-389.46	-1950	-0.000179	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.4	Si
SLU 80	ini.	-106.53	-1275	-0.0000461	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.72	Si
SLU 80	fin.	-373.72	-1889	-0.0001711	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.76	Si
SLU 81	ini.	-48.04	-1212	-0.0000206	0.0001872	0.0035	0.85		3272.39	3272.39	No	68.12	Si
SLU 81	fin.	-412.83	-2027	-0.0001908	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.93	Si
SLU 83	ini.	-61.41	-1247	-0.0000264	0.0001872	0.0035	0.85		3272.39	3272.39	No	53.29	Si
SLU 83	fin.	-411.6	-2034	-0.0001902	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.95	Si
SLU 84	ini.	-78.37	-1271	-0.0000337	0.0001872	0.0035	0.85		3272.39	3272.39	No	41.75	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-402.09	-2001	-0.0001854	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.14	Si
SLU 78	ini.	-105.19	-1289	-0.0000455	0.0001872	0.0035	0.85		3272.39	3272.39	No	31.11	Si
SLU 78	fin.	-379.94	-1918	-0.0001742	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.61	Si
SLU 74	ini.	-74.86	-1230	-0.0000322	0.0001872	0.0035	0.85		3272.39	3272.39	No	43.71	Si
SLU 74	fin.	-390.69	-1943	-0.0001796	0.0001872	0.0035	0.85		3272.39	3272.39	No	8.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-105.19	1054	0.85	0	1653	13480	3563	2168	5731	No	5.44	Si
SLU 78	fin.	-379.94	-3069	0.85	0	1653	13480	3563	2168	5731	No	1.87	Si
SLU 83	ini.	-61.41	919	0.85	0	1653	13480	3563	2168	5731	No	6.23	Si
SLU 83	fin.	-411.6	-3263	0.85	0	1653	13480	3563	2168	5731	No	1.76	Si
SLU 81	ini.	-48.04	867	0.85	0	1653	13480	3563	2168	5731	No	6.61	Si
SLU 81	fin.	-412.83	-3253	0.85	0	1653	13480	3563	2168	5731	No	1.76	Si
SLU 80	ini.	-106.53	1051	0.85	0	1653	13480	3563	2168	5731	No	5.45	Si
SLU 80	fin.	-373.72	-3026	0.85	0	1653	13480	3563	2168	5731	No	1.89	Si
SLU 82	ini.	-65.01	928	0.85	0	1653	13480	3563	2168	5731	No	6.17	Si
SLU 82	fin.	-403.31	-3204	0.85	0	1653	13480	3563	2168	5731	No	1.79	Si
SLU 77	ini.	-88.23	993	0.85	0	1653	13480	3563	2168	5731	No	5.77	Si
SLU 77	fin.	-389.46	-3117	0.85	0	1653	13480	3563	2168	5731	No	1.84	Si
SLU 84	ini.	-78.37	980	0.85	0	1653	13480	3563	2168	5731	No	5.84	Si
SLU 84	fin.	-402.09	-3215	0.85	0	1653	13480	3563	2168	5731	No	1.78	Si
SLU 75	ini.	-91.83	1002	0.85	0	1653	13480	3563	2168	5731	No	5.72	Si
SLU 75	fin.	-381.17	-3058	0.85	0	1653	13480	3563	2168	5731	No	1.87	Si
SLU 74	ini.	-74.86	941	0.85	0	1653	13480	3563	2168	5731	No	6.09	Si
SLU 74	fin.	-390.69	-3106	0.85	0	1653	13480	3563	2168	5731	No	1.84	Si
SLU 79	ini.	-89.56	990	0.85	0	1653	13480	3563	2168	5731	No	5.79	Si
SLU 79	fin.	-383.24	-3075	0.85	0	1653	13480	3563	2168	5731	No	1.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1208.29	1109	-0.000642	0.0002807	0.0035	0.85		3181.12	3181.12		2.63	Si
SLV 7	fin.	-887.26	-3312	-0.0004386	0.0002807	0.0035	0.85		3187.76	3187.76		3.59	Si
SLV 5	ini.	-1040.43	-2462	-0.0005318	0.0002807	0.0035	0.85		3187.76	3187.76		3.06	Si
SLV 5	fin.	183.72	82	-0.0000801	0.0002807	0.0035	0.85		3181.12	3181.12		17.31	Si
SLV 8	ini.	1439.41	1402	-0.0008034	0.0002807	0.0035	0.85		3181.12	3181.12		2.21	Si
SLV 8	fin.	-1023.42	-3779	-0.0005212	0.0002807	0.0035	0.85		3187.76	3187.76		3.11	Si
SLV 3	ini.	991.06	525	-0.0005023	0.0002807	0.0035	0.85		3181.12	3181.12		3.21	Si
SLV 3	fin.	-871.32	-3372	-0.0004292	0.0002807	0.0035	0.85		3187.76	3187.76		3.66	Si
SLV 4	ini.	1334.39	959	-0.0007283	0.0002807	0.0035	0.85		3181.12	3181.12		2.38	Si
SLV 4	fin.	-1073.58	-4065	-0.0005527	0.0002807	0.0035	0.85		3187.76	3187.76		2.97	Si
SLV 9	ini.	-1576.93	-3093	-0.0009039	0.0002807	0.0035	0.85		3187.76	3187.76		2.02	Si
SLV 9	fin.	519.68	1249	-0.0002389	0.0002807	0.0035	0.85		3181.12	3181.12		6.12	Si
SLV 14	ini.	-1128.57	-2216	-0.000588	0.0002807	0.0035	0.85		3187.76	3187.76		2.82	Si
SLV 14	fin.	367.58	843	-0.0001647	0.0002807	0.0035	0.85		3181.12	3181.12		8.65	Si
SLD 9	ini.	-969.56	-2183	-0.000488	0.0002807	0.0035	0.85		3187.76	3187.76		3.29	Si
SLD 9	fin.	210.97	246	-0.0000923	0.0002807	0.0035	0.85		3181.12	3181.12		15.08	Si
SLV 13	ini.	-1471.91	-2651	-0.0008251	0.0002807	0.0035	0.85		3187.76	3187.76		2.17	Si
SLV 13	fin.	569.85	1536	-0.0002644	0.0002807	0.0035	0.85		3181.12	3181.12		5.58	Si
SLV 10	ini.	-1345.81	-2800	-0.0007345	0.0002807	0.0035	0.85		3187.76	3187.76		2.37	Si
SLV 10	fin.	383.53	783	-0.0001723	0.0002807	0.0035	0.85		3181.12	3181.12		8.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	991.06	-2844	0.85	0	2479	13480	5345	2168	7513		2.64	Si
SLV 3	fin.	-871.32	-5472	0.85	0	2479	13480	5345	2168	7513		1.37	Si
SLD 4	ini.	809.73	-2234	0.85	0	2479	13480	5345	2168	7513		3.36	Si
SLD 4	fin.	-768.29	-4898	0.85	0	2479	13480	5345	2168	7513		1.53	Si
SLV 8	ini.	1439.41	-4478	0.85	0	2479	13480	5345	2168	7513		1.68	Si
SLV 8	fin.	-1023.42	-6202	0.85	0	2479	13480	5345	2168	7513		1.21	Si
SLV 9	ini.	-1576.93	5870	0.85	0	2479	13480	5345	2168	7513		1.28	Si
SLV 9	fin.	519.68	2172	0.85	0	2479	13480	5345	2168	7513		3.46	Si
SLV 4	ini.	1334.39	-3990	0.85	0	2479	13480	5345	2168	7513		1.88	Si
SLV 4	fin.	-1073.58	-6599	0.85	0	2479	13480	5345	2168	7513		1.14	Si
SLV 7	ini.	1208.29	-3707	0.85	0	2479	13480	5345	2168	7513		2.03	Si
SLV 7	fin.	-887.26	-5443	0.85	0	2479	13480	5345	2168	7513		1.38	Si
SLV 10	ini.	-1345.81	5099	0.85	0	2479	13480	5345	2168	7513		1.47	Si
SLV 10	fin.	383.53	1413	0.85	0	2479	13480	5345	2168	7513		5.31	Si
SLV 2	ini.	659.78	-1646	0.85	0	2479	13480	5345	2168	7513		4.56	Si
SLV 2	fin.	-752.28	-4884	0.85	0	2479	13480	5345	2168	7513		1.54	Si
SLV 13	ini.	-1471.91	5382	0.85	0	2479	13480	5345	2168	7513		1.4	Si
SLV 13	fin.	569.85	2570	0.85	0	2479	13480	5345	2168	7513		2.92	Si
SLD 8	ini.	832.04	-2392	0.85	0	2479	13480	5345	2168	7513		3.14	Si
SLD 8	fin.	-714.71	-4528	0.85	0	2479	13480	5345	2168	7513		1.66	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.021	SLV 9	Si
V_SLV	1.138	SLV 4	Si
PF_SLU	7.927	SLU 81	Si
V_SLU	1.756	SLU 83	Si

Trave di accoppiamento 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	4.35	6.35	2	-19.293	-3.169	4.35	6.35	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-131.2	-2438	-0.0000101	0.0001872	0.0035	2		17748.68	17748.68	No	135.28	Si
SLU 49	fin.	95.69	-3615	-0.0000074	0.0001872	0.0035	2		17734.35	17734.35	No	185.32	Si
SLU 70	ini.	-136.89	-2753	-0.0000106	0.0001872	0.0035	2		17748.68	17748.68	No	129.65	Si
SLU 70	fin.	106.16	-4080	-0.0000082	0.0001872	0.0035	2		17734.35	17734.35	No	167.06	Si
SLU 65	ini.	-136.25	-2645	-0.0000105	0.0001872	0.0035	2		17748.68	17748.68	No	130.26	Si
SLU 65	fin.	98.64	-3926	-0.0000076	0.0001872	0.0035	2		17734.35	17734.35	No	179.79	Si
SLU 46	ini.	-129.11	-2393	-0.00001	0.0001872	0.0035	2		17748.68	17748.68	No	137.47	Si
SLU 46	fin.	93.51	-3557	-0.0000072	0.0001872	0.0035	2		17734.35	17734.35	No	189.66	Si
SLU 72	ini.	-131.98	-2709	-0.0000102	0.0001872	0.0035	2		17748.68	17748.68	No	134.48	Si
SLU 72	fin.	106.81	-4026	-0.0000082	0.0001872	0.0035	2		17734.35	17734.35	No	166.03	Si
SLU 68	ini.	-138.35	-2690	-0.0000107	0.0001872	0.0035	2		17748.68	17748.68	No	128.29	Si
SLU 68	fin.	100.83	-3984	-0.0000078	0.0001872	0.0035	2		17734.35	17734.35	No	175.89	Si
SLU 44	ini.	-130.56	-2330	-0.0000101	0.0001872	0.0035	2		17748.68	17748.68	No	135.94	Si
SLU 44	fin.	88.18	-3461	-0.0000068	0.0001872	0.0035	2		17734.35	17734.35	No	201.12	Si
SLU 51	ini.	-126.29	-2395	-0.0000097	0.0001872	0.0035	2		17748.68	17748.68	No	140.54	Si
SLU 51	fin.	96.35	-3562	-0.0000074	0.0001872	0.0035	2		17734.35	17734.35	No	184.06	Si
SLU 47	ini.	-132.66	-2375	-0.0000102	0.0001872	0.0035	2		17748.68	17748.68	No	133.8	Si
SLU 47	fin.	90.37	-3519	-0.000007	0.0001872	0.0035	2		17734.35	17734.35	No	196.25	Si
SLU 67	ini.	-134.8	-2708	-0.0000104	0.0001872	0.0035	2		17748.68	17748.68	No	131.67	Si
SLU 67	fin.	103.97	-4022	-0.000008	0.0001872	0.0035	2		17734.35	17734.35	No	170.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-33.45	987	2	0	3889	7930	8384	5100	11818	No	11.97	Si
SLU 83	fin.	115.17	6143	2	0	3889	7930	8384	5100	11818	No	1.92	Si
SLU 78	ini.	-78.27	968	2	0	3889	7930	8384	5100	11818	No	12.21	Si
SLU 78	fin.	109.55	6136	2	0	3889	7930	8384	5100	11818	No	1.93	Si
SLU 79	ini.	-60.67	1010	2	0	3889	7930	8384	5100	11818	No	11.71	Si
SLU 79	fin.	115.9	6054	2	0	3889	7930	8384	5100	11818	No	1.95	Si
SLU 74	ini.	-63.49	1007	2	0	3889	7930	8384	5100	11818	No	11.73	Si
SLU 74	fin.	113.06	6044	2	0	3889	7930	8384	5100	11818	No	1.96	Si
SLU 80	ini.	-73.36	969	2	0	3889	7930	8384	5100	11818	No	12.2	Si
SLU 80	fin.	110.21	6071	2	0	3889	7930	8384	5100	11818	No	1.95	Si
SLU 81	ini.	-31.36	986	2	0	3889	7930	8384	5100	11818	No	11.99	Si
SLU 81	fin.	112.98	6068	2	0	3889	7930	8384	5100	11818	No	1.95	Si
SLU 84	ini.	-46.14	947	2	0	3889	7930	8384	5100	11818	No	12.49	Si
SLU 84	fin.	109.47	6161	2	0	3889	7930	8384	5100	11818	No	1.92	Si
SLU 77	ini.	-65.58	1009	2	0	3889	7930	8384	5100	11818	No	11.71	Si
SLU 77	fin.	115.24	6119	2	0	3889	7930	8384	5100	11818	No	1.93	Si
SLU 82	ini.	-44.05	945	2	0	3889	7930	8384	5100	11818	No	12.51	Si
SLU 82	fin.	107.28	6086	2	0	3889	7930	8384	5100	11818	No	1.94	Si
SLU 75	ini.	-76.18	966	2	0	3889	7930	8384	5100	11818	No	12.23	Si
SLU 75	fin.	107.36	6062	2	0	3889	7930	8384	5100	11818	No	1.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1851.01	-4641	-0.0001491	0.0002807	0.0035	2		15965.77	15965.77		8.63	Si
SLV 13	fin.	827.18	-6621	-0.0000649	0.0002807	0.0035	2		15950.21	15950.21		19.28	Si
SLV 7	ini.	1321.81	1683	-0.000105	0.0002807	0.0035	2		15950.21	15950.21		12.07	Si
SLV 7	fin.	-126.48	774	-0.0000097	0.0002807	0.0035	2		15965.77	15965.77		126.23	Si
SLD 13	ini.	-1190.44	-3620	-0.0000942	0.0002807	0.0035	2		15965.77	15965.77		13.41	Si
SLD 13	fin.	557.21	-5249	-0.0000434	0.0002807	0.0035	2		15950.21	15950.21		28.63	Si
SLV 14	ini.	-1510.71	-4168	-0.0001205	0.0002807	0.0035	2		15965.77	15965.77		10.57	Si
SLV 14	fin.	630.65	-5860	-0.0000492	0.0002807	0.0035	2		15950.21	15950.21		25.29	Si
SLV 4	ini.	1709.93	729	-0.0001373	0.0002807	0.0035	2		15950.21	15950.21		9.33	Si
SLV 4	fin.	-663.49	695	-0.0000518	0.0002807	0.0035	2		15965.77	15965.77		24.06	Si
SLV 3	ini.	1369.63	256	-0.0001089	0.0002807	0.0035	2		15950.21	15950.21		11.65	Si
SLV 3	fin.	-466.96	-66	-0.0000363	0.0002807	0.0035	2		15965.77	15965.77		34.19	Si
SLV 8	ini.	1550.89	2002	-0.000124	0.0002807	0.0035	2		15950.21	15950.21		10.28	Si
SLV 8	fin.	-258.78	1286	-0.00002	0.0002807	0.0035	2		15965.77	15965.77		61.7	Si
SLV 10	ini.	-1462.9	-5595	-0.0001166	0.0002807	0.0035	2		15965.77	15965.77		10.91	Si
SLV 10	fin.	290.18	-6700	-0.0000225	0.0002807	0.0035	2		15950.21	15950.21		54.97	Si
SLV 9	ini.	-1691.97	-5914	-0.0001357	0.0002807	0.0035	2		15965.77	15965.77		9.44	Si
SLV 9	fin.	422.47	-7212	-0.0000328	0.0002807	0.0035	2		15950.21	15950.21		37.75	Si
SLV 15	ini.	-1175.98	-2621	-0.000093	0.0002807	0.0035	2		15965.77	15965.77		13.58	Si
SLV 15	fin.	774.2	-4637	-0.0000607	0.0002807	0.0035	2		15950.21	15950.21		20.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-835.68	5599	2	0	5833	7930	12577	5100	13763		2.46	Si
SLV 16	fin.	577.67	7336	2	0	5833	7930	12577	5100	13763		1.88	Si
SLV 13	ini.	-1851.01	7793	2	0	5833	7930	12577	5100	13763		1.77	Si
SLV 13	fin.	827.18	11269	2	0	5833	7930	12577	5100	13763		1.22	Si
SLV 14	ini.	-1510.71	6176	2	0	5833	7930	12577	5100	13763		2.23	Si
SLV 14	fin.	630.65	9637	2	0	5833	7930	12577	5100	13763		1.43	Si
SLV 15	ini.	-1175.98	7217	2	0	5833	7930	12577	5100	13763		1.91	Si
SLV 15	fin.	774.2	8968	2	0	5833	7930	12577	5100	13763		1.53	Si
SLV 10	ini.	-1462.9	2970	2	0	5833	7930	12577	5100	13763		4.63	Si
SLV 10	fin.	290.18	9028	2	0	5833	7930	12577	5100	13763		1.52	Si
SLV 9	ini.	-1691.97	4059	2	0	5833	7930	12577	5100	13763		3.39	Si
SLV 9	fin.	422.47	10127	2	0	5833	7930	12577	5100	13763		1.36	Si
SLD 13	ini.	-1190.44	5244	2	0	5833	7930	12577	5100	13763		2.62	Si
SLD 13	fin.	557.21	8659	2	0	5833	7930	12577	5100	13763		1.59	Si
SLD 9	ini.	-1043.49	2806	2	0	5833	7930	12577	5100	13763		4.9	Si
SLD 9	fin.	292.98	7770	2	0	5833	7930	12577	5100	13763		1.77	Si
SLD 14	ini.	-974.55	4217	2	0	5833	7930	12577	5100	13763		3.26	Si
SLD 14	fin.	432.52	7624	2	0	5833	7930	12577	5100	13763		1.81	Si
SLD 15	ini.	-794.93	4906	2	0	5833	7930	12577	5100	13763		2.81	Si
SLD 15	fin.	526.16	7312	2	0	5833	7930	12577	5100	13763		1.88	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.625	SLV 13	Si
V_SLV	1.221	SLV 13	Si
PF_SLU	128.29	SLU 68	Si
V_SLU	1.918	SLU 84	Si

Trave di accoppiamento 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	7.15	7.9	0.75	-19.293	-3.169	7.15	7.9	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-152.17	-1348	-0.0000859	0.0001872	0.0035	0.75		2548.25	2548.25	No	16.75	Si
SLU 81	fin.	89.86	-901	-0.0000501	0.0001872	0.0035	0.75		2542.76	2542.76	No	28.3	Si
SLU 84	ini.	-152.41	-1361	-0.0000861	0.0001872	0.0035	0.75		2548.25	2548.25	No	16.72	Si
SLU 84	fin.	91.25	-924	-0.0000509	0.0001872	0.0035	0.75		2542.76	2542.76	No	27.87	Si
SLU 79	ini.	-145.69	-1292	-0.0000821	0.0001872	0.0035	0.75		2548.25	2548.25	No	17.49	Si
SLU 79	fin.	93.73	-861	-0.0000523	0.0001872	0.0035	0.75		2542.76	2542.76	No	27.13	Si
SLU 77	ini.	-145.99	-1301	-0.0000823	0.0001872	0.0035	0.75		2548.25	2548.25	No	17.46	Si
SLU 77	fin.	95.93	-871	-0.0000535	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.51	Si
SLU 74	ini.	-144.26	-1283	-0.0000813	0.0001872	0.0035	0.75		2548.25	2548.25	No	17.66	Si
SLU 74	fin.	95.63	-854	-0.0000534	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.59	Si
SLU 78	ini.	-144.5	-1297	-0.0000814	0.0001872	0.0035	0.75		2548.25	2548.25	No	17.64	Si
SLU 78	fin.	97.01	-876	-0.0000541	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.21	Si
SLU 80	ini.	-144.2	-1288	-0.0000812	0.0001872	0.0035	0.75		2548.25	2548.25	No	17.67	Si
SLU 80	fin.	94.82	-866	-0.0000529	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.82	Si
SLU 83	ini.	-153.9	-1365	-0.0000869	0.0001872	0.0035	0.75		2548.25	2548.25	No	16.56	Si
SLU 83	fin.	90.16	-918	-0.0000502	0.0001872	0.0035	0.75		2542.76	2542.76	No	28.2	Si
SLU 82	ini.	-150.68	-1343	-0.000085	0.0001872	0.0035	0.75		2548.25	2548.25	No	16.91	Si
SLU 82	fin.	90.95	-906	-0.0000507	0.0001872	0.0035	0.75		2542.76	2542.76	No	27.96	Si
SLU 75	ini.	-142.77	-1279	-0.0000804	0.0001872	0.0035	0.75		2548.25	2548.25	No	17.85	Si
SLU 75	fin.	96.71	-859	-0.000054	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-144.5	3189	0.75	0	1458	7930	3144	1913	5057	No	1.59	Si
SLU 78	fin.	97.01	-2168	0.75	0	1458	7930	3144	1913	5057	No	2.33	Si
SLU 80	ini.	-144.2	3151	0.75	0	1458	7930	3144	1913	5057	No	1.6	Si
SLU 80	fin.	94.82	-2128	0.75	0	1458	7930	3144	1913	5057	No	2.38	Si
SLU 75	ini.	-142.77	3155	0.75	0	1458	7930	3144	1913	5057	No	1.6	Si
SLU 75	fin.	96.71	-2136	0.75	0	1458	7930	3144	1913	5057	No	2.37	Si
SLU 77	ini.	-145.99	3184	0.75	0	1458	7930	3144	1913	5057	No	1.59	Si
SLU 77	fin.	95.93	-2145	0.75	0	1458	7930	3144	1913	5057	No	2.36	Si
SLU 82	ini.	-150.68	3215	0.75	0	1458	7930	3144	1913	5057	No	1.57	Si
SLU 82	fin.	90.95	-2173	0.75	0	1458	7930	3144	1913	5057	No	2.33	Si
SLU 74	ini.	-144.26	3150	0.75	0	1458	7930	3144	1913	5057	No	1.61	Si
SLU 74	fin.	95.63	-2113	0.75	0	1458	7930	3144	1913	5057	No	2.39	Si
SLU 81	ini.	-152.17	3209	0.75	0	1458	7930	3144	1913	5057	No	1.58	Si
SLU 81	fin.	89.86	-2151	0.75	0	1458	7930	3144	1913	5057	No	2.35	Si
SLU 79	ini.	-145.69	3145	0.75	0	1458	7930	3144	1913	5057	No	1.61	Si
SLU 79	fin.	93.73	-2105	0.75	0	1458	7930	3144	1913	5057	No	2.4	Si
SLU 83	ini.	-153.9	3243	0.75	0	1458	7930	3144	1913	5057	No	1.56	Si
SLU 83	fin.	90.16	-2183	0.75	0	1458	7930	3144	1913	5057	No	2.32	Si
SLU 84	ini.	-152.41	3249	0.75	0	1458	7930	3144	1913	5057	No	1.56	Si
SLU 84	fin.	91.25	-2206	0.75	0	1458	7930	3144	1913	5057	No	2.29	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-27.43	113	-0.000015	0.0002807	0.0035	0.75		2476.06	2476.06		90.27	Si
SLV 16	fin.	361.01	1282	-0.0002109	0.0002807	0.0035	0.75		2470.23	2470.23		6.84	Si
SLV 3	ini.	-238.88	-2323	-0.0001357	0.0002807	0.0035	0.75		2476.06	2476.06		10.37	Si
SLV 3	fin.	-369.31	-2730	-0.0002156	0.0002807	0.0035	0.75		2476.06	2476.06		6.7	Si
SLV 9	ini.	71.8	584	-0.0000397	0.0002807	0.0035	0.75		2470.23	2470.23		34.4	Si
SLV 9	fin.	494.1	1033	-0.0002978	0.0002807	0.0035	0.75		2470.23	2470.23		5	Si
SLD 14	ini.	-5.96	108	-0.0000032	0.0002807	0.0035	0.75		2476.06	2476.06		415.67	Si
SLD 14	fin.	351.67	878	-0.000205	0.0002807	0.0035	0.75		2470.23	2470.23		7.02	Si
SLV 14	ini.	48.48	657	-0.0000267	0.0002807	0.0035	0.75		2470.23	2470.23		50.95	Si
SLV 14	fin.	514.4	1681	-0.0003116	0.0002807	0.0035	0.75		2470.23	2470.23		4.8	Si
SLV 15	ini.	-9.42	411	-0.0000051	0.0002807	0.0035	0.75		2476.06	2476.06		262.75	Si
SLV 15	fin.	476.83	1881	-0.0002861	0.0002807	0.0035	0.75		2470.23	2470.23		5.18	Si
SLV 10	ini.	59.68	383	-0.0000329	0.0002807	0.0035	0.75		2470.23	2470.23		41.39	Si
SLV 10	fin.	416.14	631	-0.0002461	0.0002807	0.0035	0.75		2470.23	2470.23		5.94	Si
SLV 13	ini.	66.49	955	-0.0000367	0.0002807	0.0035	0.75		2470.23	2470.23		37.15	Si
SLV 13	fin.	630.22	2280	-0.0003939	0.0002807	0.0035	0.75		2470.23	2470.23		3.92	Si
SLD 13	ini.	5.47	297	-0.000003	0.0002807	0.0035	0.75		2470.23	2470.23		451.89	Si
SLD 13	fin.	425.15	1258	-0.000252	0.0002807	0.0035	0.75		2470.23	2470.23		5.81	Si
SLV 4	ini.	-256.88	-2621	-0.0001465	0.0002807	0.0035	0.75		2476.06	2476.06		9.64	Si
SLV 4	fin.	-485.13	-3329	-0.000291	0.0002807	0.0035	0.75		2476.06	2476.06		5.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-9.42	3035	0.75	0	2188	7930	4716	1913	6629		2.18	Si
SLV 15	fin.	476.83	971	0.75	0	2188	7930	4716	1913	6629		6.83	Si
SLV 10	ini.	59.68	3050	0.75	0	2188	7930	4716	1913	6629		2.17	Si
SLV 10	fin.	416.14	-1655	0.75	0	2188	7930	4716	1913	6629		4.01	Si
SLV 1	ini.	-162.96	1616	0.75	0	2188	7930	4716	1913	6629		4.1	Si
SLV 1	fin.	-215.92	-3226	0.75	0	2188	7930	4716	1913	6629		2.05	Si
SLD 13	ini.	5.47	2989	0.75	0	2188	7930	4716	1913	6629		2.22	Si
SLD 13	fin.	425.15	-123	0.75	0	2188	7930	4716	1913	6629		53.99	Si
SLV 2	ini.	-180.97	1231	0.75	0	2188	7930	4716	1913	6629		5.38	Si
SLV 2	fin.	-331.74	-3729	0.75	0	2188	7930	4716	1913	6629		1.78	Si
SLV 14	ini.	48.48	3110	0.75	0	2188	7930	4716	1913	6629		2.13	Si
SLV 14	fin.	514.4	63	0.75	0	2188	7930	4716	1913	6629		105.17	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-256.88	772	0.75	0	2188	7930	4716	1913	6629		8.58	Si
SLV 4	fin.	-485.13	-3324	0.75	0	2188	7930	4716	1913	6629		1.99	Si
SLD 2	ini.	-151.4	1546	0.75	0	2188	7930	4716	1913	6629		4.29	Si
SLD 2	fin.	-190.12	-2872	0.75	0	2188	7930	4716	1913	6629		2.31	Si
SLV 13	ini.	66.49	3494	0.75	0	2188	7930	4716	1913	6629		1.9	Si
SLV 13	fin.	630.22	566	0.75	0	2188	7930	4716	1913	6629		11.71	Si
SLV 9	ini.	71.8	3309	0.75	0	2188	7930	4716	1913	6629		2	Si
SLV 9	fin.	494.1	-1316	0.75	0	2188	7930	4716	1913	6629		5.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.92	SLV 13	Si
V_SLV	1.778	SLV 2	Si
PF_SLU	16.558	SLU 83	Si
V_SLU	1.556	SLU 84	Si

Trave di accoppiamento 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	4.35	5.25	0.9	-18.213	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 66	ini.	-10.92	-771	-0.0000042	0.0001872	0.0035	0.9		3579.32	3579.32	No	327.66	Si
SLU 66	fin.	224.45	-1922	-0.0000886	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.92	Si
SLU 78	ini.	39.32	-924	-0.000015	0.0001872	0.0035	0.9		3572.55	3572.55	No	90.86	Si
SLU 78	fin.	222.86	-2015	-0.0000879	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.03	Si
SLU 65	ini.	-16.24	-750	-0.0000062	0.0001872	0.0035	0.9		3579.32	3579.32	No	220.4	Si
SLU 65	fin.	224.92	-1916	-0.0000888	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.88	Si
SLU 67	ini.	-15.01	-770	-0.0000057	0.0001872	0.0035	0.9		3579.32	3579.32	No	238.4	Si
SLU 67	fin.	230.05	-1958	-0.0000909	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.53	Si
SLU 75	ini.	37.46	-907	-0.0000143	0.0001872	0.0035	0.9		3572.55	3572.55	No	95.38	Si
SLU 75	fin.	218.94	-1982	-0.0000863	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.32	Si
SLU 69	ini.	-9.06	-788	-0.0000034	0.0001872	0.0035	0.9		3579.32	3579.32	No	395.05	Si
SLU 69	fin.	228.37	-1955	-0.0000902	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.64	Si
SLU 70	ini.	-13.15	-787	-0.000005	0.0001872	0.0035	0.9		3579.32	3579.32	No	272.18	Si
SLU 70	fin.	233.97	-1991	-0.0000925	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.27	Si
SLU 72	ini.	-9.79	-784	-0.0000037	0.0001872	0.0035	0.9		3579.32	3579.32	No	365.74	Si
SLU 72	fin.	229.03	-1958	-0.0000905	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.6	Si
SLU 68	ini.	-14.38	-767	-0.0000055	0.0001872	0.0035	0.9		3579.32	3579.32	No	248.97	Si
SLU 68	fin.	228.84	-1949	-0.0000904	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.61	Si
SLU 71	ini.	-5.7	-785	-0.0000022	0.0001872	0.0035	0.9		3579.32	3579.32	No	628.34	Si
SLU 71	fin.	223.43	-1921	-0.0000882	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	41.55	-804	0.9	0	1750	14273	3773	2295	6068	No	7.55	Si
SLU 74	fin.	213.34	3397	0.9	0	1750	14273	3773	2295	6068	No	1.79	Si
SLU 73	ini.	36.23	-768	0.9	0	1750	14273	3773	2295	6068	No	7.9	Si
SLU 73	fin.	213.81	3378	0.9	0	1750	14273	3773	2295	6068	No	1.8	Si
SLU 84	ini.	63.31	-905	0.9	0	1750	14273	3773	2295	6068	No	6.71	Si
SLU 84	fin.	209.24	3428	0.9	0	1750	14273	3773	2295	6068	No	1.77	Si
SLU 70	ini.	-13.15	-549	0.9	0	1750	14273	3773	2295	6068	No	11.06	Si
SLU 70	fin.	233.97	3425	0.9	0	1750	14273	3773	2295	6068	No	1.77	Si
SLU 76	ini.	38.09	-785	0.9	0	1750	14273	3773	2295	6068	No	7.73	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	fin.	217.73	3430	0.9	0	1750	14273	3773	2295	6068	No	1.77	Si
SLU 79	ini.	46.77	-825	0.9	0	1750	14273	3773	2295	6068	No	7.36	Si
SLU 79	fin.	212.32	3392	0.9	0	1750	14273	3773	2295	6068	No	1.79	Si
SLU 77	ini.	43.41	-821	0.9	0	1750	14273	3773	2295	6068	No	7.39	Si
SLU 77	fin.	217.26	3449	0.9	0	1750	14273	3773	2295	6068	No	1.76	Si
SLU 78	ini.	39.32	-807	0.9	0	1750	14273	3773	2295	6068	No	7.52	Si
SLU 78	fin.	222.86	3504	0.9	0	1750	14273	3773	2295	6068	No	1.73	Si
SLU 80	ini.	42.68	-811	0.9	0	1750	14273	3773	2295	6068	No	7.48	Si
SLU 80	fin.	217.92	3447	0.9	0	1750	14273	3773	2295	6068	No	1.76	Si
SLU 75	ini.	37.46	-790	0.9	0	1750	14273	3773	2295	6068	No	7.68	Si
SLU 75	fin.	218.94	3451	0.9	0	1750	14273	3773	2295	6068	No	1.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-933.17	679	-0.0004077	0.0002807	0.0035	0.9		3575.64	3575.64		3.83	Si
SLV 10	fin.	957.94	-5421	-0.0004215	0.0002807	0.0035	0.9		3568.61	3568.61		3.73	Si
SLV 15	ini.	-1069.93	1723	-0.0004801	0.0002807	0.0035	0.9		3575.64	3575.64		3.34	Si
SLV 15	fin.	689.38	-3268	-0.0002885	0.0002807	0.0035	0.9		3568.61	3568.61		5.18	Si
SLV 9	ini.	-1127.25	1051	-0.0005115	0.0002807	0.0035	0.9		3575.64	3575.64		3.17	Si
SLV 9	fin.	1073.12	-5912	-0.0004829	0.0002807	0.0035	0.9		3568.61	3568.61		3.33	Si
SLV 3	ini.	1219.65	-2845	-0.0005648	0.0002807	0.0035	0.9		3568.61	3568.61		2.93	Si
SLV 3	fin.	-604.73	1870	-0.000249	0.0002807	0.0035	0.9		3575.64	3575.64		5.91	Si
SLV 8	ini.	1147.22	-2258	-0.0005238	0.0002807	0.0035	0.9		3568.61	3568.61		3.11	Si
SLV 8	fin.	-760.5	3139	-0.0003216	0.0002807	0.0035	0.9		3575.64	3575.64		4.7	Si
SLV 4	ini.	1507.96	-3399	-0.000738	0.0002807	0.0035	0.9		3568.61	3568.61		2.37	Si
SLV 4	fin.	-775.83	2600	-0.000329	0.0002807	0.0035	0.9		3575.64	3575.64		4.61	Si
SLV 14	ini.	-1199.67	1639	-0.0005521	0.0002807	0.0035	0.9		3575.64	3575.64		2.98	Si
SLV 14	fin.	917.34	-4643	-0.0004005	0.0002807	0.0035	0.9		3568.61	3568.61		3.89	Si
SLV 13	ini.	-1487.99	2193	-0.0007237	0.0002807	0.0035	0.9		3575.64	3575.64		2.4	Si
SLV 13	fin.	1088.44	-5373	-0.0004913	0.0002807	0.0035	0.9		3568.61	3568.61		3.28	Si
SLV 2	ini.	1089.91	-2929	-0.0004921	0.0002807	0.0035	0.9		3568.61	3568.61		3.27	Si
SLV 2	fin.	-376.77	495	-0.0001499	0.0002807	0.0035	0.9		3575.64	3575.64		9.49	Si
SLD 4	ini.	957.49	-2380	-0.0004213	0.0002807	0.0035	0.9		3568.61	3568.61		3.73	Si
SLD 4	fin.	-429.43	1108	-0.0001722	0.0002807	0.0035	0.9		3575.64	3575.64		8.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-933.17	3179	0.9	0	2625	14273	5660	2295	7955		2.5	Si
SLV 10	fin.	957.94	8484	0.9	0	2625	14273	5660	2295	7955		0.94	No
SLV 5	ini.	-440.37	1014	0.9	0	2625	14273	5660	2295	7955		7.85	Si
SLV 5	fin.	684.88	7044	0.9	0	2625	14273	5660	2295	7955		1.13	Si
SLV 14	ini.	-1199.67	4649	0.9	0	2625	14273	5660	2295	7955		1.71	Si
SLV 14	fin.	917.34	7081	0.9	0	2625	14273	5660	2295	7955		1.12	Si
SLD 13	ini.	-937.51	3528	0.9	0	2625	14273	5660	2295	7955		2.25	Si
SLD 13	fin.	742.04	5995	0.9	0	2625	14273	5660	2295	7955		1.33	Si
SLV 4	ini.	1507.96	-6802	0.9	0	2625	14273	5660	2295	7955		1.17	Si
SLV 4	fin.	-775.83	-3333	0.9	0	2625	14273	5660	2295	7955		2.39	Si
SLV 13	ini.	-1487.99	5847	0.9	0	2625	14273	5660	2295	7955		1.36	Si
SLV 13	fin.	1088.44	8152	0.9	0	2625	14273	5660	2295	7955		0.98	No
SLV 6	ini.	-246.29	207	0.9	0	2625	14273	5660	2295	7955		38.43	Si
SLV 6	fin.	569.71	6324	0.9	0	2625	14273	5660	2295	7955		1.26	Si
SLD 9	ini.	-677.22	2229	0.9	0	2625	14273	5660	2295	7955		3.57	Si
SLD 9	fin.	705.41	6457	0.9	0	2625	14273	5660	2295	7955		1.23	Si
SLD 10	ini.	-559.44	1739	0.9	0	2625	14273	5660	2295	7955		4.57	Si
SLD 10	fin.	635.52	6020	0.9	0	2625	14273	5660	2295	7955		1.32	Si
SLV 9	ini.	-1127.25	3986	0.9	0	2625	14273	5660	2295	7955		2	Si
SLV 9	fin.	1073.12	9205	0.9	0	2625	14273	5660	2295	7955		0.86	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.367	SLV 4	Si
V_SLV	0.864	SLV 9	No
PF_SLU	15.269	SLU 70	Si
V_SLU	1.732	SLU 78	Si

Trave di accoppiamento 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	7.05	7.9	0.85	-18.213	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-187.62	-826	-0.0000825	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.44	Si
SLU 49	fin.	-66.36	-924	-0.0000285	0.0001872	0.0035	0.85		3272.39	3272.39	No	49.31	Si
SLU 72	ini.	-199.31	-901	-0.0000878	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.42	Si
SLU 72	fin.	-72.5	-1059	-0.0000312	0.0001872	0.0035	0.85		3272.39	3272.39	No	45.14	Si
SLU 68	ini.	-197.32	-886	-0.0000869	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.58	Si
SLU 68	fin.	-69.26	-1036	-0.0000298	0.0001872	0.0035	0.85		3272.39	3272.39	No	47.25	Si
SLU 67	ini.	-197.93	-892	-0.0000872	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.53	Si
SLU 67	fin.	-70.05	-1047	-0.0000301	0.0001872	0.0035	0.85		3272.39	3272.39	No	46.72	Si
SLU 71	ini.	-193.6	-886	-0.0000852	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.9	Si
SLU 71	fin.	-74.11	-1063	-0.0000319	0.0001872	0.0035	0.85		3272.39	3272.39	No	44.16	Si
SLU 69	ini.	-198.02	-903	-0.0000872	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.53	Si
SLU 69	fin.	-73.82	-1071	-0.0000318	0.0001872	0.0035	0.85		3272.39	3272.39	No	44.33	Si
SLU 66	ini.	-192.22	-878	-0.0000846	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.02	Si
SLU 66	fin.	-71.65	-1051	-0.0000308	0.0001872	0.0035	0.85		3272.39	3272.39	No	45.67	Si
SLU 65	ini.	-191.52	-861	-0.0000842	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.09	Si
SLU 65	fin.	-67.09	-1017	-0.0000288	0.0001872	0.0035	0.85		3272.39	3272.39	No	48.78	Si
SLU 78	ini.	-187.78	-945	-0.0000825	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.43	Si
SLU 78	fin.	-106.81	-1325	-0.0000462	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.64	Si
SLU 70	ini.	-203.72	-917	-0.0000898	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.06	Si
SLU 70	fin.	-72.22	-1067	-0.0000311	0.0001872	0.0035	0.85		3272.39	3272.39	No	45.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-181.98	1914	0.85	0	1653	13480	3563	2168	5731	No	2.99	Si
SLU 75	fin.	-104.65	-3165	0.85	0	1653	13480	3563	2168	5731	No	1.81	Si
SLU 74	ini.	-176.28	1889	0.85	0	1653	13480	3563	2168	5731	No	3.03	Si
SLU 74	fin.	-106.25	-3167	0.85	0	1653	13480	3563	2168	5731	No	1.81	Si
SLU 77	ini.	-182.07	1919	0.85	0	1653	13480	3563	2168	5731	No	2.99	Si
SLU 77	fin.	-108.42	-3200	0.85	0	1653	13480	3563	2168	5731	No	1.79	Si
SLU 84	ini.	-170.74	1896	0.85	0	1653	13480	3563	2168	5731	No	3.02	Si
SLU 84	fin.	-119.76	-3349	0.85	0	1653	13480	3563	2168	5731	No	1.71	Si
SLU 79	ini.	-177.66	1885	0.85	0	1653	13480	3563	2168	5731	No	3.04	Si
SLU 79	fin.	-108.7	-3169	0.85	0	1653	13480	3563	2168	5731	No	1.81	Si
SLU 83	ini.	-165.03	1871	0.85	0	1653	13480	3563	2168	5731	No	3.06	Si
SLU 83	fin.	-121.36	-3351	0.85	0	1653	13480	3563	2168	5731	No	1.71	Si
SLU 78	ini.	-187.78	1944	0.85	0	1653	13480	3563	2168	5731	No	2.95	Si
SLU 78	fin.	-106.81	-3198	0.85	0	1653	13480	3563	2168	5731	No	1.79	Si
SLU 80	ini.	-183.36	1910	0.85	0	1653	13480	3563	2168	5731	No	3	Si
SLU 80	fin.	-107.1	-3168	0.85	0	1653	13480	3563	2168	5731	No	1.81	Si
SLU 82	ini.	-164.94	1866	0.85	0	1653	13480	3563	2168	5731	No	3.07	Si
SLU 82	fin.	-117.59	-3316	0.85	0	1653	13480	3563	2168	5731	No	1.73	Si
SLU 81	ini.	-159.24	1841	0.85	0	1653	13480	3563	2168	5731	No	3.11	Si
SLU 81	fin.	-119.19	-3318	0.85	0	1653	13480	3563	2168	5731	No	1.73	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1005.8	-2571	-0.0005102	0.0002807	0.0035	0.85		3187.76	3187.76		3.17	Si
SLV 9	fin.	528.84	1604	-0.0002435	0.0002807	0.0035	0.85		3181.12	3181.12		6.02	Si
SLV 5	ini.	-733.01	-2231	-0.0003505	0.0002807	0.0035	0.85		3187.76	3187.76		4.35	Si
SLV 5	fin.	160.82	23	-0.0000699	0.0002807	0.0035	0.85		3181.12	3181.12		19.78	Si
SLD 9	ini.	-652.01	-1778	-0.0003067	0.0002807	0.0035	0.85		3187.76	3187.76		4.89	Si
SLD 9	fin.	295.28	644	-0.0001309	0.0002807	0.0035	0.85		3181.12	3181.12		10.77	Si
SLV 3	ini.	456.2	315	-0.0002074	0.0002807	0.0035	0.85		3181.12	3181.12		6.97	Si
SLV 3	fin.	-703.65	-3566	-0.0003345	0.0002807	0.0035	0.85		3187.76	3187.76		4.53	Si
SLV 10	ini.	-907.47	-2402	-0.0004506	0.0002807	0.0035	0.85		3187.76	3187.76		3.51	Si
SLV 10	fin.	423.42	1167	-0.0001915	0.0002807	0.0035	0.85		3181.12	3181.12		7.51	Si
SLV 8	ini.	741.97	1309	-0.0003563	0.0002807	0.0035	0.85		3181.12	3181.12		4.29	Si
SLV 8	fin.	-653.37	-3262	-0.0003074	0.0002807	0.0035	0.85		3187.76	3187.76		4.88	Si
SLV 14	ini.	-720.03	-1578	-0.0003434	0.0002807	0.0035	0.85		3187.76	3187.76		4.43	Si
SLV 14	fin.	579.13	1908	-0.0002692	0.0002807	0.0035	0.85		3181.12	3181.12		5.49	Si
SLV 13	ini.	-866.09	-1829	-0.0004262	0.0002807	0.0035	0.85		3187.76	3187.76		3.68	Si
SLV 13	fin.	735.73	2556	-0.0003529	0.0002807	0.0035	0.85		3181.12	3181.12		4.32	Si
SLV 2	ini.	189.26	-445	-0.0000826	0.0002807	0.0035	0.85		3181.12	3181.12		16.81	Si
SLV 2	fin.	-647.63	-3360	-0.0003044	0.0002807	0.0035	0.85		3187.76	3187.76		4.92	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	602.26	567	-0.0002812	0.0002807	0.0035	0.85		3181.12	3181.12		5.28	Si
SLV 4	fin.	-860.26	-4214	-0.0004228	0.0002807	0.0035	0.85		3187.76	3187.76		3.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	456.2	-1663	0.85	0	2479	13480	5345	2168	7513		4.52	Si
SLV 3	fin.	-703.65	-5504	0.85	0	2479	13480	5345	2168	7513		1.36	Si
SLD 4	ini.	326.4	-993	0.85	0	2479	13480	5345	2168	7513		7.57	Si
SLD 4	fin.	-567.16	-4779	0.85	0	2479	13480	5345	2168	7513		1.57	Si
SLV 4	ini.	602.26	-2388	0.85	0	2479	13480	5345	2168	7513		3.15	Si
SLV 4	fin.	-860.26	-6357	0.85	0	2479	13480	5345	2168	7513		1.18	Si
SLV 7	ini.	643.65	-2395	0.85	0	2479	13480	5345	2168	7513		3.14	Si
SLV 7	fin.	-547.95	-4573	0.85	0	2479	13480	5345	2168	7513		1.64	Si
SLV 2	ini.	189.26	-433	0.85	0	2479	13480	5345	2168	7513		17.37	Si
SLV 2	fin.	-647.63	-5275	0.85	0	2479	13480	5345	2168	7513		1.42	Si
SLV 13	ini.	-866.09	5058	0.85	0	2479	13480	5345	2168	7513		1.49	Si
SLV 13	fin.	735.73	2246	0.85	0	2479	13480	5345	2168	7513		3.34	Si
SLV 1	ini.	43.2	293	0.85	0	2479	13480	5345	2168	7513		25.66	Si
SLV 1	fin.	-491.02	-4422	0.85	0	2479	13480	5345	2168	7513		1.7	Si
SLV 9	ini.	-1005.8	5553	0.85	0	2479	13480	5345	2168	7513		1.35	Si
SLV 9	fin.	528.84	1036	0.85	0	2479	13480	5345	2168	7513		7.25	Si
SLV 10	ini.	-907.47	5065	0.85	0	2479	13480	5345	2168	7513		1.48	Si
SLV 10	fin.	423.42	462	0.85	0	2479	13480	5345	2168	7513		16.27	Si
SLV 8	ini.	741.97	-2883	0.85	0	2479	13480	5345	2168	7513		2.61	Si
SLV 8	fin.	-653.37	-5147	0.85	0	2479	13480	5345	2168	7513		1.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.169	SLV 9	Si
V_SLV	1.182	SLV 4	Si
PF_SLU	16.063	SLU 70	Si
V_SLU	1.71	SLU 83	Si

Trave di accoppiamento 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	6.45	7.9	1.45	-18.498	0.841	6.45	7.9	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	1311.9	454	-0.0000686	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.27	Si
SLU 81	fin.	153.73	-293	-0.0000077	0.0002246	0.0035	1.45		20029.18	20029.18	No	130.29	Si
SLU 53	ini.	1267.3	570	-0.0000661	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.8	Si
SLU 53	fin.	100.06	-168	-0.000005	0.0002246	0.0035	1.45		20029.18	20029.18	No	200.18	Si
SLU 64	ini.	1308.06	631	-0.0000684	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.31	Si
SLU 64	fin.	88.89	-140	-0.0000044	0.0002246	0.0035	1.45		20029.18	20029.18	No	225.31	Si
SLU 77	ini.	1306.46	423	-0.0000683	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.33	Si
SLU 77	fin.	163.13	-311	-0.0000081	0.0002246	0.0035	1.45		20029.18	20029.18	No	122.78	Si
SLU 66	ini.	1311.32	588	-0.0000686	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.27	Si
SLU 66	fin.	104.94	-175	-0.0000052	0.0002246	0.0035	1.45		20029.18	20029.18	No	190.86	Si
SLU 71	ini.	1292.97	549	-0.0000676	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.49	Si
SLU 71	fin.	114.49	-196	-0.0000057	0.0002246	0.0035	1.45		20029.18	20029.18	No	174.94	Si
SLU 69	ini.	1303.77	547	-0.0000682	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.36	Si
SLU 69	fin.	117.74	-203	-0.0000059	0.0002246	0.0035	1.45		20029.18	20029.18	No	170.11	Si
SLU 74	ini.	1314.01	464	-0.0000687	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.24	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	150.33	-282	-0.0000075	0.0002246	0.0035	1.45		20029.18	20029.18	No	133.24	Si
SLU 79	ini.	1295.66	426	-0.0000677	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.46	Si
SLU 79	fin.	159.88	-303	-0.000008	0.0002246	0.0035	1.45		20029.18	20029.18	No	125.28	Si
SLU 83	ini.	1304.36	413	-0.0000682	0.0002246	0.0035	1.45		20029.18	20029.18	No	15.36	Si
SLU 83	fin.	166.53	-321	-0.0000083	0.0002246	0.0035	1.45		20029.18	20029.18	No	120.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	1314.01	-1926	1.45	1948	1692	36250	3648	7395	11043	No	5.73	Si
SLU 74	fin.	150.33	-2327	1.45	229	1692	36250	3648	7395	11043	No	4.75	Si
SLU 50	ini.	1246.27	-1952	1.45	1850	1692	36250	3648	7395	11043	No	5.66	Si
SLU 50	fin.	64.22	-2328	1.45	98	1692	36250	3648	7395	11043	No	4.74	Si
SLU 66	ini.	1311.32	-1995	1.45	1944	1692	36250	3648	7395	11043	No	5.54	Si
SLU 66	fin.	104.94	-2395	1.45	160	1692	36250	3648	7395	11043	No	4.61	Si
SLU 71	ini.	1292.97	-1944	1.45	1918	1692	36250	3648	7395	11043	No	5.68	Si
SLU 71	fin.	114.49	-2345	1.45	174	1692	36250	3648	7395	11043	No	4.71	Si
SLU 43	ini.	1261.36	-2025	1.45	1872	1692	36250	3648	7395	11043	No	5.45	Si
SLU 43	fin.	38.62	-2402	1.45	59	1692	36250	3648	7395	11043	No	4.6	Si
SLU 48	ini.	1257.07	-1965	1.45	1866	1692	36250	3648	7395	11043	No	5.62	Si
SLU 48	fin.	67.47	-2342	1.45	103	1692	36250	3648	7395	11043	No	4.72	Si
SLU 69	ini.	1303.77	-1958	1.45	1933	1692	36250	3648	7395	11043	No	5.64	Si
SLU 69	fin.	117.74	-2359	1.45	179	1692	36250	3648	7395	11043	No	4.68	Si
SLU 45	ini.	1264.61	-2002	1.45	1877	1692	36250	3648	7395	11043	No	5.52	Si
SLU 45	fin.	54.67	-2379	1.45	83	1692	36250	3648	7395	11043	No	4.64	Si
SLU 81	ini.	1311.9	-1920	1.45	1945	1692	36250	3648	7395	11043	No	5.75	Si
SLU 81	fin.	153.73	-2321	1.45	234	1692	36250	3648	7395	11043	No	4.76	Si
SLU 64	ini.	1308.06	-2018	1.45	1939	1692	36250	3648	7395	11043	No	5.47	Si
SLU 64	fin.	88.89	-2418	1.45	135	1692	36250	3648	7395	11043	No	4.57	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 7	ini.	3132.29	3537	-0.0001707	0.0003369	0.0035	1.45		21935.23	21935.23		7	Si
SLD 7	fin.	-449.33	1316	-0.0000225	0.0003369	0.0035	1.45		21960.21	21960.21		48.87	Si
SLV 12	ini.	4705.96	5888	-0.0002746	0.0003369	0.0035	1.45		21935.23	21935.23		4.66	Si
SLV 12	fin.	-864.3	2439	-0.0000437	0.0003369	0.0035	1.45		21960.21	21960.21		25.41	Si
SLV 6	ini.	-2690.83	-4909	-0.0001442	0.0003369	0.0035	1.45		21960.21	21960.21		8.16	Si
SLV 6	fin.	996.05	-2647	-0.0000506	0.0003369	0.0035	1.45		21935.23	21935.23		22.02	Si
SLD 12	ini.	3170.49	3649	-0.0001731	0.0003369	0.0035	1.45		21935.23	21935.23		6.92	Si
SLD 12	fin.	-480.1	1383	-0.000024	0.0003369	0.0035	1.45		21960.21	21960.21		45.74	Si
SLV 7	ini.	4642.59	5706	-0.0002701	0.0003369	0.0035	1.45		21935.23	21935.23		4.72	Si
SLV 7	fin.	-815.58	2332	-0.0000412	0.0003369	0.0035	1.45		21960.21	21960.21		26.93	Si
SLD 8	ini.	3145.47	3556	-0.0001715	0.0003369	0.0035	1.45		21935.23	21935.23		6.97	Si
SLD 8	fin.	-454.7	1327	-0.0000227	0.0003369	0.0035	1.45		21960.21	21960.21		48.3	Si
SLV 11	ini.	4684.24	5856	-0.0002731	0.0003369	0.0035	1.45		21935.23	21935.23		4.68	Si
SLV 11	fin.	-855.45	2421	-0.0000433	0.0003369	0.0035	1.45		21960.21	21960.21		25.67	Si
SLV 8	ini.	4664.31	5737	-0.0002716	0.0003369	0.0035	1.45		21935.23	21935.23		4.7	Si
SLV 8	fin.	-824.43	2350	-0.0000417	0.0003369	0.0035	1.45		21960.21	21960.21		26.64	Si
SLD 11	ini.	3157.31	3629	-0.0001723	0.0003369	0.0035	1.45		21935.23	21935.23		6.95	Si
SLD 11	fin.	-474.73	1372	-0.0000238	0.0003369	0.0035	1.45		21960.21	21960.21		46.26	Si
SLV 5	ini.	-2712.55	-4941	-0.0001454	0.0003369	0.0035	1.45		21960.21	21960.21		8.1	Si
SLV 5	fin.	1004.9	-2665	-0.0000511	0.0003369	0.0035	1.45		21935.23	21935.23		21.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	4684.24	-9676	1.45	9880	2538	36250	5471	7395	12866		1.33	Si
SLV 11	fin.	-855.45	-9953	1.45	1932	2538	36250	5471	7395	12866		1.29	Si
SLD 8	ini.	3145.47	-6265	1.45	6849	2538	36250	5471	7395	12866		2.05	Si
SLD 8	fin.	-454.7	-6563	1.45	1033	2538	36250	5471	7395	12866		1.96	Si
SLV 7	ini.	4642.59	-9563	1.45	9801	2538	36250	5471	7395	12866		1.35	Si
SLV 7	fin.	-815.58	-9857	1.45	1843	2538	36250	5471	7395	12866		1.31	Si
SLV 6	ini.	-2690.83	6608	1.45	5901	2538	36250	5471	7395	12866		1.95	Si
SLV 6	fin.	996.05	6278	1.45	2247	2538	36250	5471	7395	12866		2.05	Si
SLD 12	ini.	3170.49	-6335	1.45	6900	2538	36250	5471	7395	12866		2.03	Si
SLD 12	fin.	-480.1	-6624	1.45	1090	2538	36250	5471	7395	12866		1.94	Si
SLV 12	ini.	4705.96	-9727	1.45	9921	2538	36250	5471	7395	12866		1.32	Si
SLV 12	fin.	-864.3	-10003	1.45	1952	2538	36250	5471	7395	12866		1.29	Si
SLV 8	ini.	4664.31	-9614	1.45	9842	2538	36250	5471	7395	12866		1.34	Si
SLV 8	fin.	-824.43	-9908	1.45	1863	2538	36250	5471	7395	12866		1.3	Si
SLV 9	ini.	-2670.9	6545	1.45	5859	2538	36250	5471	7395	12866		1.97	Si
SLV 9	fin.	965.02	6234	1.45	2178	2538	36250	5471	7395	12866		2.06	Si
SLD 11	ini.	3157.31	-6305	1.45	6873	2538	36250	5471	7395	12866		2.04	Si
SLD 11	fin.	-474.73	-6593	1.45	1078	2538	36250	5471	7395	12866		1.95	Si
SLV 5	ini.	-2712.55	6658	1.45	5946	2538	36250	5471	7395	12866		1.93	Si
SLV 5	fin.	1004.9	6329	1.45	2267	2538	36250	5471	7395	12866		2.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.661	SLV 12	Si
V_SLV	1.286	SLV 12	Si
PF_SLU	15.243	SLU 74	Si
V_SLU	4.566	SLU 64	Si

Trave di accoppiamento 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.363	-3.169	6.45	7.9	1.45	-16.263	-3.169	6.45	7.9	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1621.8	-3914	-0.0002685	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.75	Si
SLU 75	fin.	802.74	-2693	-0.0001239	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.61	Si
SLU 84	ini.	-1648.34	-3947	-0.0002736	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.66	Si
SLU 84	fin.	793.55	-2718	-0.0001224	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.74	Si
SLU 76	ini.	-1604.93	-3873	-0.0002653	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.81	Si
SLU 76	fin.	789.5	-2668	-0.0001217	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.8	Si
SLU 78	ini.	-1620.01	-3957	-0.0002682	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.76	Si
SLU 78	fin.	797.24	-2742	-0.000123	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.69	Si
SLU 83	ini.	-1635.59	-3916	-0.0002712	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.7	Si
SLU 83	fin.	787.75	-2695	-0.0001215	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.83	Si
SLU 77	ini.	-1607.26	-3926	-0.0002657	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.8	Si
SLU 77	fin.	791.45	-2718	-0.0001221	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.77	Si
SLU 82	ini.	-1650.14	-3903	-0.000274	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.65	Si
SLU 82	fin.	799.04	-2669	-0.0001233	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.66	Si
SLU 81	ini.	-1637.38	-3873	-0.0002715	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.7	Si
SLU 81	fin.	793.25	-2646	-0.0001224	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.75	Si
SLU 73	ini.	-1606.72	-3830	-0.0002656	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.81	Si
SLU 73	fin.	795	-2620	-0.0001226	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.72	Si
SLU 74	ini.	-1609.05	-3883	-0.0002661	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.8	Si
SLU 74	fin.	796.95	-2670	-0.000123	0.0001872	0.0035	1.45		9317.35	9317.35	No	11.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-1604.93	4546	1.45	0	2819	14273	6079	3698	9776	No	2.15	Si
SLU 76	fin.	789.5	2758	1.45	0	2819	14273	6079	3698	9776	No	3.54	Si
SLU 83	ini.	-1635.59	4651	1.45	0	2819	14273	6079	3698	9776	No	2.1	Si
SLU 83	fin.	787.75	2745	1.45	0	2819	14273	6079	3698	9776	No	3.56	Si
SLU 77	ini.	-1607.26	4554	1.45	0	2819	14273	6079	3698	9776	No	2.15	Si
SLU 77	fin.	791.45	2766	1.45	0	2819	14273	6079	3698	9776	No	3.53	Si
SLU 82	ini.	-1650.14	4690	1.45	0	2819	14273	6079	3698	9776	No	2.08	Si
SLU 82	fin.	799.04	2784	1.45	0	2819	14273	6079	3698	9776	No	3.51	Si
SLU 75	ini.	-1621.8	4593	1.45	0	2819	14273	6079	3698	9776	No	2.13	Si
SLU 75	fin.	802.74	2805	1.45	0	2819	14273	6079	3698	9776	No	3.49	Si
SLU 84	ini.	-1648.34	4677	1.45	0	2819	14273	6079	3698	9776	No	2.09	Si
SLU 84	fin.	793.55	2771	1.45	0	2819	14273	6079	3698	9776	No	3.53	Si
SLU 74	ini.	-1609.05	4566	1.45	0	2819	14273	6079	3698	9776	No	2.14	Si
SLU 74	fin.	796.95	2778	1.45	0	2819	14273	6079	3698	9776	No	3.52	Si
SLU 73	ini.	-1606.72	4559	1.45	0	2819	14273	6079	3698	9776	No	2.14	Si
SLU 73	fin.	795	2771	1.45	0	2819	14273	6079	3698	9776	No	3.53	Si
SLU 81	ini.	-1637.38	4663	1.45	0	2819	14273	6079	3698	9776	No	2.1	Si
SLU 81	fin.	793.25	2757	1.45	0	2819	14273	6079	3698	9776	No	3.55	Si
SLU 78	ini.	-1620.01	4580	1.45	0	2819	14273	6079	3698	9776	No	2.13	Si
SLU 78	fin.	797.24	2792	1.45	0	2819	14273	6079	3698	9776	No	3.5	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-2617.11	-4994	-0.0004469	0.0002807	0.0035	1.45		8755.45	8755.45		3.35	Si
SLD 9	fin.	1637.11	-3080	-0.0002611	0.0002807	0.0035	1.45		8743.57	8743.57		5.34	Si
SLV 15	ini.	-3711.98	-4283	-0.0006877	0.0002807	0.0035	1.45		8755.45	8755.45		2.36	Si
SLV 15	fin.	2940.06	-1101	-0.0005151	0.0002807	0.0035	1.45		8743.57	8743.57		2.97	Si
SLD 15	ini.	-2792.61	-3752	-0.0004832	0.0002807	0.0035	1.45		8755.45	8755.45		3.14	Si
SLD 15	fin.	2095.23	-1402	-0.0003447	0.0002807	0.0035	1.45		8743.57	8743.57		4.17	Si
SLD 14	ini.	-2880.06	-4407	-0.0005016	0.0002807	0.0035	1.45		8755.45	8755.45		3.04	Si
SLD 14	fin.	2048.79	-2089	-0.0003359	0.0002807	0.0035	1.45		8743.57	8743.57		4.27	Si
SLV 13	ini.	-4593.56	-6090	-0.0009076	0.0002807	0.0035	1.45		8755.45	8755.45		1.91	Si
SLV 13	fin.	3464.35	-2376	-0.0006311	0.0002807	0.0035	1.45		8743.57	8743.57		2.52	Si
SLD 13	ini.	-3309.16	-4810	-0.0005951	0.0002807	0.0035	1.45		8755.45	8755.45		2.65	Si
SLD 13	fin.	2402.74	-2149	-0.0004043	0.0002807	0.0035	1.45		8743.57	8743.57		3.64	Si
SLV 9	ini.	-3608.46	-6563	-0.0006634	0.0002807	0.0035	1.45		8755.45	8755.45		2.43	Si
SLV 9	fin.	2327.6	-3958	-0.0003895	0.0002807	0.0035	1.45		8743.57	8743.57		3.76	Si
SLV 16	ini.	-3035.61	-3647	-0.0005349	0.0002807	0.0035	1.45		8755.45	8755.45		2.88	Si
SLV 16	fin.	2382.14	-1006	-0.0004002	0.0002807	0.0035	1.45		8743.57	8743.57		3.67	Si
SLV 14	ini.	-3917.19	-5454	-0.0007367	0.0002807	0.0035	1.45		8755.45	8755.45		2.24	Si
SLV 14	fin.	2906.43	-2282	-0.0005079	0.0002807	0.0035	1.45		8743.57	8743.57		3.01	Si
SLV 10	ini.	-3153.15	-6135	-0.0005605	0.0002807	0.0035	1.45		8755.45	8755.45		2.78	Si
SLV 10	fin.	1952.04	-3894	-0.0003179	0.0002807	0.0035	1.45		8743.57	8743.57		4.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-3153.15	8058	1.45	0	4229	14273	9118	3698	12816		1.59	Si
SLV 10	fin.	1952.04	6899	1.45	0	4229	14273	9118	3698	12816		1.86	Si
SLV 16	ini.	-3035.61	8687	1.45	0	4229	14273	9118	3698	12816		1.48	Si
SLV 16	fin.	2382.14	7508	1.45	0	4229	14273	9118	3698	12816		1.71	Si
SLD 15	ini.	-2792.61	7887	1.45	0	4229	14273	9118	3698	12816		1.62	Si
SLD 15	fin.	2095.23	6707	1.45	0	4229	14273	9118	3698	12816		1.91	Si
SLD 14	ini.	-2880.06	7904	1.45	0	4229	14273	9118	3698	12816		1.62	Si
SLD 14	fin.	2048.79	6732	1.45	0	4229	14273	9118	3698	12816		1.9	Si
SLD 13	ini.	-3309.16	9051	1.45	0	4229	14273	9118	3698	12816		1.42	Si
SLD 13	fin.	2402.74	7879	1.45	0	4229	14273	9118	3698	12816		1.63	Si
SLV 15	ini.	-3711.98	10495	1.45	0	4229	14273	9118	3698	12816		1.22	Si
SLV 15	fin.	2940.06	9316	1.45	0	4229	14273	9118	3698	12816		1.38	Si
SLV 4	ini.	2401.77	-6254	1.45	0	4229	14273	9118	3698	12816		2.05	Si
SLV 4	fin.	-2352.84	-7444	1.45	0	4229	14273	9118	3698	12816		1.72	Si
SLV 14	ini.	-3917.19	10674	1.45	0	4229	14273	9118	3698	12816		1.2	Si
SLV 14	fin.	2906.43	9506	1.45	0	4229	14273	9118	3698	12816		1.35	Si
SLV 13	ini.	-4593.56	12482	1.45	0	4229	14273	9118	3698	12816		1.03	Si
SLV 13	fin.	3464.35	11314	1.45	0	4229	14273	9118	3698	12816		1.13	Si
SLV 9	ini.	-3608.46	9274	1.45	0	4229	14273	9118	3698	12816		1.38	Si
SLV 9	fin.	2327.6	8116	1.45	0	4229	14273	9118	3698	12816		1.58	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.906	SLV 13	Si
V_SLV	1.027	SLV 13	Si
PF_SLU	5.653	SLU 82	Si
V_SLU	2.085	SLU 82	Si

Trave di accoppiamento 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	6.45	7.9	1.45	-15.058	2.206	6.45	7.9	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	917.66	-1944	-0.0000471	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.83	Si
SLU 74	fin.	-1240.13	-3089	-0.0000646	0.0002246	0.0035	1.45		20051.81	20051.81	No	16.17	Si
SLU 78	ini.	924.52	-1954	-0.0000475	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.66	Si
SLU 78	fin.	-1217.47	-3091	-0.0000633	0.0002246	0.0035	1.45		20051.81	20051.81	No	16.47	Si
SLU 41	ini.	847.48	-1823	-0.0000434	0.0002246	0.0035	1.45		20029.18	20029.18	No	23.63	Si
SLU 41	fin.	-1245.72	-2939	-0.0000649	0.0002246	0.0035	1.45		20051.81	20051.81	No	16.1	Si
SLU 80	ini.	914.53	-1932	-0.000047	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.9	Si
SLU 80	fin.	-1203.34	-3055	-0.0000625	0.0002246	0.0035	1.45		20051.81	20051.81	No	16.66	Si
SLU 81	ini.	931.75	-1982	-0.0000479	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.5	Si
SLU 81	fin.	-1289.04	-3158	-0.0000673	0.0002246	0.0035	1.45		20051.81	20051.81	No	15.56	Si
SLU 77	ini.	943.19	-2002	-0.0000485	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.24	Si
SLU 77	fin.	-1288.06	-3189	-0.0000672	0.0002246	0.0035	1.45		20051.81	20051.81	No	15.57	Si
SLU 83	ini.	957.29	-2040	-0.0000493	0.0002246	0.0035	1.45		20029.18	20029.18	No	20.92	Si
SLU 83	fin.	-1336.97	-3259	-0.0000699	0.0002246	0.0035	1.45		20051.81	20051.81	No	15	Si
SLU 82	ini.	913.08	-1934	-0.0000469	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.94	Si
SLU 82	fin.	-1218.45	-3060	-0.0000634	0.0002246	0.0035	1.45		20051.81	20051.81	No	16.46	Si
SLU 79	ini.	933.21	-1980	-0.000048	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.46	Si
SLU 79	fin.	-1273.94	-3154	-0.0000664	0.0002246	0.0035	1.45		20051.81	20051.81	No	15.74	Si
SLU 84	ini.	938.61	-1992	-0.0000483	0.0002246	0.0035	1.45		20029.18	20029.18	No	21.34	Si
SLU 84	fin.	-1266.38	-3160	-0.000066	0.0002246	0.0035	1.45		20051.81	20051.81	No	15.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	914.53	-3458	1.45	1368	1692	36250	3648	7395	11043	No	3.19	Si
SLU 80	fin.	-1203.34	-3870	1.45	1786	1692	36250	3648	7395	11043	No	2.85	Si
SLU 41	ini.	847.48	-3461	1.45	1270	1692	36250	3648	7395	11043	No	3.19	Si
SLU 41	fin.	-1245.72	-3792	1.45	1847	1692	36250	3648	7395	11043	No	2.91	Si
SLU 81	ini.	931.75	-3636	1.45	1393	1692	36250	3648	7395	11043	No	3.04	Si
SLU 81	fin.	-1289.04	-4048	1.45	1910	1692	36250	3648	7395	11043	No	2.73	Si
SLU 82	ini.	913.08	-3478	1.45	1366	1692	36250	3648	7395	11043	No	3.18	Si
SLU 82	fin.	-1218.45	-3890	1.45	1808	1692	36250	3648	7395	11043	No	2.84	Si
SLU 79	ini.	933.21	-3616	1.45	1396	1692	36250	3648	7395	11043	No	3.05	Si
SLU 79	fin.	-1273.94	-4028	1.45	1888	1692	36250	3648	7395	11043	No	2.74	Si
SLU 78	ini.	924.52	-3501	1.45	1383	1692	36250	3648	7395	11043	No	3.15	Si
SLU 78	fin.	-1217.47	-3913	1.45	1807	1692	36250	3648	7395	11043	No	2.82	Si
SLU 74	ini.	917.66	-3528	1.45	1373	1692	36250	3648	7395	11043	No	3.13	Si
SLU 74	fin.	-1240.13	-3941	1.45	1839	1692	36250	3648	7395	11043	No	2.8	Si
SLU 83	ini.	957.29	-3766	1.45	1431	1692	36250	3648	7395	11043	No	2.93	Si
SLU 83	fin.	-1336.97	-4178	1.45	1979	1692	36250	3648	7395	11043	No	2.64	Si
SLU 77	ini.	943.19	-3659	1.45	1410	1692	36250	3648	7395	11043	No	3.02	Si
SLU 77	fin.	-1288.06	-4071	1.45	1908	1692	36250	3648	7395	11043	No	2.71	Si
SLU 84	ini.	938.61	-3608	1.45	1404	1692	36250	3648	7395	11043	No	3.06	Si
SLU 84	fin.	-1266.38	-4020	1.45	1877	1692	36250	3648	7395	11043	No	2.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1835.94	-4942	-0.0000957	0.0003369	0.0035	1.45		21935.23	21935.23		11.95	Si
SLV 8	fin.	-6054.47	-9629	-0.0003823	0.0003369	0.0035	1.45		21960.21	21960.21		3.63	Si
SLV 11	ini.	1919.56	-5131	-0.0001003	0.0003369	0.0035	1.45		21935.23	21935.23		11.43	Si
SLV 11	fin.	-6410.79	-10082	-0.000415	0.0003369	0.0035	1.45		21960.21	21960.21		3.43	Si
SLV 12	ini.	1932.73	-5164	-0.0001011	0.0003369	0.0035	1.45		21935.23	21935.23		11.35	Si
SLV 12	fin.	-6459.46	-10149	-0.0004196	0.0003369	0.0035	1.45		21960.21	21960.21		3.4	Si
SLV 9	ini.	-650.36	2473	-0.0000327	0.0003369	0.0035	1.45		21960.21	21960.21		33.77	Si
SLV 9	fin.	4599.88	5770	-0.000267	0.0003369	0.0035	1.45		21935.23	21935.23		4.77	Si
SLV 6	ini.	-733.97	2662	-0.000037	0.0003369	0.0035	1.45		21960.21	21960.21		29.92	Si
SLV 6	fin.	4956.2	6223	-0.000293	0.0003369	0.0035	1.45		21935.23	21935.23		4.43	Si
SLD 11	ini.	1373.22	-3523	-0.0000706	0.0003369	0.0035	1.45		21935.23	21935.23		15.97	Si
SLD 11	fin.	-4067.67	-6720	-0.00023	0.0003369	0.0035	1.45		21960.21	21960.21		5.4	Si
SLV 10	ini.	-637.18	2441	-0.000032	0.0003369	0.0035	1.45		21960.21	21960.21		34.46	Si
SLV 10	fin.	4551.2	5703	-0.0002636	0.0003369	0.0035	1.45		21935.23	21935.23		4.82	Si
SLD 12	ini.	1381.21	-3542	-0.000071	0.0003369	0.0035	1.45		21935.23	21935.23		15.88	Si
SLD 12	fin.	-4097.21	-6761	-0.000232	0.0003369	0.0035	1.45		21960.21	21960.21		5.36	Si
SLV 5	ini.	-747.15	2695	-0.0000377	0.0003369	0.0035	1.45		21960.21	21960.21		29.39	Si
SLV 5	fin.	5004.87	6290	-0.0002967	0.0003369	0.0035	1.45		21935.23	21935.23		4.38	Si
SLV 7	ini.	1822.77	-4910	-0.000095	0.0003369	0.0035	1.45		21935.23	21935.23		12.03	Si
SLV 7	fin.	-6005.8	-9562	-0.000378	0.0003369	0.0035	1.45		21960.21	21960.21		3.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	1919.56	-14464	1.45	4269	2538	36250	5471	7395	12866		0.89	No
SLV 11	fin.	-6410.79	-14789	1.45	12881	2538	36250	5471	7395	12866		0.87	No
SLV 9	ini.	-650.36	9445	1.45	1473	2538	36250	5471	7395	12866		1.36	Si
SLV 9	fin.	4599.88	9152	1.45	9721	2538	36250	5471	7395	12866		1.41	Si
SLD 11	ini.	1373.22	-9375	1.45	3081	2538	36250	5471	7395	12866		1.37	Si
SLD 11	fin.	-4067.67	-9694	1.45	8688	2538	36250	5471	7395	12866		1.33	Si
SLD 12	ini.	1381.21	-9441	1.45	3098	2538	36250	5471	7395	12866		1.36	Si
SLD 12	fin.	-4097.21	-9760	1.45	8746	2538	36250	5471	7395	12866		1.32	Si
SLV 6	ini.	-733.97	10216	1.45	1661	2538	36250	5471	7395	12866		1.26	Si
SLV 6	fin.	4956.2	9920	1.45	10386	2538	36250	5471	7395	12866		1.3	Si
SLV 12	ini.	1932.73	-14572	1.45	4298	2538	36250	5471	7395	12866		0.88	No
SLV 12	fin.	-6459.46	-14898	1.45	12960	2538	36250	5471	7395	12866		0.86	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-637.18	9336	1.45	1444	2538	36250	5471	7395	12866		1.38	Si
SLV 10	fin.	4551.2	9044	1.45	9629	2538	36250	5471	7395	12866		1.42	Si
SLV 7	ini.	1822.77	-13584	1.45	4060	2538	36250	5471	7395	12866		0.95	No
SLV 7	fin.	-6005.8	-13913	1.45	12218	2538	36250	5471	7395	12866		0.92	No
SLV 5	ini.	-747.15	10324	1.45	1690	2538	36250	5471	7395	12866		1.25	Si
SLV 5	fin.	5004.87	10028	1.45	10475	2538	36250	5471	7395	12866		1.28	Si
SLV 8	ini.	1835.94	-13693	1.45	4089	2538	36250	5471	7395	12866		0.94	No
SLV 8	fin.	-6054.47	-14022	1.45	12299	2538	36250	5471	7395	12866		0.92	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.4	SLV 12	Si
V_SLV	0.864	SLV 12	No
PF_SLU	14.998	SLU 83	Si
V_SLU	2.643	SLU 83	Si

Trave di accoppiamento 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-13.753	0.051	6.45	7.9	1.45	-13.753	0.951	6.45	7.9	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 58	ini.	1307.19	-467	-0.0001575	0.0001872	0.0035	1.45		12752.89	12752.89	No	9.76	Si
SLU 58	fin.	683.05	-976	-0.0000795	0.0001872	0.0035	1.45		12752.89	12752.89	No	18.67	Si
SLU 43	ini.	1273.48	-89	-0.0001531	0.0001872	0.0035	1.45		12752.89	12752.89	No	10.01	Si
SLU 43	fin.	517.55	-670	-0.0000598	0.0001872	0.0035	1.45		12752.89	12752.89	No	24.64	Si
SLU 62	ini.	1346.52	-481	-0.0001626	0.0001872	0.0035	1.45		12752.89	12752.89	No	9.47	Si
SLU 62	fin.	696.34	-998	-0.0000811	0.0001872	0.0035	1.45		12752.89	12752.89	No	18.31	Si
SLU 50	ini.	1246.67	-249	-0.0001496	0.0001872	0.0035	1.45		12752.89	12752.89	No	10.23	Si
SLU 50	fin.	579.63	-788	-0.0000671	0.0001872	0.0035	1.45		12752.89	12752.89	No	22	Si
SLU 45	ini.	1243.16	-221	-0.0001492	0.0001872	0.0035	1.45		12752.89	12752.89	No	10.26	Si
SLU 45	fin.	565.63	-763	-0.0000655	0.0001872	0.0035	1.45		12752.89	12752.89	No	22.55	Si
SLU 60	ini.	1359.92	-401	-0.0001643	0.0001872	0.0035	1.45		12752.89	12752.89	No	9.38	Si
SLU 60	fin.	665.3	-939	-0.0000774	0.0001872	0.0035	1.45		12752.89	12752.89	No	19.17	Si
SLU 63	ini.	1235.26	-637	-0.0001482	0.0001872	0.0035	1.45		12752.89	12752.89	No	10.32	Si
SLU 63	fin.	725.62	-1071	-0.0000847	0.0001872	0.0035	1.45		12752.89	12752.89	No	17.58	Si
SLU 53	ini.	1303.67	-440	-0.000157	0.0001872	0.0035	1.45		12752.89	12752.89	No	9.78	Si
SLU 53	fin.	669.06	-952	-0.0000778	0.0001872	0.0035	1.45		12752.89	12752.89	No	19.06	Si
SLU 61	ini.	1248.67	-557	-0.0001499	0.0001872	0.0035	1.45		12752.89	12752.89	No	10.21	Si
SLU 61	fin.	694.58	-1013	-0.0000809	0.0001872	0.0035	1.45		12752.89	12752.89	No	18.36	Si
SLU 56	ini.	1290.27	-520	-0.0001553	0.0001872	0.0035	1.45		12752.89	12752.89	No	9.88	Si
SLU 56	fin.	700.1	-1010	-0.0000816	0.0001872	0.0035	1.45		12752.89	12752.89	No	18.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	ini.	1229.76	-628	1.45	0	2819	14273	6079	5546	11625	No	18.52	Si
SLU 48	fin.	596.67	-1503	1.45	0	2819	14273	6079	5546	11625	No	7.74	Si
SLU 56	ini.	1290.27	-556	1.45	0	2819	14273	6079	5546	11625	No	20.91	Si
SLU 56	fin.	700.1	-1431	1.45	0	2819	14273	6079	5546	11625	No	8.13	Si
SLU 60	ini.	1359.92	-711	1.45	0	2819	14273	6079	5546	11625	No	16.36	Si
SLU 60	fin.	665.3	-1585	1.45	0	2819	14273	6079	5546	11625	No	7.33	Si
SLU 62	ini.	1346.52	-644	1.45	0	2819	14273	6079	5546	11625	No	18.05	Si
SLU 62	fin.	696.34	-1519	1.45	0	2819	14273	6079	5546	11625	No	7.65	Si
SLU 43	ini.	1273.48	-813	1.45	0	2819	14273	6079	5546	11625	No	14.29	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 43	fin.	517.55	-1688	1.45	0	2819	14273	6079	5546	11625	No	6.89	Si
SLU 61	ini.	1248.67	-487	1.45	0	2819	14273	6079	5546	11625	No	23.85	Si
SLU 61	fin.	694.58	-1362	1.45	0	2819	14273	6079	5546	11625	No	8.53	Si
SLU 45	ini.	1243.16	-694	1.45	0	2819	14273	6079	5546	11625	No	16.74	Si
SLU 45	fin.	565.63	-1569	1.45	0	2819	14273	6079	5546	11625	No	7.41	Si
SLU 50	ini.	1246.67	-680	1.45	0	2819	14273	6079	5546	11625	No	17.09	Si
SLU 50	fin.	579.63	-1555	1.45	0	2819	14273	6079	5546	11625	No	7.48	Si
SLU 58	ini.	1307.19	-608	1.45	0	2819	14273	6079	5546	11625	No	19.11	Si
SLU 58	fin.	683.05	-1483	1.45	0	2819	14273	6079	5546	11625	No	7.84	Si
SLU 53	ini.	1303.67	-622	1.45	0	2819	14273	6079	5546	11625	No	18.68	Si
SLU 53	fin.	669.06	-1497	1.45	0	2819	14273	6079	5546	11625	No	7.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	10277.65	12862	-0.0020292	0.0002807	0.0035	1.45		13137	13137		1.28	Si
SLV 7	fin.	-1624.14	5514	-0.0001942	0.0002807	0.0035	1.45		13151.95	13151.95		8.1	Si
SLV 6	ini.	-7708.91	-12700	-0.0012705	0.0002807	0.0035	1.45		13151.95	13151.95		1.71	Si
SLV 6	fin.	2540.27	-6542	-0.0003173	0.0002807	0.0035	1.45		13137	13137		5.17	Si
SLV 10	ini.	-8542.3	-13830	-0.0014796	0.0002807	0.0035	1.45		13151.95	13151.95		1.54	Si
SLV 10	fin.	2697.86	-7102	-0.0003397	0.0002807	0.0035	1.45		13137	13137		4.87	Si
SLV 12	ini.	9450.61	11746	-0.0017444	0.0002807	0.0035	1.45		13137	13137		1.39	Si
SLV 12	fin.	-1468.93	4962	-0.0001745	0.0002807	0.0035	1.45		13151.95	13151.95		8.95	Si
SLV 9	ini.	-8548.65	-13843	-0.0014813	0.0002807	0.0035	1.45		13151.95	13151.95		1.54	Si
SLV 9	fin.	2700.23	-7110	-0.0003401	0.0002807	0.0035	1.45		13137	13137		4.87	Si
SLD 8	ini.	6406.98	7374	-0.0009847	0.0002807	0.0035	1.45		13137	13137		2.05	Si
SLD 8	fin.	-734.11	2922	-0.0000848	0.0002807	0.0035	1.45		13151.95	13151.95		17.92	Si
SLV 5	ini.	-7715.25	-12714	-0.001272	0.0002807	0.0035	1.45		13151.95	13151.95		1.7	Si
SLV 5	fin.	2542.65	-6550	-0.0003176	0.0002807	0.0035	1.45		13137	13137		5.17	Si
SLV 8	ini.	10284	12875	-0.0020316	0.0002807	0.0035	1.45		13137	13137		1.28	Si
SLV 8	fin.	-1626.51	5522	-0.0001945	0.0002807	0.0035	1.45		13151.95	13151.95		8.09	Si
SLV 11	ini.	9444.26	11733	-0.0017424	0.0002807	0.0035	1.45		13137	13137		1.39	Si
SLV 11	fin.	-1466.55	4954	-0.0001742	0.0002807	0.0035	1.45		13151.95	13151.95		8.97	Si
SLD 7	ini.	6403.13	7366	-0.0009839	0.0002807	0.0035	1.45		13137	13137		2.05	Si
SLD 7	fin.	-732.67	2917	-0.0000846	0.0002807	0.0035	1.45		13151.95	13151.95		17.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	9450.61	-17185	1.45	0	4229	14273	9118	5546	14664		0.85	No
SLV 12	fin.	-1468.93	-17800	1.45	0	4229	14273	9118	5546	14664		0.82	No
SLV 8	ini.	10284	-18808	1.45	0	4229	14273	9118	5546	14664		0.78	No
SLV 8	fin.	-1626.51	-19433	1.45	0	4229	14273	9118	5546	14664		0.75	No
SLD 7	ini.	6403.13	-11147	1.45	0	4229	14273	9118	5546	14664		1.32	Si
SLD 7	fin.	-732.67	-11799	1.45	0	4229	14273	9118	5546	14664		1.24	Si
SLV 6	ini.	-7708.91	16711	1.45	0	4229	14273	9118	5546	14664		0.88	No
SLV 6	fin.	2540.27	15952	1.45	0	4229	14273	9118	5546	14664		0.92	No
SLV 9	ini.	-8548.65	18348	1.45	0	4229	14273	9118	5546	14664		0.8	No
SLV 9	fin.	2700.23	17598	1.45	0	4229	14273	9118	5546	14664		0.83	No
SLV 10	ini.	-8542.3	18334	1.45	0	4229	14273	9118	5546	14664		0.8	No
SLV 10	fin.	2697.86	17585	1.45	0	4229	14273	9118	5546	14664		0.83	No
SLV 5	ini.	-7715.25	16725	1.45	0	4229	14273	9118	5546	14664		0.88	No
SLV 5	fin.	2542.65	15966	1.45	0	4229	14273	9118	5546	14664		0.92	No
SLD 8	ini.	6406.98	-11156	1.45	0	4229	14273	9118	5546	14664		1.31	Si
SLD 8	fin.	-734.11	-11807	1.45	0	4229	14273	9118	5546	14664		1.24	Si
SLV 7	ini.	10277.65	-18794	1.45	0	4229	14273	9118	5546	14664		0.78	No
SLV 7	fin.	-1624.14	-19419	1.45	0	4229	14273	9118	5546	14664		0.76	No
SLV 11	ini.	9444.26	-17171	1.45	0	4229	14273	9118	5546	14664		0.85	No
SLV 11	fin.	-1466.55	-17786	1.45	0	4229	14273	9118	5546	14664		0.82	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.277	SLV 8	Si
V_SLV	0.755	SLV 8	No
PF_SLU	9.378	SLU 60	Si
V_SLU	6.887	SLU 43	Si

Trave di accoppiamento 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	4.35	5.25	0.9	-16.843	6.661	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	465.89	-2495	-0.0001931	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.67	Si
SLU 80	fin.	266.12	-2403	-0.0001059	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.42	Si
SLU 82	ini.	466.02	-2485	-0.0001932	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.67	Si
SLU 82	fin.	257.94	-2383	-0.0001024	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.85	Si
SLU 81	ini.	471.88	-2498	-0.0001959	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.57	Si
SLU 81	fin.	250.69	-2376	-0.0000994	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.25	Si
SLU 74	ini.	469.17	-2485	-0.0001946	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.61	Si
SLU 74	fin.	251.88	-2366	-0.0000999	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.18	Si
SLU 78	ini.	470.28	-2522	-0.0001951	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.6	Si
SLU 78	fin.	271.67	-2435	-0.0001082	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.15	Si
SLU 83	ini.	478.84	-2547	-0.0001991	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.46	Si
SLU 83	fin.	263.23	-2438	-0.0001046	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.57	Si
SLU 75	ini.	463.32	-2472	-0.0001919	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.71	Si
SLU 75	fin.	259.13	-2373	-0.0001029	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.79	Si
SLU 84	ini.	472.99	-2534	-0.0001964	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.55	Si
SLU 84	fin.	270.48	-2445	-0.0001077	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.21	Si
SLU 79	ini.	471.75	-2508	-0.0001958	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.57	Si
SLU 79	fin.	258.87	-2396	-0.0001028	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.8	Si
SLU 77	ini.	476.13	-2535	-0.0001978	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.5	Si
SLU 77	fin.	264.42	-2428	-0.0001051	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	472.99	-2669	0.9	0	1750	14273	3773	2295	6068	No	2.27	Si
SLU 84	fin.	270.48	1263	0.9	0	1750	14273	3773	2295	6068	No	4.8	Si
SLU 80	ini.	465.89	-2660	0.9	0	1750	14273	3773	2295	6068	No	2.28	Si
SLU 80	fin.	266.12	1260	0.9	0	1750	14273	3773	2295	6068	No	4.82	Si
SLU 81	ini.	471.88	-2648	0.9	0	1750	14273	3773	2295	6068	No	2.29	Si
SLU 81	fin.	250.69	1186	0.9	0	1750	14273	3773	2295	6068	No	5.12	Si
SLU 82	ini.	466.02	-2614	0.9	0	1750	14273	3773	2295	6068	No	2.32	Si
SLU 82	fin.	257.94	1204	0.9	0	1750	14273	3773	2295	6068	No	5.04	Si
SLU 78	ini.	470.28	-2691	0.9	0	1750	14273	3773	2295	6068	No	2.25	Si
SLU 78	fin.	271.67	1287	0.9	0	1750	14273	3773	2295	6068	No	4.71	Si
SLU 74	ini.	469.17	-2670	0.9	0	1750	14273	3773	2295	6068	No	2.27	Si
SLU 74	fin.	251.88	1210	0.9	0	1750	14273	3773	2295	6068	No	5.01	Si
SLU 79	ini.	471.75	-2695	0.9	0	1750	14273	3773	2295	6068	No	2.25	Si
SLU 79	fin.	258.87	1242	0.9	0	1750	14273	3773	2295	6068	No	4.88	Si
SLU 83	ini.	478.84	-2704	0.9	0	1750	14273	3773	2295	6068	No	2.24	Si
SLU 83	fin.	263.23	1245	0.9	0	1750	14273	3773	2295	6068	No	4.87	Si
SLU 77	ini.	476.13	-2726	0.9	0	1750	14273	3773	2295	6068	No	2.23	Si
SLU 77	fin.	264.42	1269	0.9	0	1750	14273	3773	2295	6068	No	4.78	Si
SLU 75	ini.	463.32	-2635	0.9	0	1750	14273	3773	2295	6068	No	2.3	Si
SLU 75	fin.	259.13	1228	0.9	0	1750	14273	3773	2295	6068	No	4.94	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-465.46	-196	-0.0001876	0.0002807	0.0035	0.9		3575.64	3575.64		7.68	Si
SLD 1	fin.	1385.29	-3316	-0.0006623	0.0002807	0.0035	0.9		3568.61	3568.61		2.58	Si
SLV 15	ini.	1337.18	-3624	-0.0006334	0.0002807	0.0035	0.9		3568.61	3568.61		2.67	Si
SLV 15	fin.	-1413.59	627	-0.0006779	0.0002807	0.0035	0.9		3575.64	3575.64		2.53	Si
SLV 5	ini.	-522.14	114	-0.0002122	0.0002807	0.0035	0.9		3575.64	3575.64		6.85	Si
SLV 5	fin.	1308.74	-2931	-0.0006165	0.0002807	0.0035	0.9		3568.61	3568.61		2.73	Si
SLD 3	ini.	-299.98	-587	-0.0001181	0.0002807	0.0035	0.9		3575.64	3575.64		11.92	Si
SLD 3	fin.	1190.67	-3147	-0.0005482	0.0002807	0.0035	0.9		3568.61	3568.61		3	Si
SLV 4	ini.	-402.42	-419	-0.0001607	0.0002807	0.0035	0.9		3575.64	3575.64		8.89	Si
SLV 4	fin.	1378.25	-3453	-0.000658	0.0002807	0.0035	0.9		3568.61	3568.61		2.59	Si
SLV 3	ini.	-640.65	5	-0.0002653	0.0002807	0.0035	0.9		3575.64	3575.64		5.58	Si
SLV 3	fin.	1763.49	-4030	-0.0009059	0.0002807	0.0035	0.9		3568.61	3568.61		2.02	Si
SLV 14	ini.	1292.64	-3379	-0.0006071	0.0002807	0.0035	0.9		3568.61	3568.61		2.76	Si
SLV 14	fin.	-1466.44	916	-0.0007103	0.0002807	0.0035	0.9		3575.64	3575.64		2.44	Si
SLV 16	ini.	1575.41	-4048	-0.0007809	0.0002807	0.0035	0.9		3568.61	3568.61		2.27	Si
SLV 16	fin.	-1798.83	1204	-0.000928	0.0002807	0.0035	0.9		3575.64	3575.64		1.99	Si
SLV 2	ini.	-685.18	249	-0.0002859	0.0002807	0.0035	0.9		3575.64	3575.64		5.22	Si
SLV 2	fin.	1710.64	-3741	-0.00087	0.0002807	0.0035	0.9		3568.61	3568.61		2.09	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-923.42	673	-0.0004027	0.0002807	0.0035	0.9		3575.64	3575.64		3.87	Si
SLV 1	fin.	2095.88	-4319	-0.0011483	0.0002807	0.0035	0.9		3568.61	3568.61		1.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-923.42	3916	0.9	0	2625	14273	5660	2295	7955		2.03	Si
SLV 1	fin.	2095.88	7138	0.9	0	2625	14273	5660	2295	7955		1.11	Si
SLD 16	ini.	1117.45	-5505	0.9	0	2625	14273	5660	2295	7955		1.45	Si
SLD 16	fin.	-1088.24	-3322	0.9	0	2625	14273	5660	2295	7955		2.39	Si
SLV 4	ini.	-402.42	1156	0.9	0	2625	14273	5660	2295	7955		6.88	Si
SLV 4	fin.	1378.25	5074	0.9	0	2625	14273	5660	2295	7955		1.57	Si
SLV 14	ini.	1292.64	-5948	0.9	0	2625	14273	5660	2295	7955		1.34	Si
SLV 14	fin.	-1466.44	-4858	0.9	0	2625	14273	5660	2295	7955		1.64	Si
SLV 16	ini.	1575.41	-7631	0.9	0	2625	14273	5660	2295	7955		1.04	Si
SLV 16	fin.	-1798.83	-5649	0.9	0	2625	14273	5660	2295	7955		1.41	Si
SLV 2	ini.	-685.18	2839	0.9	0	2625	14273	5660	2295	7955		2.8	Si
SLV 2	fin.	1710.64	5865	0.9	0	2625	14273	5660	2295	7955		1.36	Si
SLV 15	ini.	1337.18	-6554	0.9	0	2625	14273	5660	2295	7955		1.21	Si
SLV 15	fin.	-1413.59	-4375	0.9	0	2625	14273	5660	2295	7955		1.82	Si
SLV 3	ini.	-640.65	2233	0.9	0	2625	14273	5660	2295	7955		3.56	Si
SLV 3	fin.	1763.49	6348	0.9	0	2625	14273	5660	2295	7955		1.25	Si
SLV 12	ini.	1174.13	-6344	0.9	0	2625	14273	5660	2295	7955		1.25	Si
SLV 12	fin.	-1011.69	-2610	0.9	0	2625	14273	5660	2295	7955		3.05	Si
SLV 11	ini.	1013.76	-5618	0.9	0	2625	14273	5660	2295	7955		1.42	Si
SLV 11	fin.	-752.36	-1753	0.9	0	2625	14273	5660	2295	7955		4.54	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.703	SLV 1	Si
V_SLV	1.042	SLV 16	Si
PF_SLU	7.461	SLU 83	Si
V_SLU	2.226	SLU 77	Si

Trave di accoppiamento 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	7.05	7.9	0.85	-16.843	6.661	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-209.72	-1368	-0.0000926	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.6	Si
SLU 81	fin.	-242.34	-2782	-0.0001077	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.5	Si
SLU 79	ini.	-216.38	-1398	-0.0000957	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.12	Si
SLU 79	fin.	-243.43	-2792	-0.0001082	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.44	Si
SLU 82	ini.	-213.83	-1380	-0.0000945	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.3	Si
SLU 82	fin.	-238.58	-2761	-0.0001059	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.72	Si
SLU 77	ini.	-220.27	-1421	-0.0000974	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.86	Si
SLU 77	fin.	-246.42	-2829	-0.0001096	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.28	Si
SLU 83	ini.	-219.86	-1421	-0.0000973	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.88	Si
SLU 83	fin.	-246.14	-2843	-0.0001095	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.29	Si
SLU 75	ini.	-214.24	-1380	-0.0000947	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.27	Si
SLU 75	fin.	-238.85	-2747	-0.0001061	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.7	Si
SLU 80	ini.	-220.5	-1410	-0.0000976	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.84	Si
SLU 80	fin.	-239.66	-2771	-0.0001065	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.65	Si
SLU 84	ini.	-223.97	-1433	-0.0000992	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.61	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-242.38	-2822	-0.0001077	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.5	Si
SLU 74	ini.	-210.13	-1368	-0.0000928	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.57	Si
SLU 74	fin.	-242.61	-2768	-0.0001078	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.49	Si
SLU 78	ini.	-224.38	-1433	-0.0000994	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.58	Si
SLU 78	fin.	-242.65	-2808	-0.0001079	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-224.38	2612	0.85	0	1653	13480	3563	2168	5731	No	2.19	Si
SLU 78	fin.	-242.65	-5474	0.85	0	1653	13480	3563	2168	5731	No	1.05	Si
SLU 81	ini.	-209.72	2532	0.85	0	1653	13480	3563	2168	5731	No	2.26	Si
SLU 81	fin.	-242.34	-5431	0.85	0	1653	13480	3563	2168	5731	No	1.06	Si
SLU 77	ini.	-220.27	2591	0.85	0	1653	13480	3563	2168	5731	No	2.21	Si
SLU 77	fin.	-246.42	-5506	0.85	0	1653	13480	3563	2168	5731	No	1.04	Si
SLU 84	ini.	-223.97	2638	0.85	0	1653	13480	3563	2168	5731	No	2.17	Si
SLU 84	fin.	-242.38	-5520	0.85	0	1653	13480	3563	2168	5731	No	1.04	Si
SLU 74	ini.	-210.13	2506	0.85	0	1653	13480	3563	2168	5731	No	2.29	Si
SLU 74	fin.	-242.61	-5385	0.85	0	1653	13480	3563	2168	5731	No	1.06	Si
SLU 79	ini.	-216.38	2554	0.85	0	1653	13480	3563	2168	5731	No	2.24	Si
SLU 79	fin.	-243.43	-5437	0.85	0	1653	13480	3563	2168	5731	No	1.05	Si
SLU 83	ini.	-219.86	2617	0.85	0	1653	13480	3563	2168	5731	No	2.19	Si
SLU 83	fin.	-246.14	-5552	0.85	0	1653	13480	3563	2168	5731	No	1.03	Si
SLU 75	ini.	-214.24	2527	0.85	0	1653	13480	3563	2168	5731	No	2.27	Si
SLU 75	fin.	-238.85	-5353	0.85	0	1653	13480	3563	2168	5731	No	1.07	Si
SLU 82	ini.	-213.83	2552	0.85	0	1653	13480	3563	2168	5731	No	2.25	Si
SLU 82	fin.	-238.58	-5400	0.85	0	1653	13480	3563	2168	5731	No	1.06	Si
SLU 80	ini.	-220.5	2575	0.85	0	1653	13480	3563	2168	5731	No	2.23	Si
SLU 80	fin.	-239.66	-5405	0.85	0	1653	13480	3563	2168	5731	No	1.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-785.04	-3035	-0.0003796	0.0002807	0.0035	0.85		3187.76	3187.76		4.06	Si
SLV 4	fin.	256.35	125	-0.0001129	0.0002807	0.0035	0.85		3181.12	3181.12		12.41	Si
SLV 14	ini.	755.88	2065	-0.0003641	0.0002807	0.0035	0.85		3181.12	3181.12		4.21	Si
SLV 14	fin.	-743.82	-4538	-0.0003565	0.0002807	0.0035	0.85		3187.76	3187.76		4.29	Si
SLV 12	ini.	526.22	1164	-0.0002422	0.0002807	0.0035	0.85		3181.12	3181.12		6.05	Si
SLV 12	fin.	-711.52	-4713	-0.0003388	0.0002807	0.0035	0.85		3187.76	3187.76		4.48	Si
SLV 1	ini.	-1197.95	-4323	-0.0006335	0.0002807	0.0035	0.85		3187.76	3187.76		2.66	Si
SLV 1	fin.	594.7	1904	-0.0002772	0.0002807	0.0035	0.85		3181.12	3181.12		5.35	Si
SLV 5	ini.	-777.82	-2869	-0.0003755	0.0002807	0.0035	0.85		3187.76	3187.76		4.1	Si
SLV 5	fin.	374	1019	-0.0001678	0.0002807	0.0035	0.85		3181.12	3181.12		8.51	Si
SLV 15	ini.	723.91	1882	-0.0003463	0.0002807	0.0035	0.85		3181.12	3181.12		4.39	Si
SLV 15	fin.	-782.27	-4877	-0.000378	0.0002807	0.0035	0.85		3187.76	3187.76		4.08	Si
SLV 2	ini.	-975.51	-3588	-0.0004916	0.0002807	0.0035	0.85		3187.76	3187.76		3.27	Si
SLV 2	fin.	444.75	1184	-0.0002018	0.0002807	0.0035	0.85		3181.12	3181.12		7.15	Si
SLV 16	ini.	946.35	2618	-0.000475	0.0002807	0.0035	0.85		3181.12	3181.12		3.36	Si
SLV 16	fin.	-932.22	-5597	-0.0004654	0.0002807	0.0035	0.85		3187.76	3187.76		3.42	Si
SLD 1	ini.	-806.29	-3056	-0.0003917	0.0002807	0.0035	0.85		3187.76	3187.76		3.95	Si
SLD 1	fin.	314.31	524	-0.0001397	0.0002807	0.0035	0.85		3181.12	3181.12		10.12	Si
SLV 3	ini.	-1007.48	-3770	-0.0005113	0.0002807	0.0035	0.85		3187.76	3187.76		3.16	Si
SLV 3	fin.	406.3	845	-0.0001832	0.0002807	0.0035	0.85		3181.12	3181.12		7.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	413.58	-1330	0.85	0	2479	13480	5345	2168	7513		5.65	Si
SLD 15	fin.	-556.7	-6222	0.85	0	2479	13480	5345	2168	7513		1.21	Si
SLV 16	ini.	946.35	-4200	0.85	0	2479	13480	5345	2168	7513		1.79	Si
SLV 16	fin.	-932.22	-8769	0.85	0	2479	13480	5345	2168	7513		0.86	No
SLV 13	ini.	533.44	-2054	0.85	0	2479	13480	5345	2168	7513		3.66	Si
SLV 13	fin.	-593.87	-6196	0.85	0	2479	13480	5345	2168	7513		1.21	Si
SLD 16	ini.	554.69	-2096	0.85	0	2479	13480	5345	2168	7513		3.58	Si
SLD 16	fin.	-651.84	-6849	0.85	0	2479	13480	5345	2168	7513		1.1	Si
SLV 15	ini.	723.91	-2994	0.85	0	2479	13480	5345	2168	7513		2.51	Si
SLV 15	fin.	-782.27	-7779	0.85	0	2479	13480	5345	2168	7513		0.97	No
SLV 14	ini.	755.88	-3261	0.85	0	2479	13480	5345	2168	7513		2.3	Si
SLV 14	fin.	-743.82	-7186	0.85	0	2479	13480	5345	2168	7513		1.05	Si
SLV 12	ini.	526.22	-1814	0.85	0	2479	13480	5345	2168	7513		4.14	Si
SLV 12	fin.	-711.52	-7713	0.85	0	2479	13480	5345	2168	7513		0.97	No
SLV 1	ini.	-1197.95	7333	0.85	0	2479	13480	5345	2168	7513		1.02	Si
SLV 1	fin.	594.7	1637	0.85	0	2479	13480	5345	2168	7513		4.59	Si
SLV 3	ini.	-1007.48	6393	0.85	0	2479	13480	5345	2168	7513		1.18	Si
SLV 3	fin.	406.3	54	0.85	0	2479	13480	5345	2168	7513		139.78	Si
SLV 11	ini.	376.48	-1001	0.85	0	2479	13480	5345	2168	7513		7.5	Si
SLV 11	fin.	-610.58	-7047	0.85	0	2479	13480	5345	2168	7513		1.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.661	SLV 1	Si
V_SLV	0.857	SLV 16	No
PF_SLU	13.28	SLU 77	Si
V_SLU	1.032	SLU 83	Si

Trave di accoppiamento 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	4.35	5.25	0.9	-11.918	6.661	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	448.16	-2846	-0.000185	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.97	Si
SLU 77	fin.	739.33	-3555	-0.0003277	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.83	Si
SLU 80	ini.	442.26	-2804	-0.0001823	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.08	Si
SLU 80	fin.	725.97	-3496	-0.0003208	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.92	Si
SLU 79	ini.	441.71	-2808	-0.0001821	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.09	Si
SLU 79	fin.	729.5	-3508	-0.0003226	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.9	Si
SLU 74	ini.	435.94	-2782	-0.0001795	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.2	Si
SLU 74	fin.	727.65	-3492	-0.0003216	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.91	Si
SLU 81	ini.	438.55	-2798	-0.0001807	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.15	Si
SLU 81	fin.	731.08	-3513	-0.0003234	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.89	Si
SLU 78	ini.	448.7	-2843	-0.0001853	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.96	Si
SLU 78	fin.	735.8	-3543	-0.0003259	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.86	Si
SLU 75	ini.	436.49	-2778	-0.0001797	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.18	Si
SLU 75	fin.	724.12	-3480	-0.0003198	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.93	Si
SLU 83	ini.	450.77	-2862	-0.0001862	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.93	Si
SLU 83	fin.	742.76	-3577	-0.0003295	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.81	Si
SLU 84	ini.	451.31	-2859	-0.0001865	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.92	Si
SLU 84	fin.	739.23	-3565	-0.0003277	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.83	Si
SLU 82	ini.	439.1	-2795	-0.0001809	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.14	Si
SLU 82	fin.	727.55	-3502	-0.0003216	0.0001872	0.0035	0.9		3572.55	3572.55	No	4.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	436.49	-2130	0.9	0	1750	14273	3773	2295	6068	No	2.85	Si
SLU 75	fin.	724.12	3046	0.9	0	1750	14273	3773	2295	6068	No	1.99	Si
SLU 83	ini.	450.77	-2187	0.9	0	1750	14273	3773	2295	6068	No	2.77	Si
SLU 83	fin.	742.76	3117	0.9	0	1750	14273	3773	2295	6068	No	1.95	Si
SLU 77	ini.	448.16	-2204	0.9	0	1750	14273	3773	2295	6068	No	2.75	Si
SLU 77	fin.	739.33	3126	0.9	0	1750	14273	3773	2295	6068	No	1.94	Si
SLU 80	ini.	442.26	-2165	0.9	0	1750	14273	3773	2295	6068	No	2.8	Si
SLU 80	fin.	725.97	3059	0.9	0	1750	14273	3773	2295	6068	No	1.98	Si
SLU 74	ini.	435.94	-2135	0.9	0	1750	14273	3773	2295	6068	No	2.84	Si
SLU 74	fin.	727.65	3067	0.9	0	1750	14273	3773	2295	6068	No	1.98	Si
SLU 81	ini.	438.55	-2118	0.9	0	1750	14273	3773	2295	6068	No	2.87	Si
SLU 81	fin.	731.08	3058	0.9	0	1750	14273	3773	2295	6068	No	1.98	Si
SLU 84	ini.	451.31	-2182	0.9	0	1750	14273	3773	2295	6068	No	2.78	Si
SLU 84	fin.	739.23	3096	0.9	0	1750	14273	3773	2295	6068	No	1.96	Si
SLU 82	ini.	439.1	-2113	0.9	0	1750	14273	3773	2295	6068	No	2.87	Si
SLU 82	fin.	727.55	3037	0.9	0	1750	14273	3773	2295	6068	No	2	Si
SLU 79	ini.	441.71	-2170	0.9	0	1750	14273	3773	2295	6068	No	2.8	Si
SLU 79	fin.	729.5	3080	0.9	0	1750	14273	3773	2295	6068	No	1.97	Si
SLU 78	ini.	448.7	-2199	0.9	0	1750	14273	3773	2295	6068	No	2.76	Si
SLU 78	fin.	735.8	3105	0.9	0	1750	14273	3773	2295	6068	No	1.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1003.9	900	-0.0004447	0.0002807	0.0035	0.9		3575.64	3575.64		3.56	Si
SLV 4	fin.	1953.91	-5194	-0.0010411	0.0002807	0.0035	0.9		3568.61	3568.61		1.83	Si
SLV 16	ini.	1845.06	-5468	-0.0009627	0.0002807	0.0035	0.9		3568.61	3568.61		1.93	Si
SLV 16	fin.	-1105.32	471	-0.0004994	0.0002807	0.0035	0.9		3575.64	3575.64		3.23	Si
SLD 3	ini.	-725.99	338	-0.0003051	0.0002807	0.0035	0.9		3575.64	3575.64		4.93	Si
SLD 3	fin.	1621.71	-4518	-0.000811	0.0002807	0.0035	0.9		3568.61	3568.61		2.2	Si
SLV 1	ini.	-1278.25	1780	-0.0005973	0.0002807	0.0035	0.9		3575.64	3575.64		2.8	Si
SLV 1	fin.	2095.18	-5177	-0.0011477	0.0002807	0.0035	0.9		3568.61	3568.61		1.7	Si
SLD 1	ini.	-716.09	469	-0.0003004	0.0002807	0.0035	0.9		3575.64	3575.64		4.99	Si
SLD 1	fin.	1523.47	-4176	-0.0007478	0.0002807	0.0035	0.9		3568.61	3568.61		2.34	Si
SLV 2	ini.	-987.65	1125	-0.0004361	0.0002807	0.0035	0.9		3575.64	3575.64		3.62	Si
SLV 2	fin.	1786.66	-4610	-0.0009219	0.0002807	0.0035	0.9		3568.61	3568.61		2	Si
SLV 13	ini.	1570.71	-4588	-0.0007779	0.0002807	0.0035	0.9		3568.61	3568.61		2.27	Si
SLV 13	fin.	-964.06	489	-0.0004238	0.0002807	0.0035	0.9		3575.64	3575.64		3.71	Si
SLV 15	ini.	1554.45	-4813	-0.0007675	0.0002807	0.0035	0.9		3568.61	3568.61		2.3	Si
SLV 15	fin.	-796.8	-96	-0.0003392	0.0002807	0.0035	0.9		3575.64	3575.64		4.49	Si
SLV 14	ini.	1861.31	-5244	-0.0009742	0.0002807	0.0035	0.9		3568.61	3568.61		1.92	Si
SLV 14	fin.	-1272.58	1056	-0.000594	0.0002807	0.0035	0.9		3575.64	3575.64		2.81	Si
SLV 3	ini.	-1294.5	1556	-0.0006068	0.0002807	0.0035	0.9		3575.64	3575.64		2.76	Si
SLV 3	fin.	2262.43	-5762	-0.0012822	0.0002807	0.0035	0.9		3568.61	3568.61		1.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	1554.45	-7130	0.9	0	2625	14273	5660	2295	7955		1.12	Si
SLV 15	fin.	-796.8	-3222	0.9	0	2625	14273	5660	2295	7955		2.47	Si
SLV 4	ini.	-1003.9	3980	0.9	0	2625	14273	5660	2295	7955		2	Si
SLV 4	fin.	1953.91	8370	0.9	0	2625	14273	5660	2295	7955		0.95	No
SLV 14	ini.	1861.31	-8053	0.9	0	2625	14273	5660	2295	7955		0.99	No
SLV 14	fin.	-1272.58	-5501	0.9	0	2625	14273	5660	2295	7955		1.45	Si
SLD 3	ini.	-725.99	2858	0.9	0	2625	14273	5660	2295	7955		2.78	Si
SLD 3	fin.	1621.71	6914	0.9	0	2625	14273	5660	2295	7955		1.15	Si
SLV 3	ini.	-1294.5	5242	0.9	0	2625	14273	5660	2295	7955		1.52	Si
SLV 3	fin.	2262.43	9673	0.9	0	2625	14273	5660	2295	7955		0.82	No
SLV 2	ini.	-987.65	4319	0.9	0	2625	14273	5660	2295	7955		1.84	Si
SLV 2	fin.	1786.66	7394	0.9	0	2625	14273	5660	2295	7955		1.08	Si
SLV 16	ini.	1845.06	-8392	0.9	0	2625	14273	5660	2295	7955		0.95	No
SLV 16	fin.	-1105.32	-4524	0.9	0	2625	14273	5660	2295	7955		1.76	Si
SLV 1	ini.	-1278.25	5581	0.9	0	2625	14273	5660	2295	7955		1.43	Si
SLV 1	fin.	2095.18	8696	0.9	0	2625	14273	5660	2295	7955		0.91	No
SLD 1	ini.	-716.09	3056	0.9	0	2625	14273	5660	2295	7955		2.6	Si
SLD 1	fin.	1523.47	6342	0.9	0	2625	14273	5660	2295	7955		1.25	Si
SLV 13	ini.	1570.71	-6792	0.9	0	2625	14273	5660	2295	7955		1.17	Si
SLV 13	fin.	-964.06	-4198	0.9	0	2625	14273	5660	2295	7955		1.89	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.577	SLV 3	Si
V_SLV	0.822	SLV 3	No
PF_SLU	4.81	SLU 83	Si
V_SLU	1.941	SLU 77	Si

Trave di accoppiamento 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	7.05	7.9	0.85	-11.918	6.661	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-738.27	-3029	-0.000373	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.43	Si
SLU 83	fin.	-334.62	-2339	-0.0001518	0.0001872	0.0035	0.85		3272.39	3272.39	No	9.78	Si
SLU 79	ini.	-723.43	-2969	-0.0003641	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.52	Si
SLU 79	fin.	-324.81	-2283	-0.000147	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.07	Si
SLU 81	ini.	-724.46	-2967	-0.0003647	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.52	Si
SLU 81	fin.	-324.17	-2280	-0.0001467	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.09	Si
SLU 75	ini.	-716.89	-2940	-0.0003601	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.56	Si
SLU 75	fin.	-321.53	-2261	-0.0001454	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.18	Si
SLU 80	ini.	-720.5	-2959	-0.0003623	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.54	Si
SLU 80	fin.	-326.02	-2282	-0.0001476	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.04	Si
SLU 78	ini.	-730.7	-3002	-0.0003684	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.48	Si
SLU 78	fin.	-331.97	-2320	-0.0001505	0.0001872	0.0035	0.85		3272.39	3272.39	No	9.86	Si
SLU 84	ini.	-735.34	-3019	-0.0003712	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.45	Si
SLU 84	fin.	-335.83	-2338	-0.0001524	0.0001872	0.0035	0.85		3272.39	3272.39	No	9.74	Si
SLU 77	ini.	-733.63	-3012	-0.0003702	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.46	Si
SLU 77	fin.	-330.76	-2321	-0.0001499	0.0001872	0.0035	0.85		3272.39	3272.39	No	9.89	Si
SLU 82	ini.	-721.53	-2957	-0.0003629	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.54	Si
SLU 82	fin.	-325.39	-2279	-0.0001473	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.06	Si
SLU 74	ini.	-719.81	-2950	-0.0003619	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.55	Si
SLU 74	fin.	-320.32	-2262	-0.0001448	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-730.7	4137	0.85	0	1653	13480	3563	2168	5731	No	1.39	Si
SLU 78	fin.	-331.97	-2399	0.85	0	1653	13480	3563	2168	5731	No	2.39	Si
SLU 84	ini.	-735.34	4175	0.85	0	1653	13480	3563	2168	5731	No	1.37	Si
SLU 84	fin.	-335.83	-2434	0.85	0	1653	13480	3563	2168	5731	No	2.35	Si
SLU 82	ini.	-721.53	4095	0.85	0	1653	13480	3563	2168	5731	No	1.4	Si
SLU 82	fin.	-325.39	-2374	0.85	0	1653	13480	3563	2168	5731	No	2.41	Si
SLU 81	ini.	-724.46	4109	0.85	0	1653	13480	3563	2168	5731	No	1.39	Si
SLU 81	fin.	-324.17	-2369	0.85	0	1653	13480	3563	2168	5731	No	2.42	Si
SLU 79	ini.	-723.43	4096	0.85	0	1653	13480	3563	2168	5731	No	1.4	Si
SLU 79	fin.	-324.81	-2357	0.85	0	1653	13480	3563	2168	5731	No	2.43	Si
SLU 77	ini.	-733.63	4151	0.85	0	1653	13480	3563	2168	5731	No	1.38	Si
SLU 77	fin.	-330.76	-2394	0.85	0	1653	13480	3563	2168	5731	No	2.39	Si
SLU 83	ini.	-738.27	4189	0.85	0	1653	13480	3563	2168	5731	No	1.37	Si
SLU 83	fin.	-334.62	-2430	0.85	0	1653	13480	3563	2168	5731	No	2.36	Si
SLU 75	ini.	-716.89	4057	0.85	0	1653	13480	3563	2168	5731	No	1.41	Si
SLU 75	fin.	-321.53	-2338	0.85	0	1653	13480	3563	2168	5731	No	2.45	Si
SLU 74	ini.	-719.81	4071	0.85	0	1653	13480	3563	2168	5731	No	1.41	Si
SLU 74	fin.	-320.32	-2334	0.85	0	1653	13480	3563	2168	5731	No	2.46	Si
SLU 80	ini.	-720.5	4081	0.85	0	1653	13480	3563	2168	5731	No	1.4	Si
SLU 80	fin.	-326.02	-2362	0.85	0	1653	13480	3563	2168	5731	No	2.43	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-1290.53	-4109	-0.0006961	0.0002807	0.0035	0.85		3187.76	3187.76		2.47	Si
SLD 1	fin.	807.25	600	-0.0003931	0.0002807	0.0035	0.85		3181.12	3181.12		3.94	Si
SLV 13	ini.	660.3	1193	-0.0003118	0.0002807	0.0035	0.85		3181.12	3181.12		4.82	Si
SLV 13	fin.	-1502.43	-3965	-0.0008477	0.0002807	0.0035	0.85		3187.76	3187.76		2.12	Si
SLV 15	ini.	521.9	692	-0.00024	0.0002807	0.0035	0.85		3181.12	3181.12		6.1	Si
SLV 15	fin.	-1458.36	-4057	-0.0008152	0.0002807	0.0035	0.85		3187.76	3187.76		2.19	Si
SLV 16	ini.	778.98	1385	-0.000377	0.0002807	0.0035	0.85		3181.12	3181.12		4.08	Si
SLV 16	fin.	-1769.96	-4681	-0.0010574	0.0002807	0.0035	0.85		3187.76	3187.76		1.8	Si
SLV 14	ini.	917.38	1886	-0.0004576	0.0002807	0.0035	0.85		3181.12	3181.12		3.47	Si
SLV 14	fin.	-1814.03	-4589	-0.0010942	0.0002807	0.0035	0.85		3187.76	3187.76		1.76	Si
SLV 4	ini.	-1622.16	-5107	-0.0009388	0.0002807	0.0035	0.85		3187.76	3187.76		1.97	Si
SLV 4	fin.	1104.8	1048	-0.000574	0.0002807	0.0035	0.85		3181.12	3181.12		2.88	Si
SLD 3	ini.	-1371.64	-4402	-0.0007527	0.0002807	0.0035	0.85		3187.76	3187.76		2.32	Si
SLD 3	fin.	833.47	547	-0.0004082	0.0002807	0.0035	0.85		3181.12	3181.12		3.82	Si
SLV 3	ini.	-1879.23	-5800	-0.0011499	0.0002807	0.0035	0.85		3187.76	3187.76		1.7	Si
SLV 3	fin.	1416.4	1672	-0.0007867	0.0002807	0.0035	0.85		3181.12	3181.12		2.25	Si
SLV 2	ini.	-1483.76	-4606	-0.0008338	0.0002807	0.0035	0.85		3187.76	3187.76		2.15	Si
SLV 2	fin.	1060.73	1140	-0.0005459	0.0002807	0.0035	0.85		3181.12	3181.12		3	Si
SLV 1	ini.	-1740.84	-5299	-0.0010334	0.0002807	0.0035	0.85		3187.76	3187.76		1.83	Si
SLV 1	fin.	1372.33	1764	-0.0007551	0.0002807	0.0035	0.85		3181.12	3181.12		2.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1483.76	7488	0.85	0	2479	13480	5345	2168	7513		1	Si
SLV 2	fin.	1060.73	3716	0.85	0	2479	13480	5345	2168	7513		2.02	Si
SLV 13	ini.	660.3	-2738	0.85	0	2479	13480	5345	2168	7513		2.74	Si
SLV 13	fin.	-1502.43	-6792	0.85	0	2479	13480	5345	2168	7513		1.11	Si
SLV 3	ini.	-1879.23	9365	0.85	0	2479	13480	5345	2168	7513		0.8	No
SLV 3	fin.	1416.4	5091	0.85	0	2479	13480	5345	2168	7513		1.48	Si
SLV 1	ini.	-1740.84	8711	0.85	0	2479	13480	5345	2168	7513		0.86	No
SLV 1	fin.	1372.33	4992	0.85	0	2479	13480	5345	2168	7513		1.51	Si
SLD 1	ini.	-1290.53	6563	0.85	0	2479	13480	5345	2168	7513		1.14	Si
SLD 1	fin.	807.25	2659	0.85	0	2479	13480	5345	2168	7513		2.83	Si
SLV 16	ini.	778.98	-3307	0.85	0	2479	13480	5345	2168	7513		2.27	Si
SLV 16	fin.	-1769.96	-7968	0.85	0	2479	13480	5345	2168	7513		0.94	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-1371.64	6946	0.85	0	2479	13480	5345	2168	7513		1.08	Si
SLD 3	fin.	833.47	2717	0.85	0	2479	13480	5345	2168	7513		2.77	Si
SLV 14	ini.	917.38	-3961	0.85	0	2479	13480	5345	2168	7513		1.9	Si
SLV 14	fin.	-1814.03	-8067	0.85	0	2479	13480	5345	2168	7513		0.93	No
SLV 4	ini.	-1622.16	8142	0.85	0	2479	13480	5345	2168	7513		0.92	No
SLV 4	fin.	1104.8	3815	0.85	0	2479	13480	5345	2168	7513		1.97	Si
SLV 15	ini.	521.9	-2084	0.85	0	2479	13480	5345	2168	7513		3.61	Si
SLV 15	fin.	-1458.36	-6693	0.85	0	2479	13480	5345	2168	7513		1.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.696	SLV 3	Si
V_SLV	0.802	SLV 3	No
PF_SLU	4.433	SLU 83	Si
V_SLU	1.368	SLU 83	Si

Trave di accoppiamento 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	4.35	5.25	0.9	-7.013	6.661	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	147.29	-2021	-0.0000574	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.25	Si
SLU 77	fin.	543.76	-2383	-0.0002296	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.57	Si
SLU 75	ini.	146.1	-1999	-0.0000569	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.45	Si
SLU 75	fin.	537.84	-2361	-0.0002268	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.64	Si
SLU 84	ini.	154.61	-2065	-0.0000603	0.0001872	0.0035	0.9		3572.55	3572.55	No	23.11	Si
SLU 84	fin.	549.58	-2425	-0.0002324	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.5	Si
SLU 82	ini.	148.84	-2035	-0.000058	0.0001872	0.0035	0.9		3572.55	3572.55	No	24	Si
SLU 82	fin.	547.11	-2407	-0.0002312	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.53	Si
SLU 79	ini.	141.19	-1984	-0.0000549	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.3	Si
SLU 79	fin.	537.59	-2349	-0.0002266	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.65	Si
SLU 83	ini.	150.03	-2057	-0.0000585	0.0001872	0.0035	0.9		3572.55	3572.55	No	23.81	Si
SLU 83	fin.	553.03	-2429	-0.000234	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.46	Si
SLU 78	ini.	151.86	-2029	-0.0000592	0.0001872	0.0035	0.9		3572.55	3572.55	No	23.52	Si
SLU 78	fin.	540.31	-2379	-0.0002279	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.61	Si
SLU 80	ini.	145.76	-1992	-0.0000567	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.51	Si
SLU 80	fin.	534.14	-2345	-0.000225	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.69	Si
SLU 74	ini.	141.53	-1991	-0.0000551	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.24	Si
SLU 74	fin.	541.29	-2365	-0.0002284	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.6	Si
SLU 81	ini.	144.27	-2027	-0.0000562	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.76	Si
SLU 81	fin.	550.56	-2411	-0.0002329	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	146.1	-969	0.9	0	1750	14273	3773	2295	6068	No	6.26	Si
SLU 75	fin.	537.84	2417	0.9	0	1750	14273	3773	2295	6068	No	2.51	Si
SLU 78	ini.	151.86	-1009	0.9	0	1750	14273	3773	2295	6068	No	6.01	Si
SLU 78	fin.	540.31	2440	0.9	0	1750	14273	3773	2295	6068	No	2.49	Si
SLU 79	ini.	141.19	-965	0.9	0	1750	14273	3773	2295	6068	No	6.29	Si
SLU 79	fin.	537.59	2424	0.9	0	1750	14273	3773	2295	6068	No	2.5	Si
SLU 84	ini.	154.61	-995	0.9	0	1750	14273	3773	2295	6068	No	6.1	Si
SLU 84	fin.	549.58	2452	0.9	0	1750	14273	3773	2295	6068	No	2.47	Si
SLU 83	ini.	150.03	-985	0.9	0	1750	14273	3773	2295	6068	No	6.16	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	553.03	2471	0.9	0	1750	14273	3773	2295	6068	No	2.46	Si
SLU 74	ini.	141.53	-959	0.9	0	1750	14273	3773	2295	6068	No	6.33	Si
SLU 74	fin.	541.29	2436	0.9	0	1750	14273	3773	2295	6068	No	2.49	Si
SLU 80	ini.	145.76	-976	0.9	0	1750	14273	3773	2295	6068	No	6.22	Si
SLU 80	fin.	534.14	2405	0.9	0	1750	14273	3773	2295	6068	No	2.52	Si
SLU 81	ini.	144.27	-945	0.9	0	1750	14273	3773	2295	6068	No	6.42	Si
SLU 81	fin.	550.56	2448	0.9	0	1750	14273	3773	2295	6068	No	2.48	Si
SLU 82	ini.	148.84	-956	0.9	0	1750	14273	3773	2295	6068	No	6.35	Si
SLU 82	fin.	547.11	2429	0.9	0	1750	14273	3773	2295	6068	No	2.5	Si
SLU 77	ini.	147.29	-998	0.9	0	1750	14273	3773	2295	6068	No	6.08	Si
SLU 77	fin.	543.76	2459	0.9	0	1750	14273	3773	2295	6068	No	2.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	1173.48	-3354	-0.0005385	0.0002807	0.0035	0.9		3568.61	3568.61		3.04	Si
SLD 14	fin.	-425.12	-638	-0.0001703	0.0002807	0.0035	0.9		3575.64	3575.64		8.41	Si
SLV 15	ini.	1278.99	-3580	-0.0005991	0.0002807	0.0035	0.9		3568.61	3568.61		2.79	Si
SLV 15	fin.	-502.73	-530	-0.0002037	0.0002807	0.0035	0.9		3575.64	3575.64		7.11	Si
SLD 3	ini.	-1021.55	753	-0.0004541	0.0002807	0.0035	0.9		3575.64	3575.64		3.5	Si
SLD 3	fin.	1176.04	-2566	-0.00054	0.0002807	0.0035	0.9		3568.61	3568.61		3.03	Si
SLV 13	ini.	1469.74	-3880	-0.0007141	0.0002807	0.0035	0.9		3568.61	3568.61		2.43	Si
SLV 13	fin.	-653.01	-334	-0.000271	0.0002807	0.0035	0.9		3575.64	3575.64		5.48	Si
SLV 2	ini.	-1127.05	979	-0.0005114	0.0002807	0.0035	0.9		3575.64	3575.64		3.17	Si
SLV 2	fin.	1253.65	-2674	-0.0005843	0.0002807	0.0035	0.9		3568.61	3568.61		2.85	Si
SLV 1	ini.	-1456.54	1621	-0.0007042	0.0002807	0.0035	0.9		3575.64	3575.64		2.45	Si
SLV 1	fin.	1483.04	-2923	-0.0007223	0.0002807	0.0035	0.9		3568.61	3568.61		2.41	Si
SLV 16	ini.	1608.47	-4222	-0.0008023	0.0002807	0.0035	0.9		3568.61	3568.61		2.22	Si
SLV 16	fin.	-732.12	-281	-0.000308	0.0002807	0.0035	0.9		3575.64	3575.64		4.88	Si
SLV 3	ini.	-1647.3	1921	-0.0008258	0.0002807	0.0035	0.9		3575.64	3575.64		2.17	Si
SLV 3	fin.	1633.32	-3118	-0.0008186	0.0002807	0.0035	0.9		3568.61	3568.61		2.18	Si
SLV 14	ini.	1799.23	-4522	-0.0009306	0.0002807	0.0035	0.9		3568.61	3568.61		1.98	Si
SLV 14	fin.	-882.4	-85	-0.0003818	0.0002807	0.0035	0.9		3575.64	3575.64		4.05	Si
SLV 4	ini.	-1317.81	1279	-0.0006205	0.0002807	0.0035	0.9		3575.64	3575.64		2.71	Si
SLV 4	fin.	1403.93	-2870	-0.0006736	0.0002807	0.0035	0.9		3568.61	3568.61		2.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1127.05	4229	0.9	0	2625	14273	5660	2295	7955		1.88	Si
SLV 2	fin.	1253.65	4888	0.9	0	2625	14273	5660	2295	7955		1.63	Si
SLV 16	ini.	1608.47	-6610	0.9	0	2625	14273	5660	2295	7955		1.2	Si
SLV 16	fin.	-732.12	-2397	0.9	0	2625	14273	5660	2295	7955		3.32	Si
SLV 7	ini.	-791.8	2047	0.9	0	2625	14273	5660	2295	7955		3.89	Si
SLV 7	fin.	1023.54	4712	0.9	0	2625	14273	5660	2295	7955		1.69	Si
SLV 4	ini.	-1317.81	4550	0.9	0	2625	14273	5660	2295	7955		1.75	Si
SLV 4	fin.	1403.93	5784	0.9	0	2625	14273	5660	2295	7955		1.38	Si
SLV 15	ini.	1278.99	-5381	0.9	0	2625	14273	5660	2295	7955		1.48	Si
SLV 15	fin.	-502.73	-1507	0.9	0	2625	14273	5660	2295	7955		5.28	Si
SLV 1	ini.	-1456.54	5458	0.9	0	2625	14273	5660	2295	7955		1.46	Si
SLV 1	fin.	1483.04	5778	0.9	0	2625	14273	5660	2295	7955		1.38	Si
SLD 3	ini.	-1021.55	3478	0.9	0	2625	14273	5660	2295	7955		2.29	Si
SLD 3	fin.	1176.04	4855	0.9	0	2625	14273	5660	2295	7955		1.64	Si
SLV 14	ini.	1799.23	-6931	0.9	0	2625	14273	5660	2295	7955		1.15	Si
SLV 14	fin.	-882.4	-3294	0.9	0	2625	14273	5660	2295	7955		2.41	Si
SLV 3	ini.	-1647.3	5779	0.9	0	2625	14273	5660	2295	7955		1.38	Si
SLV 3	fin.	1633.32	6675	0.9	0	2625	14273	5660	2295	7955		1.19	Si
SLV 13	ini.	1469.74	-5702	0.9	0	2625	14273	5660	2295	7955		1.39	Si
SLV 13	fin.	-653.01	-2403	0.9	0	2625	14273	5660	2295	7955		3.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.983	SLV 14	Si
V_SLV	1.148	SLV 14	Si
PF_SLU	6.46	SLU 83	Si
V_SLU	2.456	SLU 83	Si

Trave di accoppiamento 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	7.05	7.9	0.85	-7.013	6.661	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-683	-2162	-0.00034	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.79	Si
SLU 84	fin.	-88.46	-883	-0.0000381	0.0001872	0.0035	0.85		3272.39	3272.39	No	36.99	Si
SLU 77	ini.	-675.81	-2131	-0.0003357	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.84	Si
SLU 77	fin.	-82.26	-852	-0.0000354	0.0001872	0.0035	0.85		3272.39	3272.39	No	39.78	Si
SLU 79	ini.	-667.06	-2094	-0.0003306	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.91	Si
SLU 79	fin.	-78.26	-827	-0.0000337	0.0001872	0.0035	0.85		3272.39	3272.39	No	41.82	Si
SLU 78	ini.	-671.37	-2126	-0.0003331	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.87	Si
SLU 78	fin.	-85.36	-861	-0.0000368	0.0001872	0.0035	0.85		3272.39	3272.39	No	38.34	Si
SLU 80	ini.	-662.63	-2089	-0.000328	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.94	Si
SLU 80	fin.	-81.36	-836	-0.000035	0.0001872	0.0035	0.85		3272.39	3272.39	No	40.22	Si
SLU 74	ini.	-672.76	-2108	-0.0003339	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.86	Si
SLU 74	fin.	-77.92	-832	-0.0000335	0.0001872	0.0035	0.85		3272.39	3272.39	No	42	Si
SLU 82	ini.	-679.95	-2138	-0.0003382	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.81	Si
SLU 82	fin.	-84.12	-864	-0.0000362	0.0001872	0.0035	0.85		3272.39	3272.39	No	38.9	Si
SLU 83	ini.	-687.43	-2167	-0.0003426	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.76	Si
SLU 83	fin.	-85.36	-874	-0.0000368	0.0001872	0.0035	0.85		3272.39	3272.39	No	38.34	Si
SLU 75	ini.	-668.32	-2103	-0.0003313	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.9	Si
SLU 75	fin.	-81.02	-842	-0.0000349	0.0001872	0.0035	0.85		3272.39	3272.39	No	40.39	Si
SLU 81	ini.	-684.38	-2143	-0.0003408	0.0001872	0.0035	0.85		3272.39	3272.39	No	4.78	Si
SLU 81	fin.	-81.02	-854	-0.0000349	0.0001872	0.0035	0.85		3272.39	3272.39	No	40.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-671.37	3227	0.85	0	1653	13480	3563	2168	5731	No	1.78	Si
SLU 78	fin.	-85.36	-1585	0.85	0	1653	13480	3563	2168	5731	No	3.62	Si
SLU 81	ini.	-684.38	3281	0.85	0	1653	13480	3563	2168	5731	No	1.75	Si
SLU 81	fin.	-81.02	-1596	0.85	0	1653	13480	3563	2168	5731	No	3.59	Si
SLU 75	ini.	-668.32	3205	0.85	0	1653	13480	3563	2168	5731	No	1.79	Si
SLU 75	fin.	-81.02	-1556	0.85	0	1653	13480	3563	2168	5731	No	3.68	Si
SLU 74	ini.	-672.76	3220	0.85	0	1653	13480	3563	2168	5731	No	1.78	Si
SLU 74	fin.	-77.92	-1541	0.85	0	1653	13480	3563	2168	5731	No	3.72	Si
SLU 84	ini.	-683	3288	0.85	0	1653	13480	3563	2168	5731	No	1.74	Si
SLU 84	fin.	-88.46	-1640	0.85	0	1653	13480	3563	2168	5731	No	3.49	Si
SLU 79	ini.	-667.06	3200	0.85	0	1653	13480	3563	2168	5731	No	1.79	Si
SLU 79	fin.	-78.26	-1532	0.85	0	1653	13480	3563	2168	5731	No	3.74	Si
SLU 77	ini.	-675.81	3242	0.85	0	1653	13480	3563	2168	5731	No	1.77	Si
SLU 77	fin.	-82.26	-1570	0.85	0	1653	13480	3563	2168	5731	No	3.65	Si
SLU 80	ini.	-662.63	3184	0.85	0	1653	13480	3563	2168	5731	No	1.8	Si
SLU 80	fin.	-81.36	-1547	0.85	0	1653	13480	3563	2168	5731	No	3.71	Si
SLU 83	ini.	-687.43	3303	0.85	0	1653	13480	3563	2168	5731	No	1.73	Si
SLU 83	fin.	-85.36	-1625	0.85	0	1653	13480	3563	2168	5731	No	3.53	Si
SLU 82	ini.	-679.95	3265	0.85	0	1653	13480	3563	2168	5731	No	1.76	Si
SLU 82	fin.	-84.12	-1611	0.85	0	1653	13480	3563	2168	5731	No	3.56	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	949.36	-97	-0.0004768	0.0002807	0.0035	0.85		3181.12	3181.12		3.35	Si
SLV 14	fin.	-1108.67	-3772	-0.0005751	0.0002807	0.0035	0.85		3187.76	3187.76		2.88	Si
SLV 2	ini.	-1400	-2215	-0.0007729	0.0002807	0.0035	0.85		3187.76	3187.76		2.28	Si
SLV 2	fin.	688.91	1723	-0.0003272	0.0002807	0.0035	0.85		3181.12	3181.12		4.62	Si
SLD 2	ini.	-1069.33	-1929	-0.00055	0.0002807	0.0035	0.85		3187.76	3187.76		2.98	Si
SLD 2	fin.	432.62	937	-0.0001959	0.0002807	0.0035	0.85		3181.12	3181.12		7.35	Si
SLD 4	ini.	-1190.3	-2086	-0.0006284	0.0002807	0.0035	0.85		3187.76	3187.76		2.68	Si
SLD 4	fin.	512	1168	-0.0002351	0.0002807	0.0035	0.85		3181.12	3181.12		6.21	Si
SLV 1	ini.	-1670.3	-2433	-0.0009766	0.0002807	0.0035	0.85		3187.76	3187.76		1.91	Si
SLV 1	fin.	903.29	2391	-0.0004492	0.0002807	0.0035	0.85		3181.12	3181.12		3.52	Si
SLV 4	ini.	-1606.2	-2482	-0.0009264	0.0002807	0.0035	0.85		3187.76	3187.76		1.98	Si
SLV 4	fin.	824.26	2117	-0.0004029	0.0002807	0.0035	0.85		3181.12	3181.12		3.86	Si
SLD 1	ini.	-1240.81	-2068	-0.0006622	0.0002807	0.0035	0.85		3187.76	3187.76		2.57	Si
SLD 1	fin.	568.62	1361	-0.0002638	0.0002807	0.0035	0.85		3181.12	3181.12		5.59	Si
SLD 3	ini.	-1361.79	-2225	-0.0007458	0.0002807	0.0035	0.85		3187.76	3187.76		2.34	Si
SLD 3	fin.	648	1592	-0.0003052	0.0002807	0.0035	0.85		3181.12	3181.12		4.91	Si
SLV 7	ini.	-1250.61	-2235	-0.0006689	0.0002807	0.0035	0.85		3187.76	3187.76		2.55	Si
SLV 7	fin.	532.36	1213	-0.0002453	0.0002807	0.0035	0.85		3181.12	3181.12		5.98	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1876.5	-2700	-0.0011476	0.0002807	0.0035	0.85		3187.76	3187.76		1.7	Si
SLV 3	fin.	1038.64	2785	-0.000532	0.0002807	0.0035	0.85		3181.12	3181.12		3.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	949.36	-2411	0.85	0	2479	13480	5345	2168	7513		3.12	Si
SLV 14	fin.	-1108.67	-6375	0.85	0	2479	13480	5345	2168	7513		1.18	Si
SLV 4	ini.	-1606.2	5923	0.85	0	2479	13480	5345	2168	7513		1.27	Si
SLV 4	fin.	824.26	3429	0.85	0	2479	13480	5345	2168	7513		2.19	Si
SLD 3	ini.	-1361.79	5116	0.85	0	2479	13480	5345	2168	7513		1.47	Si
SLD 3	fin.	648	2543	0.85	0	2479	13480	5345	2168	7513		2.95	Si
SLV 7	ini.	-1250.61	4850	0.85	0	2479	13480	5345	2168	7513		1.55	Si
SLV 7	fin.	532.36	1879	0.85	0	2479	13480	5345	2168	7513		4	Si
SLV 1	ini.	-1670.3	6063	0.85	0	2479	13480	5345	2168	7513		1.24	Si
SLV 1	fin.	903.29	3889	0.85	0	2479	13480	5345	2168	7513		1.93	Si
SLV 3	ini.	-1876.5	6797	0.85	0	2479	13480	5345	2168	7513		1.11	Si
SLV 3	fin.	1038.64	4525	0.85	0	2479	13480	5345	2168	7513		1.66	Si
SLV 13	ini.	679.06	-1538	0.85	0	2479	13480	5345	2168	7513		4.88	Si
SLV 13	fin.	-894.29	-5280	0.85	0	2479	13480	5345	2168	7513		1.42	Si
SLD 1	ini.	-1240.81	4685	0.85	0	2479	13480	5345	2168	7513		1.6	Si
SLD 1	fin.	568.62	2170	0.85	0	2479	13480	5345	2168	7513		3.46	Si
SLV 2	ini.	-1400	5189	0.85	0	2479	13480	5345	2168	7513		1.45	Si
SLV 2	fin.	688.91	2793	0.85	0	2479	13480	5345	2168	7513		2.69	Si
SLV 16	ini.	743.16	-1677	0.85	0	2479	13480	5345	2168	7513		4.48	Si
SLV 16	fin.	-973.32	-5739	0.85	0	2479	13480	5345	2168	7513		1.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.699	SLV 3	Si
V_SLV	1.105	SLV 3	Si
PF_SLU	4.76	SLU 83	Si
V_SLU	1.735	SLU 83	Si

Trave di accoppiamento 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	6.85	7.9	1.05	-12.263	1.141	6.85	7.9	1.05	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1135.09	-4398	-0.0000811	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.07	Si
SLU 81	fin.	136.11	-2842	-0.0000091	0.0002246	0.0035	1.05		12545.19	12545.19	No	92.17	Si
SLU 83	ini.	-1155.68	-4505	-0.0000827	0.0002246	0.0035	1.05		12564.9	12564.9	No	10.87	Si
SLU 83	fin.	144.1	-2915	-0.0000097	0.0002246	0.0035	1.05		12545.19	12545.19	No	87.06	Si
SLU 82	ini.	-1136.42	-4427	-0.0000812	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.06	Si
SLU 82	fin.	123.88	-2883	-0.0000083	0.0002246	0.0035	1.05		12545.19	12545.19	No	101.27	Si
SLU 78	ini.	-1135.47	-4566	-0.0000811	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.07	Si
SLU 78	fin.	124.34	-3027	-0.0000083	0.0002246	0.0035	1.05		12545.19	12545.19	No	100.89	Si
SLU 75	ini.	-1114.88	-4459	-0.0000795	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.27	Si
SLU 75	fin.	116.35	-2955	-0.0000078	0.0002246	0.0035	1.05		12545.19	12545.19	No	107.82	Si
SLU 84	ini.	-1157.01	-4534	-0.0000828	0.0002246	0.0035	1.05		12564.9	12564.9	No	10.86	Si
SLU 84	fin.	131.87	-2956	-0.0000089	0.0002246	0.0035	1.05		12545.19	12545.19	No	95.14	Si
SLU 77	ini.	-1134.13	-4537	-0.000081	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.08	Si
SLU 77	fin.	136.58	-2987	-0.0000092	0.0002246	0.0035	1.05		12545.19	12545.19	No	91.85	Si
SLU 79	ini.	-1119.82	-4479	-0.0000799	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.22	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	129.13	-2956	-0.0000087	0.0002246	0.0035	1.05		12545.19	12545.19	No	97.15	Si
SLU 74	ini.	-1113.54	-4430	-0.0000794	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.28	Si
SLU 74	fin.	128.59	-2914	-0.0000086	0.0002246	0.0035	1.05		12545.19	12545.19	No	97.56	Si
SLU 80	ini.	-1121.15	-4508	-0.00008	0.0002246	0.0035	1.05		12564.9	12564.9	No	11.21	Si
SLU 80	fin.	116.89	-2996	-0.0000078	0.0002246	0.0035	1.05		12545.19	12545.19	No	107.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-1119.82	3312	1.05	2507	2450	47578	5283	5355	10638	No	3.21	Si
SLU 79	fin.	129.13	407	1.05	300	2450	47578	5283	5355	10638	No	26.13	Si
SLU 75	ini.	-1114.88	3287	1.05	2497	2450	47578	5283	5355	10638	No	3.24	Si
SLU 75	fin.	116.35	382	1.05	271	2450	47578	5283	5355	10638	No	27.83	Si
SLU 81	ini.	-1135.09	3499	1.05	2540	2450	47578	5283	5355	10638	No	3.04	Si
SLU 81	fin.	136.11	299	1.05	317	2450	47578	5283	5355	10638	No	35.63	Si
SLU 74	ini.	-1113.54	3302	1.05	2494	2450	47578	5283	5355	10638	No	3.22	Si
SLU 74	fin.	128.59	398	1.05	299	2450	47578	5283	5355	10638	No	26.76	Si
SLU 82	ini.	-1136.42	3483	1.05	2543	2450	47578	5283	5355	10638	No	3.05	Si
SLU 82	fin.	123.88	283	1.05	288	2450	47578	5283	5355	10638	No	37.55	Si
SLU 77	ini.	-1134.13	3344	1.05	2538	2450	47578	5283	5355	10638	No	3.18	Si
SLU 77	fin.	136.58	439	1.05	318	2450	47578	5283	5355	10638	No	24.23	Si
SLU 80	ini.	-1121.15	3297	1.05	2510	2450	47578	5283	5355	10638	No	3.23	Si
SLU 80	fin.	116.89	392	1.05	272	2450	47578	5283	5355	10638	No	27.15	Si
SLU 84	ini.	-1157.01	3525	1.05	2587	2450	47578	5283	5355	10638	No	3.02	Si
SLU 84	fin.	131.87	325	1.05	307	2450	47578	5283	5355	10638	No	32.76	Si
SLU 78	ini.	-1135.47	3328	1.05	2541	2450	47578	5283	5355	10638	No	3.2	Si
SLU 78	fin.	124.34	424	1.05	289	2450	47578	5283	5355	10638	No	25.1	Si
SLU 83	ini.	-1155.68	3540	1.05	2584	2450	47578	5283	5355	10638	No	3	Si
SLU 83	fin.	144.1	340	1.05	335	2450	47578	5283	5355	10638	No	31.28	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	1030.73	-3717	-0.0000716	0.0003369	0.0035	1.05		14372.52	14372.52		13.94	Si
SLV 4	fin.	-3488	-9336	-0.0002775	0.0003369	0.0035	1.05		14395.05	14395.05		4.13	Si
SLD 16	ini.	-1780.07	-1669	-0.0001277	0.0003369	0.0035	1.05		14395.05	14395.05		8.09	Si
SLD 16	fin.	2615.97	3717	-0.0001966	0.0003369	0.0035	1.05		14372.52	14372.52		5.49	Si
SLV 14	ini.	-2440.03	-2282	-0.0001812	0.0003369	0.0035	1.05		14395.05	14395.05		5.9	Si
SLV 14	fin.	3512.4	5067	-0.0002805	0.0003369	0.0035	1.05		14372.52	14372.52		4.09	Si
SLV 3	ini.	995.42	-3692	-0.000069	0.0003369	0.0035	1.05		14372.52	14372.52		14.44	Si
SLV 3	fin.	-3412.91	-9174	-0.0002699	0.0003369	0.0035	1.05		14395.05	14395.05		4.22	Si
SLV 15	ini.	-2405.59	-845	-0.0001783	0.0003369	0.0035	1.05		14395.05	14395.05		5.98	Si
SLV 15	fin.	4155.62	7200	-0.0003512	0.0003369	0.0035	1.05		14372.52	14372.52		3.46	Si
SLV 2	ini.	960.98	-5129	-0.0000665	0.0003369	0.0035	1.05		14372.52	14372.52		14.96	Si
SLV 2	fin.	-4056.13	-11306	-0.0003387	0.0003369	0.0035	1.05		14395.05	14395.05		3.55	Si
SLD 15	ini.	-1802.47	-1653	-0.0001294	0.0003369	0.0035	1.05		14395.05	14395.05		7.99	Si
SLD 15	fin.	2663.61	3820	-0.0002008	0.0003369	0.0035	1.05		14372.52	14372.52		5.4	Si
SLV 16	ini.	-2370.28	-870	-0.0001754	0.0003369	0.0035	1.05		14395.05	14395.05		6.07	Si
SLV 16	fin.	4080.53	7037	-0.0003423	0.0003369	0.0035	1.05		14372.52	14372.52		3.52	Si
SLV 13	ini.	-2475.34	-2257	-0.0001842	0.0003369	0.0035	1.05		14395.05	14395.05		5.82	Si
SLV 13	fin.	3587.49	5229	-0.0002882	0.0003369	0.0035	1.05		14372.52	14372.52		4.01	Si
SLV 1	ini.	925.66	-5104	-0.000064	0.0003369	0.0035	1.05		14372.52	14372.52		15.53	Si
SLV 1	fin.	-3981.04	-11144	-0.00033	0.0003369	0.0035	1.05		14395.05	14395.05		3.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-2475.34	9796	1.05	8115	2855	47578	7924	5355	13279		1.36	Si
SLV 13	fin.	3587.49	8022	1.05	11307	2855	47578	7924	5355	13279		1.66	Si
SLD 16	ini.	-1780.07	7338	1.05	5959	2855	47578	7924	5355	13279		1.81	Si
SLD 16	fin.	2615.97	5562	1.05	8549	2855	47578	7924	5355	13279		2.39	Si
SLV 1	ini.	925.66	-6279	1.05	3175	2855	47578	7924	5355	13279		2.11	Si
SLV 1	fin.	-3981.04	-8063	1.05	12308	2855	47578	7924	5355	13279		1.65	Si
SLV 3	ini.	995.42	-5567	1.05	3408	2855	47578	7924	5355	13279		2.39	Si
SLV 3	fin.	-3412.91	-7351	1.05	10820	2855	47578	7924	5355	13279		1.81	Si
SLV 15	ini.	-2405.59	10508	1.05	7904	2855	47578	7924	5355	13279		1.26	Si
SLV 15	fin.	4155.62	8735	1.05	12755	2855	47578	7924	5355	13279		1.52	Si
SLV 14	ini.	-2440.03	9633	1.05	8008	2855	47578	7924	5355	13279		1.38	Si
SLV 14	fin.	3512.4	7859	1.05	11105	2855	47578	7924	5355	13279		1.69	Si
SLD 15	ini.	-1802.47	7441	1.05	6030	2855	47578	7924	5355	13279		1.78	Si
SLD 15	fin.	2663.61	5665	1.05	8691	2855	47578	7924	5355	13279		2.34	Si
SLV 16	ini.	-2370.28	10345	1.05	7797	2855	47578	7924	5355	13279		1.28	Si
SLV 16	fin.	4080.53	8572	1.05	12572	2855	47578	7924	5355	13279		1.55	Si
SLV 4	ini.	1030.73	-5730	1.05	3526	2855	47578	7924	5355	13279		2.32	Si
SLV 4	fin.	-3488	-7513	1.05	11024	2855	47578	7924	5355	13279		1.77	Si
SLV 2	ini.	960.98	-6442	1.05	3293	2855	47578	7924	5355	13279		2.06	Si
SLV 2	fin.	-4056.13	-8226	1.05	12496	2855	47578	7924	5355	13279		1.61	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.459	SLV 15	Si
V_SLV	1.264	SLV 15	Si
PF_SLU	10.86	SLU 84	Si
V_SLU	3.005	SLU 83	Si

Trave di accoppiamento 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	6.85	7.9	1.05	-10.466	1.141	6.85	7.9	1.05	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-561	-3685	-0.0000386	0.0002246	0.0035	1.05		12564.9	12564.9	No	22.4	Si
SLU 75	fin.	-587.81	-4718	-0.0000405	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.38	Si
SLU 83	ini.	-624.65	-3911	-0.0000431	0.0002246	0.0035	1.05		12564.9	12564.9	No	20.12	Si
SLU 83	fin.	-563.03	-4903	-0.0000387	0.0002246	0.0035	1.05		12564.9	12564.9	No	22.32	Si
SLU 76	ini.	-545.99	-3622	-0.0000375	0.0002246	0.0035	1.05		12564.9	12564.9	No	23.01	Si
SLU 76	fin.	-592.31	-4649	-0.0000408	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.21	Si
SLU 68	ini.	-425.56	-3110	-0.000029	0.0002246	0.0035	1.05		12564.9	12564.9	No	29.53	Si
SLU 68	fin.	-590.37	-4143	-0.0000407	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.28	Si
SLU 82	ini.	-599.81	-3804	-0.0000413	0.0002246	0.0035	1.05		12564.9	12564.9	No	20.95	Si
SLU 82	fin.	-573.63	-4769	-0.0000395	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.9	Si
SLU 70	ini.	-449.19	-3238	-0.0000307	0.0002246	0.0035	1.05		12564.9	12564.9	No	27.97	Si
SLU 70	fin.	-593.34	-4324	-0.0000409	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.18	Si
SLU 78	ini.	-569.62	-3751	-0.0000392	0.0002246	0.0035	1.05		12564.9	12564.9	No	22.06	Si
SLU 78	fin.	-595.28	-4829	-0.000041	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.11	Si
SLU 81	ini.	-616.04	-3845	-0.0000425	0.0002246	0.0035	1.05		12564.9	12564.9	No	20.4	Si
SLU 81	fin.	-555.57	-4791	-0.0000382	0.0002246	0.0035	1.05		12564.9	12564.9	No	22.62	Si
SLU 84	ini.	-608.42	-3869	-0.0000419	0.0002246	0.0035	1.05		12564.9	12564.9	No	20.65	Si
SLU 84	fin.	-581.09	-4881	-0.00004	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.62	Si
SLU 80	ini.	-565.43	-3715	-0.0000389	0.0002246	0.0035	1.05		12564.9	12564.9	No	22.22	Si
SLU 80	fin.	-587.73	-4775	-0.0000405	0.0002246	0.0035	1.05		12564.9	12564.9	No	21.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-440.57	2651	1.05	1012	2450	47578	5283	5355	10638	No	4.01	Si
SLU 67	fin.	-585.88	-1238	1.05	1339	2450	47578	5283	5355	10638	No	8.6	Si
SLU 70	ini.	-449.19	2683	1.05	1032	2450	47578	5283	5355	10638	No	3.96	Si
SLU 70	fin.	-593.34	-1229	1.05	1356	2450	47578	5283	5355	10638	No	8.65	Si
SLU 78	ini.	-569.62	2677	1.05	1303	2450	47578	5283	5355	10638	No	3.97	Si
SLU 78	fin.	-595.28	-1046	1.05	1360	2450	47578	5283	5355	10638	No	10.17	Si
SLU 46	ini.	-378.16	2650	1.05	871	2450	47578	5283	5355	10638	No	4.01	Si
SLU 46	fin.	-487.81	-1080	1.05	1119	2450	47578	5283	5355	10638	No	9.85	Si
SLU 55	ini.	-483.58	2659	1.05	1110	2450	47578	5283	5355	10638	No	4	Si
SLU 55	fin.	-494.24	-952	1.05	1134	2450	47578	5283	5355	10638	No	11.17	Si
SLU 49	ini.	-386.77	2682	1.05	890	2450	47578	5283	5355	10638	No	3.97	Si
SLU 49	fin.	-495.28	-1071	1.05	1136	2450	47578	5283	5355	10638	No	9.93	Si
SLU 57	ini.	-507.2	2676	1.05	1163	2450	47578	5283	5355	10638	No	3.98	Si
SLU 57	fin.	-497.21	-888	1.05	1140	2450	47578	5283	5355	10638	No	11.98	Si
SLU 76	ini.	-545.99	2660	1.05	1250	2450	47578	5283	5355	10638	No	4	Si
SLU 76	fin.	-592.31	-1110	1.05	1354	2450	47578	5283	5355	10638	No	9.58	Si
SLU 68	ini.	-425.56	2666	1.05	978	2450	47578	5283	5355	10638	No	3.99	Si
SLU 68	fin.	-590.37	-1294	1.05	1349	2450	47578	5283	5355	10638	No	8.22	Si
SLU 47	ini.	-363.15	2665	1.05	837	2450	47578	5283	5355	10638	No	3.99	Si
SLU 47	fin.	-492.31	-1136	1.05	1129	2450	47578	5283	5355	10638	No	9.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1598.9	2959	-0.0001139	0.0003369	0.0035	1.05		14372.52	14372.52		8.99	Si
SLV 6	fin.	-2126.58	-1016	-0.0001553	0.0003369	0.0035	1.05		14395.05	14395.05		6.77	Si
SLV 14	ini.	-2156.44	-8528	-0.0001577	0.0003369	0.0035	1.05		14395.05	14395.05		6.68	Si
SLV 14	fin.	215.44	-3930	-0.0000145	0.0003369	0.0035	1.05		14372.52	14372.52		66.71	Si
SLV 2	ini.	2247.2	5684	-0.0001654	0.0003369	0.0035	1.05		14372.52	14372.52		6.4	Si
SLV 2	fin.	-1889.68	-1209	-0.0001363	0.0003369	0.0035	1.05		14395.05	14395.05		7.62	Si
SLV 5	ini.	1569.49	2880	-0.0001116	0.0003369	0.0035	1.05		14372.52	14372.52		9.16	Si
SLV 5	fin.	-2108.17	-1086	-0.0001538	0.0003369	0.0035	1.05		14395.05	14395.05		6.83	Si
SLV 13	ini.	-2200.12	-8646	-0.0001613	0.0003369	0.0035	1.05		14395.05	14395.05		6.54	Si
SLV 13	fin.	242.79	-4034	-0.0000163	0.0003369	0.0035	1.05		14372.52	14372.52		59.2	Si
SLV 1	ini.	2203.51	5566	-0.0001618	0.0003369	0.0035	1.05		14372.52	14372.52		6.52	Si
SLV 1	fin.	-1862.33	-1313	-0.0001341	0.0003369	0.0035	1.05		14395.05	14395.05		7.73	Si
SLV 16	ini.	-2927.97	-10473	-0.000224	0.0003369	0.0035	1.05		14395.05	14395.05		4.92	Si
SLV 16	fin.	1053.86	-4926	-0.0000732	0.0003369	0.0035	1.05		14372.52	14372.52		13.64	Si
SLV 11	ini.	-2323.36	-7866	-0.0001714	0.0003369	0.0035	1.05		14395.05	14395.05		6.2	Si
SLV 11	fin.	1318.11	-5223	-0.0000927	0.0003369	0.0035	1.05		14372.52	14372.52		10.9	Si
SLV 15	ini.	-2971.65	-10591	-0.0002279	0.0003369	0.0035	1.05		14395.05	14395.05		4.84	Si
SLV 15	fin.	1081.21	-5030	-0.0000752	0.0003369	0.0035	1.05		14372.52	14372.52		13.29	Si
SLV 12	ini.	-2293.95	-7787	-0.000169	0.0003369	0.0035	1.05		14395.05	14395.05		6.28	Si
SLV 12	fin.	1299.7	-5153	-0.0000913	0.0003369	0.0035	1.05		14372.52	14372.52		11.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-2293.95	-2261	1.05	7564	2961	47578	7924	5355	13279		5.87	Si
SLV 12	fin.	1299.7	8683	1.05	4415	2961	47578	7924	5355	13279		1.53	Si
SLV 1	ini.	2203.51	-1221	1.05	7296	2961	47578	7924	5355	13279		10.87	Si
SLV 1	fin.	-1862.33	-8129	1.05	6220	2961	47578	7924	5355	13279		1.63	Si
SLV 9	ini.	248.4	8990	1.05	866	2961	47578	7924	5355	13279		1.48	Si
SLV 9	fin.	-1476.63	-7222	1.05	4985	2961	47578	7924	5355	13279		1.84	Si
SLV 5	ini.	1569.49	6123	1.05	5293	2961	47578	7924	5355	13279		2.17	Si
SLV 5	fin.	-2108.17	-10248	1.05	6990	2961	47578	7924	5355	13279		1.3	Si
SLV 14	ini.	-2156.44	8489	1.05	7140	2961	47578	7924	5355	13279		1.56	Si
SLV 14	fin.	215.44	1750	1.05	751	2961	47578	7924	5355	13279		7.59	Si
SLV 11	ini.	-2323.36	-2364	1.05	7654	2961	47578	7924	5355	13279		5.62	Si
SLV 11	fin.	1318.11	8824	1.05	4475	2961	47578	7924	5355	13279		1.5	Si
SLV 10	ini.	277.81	9093	1.05	968	2961	47578	7924	5355	13279		1.46	Si
SLV 10	fin.	-1495.04	-7363	1.05	5045	2961	47578	7924	5355	13279		1.8	Si
SLV 2	ini.	2247.2	-1069	1.05	7431	2961	47578	7924	5355	13279		12.42	Si
SLV 2	fin.	-1889.68	-8338	1.05	6306	2961	47578	7924	5355	13279		1.59	Si
SLV 6	ini.	1598.9	6225	1.05	5388	2961	47578	7924	5355	13279		2.13	Si
SLV 6	fin.	-2126.58	-10389	1.05	7048	2961	47578	7924	5355	13279		1.28	Si
SLV 13	ini.	-2200.12	8337	1.05	7275	2961	47578	7924	5355	13279		1.59	Si
SLV 13	fin.	242.79	1959	1.05	846	2961	47578	7924	5355	13279		6.78	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.844	SLV 15	Si
V_SLV	1.278	SLV 6	Si
PF_SLU	20.115	SLU 83	Si
V_SLU	3.965	SLU 70	Si

Trave di accoppiamento 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	6.45	7.9	1.45	-7.443	1.141	6.45	7.9	1.45	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 43	ini.	95.79	-3315	-0.0000034	0.0002246	0.0035	1.45		23931.74	23931.74	No	249.84	Si
SLU 43	fin.	-833.58	-4188	-0.0000298	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.74	Si
SLU 71	ini.	24.22	-4107	-0.0000008	0.0002246	0.0035	1.45		23931.74	23931.74	No	988.29	Si
SLU 71	fin.	-846.91	-4903	-0.0000303	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.29	Si
SLU 65	ini.	15.84	-3927	-0.0000006	0.0002246	0.0035	1.45		23931.74	23931.74	No	1510.76	Si
SLU 65	fin.	-833.44	-4697	-0.0000298	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.75	Si
SLU 45	ini.	88.95	-3465	-0.0000031	0.0002246	0.0035	1.45		23931.74	23931.74	No	269.03	Si
SLU 45	fin.	-832.31	-4331	-0.0000298	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.79	Si
SLU 67	ini.	15.17	-4074	-0.0000005	0.0002246	0.0035	1.45		23931.74	23931.74	No	1577.27	Si
SLU 67	fin.	-841.46	-4853	-0.0000301	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.47	Si
SLU 72	ini.	14.96	-4112	-0.0000005	0.0002246	0.0035	1.45		23931.74	23931.74	No	1599.22	Si
SLU 72	fin.	-832.98	-4884	-0.0000298	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.76	Si
SLU 69	ini.	20.9	-4164	-0.0000007	0.0002246	0.0035	1.45		23931.74	23931.74	No	1144.96	Si
SLU 69	fin.	-850.52	-4959	-0.0000304	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.17	Si
SLU 66	ini.	24.42	-4069	-0.0000009	0.0002246	0.0035	1.45		23931.74	23931.74	No	979.86	Si
SLU 66	fin.	-855.39	-4872	-0.0000306	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.01	Si
SLU 64	ini.	31.26	-3919	-0.0000011	0.0002246	0.0035	1.45		23931.74	23931.74	No	765.6	Si
SLU 64	fin.	-856.66	-4729	-0.0000307	0.0002246	0.0035	1.45		23958.96	23958.96	No	27.97	Si
SLU 70	ini.	11.65	-4168	-0.0000004	0.0002246	0.0035	1.45		23931.74	23931.74	No	2054.01	Si
SLU 70	fin.	-836.59	-4940	-0.0000299	0.0002246	0.0035	1.45		23958.96	23958.96	No	28.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-108.35	708	1.45	132	3383	45312	7295	7395	14690	No	20.76	Si
SLU 73	fin.	-796.54	-2961	1.45	961	3383	45312	7295	7395	14690	No	4.96	Si
SLU 78	ini.	-112.54	707	1.45	137	3383	45312	7295	7395	14690	No	20.76	Si
SLU 78	fin.	-799.69	-2961	1.45	964	3383	45312	7295	7395	14690	No	4.96	Si
SLU 75	ini.	-109.02	694	1.45	133	3383	45312	7295	7395	14690	No	21.17	Si
SLU 75	fin.	-804.56	-2975	1.45	970	3383	45312	7295	7395	14690	No	4.94	Si
SLU 84	ini.	-158.93	981	1.45	194	3383	45312	7295	7395	14690	No	14.97	Si
SLU 84	fin.	-785.14	-3019	1.45	947	3383	45312	7295	7395	14690	No	4.87	Si
SLU 77	ini.	-103.29	667	1.45	126	3383	45312	7295	7395	14690	No	22.02	Si
SLU 77	fin.	-813.62	-3001	1.45	981	3383	45312	7295	7395	14690	No	4.89	Si
SLU 74	ini.	-99.77	654	1.45	122	3383	45312	7295	7395	14690	No	22.47	Si
SLU 74	fin.	-818.49	-3015	1.45	987	3383	45312	7295	7395	14690	No	4.87	Si
SLU 82	ini.	-155.41	968	1.45	190	3383	45312	7295	7395	14690	No	15.18	Si
SLU 82	fin.	-790.02	-3033	1.45	953	3383	45312	7295	7395	14690	No	4.84	Si
SLU 79	ini.	-99.97	668	1.45	122	3383	45312	7295	7395	14690	No	22.01	Si
SLU 79	fin.	-810.02	-3001	1.45	977	3383	45312	7295	7395	14690	No	4.89	Si
SLU 81	ini.	-146.15	928	1.45	178	3383	45312	7295	7395	14690	No	15.84	Si
SLU 81	fin.	-803.95	-3073	1.45	970	3383	45312	7295	7395	14690	No	4.78	Si
SLU 83	ini.	-149.68	941	1.45	183	3383	45312	7295	7395	14690	No	15.61	Si
SLU 83	fin.	-799.07	-3059	1.45	964	3383	45312	7295	7395	14690	No	4.8	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	3103.29	732	-0.000116	0.0003369	0.0035	1.45		27417.66	27417.66		8.84	Si
SLV 3	fin.	-3621.62	-5250	-0.000137	0.0003369	0.0035	1.45		27448.78	27448.78		7.58	Si
SLD 3	ini.	1975.99	-632	-0.0000719	0.0003369	0.0035	1.45		27417.66	27417.66		13.88	Si
SLD 3	fin.	-2533.56	-4644	-0.0000933	0.0003369	0.0035	1.45		27448.78	27448.78		10.83	Si
SLV 15	ini.	-2629.34	-6460	-0.0000971	0.0003369	0.0035	1.45		27448.78	27448.78		10.44	Si
SLV 15	fin.	1684.51	-2805	-0.0000609	0.0003369	0.0035	1.45		27417.66	27417.66		16.28	Si
SLV 4	ini.	3093.68	741	-0.0001156	0.0003369	0.0035	1.45		27417.66	27417.66		8.86	Si
SLV 4	fin.	-3592.4	-5192	-0.0001358	0.0003369	0.0035	1.45		27448.78	27448.78		7.64	Si
SLV 13	ini.	-3088.19	-6814	-0.0001153	0.0003369	0.0035	1.45		27448.78	27448.78		8.89	Si
SLV 13	fin.	2305.7	-2058	-0.0000846	0.0003369	0.0035	1.45		27417.66	27417.66		11.89	Si
SLD 4	ini.	1969.89	-626	-0.0000717	0.0003369	0.0035	1.45		27417.66	27417.66		13.92	Si
SLD 4	fin.	-2515.03	-4607	-0.0000926	0.0003369	0.0035	1.45		27448.78	27448.78		10.91	Si
SLV 14	ini.	-3097.8	-6804	-0.0001157	0.0003369	0.0035	1.45		27448.78	27448.78		8.86	Si
SLV 14	fin.	2334.92	-2000	-0.0000857	0.0003369	0.0035	1.45		27417.66	27417.66		11.74	Si
SLV 1	ini.	2644.43	378	-0.0000978	0.0003369	0.0035	1.45		27417.66	27417.66		10.37	Si
SLV 1	fin.	-3000.43	-4503	-0.0001118	0.0003369	0.0035	1.45		27448.78	27448.78		9.15	Si
SLV 2	ini.	2634.83	387	-0.0000974	0.0003369	0.0035	1.45		27417.66	27417.66		10.41	Si
SLV 2	fin.	-2971.21	-4445	-0.0001106	0.0003369	0.0035	1.45		27448.78	27448.78		9.24	Si
SLV 16	ini.	-2638.94	-6450	-0.0000974	0.0003369	0.0035	1.45		27448.78	27448.78		10.4	Si
SLV 16	fin.	1713.73	-2747	-0.000062	0.0003369	0.0035	1.45		27417.66	27417.66		16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2638.94	8098	1.45	4684	4598	45312	10943	7395	18338		2.26	Si
SLV 16	fin.	1713.73	5809	1.45	3083	4598	45312	10943	7395	18338		3.16	Si
SLV 1	ini.	2644.43	-7973	1.45	4698	4598	45312	10943	7395	18338		2.3	Si
SLV 1	fin.	-3000.43	-10230	1.45	5298	4598	45312	10943	7395	18338		1.79	Si
SLV 2	ini.	2634.83	-7899	1.45	4682	4598	45312	10943	7395	18338		2.32	Si
SLV 2	fin.	-2971.21	-10156	1.45	5249	4598	45312	10943	7395	18338		1.81	Si
SLV 14	ini.	-3097.8	9978	1.45	5462	4598	45312	10943	7395	18338		1.84	Si
SLV 14	fin.	2334.92	7689	1.45	4166	4598	45312	10943	7395	18338		2.39	Si
SLV 7	ini.	1630.63	-5777	1.45	2937	4598	45312	10943	7395	18338		3.17	Si
SLV 7	fin.	-2484.42	-8045	1.45	4419	4598	45312	10943	7395	18338		2.28	Si
SLD 3	ini.	1975.99	-6233	1.45	3543	4598	45312	10943	7395	18338		2.94	Si
SLD 3	fin.	-2533.56	-8498	1.45	4503	4598	45312	10943	7395	18338		2.16	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-3088.19	9904	1.45	5446	4598	45312	10943	7395	18338		1.85	Si
SLV 13	fin.	2305.7	7615	1.45	4116	4598	45312	10943	7395	18338		2.41	Si
SLD 4	ini.	1969.89	-6186	1.45	3532	4598	45312	10943	7395	18338		2.96	Si
SLD 4	fin.	-2515.03	-8451	1.45	4471	4598	45312	10943	7395	18338		2.17	Si
SLV 4	ini.	3093.68	-9779	1.45	5461	4598	45312	10943	7395	18338		1.88	Si
SLV 4	fin.	-3592.4	-12036	1.45	6288	4598	45312	10943	7395	18338		1.52	Si
SLV 3	ini.	3103.29	-9853	1.45	5478	4598	45312	10943	7395	18338		1.86	Si
SLV 3	fin.	-3621.62	-12110	1.45	6337	4598	45312	10943	7395	18338		1.51	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.579	SLV 3	Si
V_SLV	1.514	SLV 3	Si
PF_SLU	27.968	SLU 64	Si
V_SLU	4.781	SLU 81	Si

Trave di accoppiamento 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	6.45	7.9	1.45	-4.893	1.141	6.45	7.9	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 61	ini.	347.45	-3776	-0.0000123	0.0002246	0.0035	1.45		23931.74	23931.74	No	68.88	Si
SLU 61	fin.	-606.21	-4247	-0.0000215	0.0002246	0.0035	1.45		23958.96	23958.96	No	39.52	Si
SLU 73	ini.	353.28	-4179	-0.0000125	0.0002246	0.0035	1.45		23931.74	23931.74	No	67.74	Si
SLU 73	fin.	-644.05	-4671	-0.0000229	0.0002246	0.0035	1.45		23958.96	23958.96	No	37.2	Si
SLU 83	ini.	315.79	-4502	-0.0000111	0.0002246	0.0035	1.45		23931.74	23931.74	No	75.78	Si
SLU 83	fin.	-636.76	-4969	-0.0000226	0.0002246	0.0035	1.45		23958.96	23958.96	No	37.63	Si
SLU 81	ini.	351.08	-4376	-0.0000124	0.0002246	0.0035	1.45		23931.74	23931.74	No	68.17	Si
SLU 81	fin.	-665.52	-4878	-0.0000237	0.0002246	0.0035	1.45		23958.96	23958.96	No	36	Si
SLU 76	ini.	317.99	-4305	-0.0000112	0.0002246	0.0035	1.45		23931.74	23931.74	No	75.26	Si
SLU 76	fin.	-615.3	-4762	-0.0000219	0.0002246	0.0035	1.45		23958.96	23958.96	No	38.94	Si
SLU 75	ini.	325.91	-4353	-0.0000115	0.0002246	0.0035	1.45		23931.74	23931.74	No	73.43	Si
SLU 75	fin.	-619.89	-4816	-0.000022	0.0002246	0.0035	1.45		23958.96	23958.96	No	38.65	Si
SLU 74	ini.	330.03	-4343	-0.0000116	0.0002246	0.0035	1.45		23931.74	23931.74	No	72.51	Si
SLU 74	fin.	-617.09	-4806	-0.0000219	0.0002246	0.0035	1.45		23958.96	23958.96	No	38.83	Si
SLU 60	ini.	351.57	-3766	-0.0000124	0.0002246	0.0035	1.45		23931.74	23931.74	No	68.07	Si
SLU 60	fin.	-603.41	-4238	-0.0000214	0.0002246	0.0035	1.45		23958.96	23958.96	No	39.71	Si
SLU 82	ini.	346.96	-4386	-0.0000122	0.0002246	0.0035	1.45		23931.74	23931.74	No	68.97	Si
SLU 82	fin.	-668.32	-4888	-0.0000238	0.0002246	0.0035	1.45		23958.96	23958.96	No	35.85	Si
SLU 84	ini.	311.67	-4512	-0.000011	0.0002246	0.0035	1.45		23931.74	23931.74	No	76.78	Si
SLU 84	fin.	-639.56	-4979	-0.0000227	0.0002246	0.0035	1.45		23958.96	23958.96	No	37.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	351.08	-571	1.45	427	3383	36250	7295	7395	14690	No	25.73	Si
SLU 81	fin.	-665.52	-2844	1.45	805	3383	36250	7295	7395	14690	No	5.17	Si
SLU 60	ini.	351.57	-662	1.45	428	3383	36250	7295	7395	14690	No	22.21	Si
SLU 60	fin.	-603.41	-2538	1.45	730	3383	36250	7295	7395	14690	No	5.79	Si
SLU 74	ini.	330.03	-531	1.45	402	3383	36250	7295	7395	14690	No	27.66	Si
SLU 74	fin.	-617.09	-2640	1.45	747	3383	36250	7295	7395	14690	No	5.56	Si
SLU 84	ini.	311.67	-457	1.45	380	3383	36250	7295	7395	14690	No	32.13	Si
SLU 84	fin.	-639.56	-2730	1.45	774	3383	36250	7295	7395	14690	No	5.38	Si
SLU 61	ini.	347.45	-660	1.45	423	3383	36250	7295	7395	14690	No	22.27	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 61	fin.	-606.21	-2536	1.45	734	3383	36250	7295	7395	14690	No	5.79	Si
SLU 73	ini.	353.28	-619	1.45	430	3383	36250	7295	7395	14690	No	23.71	Si
SLU 73	fin.	-644.05	-2729	1.45	779	3383	36250	7295	7395	14690	No	5.38	Si
SLU 83	ini.	315.79	-459	1.45	385	3383	36250	7295	7395	14690	No	31.99	Si
SLU 83	fin.	-636.76	-2732	1.45	770	3383	36250	7295	7395	14690	No	5.38	Si
SLU 76	ini.	317.99	-508	1.45	387	3383	36250	7295	7395	14690	No	28.94	Si
SLU 76	fin.	-615.3	-2617	1.45	745	3383	36250	7295	7395	14690	No	5.61	Si
SLU 82	ini.	346.96	-569	1.45	422	3383	36250	7295	7395	14690	No	25.82	Si
SLU 82	fin.	-668.32	-2842	1.45	808	3383	36250	7295	7395	14690	No	5.17	Si
SLU 75	ini.	325.91	-529	1.45	397	3383	36250	7295	7395	14690	No	27.76	Si
SLU 75	fin.	-619.89	-2638	1.45	750	3383	36250	7295	7395	14690	No	5.57	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	3039.88	1205	-0.0001135	0.0003369	0.0035	1.45		27417.66	27417.66		9.02	Si
SLV 2	fin.	-1929.35	-1241	-0.0000701	0.0003369	0.0035	1.45		27448.78	27448.78		14.23	Si
SLV 16	ini.	-2494.81	-6885	-0.0000918	0.0003369	0.0035	1.45		27448.78	27448.78		11	Si
SLV 16	fin.	1045.27	-5131	-0.0000373	0.0003369	0.0035	1.45		27417.66	27417.66		26.23	Si
SLV 1	ini.	3069.54	1232	-0.0001147	0.0003369	0.0035	1.45		27417.66	27417.66		8.93	Si
SLV 1	fin.	-1942.69	-1243	-0.0000706	0.0003369	0.0035	1.45		27448.78	27448.78		14.13	Si
SLD 4	ini.	2171.36	71	-0.0000794	0.0003369	0.0035	1.45		27417.66	27417.66		12.63	Si
SLD 4	fin.	-1333.24	-1639	-0.0000478	0.0003369	0.0035	1.45		27448.78	27448.78		20.59	Si
SLD 3	ini.	2190.18	88	-0.0000801	0.0003369	0.0035	1.45		27417.66	27417.66		12.52	Si
SLD 3	fin.	-1341.7	-1640	-0.0000481	0.0003369	0.0035	1.45		27448.78	27448.78		20.46	Si
SLV 3	ini.	3270.84	1746	-0.0001228	0.0003369	0.0035	1.45		27417.66	27417.66		8.38	Si
SLV 3	fin.	-1841.83	-758	-0.0000668	0.0003369	0.0035	1.45		27448.78	27448.78		14.9	Si
SLV 13	ini.	-2666.45	-7372	-0.0000985	0.0003369	0.0035	1.45		27448.78	27448.78		10.29	Si
SLV 13	fin.	931.07	-5618	-0.0000331	0.0003369	0.0035	1.45		27417.66	27417.66		29.45	Si
SLV 14	ini.	-2696.1	-7399	-0.0000997	0.0003369	0.0035	1.45		27448.78	27448.78		10.18	Si
SLV 14	fin.	944.41	-5616	-0.0000336	0.0003369	0.0035	1.45		27417.66	27417.66		29.03	Si
SLV 15	ini.	-2465.15	-6858	-0.0000906	0.0003369	0.0035	1.45		27448.78	27448.78		11.13	Si
SLV 15	fin.	1031.93	-5133	-0.0000368	0.0003369	0.0035	1.45		27417.66	27417.66		26.57	Si
SLV 4	ini.	3241.18	1719	-0.0001216	0.0003369	0.0035	1.45		27417.66	27417.66		8.46	Si
SLV 4	fin.	-1828.49	-756	-0.0000663	0.0003369	0.0035	1.45		27448.78	27448.78		15.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-2666.45	6739	1.45	4731	5075	36250	10943	7395	18338		2.72	Si
SLV 13	fin.	931.07	5365	1.45	1692	5075	36250	10943	7395	18338		3.42	Si
SLV 14	ini.	-2696.1	6819	1.45	4781	5075	36250	10943	7395	18338		2.69	Si
SLV 14	fin.	944.41	5445	1.45	1716	5075	36250	10943	7395	18338		3.37	Si
SLV 15	ini.	-2465.15	6545	1.45	4386	5075	36250	10943	7395	18338		2.8	Si
SLV 15	fin.	1031.93	5173	1.45	1873	5075	36250	10943	7395	18338		3.54	Si
SLV 2	ini.	3039.88	-7659	1.45	5371	5075	36250	10943	7395	18338		2.39	Si
SLV 2	fin.	-1929.35	-8988	1.45	3457	5075	36250	10943	7395	18338		2.04	Si
SLV 1	ini.	3069.54	-7740	1.45	5421	5075	36250	10943	7395	18338		2.37	Si
SLV 1	fin.	-1942.69	-9068	1.45	3481	5075	36250	10943	7395	18338		2.02	Si
SLV 4	ini.	3241.18	-7854	1.45	5709	5075	36250	10943	7395	18338		2.33	Si
SLV 4	fin.	-1828.49	-9180	1.45	3281	5075	36250	10943	7395	18338		2	Si
SLV 16	ini.	-2494.81	6625	1.45	4437	5075	36250	10943	7395	18338		2.77	Si
SLV 16	fin.	1045.27	5253	1.45	1896	5075	36250	10943	7395	18338		3.49	Si
SLD 3	ini.	2190.18	-5265	1.45	3915	5075	36250	10943	7395	18338		3.48	Si
SLD 3	fin.	-1341.7	-6603	1.45	2423	5075	36250	10943	7395	18338		2.78	Si
SLV 3	ini.	3270.84	-7934	1.45	5759	5075	36250	10943	7395	18338		2.31	Si
SLV 3	fin.	-1841.83	-9260	1.45	3304	5075	36250	10943	7395	18338		1.98	Si
SLD 4	ini.	2171.36	-5215	1.45	3883	5075	36250	10943	7395	18338		3.52	Si
SLD 4	fin.	-1333.24	-6552	1.45	2408	5075	36250	10943	7395	18338		2.8	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.382	SLV 3	Si
V_SLV	1.98	SLV 3	Si
PF_SLU	35.85	SLU 82	Si
V_SLU	5.165	SLU 81	Si

Trave di accoppiamento 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	6.45	7.9	1.45	-9.443	-3.169	6.45	7.9	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	1113.82	-2723	-0.0001762	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.37	Si
SLU 82	fin.	-1766.83	-4080	-0.0002966	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.28	Si
SLU 76	ini.	1081.32	-2714	-0.0001706	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.62	Si
SLU 76	fin.	-1716.51	-4043	-0.0002868	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.43	Si
SLU 75	ini.	1089.07	-2738	-0.000172	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.56	Si
SLU 75	fin.	-1727.41	-4078	-0.0002889	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.4	Si
SLU 74	ini.	1065.37	-2718	-0.0001679	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.75	Si
SLU 74	fin.	-1696.61	-4035	-0.0002829	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.5	Si
SLU 78	ini.	1076.52	-2778	-0.0001698	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.66	Si
SLU 78	fin.	-1715.13	-4107	-0.0002865	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.44	Si
SLU 73	ini.	1093.87	-2673	-0.0001728	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.52	Si
SLU 73	fin.	-1728.79	-4014	-0.0002892	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.4	Si
SLU 81	ini.	1090.12	-2704	-0.0001721	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.55	Si
SLU 81	fin.	-1736.03	-4037	-0.0002906	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.37	Si
SLU 84	ini.	1101.27	-2764	-0.0001741	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.46	Si
SLU 84	fin.	-1754.55	-4109	-0.0002942	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.32	Si
SLU 77	ini.	1052.82	-2759	-0.0001657	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.85	Si
SLU 77	fin.	-1684.34	-4064	-0.0002806	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.54	Si
SLU 83	ini.	1077.57	-2745	-0.00017	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.65	Si
SLU 83	fin.	-1723.76	-4066	-0.0002882	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	1052.82	-3187	1.45	0	2819	14273	6079	3698	9776	No	3.07	Si
SLU 77	fin.	-1684.34	-4971	1.45	0	2819	14273	6079	3698	9776	No	1.97	Si
SLU 74	ini.	1065.37	-3224	1.45	0	2819	14273	6079	3698	9776	No	3.03	Si
SLU 74	fin.	-1696.61	-5008	1.45	0	2819	14273	6079	3698	9776	No	1.95	Si
SLU 78	ini.	1076.52	-3266	1.45	0	2819	14273	6079	3698	9776	No	2.99	Si
SLU 78	fin.	-1715.13	-5051	1.45	0	2819	14273	6079	3698	9776	No	1.94	Si
SLU 83	ini.	1077.57	-3212	1.45	0	2819	14273	6079	3698	9776	No	3.04	Si
SLU 83	fin.	-1723.76	-5115	1.45	0	2819	14273	6079	3698	9776	No	1.91	Si
SLU 81	ini.	1090.12	-3249	1.45	0	2819	14273	6079	3698	9776	No	3.01	Si
SLU 81	fin.	-1736.03	-5152	1.45	0	2819	14273	6079	3698	9776	No	1.9	Si
SLU 84	ini.	1101.27	-3291	1.45	0	2819	14273	6079	3698	9776	No	2.97	Si
SLU 84	fin.	-1754.55	-5194	1.45	0	2819	14273	6079	3698	9776	No	1.88	Si
SLU 76	ini.	1081.32	-3273	1.45	0	2819	14273	6079	3698	9776	No	2.99	Si
SLU 76	fin.	-1716.51	-5058	1.45	0	2819	14273	6079	3698	9776	No	1.93	Si
SLU 75	ini.	1089.07	-3303	1.45	0	2819	14273	6079	3698	9776	No	2.96	Si
SLU 75	fin.	-1727.41	-5088	1.45	0	2819	14273	6079	3698	9776	No	1.92	Si
SLU 82	ini.	1113.82	-3328	1.45	0	2819	14273	6079	3698	9776	No	2.94	Si
SLU 82	fin.	-1766.83	-5231	1.45	0	2819	14273	6079	3698	9776	No	1.87	Si
SLU 73	ini.	1093.87	-3310	1.45	0	2819	14273	6079	3698	9776	No	2.95	Si
SLU 73	fin.	-1728.79	-5095	1.45	0	2819	14273	6079	3698	9776	No	1.92	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	2816.69	-2023	-0.0004889	0.0002807	0.0035	1.45		8743.57	8743.57		3.1	Si
SLD 1	fin.	-3535.02	-4917	-0.0006464	0.0002807	0.0035	1.45		8755.45	8755.45		2.48	Si
SLD 5	ini.	2463.74	-2897	-0.0004164	0.0002807	0.0035	1.45		8743.57	8743.57		3.55	Si
SLD 5	fin.	-3302.32	-5470	-0.0005936	0.0002807	0.0035	1.45		8755.45	8755.45		2.65	Si
SLV 5	ini.	3624.87	-3613	-0.0006682	0.0002807	0.0035	1.45		8743.57	8743.57		2.41	Si
SLV 5	fin.	-4742.66	-7295	-0.0009474	0.0002807	0.0035	1.45		8755.45	8755.45		1.85	Si
SLV 1	ini.	4050.19	-2143	-0.0007703	0.0002807	0.0035	1.45		8743.57	8743.57		2.16	Si
SLV 1	fin.	-4945.08	-6205	-0.0010027	0.0002807	0.0035	1.45		8755.45	8755.45		1.77	Si
SLD 2	ini.	3174.9	-2055	-0.0005661	0.0002807	0.0035	1.45		8743.57	8743.57		2.75	Si
SLD 2	fin.	-3944.05	-5279	-0.0007432	0.0002807	0.0035	1.45		8755.45	8755.45		2.22	Si
SLV 15	ini.	-3183.99	-1601	-0.0005673	0.0002807	0.0035	1.45		8755.45	8755.45		2.75	Si
SLV 15	fin.	3294.47	1177	-0.0005927	0.0002807	0.0035	1.45		8743.57	8743.57		2.65	Si
SLV 2	ini.	4614.82	-2193	-0.0009146	0.0002807	0.0035	1.45		8743.57	8743.57		1.89	Si
SLV 2	fin.	-5589.81	-6776	-0.00119	0.0002807	0.0035	1.45		8755.45	8755.45		1.57	Si
SLV 6	ini.	4004.96	-3647	-0.0007592	0.0002807	0.0035	1.45		8743.57	8743.57		2.18	Si
SLV 6	fin.	-5176.67	-7679	-0.0010679	0.0002807	0.0035	1.45		8755.45	8755.45		1.69	Si
SLD 6	ini.	2694.39	-2918	-0.0004634	0.0002807	0.0035	1.45		8743.57	8743.57		3.25	Si
SLD 6	fin.	-3565.69	-5703	-0.0006535	0.0002807	0.0035	1.45		8755.45	8755.45		2.46	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	3286.67	-1104	-0.0005909	0.0002807	0.0035	1.45		8743.57	8743.57		2.66	Si
SLV 4	fin.	-3891.31	-4415	-0.0007304	0.0002807	0.0035	1.45		8755.45	8755.45		2.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	2694.39	-8589	1.45	0	4229	14273	9118	3698	12816		1.49	Si
SLD 6	fin.	-3565.69	-9767	1.45	0	4229	14273	9118	3698	12816		1.31	Si
SLV 15	ini.	-3183.99	9983	1.45	0	4229	14273	9118	3698	12816		1.28	Si
SLV 15	fin.	3294.47	8809	1.45	0	4229	14273	9118	3698	12816		1.45	Si
SLV 5	ini.	3624.87	-11648	1.45	0	4229	14273	9118	3698	12816		1.1	Si
SLV 5	fin.	-4742.66	-12826	1.45	0	4229	14273	9118	3698	12816		1	No
SLV 1	ini.	4050.19	-12615	1.45	0	4229	14273	9118	3698	12816		1.02	Si
SLV 1	fin.	-4945.08	-13795	1.45	0	4229	14273	9118	3698	12816		0.93	No
SLV 3	ini.	2722.03	-8227	1.45	0	4229	14273	9118	3698	12816		1.56	Si
SLV 3	fin.	-3246.58	-9407	1.45	0	4229	14273	9118	3698	12816		1.36	Si
SLV 6	ini.	4004.96	-12835	1.45	0	4229	14273	9118	3698	12816		1	No
SLV 6	fin.	-5176.67	-14013	1.45	0	4229	14273	9118	3698	12816		0.91	No
SLV 4	ini.	3286.67	-9990	1.45	0	4229	14273	9118	3698	12816		1.28	Si
SLV 4	fin.	-3891.31	-11170	1.45	0	4229	14273	9118	3698	12816		1.15	Si
SLD 2	ini.	3174.9	-9871	1.45	0	4229	14273	9118	3698	12816		1.3	Si
SLD 2	fin.	-3944.05	-11049	1.45	0	4229	14273	9118	3698	12816		1.16	Si
SLD 1	ini.	2816.69	-8752	1.45	0	4229	14273	9118	3698	12816		1.46	Si
SLD 1	fin.	-3535.02	-9930	1.45	0	4229	14273	9118	3698	12816		1.29	Si
SLV 2	ini.	4614.82	-14378	1.45	0	4229	14273	9118	3698	12816		0.89	No
SLV 2	fin.	-5589.81	-15558	1.45	0	4229	14273	9118	3698	12816		0.82	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.566	SLV 2	Si
V_SLV	0.824	SLV 2	No
PF_SLU	5.28	SLU 82	Si
V_SLU	1.869	SLU 82	Si

Trave di accoppiamento 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	4.35	6.35	2	-5.158	6.521	4.35	6.35	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 45	ini.	91.92	-659	-0.0000071	0.0001872	0.0035	2		17734.35	17734.35	No	192.93	Si
SLU 45	fin.	-208.92	-206	-0.0000162	0.0001872	0.0035	2		17748.68	17748.68	No	84.95	Si
SLU 72	ini.	126.04	-702	-0.0000097	0.0001872	0.0035	2		17734.35	17734.35	No	140.71	Si
SLU 72	fin.	-197.23	-192	-0.0000152	0.0001872	0.0035	2		17748.68	17748.68	No	89.99	Si
SLU 51	ini.	95.07	-714	-0.0000073	0.0001872	0.0035	2		17734.35	17734.35	No	186.53	Si
SLU 51	fin.	-244.11	-244	-0.0000189	0.0001872	0.0035	2		17748.68	17748.68	No	72.71	Si
SLU 8	ini.	83.48	-611	-0.0000064	0.0001872	0.0035	2		17734.35	17734.35	No	212.45	Si
SLU 8	fin.	-213.98	-215	-0.0000166	0.0001872	0.0035	2		17748.68	17748.68	No	82.95	Si
SLU 50	ini.	94.51	-752	-0.0000073	0.0001872	0.0035	2		17734.35	17734.35	No	187.66	Si
SLU 50	fin.	-267.24	-269	-0.0000207	0.0001872	0.0035	2		17748.68	17748.68	No	66.41	Si
SLU 69	ini.	128.55	-724	-0.0000099	0.0001872	0.0035	2		17734.35	17734.35	No	137.96	Si
SLU 69	fin.	-207.05	-202	-0.000016	0.0001872	0.0035	2		17748.68	17748.68	No	85.72	Si
SLU 48	ini.	97.58	-736	-0.0000075	0.0001872	0.0035	2		17734.35	17734.35	No	181.74	Si
SLU 48	fin.	-253.92	-254	-0.0000197	0.0001872	0.0035	2		17748.68	17748.68	No	69.9	Si
SLU 6	ini.	86.55	-595	-0.0000067	0.0001872	0.0035	2		17734.35	17734.35	No	204.89	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 6	fin.	-200.66	-201	-0.0000155	0.0001872	0.0035	2		17748.68	17748.68	No	88.45	Si
SLU 71	ini.	125.47	-740	-0.0000097	0.0001872	0.0035	2		17734.35	17734.35	No	141.35	Si
SLU 71	fin.	-220.37	-217	-0.0000171	0.0001872	0.0035	2		17748.68	17748.68	No	80.54	Si
SLU 49	ini.	98.15	-699	-0.0000076	0.0001872	0.0035	2		17734.35	17734.35	No	180.69	Si
SLU 49	fin.	-230.79	-229	-0.0000179	0.0001872	0.0035	2		17748.68	17748.68	No	76.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 72	ini.	126.04	-3474	2	0	3889	7928	8384	5100	11817	No	3.4	Si
SLU 72	fin.	-197.23	-1025	2	0	3889	7928	8384	5100	11817	No	11.52	Si
SLU 50	ini.	94.51	-3333	2	0	3889	7928	8384	5100	11817	No	3.55	Si
SLU 50	fin.	-267.24	-1131	2	0	3889	7928	8384	5100	11817	No	10.45	Si
SLU 69	ini.	128.55	-3560	2	0	3889	7928	8384	5100	11817	No	3.32	Si
SLU 69	fin.	-207.05	-1057	2	0	3889	7928	8384	5100	11817	No	11.18	Si
SLU 48	ini.	97.58	-3315	2	0	3889	7928	8384	5100	11817	No	3.56	Si
SLU 48	fin.	-253.92	-1106	2	0	3889	7928	8384	5100	11817	No	10.68	Si
SLU 78	ini.	154.16	-3396	2	0	3889	7928	8384	5100	11817	No	3.48	Si
SLU 78	fin.	-89.26	-818	2	0	3889	7928	8384	5100	11817	No	14.45	Si
SLU 79	ini.	150.52	-3517	2	0	3889	7928	8384	5100	11817	No	3.36	Si
SLU 79	fin.	-125.72	-900	2	0	3889	7928	8384	5100	11817	No	13.12	Si
SLU 70	ini.	129.11	-3457	2	0	3889	7928	8384	5100	11817	No	3.42	Si
SLU 70	fin.	-183.91	-1000	2	0	3889	7928	8384	5100	11817	No	11.82	Si
SLU 71	ini.	125.47	-3577	2	0	3889	7928	8384	5100	11817	No	3.3	Si
SLU 71	fin.	-220.37	-1083	2	0	3889	7928	8384	5100	11817	No	10.91	Si
SLU 77	ini.	153.6	-3499	2	0	3889	7928	8384	5100	11817	No	3.38	Si
SLU 77	fin.	-112.4	-875	2	0	3889	7928	8384	5100	11817	No	13.5	Si
SLU 80	ini.	151.09	-3414	2	0	3889	7928	8384	5100	11817	No	3.46	Si
SLU 80	fin.	-102.58	-843	2	0	3889	7928	8384	5100	11817	No	14.02	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	89.5	-3102	-0.0000069	0.0002807	0.0035	2		15950.21	15950.21		178.22	Si
SLV 11	fin.	-1697.97	-1753	-0.0001362	0.0002807	0.0035	2		15965.77	15965.77		9.4	Si
SLV 3	ini.	-94.38	-4167	-0.0000073	0.0002807	0.0035	2		15965.77	15965.77		169.16	Si
SLV 3	fin.	-2548.59	-2708	-0.0002095	0.0002807	0.0035	2		15965.77	15965.77		6.26	Si
SLV 8	ini.	16.37	-4071	-0.0000013	0.0002807	0.0035	2		15950.21	15950.21		974.3	Si
SLV 8	fin.	-2358.33	-2463	-0.0001927	0.0002807	0.0035	2		15965.77	15965.77		6.77	Si
SLD 7	ini.	31.07	-2891	-0.0000024	0.0002807	0.0035	2		15950.21	15950.21		513.35	Si
SLD 7	fin.	-1635.76	-1710	-0.0001309	0.0002807	0.0035	2		15965.77	15965.77		9.76	Si
SLV 7	ini.	-4.42	-4561	-0.0000003	0.0002807	0.0035	2		15965.77	15965.77		3612.19	Si
SLV 7	fin.	-2682.5	-2811	-0.0002214	0.0002807	0.0035	2		15965.77	15965.77		5.95	Si
SLV 9	ini.	159.94	3224	-0.0000123	0.0002807	0.0035	2		15950.21	15950.21		99.73	Si
SLV 9	fin.	2191.24	2312	-0.0001784	0.0002807	0.0035	2		15950.21	15950.21		7.28	Si
SLV 14	ini.	270.69	3320	-0.0000209	0.0002807	0.0035	2		15950.21	15950.21		58.92	Si
SLV 14	fin.	2381.5	2556	-0.0001949	0.0002807	0.0035	2		15950.21	15950.21		6.7	Si
SLV 10	ini.	180.73	3714	-0.000014	0.0002807	0.0035	2		15950.21	15950.21		88.26	Si
SLV 10	fin.	2515.41	2660	-0.0002067	0.0002807	0.0035	2		15950.21	15950.21		6.34	Si
SLV 4	ini.	-63.5	-3439	-0.0000049	0.0002807	0.0035	2		15965.77	15965.77		251.44	Si
SLV 4	fin.	-2067.03	-2191	-0.0001675	0.0002807	0.0035	2		15965.77	15965.77		7.72	Si
SLV 13	ini.	239.81	2592	-0.0000185	0.0002807	0.0035	2		15950.21	15950.21		66.51	Si
SLV 13	fin.	1899.93	2039	-0.0001533	0.0002807	0.0035	2		15950.21	15950.21		8.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	110.29	-8961	2	0	5833	7928	12577	5100	13762		1.54	Si
SLV 12	fin.	-1373.81	-4061	2	0	5833	7928	12577	5100	13762		3.39	Si
SLV 11	ini.	89.5	-10177	2	0	5833	7928	12577	5100	13762		1.35	Si
SLV 11	fin.	-1697.97	-4821	2	0	5833	7928	12577	5100	13762		2.85	Si
SLV 3	ini.	-94.38	-11508	2	0	5833	7928	12577	5100	13762		1.2	Si
SLV 3	fin.	-2548.59	-6423	2	0	5833	7928	12577	5100	13762		2.14	Si
SLD 3	ini.	-27.96	-8043	2	0	5833	7928	12577	5100	13762		1.71	Si
SLD 3	fin.	-1628.56	-4245	2	0	5833	7928	12577	5100	13762		3.24	Si
SLV 7	ini.	-4.42	-13550	2	0	5833	7928	12577	5100	13762		1.02	Si
SLV 7	fin.	-2682.5	-7079	2	0	5833	7928	12577	5100	13762		1.94	Si
SLV 10	ini.	180.73	8960	2	0	5833	7928	12577	5100	13762		1.54	Si
SLV 10	fin.	2515.41	5868	2	0	5833	7928	12577	5100	13762		2.35	Si
SLD 7	ini.	31.07	-8990	2	0	5833	7928	12577	5100	13762		1.53	Si
SLD 7	fin.	-1635.76	-4465	2	0	5833	7928	12577	5100	13762		3.08	Si
SLV 4	ini.	-63.5	-9703	2	0	5833	7928	12577	5100	13762		1.42	Si
SLV 4	fin.	-2067.03	-5294	2	0	5833	7928	12577	5100	13762		2.6	Si
SLD 8	ini.	43.69	-8253	2	0	5833	7928	12577	5100	13762		1.67	Si
SLD 8	fin.	-1439.04	-4004	2	0	5833	7928	12577	5100	13762		3.44	Si
SLV 8	ini.	16.37	-12335	2	0	5833	7928	12577	5100	13762		1.12	Si
SLV 8	fin.	-2358.33	-6319	2	0	5833	7928	12577	5100	13762		2.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.952	SLV 7	Si
V_SLV	1.016	SLV 7	Si
PF_SLU	66.414	SLU 50	Si
V_SLU	3.304	SLU 71	Si

Trave di accoppiamento 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	7.15	7.9	0.75	-5.158	6.521	7.15	7.9	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-330.88	-1461	-0.0001968	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.7	Si
SLU 72	fin.	201.12	-587	-0.0001153	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.64	Si
SLU 79	ini.	-346.63	-1520	-0.0002072	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.35	Si
SLU 79	fin.	211.54	-619	-0.0001216	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.02	Si
SLU 70	ini.	-332.98	-1467	-0.0001981	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.65	Si
SLU 70	fin.	202.33	-591	-0.000116	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.57	Si
SLU 69	ini.	-333.82	-1472	-0.0001987	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.63	Si
SLU 69	fin.	202.81	-592	-0.0001163	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.54	Si
SLU 78	ini.	-347.89	-1521	-0.0002081	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.32	Si
SLU 78	fin.	212.28	-621	-0.0001221	0.0001872	0.0035	0.75		2542.76	2542.76	No	11.98	Si
SLU 83	ini.	-334.48	-1447	-0.0001991	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.62	Si
SLU 83	fin.	204.19	-598	-0.0001172	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.45	Si
SLU 84	ini.	-333.63	-1442	-0.0001986	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.64	Si
SLU 84	fin.	203.71	-597	-0.0001169	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.48	Si
SLU 80	ini.	-345.79	-1515	-0.0002067	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.37	Si
SLU 80	fin.	211.06	-617	-0.0001213	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.05	Si
SLU 77	ini.	-348.73	-1526	-0.0002086	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.31	Si
SLU 77	fin.	212.75	-622	-0.0001224	0.0001872	0.0035	0.75		2542.76	2542.76	No	11.95	Si
SLU 71	ini.	-331.73	-1466	-0.0001973	0.0001872	0.0035	0.75		2548.25	2548.25	No	7.68	Si
SLU 71	fin.	201.59	-589	-0.0001156	0.0001872	0.0035	0.75		2542.76	2542.76	No	12.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-347.89	3056	0.75	0	1458	7928	3144	1913	5057	No	1.65	Si
SLU 78	fin.	212.28	1127	0.75	0	1458	7928	3144	1913	5057	No	4.49	Si
SLU 84	ini.	-333.63	2892	0.75	0	1458	7928	3144	1913	5057	No	1.75	Si
SLU 84	fin.	203.71	1076	0.75	0	1458	7928	3144	1913	5057	No	4.7	Si
SLU 83	ini.	-334.48	2905	0.75	0	1458	7928	3144	1913	5057	No	1.74	Si
SLU 83	fin.	204.19	1078	0.75	0	1458	7928	3144	1913	5057	No	4.69	Si
SLU 80	ini.	-345.79	3044	0.75	0	1458	7928	3144	1913	5057	No	1.66	Si
SLU 80	fin.	211.06	1120	0.75	0	1458	7928	3144	1913	5057	No	4.51	Si
SLU 77	ini.	-348.73	3070	0.75	0	1458	7928	3144	1913	5057	No	1.65	Si
SLU 77	fin.	212.75	1129	0.75	0	1458	7928	3144	1913	5057	No	4.48	Si
SLU 70	ini.	-332.98	2955	0.75	0	1458	7928	3144	1913	5057	No	1.71	Si
SLU 70	fin.	202.33	1076	0.75	0	1458	7928	3144	1913	5057	No	4.7	Si
SLU 79	ini.	-346.63	3057	0.75	0	1458	7928	3144	1913	5057	No	1.65	Si
SLU 79	fin.	211.54	1122	0.75	0	1458	7928	3144	1913	5057	No	4.51	Si
SLU 72	ini.	-330.88	2942	0.75	0	1458	7928	3144	1913	5057	No	1.72	Si
SLU 72	fin.	201.12	1069	0.75	0	1458	7928	3144	1913	5057	No	4.73	Si
SLU 69	ini.	-333.82	2968	0.75	0	1458	7928	3144	1913	5057	No	1.7	Si
SLU 69	fin.	202.81	1077	0.75	0	1458	7928	3144	1913	5057	No	4.69	Si
SLU 71	ini.	-331.73	2956	0.75	0	1458	7928	3144	1913	5057	No	1.71	Si
SLU 71	fin.	201.59	1071	0.75	0	1458	7928	3144	1913	5057	No	4.72	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-397	-1742	-0.0002332	0.0002807	0.0035	0.75		2476.06	2476.06		6.24	Si
SLV 8	fin.	221.33	-618	-0.0001256	0.0002807	0.0035	0.75		2470.23	2470.23		11.16	Si
SLD 7	ini.	-317.01	-1355	-0.000183	0.0002807	0.0035	0.75		2476.06	2476.06		7.81	Si
SLD 7	fin.	180.07	-511	-0.0001014	0.0002807	0.0035	0.75		2470.23	2470.23		13.72	Si
SLV 11	ini.	-419.24	-1891	-0.0002475	0.0002807	0.0035	0.75		2476.06	2476.06		5.91	Si
SLV 11	fin.	237.5	-664	-0.0001352	0.0002807	0.0035	0.75		2470.23	2470.23		10.4	Si
SLV 12	ini.	-430	-1989	-0.0002545	0.0002807	0.0035	0.75		2476.06	2476.06		5.76	Si
SLV 12	fin.	245.61	-686	-0.0001401	0.0002807	0.0035	0.75		2470.23	2470.23		10.06	Si
SLD 8	ini.	-323.55	-1414	-0.000187	0.0002807	0.0035	0.75		2476.06	2476.06		7.65	Si
SLD 8	fin.	185	-524	-0.0001043	0.0002807	0.0035	0.75		2470.23	2470.23		13.35	Si
SLV 7	ini.	-386.24	-1645	-0.0002263	0.0002807	0.0035	0.75		2476.06	2476.06		6.41	Si
SLV 7	fin.	213.21	-596	-0.0001208	0.0002807	0.0035	0.75		2470.23	2470.23		11.59	Si
SLV 15	ini.	-325.55	-1557	-0.0001883	0.0002807	0.0035	0.75		2476.06	2476.06		7.61	Si
SLV 15	fin.	197.82	-566	-0.0001118	0.0002807	0.0035	0.75		2470.23	2470.23		12.49	Si
SLD 11	ini.	-338.43	-1512	-0.0001963	0.0002807	0.0035	0.75		2476.06	2476.06		7.32	Si
SLD 11	fin.	195.62	-554	-0.0001105	0.0002807	0.0035	0.75		2470.23	2470.23		12.63	Si
SLV 16	ini.	-341.54	-1702	-0.0001982	0.0002807	0.0035	0.75		2476.06	2476.06		7.25	Si
SLV 16	fin.	209.88	-599	-0.0001189	0.0002807	0.0035	0.75		2470.23	2470.23		11.77	Si
SLD 12	ini.	-344.96	-1572	-0.0002003	0.0002807	0.0035	0.75		2476.06	2476.06		7.18	Si
SLD 12	fin.	200.54	-568	-0.0001134	0.0002807	0.0035	0.75		2470.23	2470.23		12.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-419.24	4051	0.75	0	2188	7928	4716	1913	6629		1.64	Si
SLV 11	fin.	237.5	1280	0.75	0	2188	7928	4716	1913	6629		5.18	Si
SLV 8	ini.	-397	3784	0.75	0	2188	7928	4716	1913	6629		1.75	Si
SLV 8	fin.	221.33	1178	0.75	0	2188	7928	4716	1913	6629		5.63	Si
SLV 16	ini.	-341.54	3370	0.75	0	2188	7928	4716	1913	6629		1.97	Si
SLV 16	fin.	209.88	1176	0.75	0	2188	7928	4716	1913	6629		5.64	Si
SLV 12	ini.	-430	4216	0.75	0	2188	7928	4716	1913	6629		1.57	Si
SLV 12	fin.	245.61	1338	0.75	0	2188	7928	4716	1913	6629		4.95	Si
SLD 12	ini.	-344.96	3283	0.75	0	2188	7928	4716	1913	6629		2.02	Si
SLD 12	fin.	200.54	1082	0.75	0	2188	7928	4716	1913	6629		6.13	Si
SLD 11	ini.	-338.43	3183	0.75	0	2188	7928	4716	1913	6629		2.08	Si
SLD 11	fin.	195.62	1047	0.75	0	2188	7928	4716	1913	6629		6.33	Si
SLD 8	ini.	-323.55	3005	0.75	0	2188	7928	4716	1913	6629		2.21	Si
SLD 8	fin.	185	980	0.75	0	2188	7928	4716	1913	6629		6.77	Si
SLV 7	ini.	-386.24	3619	0.75	0	2188	7928	4716	1913	6629		1.83	Si
SLV 7	fin.	213.21	1120	0.75	0	2188	7928	4716	1913	6629		5.92	Si
SLV 15	ini.	-325.55	3126	0.75	0	2188	7928	4716	1913	6629		2.12	Si
SLV 15	fin.	197.82	1090	0.75	0	2188	7928	4716	1913	6629		6.08	Si
SLD 7	ini.	-317.01	2906	0.75	0	2188	7928	4716	1913	6629		2.28	Si
SLD 7	fin.	180.07	944	0.75	0	2188	7928	4716	1913	6629		7.02	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.758	SLV 12	Si
V_SLV	1.572	SLV 12	Si
PF_SLU	7.307	SLU 77	Si
V_SLU	1.647	SLU 77	Si

Trave di accoppiamento 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	4.35	5.25	0.9	-7.403	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	264.49	-2379	-0.0001052	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.51	Si
SLU 80	fin.	-94.46	-948	-0.0000364	0.0001872	0.0035	0.9		3579.32	3579.32	No	37.89	Si
SLU 70	ini.	273.6	-2346	-0.000109	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.06	Si
SLU 70	fin.	-132.32	-816	-0.0000513	0.0001872	0.0035	0.9		3579.32	3579.32	No	27.05	Si
SLU 75	ini.	270.52	-2406	-0.0001077	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.21	Si
SLU 75	fin.	-108.42	-923	-0.0000419	0.0001872	0.0035	0.9		3579.32	3579.32	No	33.01	Si
SLU 68	ini.	273.99	-2326	-0.0001091	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.04	Si
SLU 68	fin.	-140.44	-786	-0.0000545	0.0001872	0.0035	0.9		3579.32	3579.32	No	25.49	Si
SLU 65	ini.	273.43	-2309	-0.0001089	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.07	Si
SLU 65	fin.	-146.68	-762	-0.000057	0.0001872	0.0035	0.9		3579.32	3579.32	No	24.4	Si
SLU 78	ini.	271.08	-2422	-0.0001079	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.18	Si
SLU 78	fin.	-102.18	-946	-0.0000394	0.0001872	0.0035	0.9		3579.32	3579.32	No	35.03	Si
SLU 72	ini.	267	-2303	-0.0001062	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.38	Si
SLU 72	fin.	-124.6	-818	-0.0000482	0.0001872	0.0035	0.9		3579.32	3579.32	No	28.73	Si
SLU 76	ini.	271.48	-2403	-0.0001081	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.16	Si
SLU 76	fin.	-110.3	-915	-0.0000426	0.0001872	0.0035	0.9		3579.32	3579.32	No	32.45	Si
SLU 67	ini.	273.03	-2329	-0.0001087	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.08	Si
SLU 67	fin.	-138.56	-793	-0.0000538	0.0001872	0.0035	0.9		3579.32	3579.32	No	25.83	Si
SLU 73	ini.	270.91	-2386	-0.0001079	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.19	Si
SLU 73	fin.	-116.54	-892	-0.0000451	0.0001872	0.0035	0.9		3579.32	3579.32	No	30.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	264.49	-4264	0.9	0	1750	14273	3773	2295	6068	No	1.42	Si
SLU 80	fin.	-94.46	266	0.9	0	1750	14273	3773	2295	6068	No	22.83	Si
SLU 83	ini.	251.5	-4218	0.9	0	1750	14273	3773	2295	6068	No	1.44	Si
SLU 83	fin.	-73.39	361	0.9	0	1750	14273	3773	2295	6068	No	16.82	Si
SLU 84	ini.	262.84	-4307	0.9	0	1750	14273	3773	2295	6068	No	1.41	Si
SLU 84	fin.	-87.79	308	0.9	0	1750	14273	3773	2295	6068	No	19.68	Si
SLU 82	ini.	262.27	-4277	0.9	0	1750	14273	3773	2295	6068	No	1.42	Si
SLU 82	fin.	-94.03	278	0.9	0	1750	14273	3773	2295	6068	No	21.81	Si
SLU 77	ini.	259.74	-4251	0.9	0	1750	14273	3773	2295	6068	No	1.43	Si
SLU 77	fin.	-87.78	299	0.9	0	1750	14273	3773	2295	6068	No	20.29	Si
SLU 75	ini.	270.52	-4309	0.9	0	1750	14273	3773	2295	6068	No	1.41	Si
SLU 75	fin.	-108.42	217	0.9	0	1750	14273	3773	2295	6068	No	28.03	Si
SLU 76	ini.	271.48	-4292	0.9	0	1750	14273	3773	2295	6068	No	1.41	Si
SLU 76	fin.	-110.3	201	0.9	0	1750	14273	3773	2295	6068	No	30.23	Si
SLU 74	ini.	259.17	-4221	0.9	0	1750	14273	3773	2295	6068	No	1.44	Si
SLU 74	fin.	-94.03	269	0.9	0	1750	14273	3773	2295	6068	No	22.56	Si
SLU 73	ini.	270.91	-4262	0.9	0	1750	14273	3773	2295	6068	No	1.42	Si
SLU 73	fin.	-116.54	171	0.9	0	1750	14273	3773	2295	6068	No	35.58	Si
SLU 78	ini.	271.08	-4340	0.9	0	1750	14273	3773	2295	6068	No	1.4	Si
SLU 78	fin.	-102.18	247	0.9	0	1750	14273	3773	2295	6068	No	24.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1422.6	-7544	-0.000685	0.0002807	0.0035	0.9		3568.61	3568.61		2.51	Si
SLV 5	fin.	-1975.49	1795	-0.0010543	0.0002807	0.0035	0.9		3575.64	3575.64		1.81	Si
SLV 11	ini.	-1169.68	4744	-0.0005352	0.0002807	0.0035	0.9		3575.64	3575.64		3.06	Si
SLV 11	fin.	2045.17	-3416	-0.0011093	0.0002807	0.0035	0.9		3568.61	3568.61		1.74	Si
SLV 6	ini.	1540.44	-8054	-0.0007585	0.0002807	0.0035	0.9		3568.61	3568.61		2.32	Si
SLV 6	fin.	-2196.71	2149	-0.001225	0.0002807	0.0035	0.9		3575.64	3575.64		1.63	Si
SLV 2	ini.	1408.96	-6887	-0.0006766	0.0002807	0.0035	0.9		3568.61	3568.61		2.53	Si
SLV 2	fin.	-2290.5	2831	-0.0013023	0.0002807	0.0035	0.9		3575.64	3575.64		1.56	Si
SLV 16	ini.	-863.14	2818	-0.0003721	0.0002807	0.0035	0.9		3575.64	3575.64		4.14	Si
SLV 16	fin.	1810.33	-3571	-0.0009383	0.0002807	0.0035	0.9		3568.61	3568.61		1.97	Si
SLV 1	ini.	1233.91	-6129	-0.0005729	0.0002807	0.0035	0.9		3568.61	3568.61		2.89	Si
SLV 1	fin.	-1961.87	2304	-0.0010443	0.0002807	0.0035	0.9		3575.64	3575.64		1.82	Si
SLV 4	ini.	779.08	-3796	-0.0003313	0.0002807	0.0035	0.9		3568.61	3568.61		4.58	Si
SLV 4	fin.	-1370.59	1747	-0.0006519	0.0002807	0.0035	0.9		3575.64	3575.64		2.61	Si
SLD 2	ini.	951.45	-4920	-0.0004181	0.0002807	0.0035	0.9		3568.61	3568.61		3.75	Si
SLD 2	fin.	-1468.26	1555	-0.0007115	0.0002807	0.0035	0.9		3575.64	3575.64		2.44	Si
SLV 15	ini.	-1038.2	3577	-0.000463	0.0002807	0.0035	0.9		3575.64	3575.64		3.44	Si
SLV 15	fin.	2138.96	-4098	-0.001182	0.0002807	0.0035	0.9		3568.61	3568.61		1.67	Si
SLV 12	ini.	-1051.84	4233	-0.0004703	0.0002807	0.0035	0.9		3575.64	3575.64		3.4	Si
SLV 12	fin.	1823.95	-3061	-0.0009478	0.0002807	0.0035	0.9		3568.61	3568.61		1.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	929.94	-9241	0.9	0	2625	14273	5660	2295	7955		0.86	No
SLV 9	fin.	-1021.22	-3025	0.9	0	2625	14273	5660	2295	7955		2.63	Si
SLV 10	ini.	1047.78	-10055	0.9	0	2625	14273	5660	2295	7955		0.79	No
SLV 10	fin.	-1242.43	-3831	0.9	0	2625	14273	5660	2295	7955		2.08	Si
SLV 2	ini.	1408.96	-11069	0.9	0	2625	14273	5660	2295	7955		0.72	No
SLV 2	fin.	-2290.5	-8064	0.9	0	2625	14273	5660	2295	7955		0.99	No
SLV 15	ini.	-1038.2	5137	0.9	0	2625	14273	5660	2295	7955		1.55	Si
SLV 15	fin.	2138.96	8341	0.9	0	2625	14273	5660	2295	7955		0.95	No
SLV 1	ini.	1233.91	-9860	0.9	0	2625	14273	5660	2295	7955		0.81	No
SLV 1	fin.	-1961.87	-6867	0.9	0	2625	14273	5660	2295	7955		1.16	Si
SLD 6	ini.	993.77	-8980	0.9	0	2625	14273	5660	2295	7955		0.89	No
SLD 6	fin.	-1346.32	-4399	0.9	0	2625	14273	5660	2295	7955		1.81	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1540.44	-13079	0.9	0	2625	14273	5660	2295	7955		0.61	No
SLV 6	fin.	-2196.71	-7427	0.9	0	2625	14273	5660	2295	7955		1.07	Si
SLD 2	ini.	951.45	-8017	0.9	0	2625	14273	5660	2295	7955		0.99	No
SLD 2	fin.	-1468.26	-5024	0.9	0	2625	14273	5660	2295	7955		1.58	Si
SLD 5	ini.	922.26	-8486	0.9	0	2625	14273	5660	2295	7955		0.94	No
SLD 5	fin.	-1212.07	-3910	0.9	0	2625	14273	5660	2295	7955		2.03	Si
SLV 5	ini.	1422.6	-12265	0.9	0	2625	14273	5660	2295	7955		0.65	No
SLV 5	fin.	-1975.49	-6622	0.9	0	2625	14273	5660	2295	7955		1.2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.561	SLV 2	Si
V_SLV	0.608	SLV 6	No
PF_SLU	13.039	SLU 68	Si
V_SLU	1.398	SLU 78	Si

Trave di accoppiamento 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	7.05	7.9	0.85	-7.403	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-15.32	-980	-0.0000065	0.0001872	0.0035	0.85		3272.39	3272.39	No	213.67	Si
SLU 69	fin.	-283.97	-1142	-0.0001273	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.52	Si
SLU 66	ini.	-11.76	-960	-0.000005	0.0001872	0.0035	0.85		3272.39	3272.39	No	278.33	Si
SLU 66	fin.	-282.03	-1127	-0.0001264	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.6	Si
SLU 67	ini.	-5.63	-933	-0.0000024	0.0001872	0.0035	0.85		3272.39	3272.39	No	580.95	Si
SLU 67	fin.	-293.3	-1147	-0.0001318	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.16	Si
SLU 71	ini.	-17.54	-977	-0.0000075	0.0001872	0.0035	0.85		3272.39	3272.39	No	186.6	Si
SLU 71	fin.	-276.75	-1120	-0.0001239	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.82	Si
SLU 72	ini.	-11.41	-950	-0.0000049	0.0001872	0.0035	0.85		3272.39	3272.39	No	286.73	Si
SLU 72	fin.	-288.02	-1140	-0.0001293	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.36	Si
SLU 76	ini.	-27.67	-1125	-0.0000118	0.0001872	0.0035	0.85		3272.39	3272.39	No	118.25	Si
SLU 76	fin.	-276.3	-1185	-0.0001237	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.84	Si
SLU 70	ini.	-9.19	-953	-0.0000039	0.0001872	0.0035	0.85		3272.39	3272.39	No	356.04	Si
SLU 70	fin.	-295.25	-1162	-0.0001327	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.08	Si
SLU 65	ini.	-0.21	-891	-0.0000001	0.0001872	0.0035	0.85		3272.39	3272.39	No	15322.65	Si
SLU 65	fin.	-291.65	-1123	-0.000131	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.22	Si
SLU 78	ini.	-33.09	-1167	-0.0000141	0.0001872	0.0035	0.85		3272.39	3272.39	No	98.89	Si
SLU 78	fin.	-277.95	-1209	-0.0001245	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.77	Si
SLU 68	ini.	-3.77	-912	-0.0000016	0.0001872	0.0035	0.85		3272.39	3272.39	No	867.6	Si
SLU 68	fin.	-293.59	-1139	-0.0001319	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-42	3141	0.85	0	1653	13480	3563	2168	5731	No	1.82	Si
SLU 84	fin.	-261.37	-2092	0.85	0	1653	13480	3563	2168	5731	No	2.74	Si
SLU 82	ini.	-38.44	3101	0.85	0	1653	13480	3563	2168	5731	No	1.85	Si
SLU 82	fin.	-259.43	-2077	0.85	0	1653	13480	3563	2168	5731	No	2.76	Si
SLU 79	ini.	-41.44	3010	0.85	0	1653	13480	3563	2168	5731	No	1.9	Si
SLU 79	fin.	-259.45	-2036	0.85	0	1653	13480	3563	2168	5731	No	2.81	Si
SLU 75	ini.	-29.53	2963	0.85	0	1653	13480	3563	2168	5731	No	1.93	Si
SLU 75	fin.	-276.01	-2109	0.85	0	1653	13480	3563	2168	5731	No	2.72	Si
SLU 83	ini.	-48.12	3171	0.85	0	1653	13480	3563	2168	5731	No	1.81	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-250.1	-2044	0.85	0	1653	13480	3563	2168	5731	No	2.8	Si
SLU 78	ini.	-33.09	3003	0.85	0	1653	13480	3563	2168	5731	No	1.91	Si
SLU 78	fin.	-277.95	-2124	0.85	0	1653	13480	3563	2168	5731	No	2.7	Si
SLU 74	ini.	-35.66	2992	0.85	0	1653	13480	3563	2168	5731	No	1.92	Si
SLU 74	fin.	-264.73	-2062	0.85	0	1653	13480	3563	2168	5731	No	2.78	Si
SLU 77	ini.	-39.22	3032	0.85	0	1653	13480	3563	2168	5731	No	1.89	Si
SLU 77	fin.	-266.68	-2076	0.85	0	1653	13480	3563	2168	5731	No	2.76	Si
SLU 80	ini.	-35.31	2980	0.85	0	1653	13480	3563	2168	5731	No	1.92	Si
SLU 80	fin.	-270.73	-2084	0.85	0	1653	13480	3563	2168	5731	No	2.75	Si
SLU 81	ini.	-44.57	3131	0.85	0	1653	13480	3563	2168	5731	No	1.83	Si
SLU 81	fin.	-248.16	-2030	0.85	0	1653	13480	3563	2168	5731	No	2.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	518.76	1644	-0.0002385	0.0002807	0.0035	0.85		3181.12	3181.12		6.13	Si
SLV 10	fin.	-1214.84	-2670	-0.0006448	0.0002807	0.0035	0.85		3187.76	3187.76		2.62	Si
SLV 2	ini.	1032.48	3678	-0.0005281	0.0002807	0.0035	0.85		3181.12	3181.12		3.08	Si
SLV 2	fin.	-1448.22	-2363	-0.0008078	0.0002807	0.0035	0.85		3187.76	3187.76		2.2	Si
SLV 15	ini.	-1067.2	-5207	-0.0005487	0.0002807	0.0035	0.85		3187.76	3187.76		2.99	Si
SLV 15	fin.	1053.9	717	-0.0005416	0.0002807	0.0035	0.85		3181.12	3181.12		3.02	Si
SLV 5	ini.	867.11	3130	-0.0004278	0.0002807	0.0035	0.85		3181.12	3181.12		3.67	Si
SLV 5	fin.	-1562.65	-2981	-0.000893	0.0002807	0.0035	0.85		3187.76	3187.76		2.04	Si
SLV 11	ini.	-1008.15	-5082	-0.0005117	0.0002807	0.0035	0.85		3187.76	3187.76		3.16	Si
SLV 11	fin.	1298.61	1509	-0.0007034	0.0002807	0.0035	0.85		3181.12	3181.12		2.45	Si
SLV 9	ini.	412.44	1220	-0.0001862	0.0002807	0.0035	0.85		3181.12	3181.12		7.71	Si
SLV 9	fin.	-1084.56	-2496	-0.0005597	0.0002807	0.0035	0.85		3187.76	3187.76		2.94	Si
SLD 6	ini.	576.35	1821	-0.0002677	0.0002807	0.0035	0.85		3181.12	3181.12		5.52	Si
SLD 6	fin.	-1087.59	-2204	-0.0005616	0.0002807	0.0035	0.85		3187.76	3187.76		2.93	Si
SLV 6	ini.	973.43	3553	-0.0004915	0.0002807	0.0035	0.85		3181.12	3181.12		3.27	Si
SLV 6	fin.	-1692.93	-3155	-0.0009947	0.0002807	0.0035	0.85		3187.76	3187.76		1.88	Si
SLV 12	ini.	-901.84	-4659	-0.0004472	0.0002807	0.0035	0.85		3187.76	3187.76		3.53	Si
SLV 12	fin.	1168.33	1335	-0.0006154	0.0002807	0.0035	0.85		3181.12	3181.12		2.72	Si
SLV 1	ini.	874.54	3049	-0.0004321	0.0002807	0.0035	0.85		3181.12	3181.12		3.64	Si
SLV 1	fin.	-1254.69	-2104	-0.0006716	0.0002807	0.0035	0.85		3187.76	3187.76		2.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	973.43	-3549	0.85	0	2479	13480	5345	2168	7513		2.12	Si
SLV 6	fin.	-1692.93	-7626	0.85	0	2479	13480	5345	2168	7513		0.99	No
SLV 15	ini.	-1067.2	7816	0.85	0	2479	13480	5345	2168	7513		0.96	No
SLV 15	fin.	1053.9	3677	0.85	0	2479	13480	5345	2168	7513		2.04	Si
SLV 5	ini.	867.11	-2961	0.85	0	2479	13480	5345	2168	7513		2.54	Si
SLV 5	fin.	-1562.65	-7102	0.85	0	2479	13480	5345	2168	7513		1.06	Si
SLV 16	ini.	-909.27	6943	0.85	0	2479	13480	5345	2168	7513		1.08	Si
SLV 16	fin.	860.37	2899	0.85	0	2479	13480	5345	2168	7513		2.59	Si
SLV 12	ini.	-901.84	6869	0.85	0	2479	13480	5345	2168	7513		1.09	Si
SLV 12	fin.	1168.33	4189	0.85	0	2479	13480	5345	2168	7513		1.79	Si
SLD 15	ini.	-677.55	5639	0.85	0	2479	13480	5345	2168	7513		1.33	Si
SLD 15	fin.	583.69	1747	0.85	0	2479	13480	5345	2168	7513		4.3	Si
SLV 10	ini.	518.76	-1002	0.85	0	2479	13480	5345	2168	7513		7.5	Si
SLV 10	fin.	-1214.84	-5666	0.85	0	2479	13480	5345	2168	7513		1.33	Si
SLV 11	ini.	-1008.15	7456	0.85	0	2479	13480	5345	2168	7513		1.01	Si
SLV 11	fin.	1298.61	4713	0.85	0	2479	13480	5345	2168	7513		1.59	Si
SLV 1	ini.	874.54	-3036	0.85	0	2479	13480	5345	2168	7513		2.47	Si
SLV 1	fin.	-1254.69	-5811	0.85	0	2479	13480	5345	2168	7513		1.29	Si
SLV 2	ini.	1032.48	-3909	0.85	0	2479	13480	5345	2168	7513		1.92	Si
SLV 2	fin.	-1448.22	-6589	0.85	0	2479	13480	5345	2168	7513		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.883	SLV 6	Si
V_SLV	0.961	SLV 15	No
PF_SLU	11.084	SLU 70	Si
V_SLU	1.807	SLU 83	Si

Trave di accoppiamento 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	4.35	6.35	2	-5.938	-3.169	4.35	6.35	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	ini.	298.78	-4469	-0.0000232	0.0001872	0.0035	2		17734.35	17734.35	No	59.36	Si
SLU 64	fin.	-254.52	-2873	-0.0000197	0.0001872	0.0035	2		17748.68	17748.68	No	69.73	Si
SLU 83	ini.	311.24	-4955	-0.0000242	0.0001872	0.0035	2		17734.35	17734.35	No	56.98	Si
SLU 83	fin.	-197.56	-3163	-0.0000153	0.0001872	0.0035	2		17748.68	17748.68	No	89.84	Si
SLU 74	ini.	308.29	-4886	-0.0000239	0.0001872	0.0035	2		17734.35	17734.35	No	57.52	Si
SLU 74	fin.	-222.64	-3136	-0.0000172	0.0001872	0.0035	2		17748.68	17748.68	No	79.72	Si
SLU 81	ini.	318.78	-4929	-0.0000248	0.0001872	0.0035	2		17734.35	17734.35	No	55.63	Si
SLU 81	fin.	-200.08	-3130	-0.0000155	0.0001872	0.0035	2		17748.68	17748.68	No	88.71	Si
SLU 73	ini.	298.08	-4852	-0.0000231	0.0001872	0.0035	2		17734.35	17734.35	No	59.5	Si
SLU 73	fin.	-252.57	-3152	-0.0000196	0.0001872	0.0035	2		17748.68	17748.68	No	70.27	Si
SLU 75	ini.	299.47	-4922	-0.0000232	0.0001872	0.0035	2		17734.35	17734.35	No	59.22	Si
SLU 75	fin.	-244.34	-3195	-0.0000189	0.0001872	0.0035	2		17748.68	17748.68	No	72.64	Si
SLU 82	ini.	309.96	-4966	-0.0000241	0.0001872	0.0035	2		17734.35	17734.35	No	57.22	Si
SLU 82	fin.	-221.77	-3190	-0.0000172	0.0001872	0.0035	2		17748.68	17748.68	No	80.03	Si
SLU 79	ini.	297.71	-4843	-0.0000231	0.0001872	0.0035	2		17734.35	17734.35	No	59.57	Si
SLU 79	fin.	-211.38	-3117	-0.0000164	0.0001872	0.0035	2		17748.68	17748.68	No	83.97	Si
SLU 84	ini.	302.42	-4992	-0.0000235	0.0001872	0.0035	2		17734.35	17734.35	No	58.64	Si
SLU 84	fin.	-219.26	-3222	-0.000017	0.0001872	0.0035	2		17748.68	17748.68	No	80.95	Si
SLU 77	ini.	300.76	-4912	-0.0000233	0.0001872	0.0035	2		17734.35	17734.35	No	58.97	Si
SLU 77	fin.	-220.13	-3169	-0.000017	0.0001872	0.0035	2		17748.68	17748.68	No	80.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	299.47	-7268	2	0	3889	7930	8384	5100	11818	No	1.63	Si
SLU 75	fin.	-244.34	-1956	2	0	3889	7930	8384	5100	11818	No	6.04	Si
SLU 84	ini.	302.42	-7377	2	0	3889	7930	8384	5100	11818	No	1.6	Si
SLU 84	fin.	-219.26	-1936	2	0	3889	7930	8384	5100	11818	No	6.11	Si
SLU 77	ini.	300.76	-7257	2	0	3889	7930	8384	5100	11818	No	1.63	Si
SLU 77	fin.	-220.13	-1940	2	0	3889	7930	8384	5100	11818	No	6.09	Si
SLU 83	ini.	311.24	-7365	2	0	3889	7930	8384	5100	11818	No	1.6	Si
SLU 83	fin.	-197.56	-1983	2	0	3889	7930	8384	5100	11818	No	5.96	Si
SLU 76	ini.	290.55	-7182	2	0	3889	7930	8384	5100	11818	No	1.65	Si
SLU 76	fin.	-250.05	-1899	2	0	3889	7930	8384	5100	11818	No	6.22	Si
SLU 78	ini.	291.94	-7269	2	0	3889	7930	8384	5100	11818	No	1.63	Si
SLU 78	fin.	-241.82	-1892	2	0	3889	7930	8384	5100	11818	No	6.25	Si
SLU 82	ini.	309.96	-7376	2	0	3889	7930	8384	5100	11818	No	1.6	Si
SLU 82	fin.	-221.77	-2000	2	0	3889	7930	8384	5100	11818	No	5.91	Si
SLU 74	ini.	308.29	-7256	2	0	3889	7930	8384	5100	11818	No	1.63	Si
SLU 74	fin.	-222.64	-2004	2	0	3889	7930	8384	5100	11818	No	5.9	Si
SLU 73	ini.	298.08	-7181	2	0	3889	7930	8384	5100	11818	No	1.65	Si
SLU 73	fin.	-252.57	-1963	2	0	3889	7930	8384	5100	11818	No	6.02	Si
SLU 81	ini.	318.78	-7364	2	0	3889	7930	8384	5100	11818	No	1.6	Si
SLU 81	fin.	-200.08	-2047	2	0	3889	7930	8384	5100	11818	No	5.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-449.91	579	-0.0000349	0.0002807	0.0035	2		15965.77	15965.77		35.49	Si
SLV 16	fin.	1683.27	1187	-0.000135	0.0002807	0.0035	2		15950.21	15950.21		9.48	Si
SLV 11	ini.	-76.01	2293	-0.0000059	0.0002807	0.0035	2		15965.77	15965.77		210.04	Si
SLV 11	fin.	2136.35	3571	-0.0001736	0.0002807	0.0035	2		15950.21	15950.21		7.47	Si
SLV 15	ini.	-664.96	1404	-0.0000519	0.0002807	0.0035	2		15965.77	15965.77		24.01	Si
SLV 15	fin.	2009.5	1729	-0.0001627	0.0002807	0.0035	2		15950.21	15950.21		7.94	Si
SLV 12	ini.	68.75	1737	-0.0000053	0.0002807	0.0035	2		15950.21	15950.21		232.01	Si
SLV 12	fin.	1916.74	3206	-0.0001548	0.0002807	0.0035	2		15950.21	15950.21		8.32	Si
SLV 1	ini.	905.57	-7393	-0.0000712	0.0002807	0.0035	2		15950.21	15950.21		17.61	Si
SLV 1	fin.	-2035.6	-5540	-0.0001648	0.0002807	0.0035	2		15965.77	15965.77		7.84	Si
SLV 6	ini.	531.68	-9107	-0.0000414	0.0002807	0.0035	2		15950.21	15950.21		30	Si
SLV 6	fin.	-2488.67	-7924	-0.0002042	0.0002807	0.0035	2		15965.77	15965.77		6.42	Si
SLD 6	ini.	419.72	-6800	-0.0000326	0.0002807	0.0035	2		15950.21	15950.21		38	Si
SLD 6	fin.	-1557.5	-5582	-0.0001244	0.0002807	0.0035	2		15965.77	15965.77		10.25	Si
SLV 5	ini.	386.91	-8551	-0.00003	0.0002807	0.0035	2		15950.21	15950.21		41.22	Si
SLV 5	fin.	-2269.07	-7558	-0.0001849	0.0002807	0.0035	2		15965.77	15965.77		7.04	Si
SLV 10	ini.	59.7	-7279	-0.0000046	0.0002807	0.0035	2		15950.21	15950.21		267.15	Si
SLV 10	fin.	-1590.82	-6628	-0.0001272	0.0002807	0.0035	2		15965.77	15965.77		10.04	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1120.62	-8218	-0.0000886	0.0002807	0.0035	2		15950.21	15950.21		14.23	Si
SLV 2	fin.	-2361.83	-6082	-0.000193	0.0002807	0.0035	2		15965.77	15965.77		6.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	419.72	-9018	2	0	5833	7930	12577	5100	13763		1.53	Si
SLD 6	fin.	-1557.5	-3972	2	0	5833	7930	12577	5100	13763		3.47	Si
SLV 6	ini.	531.68	-11607	2	0	5833	7930	12577	5100	13763		1.19	Si
SLV 6	fin.	-2488.67	-5496	2	0	5833	7930	12577	5100	13763		2.5	Si
SLV 4	ini.	1123.33	-10590	2	0	5833	7930	12577	5100	13763		1.3	Si
SLV 4	fin.	-1309.56	-9040	2	0	5833	7930	12577	5100	13763		1.52	Si
SLD 4	ini.	800.77	-8676	2	0	5833	7930	12577	5100	13763		1.59	Si
SLD 4	fin.	-929.01	-6348	2	0	5833	7930	12577	5100	13763		2.17	Si
SLV 2	ini.	1120.62	-13095	2	0	5833	7930	12577	5100	13763		1.05	Si
SLV 2	fin.	-2361.83	-9815	2	0	5833	7930	12577	5100	13763		1.4	Si
SLD 2	ini.	798.87	-10141	2	0	5833	7930	12577	5100	13763		1.36	Si
SLD 2	fin.	-1545.47	-6800	2	0	5833	7930	12577	5100	13763		2.02	Si
SLV 1	ini.	905.57	-11472	2	0	5833	7930	12577	5100	13763		1.2	Si
SLV 1	fin.	-2035.6	-8147	2	0	5833	7930	12577	5100	13763		1.69	Si
SLD 1	ini.	662.44	-9112	2	0	5833	7930	12577	5100	13763		1.51	Si
SLD 1	fin.	-1338.5	-5741	2	0	5833	7930	12577	5100	13763		2.4	Si
SLV 3	ini.	908.28	-8967	2	0	5833	7930	12577	5100	13763		1.53	Si
SLV 3	fin.	-983.33	-7371	2	0	5833	7930	12577	5100	13763		1.87	Si
SLV 5	ini.	386.91	-10515	2	0	5833	7930	12577	5100	13763		1.31	Si
SLV 5	fin.	-2269.07	-4373	2	0	5833	7930	12577	5100	13763		3.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.415	SLV 6	Si
V_SLV	1.051	SLV 2	Si
PF_SLU	55.633	SLU 81	Si
V_SLU	1.602	SLU 84	Si

Trave di accoppiamento 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	7.15	7.9	0.75	-5.938	-3.169	7.15	7.9	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 66	ini.	257.04	-623	-0.0001497	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.89	Si
SLU 66	fin.	-160.47	-1057	-0.0000908	0.0001872	0.0035	0.75		2548.25	2548.25	No	15.88	Si
SLU 75	ini.	261.18	-768	-0.0001523	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.74	Si
SLU 75	fin.	-180.25	-1217	-0.0001025	0.0001872	0.0035	0.75		2548.25	2548.25	No	14.14	Si
SLU 84	ini.	259.18	-832	-0.0001511	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.81	Si
SLU 84	fin.	-189.83	-1289	-0.0001082	0.0001872	0.0035	0.75		2548.25	2548.25	No	13.42	Si
SLU 77	ini.	256.94	-801	-0.0001497	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.9	Si
SLU 77	fin.	-184.77	-1251	-0.0001052	0.0001872	0.0035	0.75		2548.25	2548.25	No	13.79	Si
SLU 83	ini.	259.91	-845	-0.0001515	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.78	Si
SLU 83	fin.	-194.13	-1313	-0.0001108	0.0001872	0.0035	0.75		2548.25	2548.25	No	13.13	Si
SLU 64	ini.	257.93	-600	-0.0001503	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.86	Si
SLU 64	fin.	-159.51	-1040	-0.0000902	0.0001872	0.0035	0.75		2548.25	2548.25	No	15.98	Si
SLU 81	ini.	264.88	-826	-0.0001546	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.6	Si
SLU 81	fin.	-193.91	-1303	-0.0001107	0.0001872	0.0035	0.75		2548.25	2548.25	No	13.14	Si
SLU 74	ini.	261.91	-781	-0.0001528	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.71	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-184.55	-1241	-0.0001051	0.0001872	0.0035	0.75		2548.25	2548.25	No	13.81	Si
SLU 82	ini.	264.15	-813	-0.0001542	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.63	Si
SLU 82	fin.	-189.61	-1279	-0.0001081	0.0001872	0.0035	0.75		2548.25	2548.25	No	13.44	Si
SLU 73	ini.	261.58	-736	-0.0001526	0.0001872	0.0035	0.75		2542.76	2542.76	No	9.72	Si
SLU 73	fin.	-176.42	-1184	-0.0001002	0.0001872	0.0035	0.75		2548.25	2548.25	No	14.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	252.12	-472	0.75	0	1458	7930	3144	1913	5057	No	10.71	Si
SLU 80	fin.	-179.73	-3549	0.75	0	1458	7930	3144	1913	5057	No	1.42	Si
SLU 81	ini.	264.88	-543	0.75	0	1458	7930	3144	1913	5057	No	9.31	Si
SLU 81	fin.	-193.91	-3680	0.75	0	1458	7930	3144	1913	5057	No	1.37	Si
SLU 78	ini.	256.2	-475	0.75	0	1458	7930	3144	1913	5057	No	10.66	Si
SLU 78	fin.	-180.47	-3597	0.75	0	1458	7930	3144	1913	5057	No	1.41	Si
SLU 79	ini.	252.85	-493	0.75	0	1458	7930	3144	1913	5057	No	10.26	Si
SLU 79	fin.	-184.03	-3557	0.75	0	1458	7930	3144	1913	5057	No	1.42	Si
SLU 82	ini.	264.15	-523	0.75	0	1458	7930	3144	1913	5057	No	9.68	Si
SLU 82	fin.	-189.61	-3672	0.75	0	1458	7930	3144	1913	5057	No	1.38	Si
SLU 74	ini.	261.91	-518	0.75	0	1458	7930	3144	1913	5057	No	9.75	Si
SLU 74	fin.	-184.55	-3596	0.75	0	1458	7930	3144	1913	5057	No	1.41	Si
SLU 83	ini.	259.91	-520	0.75	0	1458	7930	3144	1913	5057	No	9.72	Si
SLU 83	fin.	-194.13	-3688	0.75	0	1458	7930	3144	1913	5057	No	1.37	Si
SLU 77	ini.	256.94	-495	0.75	0	1458	7930	3144	1913	5057	No	10.21	Si
SLU 77	fin.	-184.77	-3604	0.75	0	1458	7930	3144	1913	5057	No	1.4	Si
SLU 84	ini.	259.18	-499	0.75	0	1458	7930	3144	1913	5057	No	10.12	Si
SLU 84	fin.	-189.83	-3680	0.75	0	1458	7930	3144	1913	5057	No	1.37	Si
SLU 75	ini.	261.18	-498	0.75	0	1458	7930	3144	1913	5057	No	10.16	Si
SLU 75	fin.	-180.25	-3588	0.75	0	1458	7930	3144	1913	5057	No	1.41	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1004.31	2716	-0.0006965	0.0002807	0.0035	0.75		2470.23	2470.23		2.46	Si
SLV 2	fin.	141.72	1799	-0.0000793	0.0002807	0.0035	0.75		2470.23	2470.23		17.43	Si
SLD 4	ini.	620.11	870	-0.0003865	0.0002807	0.0035	0.75		2470.23	2470.23		3.98	Si
SLD 4	fin.	-74.28	8	-0.000041	0.0002807	0.0035	0.75		2476.06	2476.06		33.34	Si
SLD 1	ini.	605.7	1223	-0.000376	0.0002807	0.0035	0.75		2470.23	2470.23		4.08	Si
SLD 1	fin.	27.18	619	-0.0000149	0.0002807	0.0035	0.75		2470.23	2470.23		90.9	Si
SLV 5	ini.	585.32	1946	-0.0003613	0.0002807	0.0035	0.75		2470.23	2470.23		4.22	Si
SLV 5	fin.	238.02	1900	-0.0001355	0.0002807	0.0035	0.75		2470.23	2470.23		10.38	Si
SLD 2	ini.	707.58	1531	-0.0004519	0.0002807	0.0035	0.75		2470.23	2470.23		3.49	Si
SLD 2	fin.	39.04	816	-0.0000214	0.0002807	0.0035	0.75		2470.23	2470.23		63.28	Si
SLV 6	ini.	693.43	2272	-0.0004411	0.0002807	0.0035	0.75		2470.23	2470.23		3.56	Si
SLV 6	fin.	250.61	2109	-0.0001431	0.0002807	0.0035	0.75		2470.23	2470.23		9.86	Si
SLV 15	ini.	-617.25	-3700	-0.0003834	0.0002807	0.0035	0.75		2476.06	2476.06		4.01	Si
SLV 15	fin.	-395.18	-3460	-0.000232	0.0002807	0.0035	0.75		2476.06	2476.06		6.27	Si
SLV 4	ini.	854.84	1587	-0.0005689	0.0002807	0.0035	0.75		2470.23	2470.23		2.89	Si
SLV 4	fin.	-51.67	419	-0.0000284	0.0002807	0.0035	0.75		2476.06	2476.06		47.92	Si
SLV 3	ini.	694.24	1103	-0.0004417	0.0002807	0.0035	0.75		2470.23	2470.23		3.56	Si
SLV 3	fin.	-70.37	108	-0.0000388	0.0002807	0.0035	0.75		2476.06	2476.06		35.19	Si
SLV 1	ini.	843.72	2231	-0.0005597	0.0002807	0.0035	0.75		2470.23	2470.23		2.93	Si
SLV 1	fin.	123.02	1488	-0.0000686	0.0002807	0.0035	0.75		2470.23	2470.23		20.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	518.23	-1364	0.75	0	2188	7930	4716	1913	6629		4.86	Si
SLD 3	fin.	-86.14	-2960	0.75	0	2188	7930	4716	1913	6629		2.24	Si
SLV 3	ini.	694.24	-1917	0.75	0	2188	7930	4716	1913	6629		3.46	Si
SLV 3	fin.	-70.37	-3222	0.75	0	2188	7930	4716	1913	6629		2.06	Si
SLD 2	ini.	707.58	-1412	0.75	0	2188	7930	4716	1913	6629		4.69	Si
SLD 2	fin.	39.04	-3239	0.75	0	2188	7930	4716	1913	6629		2.05	Si
SLD 4	ini.	620.11	-1632	0.75	0	2188	7930	4716	1913	6629		4.06	Si
SLD 4	fin.	-74.28	-3201	0.75	0	2188	7930	4716	1913	6629		2.07	Si
SLV 4	ini.	854.84	-2339	0.75	0	2188	7930	4716	1913	6629		2.83	Si
SLV 4	fin.	-51.67	-3602	0.75	0	2188	7930	4716	1913	6629		1.84	Si
SLV 1	ini.	843.72	-1541	0.75	0	2188	7930	4716	1913	6629		4.3	Si
SLV 1	fin.	123.02	-3288	0.75	0	2188	7930	4716	1913	6629		2.02	Si
SLV 2	ini.	1004.31	-1964	0.75	0	2188	7930	4716	1913	6629		3.38	Si
SLV 2	fin.	141.72	-3668	0.75	0	2188	7930	4716	1913	6629		1.81	Si
SLV 6	ini.	693.43	-382	0.75	0	2188	7930	4716	1913	6629		17.33	Si
SLV 6	fin.	250.61	-3004	0.75	0	2188	7930	4716	1913	6629		2.21	Si
SLD 1	ini.	605.7	-1144	0.75	0	2188	7930	4716	1913	6629		5.79	Si
SLD 1	fin.	27.18	-2998	0.75	0	2188	7930	4716	1913	6629		2.21	Si
SLD 6	ini.	497.93	-419	0.75	0	2188	7930	4716	1913	6629		15.82	Si
SLD 6	fin.	96.91	-2804	0.75	0	2188	7930	4716	1913	6629		2.36	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.46	SLV 2	Si
V_SLV	1.807	SLV 2	Si
PF_SLU	9.6	SLU 81	Si
V_SLU	1.371	SLU 83	Si

Trave di accoppiamento 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	4.35	5.25	0.9	-3.113	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	65.33	-1335	-0.0000251	0.0001872	0.0035	0.9		3572.55	3572.55	No	54.69	Si
SLU 75	fin.	484.19	-2113	-0.0002016	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.38	Si
SLU 80	ini.	60.48	-1322	-0.0000232	0.0001872	0.0035	0.9		3572.55	3572.55	No	59.07	Si
SLU 80	fin.	486.36	-2113	-0.0002026	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.35	Si
SLU 83	ini.	30.01	-1297	-0.0000115	0.0001872	0.0035	0.9		3572.55	3572.55	No	119.03	Si
SLU 83	fin.	524.69	-2213	-0.0002205	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.81	Si
SLU 82	ini.	49.9	-1326	-0.0000191	0.0001872	0.0035	0.9		3572.55	3572.55	No	71.6	Si
SLU 82	fin.	504.61	-2170	-0.0002111	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.08	Si
SLU 77	ini.	45.45	-1305	-0.0000174	0.0001872	0.0035	0.9		3572.55	3572.55	No	78.61	Si
SLU 77	fin.	504.28	-2156	-0.0002109	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.08	Si
SLU 79	ini.	43.86	-1288	-0.0000168	0.0001872	0.0035	0.9		3572.55	3572.55	No	81.46	Si
SLU 79	fin.	498.53	-2131	-0.0002082	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.17	Si
SLU 81	ini.	33.27	-1292	-0.0000127	0.0001872	0.0035	0.9		3572.55	3572.55	No	107.38	Si
SLU 81	fin.	516.77	-2187	-0.0002168	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.91	Si
SLU 74	ini.	48.7	-1300	-0.0000187	0.0001872	0.0035	0.9		3572.55	3572.55	No	73.36	Si
SLU 74	fin.	496.36	-2130	-0.0002072	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.2	Si
SLU 78	ini.	62.07	-1340	-0.0000238	0.0001872	0.0035	0.9		3572.55	3572.55	No	57.55	Si
SLU 78	fin.	492.12	-2139	-0.0002052	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.26	Si
SLU 84	ini.	46.64	-1331	-0.0000179	0.0001872	0.0035	0.9		3572.55	3572.55	No	76.59	Si
SLU 84	fin.	512.53	-2196	-0.0002148	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	30.01	-200	0.9	0	1750	14273	3773	2295	6068	No	30.35	Si
SLU 83	fin.	524.69	2440	0.9	0	1750	14273	3773	2295	6068	No	2.49	Si
SLU 78	ini.	62.07	-347	0.9	0	1750	14273	3773	2295	6068	No	17.5	Si
SLU 78	fin.	492.12	2327	0.9	0	1750	14273	3773	2295	6068	No	2.61	Si
SLU 74	ini.	48.7	-281	0.9	0	1750	14273	3773	2295	6068	No	21.62	Si
SLU 74	fin.	496.36	2326	0.9	0	1750	14273	3773	2295	6068	No	2.61	Si
SLU 80	ini.	60.48	-335	0.9	0	1750	14273	3773	2295	6068	No	18.1	Si
SLU 80	fin.	486.36	2295	0.9	0	1750	14273	3773	2295	6068	No	2.64	Si
SLU 77	ini.	45.45	-273	0.9	0	1750	14273	3773	2295	6068	No	22.27	Si
SLU 77	fin.	504.28	2366	0.9	0	1750	14273	3773	2295	6068	No	2.56	Si
SLU 81	ini.	33.27	-208	0.9	0	1750	14273	3773	2295	6068	No	29.15	Si
SLU 81	fin.	516.77	2400	0.9	0	1750	14273	3773	2295	6068	No	2.53	Si
SLU 75	ini.	65.33	-355	0.9	0	1750	14273	3773	2295	6068	No	17.1	Si
SLU 75	fin.	484.19	2287	0.9	0	1750	14273	3773	2295	6068	No	2.65	Si
SLU 82	ini.	49.9	-282	0.9	0	1750	14273	3773	2295	6068	No	21.49	Si
SLU 82	fin.	504.61	2361	0.9	0	1750	14273	3773	2295	6068	No	2.57	Si
SLU 79	ini.	43.86	-261	0.9	0	1750	14273	3773	2295	6068	No	23.24	Si
SLU 79	fin.	498.53	2334	0.9	0	1750	14273	3773	2295	6068	No	2.6	Si
SLU 84	ini.	46.64	-274	0.9	0	1750	14273	3773	2295	6068	No	22.13	Si
SLU 84	fin.	512.53	2401	0.9	0	1750	14273	3773	2295	6068	No	2.53	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-863.92	378	-0.0003725	0.0002807	0.0035	0.9		3575.64	3575.64		4.14	Si
SLV 13	fin.	1218.08	-3425	-0.0005639	0.0002807	0.0035	0.9		3568.61	3568.61		2.93	Si
SLD 15	ini.	-895.59	737	-0.0003885	0.0002807	0.0035	0.9		3575.64	3575.64		3.99	Si
SLD 15	fin.	1119.05	-2942	-0.0005081	0.0002807	0.0035	0.9		3568.61	3568.61		3.19	Si
SLV 11	ini.	-1359.34	2035	-0.0006451	0.0002807	0.0035	0.9		3575.64	3575.64		2.63	Si
SLV 11	fin.	1308.23	-2828	-0.0006162	0.0002807	0.0035	0.9		3568.61	3568.61		2.73	Si
SLV 12	ini.	-1144.78	1657	-0.0005212	0.0002807	0.0035	0.9		3575.64	3575.64		3.12	Si
SLV 12	fin.	1128.97	-2483	-0.0005136	0.0002807	0.0035	0.9		3568.61	3568.61		3.16	Si
SLV 6	ini.	1485.42	-3929	-0.0007238	0.0002807	0.0035	0.9		3568.61	3568.61		2.4	Si
SLV 6	fin.	-676.98	-3	-0.0002821	0.0002807	0.0035	0.9		3575.64	3575.64		5.28	Si
SLV 15	ini.	-1461.07	1743	-0.000707	0.0002807	0.0035	0.9		3575.64	3575.64		2.45	Si
SLV 15	fin.	1588.09	-3818	-0.0007891	0.0002807	0.0035	0.9		3568.61	3568.61		2.25	Si
SLV 1	ini.	1268.42	-3075	-0.0005929	0.0002807	0.0035	0.9		3568.61	3568.61		2.81	Si
SLV 1	fin.	-690.55	475	-0.0002884	0.0002807	0.0035	0.9		3575.64	3575.64		5.18	Si
SLV 2	ini.	1587.15	-3637	-0.0007885	0.0002807	0.0035	0.9		3568.61	3568.61		2.25	Si
SLV 2	fin.	-956.84	987	-0.00042	0.0002807	0.0035	0.9		3575.64	3575.64		3.74	Si
SLV 16	ini.	-1142.34	1181	-0.0005199	0.0002807	0.0035	0.9		3575.64	3575.64		3.13	Si
SLV 16	fin.	1321.79	-3306	-0.0006242	0.0002807	0.0035	0.9		3568.61	3568.61		2.7	Si
SLV 5	ini.	1270.86	-3550	-0.0005943	0.0002807	0.0035	0.9		3568.61	3568.61		2.81	Si
SLV 5	fin.	-497.72	-348	-0.0002016	0.0002807	0.0035	0.9		3575.64	3575.64		7.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-863.92	3074	0.9	0	2625	14273	5660	2295	7955		2.59	Si
SLV 13	fin.	1218.08	5649	0.9	0	2625	14273	5660	2295	7955		1.41	Si
SLV 6	ini.	1485.42	-6240	0.9	0	2625	14273	5660	2295	7955		1.27	Si
SLV 6	fin.	-676.98	-2356	0.9	0	2625	14273	5660	2295	7955		3.38	Si
SLV 16	ini.	-1142.34	4399	0.9	0	2625	14273	5660	2295	7955		1.81	Si
SLV 16	fin.	1321.79	5836	0.9	0	2625	14273	5660	2295	7955		1.36	Si
SLV 2	ini.	1587.15	-6273	0.9	0	2625	14273	5660	2295	7955		1.27	Si
SLV 2	fin.	-956.84	-3979	0.9	0	2625	14273	5660	2295	7955		2	Si
SLV 11	ini.	-1359.34	5617	0.9	0	2625	14273	5660	2295	7955		1.42	Si
SLV 11	fin.	1308.23	5344	0.9	0	2625	14273	5660	2295	7955		1.49	Si
SLD 15	ini.	-895.59	3431	0.9	0	2625	14273	5660	2295	7955		2.32	Si
SLD 15	fin.	1119.05	4952	0.9	0	2625	14273	5660	2295	7955		1.61	Si
SLV 5	ini.	1270.86	-5398	0.9	0	2625	14273	5660	2295	7955		1.47	Si
SLV 5	fin.	-497.72	-1596	0.9	0	2625	14273	5660	2295	7955		4.98	Si
SLV 15	ini.	-1461.07	5650	0.9	0	2625	14273	5660	2295	7955		1.41	Si
SLV 15	fin.	1588.09	6966	0.9	0	2625	14273	5660	2295	7955		1.14	Si
SLV 1	ini.	1268.42	-5022	0.9	0	2625	14273	5660	2295	7955		1.58	Si
SLV 1	fin.	-690.55	-2849	0.9	0	2625	14273	5660	2295	7955		2.79	Si
SLV 12	ini.	-1144.78	4775	0.9	0	2625	14273	5660	2295	7955		1.67	Si
SLV 12	fin.	1128.97	4583	0.9	0	2625	14273	5660	2295	7955		1.74	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.247	SLV 15	Si
V_SLV	1.142	SLV 15	Si
PF_SLU	6.809	SLU 83	Si
V_SLU	2.487	SLU 83	Si

Trave di accoppiamento 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	7.05	7.9	0.85	-3.113	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-341.03	-1576	-0.0001549	0.0001872	0.0035	0.85		3272.39	3272.39	No	9.6	Si
SLU 83	fin.	-243.05	-1668	-0.000108	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.46	Si
SLU 79	ini.	-313.55	-1502	-0.0001415	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.44	Si
SLU 79	fin.	-244.53	-1646	-0.0001087	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.38	Si
SLU 84	ini.	-324.53	-1556	-0.0001469	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.08	Si
SLU 84	fin.	-253.33	-1709	-0.0001129	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.92	Si
SLU 77	ini.	-317.4	-1524	-0.0001434	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.31	Si
SLU 77	fin.	-248.46	-1672	-0.0001106	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.17	Si
SLU 39	ini.	-317.91	-1386	-0.0001436	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.29	Si
SLU 39	fin.	-192.59	-1373	-0.0000847	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.99	Si
SLU 81	ini.	-334.53	-1557	-0.0001517	0.0001872	0.0035	0.85		3272.39	3272.39	No	9.78	Si
SLU 81	fin.	-243.01	-1661	-0.000108	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.47	Si
SLU 42	ini.	-307.91	-1384	-0.0001388	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.63	Si
SLU 42	fin.	-202.92	-1420	-0.0000895	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.13	Si
SLU 41	ini.	-324.42	-1405	-0.0001468	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.09	Si
SLU 41	fin.	-192.64	-1379	-0.0000847	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.99	Si
SLU 82	ini.	-318.02	-1537	-0.0001437	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.29	Si
SLU 82	fin.	-253.29	-1703	-0.0001128	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.92	Si
SLU 74	ini.	-310.9	-1504	-0.0001403	0.0001872	0.0035	0.85		3272.39	3272.39	No	10.53	Si
SLU 74	fin.	-248.42	-1666	-0.0001105	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-318.02	1774	0.85	0	1653	13480	3563	2168	5731	No	3.23	Si
SLU 82	fin.	-253.29	-2777	0.85	0	1653	13480	3563	2168	5731	No	2.06	Si
SLU 78	ini.	-300.9	1699	0.85	0	1653	13480	3563	2168	5731	No	3.37	Si
SLU 78	fin.	-258.74	-2776	0.85	0	1653	13480	3563	2168	5731	No	2.06	Si
SLU 73	ini.	-273.03	1591	0.85	0	1653	13480	3563	2168	5731	No	3.6	Si
SLU 73	fin.	-261.57	-2765	0.85	0	1653	13480	3563	2168	5731	No	2.07	Si
SLU 80	ini.	-297.05	1679	0.85	0	1653	13480	3563	2168	5731	No	3.41	Si
SLU 80	fin.	-254.81	-2736	0.85	0	1653	13480	3563	2168	5731	No	2.09	Si
SLU 84	ini.	-324.53	1800	0.85	0	1653	13480	3563	2168	5731	No	3.18	Si
SLU 84	fin.	-253.33	-2785	0.85	0	1653	13480	3563	2168	5731	No	2.06	Si
SLU 75	ini.	-294.39	1673	0.85	0	1653	13480	3563	2168	5731	No	3.43	Si
SLU 75	fin.	-258.7	-2768	0.85	0	1653	13480	3563	2168	5731	No	2.07	Si
SLU 83	ini.	-341.03	1853	0.85	0	1653	13480	3563	2168	5731	No	3.09	Si
SLU 83	fin.	-243.05	-2716	0.85	0	1653	13480	3563	2168	5731	No	2.11	Si
SLU 77	ini.	-317.4	1752	0.85	0	1653	13480	3563	2168	5731	No	3.27	Si
SLU 77	fin.	-248.46	-2707	0.85	0	1653	13480	3563	2168	5731	No	2.12	Si
SLU 81	ini.	-334.53	1827	0.85	0	1653	13480	3563	2168	5731	No	3.14	Si
SLU 81	fin.	-243.01	-2708	0.85	0	1653	13480	3563	2168	5731	No	2.12	Si
SLU 76	ini.	-279.54	1617	0.85	0	1653	13480	3563	2168	5731	No	3.54	Si
SLU 76	fin.	-261.62	-2773	0.85	0	1653	13480	3563	2168	5731	No	2.07	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	994.03	209	-0.0005042	0.0002807	0.0035	0.85		3181.12	3181.12		3.2	Si
SLV 5	fin.	-1025.28	-4600	-0.0005223	0.0002807	0.0035	0.85		3187.76	3187.76		3.11	Si
SLV 6	ini.	1216.89	496	-0.0006477	0.0002807	0.0035	0.85		3181.12	3181.12		2.61	Si
SLV 6	fin.	-1161.23	-5124	-0.0006093	0.0002807	0.0035	0.85		3187.76	3187.76		2.75	Si
SLD 15	ini.	-1132.75	-2191	-0.0005907	0.0002807	0.0035	0.85		3187.76	3187.76		2.81	Si
SLD 15	fin.	405.21	1086	-0.0001827	0.0002807	0.0035	0.85		3181.12	3181.12		7.85	Si
SLV 12	ini.	-1349.11	-2146	-0.0007368	0.0002807	0.0035	0.85		3187.76	3187.76		2.36	Si
SLV 12	fin.	652.01	2215	-0.0003074	0.0002807	0.0035	0.85		3181.12	3181.12		4.88	Si
SLV 13	ini.	-1118.16	-2373	-0.0005813	0.0002807	0.0035	0.85		3187.76	3187.76		2.85	Si
SLV 13	fin.	326.4	669	-0.0001453	0.0002807	0.0035	0.85		3181.12	3181.12		9.75	Si
SLV 11	ini.	-1571.96	-2433	-0.0009001	0.0002807	0.0035	0.85		3187.76	3187.76		2.03	Si
SLV 11	fin.	787.96	2740	-0.0003821	0.0002807	0.0035	0.85		3181.12	3181.12		4.04	Si
SLD 11	ini.	-1014.19	-1854	-0.0005154	0.0002807	0.0035	0.85		3187.76	3187.76		3.14	Si
SLD 11	fin.	395.84	1155	-0.0001782	0.0002807	0.0035	0.85		3181.12	3181.12		8.04	Si
SLV 2	ini.	1341.32	967	-0.0007332	0.0002807	0.0035	0.85		3181.12	3181.12		2.37	Si
SLV 2	fin.	-1130.69	-4830	-0.0005894	0.0002807	0.0035	0.85		3187.76	3187.76		2.82	Si
SLV 16	ini.	-1365.34	-2477	-0.0007483	0.0002807	0.0035	0.85		3187.76	3187.76		2.33	Si
SLV 16	fin.	555.45	1667	-0.000257	0.0002807	0.0035	0.85		3181.12	3181.12		5.73	Si
SLV 15	ini.	-1696.4	-2903	-0.0009975	0.0002807	0.0035	0.85		3187.76	3187.76		1.88	Si
SLV 15	fin.	757.41	2446	-0.0003649	0.0002807	0.0035	0.85		3181.12	3181.12		4.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1571.96	5829	0.85	0	2479	13480	5345	2168	7513		1.29	Si
SLV 11	fin.	787.96	3967	0.85	0	2479	13480	5345	2168	7513		1.89	Si
SLV 1	ini.	1010.26	-3089	0.85	0	2479	13480	5345	2168	7513		2.43	Si
SLV 1	fin.	-928.73	-6268	0.85	0	2479	13480	5345	2168	7513		1.2	Si
SLV 2	ini.	1341.32	-4243	0.85	0	2479	13480	5345	2168	7513		1.77	Si
SLV 2	fin.	-1130.69	-7440	0.85	0	2479	13480	5345	2168	7513		1.01	Si
SLV 10	ini.	578.36	-1470	0.85	0	2479	13480	5345	2168	7513		5.11	Si
SLV 10	fin.	-784.69	-5629	0.85	0	2479	13480	5345	2168	7513		1.33	Si
SLD 2	ini.	777.68	-2277	0.85	0	2479	13480	5345	2168	7513		3.3	Si
SLD 2	fin.	-778.48	-5372	0.85	0	2479	13480	5345	2168	7513		1.4	Si
SLV 6	ini.	1216.89	-3716	0.85	0	2479	13480	5345	2168	7513		2.02	Si
SLV 6	fin.	-1161.23	-7799	0.85	0	2479	13480	5345	2168	7513		0.96	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1696.4	6355	0.85	0	2479	13480	5345	2168	7513		1.18	Si
SLV 15	fin.	757.41	3608	0.85	0	2479	13480	5345	2168	7513		2.08	Si
SLD 6	ini.	659.11	-1808	0.85	0	2479	13480	5345	2168	7513		4.16	Si
SLD 6	fin.	-769.12	-5429	0.85	0	2479	13480	5345	2168	7513		1.38	Si
SLV 16	ini.	-1365.34	5201	0.85	0	2479	13480	5345	2168	7513		1.44	Si
SLV 16	fin.	555.45	2436	0.85	0	2479	13480	5345	2168	7513		3.08	Si
SLV 5	ini.	994.03	-2939	0.85	0	2479	13480	5345	2168	7513		2.56	Si
SLV 5	fin.	-1025.28	-7010	0.85	0	2479	13480	5345	2168	7513		1.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.879	SLV 15	Si
V_SLV	0.963	SLV 6	No
PF_SLU	9.596	SLU 83	Si
V_SLU	2.058	SLU 84	Si

Trave di accoppiamento 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	4.35	5.25	0.9	-2.853	5.951	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	267.86	-1489	-0.0001066	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.34	Si
SLU 72	fin.	34.73	-1082	-0.0000133	0.0001872	0.0035	0.9		3572.55	3572.55	No	102.88	Si
SLU 45	ini.	270.38	-1431	-0.0001076	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.21	Si
SLU 45	fin.	-6.22	-797	-0.0000024	0.0001872	0.0035	0.9		3579.32	3579.32	No	575.08	Si
SLU 50	ini.	273.45	-1458	-0.0001089	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.06	Si
SLU 50	fin.	1.07	-860	-0.0000004	0.0001872	0.0035	0.9		3572.55	3572.55	No	3347.24	Si
SLU 66	ini.	273.04	-1497	-0.0001087	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.08	Si
SLU 66	fin.	22.04	-1006	-0.0000084	0.0001872	0.0035	0.9		3572.55	3572.55	No	162.09	Si
SLU 43	ini.	265.93	-1388	-0.0001058	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.43	Si
SLU 43	fin.	-14.31	-711	-0.0000054	0.0001872	0.0035	0.9		3579.32	3579.32	No	250.16	Si
SLU 71	ini.	276.11	-1523	-0.00011	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.94	Si
SLU 71	fin.	29.33	-1069	-0.0000112	0.0001872	0.0035	0.9		3572.55	3572.55	No	121.8	Si
SLU 70	ini.	268.55	-1498	-0.0001069	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.3	Si
SLU 70	fin.	35.12	-1093	-0.0000134	0.0001872	0.0035	0.9		3572.55	3572.55	No	101.72	Si
SLU 69	ini.	276.8	-1532	-0.0001103	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.91	Si
SLU 69	fin.	29.73	-1080	-0.0000114	0.0001872	0.0035	0.9		3572.55	3572.55	No	120.17	Si
SLU 64	ini.	268.59	-1453	-0.0001069	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.3	Si
SLU 64	fin.	13.96	-920	-0.0000053	0.0001872	0.0035	0.9		3572.55	3572.55	No	255.98	Si
SLU 48	ini.	274.14	-1466	-0.0001092	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.03	Si
SLU 48	fin.	1.46	-871	-0.0000006	0.0001872	0.0035	0.9		3572.55	3572.55	No	2440.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	264.98	-2526	0.9	0	1750	14273	3773	2295	6068	No	2.4	Si
SLU 77	fin.	56.36	2662	0.9	0	1750	14273	3773	2295	6068	No	2.28	Si
SLU 79	ini.	264.29	-2502	0.9	0	1750	14273	3773	2295	6068	No	2.42	Si
SLU 79	fin.	55.96	2629	0.9	0	1750	14273	3773	2295	6068	No	2.31	Si
SLU 75	ini.	252.97	-2414	0.9	0	1750	14273	3773	2295	6068	No	2.51	Si
SLU 75	fin.	54.06	2540	0.9	0	1750	14273	3773	2295	6068	No	2.39	Si
SLU 84	ini.	247.21	-2371	0.9	0	1750	14273	3773	2295	6068	No	2.56	Si
SLU 84	fin.	65.08	2612	0.9	0	1750	14273	3773	2295	6068	No	2.32	Si
SLU 74	ini.	261.22	-2473	0.9	0	1750	14273	3773	2295	6068	No	2.45	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	fin.	48.67	2530	0.9	0	1750	14273	3773	2295	6068	No	2.4	Si
SLU 71	ini.	276.11	-2548	0.9	0	1750	14273	3773	2295	6068	No	2.38	Si
SLU 71	fin.	29.33	2385	0.9	0	1750	14273	3773	2295	6068	No	2.54	Si
SLU 80	ini.	256.04	-2444	0.9	0	1750	14273	3773	2295	6068	No	2.48	Si
SLU 80	fin.	61.36	2639	0.9	0	1750	14273	3773	2295	6068	No	2.3	Si
SLU 78	ini.	256.73	-2467	0.9	0	1750	14273	3773	2295	6068	No	2.46	Si
SLU 78	fin.	61.75	2672	0.9	0	1750	14273	3773	2295	6068	No	2.27	Si
SLU 69	ini.	276.8	-2571	0.9	0	1750	14273	3773	2295	6068	No	2.36	Si
SLU 69	fin.	29.73	2418	0.9	0	1750	14273	3773	2295	6068	No	2.51	Si
SLU 83	ini.	255.46	-2430	0.9	0	1750	14273	3773	2295	6068	No	2.5	Si
SLU 83	fin.	59.68	2601	0.9	0	1750	14273	3773	2295	6068	No	2.33	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	661.99	-2451	-0.0002757	0.0002807	0.0035	0.9		3568.61	3568.61		5.39	Si
SLV 1	fin.	-361.25	1380	-0.0001435	0.0002807	0.0035	0.9		3575.64	3575.64		9.9	Si
SLV 4	ini.	823.74	-3346	-0.0003532	0.0002807	0.0035	0.9		3568.61	3568.61		4.33	Si
SLV 4	fin.	-396.96	1010	-0.0001584	0.0002807	0.0035	0.9		3575.64	3575.64		9.01	Si
SLV 3	ini.	1036.56	-4089	-0.0004631	0.0002807	0.0035	0.9		3568.61	3568.61		3.44	Si
SLV 3	fin.	-557.16	1695	-0.0002277	0.0002807	0.0035	0.9		3575.64	3575.64		6.42	Si
SLD 3	ini.	725.56	-2966	-0.0003056	0.0002807	0.0035	0.9		3568.61	3568.61		4.92	Si
SLD 3	fin.	-346.33	820	-0.0001372	0.0002807	0.0035	0.9		3575.64	3575.64		10.32	Si
SLV 7	ini.	1060.63	-4619	-0.0004761	0.0002807	0.0035	0.9		3568.61	3568.61		3.36	Si
SLV 7	fin.	-485.67	623	-0.0001963	0.0002807	0.0035	0.9		3575.64	3575.64		7.36	Si
SLD 7	ini.	715.69	-3195	-0.0003009	0.0002807	0.0035	0.9		3568.61	3568.61		4.99	Si
SLD 7	fin.	-287.29	110	-0.0001129	0.0002807	0.0035	0.9		3575.64	3575.64		12.45	Si
SLV 11	ini.	736.5	-3539	-0.0003108	0.0002807	0.0035	0.9		3568.61	3568.61		4.85	Si
SLV 11	fin.	-250.93	-515	-0.0000982	0.0002807	0.0035	0.9		3575.64	3575.64		14.25	Si
SLV 8	ini.	917.36	-4119	-0.0004005	0.0002807	0.0035	0.9		3568.61	3568.61		3.89	Si
SLV 8	fin.	-377.83	162	-0.0001504	0.0002807	0.0035	0.9		3575.64	3575.64		9.46	Si
SLV 10	ini.	-655.33	2423	-0.0002721	0.0002807	0.0035	0.9		3575.64	3575.64		5.46	Si
SLV 10	fin.	509.94	-2026	-0.0002073	0.0002807	0.0035	0.9		3568.61	3568.61		7	Si
SLV 14	ini.	-631.26	1894	-0.0002611	0.0002807	0.0035	0.9		3575.64	3575.64		5.66	Si
SLV 14	fin.	581.43	-3098	-0.000239	0.0002807	0.0035	0.9		3568.61	3568.61		6.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	593.23	-5247	0.9	0	2625	14273	5660	2295	7955		1.52	Si
SLV 12	fin.	-143.09	2712	0.9	0	2625	14273	5660	2295	7955		2.93	Si
SLV 7	ini.	1060.63	-7692	0.9	0	2625	14273	5660	2295	7955		1.03	Si
SLV 7	fin.	-485.67	242	0.9	0	2625	14273	5660	2295	7955		32.84	Si
SLV 11	ini.	736.5	-6069	0.9	0	2625	14273	5660	2295	7955		1.31	Si
SLV 11	fin.	-250.93	2054	0.9	0	2625	14273	5660	2295	7955		3.87	Si
SLV 16	ini.	-256.69	85	0.9	0	2625	14273	5660	2295	7955		93.08	Si
SLV 16	fin.	385.52	5082	0.9	0	2625	14273	5660	2295	7955		1.57	Si
SLV 8	ini.	917.36	-6871	0.9	0	2625	14273	5660	2295	7955		1.16	Si
SLV 8	fin.	-377.83	900	0.9	0	2625	14273	5660	2295	7955		8.84	Si
SLV 14	ini.	-631.26	2861	0.9	0	2625	14273	5660	2295	7955		2.78	Si
SLV 14	fin.	581.43	5166	0.9	0	2625	14273	5660	2295	7955		1.54	Si
SLD 7	ini.	715.69	-5323	0.9	0	2625	14273	5660	2295	7955		1.49	Si
SLD 7	fin.	-287.29	754	0.9	0	2625	14273	5660	2295	7955		10.55	Si
SLV 4	ini.	823.74	-5327	0.9	0	2625	14273	5660	2295	7955		1.49	Si
SLV 4	fin.	-396.96	-958	0.9	0	2625	14273	5660	2295	7955		8.3	Si
SLD 8	ini.	628.75	-4824	0.9	0	2625	14273	5660	2295	7955		1.65	Si
SLD 8	fin.	-221.84	1153	0.9	0	2625	14273	5660	2295	7955		6.9	Si
SLV 3	ini.	1036.56	-6548	0.9	0	2625	14273	5660	2295	7955		1.21	Si
SLV 3	fin.	-557.16	-1934	0.9	0	2625	14273	5660	2295	7955		4.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.365	SLV 7	Si
V_SLV	1.034	SLV 7	Si
PF_SLU	12.907	SLU 69	Si
V_SLU	2.271	SLU 78	Si

Trave di accoppiamento 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	7.05	7.9	0.85	-2.853	5.951	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-130.15	-1036	-0.0000566	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.14	Si
SLU 36	fin.	-54.99	-1477	-0.0000236	0.0001872	0.0035	0.85		3272.39	3272.39	No	59.51	Si
SLU 78	ini.	-125.8	-1099	-0.0000546	0.0001872	0.0035	0.85		3272.39	3272.39	No	26.01	Si
SLU 78	fin.	-86.38	-1807	-0.0000372	0.0001872	0.0035	0.85		3272.39	3272.39	No	37.88	Si
SLU 48	ini.	-47.98	-665	-0.0000205	0.0001872	0.0035	0.85		3272.39	3272.39	No	68.21	Si
SLU 48	fin.	-126.29	-1691	-0.0000548	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.91	Si
SLU 35	ini.	-124.61	-1016	-0.0000541	0.0001872	0.0035	0.85		3272.39	3272.39	No	26.26	Si
SLU 35	fin.	-60.99	-1511	-0.0000262	0.0001872	0.0035	0.85		3272.39	3272.39	No	53.65	Si
SLU 41	ini.	-126.58	-1025	-0.000055	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.85	Si
SLU 41	fin.	-49.9	-1459	-0.0000214	0.0001872	0.0035	0.85		3272.39	3272.39	No	65.58	Si
SLU 84	ini.	-127.76	-1108	-0.0000555	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.61	Si
SLU 84	fin.	-75.28	-1755	-0.0000324	0.0001872	0.0035	0.85		3272.39	3272.39	No	43.47	Si
SLU 45	ini.	-37.72	-607	-0.0000161	0.0001872	0.0035	0.85		3272.39	3272.39	No	86.75	Si
SLU 45	fin.	-123.85	-1636	-0.0000538	0.0001872	0.0035	0.85		3272.39	3272.39	No	26.42	Si
SLU 38	ini.	-127.94	-1023	-0.0000556	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.58	Si
SLU 38	fin.	-55.62	-1469	-0.0000238	0.0001872	0.0035	0.85		3272.39	3272.39	No	58.83	Si
SLU 42	ini.	-132.12	-1044	-0.0000574	0.0001872	0.0035	0.85		3272.39	3272.39	No	24.77	Si
SLU 42	fin.	-43.89	-1425	-0.0000188	0.0001872	0.0035	0.85		3272.39	3272.39	No	74.55	Si
SLU 50	ini.	-45.76	-651	-0.0000196	0.0001872	0.0035	0.85		3272.39	3272.39	No	71.51	Si
SLU 50	fin.	-126.93	-1683	-0.0000551	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-122.23	2541	0.85	0	1653	13480	3563	2168	5731	No	2.26	Si
SLU 83	fin.	-81.29	-4098	0.85	0	1653	13480	3563	2168	5731	No	1.4	Si
SLU 80	ini.	-123.59	2486	0.85	0	1653	13480	3563	2168	5731	No	2.3	Si
SLU 80	fin.	-87.02	-4055	0.85	0	1653	13480	3563	2168	5731	No	1.41	Si
SLU 79	ini.	-118.05	2454	0.85	0	1653	13480	3563	2168	5731	No	2.34	Si
SLU 79	fin.	-93.02	-4106	0.85	0	1653	13480	3563	2168	5731	No	1.4	Si
SLU 78	ini.	-125.8	2517	0.85	0	1653	13480	3563	2168	5731	No	2.28	Si
SLU 78	fin.	-86.38	-4083	0.85	0	1653	13480	3563	2168	5731	No	1.4	Si
SLU 74	ini.	-110	2395	0.85	0	1653	13480	3563	2168	5731	No	2.39	Si
SLU 74	fin.	-89.94	-4034	0.85	0	1653	13480	3563	2168	5731	No	1.42	Si
SLU 81	ini.	-111.97	2452	0.85	0	1653	13480	3563	2168	5731	No	2.34	Si
SLU 81	fin.	-78.84	-3997	0.85	0	1653	13480	3563	2168	5731	No	1.43	Si
SLU 77	ini.	-120.26	2484	0.85	0	1653	13480	3563	2168	5731	No	2.31	Si
SLU 77	fin.	-92.38	-4135	0.85	0	1653	13480	3563	2168	5731	No	1.39	Si
SLU 84	ini.	-127.76	2574	0.85	0	1653	13480	3563	2168	5731	No	2.23	Si
SLU 84	fin.	-75.28	-4047	0.85	0	1653	13480	3563	2168	5731	No	1.42	Si
SLU 82	ini.	-117.51	2485	0.85	0	1653	13480	3563	2168	5731	No	2.31	Si
SLU 82	fin.	-72.84	-3946	0.85	0	1653	13480	3563	2168	5731	No	1.45	Si
SLU 75	ini.	-115.54	2428	0.85	0	1653	13480	3563	2168	5731	No	2.36	Si
SLU 75	fin.	-83.93	-3983	0.85	0	1653	13480	3563	2168	5731	No	1.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-480.08	-2045	-0.0002187	0.0002807	0.0035	0.85		3187.76	3187.76		6.64	Si
SLV 13	fin.	364.66	1148	-0.0001633	0.0002807	0.0035	0.85		3181.12	3181.12		8.72	Si
SLV 10	ini.	-599.86	-2407	-0.0002793	0.0002807	0.0035	0.85		3187.76	3187.76		5.31	Si
SLV 10	fin.	565.59	2427	-0.0002622	0.0002807	0.0035	0.85		3181.12	3181.12		5.62	Si
SLV 8	ini.	382.76	803	-0.000172	0.0002807	0.0035	0.85		3181.12	3181.12		8.31	Si
SLV 8	fin.	-622.95	-4422	-0.0002913	0.0002807	0.0035	0.85		3187.76	3187.76		5.12	Si
SLV 4	ini.	379.56	863	-0.0001704	0.0002807	0.0035	0.85		3181.12	3181.12		8.38	Si
SLV 4	fin.	-526.58	-3721	-0.0002419	0.0002807	0.0035	0.85		3187.76	3187.76		6.05	Si
SLV 9	ini.	-483.28	-1985	-0.0002203	0.0002807	0.0035	0.85		3187.76	3187.76		6.6	Si
SLV 9	fin.	461.04	1850	-0.0002098	0.0002807	0.0035	0.85		3181.12	3181.12		6.9	Si
SLD 7	ini.	279.42	501	-0.0001235	0.0002807	0.0035	0.85		3181.12	3181.12		11.38	Si
SLD 7	fin.	-466.88	-3500	-0.0002122	0.0002807	0.0035	0.85		3187.76	3187.76		6.83	Si
SLV 11	ini.	256.04	378	-0.0001128	0.0002807	0.0035	0.85		3181.12	3181.12		12.42	Si
SLV 11	fin.	-500.03	-3789	-0.0002286	0.0002807	0.0035	0.85		3187.76	3187.76		6.38	Si
SLV 14	ini.	-653.26	-2672	-0.0003073	0.0002807	0.0035	0.85		3187.76	3187.76		4.88	Si
SLV 14	fin.	519.97	2006	-0.0002391	0.0002807	0.0035	0.85		3181.12	3181.12		6.12	Si
SLV 7	ini.	499.35	1226	-0.0002288	0.0002807	0.0035	0.85		3181.12	3181.12		6.37	Si
SLV 7	fin.	-727.5	-5000	-0.0003475	0.0002807	0.0035	0.85		3187.76	3187.76		4.38	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	552.75	1491	-0.0002557	0.0002807	0.0035	0.85		3181.12	3181.12		5.76	Si
SLV 3	fin.	-681.89	-4579	-0.0003227	0.0002807	0.0035	0.85		3187.76	3187.76		4.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	208.67	-56	0.85	0	2479	13480	5345	2168	7513		134.83	Si
SLD 8	fin.	-403.43	-5530	0.85	0	2479	13480	5345	2168	7513		1.36	Si
SLV 12	ini.	139.46	437	0.85	0	2479	13480	5345	2168	7513		17.2	Si
SLV 12	fin.	-395.48	-5759	0.85	0	2479	13480	5345	2168	7513		1.3	Si
SLV 7	ini.	499.35	-1757	0.85	0	2479	13480	5345	2168	7513		4.28	Si
SLV 7	fin.	-727.5	-8224	0.85	0	2479	13480	5345	2168	7513		0.91	No
SLV 8	ini.	382.76	-1063	0.85	0	2479	13480	5345	2168	7513		7.06	Si
SLV 8	fin.	-622.95	-7394	0.85	0	2479	13480	5345	2168	7513		1.02	Si
SLD 3	ini.	328.71	-849	0.85	0	2479	13480	5345	2168	7513		8.85	Si
SLD 3	fin.	-457.03	-5677	0.85	0	2479	13480	5345	2168	7513		1.32	Si
SLD 7	ini.	279.42	-477	0.85	0	2479	13480	5345	2168	7513		15.76	Si
SLD 7	fin.	-466.88	-6034	0.85	0	2479	13480	5345	2168	7513		1.25	Si
SLV 4	ini.	379.56	-1173	0.85	0	2479	13480	5345	2168	7513		6.41	Si
SLV 4	fin.	-526.58	-6173	0.85	0	2479	13480	5345	2168	7513		1.22	Si
SLV 3	ini.	552.75	-2203	0.85	0	2479	13480	5345	2168	7513		3.41	Si
SLV 3	fin.	-681.89	-7406	0.85	0	2479	13480	5345	2168	7513		1.01	Si
SLV 11	ini.	256.04	-257	0.85	0	2479	13480	5345	2168	7513		29.28	Si
SLV 11	fin.	-500.03	-6589	0.85	0	2479	13480	5345	2168	7513		1.14	Si
SLV 14	ini.	-653.26	5091	0.85	0	2479	13480	5345	2168	7513		1.48	Si
SLV 14	fin.	519.97	1785	0.85	0	2479	13480	5345	2168	7513		4.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.382	SLV 7	Si
V_SLV	0.913	SLV 7	No
PF_SLU	24.769	SLU 42	Si
V_SLU	1.386	SLU 77	Si

Trave di accoppiamento 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	7.9	8.8	0.9	-22.778	5.951	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 46	ini.	59.41	-818	-0.0000228	0.0001872	0.0035	0.9		3572.55	3572.55	No	60.14	Si
SLU 46	fin.	145.23	-897	-0.0000565	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.6	Si
SLU 45	ini.	53.58	-797	-0.0000205	0.0001872	0.0035	0.9		3572.55	3572.55	No	66.67	Si
SLU 45	fin.	151.2	-921	-0.0000589	0.0001872	0.0035	0.9		3572.55	3572.55	No	23.63	Si
SLU 48	ini.	55.67	-819	-0.0000214	0.0001872	0.0035	0.9		3572.55	3572.55	No	64.17	Si
SLU 48	fin.	150.85	-933	-0.0000588	0.0001872	0.0035	0.9		3572.55	3572.55	No	23.68	Si
SLU 69	ini.	90.26	-1018	-0.0000348	0.0001872	0.0035	0.9		3572.55	3572.55	No	39.58	Si
SLU 69	fin.	145.51	-940	-0.0000566	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.55	Si
SLU 71	ini.	87.04	-990	-0.0000336	0.0001872	0.0035	0.9		3572.55	3572.55	No	41.05	Si
SLU 71	fin.	145.25	-931	-0.0000565	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.6	Si
SLU 49	ini.	61.5	-840	-0.0000236	0.0001872	0.0035	0.9		3572.55	3572.55	No	58.09	Si
SLU 49	fin.	144.89	-909	-0.0000564	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.66	Si
SLU 43	ini.	48.27	-747	-0.0000185	0.0001872	0.0035	0.9		3572.55	3572.55	No	74.01	Si
SLU 43	fin.	151.29	-900	-0.000059	0.0001872	0.0035	0.9		3572.55	3572.55	No	23.61	Si
SLU 64	ini.	82.86	-946	-0.0000319	0.0001872	0.0035	0.9		3572.55	3572.55	No	43.12	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	fin.	145.94	-907	-0.0000568	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.48	Si
SLU 66	ini.	88.17	-995	-0.000034	0.0001872	0.0035	0.9		3572.55	3572.55	No	40.52	Si
SLU 66	fin.	145.85	-928	-0.0000568	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.49	Si
SLU 50	ini.	52.45	-792	-0.0000201	0.0001872	0.0035	0.9		3572.55	3572.55	No	68.11	Si
SLU 50	fin.	150.59	-924	-0.0000587	0.0001872	0.0035	0.9		3572.55	3572.55	No	23.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	122.49	-1923	0.9	0	1750	14273	3773	2295	6068	No	3.16	Si
SLU 77	fin.	134.97	1250	0.9	0	1750	14273	3773	2295	6068	No	4.85	Si
SLU 75	ini.	126.23	-1879	0.9	0	1750	14273	3773	2295	6068	No	3.23	Si
SLU 75	fin.	129.35	1160	0.9	0	1750	14273	3773	2295	6068	No	5.23	Si
SLU 78	ini.	128.32	-1946	0.9	0	1750	14273	3773	2295	6068	No	3.12	Si
SLU 78	fin.	129	1208	0.9	0	1750	14273	3773	2295	6068	No	5.02	Si
SLU 84	ini.	136.82	-1900	0.9	0	1750	14273	3773	2295	6068	No	3.19	Si
SLU 84	fin.	124.58	1081	0.9	0	1750	14273	3773	2295	6068	No	5.61	Si
SLU 76	ini.	126.89	-1841	0.9	0	1750	14273	3773	2295	6068	No	3.3	Si
SLU 76	fin.	125.11	1113	0.9	0	1750	14273	3773	2295	6068	No	5.45	Si
SLU 80	ini.	125.09	-1893	0.9	0	1750	14273	3773	2295	6068	No	3.2	Si
SLU 80	fin.	128.74	1189	0.9	0	1750	14273	3773	2295	6068	No	5.1	Si
SLU 83	ini.	130.99	-1877	0.9	0	1750	14273	3773	2295	6068	No	3.23	Si
SLU 83	fin.	130.55	1123	0.9	0	1750	14273	3773	2295	6068	No	5.4	Si
SLU 79	ini.	119.27	-1870	0.9	0	1750	14273	3773	2295	6068	No	3.25	Si
SLU 79	fin.	134.71	1231	0.9	0	1750	14273	3773	2295	6068	No	4.93	Si
SLU 74	ini.	120.4	-1855	0.9	0	1750	14273	3773	2295	6068	No	3.27	Si
SLU 74	fin.	135.32	1202	0.9	0	1750	14273	3773	2295	6068	No	5.05	Si
SLU 82	ini.	134.73	-1833	0.9	0	1750	14273	3773	2295	6068	No	3.31	Si
SLU 82	fin.	124.92	1033	0.9	0	1750	14273	3773	2295	6068	No	5.87	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-517.08	1315	-0.00021	0.0002807	0.0035	0.9		3575.64	3575.64		6.92	Si
SLV 12	fin.	750.81	-3382	-0.0003176	0.0002807	0.0035	0.9		3568.61	3568.61		4.75	Si
SLV 8	ini.	-367.24	702	-0.0001459	0.0002807	0.0035	0.9		3575.64	3575.64		9.74	Si
SLV 8	fin.	562.82	-2657	-0.0002307	0.0002807	0.0035	0.9		3568.61	3568.61		6.34	Si
SLV 11	ini.	-425.19	973	-0.0001704	0.0002807	0.0035	0.9		3575.64	3575.64		8.41	Si
SLV 11	fin.	636.68	-2942	-0.0002641	0.0002807	0.0035	0.9		3568.61	3568.61		5.61	Si
SLV 9	ini.	497.93	-2156	-0.000202	0.0002807	0.0035	0.9		3568.61	3568.61		7.17	Si
SLV 9	fin.	-341.96	1287	-0.0001354	0.0002807	0.0035	0.9		3575.64	3575.64		10.46	Si
SLV 15	ini.	-254.59	510	-0.0000997	0.0002807	0.0035	0.9		3575.64	3575.64		14.04	Si
SLV 15	fin.	485.77	-2201	-0.0001967	0.0002807	0.0035	0.9		3568.61	3568.61		7.35	Si
SLV 5	ini.	647.77	-2769	-0.0002692	0.0002807	0.0035	0.9		3568.61	3568.61		5.51	Si
SLV 5	fin.	-529.95	2012	-0.0002157	0.0002807	0.0035	0.9		3575.64	3575.64		6.75	Si
SLV 16	ini.	-391.11	1017	-0.0001559	0.0002807	0.0035	0.9		3575.64	3575.64		9.14	Si
SLV 16	fin.	655.31	-2853	-0.0002726	0.0002807	0.0035	0.9		3568.61	3568.61		5.45	Si
SLD 12	ini.	-280.48	488	-0.0001102	0.0002807	0.0035	0.9		3575.64	3575.64		12.75	Si
SLD 12	fin.	491.51	-2288	-0.0001992	0.0002807	0.0035	0.9		3568.61	3568.61		7.26	Si
SLV 1	ini.	521.8	-2472	-0.0002125	0.0002807	0.0035	0.9		3568.61	3568.61		6.84	Si
SLV 1	fin.	-434.45	1483	-0.0001743	0.0002807	0.0035	0.9		3575.64	3575.64		8.23	Si
SLV 6	ini.	555.88	-2428	-0.0002276	0.0002807	0.0035	0.9		3568.61	3568.61		6.42	Si
SLV 6	fin.	-415.82	1572	-0.0001664	0.0002807	0.0035	0.9		3575.64	3575.64		8.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	647.77	-3611	0.9	0	2625	14273	5660	2295	7955		2.2	Si
SLV 5	fin.	-529.95	-3647	0.9	0	2625	14273	5660	2295	7955		2.18	Si
SLV 1	ini.	521.8	-3786	0.9	0	2625	14273	5660	2295	7955		2.1	Si
SLV 1	fin.	-434.45	-2394	0.9	0	2625	14273	5660	2295	7955		3.32	Si
SLD 11	ini.	-224.71	-57	0.9	0	2625	14273	5660	2295	7955		139.14	Si
SLD 11	fin.	422.25	3276	0.9	0	2625	14273	5660	2295	7955		2.43	Si
SLV 8	ini.	-367.24	212	0.9	0	2625	14273	5660	2295	7955		37.45	Si
SLV 8	fin.	562.82	4505	0.9	0	2625	14273	5660	2295	7955		1.77	Si
SLV 11	ini.	-425.19	707	0.9	0	2625	14273	5660	2295	7955		11.24	Si
SLV 11	fin.	636.68	4890	0.9	0	2625	14273	5660	2295	7955		1.63	Si
SLV 7	ini.	-275.35	-319	0.9	0	2625	14273	5660	2295	7955		24.92	Si
SLV 7	fin.	448.69	3851	0.9	0	2625	14273	5660	2295	7955		2.07	Si
SLV 12	ini.	-517.08	1239	0.9	0	2625	14273	5660	2295	7955		6.42	Si
SLV 12	fin.	750.81	5544	0.9	0	2625	14273	5660	2295	7955		1.43	Si
SLD 12	ini.	-280.48	265	0.9	0	2625	14273	5660	2295	7955		29.97	Si
SLD 12	fin.	491.51	3673	0.9	0	2625	14273	5660	2295	7955		2.17	Si
SLV 15	ini.	-254.59	624	0.9	0	2625	14273	5660	2295	7955		12.75	Si
SLV 15	fin.	485.77	3319	0.9	0	2625	14273	5660	2295	7955		2.4	Si
SLV 16	ini.	-391.11	1414	0.9	0	2625	14273	5660	2295	7955		5.63	Si
SLV 16	fin.	655.31	4291	0.9	0	2625	14273	5660	2295	7955		1.85	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.753	SLV 12	Si
V_SLV	1.435	SLV 12	Si
PF_SLU	23.614	SLU 43	Si
V_SLU	3.118	SLU 78	Si

Trave di accoppiamento 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	10.6	11.45	0.85	-22.778	5.951	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-22.54	-713	-0.0000096	0.0001872	0.0035	0.85		3272.39	3272.39	No	145.17	Si
SLU 83	fin.	-107.14	-822	-0.0000464	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.54	Si
SLU 42	ini.	0.37	-544	-0.0000002	0.0001872	0.0035	0.85		3266.1	3266.1	No	8814.53	Si
SLU 42	fin.	-113.39	-810	-0.0000491	0.0001872	0.0035	0.85		3272.39	3272.39	No	28.86	Si
SLU 36	ini.	-4.12	-561	-0.0000017	0.0001872	0.0035	0.85		3272.39	3272.39	No	795.07	Si
SLU 36	fin.	-109.79	-795	-0.0000475	0.0001872	0.0035	0.85		3272.39	3272.39	No	29.81	Si
SLU 33	ini.	-5.06	-553	-0.0000022	0.0001872	0.0035	0.85		3272.39	3272.39	No	646.36	Si
SLU 33	fin.	-106.54	-768	-0.0000461	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.72	Si
SLU 78	ini.	-22.44	-709	-0.0000096	0.0001872	0.0035	0.85		3272.39	3272.39	No	145.83	Si
SLU 78	fin.	-108.66	-829	-0.000047	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.11	Si
SLU 82	ini.	-18.9	-684	-0.0000081	0.0001872	0.0035	0.85		3272.39	3272.39	No	173.13	Si
SLU 82	fin.	-109.01	-818	-0.0000472	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.02	Si
SLU 41	ini.	-4.22	-565	-0.0000018	0.0001872	0.0035	0.85		3272.39	3272.39	No	775.89	Si
SLU 41	fin.	-108.26	-788	-0.0000469	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.23	Si
SLU 84	ini.	-17.95	-692	-0.0000076	0.0001872	0.0035	0.85		3272.39	3272.39	No	182.26	Si
SLU 84	fin.	-112.27	-845	-0.0000486	0.0001872	0.0035	0.85		3272.39	3272.39	No	29.15	Si
SLU 75	ini.	-23.39	-701	-0.00001	0.0001872	0.0035	0.85		3272.39	3272.39	No	139.92	Si
SLU 75	fin.	-105.41	-802	-0.0000456	0.0001872	0.0035	0.85		3272.39	3272.39	No	31.04	Si
SLU 40	ini.	-0.58	-536	-0.0000002	0.0001872	0.0035	0.85		3272.39	3272.39	No	5676.97	Si
SLU 40	fin.	-110.14	-784	-0.0000477	0.0001872	0.0035	0.85		3272.39	3272.39	No	29.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-27.98	2112	0.85	0	1653	13480	3563	2168	5731	No	2.71	Si
SLU 74	fin.	-100.28	-1968	0.85	0	1653	13480	3563	2168	5731	No	2.91	Si
SLU 83	ini.	-22.54	2121	0.85	0	1653	13480	3563	2168	5731	No	2.7	Si
SLU 83	fin.	-107.14	-2064	0.85	0	1653	13480	3563	2168	5731	No	2.78	Si
SLU 80	ini.	-23.97	2098	0.85	0	1653	13480	3563	2168	5731	No	2.73	Si
SLU 80	fin.	-103.84	-2028	0.85	0	1653	13480	3563	2168	5731	No	2.83	Si
SLU 78	ini.	-22.44	2132	0.85	0	1653	13480	3563	2168	5731	No	2.69	Si
SLU 78	fin.	-108.66	-2073	0.85	0	1653	13480	3563	2168	5731	No	2.76	Si
SLU 81	ini.	-23.49	2069	0.85	0	1653	13480	3563	2168	5731	No	2.77	Si
SLU 81	fin.	-103.88	-1992	0.85	0	1653	13480	3563	2168	5731	No	2.88	Si
SLU 75	ini.	-23.39	2080	0.85	0	1653	13480	3563	2168	5731	No	2.76	Si
SLU 75	fin.	-105.41	-2000	0.85	0	1653	13480	3563	2168	5731	No	2.86	Si
SLU 84	ini.	-17.95	2089	0.85	0	1653	13480	3563	2168	5731	No	2.74	Si
SLU 84	fin.	-112.27	-2096	0.85	0	1653	13480	3563	2168	5731	No	2.73	Si
SLU 77	ini.	-27.03	2165	0.85	0	1653	13480	3563	2168	5731	No	2.65	Si
SLU 77	fin.	-103.53	-2041	0.85	0	1653	13480	3563	2168	5731	No	2.81	Si
SLU 69	ini.	-43.27	2063	0.85	0	1653	13480	3563	2168	5731	No	2.78	Si
SLU 69	fin.	-76.28	-1713	0.85	0	1653	13480	3563	2168	5731	No	3.35	Si
SLU 79	ini.	-28.56	2130	0.85	0	1653	13480	3563	2168	5731	No	2.69	Si
SLU 79	fin.	-98.71	-1996	0.85	0	1653	13480	3563	2168	5731	No	2.87	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	375.93	1373	-0.0001687	0.0002807	0.0035	0.85		3181.12	3181.12		8.46	Si
SLV 6	fin.	-483.8	-2306	-0.0002206	0.0002807	0.0035	0.85		3187.76	3187.76		6.59	Si
SLV 11	ini.	-445.19	-2447	-0.0002016	0.0002807	0.0035	0.85		3187.76	3187.76		7.16	Si
SLV 11	fin.	382.64	1428	-0.0001719	0.0002807	0.0035	0.85		3181.12	3181.12		8.31	Si
SLD 5	ini.	266.1	856	-0.0001174	0.0002807	0.0035	0.85		3181.12	3181.12		11.95	Si
SLD 5	fin.	-360.61	-1773	-0.0001611	0.0002807	0.0035	0.85		3187.76	3187.76		8.84	Si
SLV 12	ini.	-541.31	-2886	-0.0002493	0.0002807	0.0035	0.85		3187.76	3187.76		5.89	Si
SLV 12	fin.	472.57	1813	-0.0002155	0.0002807	0.0035	0.85		3181.12	3181.12		6.73	Si
SLV 9	ini.	341.6	1232	-0.0001525	0.0002807	0.0035	0.85		3181.12	3181.12		9.31	Si
SLV 9	fin.	-457.36	-2225	-0.0002076	0.0002807	0.0035	0.85		3187.76	3187.76		6.97	Si
SLV 1	ini.	372.19	1309	-0.0001669	0.0002807	0.0035	0.85		3181.12	3181.12		8.55	Si
SLV 1	fin.	-437.35	-2051	-0.0001978	0.0002807	0.0035	0.85		3187.76	3187.76		7.29	Si
SLV 16	ini.	-441.45	-2383	-0.0001998	0.0002807	0.0035	0.85		3187.76	3187.76		7.22	Si
SLV 16	fin.	336.19	1172	-0.0001499	0.0002807	0.0035	0.85		3181.12	3181.12		9.46	Si
SLV 10	ini.	245.49	792	-0.000108	0.0002807	0.0035	0.85		3181.12	3181.12		12.96	Si
SLV 10	fin.	-367.42	-1840	-0.0001643	0.0002807	0.0035	0.85		3187.76	3187.76		8.68	Si
SLV 5	ini.	472.05	1812	-0.0002152	0.0002807	0.0035	0.85		3181.12	3181.12		6.74	Si
SLV 5	fin.	-573.74	-2692	-0.0002658	0.0002807	0.0035	0.85		3187.76	3187.76		5.56	Si
SLV 8	ini.	-410.87	-2305	-0.000185	0.0002807	0.0035	0.85		3187.76	3187.76		7.76	Si
SLV 8	fin.	356.19	1347	-0.0001593	0.0002807	0.0035	0.85		3181.12	3181.12		8.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	341.6	-1363	0.85	0	2479	13480	5345	2168	7513		5.51	Si
SLV 9	fin.	-457.36	-3546	0.85	0	2479	13480	5345	2168	7513		2.12	Si
SLV 11	ini.	-445.19	4456	0.85	0	2479	13480	5345	2168	7513		1.69	Si
SLV 11	fin.	382.64	1372	0.85	0	2479	13480	5345	2168	7513		5.47	Si
SLV 16	ini.	-441.45	4014	0.85	0	2479	13480	5345	2168	7513		1.87	Si
SLV 16	fin.	336.19	1351	0.85	0	2479	13480	5345	2168	7513		5.56	Si
SLV 7	ini.	-314.75	3707	0.85	0	2479	13480	5345	2168	7513		2.03	Si
SLV 7	fin.	266.25	578	0.85	0	2479	13480	5345	2168	7513		13.01	Si
SLV 1	ini.	372.19	-1089	0.85	0	2479	13480	5345	2168	7513		6.9	Si
SLV 1	fin.	-437.35	-3698	0.85	0	2479	13480	5345	2168	7513		2.03	Si
SLV 12	ini.	-541.31	5036	0.85	0	2479	13480	5345	2168	7513		1.49	Si
SLV 12	fin.	472.57	1995	0.85	0	2479	13480	5345	2168	7513		3.77	Si
SLV 8	ini.	-410.87	4288	0.85	0	2479	13480	5345	2168	7513		1.75	Si
SLV 8	fin.	356.19	1200	0.85	0	2479	13480	5345	2168	7513		6.26	Si
SLV 6	ini.	375.93	-1531	0.85	0	2479	13480	5345	2168	7513		4.91	Si
SLV 6	fin.	-483.8	-3719	0.85	0	2479	13480	5345	2168	7513		2.02	Si
SLD 12	ini.	-335.36	3579	0.85	0	2479	13480	5345	2168	7513		2.1	Si
SLD 12	fin.	259.45	707	0.85	0	2479	13480	5345	2168	7513		10.62	Si
SLV 5	ini.	472.05	-2111	0.85	0	2479	13480	5345	2168	7513		3.56	Si
SLV 5	fin.	-573.74	-4341	0.85	0	2479	13480	5345	2168	7513		1.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.556	SLV 5	Si
V_SLV	1.492	SLV 12	Si
PF_SLU	28.859	SLU 42	Si
V_SLU	2.648	SLU 77	Si

Trave di accoppiamento 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	7.9	8.8	0.9	-22.478	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	418.56	-1491	-0.0001717	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.54	Si
SLU 78	fin.	23.68	-675	-0.000009	0.0001872	0.0035	0.9		3572.55	3572.55	No	150.87	Si
SLU 75	ini.	428.05	-1483	-0.0001759	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.35	Si
SLU 75	fin.	9.97	-621	-0.0000038	0.0001872	0.0035	0.9		3572.55	3572.55	No	358.41	Si
SLU 83	ini.	461.46	-1529	-0.0001911	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.74	Si
SLU 83	fin.	-10.77	-564	-0.0000041	0.0001872	0.0035	0.9		3579.32	3579.32	No	332.33	Si
SLU 77	ini.	431.67	-1506	-0.0001776	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.28	Si
SLU 77	fin.	14.97	-649	-0.0000057	0.0001872	0.0035	0.9		3572.55	3572.55	No	238.61	Si
SLU 84	ini.	448.36	-1514	-0.0001851	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.97	Si
SLU 84	fin.	-2.06	-590	-0.0000008	0.0001872	0.0035	0.9		3579.32	3579.32	No	1735.31	Si
SLU 39	ini.	425.11	-1311	-0.0001746	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.4	Si
SLU 39	fin.	-40.9	-366	-0.0000156	0.0001872	0.0035	0.9		3579.32	3579.32	No	87.51	Si
SLU 81	ini.	470.95	-1521	-0.0001954	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.59	Si
SLU 81	fin.	-24.48	-510	-0.0000093	0.0001872	0.0035	0.9		3579.32	3579.32	No	146.2	Si
SLU 74	ini.	441.16	-1498	-0.0001819	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.1	Si
SLU 74	fin.	1.26	-596	-0.0000005	0.0001872	0.0035	0.9		3572.55	3572.55	No	2835.05	Si
SLU 82	ini.	457.85	-1506	-0.0001894	0.0001872	0.0035	0.9		3572.55	3572.55	No	7.8	Si
SLU 82	fin.	-15.78	-536	-0.000006	0.0001872	0.0035	0.9		3579.32	3579.32	No	226.9	Si
SLU 79	ini.	419.86	-1475	-0.0001723	0.0001872	0.0035	0.9		3572.55	3572.55	No	8.51	Si
SLU 79	fin.	17.39	-646	-0.0000066	0.0001872	0.0035	0.9		3572.55	3572.55	No	205.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	448.36	-1554	0.9	0	1750	14273	3773	2295	6068	No	3.9	Si
SLU 84	fin.	-2.06	209	0.9	0	1750	14273	3773	2295	6068	No	28.98	Si
SLU 81	ini.	470.95	-1619	0.9	0	1750	14273	3773	2295	6068	No	3.75	Si
SLU 81	fin.	-24.48	69	0.9	0	1750	14273	3773	2295	6068	No	88.08	Si
SLU 79	ini.	419.86	-1462	0.9	0	1750	14273	3773	2295	6068	No	4.15	Si
SLU 79	fin.	17.39	329	0.9	0	1750	14273	3773	2295	6068	No	18.43	Si
SLU 75	ini.	428.05	-1495	0.9	0	1750	14273	3773	2295	6068	No	4.06	Si
SLU 75	fin.	9.97	290	0.9	0	1750	14273	3773	2295	6068	No	20.92	Si
SLU 82	ini.	457.85	-1580	0.9	0	1750	14273	3773	2295	6068	No	3.84	Si
SLU 82	fin.	-15.78	121	0.9	0	1750	14273	3773	2295	6068	No	50.24	Si
SLU 39	ini.	425.11	-1458	0.9	0	1750	14273	3773	2295	6068	No	4.16	Si
SLU 39	fin.	-40.9	-70	0.9	0	1750	14273	3773	2295	6068	No	86.58	Si
SLU 74	ini.	441.16	-1535	0.9	0	1750	14273	3773	2295	6068	No	3.95	Si
SLU 74	fin.	1.26	238	0.9	0	1750	14273	3773	2295	6068	No	25.47	Si
SLU 78	ini.	418.56	-1470	0.9	0	1750	14273	3773	2295	6068	No	4.13	Si
SLU 78	fin.	23.68	379	0.9	0	1750	14273	3773	2295	6068	No	16.02	Si
SLU 77	ini.	431.67	-1509	0.9	0	1750	14273	3773	2295	6068	No	4.02	Si
SLU 77	fin.	14.97	327	0.9	0	1750	14273	3773	2295	6068	No	18.57	Si
SLU 83	ini.	461.46	-1594	0.9	0	1750	14273	3773	2295	6068	No	3.81	Si
SLU 83	fin.	-10.77	157	0.9	0	1750	14273	3773	2295	6068	No	38.53	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 7	ini.	871.35	-1551	-0.000377	0.0002807	0.0035	0.9		3568.61	3568.61		4.1	Si
SLD 7	fin.	-441.85	963	-0.0001775	0.0002807	0.0035	0.9		3575.64	3575.64		8.09	Si
SLV 9	ini.	-887.44	103	-0.0003843	0.0002807	0.0035	0.9		3575.64	3575.64		4.03	Si
SLV 9	fin.	910.84	-3209	-0.0003971	0.0002807	0.0035	0.9		3568.61	3568.61		3.92	Si
SLD 8	ini.	983.01	-1677	-0.0004346	0.0002807	0.0035	0.9		3568.61	3568.61		3.63	Si
SLD 8	fin.	-520.43	1192	-0.0002115	0.0002807	0.0035	0.9		3575.64	3575.64		6.87	Si
SLV 8	ini.	1456.23	-2124	-0.0007057	0.0002807	0.0035	0.9		3568.61	3568.61		2.45	Si
SLV 8	fin.	-883.95	2311	-0.0003826	0.0002807	0.0035	0.9		3575.64	3575.64		4.05	Si
SLV 11	ini.	869.76	-1452	-0.0003762	0.0002807	0.0035	0.9		3568.61	3568.61		4.1	Si
SLV 11	fin.	-474.77	1139	-0.0001916	0.0002807	0.0035	0.9		3575.64	3575.64		7.53	Si
SLV 12	ini.	1053.75	-1660	-0.0004724	0.0002807	0.0035	0.9		3568.61	3568.61		3.39	Si
SLV 12	fin.	-604.25	1516	-0.0002488	0.0002807	0.0035	0.9		3575.64	3575.64		5.92	Si
SLV 3	ini.	1082.11	-1862	-0.0004878	0.0002807	0.0035	0.9		3568.61	3568.61		3.3	Si
SLV 3	fin.	-564.37	1250	-0.0002309	0.0002807	0.0035	0.9		3575.64	3575.64		6.34	Si
SLD 4	ini.	952.22	-1737	-0.0004185	0.0002807	0.0035	0.9		3568.61	3568.61		3.75	Si
SLD 4	fin.	-465.61	954	-0.0001877	0.0002807	0.0035	0.9		3575.64	3575.64		7.68	Si
SLV 4	ini.	1355.44	-2172	-0.0006443	0.0002807	0.0035	0.9		3568.61	3568.61		2.63	Si
SLV 4	fin.	-756.73	1809	-0.0003198	0.0002807	0.0035	0.9		3575.64	3575.64		4.73	Si
SLV 7	ini.	1272.24	-1916	-0.0005951	0.0002807	0.0035	0.9		3568.61	3568.61		2.8	Si
SLV 7	fin.	-754.46	1935	-0.0003187	0.0002807	0.0035	0.9		3575.64	3575.64		4.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	952.22	-3319	0.9	0	2625	14273	5660	2295	7955		2.4	Si
SLD 4	fin.	-465.61	-2149	0.9	0	2625	14273	5660	2295	7955		3.7	Si
SLV 4	ini.	1355.44	-4721	0.9	0	2625	14273	5660	2295	7955		1.68	Si
SLV 4	fin.	-756.73	-3610	0.9	0	2625	14273	5660	2295	7955		2.2	Si
SLV 12	ini.	1053.75	-3414	0.9	0	2625	14273	5660	2295	7955		2.33	Si
SLV 12	fin.	-604.25	-3359	0.9	0	2625	14273	5660	2295	7955		2.37	Si
SLV 3	ini.	1082.11	-3777	0.9	0	2625	14273	5660	2295	7955		2.11	Si
SLV 3	fin.	-564.37	-2647	0.9	0	2625	14273	5660	2295	7955		3	Si
SLV 5	ini.	-484.96	1442	0.9	0	2625	14273	5660	2295	7955		5.51	Si
SLV 5	fin.	631.14	3833	0.9	0	2625	14273	5660	2295	7955		2.08	Si
SLV 8	ini.	1456.23	-4862	0.9	0	2625	14273	5660	2295	7955		1.64	Si
SLV 8	fin.	-883.95	-4671	0.9	0	2625	14273	5660	2295	7955		1.7	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-703.45	2254	0.9	0	2625	14273	5660	2295	7955		3.53	Si
SLV 10	fin.	781.35	4497	0.9	0	2625	14273	5660	2295	7955		1.77	Si
SLV 9	ini.	-887.44	2890	0.9	0	2625	14273	5660	2295	7955		2.75	Si
SLV 9	fin.	910.84	5145	0.9	0	2625	14273	5660	2295	7955		1.55	Si
SLV 13	ini.	-786.65	2749	0.9	0	2625	14273	5660	2295	7955		2.89	Si
SLV 13	fin.	783.62	4084	0.9	0	2625	14273	5660	2295	7955		1.95	Si
SLV 7	ini.	1272.24	-4226	0.9	0	2625	14273	5660	2295	7955		1.88	Si
SLV 7	fin.	-754.46	-4023	0.9	0	2625	14273	5660	2295	7955		1.98	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.451	SLV 8	Si
V_SLV	1.546	SLV 9	Si
PF_SLU	7.586	SLU 81	Si
V_SLU	3.747	SLU 81	Si

Trave di accoppiamento 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	10.6	11.45	0.85	-22.478	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	35.58	-583	-0.0000152	0.0001872	0.0035	0.85		3266.1	3266.1	No	91.78	Si
SLU 82	fin.	-281.36	-1309	-0.0001261	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.63	Si
SLU 40	ini.	54.1	-477	-0.0000232	0.0001872	0.0035	0.85		3266.1	3266.1	No	60.37	Si
SLU 40	fin.	-256.57	-1180	-0.0001144	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.75	Si
SLU 75	ini.	-5.46	-645	-0.0000023	0.0001872	0.0035	0.85		3272.39	3272.39	No	598.87	Si
SLU 75	fin.	-259.73	-1243	-0.0001159	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.6	Si
SLU 84	ini.	10.14	-632	-0.0000043	0.0001872	0.0035	0.85		3266.1	3266.1	No	322.19	Si
SLU 84	fin.	-272.86	-1295	-0.0001221	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.99	Si
SLU 39	ini.	67.12	-462	-0.0000289	0.0001872	0.0035	0.85		3266.1	3266.1	No	48.66	Si
SLU 39	fin.	-265.2	-1211	-0.0001184	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.34	Si
SLU 77	ini.	-17.89	-681	-0.0000076	0.0001872	0.0035	0.85		3272.39	3272.39	No	182.9	Si
SLU 77	fin.	-259.86	-1260	-0.0001159	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.59	Si
SLU 41	ini.	41.67	-512	-0.0000179	0.0001872	0.0035	0.85		3266.1	3266.1	No	78.37	Si
SLU 41	fin.	-256.71	-1197	-0.0001144	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.75	Si
SLU 74	ini.	7.56	-631	-0.0000032	0.0001872	0.0035	0.85		3266.1	3266.1	No	432.24	Si
SLU 74	fin.	-268.36	-1274	-0.0001199	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.19	Si
SLU 83	ini.	23.16	-618	-0.0000099	0.0001872	0.0035	0.85		3266.1	3266.1	No	141.04	Si
SLU 83	fin.	-281.49	-1326	-0.0001262	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.63	Si
SLU 81	ini.	48.61	-569	-0.0000209	0.0001872	0.0035	0.85		3266.1	3266.1	No	67.2	Si
SLU 81	fin.	-289.99	-1340	-0.0001302	0.0001872	0.0035	0.85		3272.39	3272.39	No	11.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-17.89	618	0.85	0	1653	13480	3563	2168	5731	No	9.28	Si
SLU 77	fin.	-259.86	-2231	0.85	0	1653	13480	3563	2168	5731	No	2.57	Si
SLU 78	ini.	-30.91	666	0.85	0	1653	13480	3563	2168	5731	No	8.61	Si
SLU 78	fin.	-251.23	-2190	0.85	0	1653	13480	3563	2168	5731	No	2.62	Si
SLU 82	ini.	35.58	441	0.85	0	1653	13480	3563	2168	5731	No	13.01	Si
SLU 82	fin.	-281.36	-2329	0.85	0	1653	13480	3563	2168	5731	No	2.46	Si
SLU 75	ini.	-5.46	573	0.85	0	1653	13480	3563	2168	5731	No	9.99	Si
SLU 75	fin.	-259.73	-2210	0.85	0	1653	13480	3563	2168	5731	No	2.59	Si
SLU 73	ini.	6.52	519	0.85	0	1653	13480	3563	2168	5731	No	11.05	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	fin.	-253.84	-2144	0.85	0	1653	13480	3563	2168	5731	No	2.67	Si
SLU 84	ini.	10.14	533	0.85	0	1653	13480	3563	2168	5731	No	10.75	Si
SLU 84	fin.	-272.86	-2309	0.85	0	1653	13480	3563	2168	5731	No	2.48	Si
SLU 79	ini.	-22.67	624	0.85	0	1653	13480	3563	2168	5731	No	9.19	Si
SLU 79	fin.	-251.23	-2172	0.85	0	1653	13480	3563	2168	5731	No	2.64	Si
SLU 83	ini.	23.16	485	0.85	0	1653	13480	3563	2168	5731	No	11.82	Si
SLU 83	fin.	-281.49	-2350	0.85	0	1653	13480	3563	2168	5731	No	2.44	Si
SLU 74	ini.	7.56	525	0.85	0	1653	13480	3563	2168	5731	No	10.91	Si
SLU 74	fin.	-268.36	-2251	0.85	0	1653	13480	3563	2168	5731	No	2.55	Si
SLU 81	ini.	48.61	392	0.85	0	1653	13480	3563	2168	5731	No	14.6	Si
SLU 81	fin.	-289.99	-2370	0.85	0	1653	13480	3563	2168	5731	No	2.42	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-759.81	-1414	-0.0003654	0.0002807	0.0035	0.85		3187.76	3187.76		4.2	Si
SLV 6	fin.	258.4	665	-0.0001139	0.0002807	0.0035	0.85		3181.12	3181.12		12.31	Si
SLV 5	ini.	-943.6	-1640	-0.0004722	0.0002807	0.0035	0.85		3187.76	3187.76		3.38	Si
SLV 5	fin.	369.76	1050	-0.0001658	0.0002807	0.0035	0.85		3181.12	3181.12		8.6	Si
SLV 10	ini.	-1083.14	-1834	-0.0005588	0.0002807	0.0035	0.85		3187.76	3187.76		2.94	Si
SLV 10	fin.	452.3	1316	-0.0002055	0.0002807	0.0035	0.85		3181.12	3181.12		7.03	Si
SLV 4	ini.	969.61	830	-0.0004892	0.0002807	0.0035	0.85		3181.12	3181.12		3.28	Si
SLV 4	fin.	-750.83	-2783	-0.0003604	0.0002807	0.0035	0.85		3187.76	3187.76		4.25	Si
SLV 12	ini.	928.53	782	-0.0004643	0.0002807	0.0035	0.85		3181.12	3181.12		3.43	Si
SLV 12	fin.	-710.72	-2676	-0.0003383	0.0002807	0.0035	0.85		3187.76	3187.76		4.49	Si
SLV 9	ini.	-1266.93	-2059	-0.00068	0.0002807	0.0035	0.85		3187.76	3187.76		2.52	Si
SLV 9	fin.	563.67	1701	-0.0002612	0.0002807	0.0035	0.85		3181.12	3181.12		5.64	Si
SLV 8	ini.	1251.86	1202	-0.0006714	0.0002807	0.0035	0.85		3181.12	3181.12		2.54	Si
SLV 8	fin.	-904.63	-3327	-0.0004489	0.0002807	0.0035	0.85		3187.76	3187.76		3.52	Si
SLV 13	ini.	-984.68	-1688	-0.0004972	0.0002807	0.0035	0.85		3187.76	3187.76		3.24	Si
SLV 13	fin.	409.87	1156	-0.0001849	0.0002807	0.0035	0.85		3181.12	3181.12		7.76	Si
SLD 9	ini.	-754.26	-1395	-0.0003623	0.0002807	0.0035	0.85		3187.76	3187.76		4.23	Si
SLD 9	fin.	265.01	678	-0.0001169	0.0002807	0.0035	0.85		3181.12	3181.12		12	Si
SLV 7	ini.	1068.07	977	-0.0005505	0.0002807	0.0035	0.85		3181.12	3181.12		2.98	Si
SLV 7	fin.	-793.26	-2943	-0.0003842	0.0002807	0.0035	0.85		3187.76	3187.76		4.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-943.6	3655	0.85	0	2479	13480	5345	2168	7513		2.06	Si
SLV 5	fin.	369.76	1368	0.85	0	2479	13480	5345	2168	7513		5.49	Si
SLV 4	ini.	969.61	-2873	0.85	0	2479	13480	5345	2168	7513		2.61	Si
SLV 4	fin.	-750.83	-4646	0.85	0	2479	13480	5345	2168	7513		1.62	Si
SLD 8	ini.	739.19	-2165	0.85	0	2479	13480	5345	2168	7513		3.47	Si
SLD 8	fin.	-605.97	-3756	0.85	0	2479	13480	5345	2168	7513		2	Si
SLV 12	ini.	928.53	-2866	0.85	0	2479	13480	5345	2168	7513		2.62	Si
SLV 12	fin.	-710.72	-4241	0.85	0	2479	13480	5345	2168	7513		1.77	Si
SLV 7	ini.	1068.07	-3311	0.85	0	2479	13480	5345	2168	7513		2.27	Si
SLV 7	fin.	-793.26	-4729	0.85	0	2479	13480	5345	2168	7513		1.59	Si
SLV 13	ini.	-984.68	3663	0.85	0	2479	13480	5345	2168	7513		2.05	Si
SLV 13	fin.	409.87	1774	0.85	0	2479	13480	5345	2168	7513		4.24	Si
SLV 3	ini.	696.58	-1960	0.85	0	2479	13480	5345	2168	7513		3.83	Si
SLV 3	fin.	-585.39	-3733	0.85	0	2479	13480	5345	2168	7513		2.01	Si
SLV 10	ini.	-1083.14	4100	0.85	0	2479	13480	5345	2168	7513		1.83	Si
SLV 10	fin.	452.3	1856	0.85	0	2479	13480	5345	2168	7513		4.05	Si
SLV 8	ini.	1251.86	-3926	0.85	0	2479	13480	5345	2168	7513		1.91	Si
SLV 8	fin.	-904.63	-5344	0.85	0	2479	13480	5345	2168	7513		1.41	Si
SLV 9	ini.	-1266.93	4715	0.85	0	2479	13480	5345	2168	7513		1.59	Si
SLV 9	fin.	563.67	2471	0.85	0	2479	13480	5345	2168	7513		3.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.516	SLV 9	Si
V_SLV	1.406	SLV 8	Si
PF_SLU	11.285	SLU 81	Si
V_SLU	2.418	SLU 81	Si

Trave di accoppiamento 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	7.9	9.9	2	-19.293	-3.169	7.9	9.9	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-152.6	-1927	-0.0000118	0.0001872	0.0035	2		17748.68	17748.68	No	116.31	Si
SLU 71	fin.	-2.56	-2644	-0.0000002	0.0001872	0.0035	2		17748.68	17748.68	No	6920.29	Si
SLU 47	ini.	-152.56	-1709	-0.0000118	0.0001872	0.0035	2		17748.68	17748.68	No	116.34	Si
SLU 47	fin.	-3.25	-2331	-0.0000003	0.0001872	0.0035	2		17748.68	17748.68	No	5455.08	Si
SLU 68	ini.	-168.88	-1926	-0.000013	0.0001872	0.0035	2		17748.68	17748.68	No	105.1	Si
SLU 68	fin.	-4.16	-2628	-0.0000003	0.0001872	0.0035	2		17748.68	17748.68	No	4271.08	Si
SLU 65	ini.	-166.51	-1882	-0.0000129	0.0001872	0.0035	2		17748.68	17748.68	No	106.59	Si
SLU 65	fin.	-6.28	-2577	-0.0000005	0.0001872	0.0035	2		17748.68	17748.68	No	2825.16	Si
SLU 70	ini.	-168.61	-2006	-0.000013	0.0001872	0.0035	2		17748.68	17748.68	No	105.26	Si
SLU 70	fin.	-3.63	-2727	-0.0000003	0.0001872	0.0035	2		17748.68	17748.68	No	4888.49	Si
SLU 49	ini.	-152.3	-1789	-0.0000118	0.0001872	0.0035	2		17748.68	17748.68	No	116.54	Si
SLU 49	fin.	-2.73	-2430	-0.0000002	0.0001872	0.0035	2		17748.68	17748.68	No	6504.28	Si
SLU 69	ini.	-157.43	-1980	-0.0000122	0.0001872	0.0035	2		17748.68	17748.68	No	112.74	Si
SLU 69	fin.	-3.95	-2706	-0.0000003	0.0001872	0.0035	2		17748.68	17748.68	No	4490.72	Si
SLU 67	ini.	-166.25	-1962	-0.0000128	0.0001872	0.0035	2		17748.68	17748.68	No	106.76	Si
SLU 67	fin.	-5.76	-2676	-0.0000004	0.0001872	0.0035	2		17748.68	17748.68	No	3082.7	Si
SLU 66	ini.	-155.07	-1936	-0.000012	0.0001872	0.0035	2		17748.68	17748.68	No	114.46	Si
SLU 66	fin.	-6.08	-2655	-0.0000005	0.0001872	0.0035	2		17748.68	17748.68	No	2919.62	Si
SLU 72	ini.	-163.78	-1952	-0.0000126	0.0001872	0.0035	2		17748.68	17748.68	No	108.37	Si
SLU 72	fin.	-2.24	-2665	-0.0000002	0.0001872	0.0035	2		17748.68	17748.68	No	7912.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-168.61	403	2	0	3889	7930	8384	5100	11818	No	29.32	Si
SLU 70	fin.	-3.63	3442	2	0	3889	7930	8384	5100	11818	No	3.43	Si
SLU 75	ini.	-113.76	328	2	0	3889	7930	8384	5100	11818	No	36.04	Si
SLU 75	fin.	-15.62	3495	2	0	3889	7930	8384	5100	11818	No	3.38	Si
SLU 79	ini.	-100.11	332	2	0	3889	7930	8384	5100	11818	No	35.58	Si
SLU 79	fin.	-12.42	3459	2	0	3889	7930	8384	5100	11818	No	3.42	Si
SLU 80	ini.	-111.29	332	2	0	3889	7930	8384	5100	11818	No	35.58	Si
SLU 80	fin.	-12.1	3488	2	0	3889	7930	8384	5100	11818	No	3.39	Si
SLU 78	ini.	-116.12	321	2	0	3889	7930	8384	5100	11818	No	36.78	Si
SLU 78	fin.	-13.49	3555	2	0	3889	7930	8384	5100	11818	No	3.32	Si
SLU 76	ini.	-116.39	339	2	0	3889	7930	8384	5100	11818	No	34.88	Si
SLU 76	fin.	-14.01	3447	2	0	3889	7930	8384	5100	11818	No	3.43	Si
SLU 83	ini.	-75.25	304	2	0	3889	7930	8384	5100	11818	No	38.91	Si
SLU 83	fin.	-18.78	3448	2	0	3889	7930	8384	5100	11818	No	3.43	Si
SLU 74	ini.	-102.58	328	2	0	3889	7930	8384	5100	11818	No	36.04	Si
SLU 74	fin.	-15.94	3467	2	0	3889	7930	8384	5100	11818	No	3.41	Si
SLU 84	ini.	-86.44	304	2	0	3889	7930	8384	5100	11818	No	38.91	Si
SLU 84	fin.	-18.45	3477	2	0	3889	7930	8384	5100	11818	No	3.4	Si
SLU 77	ini.	-104.94	321	2	0	3889	7930	8384	5100	11818	No	36.79	Si
SLU 77	fin.	-13.81	3527	2	0	3889	7930	8384	5100	11818	No	3.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1260.91	-3289	-0.0000999	0.0002807	0.0035	2		15965.77	15965.77		12.66	Si
SLV 14	fin.	436.99	-4284	-0.000034	0.0002807	0.0035	2		15950.21	15950.21		36.5	Si
SLV 13	ini.	-1555.82	-3718	-0.0001243	0.0002807	0.0035	2		15965.77	15965.77		10.26	Si
SLV 13	fin.	615.19	-4945	-0.000048	0.0002807	0.0035	2		15950.21	15950.21		25.93	Si
SLV 8	ini.	1365.48	1765	-0.0001086	0.0002807	0.0035	2		15950.21	15950.21		11.68	Si
SLV 8	fin.	-405.7	1310	-0.0000315	0.0002807	0.0035	2		15965.77	15965.77		39.35	Si
SLV 9	ini.	-1555.82	-4508	-0.0001243	0.0002807	0.0035	2		15965.77	15965.77		10.26	Si
SLV 9	fin.	389.97	-5136	-0.0000303	0.0002807	0.0035	2		15950.21	15950.21		40.9	Si
SLV 7	ini.	1166.96	1477	-0.0000923	0.0002807	0.0035	2		15950.21	15950.21		13.67	Si
SLV 7	fin.	-285.74	866	-0.0000221	0.0002807	0.0035	2		15965.77	15965.77		55.87	Si
SLV 3	ini.	1070.57	547	-0.0000845	0.0002807	0.0035	2		15950.21	15950.21		14.9	Si
SLV 3	fin.	-452.71	458	-0.0000352	0.0002807	0.0035	2		15965.77	15965.77		35.27	Si
SLV 4	ini.	1365.49	976	-0.0001086	0.0002807	0.0035	2		15950.21	15950.21		11.68	Si
SLV 4	fin.	-630.92	1119	-0.0000492	0.0002807	0.0035	2		15965.77	15965.77		25.31	Si
SLD 9	ini.	-967.67	-3232	-0.0000761	0.0002807	0.0035	2		15965.77	15965.77		16.5	Si
SLD 9	fin.	233.4	-3835	-0.000018	0.0002807	0.0035	2		15950.21	15950.21		68.34	Si
SLV 10	ini.	-1357.3	-4219	-0.0001078	0.0002807	0.0035	2		15965.77	15965.77		11.76	Si
SLV 10	fin.	270.01	-4691	-0.0000209	0.0002807	0.0035	2		15950.21	15950.21		59.07	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-1008.36	-2828	-0.0000794	0.0002807	0.0035	2		15965.77	15965.77		15.83	Si
SLD 13	fin.	384.98	-3806	-0.0000299	0.0002807	0.0035	2		15950.21	15950.21		41.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-917.96	5409	2	0	5833	7930	12577	5100	13763		2.54	Si
SLV 15	fin.	498.04	6150	2	0	5833	7930	12577	5100	13763		2.24	Si
SLV 13	ini.	-1555.82	6273	2	0	5833	7930	12577	5100	13763		2.19	Si
SLV 13	fin.	615.19	7913	2	0	5833	7930	12577	5100	13763		1.74	Si
SLV 9	ini.	-1555.82	3669	2	0	5833	7930	12577	5100	13763		3.75	Si
SLV 9	fin.	389.97	7001	2	0	5833	7930	12577	5100	13763		1.97	Si
SLV 14	ini.	-1260.91	4827	2	0	5833	7930	12577	5100	13763		2.85	Si
SLV 14	fin.	436.99	6586	2	0	5833	7930	12577	5100	13763		2.09	Si
SLD 9	ini.	-967.67	2353	2	0	5833	7930	12577	5100	13763		5.85	Si
SLD 9	fin.	233.4	5173	2	0	5833	7930	12577	5100	13763		2.66	Si
SLD 13	ini.	-1008.36	4072	2	0	5833	7930	12577	5100	13763		3.38	Si
SLD 13	fin.	384.98	5861	2	0	5833	7930	12577	5100	13763		2.35	Si
SLD 15	ini.	-634.93	3566	2	0	5833	7930	12577	5100	13763		3.86	Si
SLD 15	fin.	316.43	4829	2	0	5833	7930	12577	5100	13763		2.85	Si
SLV 10	ini.	-1357.3	2695	2	0	5833	7930	12577	5100	13763		5.11	Si
SLV 10	fin.	270.01	6107	2	0	5833	7930	12577	5100	13763		2.25	Si
SLD 14	ini.	-821.26	3155	2	0	5833	7930	12577	5100	13763		4.36	Si
SLD 14	fin.	271.93	5019	2	0	5833	7930	12577	5100	13763		2.74	Si
SLV 4	ini.	1365.49	-5687	2	0	5833	7930	12577	5100	13763		2.42	Si
SLV 4	fin.	-630.92	-3045	2	0	5833	7930	12577	5100	13763		4.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.262	SLV 13	Si
V_SLV	1.739	SLV 13	Si
PF_SLU	105.099	SLU 68	Si
V_SLU	3.324	SLU 78	Si

Trave di accoppiamento 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	10.7	11.45	0.75	-19.293	-3.169	10.7	11.45	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-50.74	-488	-0.000028	0.0001872	0.0035	0.75		2548.25	2548.25	No	50.22	Si
SLU 72	fin.	71.39	-369	-0.0000396	0.0001872	0.0035	0.75		2542.76	2542.76	No	35.62	Si
SLU 67	ini.	-50	-487	-0.0000275	0.0001872	0.0035	0.75		2548.25	2548.25	No	50.97	Si
SLU 67	fin.	74.46	-364	-0.0000413	0.0001872	0.0035	0.75		2542.76	2542.76	No	34.15	Si
SLU 64	ini.	-48.2	-462	-0.0000265	0.0001872	0.0035	0.75		2548.25	2548.25	No	52.86	Si
SLU 64	fin.	71.67	-336	-0.0000398	0.0001872	0.0035	0.75		2542.76	2542.76	No	35.48	Si
SLU 71	ini.	-51.19	-491	-0.0000282	0.0001872	0.0035	0.75		2548.25	2548.25	No	49.78	Si
SLU 71	fin.	69.78	-374	-0.0000387	0.0001872	0.0035	0.75		2542.76	2542.76	No	36.44	Si
SLU 65	ini.	-47.46	-458	-0.0000261	0.0001872	0.0035	0.75		2548.25	2548.25	No	53.69	Si
SLU 65	fin.	74.35	-327	-0.0000413	0.0001872	0.0035	0.75		2542.76	2542.76	No	34.2	Si
SLU 66	ini.	-50.45	-490	-0.0000278	0.0001872	0.0035	0.75		2548.25	2548.25	No	50.51	Si
SLU 66	fin.	72.86	-370	-0.0000404	0.0001872	0.0035	0.75		2542.76	2542.76	No	34.9	Si
SLU 69	ini.	-51.94	-505	-0.0000286	0.0001872	0.0035	0.75		2548.25	2548.25	No	49.06	Si
SLU 69	fin.	71.91	-389	-0.0000399	0.0001872	0.0035	0.75		2542.76	2542.76	No	35.36	Si
SLU 83	ini.	-67.48	-648	-0.0000373	0.0001872	0.0035	0.75		2548.25	2548.25	No	37.76	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	58.59	-517	-0.0000324	0.0001872	0.0035	0.75		2542.76	2542.76	No	43.4	Si
SLU 68	ini.	-48.95	-472	-0.000027	0.0001872	0.0035	0.75		2548.25	2548.25	No	52.05	Si
SLU 68	fin.	73.41	-346	-0.0000407	0.0001872	0.0035	0.75		2542.76	2542.76	No	34.64	Si
SLU 70	ini.	-51.49	-502	-0.0000284	0.0001872	0.0035	0.75		2548.25	2548.25	No	49.49	Si
SLU 70	fin.	73.52	-383	-0.0000408	0.0001872	0.0035	0.75		2542.76	2542.76	No	34.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-65.99	1726	0.75	0	1458	7930	3144	1913	5057	No	2.93	Si
SLU 81	fin.	59.54	-1366	0.75	0	1458	7930	3144	1913	5057	No	3.7	Si
SLU 84	ini.	-67.03	1750	0.75	0	1458	7930	3144	1913	5057	No	2.89	Si
SLU 84	fin.	60.2	-1389	0.75	0	1458	7930	3144	1913	5057	No	3.64	Si
SLU 74	ini.	-62.89	1726	0.75	0	1458	7930	3144	1913	5057	No	2.93	Si
SLU 74	fin.	64.36	-1374	0.75	0	1458	7930	3144	1913	5057	No	3.68	Si
SLU 77	ini.	-64.39	1743	0.75	0	1458	7930	3144	1913	5057	No	2.9	Si
SLU 77	fin.	63.42	-1398	0.75	0	1458	7930	3144	1913	5057	No	3.62	Si
SLU 83	ini.	-67.48	1742	0.75	0	1458	7930	3144	1913	5057	No	2.9	Si
SLU 83	fin.	58.59	-1390	0.75	0	1458	7930	3144	1913	5057	No	3.64	Si
SLU 79	ini.	-63.64	1697	0.75	0	1458	7930	3144	1913	5057	No	2.98	Si
SLU 79	fin.	61.29	-1349	0.75	0	1458	7930	3144	1913	5057	No	3.75	Si
SLU 80	ini.	-63.19	1705	0.75	0	1458	7930	3144	1913	5057	No	2.97	Si
SLU 80	fin.	62.9	-1347	0.75	0	1458	7930	3144	1913	5057	No	3.75	Si
SLU 75	ini.	-62.45	1734	0.75	0	1458	7930	3144	1913	5057	No	2.92	Si
SLU 75	fin.	65.97	-1372	0.75	0	1458	7930	3144	1913	5057	No	3.69	Si
SLU 82	ini.	-65.54	1733	0.75	0	1458	7930	3144	1913	5057	No	2.92	Si
SLU 82	fin.	61.15	-1365	0.75	0	1458	7930	3144	1913	5057	No	3.71	Si
SLU 78	ini.	-63.94	1751	0.75	0	1458	7930	3144	1913	5057	No	2.89	Si
SLU 78	fin.	65.03	-1396	0.75	0	1458	7930	3144	1913	5057	No	3.62	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	113.91	977	-0.0000634	0.0002807	0.0035	0.75		2470.23	2470.23		21.69	Si
SLV 9	fin.	429.99	1396	-0.0002551	0.0002807	0.0035	0.75		2470.23	2470.23		5.74	Si
SLV 14	ini.	86.33	917	-0.0000478	0.0002807	0.0035	0.75		2470.23	2470.23		28.61	Si
SLV 14	fin.	401.2	1471	-0.0002365	0.0002807	0.0035	0.75		2470.23	2470.23		6.16	Si
SLD 9	ini.	51.62	435	-0.0000284	0.0002807	0.0035	0.75		2470.23	2470.23		47.86	Si
SLD 9	fin.	278.3	732	-0.0001598	0.0002807	0.0035	0.75		2470.23	2470.23		8.88	Si
SLV 13	ini.	104.56	1192	-0.0000581	0.0002807	0.0035	0.75		2470.23	2470.23		23.62	Si
SLV 13	fin.	502.92	2001	-0.0003038	0.0002807	0.0035	0.75		2470.23	2470.23		4.91	Si
SLV 10	ini.	101.64	792	-0.0000564	0.0002807	0.0035	0.75		2470.23	2470.23		24.3	Si
SLV 10	fin.	361.52	1039	-0.0002112	0.0002807	0.0035	0.75		2470.23	2470.23		6.83	Si
SLV 8	ini.	-193.71	-1731	-0.0001091	0.0002807	0.0035	0.75		2476.06	2476.06		12.78	Si
SLV 8	fin.	-329.74	-1953	-0.0001909	0.0002807	0.0035	0.75		2476.06	2476.06		7.51	Si
SLV 15	ini.	33.96	644	-0.0000186	0.0002807	0.0035	0.75		2470.23	2470.23		72.73	Si
SLV 15	fin.	354.54	1414	-0.0002068	0.0002807	0.0035	0.75		2470.23	2470.23		6.97	Si
SLV 4	ini.	-184.36	-1946	-0.0001037	0.0002807	0.0035	0.75		2476.06	2476.06		13.43	Si
SLV 4	fin.	-402.67	-2558	-0.0002368	0.0002807	0.0035	0.75		2476.06	2476.06		6.15	Si
SLV 3	ini.	-166.12	-1671	-0.0000931	0.0002807	0.0035	0.75		2476.06	2476.06		14.9	Si
SLV 3	fin.	-300.95	-2028	-0.0001732	0.0002807	0.0035	0.75		2476.06	2476.06		8.23	Si
SLD 13	ini.	49.72	608	-0.0000274	0.0002807	0.0035	0.75		2470.23	2470.23		49.69	Si
SLD 13	fin.	334.62	1156	-0.0001943	0.0002807	0.0035	0.75		2470.23	2470.23		7.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	33.96	1718	0.75	0	2188	7930	4716	1913	6629		3.86	Si
SLV 15	fin.	354.54	599	0.75	0	2188	7930	4716	1913	6629		11.07	Si
SLV 2	ini.	-113.76	601	0.75	0	2188	7930	4716	1913	6629		11.03	Si
SLV 2	fin.	-254.29	-2361	0.75	0	2188	7930	4716	1913	6629		2.81	Si
SLD 13	ini.	49.72	1682	0.75	0	2188	7930	4716	1913	6629		3.94	Si
SLD 13	fin.	334.62	125	0.75	0	2188	7930	4716	1913	6629		53.21	Si
SLD 2	ini.	-88.21	798	0.75	0	2188	7930	4716	1913	6629		8.3	Si
SLD 2	fin.	-147.51	-1825	0.75	0	2188	7930	4716	1913	6629		3.63	Si
SLV 1	ini.	-95.53	914	0.75	0	2188	7930	4716	1913	6629		7.25	Si
SLV 1	fin.	-152.57	-1918	0.75	0	2188	7930	4716	1913	6629		3.46	Si
SLV 13	ini.	104.56	1993	0.75	0	2188	7930	4716	1913	6629		3.33	Si
SLV 13	fin.	502.92	703	0.75	0	2188	7930	4716	1913	6629		9.42	Si
SLV 3	ini.	-166.12	639	0.75	0	2188	7930	4716	1913	6629		10.38	Si
SLV 3	fin.	-300.95	-2023	0.75	0	2188	7930	4716	1913	6629		3.28	Si
SLV 4	ini.	-184.36	326	0.75	0	2188	7930	4716	1913	6629		20.34	Si
SLV 4	fin.	-402.67	-2465	0.75	0	2188	7930	4716	1913	6629		2.69	Si
SLD 4	ini.	-129.51	637	0.75	0	2188	7930	4716	1913	6629		10.4	Si
SLD 4	fin.	-234.37	-1886	0.75	0	2188	7930	4716	1913	6629		3.51	Si
SLV 9	ini.	113.91	1886	0.75	0	2188	7930	4716	1913	6629		3.52	Si
SLV 9	fin.	429.99	-165	0.75	0	2188	7930	4716	1913	6629		40.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.912	SLV 13	Si
V_SLV	2.689	SLV 4	Si
PF_SLU	34.147	SLU 67	Si
V_SLU	2.888	SLU 78	Si

Trave di accoppiamento 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	7.9	8.8	0.9	-18.213	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-91.69	-448	-0.0000353	0.0001872	0.0035	0.9		3579.32	3579.32	No	39.04	Si
SLU 72	fin.	196.61	-1481	-0.0000772	0.0001872	0.0035	0.9		3572.55	3572.55	No	18.17	Si
SLU 78	ini.	-71.6	-555	-0.0000275	0.0001872	0.0035	0.9		3579.32	3579.32	No	49.99	Si
SLU 78	fin.	185.76	-1472	-0.0000728	0.0001872	0.0035	0.9		3572.55	3572.55	No	19.23	Si
SLU 66	ini.	-93.27	-439	-0.0000359	0.0001872	0.0035	0.9		3579.32	3579.32	No	38.38	Si
SLU 66	fin.	193.84	-1459	-0.0000761	0.0001872	0.0035	0.9		3572.55	3572.55	No	18.43	Si
SLU 67	ini.	-98.4	-434	-0.0000379	0.0001872	0.0035	0.9		3579.32	3579.32	No	36.38	Si
SLU 67	fin.	198.56	-1488	-0.000078	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.99	Si
SLU 68	ini.	-97.65	-426	-0.0000376	0.0001872	0.0035	0.9		3579.32	3579.32	No	36.65	Si
SLU 68	fin.	195.95	-1468	-0.000077	0.0001872	0.0035	0.9		3572.55	3572.55	No	18.23	Si
SLU 65	ini.	-100.2	-408	-0.0000386	0.0001872	0.0035	0.9		3579.32	3579.32	No	35.72	Si
SLU 65	fin.	192.15	-1435	-0.0000754	0.0001872	0.0035	0.9		3572.55	3572.55	No	18.59	Si
SLU 69	ini.	-90.72	-457	-0.0000349	0.0001872	0.0035	0.9		3579.32	3579.32	No	39.45	Si
SLU 69	fin.	197.64	-1492	-0.0000776	0.0001872	0.0035	0.9		3572.55	3572.55	No	18.08	Si
SLU 70	ini.	-95.85	-452	-0.0000369	0.0001872	0.0035	0.9		3579.32	3579.32	No	37.34	Si
SLU 70	fin.	202.36	-1521	-0.0000796	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.65	Si
SLU 64	ini.	-91.65	-417	-0.0000353	0.0001872	0.0035	0.9		3579.32	3579.32	No	39.05	Si
SLU 64	fin.	184.28	-1387	-0.0000722	0.0001872	0.0035	0.9		3572.55	3572.55	No	19.39	Si
SLU 71	ini.	-86.56	-453	-0.0000333	0.0001872	0.0035	0.9		3579.32	3579.32	No	41.35	Si
SLU 71	fin.	191.88	-1452	-0.0000753	0.0001872	0.0035	0.9		3572.55	3572.55	No	18.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-86.56	117	0.9	0	1750	14273	3773	2295	6068	No	51.75	Si
SLU 71	fin.	191.88	2311	0.9	0	1750	14273	3773	2295	6068	No	2.63	Si
SLU 67	ini.	-98.4	156	0.9	0	1750	14273	3773	2295	6068	No	38.82	Si
SLU 67	fin.	198.56	2375	0.9	0	1750	14273	3773	2295	6068	No	2.56	Si
SLU 66	ini.	-93.27	137	0.9	0	1750	14273	3773	2295	6068	No	44.43	Si
SLU 66	fin.	193.84	2331	0.9	0	1750	14273	3773	2295	6068	No	2.6	Si
SLU 78	ini.	-71.6	5	0.9	0	1750	14273	3773	2295	6068	No	1235.81	Si
SLU 78	fin.	185.76	2357	0.9	0	1750	14273	3773	2295	6068	No	2.57	Si
SLU 69	ini.	-90.72	122	0.9	0	1750	14273	3773	2295	6068	No	49.88	Si
SLU 69	fin.	197.64	2379	0.9	0	1750	14273	3773	2295	6068	No	2.55	Si
SLU 72	ini.	-91.69	137	0.9	0	1750	14273	3773	2295	6068	No	44.29	Si
SLU 72	fin.	196.61	2354	0.9	0	1750	14273	3773	2295	6068	No	2.58	Si
SLU 70	ini.	-95.85	141	0.9	0	1750	14273	3773	2295	6068	No	42.91	Si
SLU 70	fin.	202.36	2423	0.9	0	1750	14273	3773	2295	6068	No	2.5	Si
SLU 75	ini.	-74.15	20	0.9	0	1750	14273	3773	2295	6068	No	306.08	Si
SLU 75	fin.	181.96	2309	0.9	0	1750	14273	3773	2295	6068	No	2.63	Si
SLU 77	ini.	-66.47	-15	0.9	0	1750	14273	3773	2295	6068	No	408.79	Si
SLU 77	fin.	181.03	2314	0.9	0	1750	14273	3773	2295	6068	No	2.62	Si
SLU 68	ini.	-97.65	165	0.9	0	1750	14273	3773	2295	6068	No	36.75	Si
SLU 68	fin.	195.95	2335	0.9	0	1750	14273	3773	2295	6068	No	2.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-918.14	1410	-0.0004	0.0002807	0.0035	0.9		3575.64	3575.64		3.89	Si
SLV 15	fin.	589.81	-2689	-0.0002428	0.0002807	0.0035	0.9		3568.61	3568.61		6.05	Si
SLV 13	ini.	-1332.99	1981	-0.0006294	0.0002807	0.0035	0.9		3575.64	3575.64		2.68	Si
SLV 13	fin.	943.58	-4448	-0.000414	0.0002807	0.0035	0.9		3568.61	3568.61		3.78	Si
SLV 8	ini.	1002.27	-2004	-0.0004448	0.0002807	0.0035	0.9		3568.61	3568.61		3.56	Si
SLV 8	fin.	-678.45	2802	-0.0002828	0.0002807	0.0035	0.9		3575.64	3575.64		5.27	Si
SLD 13	ini.	-860.76	1124	-0.0003709	0.0002807	0.0035	0.9		3575.64	3575.64		4.15	Si
SLD 13	fin.	640.59	-3160	-0.0002659	0.0002807	0.0035	0.9		3568.61	3568.61		5.57	Si
SLV 9	ini.	-1117.33	1307	-0.000506	0.0002807	0.0035	0.9		3575.64	3575.64		3.2	Si
SLV 9	fin.	940.52	-4836	-0.0004124	0.0002807	0.0035	0.9		3568.61	3568.61		3.79	Si
SLV 14	ini.	-1075.82	1496	-0.0004833	0.0002807	0.0035	0.9		3575.64	3575.64		3.32	Si
SLV 14	fin.	787.24	-3796	-0.0003353	0.0002807	0.0035	0.9		3568.61	3568.61		4.53	Si
SLV 3	ini.	960.76	-2192	-0.000423	0.0002807	0.0035	0.9		3568.61	3568.61		3.71	Si
SLV 3	fin.	-525.17	1762	-0.0002135	0.0002807	0.0035	0.9		3575.64	3575.64		6.81	Si
SLV 7	ini.	829.16	-1677	-0.0003559	0.0002807	0.0035	0.9		3568.61	3568.61		4.3	Si
SLV 7	fin.	-573.21	2363	-0.0002348	0.0002807	0.0035	0.9		3575.64	3575.64		6.24	Si
SLV 10	ini.	-944.22	981	-0.0004134	0.0002807	0.0035	0.9		3575.64	3575.64		3.79	Si
SLV 10	fin.	835.28	-4397	-0.000359	0.0002807	0.0035	0.9		3568.61	3568.61		4.27	Si
SLV 4	ini.	1217.92	-2677	-0.0005638	0.0002807	0.0035	0.9		3568.61	3568.61		2.93	Si
SLV 4	fin.	-681.51	2414	-0.0002842	0.0002807	0.0035	0.9		3575.64	3575.64		5.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-944.22	3648	0.9	0	2625	14273	5660	2295	7955		2.18	Si
SLV 10	fin.	835.28	6489	0.9	0	2625	14273	5660	2295	7955		1.23	Si
SLV 13	ini.	-1332.99	5414	0.9	0	2625	14273	5660	2295	7955		1.47	Si
SLV 13	fin.	943.58	6452	0.9	0	2625	14273	5660	2295	7955		1.23	Si
SLV 4	ini.	1217.92	-5304	0.9	0	2625	14273	5660	2295	7955		1.5	Si
SLV 4	fin.	-681.51	-3192	0.9	0	2625	14273	5660	2295	7955		2.49	Si
SLD 9	ini.	-694.84	2651	0.9	0	2625	14273	5660	2295	7955		3	Si
SLD 9	fin.	615.08	4898	0.9	0	2625	14273	5660	2295	7955		1.62	Si
SLD 13	ini.	-860.76	3434	0.9	0	2625	14273	5660	2295	7955		2.32	Si
SLD 13	fin.	640.59	4637	0.9	0	2625	14273	5660	2295	7955		1.72	Si
SLV 9	ini.	-1117.33	4365	0.9	0	2625	14273	5660	2295	7955		1.82	Si
SLV 9	fin.	940.52	7119	0.9	0	2625	14273	5660	2295	7955		1.12	Si
SLV 14	ini.	-1075.82	4351	0.9	0	2625	14273	5660	2295	7955		1.83	Si
SLV 14	fin.	787.24	5516	0.9	0	2625	14273	5660	2295	7955		1.44	Si
SLV 5	ini.	-553.66	1963	0.9	0	2625	14273	5660	2295	7955		4.05	Si
SLV 5	fin.	606.03	5271	0.9	0	2625	14273	5660	2295	7955		1.51	Si
SLV 6	ini.	-380.55	1247	0.9	0	2625	14273	5660	2295	7955		6.38	Si
SLV 6	fin.	500.78	4641	0.9	0	2625	14273	5660	2295	7955		1.71	Si
SLD 10	ini.	-589.79	2216	0.9	0	2625	14273	5660	2295	7955		3.59	Si
SLD 10	fin.	551.21	4516	0.9	0	2625	14273	5660	2295	7955		1.76	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.682	SLV 13	Si
V_SLV	1.117	SLV 9	Si
PF_SLU	17.655	SLU 70	Si
V_SLU	2.505	SLU 70	Si

Trave di accoppiamento 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	10.6	11.45	0.85	-18.213	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-110.45	-394	-0.0000478	0.0001872	0.0035	0.85		3272.39	3272.39	No	29.63	Si
SLU 70	fin.	-0.62	-451	-0.0000003	0.0001872	0.0035	0.85		3272.39	3272.39	No	5304.52	Si
SLU 48	ini.	-98.82	-353	-0.0000427	0.0001872	0.0035	0.85		3272.39	3272.39	No	33.11	Si
SLU 48	fin.	-10.46	-413	-0.0000044	0.0001872	0.0035	0.85		3272.39	3272.39	No	312.87	Si
SLU 67	ini.	-104.91	-370	-0.0000454	0.0001872	0.0035	0.85		3272.39	3272.39	No	31.19	Si
SLU 67	fin.	1.75	-433	-0.0000007	0.0001872	0.0035	0.85		3266.1	3266.1	No	1871.22	Si
SLU 49	ini.	-103.08	-362	-0.0000446	0.0001872	0.0035	0.85		3272.39	3272.39	No	31.75	Si
SLU 49	fin.	-8.34	-407	-0.0000035	0.0001872	0.0035	0.85		3272.39	3272.39	No	392.29	Si
SLU 69	ini.	-106.2	-384	-0.0000459	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.81	Si
SLU 69	fin.	-2.73	-457	-0.0000012	0.0001872	0.0035	0.85		3272.39	3272.39	No	1196.78	Si
SLU 66	ini.	-100.65	-361	-0.0000435	0.0001872	0.0035	0.85		3272.39	3272.39	No	32.51	Si
SLU 66	fin.	-0.37	-439	-0.0000002	0.0001872	0.0035	0.85		3272.39	3272.39	No	8797.34	Si
SLU 68	ini.	-104.28	-364	-0.0000451	0.0001872	0.0035	0.85		3272.39	3272.39	No	31.38	Si
SLU 68	fin.	3.4	-415	-0.0000014	0.0001872	0.0035	0.85		3266.1	3266.1	No	961.45	Si
SLU 51	ini.	-99.62	-350	-0.000043	0.0001872	0.0035	0.85		3272.39	3272.39	No	32.85	Si
SLU 51	fin.	-8.1	-393	-0.0000034	0.0001872	0.0035	0.85		3272.39	3272.39	No	403.91	Si
SLU 71	ini.	-102.74	-372	-0.0000444	0.0001872	0.0035	0.85		3272.39	3272.39	No	31.85	Si
SLU 71	fin.	-2.49	-442	-0.0000011	0.0001872	0.0035	0.85		3272.39	3272.39	No	1311.94	Si
SLU 72	ini.	-106.99	-381	-0.0000463	0.0001872	0.0035	0.85		3272.39	3272.39	No	30.59	Si
SLU 72	fin.	-0.38	-437	-0.0000002	0.0001872	0.0035	0.85		3272.39	3272.39	No	8682.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-48.73	1101	0.85	0	1653	13480	3563	2168	5731	No	5.2	Si
SLU 81	fin.	-25.08	-2002	0.85	0	1653	13480	3563	2168	5731	No	2.86	Si
SLU 82	ini.	-52.98	1118	0.85	0	1653	13480	3563	2168	5731	No	5.13	Si
SLU 82	fin.	-22.96	-1992	0.85	0	1653	13480	3563	2168	5731	No	2.88	Si
SLU 77	ini.	-76.15	1194	0.85	0	1653	13480	3563	2168	5731	No	4.8	Si
SLU 77	fin.	-21.85	-1943	0.85	0	1653	13480	3563	2168	5731	No	2.95	Si
SLU 79	ini.	-72.69	1159	0.85	0	1653	13480	3563	2168	5731	No	4.94	Si
SLU 79	fin.	-21.61	-1897	0.85	0	1653	13480	3563	2168	5731	No	3.02	Si
SLU 74	ini.	-70.61	1173	0.85	0	1653	13480	3563	2168	5731	No	4.88	Si
SLU 74	fin.	-19.49	-1923	0.85	0	1653	13480	3563	2168	5731	No	2.98	Si
SLU 78	ini.	-80.4	1211	0.85	0	1653	13480	3563	2168	5731	No	4.73	Si
SLU 78	fin.	-19.73	-1933	0.85	0	1653	13480	3563	2168	5731	No	2.97	Si
SLU 75	ini.	-74.86	1190	0.85	0	1653	13480	3563	2168	5731	No	4.82	Si
SLU 75	fin.	-17.37	-1913	0.85	0	1653	13480	3563	2168	5731	No	3	Si
SLU 80	ini.	-76.95	1176	0.85	0	1653	13480	3563	2168	5731	No	4.87	Si
SLU 80	fin.	-19.49	-1887	0.85	0	1653	13480	3563	2168	5731	No	3.04	Si
SLU 83	ini.	-54.27	1122	0.85	0	1653	13480	3563	2168	5731	No	5.11	Si
SLU 83	fin.	-27.44	-2022	0.85	0	1653	13480	3563	2168	5731	No	2.83	Si
SLU 84	ini.	-58.53	1138	0.85	0	1653	13480	3563	2168	5731	No	5.03	Si
SLU 84	fin.	-25.32	-2012	0.85	0	1653	13480	3563	2168	5731	No	2.85	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	658.37	1199	-0.0003108	0.0002807	0.0035	0.85		3181.12	3181.12		4.83	Si
SLV 8	fin.	-557.16	-2669	-0.0002574	0.0002807	0.0035	0.85		3187.76	3187.76		5.72	Si
SLV 10	ini.	-692.02	-1511	-0.0003281	0.0002807	0.0035	0.85		3187.76	3187.76		4.61	Si
SLV 10	fin.	451.63	1583	-0.0002052	0.0002807	0.0035	0.85		3181.12	3181.12		7.04	Si
SLV 13	ini.	-634.45	-1062	-0.0002974	0.0002807	0.0035	0.85		3187.76	3187.76		5.02	Si
SLV 13	fin.	660.87	2469	-0.0003121	0.0002807	0.0035	0.85		3181.12	3181.12		4.81	Si
SLV 9	ini.	-778.96	-1655	-0.0003762	0.0002807	0.0035	0.85		3187.76	3187.76		4.09	Si
SLV 9	fin.	546.27	1976	-0.0002524	0.0002807	0.0035	0.85		3181.12	3181.12		5.82	Si
SLV 14	ini.	-505.3	-848	-0.0002312	0.0002807	0.0035	0.85		3187.76	3187.76		6.31	Si
SLV 14	fin.	520.28	1884	-0.0002392	0.0002807	0.0035	0.85		3181.12	3181.12		6.11	Si
SLV 5	ini.	-576.53	-1444	-0.0002673	0.0002807	0.0035	0.85		3187.76	3187.76		5.53	Si
SLV 5	fin.	253.06	734	-0.0001114	0.0002807	0.0035	0.85		3181.12	3181.12		12.57	Si
SLV 4	ini.	513.86	606	-0.000236	0.0002807	0.0035	0.85		3181.12	3181.12		6.19	Si
SLV 4	fin.	-671.76	-3162	-0.0003172	0.0002807	0.0035	0.85		3187.76	3187.76		4.75	Si
SLV 6	ini.	-489.59	-1300	-0.0002234	0.0002807	0.0035	0.85		3187.76	3187.76		6.51	Si
SLV 6	fin.	158.42	340	-0.0000688	0.0002807	0.0035	0.85		3181.12	3181.12		20.08	Si
SLV 3	ini.	384.71	392	-0.0001729	0.0002807	0.0035	0.85		3181.12	3181.12		8.27	Si
SLV 3	fin.	-531.16	-2577	-0.0002442	0.0002807	0.0035	0.85		3187.76	3187.76		6	Si
SLV 7	ini.	571.43	1056	-0.0002652	0.0002807	0.0035	0.85		3181.12	3181.12		5.57	Si
SLV 7	fin.	-462.52	-2275	-0.0002101	0.0002807	0.0035	0.85		3187.76	3187.76		6.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	296.11	-960	0.85	0	2479	13480	5345	2168	7513		7.82	Si
SLD 4	fin.	-424.72	-3408	0.85	0	2479	13480	5345	2168	7513		2.2	Si
SLV 9	ini.	-778.96	4107	0.85	0	2479	13480	5345	2168	7513		1.83	Si
SLV 9	fin.	546.27	1912	0.85	0	2479	13480	5345	2168	7513		3.93	Si
SLV 4	ini.	513.86	-2051	0.85	0	2479	13480	5345	2168	7513		3.66	Si
SLV 4	fin.	-671.76	-4707	0.85	0	2479	13480	5345	2168	7513		1.6	Si
SLV 13	ini.	-634.45	3738	0.85	0	2479	13480	5345	2168	7513		2.01	Si
SLV 13	fin.	660.87	2281	0.85	0	2479	13480	5345	2168	7513		3.29	Si
SLV 7	ini.	571.43	-1999	0.85	0	2479	13480	5345	2168	7513		3.76	Si
SLV 7	fin.	-462.52	-3824	0.85	0	2479	13480	5345	2168	7513		1.96	Si
SLV 10	ini.	-692.02	3686	0.85	0	2479	13480	5345	2168	7513		2.04	Si
SLV 10	fin.	451.63	1399	0.85	0	2479	13480	5345	2168	7513		5.37	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	169.47	-548	0.85	0	2479	13480	5345	2168	7513		13.7	Si
SLV 2	fin.	-457.08	-3431	0.85	0	2479	13480	5345	2168	7513		2.19	Si
SLV 8	ini.	658.37	-2420	0.85	0	2479	13480	5345	2168	7513		3.1	Si
SLV 8	fin.	-557.16	-4338	0.85	0	2479	13480	5345	2168	7513		1.73	Si
SLV 14	ini.	-505.3	3112	0.85	0	2479	13480	5345	2168	7513		2.41	Si
SLV 14	fin.	520.28	1518	0.85	0	2479	13480	5345	2168	7513		4.95	Si
SLV 3	ini.	384.71	-1425	0.85	0	2479	13480	5345	2168	7513		5.27	Si
SLV 3	fin.	-531.16	-3944	0.85	0	2479	13480	5345	2168	7513		1.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.092	SLV 9	Si
V_SLV	1.596	SLV 4	Si
PF_SLU	29.628	SLU 70	Si
V_SLU	2.835	SLU 83	Si

Trave di accoppiamento 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	10	11.45	1.45	-18.498	0.841	10	11.45	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	ini.	548.92	104	-0.0000278	0.0002246	0.0035	1.45		20029.18	20029.18	No	36.49	Si
SLU 64	fin.	109.03	-186	-0.0000054	0.0002246	0.0035	1.45		20029.18	20029.18	No	183.7	Si
SLU 60	ini.	518.16	77	-0.0000262	0.0002246	0.0035	1.45		20029.18	20029.18	No	38.65	Si
SLU 60	fin.	111.53	-199	-0.0000055	0.0002246	0.0035	1.45		20029.18	20029.18	No	179.59	Si
SLU 50	ini.	511.57	84	-0.0000258	0.0002246	0.0035	1.45		20029.18	20029.18	No	39.15	Si
SLU 50	fin.	105.89	-173	-0.0000053	0.0002246	0.0035	1.45		20029.18	20029.18	No	189.15	Si
SLU 44	ini.	551.35	207	-0.0000279	0.0002246	0.0035	1.45		20029.18	20029.18	No	36.33	Si
SLU 44	fin.	73.02	-100	-0.0000036	0.0002246	0.0035	1.45		20029.18	20029.18	No	274.28	Si
SLU 46	ini.	523.61	118	-0.0000264	0.0002246	0.0035	1.45		20029.18	20029.18	No	38.25	Si
SLU 46	fin.	97.6	-154	-0.0000048	0.0002246	0.0035	1.45		20029.18	20029.18	No	205.22	Si
SLU 66	ini.	499.47	-13	-0.0000252	0.0002246	0.0035	1.45		20029.18	20029.18	No	40.1	Si
SLU 66	fin.	140.28	-254	-0.000007	0.0002246	0.0035	1.45		20029.18	20029.18	No	142.78	Si
SLU 48	ini.	509.16	64	-0.0000257	0.0002246	0.0035	1.45		20029.18	20029.18	No	39.34	Si
SLU 48	fin.	112.36	-187	-0.0000056	0.0002246	0.0035	1.45		20029.18	20029.18	No	178.26	Si
SLU 45	ini.	556.21	161	-0.0000281	0.0002246	0.0035	1.45		20029.18	20029.18	No	36.01	Si
SLU 45	fin.	87.59	-135	-0.0000043	0.0002246	0.0035	1.45		20029.18	20029.18	No	228.68	Si
SLU 47	ini.	504.29	110	-0.0000255	0.0002246	0.0035	1.45		20029.18	20029.18	No	39.72	Si
SLU 47	fin.	97.8	-153	-0.0000049	0.0002246	0.0035	1.45		20029.18	20029.18	No	204.8	Si
SLU 43	ini.	605.67	279	-0.0000307	0.0002246	0.0035	1.45		20029.18	20029.18	No	33.07	Si
SLU 43	fin.	56.34	-67	-0.0000028	0.0002246	0.0035	1.45		20029.18	20029.18	No	355.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 46	ini.	523.61	-585	1.45	790	1692	36250	3648	7395	11043	No	18.87	Si
SLU 46	fin.	97.6	-962	1.45	149	1692	36250	3648	7395	11043	No	11.48	Si
SLU 45	ini.	556.21	-660	1.45	839	1692	36250	3648	7395	11043	No	16.74	Si
SLU 45	fin.	87.59	-1036	1.45	133	1692	36250	3648	7395	11043	No	10.66	Si
SLU 48	ini.	509.16	-530	1.45	769	1692	36250	3648	7395	11043	No	20.85	Si
SLU 48	fin.	112.36	-906	1.45	171	1692	36250	3648	7395	11043	No	12.19	Si
SLU 43	ini.	605.67	-806	1.45	912	1692	36250	3648	7395	11043	No	13.7	Si
SLU 43	fin.	56.34	-1183	1.45	86	1692	36250	3648	7395	11043	No	9.34	Si
SLU 47	ini.	504.29	-552	1.45	761	1692	36250	3648	7395	11043	No	20.01	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 47	fin.	97.8	-928	1.45	149	1692	36250	3648	7395	11043	No	11.9	Si
SLU 44	ini.	551.35	-682	1.45	832	1692	36250	3648	7395	11043	No	16.19	Si
SLU 44	fin.	73.02	-1058	1.45	111	1692	36250	3648	7395	11043	No	10.43	Si
SLU 52	ini.	490.09	-513	1.45	740	1692	36250	3648	7395	11043	No	21.54	Si
SLU 52	fin.	111.66	-889	1.45	170	1692	36250	3648	7395	11043	No	12.42	Si
SLU 50	ini.	511.57	-546	1.45	772	1692	36250	3648	7395	11043	No	20.23	Si
SLU 50	fin.	105.89	-922	1.45	161	1692	36250	3648	7395	11043	No	11.97	Si
SLU 60	ini.	518.16	-564	1.45	782	1692	36250	3648	7395	11043	No	19.57	Si
SLU 60	fin.	111.53	-941	1.45	170	1692	36250	3648	7395	11043	No	11.74	Si
SLU 64	ini.	548.92	-609	1.45	828	1692	36250	3648	7395	11043	No	18.14	Si
SLU 64	fin.	109.03	-1009	1.45	166	1692	36250	3648	7395	11043	No	10.94	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	3247.58	4257	-0.0001778	0.0003369	0.0035	1.45		21935.23	21935.23		6.75	Si
SLV 8	fin.	-400.97	2094	-0.00002	0.0003369	0.0035	1.45		21960.21	21960.21		54.77	Si
SLV 10	ini.	-2434.56	-4130	-0.0001293	0.0003369	0.0035	1.45		21960.21	21960.21		9.02	Si
SLV 10	fin.	570.2	-2390	-0.0000286	0.0003369	0.0035	1.45		21935.23	21935.23		38.47	Si
SLD 11	ini.	2146.92	2647	-0.000113	0.0003369	0.0035	1.45		21935.23	21935.23		10.22	Si
SLD 11	fin.	-236.12	1214	-0.0000117	0.0003369	0.0035	1.45		21960.21	21960.21		93.01	Si
SLD 12	ini.	2133.92	2630	-0.0001123	0.0003369	0.0035	1.45		21935.23	21935.23		10.28	Si
SLD 12	fin.	-234.56	1209	-0.0000117	0.0003369	0.0035	1.45		21960.21	21960.21		93.62	Si
SLV 5	ini.	-2510.6	-4272	-0.0001337	0.0003369	0.0035	1.45		21960.21	21960.21		8.75	Si
SLV 5	fin.	629.39	-2440	-0.0000317	0.0003369	0.0035	1.45		21935.23	21935.23		34.85	Si
SLV 6	ini.	-2532.02	-4301	-0.0001349	0.0003369	0.0035	1.45		21960.21	21960.21		8.67	Si
SLV 6	fin.	631.97	-2449	-0.0000318	0.0003369	0.0035	1.45		21935.23	21935.23		34.71	Si
SLV 11	ini.	3366.46	4458	-0.0001852	0.0003369	0.0035	1.45		21935.23	21935.23		6.52	Si
SLV 11	fin.	-465.31	2162	-0.0000233	0.0003369	0.0035	1.45		21960.21	21960.21		47.2	Si
SLV 7	ini.	3269	4286	-0.0001791	0.0003369	0.0035	1.45		21935.23	21935.23		6.71	Si
SLV 7	fin.	-403.54	2103	-0.0000202	0.0003369	0.0035	1.45		21960.21	21960.21		54.42	Si
SLV 12	ini.	3345.04	4429	-0.0001838	0.0003369	0.0035	1.45		21935.23	21935.23		6.56	Si
SLV 12	fin.	-462.73	2153	-0.0000231	0.0003369	0.0035	1.45		21960.21	21960.21		47.46	Si
SLV 9	ini.	-2413.14	-4101	-0.000128	0.0003369	0.0035	1.45		21960.21	21960.21		9.1	Si
SLV 9	fin.	567.63	-2381	-0.0000285	0.0003369	0.0035	1.45		21935.23	21935.23		38.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-2413.14	5506	1.45	5318	2538	36250	5471	7395	12866		2.34	Si
SLV 9	fin.	567.63	5214	1.45	1289	2538	36250	5471	7395	12866		2.47	Si
SLV 8	ini.	3247.58	-6433	1.45	7058	2538	36250	5471	7395	12866		2	Si
SLV 8	fin.	-400.97	-6746	1.45	911	2538	36250	5471	7395	12866		1.91	Si
SLV 5	ini.	-2510.6	5758	1.45	5523	2538	36250	5471	7395	12866		2.23	Si
SLV 5	fin.	629.39	5455	1.45	1428	2538	36250	5471	7395	12866		2.36	Si
SLV 12	ini.	3345.04	-6685	1.45	7256	2538	36250	5471	7395	12866		1.92	Si
SLV 12	fin.	-462.73	-6987	1.45	1051	2538	36250	5471	7395	12866		1.84	Si
SLV 11	ini.	3366.46	-6733	1.45	7300	2538	36250	5471	7395	12866		1.91	Si
SLV 11	fin.	-465.31	-7035	1.45	1057	2538	36250	5471	7395	12866		1.83	Si
SLV 10	ini.	-2434.56	5555	1.45	5363	2538	36250	5471	7395	12866		2.32	Si
SLV 10	fin.	570.2	5262	1.45	1294	2538	36250	5471	7395	12866		2.45	Si
SLV 7	ini.	3269	-6481	1.45	7102	2538	36250	5471	7395	12866		1.99	Si
SLV 7	fin.	-403.54	-6794	1.45	917	2538	36250	5471	7395	12866		1.89	Si
SLD 12	ini.	2133.92	-4112	1.45	4729	2538	36250	5471	7395	12866		3.13	Si
SLD 12	fin.	-234.56	-4416	1.45	534	2538	36250	5471	7395	12866		2.91	Si
SLV 6	ini.	-2532.02	5807	1.45	5568	2538	36250	5471	7395	12866		2.22	Si
SLV 6	fin.	631.97	5503	1.45	1433	2538	36250	5471	7395	12866		2.34	Si
SLD 11	ini.	2146.92	-4142	1.45	4757	2538	36250	5471	7395	12866		3.11	Si
SLD 11	fin.	-236.12	-4446	1.45	538	2538	36250	5471	7395	12866		2.89	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.516	SLV 11	Si
V_SLV	1.829	SLV 11	Si
PF_SLU	33.07	SLU 43	Si
V_SLU	9.338	SLU 43	Si

Trave di accoppiamento 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.363	-3.169	10	11.45	1.45	-16.263	-3.169	10	11.45	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1294.22	-2779	-0.0002078	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.21	Si
SLU 82	fin.	413.95	-259	-0.0000622	0.0001872	0.0035	1.45		9317.35	9317.35	No	22.51	Si
SLU 78	ini.	-1292.44	-2876	-0.0002074	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.22	Si
SLU 78	fin.	384.42	-388	-0.0000576	0.0001872	0.0035	1.45		9317.35	9317.35	No	24.24	Si
SLU 84	ini.	-1288.77	-2799	-0.0002068	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.24	Si
SLU 84	fin.	403.93	-298	-0.0000606	0.0001872	0.0035	1.45		9317.35	9317.35	No	23.07	Si
SLU 77	ini.	-1281.73	-2854	-0.0002055	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.28	Si
SLU 77	fin.	380.33	-384	-0.000057	0.0001872	0.0035	1.45		9317.35	9317.35	No	24.5	Si
SLU 76	ini.	-1273.5	-2790	-0.0002041	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.32	Si
SLU 76	fin.	388.41	-338	-0.0000582	0.0001872	0.0035	1.45		9317.35	9317.35	No	23.99	Si
SLU 81	ini.	-1283.51	-2757	-0.0002058	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.27	Si
SLU 81	fin.	409.86	-256	-0.0000615	0.0001872	0.0035	1.45		9317.35	9317.35	No	22.73	Si
SLU 74	ini.	-1287.18	-2834	-0.0002065	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.25	Si
SLU 74	fin.	390.35	-346	-0.0000585	0.0001872	0.0035	1.45		9317.35	9317.35	No	23.87	Si
SLU 73	ini.	-1278.95	-2770	-0.000205	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.29	Si
SLU 73	fin.	398.43	-300	-0.0000598	0.0001872	0.0035	1.45		9317.35	9317.35	No	23.39	Si
SLU 83	ini.	-1278.07	-2777	-0.0002049	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.3	Si
SLU 83	fin.	399.84	-294	-0.00006	0.0001872	0.0035	1.45		9317.35	9317.35	No	23.3	Si
SLU 75	ini.	-1297.88	-2857	-0.0002084	0.0001872	0.0035	1.45		9328.02	9328.02	No	7.19	Si
SLU 75	fin.	394.44	-349	-0.0000592	0.0001872	0.0035	1.45		9317.35	9317.35	No	23.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1288.77	5402	1.45	0	2819	14273	6079	3698	9776	No	1.81	Si
SLU 84	fin.	403.93	908	1.45	0	2819	14273	6079	3698	9776	No	10.76	Si
SLU 81	ini.	-1283.51	5401	1.45	0	2819	14273	6079	3698	9776	No	1.81	Si
SLU 81	fin.	409.86	925	1.45	0	2819	14273	6079	3698	9776	No	10.57	Si
SLU 73	ini.	-1278.95	5268	1.45	0	2819	14273	6079	3698	9776	No	1.86	Si
SLU 73	fin.	398.43	1018	1.45	0	2819	14273	6079	3698	9776	No	9.61	Si
SLU 75	ini.	-1297.88	5320	1.45	0	2819	14273	6079	3698	9776	No	1.84	Si
SLU 75	fin.	394.44	1003	1.45	0	2819	14273	6079	3698	9776	No	9.75	Si
SLU 74	ini.	-1287.18	5287	1.45	0	2819	14273	6079	3698	9776	No	1.85	Si
SLU 74	fin.	390.35	982	1.45	0	2819	14273	6079	3698	9776	No	9.96	Si
SLU 78	ini.	-1292.44	5288	1.45	0	2819	14273	6079	3698	9776	No	1.85	Si
SLU 78	fin.	384.42	966	1.45	0	2819	14273	6079	3698	9776	No	10.12	Si
SLU 76	ini.	-1273.5	5236	1.45	0	2819	14273	6079	3698	9776	No	1.87	Si
SLU 76	fin.	388.41	980	1.45	0	2819	14273	6079	3698	9776	No	9.97	Si
SLU 77	ini.	-1281.73	5255	1.45	0	2819	14273	6079	3698	9776	No	1.86	Si
SLU 77	fin.	380.33	944	1.45	0	2819	14273	6079	3698	9776	No	10.35	Si
SLU 83	ini.	-1278.07	5369	1.45	0	2819	14273	6079	3698	9776	No	1.82	Si
SLU 83	fin.	399.84	887	1.45	0	2819	14273	6079	3698	9776	No	11.02	Si
SLU 82	ini.	-1294.22	5434	1.45	0	2819	14273	6079	3698	9776	No	1.8	Si
SLU 82	fin.	413.95	946	1.45	0	2819	14273	6079	3698	9776	No	10.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-2620.49	-4931	-0.0004476	0.0002807	0.0035	1.45		8755.45	8755.45		3.34	Si
SLV 9	fin.	1264.29	-453	-0.0001971	0.0002807	0.0035	1.45		8743.57	8743.57		6.92	Si
SLV 10	ini.	-2329.36	-4554	-0.0003893	0.0002807	0.0035	1.45		8755.45	8755.45		3.76	Si
SLV 10	fin.	1049.83	-597	-0.0001617	0.0002807	0.0035	1.45		8743.57	8743.57		8.33	Si
SLV 5	ini.	-1756.49	-4034	-0.0002819	0.0002807	0.0035	1.45		8755.45	8755.45		4.98	Si
SLV 5	fin.	492.01	-1196	-0.0000737	0.0002807	0.0035	1.45		8743.57	8743.57		17.77	Si
SLD 14	ini.	-1876.26	-3156	-0.0003035	0.0002807	0.0035	1.45		8755.45	8755.45		4.67	Si
SLD 14	fin.	1069.58	346	-0.0001649	0.0002807	0.0035	1.45		8743.57	8743.57		8.17	Si
SLV 14	ini.	-2462.25	-3888	-0.0004156	0.0002807	0.0035	1.45		8755.45	8755.45		3.56	Si
SLV 14	fin.	1539.44	673	-0.000244	0.0002807	0.0035	1.45		8743.57	8743.57		5.68	Si
SLD 13	ini.	-2150.64	-3512	-0.0003547	0.0002807	0.0035	1.45		8755.45	8755.45		4.07	Si
SLD 13	fin.	1271.71	481	-0.0001984	0.0002807	0.0035	1.45		8743.57	8743.57		6.88	Si
SLV 16	ini.	-1772.73	-2499	-0.0002848	0.0002807	0.0035	1.45		8755.45	8755.45		4.94	Si
SLV 16	fin.	1231.45	1049	-0.0001916	0.0002807	0.0035	1.45		8743.57	8743.57		7.1	Si
SLV 13	ini.	-2894.74	-4448	-0.0005047	0.0002807	0.0035	1.45		8755.45	8755.45		3.02	Si
SLV 13	fin.	1858.04	886	-0.0003006	0.0002807	0.0035	1.45		8743.57	8743.57		4.71	Si
SLD 9	ini.	-1930.07	-3732	-0.0003134	0.0002807	0.0035	1.45		8755.45	8755.45		4.54	Si
SLD 9	fin.	870.11	-355	-0.0001328	0.0002807	0.0035	1.45		8743.57	8743.57		10.05	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-2205.22	-3059	-0.0003652	0.0002807	0.0035	1.45		8755.45	8755.45		3.97	Si
SLV 15	fin.	1550.05	1262	-0.0002458	0.0002807	0.0035	1.45		8743.57	8743.57		5.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-1876.26	6988	1.45	0	4229	14273	9118	3698	12816		1.83	Si
SLD 14	fin.	1069.58	3685	1.45	0	4229	14273	9118	3698	12816		3.48	Si
SLV 16	ini.	-1772.73	7034	1.45	0	4229	14273	9118	3698	12816		1.82	Si
SLV 16	fin.	1231.45	3867	1.45	0	4229	14273	9118	3698	12816		3.31	Si
SLV 9	ini.	-2620.49	8896	1.45	0	4229	14273	9118	3698	12816		1.44	Si
SLV 9	fin.	1264.29	5094	1.45	0	4229	14273	9118	3698	12816		2.52	Si
SLV 13	ini.	-2894.74	10467	1.45	0	4229	14273	9118	3698	12816		1.22	Si
SLV 13	fin.	1858.04	6663	1.45	0	4229	14273	9118	3698	12816		1.92	Si
SLD 9	ini.	-1930.07	6786	1.45	0	4229	14273	9118	3698	12816		1.89	Si
SLD 9	fin.	870.11	3379	1.45	0	4229	14273	9118	3698	12816		3.79	Si
SLV 10	ini.	-2329.36	7904	1.45	0	4229	14273	9118	3698	12816		1.62	Si
SLV 10	fin.	1049.83	4242	1.45	0	4229	14273	9118	3698	12816		3.02	Si
SLD 13	ini.	-2150.64	7922	1.45	0	4229	14273	9118	3698	12816		1.62	Si
SLD 13	fin.	1271.71	4488	1.45	0	4229	14273	9118	3698	12816		2.86	Si
SLV 14	ini.	-2462.25	8994	1.45	0	4229	14273	9118	3698	12816		1.42	Si
SLV 14	fin.	1539.44	5399	1.45	0	4229	14273	9118	3698	12816		2.37	Si
SLD 15	ini.	-1747.06	6776	1.45	0	4229	14273	9118	3698	12816		1.89	Si
SLD 15	fin.	1091.36	3591	1.45	0	4229	14273	9118	3698	12816		3.57	Si
SLV 15	ini.	-2205.22	8508	1.45	0	4229	14273	9118	3698	12816		1.51	Si
SLV 15	fin.	1550.05	5131	1.45	0	4229	14273	9118	3698	12816		2.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.025	SLV 13	Si
V_SLV	1.224	SLV 13	Si
PF_SLU	7.187	SLU 75	Si
V_SLU	1.799	SLU 82	Si

Trave di accoppiamento 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	10	11.45	1.45	-15.058	2.206	10	11.45	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	ini.	676.35	-1504	-0.0000344	0.0002246	0.0035	1.45		20029.18	20029.18	No	29.61	Si
SLU 35	fin.	-1465.25	-2648	-0.0000771	0.0002246	0.0035	1.45		20051.81	20051.81	No	13.68	Si
SLU 74	ini.	721.87	-1588	-0.0000368	0.0002246	0.0035	1.45		20029.18	20029.18	No	27.75	Si
SLU 74	fin.	-1505.6	-2773	-0.0000794	0.0002246	0.0035	1.45		20051.81	20051.81	No	13.32	Si
SLU 78	ini.	743.48	-1636	-0.0000379	0.0002246	0.0035	1.45		20029.18	20029.18	No	26.94	Si
SLU 78	fin.	-1540.32	-2853	-0.0000813	0.0002246	0.0035	1.45		20051.81	20051.81	No	13.02	Si
SLU 80	ini.	730.59	-1607	-0.0000372	0.0002246	0.0035	1.45		20029.18	20029.18	No	27.42	Si
SLU 80	fin.	-1513.27	-2802	-0.0000798	0.0002246	0.0035	1.45		20051.81	20051.81	No	13.25	Si
SLU 79	ini.	743.39	-1639	-0.0000379	0.0002246	0.0035	1.45		20029.18	20029.18	No	26.94	Si
SLU 79	fin.	-1562.13	-2868	-0.0000826	0.0002246	0.0035	1.45		20051.81	20051.81	No	12.84	Si
SLU 41	ini.	666.44	-1485	-0.0000339	0.0002246	0.0035	1.45		20029.18	20029.18	No	30.05	Si
SLU 41	fin.	-1465.61	-2619	-0.0000771	0.0002246	0.0035	1.45		20051.81	20051.81	No	13.68	Si
SLU 77	ini.	756.28	-1668	-0.0000386	0.0002246	0.0035	1.45		20029.18	20029.18	No	26.48	Si
SLU 77	fin.	-1589.17	-2919	-0.0000841	0.0002246	0.0035	1.45		20051.81	20051.81	No	12.62	Si
SLU 83	ini.	746.37	-1650	-0.0000381	0.0002246	0.0035	1.45		20029.18	20029.18	No	26.84	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-1589.54	-2891	-0.0000841	0.0002246	0.0035	1.45		20051.81	20051.81	No	12.61	Si
SLU 84	ini.	733.56	-1617	-0.0000374	0.0002246	0.0035	1.45		20029.18	20029.18	No	27.3	Si
SLU 84	fin.	-1540.69	-2824	-0.0000814	0.0002246	0.0035	1.45		20051.81	20051.81	No	13.01	Si
SLU 81	ini.	711.96	-1570	-0.0000362	0.0002246	0.0035	1.45		20029.18	20029.18	No	28.13	Si
SLU 81	fin.	-1505.97	-2744	-0.0000794	0.0002246	0.0035	1.45		20051.81	20051.81	No	13.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	743.39	-3797	1.45	1116	1692	36250	3648	7395	11043	No	2.91	Si
SLU 79	fin.	-1562.13	-4204	1.45	2299	1692	36250	3648	7395	11043	No	2.63	Si
SLU 74	ini.	721.87	-3659	1.45	1085	1692	36250	3648	7395	11043	No	3.02	Si
SLU 74	fin.	-1505.6	-4066	1.45	2219	1692	36250	3648	7395	11043	No	2.72	Si
SLU 75	ini.	709.07	-3552	1.45	1066	1692	36250	3648	7395	11043	No	3.11	Si
SLU 75	fin.	-1456.75	-3958	1.45	2150	1692	36250	3648	7395	11043	No	2.79	Si
SLU 77	ini.	756.28	-3867	1.45	1135	1692	36250	3648	7395	11043	No	2.86	Si
SLU 77	fin.	-1589.17	-4274	1.45	2337	1692	36250	3648	7395	11043	No	2.58	Si
SLU 80	ini.	730.59	-3689	1.45	1098	1692	36250	3648	7395	11043	No	2.99	Si
SLU 80	fin.	-1513.27	-4096	1.45	2230	1692	36250	3648	7395	11043	No	2.7	Si
SLU 84	ini.	733.56	-3738	1.45	1102	1692	36250	3648	7395	11043	No	2.95	Si
SLU 84	fin.	-1540.69	-4145	1.45	2269	1692	36250	3648	7395	11043	No	2.66	Si
SLU 82	ini.	699.16	-3530	1.45	1051	1692	36250	3648	7395	11043	No	3.13	Si
SLU 82	fin.	-1457.11	-3937	1.45	2150	1692	36250	3648	7395	11043	No	2.8	Si
SLU 83	ini.	746.37	-3846	1.45	1121	1692	36250	3648	7395	11043	No	2.87	Si
SLU 83	fin.	-1589.54	-4253	1.45	2338	1692	36250	3648	7395	11043	No	2.6	Si
SLU 78	ini.	743.48	-3759	1.45	1117	1692	36250	3648	7395	11043	No	2.94	Si
SLU 78	fin.	-1540.32	-4166	1.45	2268	1692	36250	3648	7395	11043	No	2.65	Si
SLU 81	ini.	711.96	-3638	1.45	1070	1692	36250	3648	7395	11043	No	3.04	Si
SLU 81	fin.	-1505.97	-4045	1.45	2219	1692	36250	3648	7395	11043	No	2.73	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	862.19	-2832	-0.0000437	0.0003369	0.0035	1.45		21935.23	21935.23		25.44	Si
SLD 8	fin.	-3302.51	-5178	-0.000181	0.0003369	0.0035	1.45		21960.21	21960.21		6.65	Si
SLV 7	ini.	1152.25	-4122	-0.0000588	0.0003369	0.0035	1.45		21935.23	21935.23		19.04	Si
SLV 7	fin.	-4998.56	-7626	-0.0002958	0.0003369	0.0035	1.45		21960.21	21960.21		4.39	Si
SLD 11	ini.	907.99	-2917	-0.000046	0.0003369	0.0035	1.45		21935.23	21935.23		24.16	Si
SLD 11	fin.	-3484.74	-5398	-0.0001923	0.0003369	0.0035	1.45		21960.21	21960.21		6.3	Si
SLV 8	ini.	1160.54	-4142	-0.0000593	0.0003369	0.0035	1.45		21935.23	21935.23		18.9	Si
SLV 8	fin.	-5025.65	-7663	-0.0002978	0.0003369	0.0035	1.45		21960.21	21960.21		4.37	Si
SLD 7	ini.	857.16	-2820	-0.0000434	0.0003369	0.0035	1.45		21935.23	21935.23		25.59	Si
SLD 7	fin.	-3286.07	-5155	-0.0001799	0.0003369	0.0035	1.45		21960.21	21960.21		6.68	Si
SLV 12	ini.	1240.09	-4294	-0.0000635	0.0003369	0.0035	1.45		21935.23	21935.23		17.69	Si
SLV 12	fin.	-5336.27	-8045	-0.0003218	0.0003369	0.0035	1.45		21960.21	21960.21		4.12	Si
SLV 5	ini.	-336.06	2336	-0.0000168	0.0003369	0.0035	1.45		21960.21	21960.21		65.35	Si
SLV 5	fin.	3563.46	4672	-0.0001975	0.0003369	0.0035	1.45		21935.23	21935.23		6.16	Si
SLV 11	ini.	1231.79	-4274	-0.000063	0.0003369	0.0035	1.45		21935.23	21935.23		17.81	Si
SLV 11	fin.	-5309.17	-8007	-0.0003196	0.0003369	0.0035	1.45		21960.21	21960.21		4.14	Si
SLD 12	ini.	913.03	-2929	-0.0000463	0.0003369	0.0035	1.45		21935.23	21935.23		24.02	Si
SLD 12	fin.	-3501.18	-5421	-0.0001934	0.0003369	0.0035	1.45		21960.21	21960.21		6.27	Si
SLV 6	ini.	-327.77	2317	-0.0000163	0.0003369	0.0035	1.45		21960.21	21960.21		67	Si
SLV 6	fin.	3536.36	4634	-0.0001958	0.0003369	0.0035	1.45		21935.23	21935.23		6.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-336.06	7140	1.45	765	2538	36250	5471	7395	12866		1.8	Si
SLV 5	fin.	3563.46	6822	1.45	7698	2538	36250	5471	7395	12866		1.89	Si
SLV 11	ini.	1231.79	-11409	1.45	2769	2538	36250	5471	7395	12866		1.13	Si
SLV 11	fin.	-5309.17	-11708	1.45	11015	2538	36250	5471	7395	12866		1.1	Si
SLD 7	ini.	857.16	-7165	1.45	1938	2538	36250	5471	7395	12866		1.8	Si
SLD 7	fin.	-3286.07	-7473	1.45	7129	2538	36250	5471	7395	12866		1.72	Si
SLD 8	ini.	862.19	-7202	1.45	1949	2538	36250	5471	7395	12866		1.79	Si
SLD 8	fin.	-3302.51	-7510	1.45	7162	2538	36250	5471	7395	12866		1.71	Si
SLV 8	ini.	1160.54	-10795	1.45	2612	2538	36250	5471	7395	12866		1.19	Si
SLV 8	fin.	-5025.65	-11104	1.45	10503	2538	36250	5471	7395	12866		1.16	Si
SLV 12	ini.	1240.09	-11470	1.45	2788	2538	36250	5471	7395	12866		1.12	Si
SLV 12	fin.	-5336.27	-11768	1.45	11064	2538	36250	5471	7395	12866		1.09	Si
SLD 12	ini.	913.03	-7633	1.45	2062	2538	36250	5471	7395	12866		1.69	Si
SLD 12	fin.	-3501.18	-7935	1.45	7564	2538	36250	5471	7395	12866		1.62	Si
SLV 7	ini.	1152.25	-10735	1.45	2594	2538	36250	5471	7395	12866		1.2	Si
SLV 7	fin.	-4998.56	-11043	1.45	10453	2538	36250	5471	7395	12866		1.17	Si
SLD 11	ini.	907.99	-7596	1.45	2051	2538	36250	5471	7395	12866		1.69	Si
SLD 11	fin.	-3484.74	-7898	1.45	7531	2538	36250	5471	7395	12866		1.63	Si
SLV 6	ini.	-327.77	7079	1.45	746	2538	36250	5471	7395	12866		1.82	Si
SLV 6	fin.	3536.36	6762	1.45	7643	2538	36250	5471	7395	12866		1.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.115	SLV 12	Si
V_SLV	1.093	SLV 12	Si
PF_SLU	12.615	SLU 83	Si
V_SLU	2.584	SLU 77	Si

Trave di accoppiamento 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-13.753	0.051	10	11.45	1.45	-13.753	0.951	10	11.45	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-699.1	-2403	-0.0000814	0.0001872	0.0035	1.45		12767.33	12767.33	No	18.26	Si
SLU 75	fin.	868.22	-1614	-0.000102	0.0001872	0.0035	1.45		12752.89	12752.89	No	14.69	Si
SLU 70	ini.	-693.28	-2338	-0.0000807	0.0001872	0.0035	1.45		12767.33	12767.33	No	18.42	Si
SLU 70	fin.	849.63	-1571	-0.0000998	0.0001872	0.0035	1.45		12752.89	12752.89	No	15.01	Si
SLU 38	ini.	-871.74	-2481	-0.0001024	0.0001872	0.0035	1.45		12767.33	12767.33	No	14.65	Si
SLU 38	fin.	831.67	-1595	-0.0000976	0.0001872	0.0035	1.45		12752.89	12752.89	No	15.33	Si
SLU 36	ini.	-925.39	-2584	-0.000109	0.0001872	0.0035	1.45		12767.33	12767.33	No	13.8	Si
SLU 36	fin.	858.79	-1652	-0.0001009	0.0001872	0.0035	1.45		12752.89	12752.89	No	14.85	Si
SLU 84	ini.	-687.25	-2410	-0.0000799	0.0001872	0.0035	1.45		12767.33	12767.33	No	18.58	Si
SLU 84	fin.	871.89	-1623	-0.0001025	0.0001872	0.0035	1.45		12752.89	12752.89	No	14.63	Si
SLU 79	ini.	-653.44	-2373	-0.0000759	0.0001872	0.0035	1.45		12767.33	12767.33	No	19.54	Si
SLU 79	fin.	871.39	-1612	-0.0001024	0.0001872	0.0035	1.45		12752.89	12752.89	No	14.64	Si
SLU 78	ini.	-790.8	-2593	-0.0000925	0.0001872	0.0035	1.45		12767.33	12767.33	No	16.14	Si
SLU 78	fin.	921.47	-1725	-0.0001086	0.0001872	0.0035	1.45		12752.89	12752.89	No	13.84	Si
SLU 77	ini.	-707.09	-2476	-0.0000823	0.0001872	0.0035	1.45		12767.33	12767.33	No	18.06	Si
SLU 77	fin.	898.51	-1670	-0.0001058	0.0001872	0.0035	1.45		12752.89	12752.89	No	14.19	Si
SLU 76	ini.	-701.26	-2379	-0.0000816	0.0001872	0.0035	1.45		12767.33	12767.33	No	18.21	Si
SLU 76	fin.	856.41	-1594	-0.0001006	0.0001872	0.0035	1.45		12752.89	12752.89	No	14.89	Si
SLU 80	ini.	-737.15	-2490	-0.0000859	0.0001872	0.0035	1.45		12767.33	12767.33	No	17.32	Si
SLU 80	fin.	894.35	-1667	-0.0001053	0.0001872	0.0035	1.45		12752.89	12752.89	No	14.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 38	ini.	-871.74	3014	1.45	0	2819	14273	6079	5546	11625	No	3.86	Si
SLU 38	fin.	831.67	2298	1.45	0	2819	14273	6079	5546	11625	No	5.06	Si
SLU 35	ini.	-841.68	2972	1.45	0	2819	14273	6079	5546	11625	No	3.91	Si
SLU 35	fin.	835.84	2255	1.45	0	2819	14273	6079	5546	11625	No	5.15	Si
SLU 77	ini.	-707.09	2956	1.45	0	2819	14273	6079	5546	11625	No	3.93	Si
SLU 77	fin.	898.51	2042	1.45	0	2819	14273	6079	5546	11625	No	5.69	Si
SLU 80	ini.	-737.15	2998	1.45	0	2819	14273	6079	5546	11625	No	3.88	Si
SLU 80	fin.	894.35	2084	1.45	0	2819	14273	6079	5546	11625	No	5.58	Si
SLU 36	ini.	-925.39	3141	1.45	0	2819	14273	6079	5546	11625	No	3.7	Si
SLU 36	fin.	858.79	2424	1.45	0	2819	14273	6079	5546	11625	No	4.8	Si
SLU 33	ini.	-833.69	2915	1.45	0	2819	14273	6079	5546	11625	No	3.99	Si
SLU 33	fin.	805.55	2199	1.45	0	2819	14273	6079	5546	11625	No	5.29	Si
SLU 78	ini.	-790.8	3124	1.45	0	2819	14273	6079	5546	11625	No	3.72	Si
SLU 78	fin.	921.47	2210	1.45	0	2819	14273	6079	5546	11625	No	5.26	Si
SLU 34	ini.	-835.85	2902	1.45	0	2819	14273	6079	5546	11625	No	4.01	Si
SLU 34	fin.	793.73	2185	1.45	0	2819	14273	6079	5546	11625	No	5.32	Si
SLU 42	ini.	-821.83	2905	1.45	0	2819	14273	6079	5546	11625	No	4	Si
SLU 42	fin.	809.21	2188	1.45	0	2819	14273	6079	5546	11625	No	5.31	Si
SLU 75	ini.	-699.1	2899	1.45	0	2819	14273	6079	5546	11625	No	4.01	Si
SLU 75	fin.	868.22	1985	1.45	0	2819	14273	6079	5546	11625	No	5.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-4900.72	-7921	-0.0006944	0.0002807	0.0035	1.45		13151.95	13151.95		2.68	Si
SLD 10	fin.	1544.46	-4110	-0.0001842	0.0002807	0.0035	1.45		13137	13137		8.51	Si
SLV 10	ini.	-8187.98	-12618	-0.0013878	0.0002807	0.0035	1.45		13151.95	13151.95		1.61	Si
SLV 10	fin.	2274.9	-6364	-0.0002804	0.0002807	0.0035	1.45		13137	13137		5.77	Si
SLV 9	ini.	-8148.89	-12563	-0.0013779	0.0002807	0.0035	1.45		13151.95	13151.95		1.61	Si
SLV 9	fin.	2266.08	-6340	-0.0002792	0.0002807	0.0035	1.45		13137	13137		5.8	Si
SLV 8	ini.	7716.1	10091	-0.0012743	0.0002807	0.0035	1.45		13137	13137		1.7	Si
SLV 8	fin.	-1245.23	4538	-0.0001466	0.0002807	0.0035	1.45		13151.95	13151.95		10.56	Si
SLV 5	ini.	-7536.14	-11826	-0.0012299	0.0002807	0.0035	1.45		13151.95	13151.95		1.75	Si
SLV 5	fin.	2187.38	-5990	-0.0002685	0.0002807	0.0035	1.45		13137	13137		6.01	Si
SLD 9	ini.	-4876.99	-7888	-0.0006901	0.0002807	0.0035	1.45		13151.95	13151.95		2.7	Si
SLD 9	fin.	1539.11	-4096	-0.0001836	0.0002807	0.0035	1.45		13137	13137		8.54	Si
SLV 12	ini.	7103.35	9355	-0.0011335	0.0002807	0.0035	1.45		13137	13137		1.85	Si
SLV 12	fin.	-1166.53	4188	-0.0001369	0.0002807	0.0035	1.45		13151.95	13151.95		11.27	Si
SLV 7	ini.	7755.2	10146	-0.0012836	0.0002807	0.0035	1.45		13137	13137		1.69	Si
SLV 7	fin.	-1254.05	4562	-0.0001477	0.0002807	0.0035	1.45		13151.95	13151.95		10.49	Si
SLV 6	ini.	-7575.23	-11881	-0.001239	0.0002807	0.0035	1.45		13151.95	13151.95		1.74	Si
SLV 6	fin.	2196.21	-6014	-0.0002697	0.0002807	0.0035	1.45		13137	13137		5.98	Si
SLV 11	ini.	7142.45	9409	-0.0011422	0.0002807	0.0035	1.45		13137	13137		1.84	Si
SLV 11	fin.	-1175.36	4212	-0.000138	0.0002807	0.0035	1.45		13151.95	13151.95		11.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-7536.14	15823	1.45	0	4229	14273	9118	5546	14664		0.93	No
SLV 5	fin.	2187.38	15058	1.45	0	4229	14273	9118	5546	14664		0.97	No
SLV 8	ini.	7716.1	-14013	1.45	0	4229	14273	9118	5546	14664		1.05	Si
SLV 8	fin.	-1245.23	-14658	1.45	0	4229	14273	9118	5546	14664		1	Si
SLD 10	ini.	-4900.72	10621	1.45	0	4229	14273	9118	5546	14664		1.38	Si
SLD 10	fin.	1544.46	9894	1.45	0	4229	14273	9118	5546	14664		1.48	Si
SLV 11	ini.	7142.45	-12949	1.45	0	4229	14273	9118	5546	14664		1.13	Si
SLV 11	fin.	-1175.36	-13578	1.45	0	4229	14273	9118	5546	14664		1.08	Si
SLV 7	ini.	7755.2	-14091	1.45	0	4229	14273	9118	5546	14664		1.04	Si
SLV 7	fin.	-1254.05	-14737	1.45	0	4229	14273	9118	5546	14664		1	No
SLD 9	ini.	-4876.99	10574	1.45	0	4229	14273	9118	5546	14664		1.39	Si
SLD 9	fin.	1539.11	9847	1.45	0	4229	14273	9118	5546	14664		1.49	Si
SLV 10	ini.	-8187.98	17044	1.45	0	4229	14273	9118	5546	14664		0.86	No
SLV 10	fin.	2274.9	16294	1.45	0	4229	14273	9118	5546	14664		0.9	No
SLV 6	ini.	-7575.23	15901	1.45	0	4229	14273	9118	5546	14664		0.92	No
SLV 6	fin.	2196.21	15136	1.45	0	4229	14273	9118	5546	14664		0.97	No
SLV 9	ini.	-8148.89	16966	1.45	0	4229	14273	9118	5546	14664		0.86	No
SLV 9	fin.	2266.08	16216	1.45	0	4229	14273	9118	5546	14664		0.9	No
SLV 12	ini.	7103.35	-12870	1.45	0	4229	14273	9118	5546	14664		1.14	Si
SLV 12	fin.	-1166.53	-13500	1.45	0	4229	14273	9118	5546	14664		1.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.606	SLV 10	Si
V_SLV	0.86	SLV 10	No
PF_SLU	13.797	SLU 36	Si
V_SLU	3.702	SLU 36	Si

Trave di accoppiamento 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	7.9	8.8	0.9	-16.843	6.661	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	229.99	-1577	-0.0000909	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.53	Si
SLU 82	fin.	210.59	-2126	-0.0000829	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.96	Si
SLU 83	ini.	236.26	-1629	-0.0000935	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.12	Si
SLU 83	fin.	218.93	-2216	-0.0000863	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.32	Si
SLU 75	ini.	231.81	-1605	-0.0000916	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.41	Si
SLU 75	fin.	214.77	-2193	-0.0000846	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.63	Si
SLU 77	ini.	238.07	-1657	-0.0000942	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.01	Si
SLU 77	fin.	223.1	-2283	-0.000088	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.01	Si
SLU 81	ini.	233.36	-1586	-0.0000923	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.31	Si
SLU 81	fin.	207.63	-2116	-0.0000817	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.21	Si
SLU 79	ini.	233.81	-1627	-0.0000924	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.28	Si
SLU 79	fin.	218.71	-2237	-0.0000862	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.33	Si
SLU 80	ini.	230.45	-1618	-0.0000911	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.5	Si
SLU 80	fin.	221.67	-2247	-0.0000875	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.12	Si
SLU 78	ini.	234.71	-1648	-0.0000928	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.22	Si
SLU 78	fin.	226.06	-2293	-0.0000893	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.8	Si
SLU 84	ini.	232.9	-1620	-0.0000921	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.34	Si
SLU 84	fin.	221.89	-2226	-0.0000875	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.1	Si
SLU 74	ini.	235.17	-1614	-0.000093	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.19	Si
SLU 74	fin.	211.81	-2183	-0.0000834	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	230.45	-1516	0.9	0	1750	14273	3773	2295	6068	No	4	Si
SLU 80	fin.	221.67	3225	0.9	0	1750	14273	3773	2295	6068	No	1.88	Si
SLU 70	ini.	222.23	-1521	0.9	0	1750	14273	3773	2295	6068	No	3.99	Si
SLU 70	fin.	199.21	3091	0.9	0	1750	14273	3773	2295	6068	No	1.96	Si
SLU 75	ini.	231.81	-1506	0.9	0	1750	14273	3773	2295	6068	No	4.03	Si
SLU 75	fin.	214.77	3135	0.9	0	1750	14273	3773	2295	6068	No	1.94	Si
SLU 77	ini.	238.07	-1571	0.9	0	1750	14273	3773	2295	6068	No	3.86	Si
SLU 77	fin.	223.1	3287	0.9	0	1750	14273	3773	2295	6068	No	1.85	Si
SLU 78	ini.	234.71	-1550	0.9	0	1750	14273	3773	2295	6068	No	3.91	Si
SLU 78	fin.	226.06	3296	0.9	0	1750	14273	3773	2295	6068	No	1.84	Si
SLU 84	ini.	232.9	-1484	0.9	0	1750	14273	3773	2295	6068	No	4.09	Si
SLU 84	fin.	221.89	3152	0.9	0	1750	14273	3773	2295	6068	No	1.93	Si
SLU 69	ini.	225.59	-1542	0.9	0	1750	14273	3773	2295	6068	No	3.94	Si
SLU 69	fin.	196.25	3081	0.9	0	1750	14273	3773	2295	6068	No	1.97	Si
SLU 83	ini.	236.26	-1505	0.9	0	1750	14273	3773	2295	6068	No	4.03	Si
SLU 83	fin.	218.93	3142	0.9	0	1750	14273	3773	2295	6068	No	1.93	Si
SLU 79	ini.	233.81	-1537	0.9	0	1750	14273	3773	2295	6068	No	3.95	Si
SLU 79	fin.	218.71	3216	0.9	0	1750	14273	3773	2295	6068	No	1.89	Si
SLU 74	ini.	235.17	-1527	0.9	0	1750	14273	3773	2295	6068	No	3.97	Si
SLU 74	fin.	211.81	3125	0.9	0	1750	14273	3773	2295	6068	No	1.94	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	822.84	-2748	-0.0003528	0.0002807	0.0035	0.9		3568.61	3568.61		4.34	Si
SLV 15	fin.	-421.5	1248	-0.0001688	0.0002807	0.0035	0.9		3575.64	3575.64		8.48	Si
SLV 2	ini.	-493.53	561	-0.0001997	0.0002807	0.0035	0.9		3575.64	3575.64		7.25	Si
SLV 2	fin.	680.08	-4065	-0.0002841	0.0002807	0.0035	0.9		3568.61	3568.61		5.25	Si
SLV 3	ini.	-492.44	482	-0.0001993	0.0002807	0.0035	0.9		3575.64	3575.64		7.26	Si
SLV 3	fin.	683.74	-4295	-0.0002859	0.0002807	0.0035	0.9		3568.61	3568.61		5.22	Si
SLV 16	ini.	997.36	-3163	-0.0004422	0.0002807	0.0035	0.9		3568.61	3568.61		3.58	Si
SLV 16	fin.	-574.6	1998	-0.0002355	0.0002807	0.0035	0.9		3575.64	3575.64		6.22	Si
SLV 1	ini.	-668.04	977	-0.000278	0.0002807	0.0035	0.9		3575.64	3575.64		5.35	Si
SLV 1	fin.	833.18	-4816	-0.0003579	0.0002807	0.0035	0.9		3568.61	3568.61		4.28	Si
SLV 11	ini.	595.89	-2263	-0.0002455	0.0002807	0.0035	0.9		3568.61	3568.61		5.99	Si
SLV 11	fin.	-234.03	38	-0.0000914	0.0002807	0.0035	0.9		3575.64	3575.64		15.28	Si
SLD 16	ini.	691.63	-2403	-0.0002896	0.0002807	0.0035	0.9		3568.61	3568.61		5.16	Si
SLD 16	fin.	-315.81	752	-0.0001246	0.0002807	0.0035	0.9		3575.64	3575.64		11.32	Si
SLV 13	ini.	647.24	-2253	-0.0002689	0.0002807	0.0035	0.9		3568.61	3568.61		5.51	Si
SLV 13	fin.	-272.07	728	-0.0001068	0.0002807	0.0035	0.9		3575.64	3575.64		13.14	Si
SLV 12	ini.	713.36	-2543	-0.0002998	0.0002807	0.0035	0.9		3568.61	3568.61		5	Si
SLV 12	fin.	-337.09	543	-0.0001334	0.0002807	0.0035	0.9		3575.64	3575.64		10.61	Si
SLV 14	ini.	821.75	-2668	-0.0003522	0.0002807	0.0035	0.9		3568.61	3568.61		4.34	Si
SLV 14	fin.	-425.16	1478	-0.0001703	0.0002807	0.0035	0.9		3575.64	3575.64		8.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-492.44	1939	0.9	0	2625	14273	5660	2295	7955		4.1	Si
SLV 3	fin.	683.74	6338	0.9	0	2625	14273	5660	2295	7955		1.25	Si
SLV 4	ini.	-317.92	1098	0.9	0	2625	14273	5660	2295	7955		7.25	Si
SLV 4	fin.	530.65	5280	0.9	0	2625	14273	5660	2295	7955		1.51	Si
SLD 2	ini.	-251.6	1003	0.9	0	2625	14273	5660	2295	7955		7.93	Si
SLD 2	fin.	477.27	4388	0.9	0	2625	14273	5660	2295	7955		1.81	Si
SLV 16	ini.	997.36	-5209	0.9	0	2625	14273	5660	2295	7955		1.53	Si
SLV 16	fin.	-574.6	-2734	0.9	0	2625	14273	5660	2295	7955		2.91	Si
SLV 15	ini.	822.84	-4368	0.9	0	2625	14273	5660	2295	7955		1.82	Si
SLV 15	fin.	-421.5	-1676	0.9	0	2625	14273	5660	2295	7955		4.75	Si
SLV 2	ini.	-493.53	2220	0.9	0	2625	14273	5660	2295	7955		3.58	Si
SLV 2	fin.	680.08	5743	0.9	0	2625	14273	5660	2295	7955		1.39	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-384.05	2026	0.9	0	2625	14273	5660	2295	7955		3.93	Si
SLV 5	fin.	595.67	4363	0.9	0	2625	14273	5660	2295	7955		1.82	Si
SLD 1	ini.	-362.32	1537	0.9	0	2625	14273	5660	2295	7955		5.18	Si
SLD 1	fin.	574.39	5059	0.9	0	2625	14273	5660	2295	7955		1.57	Si
SLV 1	ini.	-668.04	3062	0.9	0	2625	14273	5660	2295	7955		2.6	Si
SLV 1	fin.	833.18	6801	0.9	0	2625	14273	5660	2295	7955		1.17	Si
SLD 3	ini.	-259.31	879	0.9	0	2625	14273	5660	2295	7955		9.05	Si
SLD 3	fin.	486.72	4787	0.9	0	2625	14273	5660	2295	7955		1.66	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.578	SLV 16	Si
V_SLV	1.17	SLV 1	Si
PF_SLU	15.006	SLU 77	Si
V_SLU	1.841	SLU 78	Si

Trave di accoppiamento 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	10.6	11.45	0.85	-16.843	6.661	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-261.4	-1208	-0.0001166	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.52	Si
SLU 84	fin.	-191.89	-1341	-0.0000844	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.05	Si
SLU 80	ini.	-267.51	-1224	-0.0001195	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.23	Si
SLU 80	fin.	-190.47	-1339	-0.0000838	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.18	Si
SLU 76	ini.	-250.4	-1160	-0.0001115	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.07	Si
SLU 76	fin.	-185.07	-1289	-0.0000813	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.68	Si
SLU 36	ini.	-254.9	-1132	-0.0001136	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.84	Si
SLU 36	fin.	-166.11	-1194	-0.0000727	0.0001872	0.0035	0.85		3272.39	3272.39	No	19.7	Si
SLU 78	ini.	-272.51	-1255	-0.0001219	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.01	Si
SLU 78	fin.	-195.85	-1374	-0.0000862	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.71	Si
SLU 79	ini.	-261.96	-1218	-0.0001169	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.49	Si
SLU 79	fin.	-193.56	-1352	-0.0000852	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.91	Si
SLU 38	ini.	-249.9	-1101	-0.0001112	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.09	Si
SLU 38	fin.	-160.73	-1158	-0.0000703	0.0001872	0.0035	0.85		3272.39	3272.39	No	20.36	Si
SLU 75	ini.	-251.69	-1186	-0.0001121	0.0001872	0.0035	0.85		3272.39	3272.39	No	13	Si
SLU 75	fin.	-192.5	-1333	-0.0000847	0.0001872	0.0035	0.85		3272.39	3272.39	No	17	Si
SLU 77	ini.	-266.96	-1249	-0.0001193	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.26	Si
SLU 77	fin.	-198.93	-1387	-0.0000876	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.45	Si
SLU 83	ini.	-255.85	-1202	-0.000114	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.79	Si
SLU 83	fin.	-194.98	-1354	-0.0000858	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-267.51	1471	0.85	0	1653	13480	3563	2168	5731	No	3.89	Si
SLU 80	fin.	-190.47	-2373	0.85	0	1653	13480	3563	2168	5731	No	2.42	Si
SLU 77	ini.	-266.96	1479	0.85	0	1653	13480	3563	2168	5731	No	3.87	Si
SLU 77	fin.	-198.93	-2447	0.85	0	1653	13480	3563	2168	5731	No	2.34	Si
SLU 81	ini.	-235.03	1352	0.85	0	1653	13480	3563	2168	5731	No	4.24	Si
SLU 81	fin.	-191.64	-2335	0.85	0	1653	13480	3563	2168	5731	No	2.45	Si
SLU 78	ini.	-272.51	1496	0.85	0	1653	13480	3563	2168	5731	No	3.83	Si
SLU 78	fin.	-195.85	-2425	0.85	0	1653	13480	3563	2168	5731	No	2.36	Si
SLU 75	ini.	-251.69	1409	0.85	0	1653	13480	3563	2168	5731	No	4.07	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	-192.5	-2352	0.85	0	1653	13480	3563	2168	5731	No	2.44	Si
SLU 83	ini.	-255.85	1439	0.85	0	1653	13480	3563	2168	5731	No	3.98	Si
SLU 83	fin.	-194.98	-2408	0.85	0	1653	13480	3563	2168	5731	No	2.38	Si
SLU 79	ini.	-261.96	1455	0.85	0	1653	13480	3563	2168	5731	No	3.94	Si
SLU 79	fin.	-193.56	-2395	0.85	0	1653	13480	3563	2168	5731	No	2.39	Si
SLU 74	ini.	-246.14	1392	0.85	0	1653	13480	3563	2168	5731	No	4.12	Si
SLU 74	fin.	-195.59	-2374	0.85	0	1653	13480	3563	2168	5731	No	2.41	Si
SLU 84	ini.	-261.4	1456	0.85	0	1653	13480	3563	2168	5731	No	3.94	Si
SLU 84	fin.	-191.89	-2386	0.85	0	1653	13480	3563	2168	5731	No	2.4	Si
SLU 82	ini.	-240.58	1369	0.85	0	1653	13480	3563	2168	5731	No	4.19	Si
SLU 82	fin.	-188.55	-2313	0.85	0	1653	13480	3563	2168	5731	No	2.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1048.54	683	-0.0005382	0.0002807	0.0035	0.85		3181.12	3181.12		3.03	Si
SLV 16	fin.	-784.23	-3458	-0.0003791	0.0002807	0.0035	0.85		3187.76	3187.76		4.06	Si
SLV 14	ini.	754.07	383	-0.0003631	0.0002807	0.0035	0.85		3181.12	3181.12		4.22	Si
SLV 14	fin.	-616.31	-2761	-0.0002879	0.0002807	0.0035	0.85		3187.76	3187.76		5.17	Si
SLV 15	ini.	771.74	341	-0.000373	0.0002807	0.0035	0.85		3181.12	3181.12		4.12	Si
SLV 15	fin.	-639.19	-2884	-0.0002999	0.0002807	0.0035	0.85		3187.76	3187.76		4.99	Si
SLV 5	ini.	-996.94	-1673	-0.0005048	0.0002807	0.0035	0.85		3187.76	3187.76		3.2	Si
SLV 5	fin.	343.39	1047	-0.0001533	0.0002807	0.0035	0.85		3181.12	3181.12		9.26	Si
SLD 1	ini.	-891.98	-1621	-0.0004414	0.0002807	0.0035	0.85		3187.76	3187.76		3.57	Si
SLD 1	fin.	276.72	733	-0.0001223	0.0002807	0.0035	0.85		3181.12	3181.12		11.5	Si
SLV 6	ini.	-810.61	-1443	-0.0003941	0.0002807	0.0035	0.85		3187.76	3187.76		3.93	Si
SLV 6	fin.	245.76	662	-0.0001081	0.0002807	0.0035	0.85		3181.12	3181.12		12.94	Si
SLV 4	ini.	-760.53	-1500	-0.0003658	0.0002807	0.0035	0.85		3187.76	3187.76		4.19	Si
SLV 4	fin.	204.14	414	-0.0000893	0.0002807	0.0035	0.85		3181.12	3181.12		15.58	Si
SLV 1	ini.	-1331.81	-2143	-0.0007247	0.0002807	0.0035	0.85		3187.76	3187.76		2.39	Si
SLV 1	fin.	517.11	1684	-0.0002376	0.0002807	0.0035	0.85		3181.12	3181.12		6.15	Si
SLV 2	ini.	-1055	-1801	-0.000541	0.0002807	0.0035	0.85		3187.76	3187.76		3.02	Si
SLV 2	fin.	372.07	1110	-0.0001669	0.0002807	0.0035	0.85		3181.12	3181.12		8.55	Si
SLV 3	ini.	-1037.34	-1842	-0.0005299	0.0002807	0.0035	0.85		3187.76	3187.76		3.07	Si
SLV 3	fin.	349.18	987	-0.000156	0.0002807	0.0035	0.85		3181.12	3181.12		9.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	527.35	-1175	0.85	0	2479	13480	5345	2168	7513		6.4	Si
SLV 11	fin.	-512.88	-4120	0.85	0	2479	13480	5345	2168	7513		1.82	Si
SLV 12	ini.	713.68	-1783	0.85	0	2479	13480	5345	2168	7513		4.21	Si
SLV 12	fin.	-610.51	-4721	0.85	0	2479	13480	5345	2168	7513		1.59	Si
SLD 16	ini.	608.71	-1574	0.85	0	2479	13480	5345	2168	7513		4.77	Si
SLD 16	fin.	-543.84	-4102	0.85	0	2479	13480	5345	2168	7513		1.83	Si
SLV 1	ini.	-1331.81	4694	0.85	0	2479	13480	5345	2168	7513		1.6	Si
SLV 1	fin.	517.11	2478	0.85	0	2479	13480	5345	2168	7513		3.03	Si
SLV 3	ini.	-1037.34	3829	0.85	0	2479	13480	5345	2168	7513		1.96	Si
SLV 3	fin.	349.18	1302	0.85	0	2479	13480	5345	2168	7513		5.77	Si
SLV 16	ini.	1048.54	-2992	0.85	0	2479	13480	5345	2168	7513		2.51	Si
SLV 16	fin.	-784.23	-5598	0.85	0	2479	13480	5345	2168	7513		1.34	Si
SLV 2	ini.	-1055	3790	0.85	0	2479	13480	5345	2168	7513		1.98	Si
SLV 2	fin.	372.07	1585	0.85	0	2479	13480	5345	2168	7513		4.74	Si
SLV 15	ini.	771.74	-2088	0.85	0	2479	13480	5345	2168	7513		3.6	Si
SLV 15	fin.	-639.19	-4705	0.85	0	2479	13480	5345	2168	7513		1.6	Si
SLD 15	ini.	433.1	-1000	0.85	0	2479	13480	5345	2168	7513		7.51	Si
SLD 15	fin.	-451.83	-3535	0.85	0	2479	13480	5345	2168	7513		2.12	Si
SLV 14	ini.	754.07	-2126	0.85	0	2479	13480	5345	2168	7513		3.53	Si
SLV 14	fin.	-616.31	-4422	0.85	0	2479	13480	5345	2168	7513		1.7	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.394	SLV 1	Si
V_SLV	1.342	SLV 16	Si
PF_SLU	12.008	SLU 78	Si
V_SLU	2.342	SLU 77	Si

Trave di accoppiamento 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	7.9	8.8	0.9	-11.918	6.661	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	287.34	-1934	-0.0001148	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.43	Si
SLU 84	fin.	523.6	-2452	-0.00022	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.82	Si
SLU 74	ini.	282.49	-1910	-0.0001127	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.65	Si
SLU 74	fin.	521.63	-2434	-0.0002191	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.85	Si
SLU 78	ini.	299.42	-1987	-0.0001199	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.93	Si
SLU 78	fin.	528.8	-2487	-0.0002225	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.76	Si
SLU 81	ini.	270.41	-1857	-0.0001076	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.21	Si
SLU 81	fin.	516.42	-2399	-0.0002166	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.92	Si
SLU 82	ini.	271.38	-1858	-0.0001081	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.16	Si
SLU 82	fin.	514.49	-2394	-0.0002157	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.94	Si
SLU 80	ini.	291.95	-1943	-0.0001167	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.24	Si
SLU 80	fin.	517.86	-2435	-0.0002173	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.9	Si
SLU 79	ini.	290.98	-1942	-0.0001163	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.28	Si
SLU 79	fin.	519.79	-2440	-0.0002182	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.87	Si
SLU 77	ini.	298.45	-1986	-0.0001194	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.97	Si
SLU 77	fin.	530.73	-2492	-0.0002234	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.73	Si
SLU 83	ini.	286.38	-1933	-0.0001143	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.48	Si
SLU 83	fin.	525.52	-2458	-0.0002209	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.8	Si
SLU 75	ini.	283.45	-1911	-0.0001131	0.0001872	0.0035	0.9		3572.55	3572.55	No	12.6	Si
SLU 75	fin.	519.7	-2428	-0.0002182	0.0001872	0.0035	0.9		3572.55	3572.55	No	6.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	290.98	-1447	0.9	0	1750	14273	3773	2295	6068	No	4.19	Si
SLU 79	fin.	519.79	2228	0.9	0	1750	14273	3773	2295	6068	No	2.72	Si
SLU 84	ini.	287.34	-1397	0.9	0	1750	14273	3773	2295	6068	No	4.34	Si
SLU 84	fin.	523.6	2220	0.9	0	1750	14273	3773	2295	6068	No	2.73	Si
SLU 78	ini.	299.42	-1489	0.9	0	1750	14273	3773	2295	6068	No	4.08	Si
SLU 78	fin.	528.8	2269	0.9	0	1750	14273	3773	2295	6068	No	2.67	Si
SLU 82	ini.	271.38	-1306	0.9	0	1750	14273	3773	2295	6068	No	4.65	Si
SLU 82	fin.	514.49	2171	0.9	0	1750	14273	3773	2295	6068	No	2.8	Si
SLU 77	ini.	298.45	-1488	0.9	0	1750	14273	3773	2295	6068	No	4.08	Si
SLU 77	fin.	530.73	2280	0.9	0	1750	14273	3773	2295	6068	No	2.66	Si
SLU 81	ini.	270.41	-1305	0.9	0	1750	14273	3773	2295	6068	No	4.65	Si
SLU 81	fin.	516.42	2181	0.9	0	1750	14273	3773	2295	6068	No	2.78	Si
SLU 74	ini.	282.49	-1397	0.9	0	1750	14273	3773	2295	6068	No	4.34	Si
SLU 74	fin.	521.63	2231	0.9	0	1750	14273	3773	2295	6068	No	2.72	Si
SLU 75	ini.	283.45	-1398	0.9	0	1750	14273	3773	2295	6068	No	4.34	Si
SLU 75	fin.	519.7	2220	0.9	0	1750	14273	3773	2295	6068	No	2.73	Si
SLU 80	ini.	291.95	-1448	0.9	0	1750	14273	3773	2295	6068	No	4.19	Si
SLU 80	fin.	517.86	2217	0.9	0	1750	14273	3773	2295	6068	No	2.74	Si
SLU 83	ini.	286.38	-1397	0.9	0	1750	14273	3773	2295	6068	No	4.34	Si
SLU 83	fin.	525.52	2231	0.9	0	1750	14273	3773	2295	6068	No	2.72	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-606.82	554	-0.0002499	0.0002807	0.0035	0.9		3575.64	3575.64		5.89	Si
SLD 3	fin.	1205.09	-3328	-0.0005564	0.0002807	0.0035	0.9		3568.61	3568.61		2.96	Si
SLV 16	ini.	1367.48	-4087	-0.0006515	0.0002807	0.0035	0.9		3568.61	3568.61		2.61	Si
SLV 16	fin.	-894.54	797	-0.0003879	0.0002807	0.0035	0.9		3575.64	3575.64		4	Si
SLD 1	ini.	-582.83	570	-0.0002391	0.0002807	0.0035	0.9		3575.64	3575.64		6.13	Si
SLD 1	fin.	1155.08	-3191	-0.0005282	0.0002807	0.0035	0.9		3568.61	3568.61		3.09	Si
SLV 14	ini.	1407.63	-4061	-0.0006758	0.0002807	0.0035	0.9		3568.61	3568.61		2.54	Si
SLV 14	fin.	-979.74	1032	-0.000432	0.0002807	0.0035	0.9		3575.64	3575.64		3.65	Si
SLV 2	ini.	-756.34	995	-0.0003196	0.0002807	0.0035	0.9		3575.64	3575.64		4.73	Si
SLV 2	fin.	1334.5	-3534	-0.0006318	0.0002807	0.0035	0.9		3568.61	3568.61		2.67	Si
SLV 15	ini.	1111.77	-3485	-0.0005041	0.0002807	0.0035	0.9		3568.61	3568.61		3.21	Si
SLV 15	fin.	-624.68	269	-0.000258	0.0002807	0.0035	0.9		3575.64	3575.64		5.72	Si
SLV 13	ini.	1151.92	-3459	-0.0005264	0.0002807	0.0035	0.9		3568.61	3568.61		3.1	Si
SLV 13	fin.	-709.89	503	-0.0002975	0.0002807	0.0035	0.9		3575.64	3575.64		5.04	Si
SLV 1	ini.	-1012.05	1598	-0.000449	0.0002807	0.0035	0.9		3575.64	3575.64		3.53	Si
SLV 1	fin.	1604.36	-4063	-0.0007996	0.0002807	0.0035	0.9		3568.61	3568.61		2.22	Si
SLV 4	ini.	-796.49	969	-0.0003391	0.0002807	0.0035	0.9		3575.64	3575.64		4.49	Si
SLV 4	fin.	1419.71	-3769	-0.0006832	0.0002807	0.0035	0.9		3568.61	3568.61		2.51	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1052.2	1572	-0.0004705	0.0002807	0.0035	0.9		3575.64	3575.64		3.4	Si
SLV 3	fin.	1689.57	-4297	-0.0008558	0.0002807	0.0035	0.9		3568.61	3568.61		2.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1151.92	-5293	0.9	0	2625	14273	5660	2295	7955		1.5	Si
SLV 13	fin.	-709.89	-3000	0.9	0	2625	14273	5660	2295	7955		2.65	Si
SLV 1	ini.	-1012.05	4758	0.9	0	2625	14273	5660	2295	7955		1.67	Si
SLV 1	fin.	1604.36	6680	0.9	0	2625	14273	5660	2295	7955		1.19	Si
SLV 15	ini.	1111.77	-5354	0.9	0	2625	14273	5660	2295	7955		1.49	Si
SLV 15	fin.	-624.68	-2514	0.9	0	2625	14273	5660	2295	7955		3.16	Si
SLV 3	ini.	-1052.2	4697	0.9	0	2625	14273	5660	2295	7955		1.69	Si
SLV 3	fin.	1689.57	7166	0.9	0	2625	14273	5660	2295	7955		1.11	Si
SLV 16	ini.	1367.48	-6534	0.9	0	2625	14273	5660	2295	7955		1.22	Si
SLV 16	fin.	-894.54	-3641	0.9	0	2625	14273	5660	2295	7955		2.18	Si
SLV 14	ini.	1407.63	-6472	0.9	0	2625	14273	5660	2295	7955		1.23	Si
SLV 14	fin.	-979.74	-4128	0.9	0	2625	14273	5660	2295	7955		1.93	Si
SLD 3	ini.	-606.82	2677	0.9	0	2625	14273	5660	2295	7955		2.97	Si
SLD 3	fin.	1205.09	5112	0.9	0	2625	14273	5660	2295	7955		1.56	Si
SLV 4	ini.	-796.49	3517	0.9	0	2625	14273	5660	2295	7955		2.26	Si
SLV 4	fin.	1419.71	6039	0.9	0	2625	14273	5660	2295	7955		1.32	Si
SLD 1	ini.	-582.83	2715	0.9	0	2625	14273	5660	2295	7955		2.93	Si
SLD 1	fin.	1155.08	4827	0.9	0	2625	14273	5660	2295	7955		1.65	Si
SLV 2	ini.	-756.34	3579	0.9	0	2625	14273	5660	2295	7955		2.22	Si
SLV 2	fin.	1334.5	5552	0.9	0	2625	14273	5660	2295	7955		1.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.112	SLV 3	Si
V_SLV	1.11	SLV 3	Si
PF_SLU	6.731	SLU 77	Si
V_SLU	2.661	SLU 77	Si

Trave di accoppiamento 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	10.6	11.45	0.85	-11.918	6.661	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-467.79	-1976	-0.0002194	0.0001872	0.0035	0.85		3272.39	3272.39	No	7	Si
SLU 78	fin.	-191.29	-1486	-0.0000841	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.11	Si
SLU 82	ini.	-450.23	-1877	-0.0002101	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.27	Si
SLU 82	fin.	-168.7	-1371	-0.0000739	0.0001872	0.0035	0.85		3272.39	3272.39	No	19.4	Si
SLU 75	ini.	-456.3	-1915	-0.0002133	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.17	Si
SLU 75	fin.	-177.98	-1418	-0.0000781	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.39	Si
SLU 77	ini.	-469.24	-1981	-0.0002201	0.0001872	0.0035	0.85		3272.39	3272.39	No	6.97	Si
SLU 77	fin.	-189.91	-1484	-0.0000835	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.23	Si
SLU 79	ini.	-458.95	-1934	-0.0002147	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.13	Si
SLU 79	fin.	-183.32	-1440	-0.0000805	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.85	Si
SLU 80	ini.	-457.5	-1929	-0.0002139	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.15	Si
SLU 80	fin.	-184.7	-1443	-0.0000811	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.72	Si
SLU 84	ini.	-461.72	-1938	-0.0002162	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.09	Si
SLU 84	fin.	-182.01	-1439	-0.0000799	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.98	Si
SLU 81	ini.	-451.69	-1881	-0.0002109	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.24	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-167.32	-1369	-0.0000732	0.0001872	0.0035	0.85		3272.39	3272.39	No	19.56	Si
SLU 74	ini.	-457.75	-1920	-0.0002141	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.15	Si
SLU 74	fin.	-176.6	-1416	-0.0000774	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.53	Si
SLU 83	ini.	-463.17	-1942	-0.0002169	0.0001872	0.0035	0.85		3272.39	3272.39	No	7.07	Si
SLU 83	fin.	-180.63	-1436	-0.0000793	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-457.5	2639	0.85	0	1653	13480	3563	2168	5731	No	2.17	Si
SLU 80	fin.	-184.7	-1501	0.85	0	1653	13480	3563	2168	5731	No	3.82	Si
SLU 78	ini.	-467.79	2694	0.85	0	1653	13480	3563	2168	5731	No	2.13	Si
SLU 78	fin.	-191.29	-1541	0.85	0	1653	13480	3563	2168	5731	No	3.72	Si
SLU 75	ini.	-456.3	2621	0.85	0	1653	13480	3563	2168	5731	No	2.19	Si
SLU 75	fin.	-177.98	-1464	0.85	0	1653	13480	3563	2168	5731	No	3.91	Si
SLU 81	ini.	-451.69	2597	0.85	0	1653	13480	3563	2168	5731	No	2.21	Si
SLU 81	fin.	-167.32	-1417	0.85	0	1653	13480	3563	2168	5731	No	4.04	Si
SLU 84	ini.	-461.72	2663	0.85	0	1653	13480	3563	2168	5731	No	2.15	Si
SLU 84	fin.	-182.01	-1499	0.85	0	1653	13480	3563	2168	5731	No	3.82	Si
SLU 82	ini.	-450.23	2590	0.85	0	1653	13480	3563	2168	5731	No	2.21	Si
SLU 82	fin.	-168.7	-1422	0.85	0	1653	13480	3563	2168	5731	No	4.03	Si
SLU 74	ini.	-457.75	2628	0.85	0	1653	13480	3563	2168	5731	No	2.18	Si
SLU 74	fin.	-176.6	-1459	0.85	0	1653	13480	3563	2168	5731	No	3.93	Si
SLU 77	ini.	-469.24	2702	0.85	0	1653	13480	3563	2168	5731	No	2.12	Si
SLU 77	fin.	-189.91	-1536	0.85	0	1653	13480	3563	2168	5731	No	3.73	Si
SLU 83	ini.	-463.17	2671	0.85	0	1653	13480	3563	2168	5731	No	2.15	Si
SLU 83	fin.	-180.63	-1494	0.85	0	1653	13480	3563	2168	5731	No	3.84	Si
SLU 79	ini.	-458.95	2646	0.85	0	1653	13480	3563	2168	5731	No	2.17	Si
SLU 79	fin.	-183.32	-1496	0.85	0	1653	13480	3563	2168	5731	No	3.83	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1253.93	-3792	-0.0006711	0.0002807	0.0035	0.85		3187.76	3187.76		2.54	Si
SLV 1	fin.	1061.13	1397	-0.0005461	0.0002807	0.0035	0.85		3181.12	3181.12		3	Si
SLD 1	ini.	-911.05	-2877	-0.0004527	0.0002807	0.0035	0.85		3187.76	3187.76		3.5	Si
SLD 1	fin.	641.14	573	-0.0003016	0.0002807	0.0035	0.85		3181.12	3181.12		4.96	Si
SLV 3	ini.	-1317.21	-3989	-0.0007146	0.0002807	0.0035	0.85		3187.76	3187.76		2.42	Si
SLV 3	fin.	1115.78	1472	-0.0005811	0.0002807	0.0035	0.85		3181.12	3181.12		2.85	Si
SLV 2	ini.	-1031.86	-3202	-0.0005264	0.0002807	0.0035	0.85		3187.76	3187.76		3.09	Si
SLV 2	fin.	789.58	867	-0.000383	0.0002807	0.0035	0.85		3181.12	3181.12		4.03	Si
SLV 15	ini.	424.99	695	-0.0001922	0.0002807	0.0035	0.85		3181.12	3181.12		7.49	Si
SLV 15	fin.	-991.97	-2628	-0.0005017	0.0002807	0.0035	0.85		3187.76	3187.76		3.21	Si
SLV 13	ini.	488.26	892	-0.0002232	0.0002807	0.0035	0.85		3181.12	3181.12		6.52	Si
SLV 13	fin.	-1046.61	-2703	-0.0005357	0.0002807	0.0035	0.85		3187.76	3187.76		3.05	Si
SLV 16	ini.	647.06	1286	-0.0003047	0.0002807	0.0035	0.85		3181.12	3181.12		4.92	Si
SLV 16	fin.	-1263.52	-3158	-0.0006776	0.0002807	0.0035	0.85		3187.76	3187.76		2.52	Si
SLV 14	ini.	710.34	1482	-0.0003389	0.0002807	0.0035	0.85		3181.12	3181.12		4.48	Si
SLV 14	fin.	-1318.17	-3234	-0.0007152	0.0002807	0.0035	0.85		3187.76	3187.76		2.42	Si
SLD 3	ini.	-948.13	-2992	-0.000475	0.0002807	0.0035	0.85		3187.76	3187.76		3.36	Si
SLD 3	fin.	673.26	618	-0.0003187	0.0002807	0.0035	0.85		3181.12	3181.12		4.72	Si
SLV 4	ini.	-1095.13	-3398	-0.0005665	0.0002807	0.0035	0.85		3187.76	3187.76		2.91	Si
SLV 4	fin.	844.22	942	-0.0004144	0.0002807	0.0035	0.85		3181.12	3181.12		3.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1317.21	6544	0.85	0	2479	13480	5345	2168	7513		1.15	Si
SLV 3	fin.	1115.78	4024	0.85	0	2479	13480	5345	2168	7513		1.87	Si
SLV 16	ini.	647.06	-2763	0.85	0	2479	13480	5345	2168	7513		2.72	Si
SLV 16	fin.	-1263.52	-5607	0.85	0	2479	13480	5345	2168	7513		1.34	Si
SLD 3	ini.	-948.13	4790	0.85	0	2479	13480	5345	2168	7513		1.57	Si
SLD 3	fin.	673.26	2236	0.85	0	2479	13480	5345	2168	7513		3.36	Si
SLV 15	ini.	424.99	-1708	0.85	0	2479	13480	5345	2168	7513		4.4	Si
SLV 15	fin.	-991.97	-4510	0.85	0	2479	13480	5345	2168	7513		1.67	Si
SLV 4	ini.	-1095.13	5489	0.85	0	2479	13480	5345	2168	7513		1.37	Si
SLV 4	fin.	844.22	2926	0.85	0	2479	13480	5345	2168	7513		2.57	Si
SLV 2	ini.	-1031.86	5163	0.85	0	2479	13480	5345	2168	7513		1.46	Si
SLV 2	fin.	789.58	2719	0.85	0	2479	13480	5345	2168	7513		2.76	Si
SLV 13	ini.	488.26	-2034	0.85	0	2479	13480	5345	2168	7513		3.69	Si
SLV 13	fin.	-1046.61	-4717	0.85	0	2479	13480	5345	2168	7513		1.59	Si
SLV 1	ini.	-1253.93	6218	0.85	0	2479	13480	5345	2168	7513		1.21	Si
SLV 1	fin.	1061.13	3816	0.85	0	2479	13480	5345	2168	7513		1.97	Si
SLD 1	ini.	-911.05	4599	0.85	0	2479	13480	5345	2168	7513		1.63	Si
SLD 1	fin.	641.14	2113	0.85	0	2479	13480	5345	2168	7513		3.56	Si
SLV 14	ini.	710.34	-3089	0.85	0	2479	13480	5345	2168	7513		2.43	Si
SLV 14	fin.	-1318.17	-5815	0.85	0	2479	13480	5345	2168	7513		1.29	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.418	SLV 14	Si
V_SLV	1.148	SLV 3	Si
PF_SLU	6.974	SLU 77	Si
V_SLU	2.121	SLU 77	Si

Trave di accoppiamento 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	7.9	8.8	0.9	-7.013	6.661	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	100.28	-1466	-0.0000387	0.0001872	0.0035	0.9		3572.55	3572.55	No	35.62	Si
SLU 75	fin.	334.91	-1709	-0.000135	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.67	Si
SLU 73	ini.	78.14	-1379	-0.0000301	0.0001872	0.0035	0.9		3572.55	3572.55	No	45.72	Si
SLU 73	fin.	329.7	-1656	-0.0001328	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.84	Si
SLU 79	ini.	110.67	-1477	-0.0000428	0.0001872	0.0035	0.9		3572.55	3572.55	No	32.28	Si
SLU 79	fin.	326.62	-1684	-0.0001314	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.94	Si
SLU 74	ini.	97.32	-1463	-0.0000376	0.0001872	0.0035	0.9		3572.55	3572.55	No	36.71	Si
SLU 74	fin.	336.89	-1714	-0.0001358	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.6	Si
SLU 78	ini.	119.02	-1518	-0.0000461	0.0001872	0.0035	0.9		3572.55	3572.55	No	30.02	Si
SLU 78	fin.	331.72	-1718	-0.0001336	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.77	Si
SLU 81	ini.	80.76	-1429	-0.0000311	0.0001872	0.0035	0.9		3572.55	3572.55	No	44.24	Si
SLU 81	fin.	341.96	-1716	-0.000138	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.45	Si
SLU 83	ini.	99.5	-1480	-0.0000384	0.0001872	0.0035	0.9		3572.55	3572.55	No	35.91	Si
SLU 83	fin.	338.77	-1725	-0.0001367	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.55	Si
SLU 84	ini.	102.46	-1484	-0.0000396	0.0001872	0.0035	0.9		3572.55	3572.55	No	34.87	Si
SLU 84	fin.	336.79	-1720	-0.0001358	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.61	Si
SLU 82	ini.	83.73	-1432	-0.0000323	0.0001872	0.0035	0.9		3572.55	3572.55	No	42.67	Si
SLU 82	fin.	339.98	-1711	-0.0001372	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.51	Si
SLU 77	ini.	116.05	-1515	-0.000045	0.0001872	0.0035	0.9		3572.55	3572.55	No	30.78	Si
SLU 77	fin.	333.7	-1724	-0.0001345	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	99.5	-441	0.9	0	1750	14273	3773	2295	6068	No	13.75	Si
SLU 83	fin.	338.77	1831	0.9	0	1750	14273	3773	2295	6068	No	3.31	Si
SLU 79	ini.	110.67	-485	0.9	0	1750	14273	3773	2295	6068	No	12.52	Si
SLU 79	fin.	326.62	1779	0.9	0	1750	14273	3773	2295	6068	No	3.41	Si
SLU 82	ini.	83.73	-383	0.9	0	1750	14273	3773	2295	6068	No	15.84	Si
SLU 82	fin.	339.98	1837	0.9	0	1750	14273	3773	2295	6068	No	3.3	Si
SLU 78	ini.	119.02	-523	0.9	0	1750	14273	3773	2295	6068	No	11.6	Si
SLU 78	fin.	331.72	1822	0.9	0	1750	14273	3773	2295	6068	No	3.33	Si
SLU 73	ini.	78.14	-366	0.9	0	1750	14273	3773	2295	6068	No	16.6	Si
SLU 73	fin.	329.7	1794	0.9	0	1750	14273	3773	2295	6068	No	3.38	Si
SLU 81	ini.	80.76	-374	0.9	0	1750	14273	3773	2295	6068	No	16.23	Si
SLU 81	fin.	341.96	1847	0.9	0	1750	14273	3773	2295	6068	No	3.29	Si
SLU 75	ini.	100.28	-456	0.9	0	1750	14273	3773	2295	6068	No	13.32	Si
SLU 75	fin.	334.91	1837	0.9	0	1750	14273	3773	2295	6068	No	3.3	Si
SLU 77	ini.	116.05	-514	0.9	0	1750	14273	3773	2295	6068	No	11.81	Si
SLU 77	fin.	333.7	1832	0.9	0	1750	14273	3773	2295	6068	No	3.31	Si
SLU 74	ini.	97.32	-446	0.9	0	1750	14273	3773	2295	6068	No	13.6	Si
SLU 74	fin.	336.89	1847	0.9	0	1750	14273	3773	2295	6068	No	3.28	Si
SLU 84	ini.	102.46	-451	0.9	0	1750	14273	3773	2295	6068	No	13.47	Si
SLU 84	fin.	336.79	1821	0.9	0	1750	14273	3773	2295	6068	No	3.33	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1266.06	-2518	-0.0005915	0.0002807	0.0035	0.9		3568.61	3568.61		2.82	Si
SLV 14	fin.	-530.74	636	-0.000216	0.0002807	0.0035	0.9		3575.64	3575.64		6.74	Si
SLV 1	ini.	-1047.58	489	-0.000468	0.0002807	0.0035	0.9		3575.64	3575.64		3.41	Si
SLV 1	fin.	914.1	-2730	-0.0003988	0.0002807	0.0035	0.9		3568.61	3568.61		3.9	Si
SLV 2	ini.	-793.97	142	-0.0003378	0.0002807	0.0035	0.9		3575.64	3575.64		4.5	Si
SLV 2	fin.	758.35	-2379	-0.0003213	0.0002807	0.0035	0.9		3568.61	3568.61		4.71	Si
SLV 13	ini.	1012.45	-2172	-0.0004502	0.0002807	0.0035	0.9		3568.61	3568.61		3.52	Si
SLV 13	fin.	-374.99	285	-0.0001492	0.0002807	0.0035	0.9		3575.64	3575.64		9.54	Si
SLV 16	ini.	1132.56	-2388	-0.0005156	0.0002807	0.0035	0.9		3568.61	3568.61		3.15	Si
SLV 16	fin.	-438.47	373	-0.000176	0.0002807	0.0035	0.9		3575.64	3575.64		8.15	Si
SLV 15	ini.	878.95	-2041	-0.0003809	0.0002807	0.0035	0.9		3568.61	3568.61		4.06	Si
SLV 15	fin.	-282.72	22	-0.0001111	0.0002807	0.0035	0.9		3575.64	3575.64		12.65	Si
SLD 16	ini.	741.56	-1870	-0.0003132	0.0002807	0.0035	0.9		3568.61	3568.61		4.81	Si
SLD 16	fin.	-196.51	-180	-0.0000764	0.0002807	0.0035	0.9		3575.64	3575.64		18.2	Si
SLV 4	ini.	-927.47	273	-0.0004048	0.0002807	0.0035	0.9		3575.64	3575.64		3.86	Si
SLV 4	fin.	850.62	-2642	-0.0003666	0.0002807	0.0035	0.9		3568.61	3568.61		4.2	Si
SLD 14	ini.	819.82	-1946	-0.0003513	0.0002807	0.0035	0.9		3568.61	3568.61		4.35	Si
SLD 14	fin.	-250.59	-26	-0.0000981	0.0002807	0.0035	0.9		3575.64	3575.64		14.27	Si
SLV 3	ini.	-1181.08	619	-0.0005416	0.0002807	0.0035	0.9		3575.64	3575.64		3.03	Si
SLV 3	fin.	1006.37	-2993	-0.000447	0.0002807	0.0035	0.9		3568.61	3568.61		3.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1047.58	3692	0.9	0	2625	14273	5660	2295	7955		2.15	Si
SLV 1	fin.	914.1	4189	0.9	0	2625	14273	5660	2295	7955		1.9	Si
SLV 2	ini.	-793.97	2805	0.9	0	2625	14273	5660	2295	7955		2.84	Si
SLV 2	fin.	758.35	3524	0.9	0	2625	14273	5660	2295	7955		2.26	Si
SLV 3	ini.	-1181.08	4089	0.9	0	2625	14273	5660	2295	7955		1.95	Si
SLV 3	fin.	1006.37	4685	0.9	0	2625	14273	5660	2295	7955		1.7	Si
SLV 13	ini.	1012.45	-3646	0.9	0	2625	14273	5660	2295	7955		2.18	Si
SLV 13	fin.	-374.99	-1397	0.9	0	2625	14273	5660	2295	7955		5.69	Si
SLV 16	ini.	1132.56	-4136	0.9	0	2625	14273	5660	2295	7955		1.92	Si
SLV 16	fin.	-438.47	-1567	0.9	0	2625	14273	5660	2295	7955		5.08	Si
SLV 7	ini.	-574.37	1839	0.9	0	2625	14273	5660	2295	7955		4.33	Si
SLV 7	fin.	637.38	3199	0.9	0	2625	14273	5660	2295	7955		2.49	Si
SLV 15	ini.	878.95	-3249	0.9	0	2625	14273	5660	2295	7955		2.45	Si
SLV 15	fin.	-282.72	-901	0.9	0	2625	14273	5660	2295	7955		8.83	Si
SLV 4	ini.	-927.47	3202	0.9	0	2625	14273	5660	2295	7955		2.48	Si
SLV 4	fin.	850.62	4019	0.9	0	2625	14273	5660	2295	7955		1.98	Si
SLD 3	ini.	-734.84	2515	0.9	0	2625	14273	5660	2295	7955		3.16	Si
SLD 3	fin.	726.23	3453	0.9	0	2625	14273	5660	2295	7955		2.3	Si
SLV 14	ini.	1266.06	-4533	0.9	0	2625	14273	5660	2295	7955		1.75	Si
SLV 14	fin.	-530.74	-2062	0.9	0	2625	14273	5660	2295	7955		3.86	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.819	SLV 14	Si
V_SLV	1.698	SLV 3	Si
PF_SLU	10.447	SLU 81	Si
V_SLU	3.285	SLU 74	Si

Trave di accoppiamento 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	10.6	11.45	0.85	-7.013	6.661	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-256.59	-1683	-0.0001144	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.75	Si
SLU 78	fin.	-32.03	-870	-0.0000137	0.0001872	0.0035	0.85		3272.39	3272.39	No	102.18	Si
SLU 73	ini.	-255.21	-1627	-0.0001137	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.82	Si
SLU 73	fin.	12.21	-745	-0.0000052	0.0001872	0.0035	0.85		3266.1	3266.1	No	267.4	Si
SLU 74	ini.	-261.94	-1690	-0.0001169	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.49	Si
SLU 74	fin.	-6.55	-819	-0.0000028	0.0001872	0.0035	0.85		3272.39	3272.39	No	499.25	Si
SLU 81	ini.	-265.72	-1700	-0.0001187	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.32	Si
SLU 81	fin.	12.55	-778	-0.0000054	0.0001872	0.0035	0.85		3266.1	3266.1	No	260.15	Si
SLU 77	ini.	-258.15	-1690	-0.0001151	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.68	Si
SLU 77	fin.	-29.23	-867	-0.0000125	0.0001872	0.0035	0.85		3272.39	3272.39	No	111.95	Si
SLU 82	ini.	-264.16	-1693	-0.0001179	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.39	Si
SLU 82	fin.	9.76	-781	-0.0000042	0.0001872	0.0035	0.85		3266.1	3266.1	No	334.62	Si
SLU 83	ini.	-261.93	-1700	-0.0001169	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.49	Si
SLU 83	fin.	-10.12	-827	-0.0000043	0.0001872	0.0035	0.85		3272.39	3272.39	No	323.27	Si
SLU 84	ini.	-260.37	-1693	-0.0001162	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.57	Si
SLU 84	fin.	-12.92	-829	-0.0000055	0.0001872	0.0035	0.85		3272.39	3272.39	No	253.35	Si
SLU 76	ini.	-251.42	-1627	-0.000112	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.02	Si
SLU 76	fin.	-10.46	-793	-0.0000045	0.0001872	0.0035	0.85		3272.39	3272.39	No	312.76	Si
SLU 75	ini.	-260.38	-1683	-0.0001162	0.0001872	0.0035	0.85		3272.39	3272.39	No	12.57	Si
SLU 75	fin.	-9.35	-821	-0.000004	0.0001872	0.0035	0.85		3272.39	3272.39	No	350.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-265.72	2963	0.85	0	1653	13480	3563	2168	5731	No	1.93	Si
SLU 81	fin.	12.55	-482	0.85	0	1653	13480	3563	2168	5731	No	11.9	Si
SLU 82	ini.	-264.16	2953	0.85	0	1653	13480	3563	2168	5731	No	1.94	Si
SLU 82	fin.	9.76	-490	0.85	0	1653	13480	3563	2168	5731	No	11.69	Si
SLU 73	ini.	-255.21	2824	0.85	0	1653	13480	3563	2168	5731	No	2.03	Si
SLU 73	fin.	12.21	-458	0.85	0	1653	13480	3563	2168	5731	No	12.51	Si
SLU 84	ini.	-260.37	2938	0.85	0	1653	13480	3563	2168	5731	No	1.95	Si
SLU 84	fin.	-12.92	-557	0.85	0	1653	13480	3563	2168	5731	No	10.3	Si
SLU 75	ini.	-260.38	2900	0.85	0	1653	13480	3563	2168	5731	No	1.98	Si
SLU 75	fin.	-9.35	-534	0.85	0	1653	13480	3563	2168	5731	No	10.74	Si
SLU 83	ini.	-261.93	2948	0.85	0	1653	13480	3563	2168	5731	No	1.94	Si
SLU 83	fin.	-10.12	-548	0.85	0	1653	13480	3563	2168	5731	No	10.46	Si
SLU 78	ini.	-256.59	2886	0.85	0	1653	13480	3563	2168	5731	No	1.99	Si
SLU 78	fin.	-32.03	-600	0.85	0	1653	13480	3563	2168	5731	No	9.55	Si
SLU 74	ini.	-261.94	2910	0.85	0	1653	13480	3563	2168	5731	No	1.97	Si
SLU 74	fin.	-6.55	-525	0.85	0	1653	13480	3563	2168	5731	No	10.91	Si
SLU 79	ini.	-250.23	2812	0.85	0	1653	13480	3563	2168	5731	No	2.04	Si
SLU 79	fin.	-28.48	-577	0.85	0	1653	13480	3563	2168	5731	No	9.94	Si
SLU 77	ini.	-258.15	2896	0.85	0	1653	13480	3563	2168	5731	No	1.98	Si
SLU 77	fin.	-29.23	-592	0.85	0	1653	13480	3563	2168	5731	No	9.69	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	142.52	204	-0.0000618	0.0002807	0.0035	0.85		3181.12	3181.12		22.32	Si
SLV 15	fin.	-582.25	-1129	-0.0002702	0.0002807	0.0035	0.85		3187.76	3187.76		5.47	Si
SLD 14	ini.	143.87	233	-0.0000624	0.0002807	0.0035	0.85		3181.12	3181.12		22.11	Si
SLD 14	fin.	-584.96	-1110	-0.0002716	0.0002807	0.0035	0.85		3187.76	3187.76		5.45	Si
SLV 16	ini.	254.13	674	-0.0001119	0.0002807	0.0035	0.85		3181.12	3181.12		12.52	Si
SLV 16	fin.	-801.34	-1365	-0.0003888	0.0002807	0.0035	0.85		3187.76	3187.76		3.98	Si
SLV 1	ini.	-618.16	-2951	-0.0002888	0.0002807	0.0035	0.85		3187.76	3187.76		5.16	Si
SLV 1	fin.	842.38	373	-0.0004133	0.0002807	0.0035	0.85		3181.12	3181.12		3.78	Si
SLD 3	ini.	-507.9	-2509	-0.0002325	0.0002807	0.0035	0.85		3187.76	3187.76		6.28	Si
SLD 3	fin.	626	118	-0.0002936	0.0002807	0.0035	0.85		3181.12	3181.12		5.08	Si
SLV 3	ini.	-696.57	-3304	-0.0003306	0.0002807	0.0035	0.85		3187.76	3187.76		4.58	Si
SLV 3	fin.	977.15	474	-0.0004938	0.0002807	0.0035	0.85		3181.12	3181.12		3.26	Si
SLV 14	ini.	332.54	1028	-0.0001482	0.0002807	0.0035	0.85		3181.12	3181.12		9.57	Si
SLV 14	fin.	-936.1	-1466	-0.0004677	0.0002807	0.0035	0.85		3187.76	3187.76		3.41	Si
SLV 4	ini.	-584.96	-2833	-0.0002716	0.0002807	0.0035	0.85		3187.76	3187.76		5.45	Si
SLV 4	fin.	758.06	238	-0.0003653	0.0002807	0.0035	0.85		3181.12	3181.12		4.2	Si
SLV 2	ini.	-506.55	-2480	-0.0002319	0.0002807	0.0035	0.85		3187.76	3187.76		6.29	Si
SLV 2	fin.	623.3	138	-0.0002922	0.0002807	0.0035	0.85		3181.12	3181.12		5.1	Si
SLV 13	ini.	220.93	557	-0.0000968	0.0002807	0.0035	0.85		3181.12	3181.12		14.4	Si
SLV 13	fin.	-717.02	-1230	-0.0003418	0.0002807	0.0035	0.85		3187.76	3187.76		4.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-461.97	3657	0.85	0	2479	13480	5345	2168	7513		2.05	Si
SLD 1	fin.	547.08	1427	0.85	0	2479	13480	5345	2168	7513		5.27	Si
SLV 7	ini.	-476.12	3854	0.85	0	2479	13480	5345	2168	7513		1.95	Si
SLV 7	fin.	552.78	1381	0.85	0	2479	13480	5345	2168	7513		5.44	Si
SLV 1	ini.	-618.16	4607	0.85	0	2479	13480	5345	2168	7513		1.63	Si
SLV 1	fin.	842.38	2383	0.85	0	2479	13480	5345	2168	7513		3.15	Si
SLV 3	ini.	-696.57	5143	0.85	0	2479	13480	5345	2168	7513		1.46	Si
SLV 3	fin.	977.15	2783	0.85	0	2479	13480	5345	2168	7513		2.7	Si
SLV 14	ini.	332.54	-1234	0.85	0	2479	13480	5345	2168	7513		6.09	Si
SLV 14	fin.	-936.1	-3332	0.85	0	2479	13480	5345	2168	7513		2.25	Si
SLV 8	ini.	-400.99	3390	0.85	0	2479	13480	5345	2168	7513		2.22	Si
SLV 8	fin.	405.3	906	0.85	0	2479	13480	5345	2168	7513		8.29	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-506.55	3917	0.85	0	2479	13480	5345	2168	7513		1.92	Si
SLV 2	fin.	623.3	1678	0.85	0	2479	13480	5345	2168	7513		4.48	Si
SLD 4	ini.	-437.1	3535	0.85	0	2479	13480	5345	2168	7513		2.13	Si
SLD 4	fin.	487.01	1214	0.85	0	2479	13480	5345	2168	7513		6.19	Si
SLV 4	ini.	-584.96	4454	0.85	0	2479	13480	5345	2168	7513		1.69	Si
SLV 4	fin.	758.06	2078	0.85	0	2479	13480	5345	2168	7513		3.62	Si
SLD 3	ini.	-507.9	3972	0.85	0	2479	13480	5345	2168	7513		1.89	Si
SLD 3	fin.	626	1661	0.85	0	2479	13480	5345	2168	7513		4.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.256	SLV 3	Si
V_SLV	1.461	SLV 3	Si
PF_SLU	12.315	SLU 81	Si
V_SLU	1.934	SLU 81	Si

Trave di accoppiamento 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	10.4	11.45	1.05	-12.263	1.141	10.4	11.45	1.05	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-377.02	-2125	-0.0000256	0.0002246	0.0035	1.05		12564.9	12564.9	No	33.33	Si
SLU 75	fin.	-137.77	-1765	-0.0000092	0.0002246	0.0035	1.05		12564.9	12564.9	No	91.2	Si
SLU 81	ini.	-407.55	-1993	-0.0000278	0.0002246	0.0035	1.05		12564.9	12564.9	No	30.83	Si
SLU 81	fin.	-107.09	-1563	-0.0000072	0.0002246	0.0035	1.05		12564.9	12564.9	No	117.33	Si
SLU 79	ini.	-372.58	-2153	-0.0000253	0.0002246	0.0035	1.05		12564.9	12564.9	No	33.72	Si
SLU 79	fin.	-136.03	-1796	-0.0000091	0.0002246	0.0035	1.05		12564.9	12564.9	No	92.37	Si
SLU 78	ini.	-372.26	-2209	-0.0000253	0.0002246	0.0035	1.05		12564.9	12564.9	No	33.75	Si
SLU 78	fin.	-145.61	-1861	-0.0000098	0.0002246	0.0035	1.05		12564.9	12564.9	No	86.29	Si
SLU 74	ini.	-382.85	-2115	-0.000026	0.0002246	0.0035	1.05		12564.9	12564.9	No	32.82	Si
SLU 74	fin.	-124.08	-1732	-0.0000083	0.0002246	0.0035	1.05		12564.9	12564.9	No	101.26	Si
SLU 84	ini.	-396.97	-2088	-0.000027	0.0002246	0.0035	1.05		12564.9	12564.9	No	31.65	Si
SLU 84	fin.	-128.62	-1693	-0.0000086	0.0002246	0.0035	1.05		12564.9	12564.9	No	97.69	Si
SLU 83	ini.	-402.8	-2078	-0.0000274	0.0002246	0.0035	1.05		12564.9	12564.9	No	31.19	Si
SLU 83	fin.	-114.93	-1660	-0.0000077	0.0002246	0.0035	1.05		12564.9	12564.9	No	109.32	Si
SLU 73	ini.	-372.37	-2002	-0.0000253	0.0002246	0.0035	1.05		12564.9	12564.9	No	33.74	Si
SLU 73	fin.	-143.18	-1657	-0.0000096	0.0002246	0.0035	1.05		12564.9	12564.9	No	87.76	Si
SLU 77	ini.	-378.09	-2199	-0.0000257	0.0002246	0.0035	1.05		12564.9	12564.9	No	33.23	Si
SLU 77	fin.	-131.92	-1829	-0.0000088	0.0002246	0.0035	1.05		12564.9	12564.9	No	95.25	Si
SLU 82	ini.	-401.72	-2004	-0.0000273	0.0002246	0.0035	1.05		12564.9	12564.9	No	31.28	Si
SLU 82	fin.	-120.79	-1596	-0.0000081	0.0002246	0.0035	1.05		12564.9	12564.9	No	104.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-401.72	1940	1.05	924	2450	47578	5283	5355	10638	No	5.48	Si
SLU 82	fin.	-120.79	-1055	1.05	281	2450	47578	5283	5355	10638	No	10.08	Si
SLU 74	ini.	-382.85	1773	1.05	882	2450	47578	5283	5355	10638	No	6	Si
SLU 74	fin.	-124.08	-952	1.05	288	2450	47578	5283	5355	10638	No	11.17	Si
SLU 40	ini.	-357.22	1805	1.05	823	2450	47578	5283	5355	10638	No	5.89	Si
SLU 40	fin.	-89.24	-959	1.05	208	2450	47578	5283	5355	10638	No	11.09	Si
SLU 83	ini.	-402.8	1950	1.05	927	2450	47578	5283	5355	10638	No	5.45	Si
SLU 83	fin.	-114.93	-1045	1.05	267	2450	47578	5283	5355	10638	No	10.18	Si
SLU 84	ini.	-396.97	1923	1.05	914	2450	47578	5283	5355	10638	No	5.53	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-128.62	-1073	1.05	299	2450	47578	5283	5355	10638	No	9.92	Si
SLU 81	ini.	-407.55	1968	1.05	938	2450	47578	5283	5355	10638	No	5.41	Si
SLU 81	fin.	-107.09	-1028	1.05	249	2450	47578	5283	5355	10638	No	10.35	Si
SLU 77	ini.	-378.09	1756	1.05	871	2450	47578	5283	5355	10638	No	6.06	Si
SLU 77	fin.	-131.92	-969	1.05	306	2450	47578	5283	5355	10638	No	10.98	Si
SLU 42	ini.	-352.46	1788	1.05	812	2450	47578	5283	5355	10638	No	5.95	Si
SLU 42	fin.	-97.08	-976	1.05	226	2450	47578	5283	5355	10638	No	10.9	Si
SLU 39	ini.	-363.04	1833	1.05	837	2450	47578	5283	5355	10638	No	5.8	Si
SLU 39	fin.	-75.55	-931	1.05	176	2450	47578	5283	5355	10638	No	11.42	Si
SLU 41	ini.	-358.29	1816	1.05	826	2450	47578	5283	5355	10638	No	5.86	Si
SLU 41	fin.	-83.39	-948	1.05	194	2450	47578	5283	5355	10638	No	11.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1235.04	121	-0.0000864	0.0003369	0.0035	1.05		14395.05	14395.05		11.66	Si
SLV 13	fin.	2499.8	4827	-0.0001866	0.0003369	0.0035	1.05		14372.52	14372.52		5.75	Si
SLV 14	ini.	-1209.69	124	-0.0000845	0.0003369	0.0035	1.05		14395.05	14395.05		11.9	Si
SLV 14	fin.	2454.42	4740	-0.0001828	0.0003369	0.0035	1.05		14372.52	14372.52		5.86	Si
SLD 1	ini.	541.58	-2814	-0.0000368	0.0003369	0.0035	1.05		14372.52	14372.52		26.54	Si
SLD 1	fin.	-2171.44	-6097	-0.0001589	0.0003369	0.0035	1.05		14395.05	14395.05		6.63	Si
SLV 15	ini.	-1529.88	681	-0.0001084	0.0003369	0.0035	1.05		14395.05	14395.05		9.41	Si
SLV 15	fin.	3197.87	6514	-0.0002495	0.0003369	0.0035	1.05		14372.52	14372.52		4.49	Si
SLV 3	ini.	705.96	-3041	-0.0000483	0.0003369	0.0035	1.05		14372.52	14372.52		20.36	Si
SLV 3	fin.	-2666.52	-7219	-0.0002007	0.0003369	0.0035	1.05		14395.05	14395.05		5.4	Si
SLV 2	ini.	1026.14	-3598	-0.0000712	0.0003369	0.0035	1.05		14372.52	14372.52		14.01	Si
SLV 2	fin.	-3409.97	-8993	-0.0002697	0.0003369	0.0035	1.05		14395.05	14395.05		4.22	Si
SLD 2	ini.	557.66	-2811	-0.000038	0.0003369	0.0035	1.05		14372.52	14372.52		25.77	Si
SLD 2	fin.	-2200.23	-6153	-0.0001613	0.0003369	0.0035	1.05		14395.05	14395.05		6.54	Si
SLV 16	ini.	-1504.53	685	-0.0001065	0.0003369	0.0035	1.05		14395.05	14395.05		9.57	Si
SLV 16	fin.	3152.48	6426	-0.0002452	0.0003369	0.0035	1.05		14372.52	14372.52		4.56	Si
SLV 1	ini.	1000.79	-3601	-0.0000694	0.0003369	0.0035	1.05		14372.52	14372.52		14.36	Si
SLV 1	fin.	-3364.58	-8905	-0.0002652	0.0003369	0.0035	1.05		14395.05	14395.05		4.28	Si
SLV 4	ini.	731.31	-3038	-0.0000501	0.0003369	0.0035	1.05		14372.52	14372.52		19.65	Si
SLV 4	fin.	-2711.9	-7306	-0.0002047	0.0003369	0.0035	1.05		14395.05	14395.05		5.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1209.69	6266	1.05	4113	2855	47578	7924	5355	13279		2.12	Si
SLV 14	fin.	2454.42	4547	1.05	8063	2855	47578	7924	5355	13279		2.92	Si
SLV 2	ini.	1026.14	-5639	1.05	3510	2855	47578	7924	5355	13279		2.35	Si
SLV 2	fin.	-3409.97	-7279	1.05	10812	2855	47578	7924	5355	13279		1.82	Si
SLV 4	ini.	731.31	-4227	1.05	2520	2855	47578	7924	5355	13279		3.14	Si
SLV 4	fin.	-2711.9	-5866	1.05	8822	2855	47578	7924	5355	13279		2.26	Si
SLD 16	ini.	-1045.32	5260	1.05	3569	2855	47578	7924	5355	13279		2.52	Si
SLD 16	fin.	1959.34	3556	1.05	6535	2855	47578	7924	5355	13279		3.73	Si
SLV 15	ini.	-1529.88	7784	1.05	5157	2855	47578	7924	5355	13279		1.71	Si
SLV 15	fin.	3197.87	6066	1.05	10237	2855	47578	7924	5355	13279		2.19	Si
SLV 1	ini.	1000.79	-5534	1.05	3426	2855	47578	7924	5355	13279		2.4	Si
SLV 1	fin.	-3364.58	-7174	1.05	10687	2855	47578	7924	5355	13279		1.85	Si
SLV 16	ini.	-1504.53	7678	1.05	5075	2855	47578	7924	5355	13279		1.73	Si
SLV 16	fin.	3152.48	5960	1.05	10109	2855	47578	7924	5355	13279		2.23	Si
SLV 3	ini.	705.96	-4121	1.05	2434	2855	47578	7924	5355	13279		3.22	Si
SLV 3	fin.	-2666.52	-5760	1.05	8687	2855	47578	7924	5355	13279		2.31	Si
SLD 15	ini.	-1061.4	5327	1.05	3622	2855	47578	7924	5355	13279		2.49	Si
SLD 15	fin.	1988.13	3623	1.05	6626	2855	47578	7924	5355	13279		3.67	Si
SLV 13	ini.	-1235.04	6372	1.05	4196	2855	47578	7924	5355	13279		2.08	Si
SLV 13	fin.	2499.8	4653	1.05	8201	2855	47578	7924	5355	13279		2.85	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.221	SLV 2	Si
V_SLV	1.706	SLV 15	Si
PF_SLU	30.83	SLU 81	Si
V_SLU	5.406	SLU 81	Si

Trave di accoppiamento 130

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	10.4	11.45	1.05	-10.466	1.141	10.4	11.45	1.05	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	153.81	-3447	-0.0000103	0.0002246	0.0035	1.05		12545.19	12545.19	No	81.56	Si
SLU 36	fin.	-77.22	-2934	-0.0000052	0.0002246	0.0035	1.05		12564.9	12564.9	No	162.71	Si
SLU 29	ini.	158.64	-2926	-0.0000107	0.0002246	0.0035	1.05		12545.19	12545.19	No	79.08	Si
SLU 29	fin.	-100.26	-2600	-0.0000067	0.0002246	0.0035	1.05		12564.9	12564.9	No	125.32	Si
SLU 70	ini.	152.9	-3389	-0.0000103	0.0002246	0.0035	1.05		12545.19	12545.19	No	82.05	Si
SLU 70	fin.	-136.25	-3040	-0.0000091	0.0002246	0.0035	1.05		12564.9	12564.9	No	92.22	Si
SLU 38	ini.	150.82	-3380	-0.0000101	0.0002246	0.0035	1.05		12545.19	12545.19	No	83.18	Si
SLU 38	fin.	-77.2	-2873	-0.0000052	0.0002246	0.0035	1.05		12564.9	12564.9	No	162.76	Si
SLU 68	ini.	130.98	-3144	-0.0000088	0.0002246	0.0035	1.05		12545.19	12545.19	No	95.78	Si
SLU 68	fin.	-156.14	-2838	-0.0000105	0.0002246	0.0035	1.05		12564.9	12564.9	No	80.47	Si
SLU 30	ini.	162.02	-2879	-0.0000109	0.0002246	0.0035	1.05		12545.19	12545.19	No	77.43	Si
SLU 30	fin.	-110.67	-2578	-0.0000074	0.0002246	0.0035	1.05		12564.9	12564.9	No	113.54	Si
SLU 27	ini.	161.63	-2992	-0.0000109	0.0002246	0.0035	1.05		12545.19	12545.19	No	77.62	Si
SLU 27	fin.	-100.29	-2660	-0.0000067	0.0002246	0.0035	1.05		12564.9	12564.9	No	125.29	Si
SLU 64	ini.	104.16	-3074	-0.000007	0.0002246	0.0035	1.05		12545.19	12545.19	No	120.44	Si
SLU 64	fin.	-151.78	-2748	-0.0000102	0.0002246	0.0035	1.05		12564.9	12564.9	No	82.78	Si
SLU 65	ini.	109.8	-2996	-0.0000074	0.0002246	0.0035	1.05		12545.19	12545.19	No	114.25	Si
SLU 65	fin.	-169.12	-2712	-0.0000114	0.0002246	0.0035	1.05		12564.9	12564.9	No	74.29	Si
SLU 28	ini.	165.02	-2946	-0.0000111	0.0002246	0.0035	1.05		12545.19	12545.19	No	76.02	Si
SLU 28	fin.	-110.69	-2639	-0.0000074	0.0002246	0.0035	1.05		12564.9	12564.9	No	113.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	117.13	-3475	1.05	273	2450	47578	5283	5355	10638	No	3.06	Si
SLU 74	fin.	-105.36	790	1.05	245	2450	47578	5283	5355	10638	No	13.47	Si
SLU 35	ini.	150.43	-3479	1.05	350	2450	47578	5283	5355	10638	No	3.06	Si
SLU 35	fin.	-66.82	876	1.05	156	2450	47578	5283	5355	10638	No	12.15	Si
SLU 77	ini.	138.31	-3710	1.05	322	2450	47578	5283	5355	10638	No	2.87	Si
SLU 77	fin.	-92.38	899	1.05	215	2450	47578	5283	5355	10638	No	11.83	Si
SLU 84	ini.	112.72	-3549	1.05	262	2450	47578	5283	5355	10638	No	3	Si
SLU 84	fin.	-101.39	814	1.05	236	2450	47578	5283	5355	10638	No	13.06	Si
SLU 79	ini.	135.32	-3643	1.05	315	2450	47578	5283	5355	10638	No	2.92	Si
SLU 79	fin.	-92.36	870	1.05	215	2450	47578	5283	5355	10638	No	12.22	Si
SLU 75	ini.	120.52	-3422	1.05	280	2450	47578	5283	5355	10638	No	3.11	Si
SLU 75	fin.	-115.76	728	1.05	269	2450	47578	5283	5355	10638	No	14.61	Si
SLU 78	ini.	141.7	-3656	1.05	330	2450	47578	5283	5355	10638	No	2.91	Si
SLU 78	fin.	-102.78	838	1.05	239	2450	47578	5283	5355	10638	No	12.7	Si
SLU 83	ini.	109.33	-3603	1.05	255	2450	47578	5283	5355	10638	No	2.95	Si
SLU 83	fin.	-90.99	876	1.05	212	2450	47578	5283	5355	10638	No	12.14	Si
SLU 36	ini.	153.81	-3426	1.05	358	2450	47578	5283	5355	10638	No	3.1	Si
SLU 36	fin.	-77.22	814	1.05	180	2450	47578	5283	5355	10638	No	13.06	Si
SLU 80	ini.	138.7	-3589	1.05	323	2450	47578	5283	5355	10638	No	2.96	Si
SLU 80	fin.	-102.76	809	1.05	239	2450	47578	5283	5355	10638	No	13.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	2588.71	3900	-0.0001943	0.0003369	0.0035	1.05		14372.52	14372.52		5.55	Si
SLV 1	fin.	-1348.67	-590	-0.0000948	0.0003369	0.0035	1.05		14395.05	14395.05		10.67	Si
SLV 2	ini.	2587.11	4032	-0.0001941	0.0003369	0.0035	1.05		14372.52	14372.52		5.56	Si
SLV 2	fin.	-1361.65	-499	-0.0000958	0.0003369	0.0035	1.05		14395.05	14395.05		10.57	Si
SLV 14	ini.	-2318.65	-6314	-0.000171	0.0003369	0.0035	1.05		14395.05	14395.05		6.21	Si
SLV 14	fin.	627.05	-2525	-0.0000428	0.0003369	0.0035	1.05		14372.52	14372.52		22.92	Si
SLD 1	ini.	1673.2	1569	-0.0001196	0.0003369	0.0035	1.05		14372.52	14372.52		8.59	Si
SLD 1	fin.	-885.69	-1160	-0.000061	0.0003369	0.0035	1.05		14395.05	14395.05		16.25	Si
SLV 3	ini.	2440.36	1535	-0.0001816	0.0003369	0.0035	1.05		14372.52	14372.52		5.89	Si
SLV 3	fin.	-833.02	-1663	-0.0000573	0.0003369	0.0035	1.05		14395.05	14395.05		17.28	Si
SLV 15	ini.	-2465.4	-8811	-0.0001834	0.0003369	0.0035	1.05		14395.05	14395.05		5.84	Si
SLV 15	fin.	1155.68	-3689	-0.0000807	0.0003369	0.0035	1.05		14372.52	14372.52		12.44	Si
SLV 16	ini.	-2467	-8680	-0.0001835	0.0003369	0.0035	1.05		14395.05	14395.05		5.84	Si
SLV 16	fin.	1142.7	-3598	-0.0000797	0.0003369	0.0035	1.05		14372.52	14372.52		12.58	Si
SLV 13	ini.	-2317.05	-6446	-0.0001709	0.0003369	0.0035	1.05		14395.05	14395.05		6.21	Si
SLV 13	fin.	640.03	-2616	-0.0000437	0.0003369	0.0035	1.05		14372.52	14372.52		22.46	Si
SLD 2	ini.	1672.18	1653	-0.0001195	0.0003369	0.0035	1.05		14372.52	14372.52		8.6	Si
SLD 2	fin.	-893.93	-1102	-0.0000616	0.0003369	0.0035	1.05		14395.05	14395.05		16.1	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2438.75	1666	-0.0001814	0.0003369	0.0035	1.05		14372.52	14372.52		5.89	Si
SLV 4	fin.	-846	-1572	-0.0000582	0.0003369	0.0035	1.05		14395.05	14395.05		17.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-2465.4	2203	1.05	8085	2961	47578	7924	5355	13279		6.03	Si
SLV 15	fin.	1155.68	6639	1.05	3940	2961	47578	7924	5355	13279		2	Si
SLD 3	ini.	1586.09	-6601	1.05	5347	2961	47578	7924	5355	13279		2.01	Si
SLD 3	fin.	-583.65	-1680	1.05	2015	2961	47578	7924	5355	13279		7.91	Si
SLV 1	ini.	2588.71	-6488	1.05	8468	2961	47578	7924	5355	13279		2.05	Si
SLV 1	fin.	-1348.67	-5821	1.05	4569	2961	47578	7924	5355	13279		2.28	Si
SLV 12	ini.	-922.81	-4932	1.05	3160	2961	47578	7924	5355	13279		2.69	Si
SLV 12	fin.	1050.36	6921	1.05	3591	2961	47578	7924	5355	13279		1.92	Si
SLV 8	ini.	548.92	-8380	1.05	1900	2961	47578	7924	5355	13279		1.58	Si
SLV 8	fin.	453.75	4123	1.05	1574	2961	47578	7924	5355	13279		3.22	Si
SLV 11	ini.	-921.73	-5062	1.05	3157	2961	47578	7924	5355	13279		2.62	Si
SLV 11	fin.	1059.1	7010	1.05	3620	2961	47578	7924	5355	13279		1.89	Si
SLV 16	ini.	-2467	2396	1.05	8090	2961	47578	7924	5355	13279		5.54	Si
SLV 16	fin.	1142.7	6506	1.05	3898	2961	47578	7924	5355	13279		2.04	Si
SLV 3	ini.	2440.36	-9293	1.05	8021	2961	47578	7924	5355	13279		1.43	Si
SLV 3	fin.	-833.02	-2687	1.05	2859	2961	47578	7924	5355	13279		4.94	Si
SLV 7	ini.	550	-8510	1.05	1904	2961	47578	7924	5355	13279		1.56	Si
SLV 7	fin.	462.49	4212	1.05	1604	2961	47578	7924	5355	13279		3.15	Si
SLV 4	ini.	2438.75	-9099	1.05	8016	2961	47578	7924	5355	13279		1.46	Si
SLV 4	fin.	-846	-2820	1.05	2903	2961	47578	7924	5355	13279		4.71	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.552	SLV 1	Si
V_SLV	1.429	SLV 3	Si
PF_SLU	74.295	SLU 65	Si
V_SLU	2.868	SLU 77	Si

Trave di accoppiamento 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	10	11.45	1.45	-7.443	1.141	10	11.45	1.45	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 48	ini.	-5.15	-2204	-0.0000002	0.0002246	0.0035	1.45		23958.96	23958.96	No	4655.52	Si
SLU 48	fin.	-382.24	-2550	-0.0000135	0.0002246	0.0035	1.45		23958.96	23958.96	No	62.68	Si
SLU 45	ini.	3.25	-2105	-0.0000001	0.0002246	0.0035	1.45		23931.74	23931.74	No	7365.3	Si
SLU 45	fin.	-408.89	-2481	-0.0000144	0.0002246	0.0035	1.45		23958.96	23958.96	No	58.59	Si
SLU 44	ini.	11.55	-1935	-0.0000004	0.0002246	0.0035	1.45		23931.74	23931.74	No	2071.89	Si
SLU 44	fin.	-420.19	-2325	-0.0000148	0.0002246	0.0035	1.45		23958.96	23958.96	No	57.02	Si
SLU 51	ini.	-0.25	-2132	0	0.0002246	0.0035	1.45		23958.96	23958.96	No	95074.13	Si
SLU 51	fin.	-374.69	-2475	-0.0000132	0.0002246	0.0035	1.45		23958.96	23958.96	No	63.94	Si
SLU 50	ini.	7.23	-2131	-0.0000003	0.0002246	0.0035	1.45		23931.74	23931.74	No	3309.7	Si
SLU 50	fin.	-386.4	-2493	-0.0000136	0.0002246	0.0035	1.45		23958.96	23958.96	No	62.01	Si
SLU 43	ini.	24.02	-1932	-0.0000008	0.0002246	0.0035	1.45		23931.74	23931.74	No	996.24	Si
SLU 43	fin.	-439.71	-2355	-0.0000155	0.0002246	0.0035	1.45		23958.96	23958.96	No	54.49	Si
SLU 47	ini.	3.16	-2034	-0.0000001	0.0002246	0.0035	1.45		23931.74	23931.74	No	7585.12	Si
SLU 47	fin.	-393.54	-2394	-0.0000139	0.0002246	0.0035	1.45		23958.96	23958.96	No	60.88	Si
SLU 65	ini.	-73.52	-2319	-0.0000026	0.0002246	0.0035	1.45		23958.96	23958.96	No	325.87	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	fin.	-383.97	-2572	-0.0000136	0.0002246	0.0035	1.45		23958.96	23958.96	No	62.4	Si
SLU 46	ini.	-4.23	-2107	-0.0000001	0.0002246	0.0035	1.45		23958.96	23958.96	No	5659.34	Si
SLU 46	fin.	-397.18	-2463	-0.000014	0.0002246	0.0035	1.45		23958.96	23958.96	No	60.32	Si
SLU 64	ini.	-61.05	-2316	-0.0000021	0.0002246	0.0035	1.45		23958.96	23958.96	No	392.44	Si
SLU 64	fin.	-403.48	-2602	-0.0000142	0.0002246	0.0035	1.45		23958.96	23958.96	No	59.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-257.9	2034	1.45	314	3383	45312	7295	7395	14690	No	7.22	Si
SLU 84	fin.	-262.07	-1967	1.45	319	3383	45312	7295	7395	14690	No	7.47	Si
SLU 42	ini.	-285.88	2132	1.45	348	3383	45312	7295	7395	14690	No	6.89	Si
SLU 42	fin.	-151.05	-1593	1.45	184	3383	45312	7295	7395	14690	No	9.22	Si
SLU 82	ini.	-249.51	1977	1.45	304	3383	45312	7295	7395	14690	No	7.43	Si
SLU 82	fin.	-288.72	-2024	1.45	351	3383	45312	7295	7395	14690	No	7.26	Si
SLU 83	ini.	-250.42	2000	1.45	305	3383	45312	7295	7395	14690	No	7.34	Si
SLU 83	fin.	-273.78	-2000	1.45	333	3383	45312	7295	7395	14690	No	7.34	Si
SLU 40	ini.	-277.49	2075	1.45	338	3383	45312	7295	7395	14690	No	7.08	Si
SLU 40	fin.	-177.7	-1650	1.45	217	3383	45312	7295	7395	14690	No	8.91	Si
SLU 64	ini.	-61.05	897	1.45	75	3383	45312	7295	7395	14690	No	16.38	Si
SLU 64	fin.	-403.48	-1998	1.45	490	3383	45312	7295	7395	14690	No	7.35	Si
SLU 39	ini.	-270.01	2042	1.45	329	3383	45312	7295	7395	14690	No	7.19	Si
SLU 39	fin.	-189.41	-1683	1.45	231	3383	45312	7295	7395	14690	No	8.73	Si
SLU 41	ini.	-278.4	2099	1.45	339	3383	45312	7295	7395	14690	No	7	Si
SLU 41	fin.	-162.75	-1626	1.45	199	3383	45312	7295	7395	14690	No	9.03	Si
SLU 73	ini.	-200.2	1685	1.45	244	3383	45312	7295	7395	14690	No	8.72	Si
SLU 73	fin.	-311.83	-1984	1.45	379	3383	45312	7295	7395	14690	No	7.4	Si
SLU 81	ini.	-242.03	1943	1.45	295	3383	45312	7295	7395	14690	No	7.56	Si
SLU 81	fin.	-300.43	-2057	1.45	366	3383	45312	7295	7395	14690	No	7.14	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	2021.64	1156	-0.0000737	0.0003369	0.0035	1.45		27417.66	27417.66		13.56	Si
SLV 2	fin.	-2028.86	-2201	-0.0000739	0.0003369	0.0035	1.45		27448.78	27448.78		13.53	Si
SLV 14	ini.	-2585.83	-4918	-0.0000953	0.0003369	0.0035	1.45		27448.78	27448.78		10.62	Si
SLV 14	fin.	2055.13	-881	-0.0000749	0.0003369	0.0035	1.45		27417.66	27417.66		13.34	Si
SLV 3	ini.	2456.91	1348	-0.0000904	0.0003369	0.0035	1.45		27417.66	27417.66		11.16	Si
SLV 3	fin.	-2650.57	-3072	-0.0000979	0.0003369	0.0035	1.45		27448.78	27448.78		10.36	Si
SLV 4	ini.	2431.14	1361	-0.0000894	0.0003369	0.0035	1.45		27417.66	27417.66		11.28	Si
SLV 4	fin.	-2598.27	-2987	-0.0000958	0.0003369	0.0035	1.45		27448.78	27448.78		10.56	Si
SLV 1	ini.	2047.41	1143	-0.0000746	0.0003369	0.0035	1.45		27417.66	27417.66		13.39	Si
SLV 1	fin.	-2081.16	-2286	-0.0000758	0.0003369	0.0035	1.45		27448.78	27448.78		13.19	Si
SLV 15	ini.	-2150.56	-4725	-0.0000785	0.0003369	0.0035	1.45		27448.78	27448.78		12.76	Si
SLV 15	fin.	1433.42	-1752	-0.0000516	0.0003369	0.0035	1.45		27417.66	27417.66		19.13	Si
SLV 16	ini.	-2176.33	-4713	-0.0000795	0.0003369	0.0035	1.45		27448.78	27448.78		12.61	Si
SLV 16	fin.	1485.72	-1667	-0.0000535	0.0003369	0.0035	1.45		27417.66	27417.66		18.45	Si
SLV 13	ini.	-2560.06	-4931	-0.0000943	0.0003369	0.0035	1.45		27448.78	27448.78		10.72	Si
SLV 13	fin.	2002.83	-966	-0.0000729	0.0003369	0.0035	1.45		27417.66	27417.66		13.69	Si
SLV 7	ini.	1317.84	-536	-0.0000473	0.0003369	0.0035	1.45		27417.66	27417.66		20.81	Si
SLV 7	fin.	-1876.94	-3513	-0.0000681	0.0003369	0.0035	1.45		27448.78	27448.78		14.62	Si
SLV 8	ini.	1300.49	-527	-0.0000466	0.0003369	0.0035	1.45		27417.66	27417.66		21.08	Si
SLV 8	fin.	-1841.73	-3456	-0.0000668	0.0003369	0.0035	1.45		27448.78	27448.78		14.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2431.14	-6909	1.45	4332	4598	45312	10943	7395	18338		2.65	Si
SLV 4	fin.	-2598.27	-9175	1.45	4614	4598	45312	10943	7395	18338		2	Si
SLV 14	ini.	-2585.83	8566	1.45	4593	4598	45312	10943	7395	18338		2.14	Si
SLV 14	fin.	2055.13	6285	1.45	3681	4598	45312	10943	7395	18338		2.92	Si
SLV 16	ini.	-2176.33	6869	1.45	3887	4598	45312	10943	7395	18338		2.67	Si
SLV 16	fin.	1485.72	4589	1.45	2681	4598	45312	10943	7395	18338		4	Si
SLV 13	ini.	-2560.06	8436	1.45	4549	4598	45312	10943	7395	18338		2.17	Si
SLV 13	fin.	2002.83	6155	1.45	3589	4598	45312	10943	7395	18338		2.98	Si
SLV 1	ini.	2047.41	-5342	1.45	3667	4598	45312	10943	7395	18338		3.43	Si
SLV 1	fin.	-2081.16	-7610	1.45	3722	4598	45312	10943	7395	18338		2.41	Si
SLV 3	ini.	2456.91	-7039	1.45	4376	4598	45312	10943	7395	18338		2.61	Si
SLV 3	fin.	-2650.57	-9305	1.45	4704	4598	45312	10943	7395	18338		1.97	Si
SLD 3	ini.	1536.11	-4174	1.45	2770	4598	45312	10943	7395	18338		4.39	Si
SLD 3	fin.	-1784.5	-6444	1.45	3204	4598	45312	10943	7395	18338		2.85	Si
SLV 2	ini.	2021.64	-5212	1.45	3622	4598	45312	10943	7395	18338		3.52	Si
SLV 2	fin.	-2028.86	-7479	1.45	3631	4598	45312	10943	7395	18338		2.45	Si
SLV 15	ini.	-2150.56	6738	1.45	3842	4598	45312	10943	7395	18338		2.72	Si
SLV 15	fin.	1433.42	4459	1.45	2588	4598	45312	10943	7395	18338		4.11	Si
SLV 7	ini.	1317.84	-4176	1.45	2383	4598	45312	10943	7395	18338		4.39	Si
SLV 7	fin.	-1876.94	-6445	1.45	3366	4598	45312	10943	7395	18338		2.85	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.356	SLV 3	Si
V_SLV	1.971	SLV 3	Si
PF_SLU	54.489	SLU 43	Si
V_SLU	6.891	SLU 42	Si

Trave di accoppiamento 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	10	11.45	1.45	-4.893	1.141	10	11.45	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 61	ini.	-17.83	-2324	-0.0000006	0.0002246	0.0035	1.45		23958.96	23958.96	No	1343.61	Si
SLU 61	fin.	-329.46	-2465	-0.0000116	0.0002246	0.0035	1.45		23958.96	23958.96	No	72.72	Si
SLU 60	ini.	-15.49	-2317	-0.0000005	0.0002246	0.0035	1.45		23958.96	23958.96	No	1546.87	Si
SLU 60	fin.	-326.57	-2457	-0.0000115	0.0002246	0.0035	1.45		23958.96	23958.96	No	73.37	Si
SLU 81	ini.	-57.48	-2731	-0.000002	0.0002246	0.0035	1.45		23958.96	23958.96	No	416.82	Si
SLU 81	fin.	-360.05	-2867	-0.0000127	0.0002246	0.0035	1.45		23958.96	23958.96	No	66.54	Si
SLU 65	ini.	3.13	-2336	-0.0000001	0.0002246	0.0035	1.45		23931.74	23931.74	No	7649.89	Si
SLU 65	fin.	-303.4	-2469	-0.0000107	0.0002246	0.0035	1.45		23958.96	23958.96	No	78.97	Si
SLU 84	ini.	-136.16	-2905	-0.0000048	0.0002246	0.0035	1.45		23958.96	23958.96	No	175.96	Si
SLU 84	fin.	-303.15	-2968	-0.0000107	0.0002246	0.0035	1.45		23958.96	23958.96	No	79.03	Si
SLU 40	ini.	-82.21	-2406	-0.0000029	0.0002246	0.0035	1.45		23958.96	23958.96	No	291.43	Si
SLU 40	fin.	-310.6	-2511	-0.0000109	0.0002246	0.0035	1.45		23958.96	23958.96	No	77.14	Si
SLU 73	ini.	-42.03	-2621	-0.0000015	0.0002246	0.0035	1.45		23958.96	23958.96	No	570.02	Si
SLU 73	fin.	-346.43	-2757	-0.0000122	0.0002246	0.0035	1.45		23958.96	23958.96	No	69.16	Si
SLU 39	ini.	-79.87	-2399	-0.0000028	0.0002246	0.0035	1.45		23958.96	23958.96	No	299.98	Si
SLU 39	fin.	-307.7	-2503	-0.0000108	0.0002246	0.0035	1.45		23958.96	23958.96	No	77.86	Si
SLU 52	ini.	-0.04	-2207	0	0.0002246	0.0035	1.45		23958.96	23958.96	No	603611.12	Si
SLU 52	fin.	-312.95	-2347	-0.000011	0.0002246	0.0035	1.45		23958.96	23958.96	No	76.56	Si
SLU 82	ini.	-59.82	-2738	-0.0000021	0.0002246	0.0035	1.45		23958.96	23958.96	No	400.49	Si
SLU 82	fin.	-362.94	-2875	-0.0000128	0.0002246	0.0035	1.45		23958.96	23958.96	No	66.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-133.82	890	1.45	163	3383	36250	7295	7395	14690	No	16.51	Si
SLU 83	fin.	-300.25	-1383	1.45	365	3383	36250	7295	7395	14690	No	10.62	Si
SLU 39	ini.	-79.87	669	1.45	98	3383	36250	7295	7395	14690	No	21.97	Si
SLU 39	fin.	-307.7	-1402	1.45	374	3383	36250	7295	7395	14690	No	10.48	Si
SLU 40	ini.	-82.21	668	1.45	100	3383	36250	7295	7395	14690	No	22.01	Si
SLU 40	fin.	-310.6	-1403	1.45	378	3383	36250	7295	7395	14690	No	10.47	Si
SLU 73	ini.	-42.03	569	1.45	51	3383	36250	7295	7395	14690	No	25.83	Si
SLU 73	fin.	-346.43	-1540	1.45	421	3383	36250	7295	7395	14690	No	9.54	Si
SLU 82	ini.	-59.82	652	1.45	73	3383	36250	7295	7395	14690	No	22.54	Si
SLU 82	fin.	-362.94	-1621	1.45	441	3383	36250	7295	7395	14690	No	9.06	Si
SLU 84	ini.	-136.16	888	1.45	166	3383	36250	7295	7395	14690	No	16.54	Si
SLU 84	fin.	-303.15	-1385	1.45	369	3383	36250	7295	7395	14690	No	10.61	Si
SLU 60	ini.	-15.49	444	1.45	19	3383	36250	7295	7395	14690	No	33.1	Si
SLU 60	fin.	-326.57	-1433	1.45	397	3383	36250	7295	7395	14690	No	10.25	Si
SLU 52	ini.	-0.04	360	1.45	0	3383	36250	7295	7395	14690	No	40.85	Si
SLU 52	fin.	-312.95	-1353	1.45	381	3383	36250	7295	7395	14690	No	10.86	Si
SLU 61	ini.	-17.83	443	1.45	22	3383	36250	7295	7395	14690	No	33.19	Si
SLU 61	fin.	-329.46	-1434	1.45	401	3383	36250	7295	7395	14690	No	10.25	Si
SLU 81	ini.	-57.48	653	1.45	70	3383	36250	7295	7395	14690	No	22.5	Si
SLU 81	fin.	-360.05	-1620	1.45	438	3383	36250	7295	7395	14690	No	9.07	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	1418.39	513	-0.000051	0.0003369	0.0035	1.45		27417.66	27417.66		19.33	Si
SLD 3	fin.	-802.68	-516	-0.0000285	0.0003369	0.0035	1.45		27448.78	27448.78		34.2	Si
SLV 15	ini.	-2043.41	-4883	-0.0000744	0.0003369	0.0035	1.45		27448.78	27448.78		13.43	Si
SLV 15	fin.	738.44	-3594	-0.0000262	0.0003369	0.0035	1.45		27417.66	27417.66		37.13	Si
SLV 4	ini.	2175.09	1762	-0.0000795	0.0003369	0.0035	1.45		27417.66	27417.66		12.61	Si
SLV 4	fin.	-1100.43	246	-0.0000393	0.0003369	0.0035	1.45		27448.78	27448.78		24.94	Si
SLV 14	ini.	-2231.78	-5383	-0.0000816	0.0003369	0.0035	1.45		27448.78	27448.78		12.3	Si
SLV 14	fin.	660.34	-4031	-0.0000234	0.0003369	0.0035	1.45		27417.66	27417.66		41.52	Si
SLV 1	ini.	2107.05	1392	-0.0000769	0.0003369	0.0035	1.45		27417.66	27417.66		13.01	Si
SLV 1	fin.	-1236.78	-147	-0.0000442	0.0003369	0.0035	1.45		27448.78	27448.78		22.19	Si
SLV 3	ini.	2235.26	1827	-0.0000818	0.0003369	0.0035	1.45		27417.66	27417.66		12.27	Si
SLV 3	fin.	-1129.56	268	-0.0000403	0.0003369	0.0035	1.45		27448.78	27448.78		24.3	Si
SLD 14	ini.	-1414.92	-4069	-0.0000508	0.0003369	0.0035	1.45		27448.78	27448.78		19.4	Si
SLD 14	fin.	333.46	-3247	-0.0000117	0.0003369	0.0035	1.45		27417.66	27417.66		82.22	Si
SLV 2	ini.	2046.88	1327	-0.0000746	0.0003369	0.0035	1.45		27417.66	27417.66		13.39	Si
SLV 2	fin.	-1207.66	-169	-0.0000432	0.0003369	0.0035	1.45		27448.78	27448.78		22.73	Si
SLV 13	ini.	-2171.61	-5318	-0.0000793	0.0003369	0.0035	1.45		27448.78	27448.78		12.64	Si
SLV 13	fin.	631.22	-4010	-0.0000223	0.0003369	0.0035	1.45		27417.66	27417.66		43.44	Si
SLV 16	ini.	-2103.57	-4948	-0.0000767	0.0003369	0.0035	1.45		27448.78	27448.78		13.05	Si
SLV 16	fin.	767.57	-3616	-0.0000272	0.0003369	0.0035	1.45		27417.66	27417.66		35.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2175.09	-4708	1.45	3889	5075	36250	10943	7395	18338		3.89	Si
SLV 4	fin.	-1100.43	-6003	1.45	1993	5075	36250	10943	7395	18338		3.05	Si
SLV 14	ini.	-2231.78	5460	1.45	3983	5075	36250	10943	7395	18338		3.36	Si
SLV 14	fin.	660.34	4055	1.45	1204	5075	36250	10943	7395	18338		4.52	Si
SLV 1	ini.	2107.05	-4765	1.45	3771	5075	36250	10943	7395	18338		3.85	Si
SLV 1	fin.	-1236.78	-6117	1.45	2236	5075	36250	10943	7395	18338		3	Si
SLV 13	ini.	-2171.61	5309	1.45	3879	5075	36250	10943	7395	18338		3.45	Si
SLV 13	fin.	631.22	3904	1.45	1151	5075	36250	10943	7395	18338		4.7	Si
SLD 3	ini.	1418.39	-2971	1.45	2561	5075	36250	10943	7395	18338		6.17	Si
SLD 3	fin.	-802.68	-4288	1.45	1459	5075	36250	10943	7395	18338		4.28	Si
SLV 16	ini.	-2103.57	5366	1.45	3761	5075	36250	10943	7395	18338		3.42	Si
SLV 16	fin.	767.57	4019	1.45	1397	5075	36250	10943	7395	18338		4.56	Si
SLV 2	ini.	2046.88	-4614	1.45	3666	5075	36250	10943	7395	18338		3.97	Si
SLV 2	fin.	-1207.66	-5967	1.45	2184	5075	36250	10943	7395	18338		3.07	Si
SLD 1	ini.	1344.1	-2915	1.45	2430	5075	36250	10943	7395	18338		6.29	Si
SLD 1	fin.	-865.57	-4268	1.45	1572	5075	36250	10943	7395	18338		4.3	Si
SLV 3	ini.	2235.26	-4859	1.45	3994	5075	36250	10943	7395	18338		3.77	Si
SLV 3	fin.	-1129.56	-6153	1.45	2045	5075	36250	10943	7395	18338		2.98	Si
SLV 15	ini.	-2043.41	5215	1.45	3656	5075	36250	10943	7395	18338		3.52	Si
SLV 15	fin.	738.44	3868	1.45	1345	5075	36250	10943	7395	18338		4.74	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.266	SLV 3	Si
V_SLV	2.98	SLV 3	Si
PF_SLU	66.013	SLU 82	Si
V_SLU	9.06	SLU 82	Si

Trave di accoppiamento 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	10	11.45	1.45	-9.443	-3.169	10	11.45	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	1109.52	-1396	-0.0001755	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.4	Si
SLU 73	fin.	-1718.99	-2805	-0.0002873	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.43	Si
SLU 77	ini.	1064.07	-1483	-0.0001677	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.76	Si
SLU 77	fin.	-1672.1	-2852	-0.0002782	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.58	Si
SLU 83	ini.	1084.23	-1403	-0.0001711	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.59	Si
SLU 83	fin.	-1696.77	-2799	-0.000283	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.5	Si
SLU 84	ini.	1110.4	-1415	-0.0001756	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.39	Si
SLU 84	fin.	-1729.81	-2838	-0.0002894	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.39	Si
SLU 82	ini.	1128.92	-1381	-0.0001788	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.25	Si
SLU 82	fin.	-1748.04	-2823	-0.000293	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.34	Si
SLU 76	ini.	1091	-1430	-0.0001723	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.54	Si
SLU 76	fin.	-1700.76	-2820	-0.0002837	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.48	Si
SLU 75	ini.	1108.76	-1462	-0.0001754	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.4	Si
SLU 75	fin.	-1723.38	-2875	-0.0002881	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.41	Si
SLU 78	ini.	1090.24	-1496	-0.0001722	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.55	Si
SLU 78	fin.	-1705.15	-2890	-0.0002846	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.47	Si
SLU 81	ini.	1102.75	-1369	-0.0001743	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.45	Si
SLU 81	fin.	-1715	-2784	-0.0002865	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.44	Si
SLU 74	ini.	1082.59	-1450	-0.0001708	0.0001872	0.0035	1.45		9317.35	9317.35	No	8.61	Si
SLU 74	fin.	-1690.33	-2837	-0.0002817	0.0001872	0.0035	1.45		9328.02	9328.02	No	5.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	1128.92	-3408	1.45	0	2819	14273	6079	3698	9776	No	2.87	Si
SLU 82	fin.	-1748.04	-5324	1.45	0	2819	14273	6079	3698	9776	No	1.84	Si
SLU 81	ini.	1102.75	-3321	1.45	0	2819	14273	6079	3698	9776	No	2.94	Si
SLU 81	fin.	-1715	-5237	1.45	0	2819	14273	6079	3698	9776	No	1.87	Si
SLU 84	ini.	1110.4	-3352	1.45	0	2819	14273	6079	3698	9776	No	2.92	Si
SLU 84	fin.	-1729.81	-5268	1.45	0	2819	14273	6079	3698	9776	No	1.86	Si
SLU 74	ini.	1082.59	-3307	1.45	0	2819	14273	6079	3698	9776	No	2.96	Si
SLU 74	fin.	-1690.33	-5106	1.45	0	2819	14273	6079	3698	9776	No	1.91	Si
SLU 78	ini.	1090.24	-3339	1.45	0	2819	14273	6079	3698	9776	No	2.93	Si
SLU 78	fin.	-1705.15	-5137	1.45	0	2819	14273	6079	3698	9776	No	1.9	Si
SLU 83	ini.	1084.23	-3265	1.45	0	2819	14273	6079	3698	9776	No	2.99	Si
SLU 83	fin.	-1696.77	-5181	1.45	0	2819	14273	6079	3698	9776	No	1.89	Si
SLU 73	ini.	1109.52	-3387	1.45	0	2819	14273	6079	3698	9776	No	2.89	Si
SLU 73	fin.	-1718.99	-5185	1.45	0	2819	14273	6079	3698	9776	No	1.89	Si
SLU 77	ini.	1064.07	-3252	1.45	0	2819	14273	6079	3698	9776	No	3.01	Si
SLU 77	fin.	-1672.1	-5050	1.45	0	2819	14273	6079	3698	9776	No	1.94	Si
SLU 76	ini.	1091	-3331	1.45	0	2819	14273	6079	3698	9776	No	2.93	Si
SLU 76	fin.	-1700.76	-5129	1.45	0	2819	14273	6079	3698	9776	No	1.91	Si
SLU 75	ini.	1108.76	-3394	1.45	0	2819	14273	6079	3698	9776	No	2.88	Si
SLU 75	fin.	-1723.38	-5193	1.45	0	2819	14273	6079	3698	9776	No	1.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	3831.41	-2164	-0.0007171	0.0002807	0.0035	1.45		8743.57	8743.57		2.28	Si
SLV 6	fin.	-4954.99	-6052	-0.0010054	0.0002807	0.0035	1.45		8755.45	8755.45		1.77	Si
SLV 2	ini.	3996.02	-865	-0.000757	0.0002807	0.0035	1.45		8743.57	8743.57		2.19	Si
SLV 2	fin.	-4637.69	-4746	-0.0009193	0.0002807	0.0035	1.45		8755.45	8755.45		1.89	Si
SLV 10	ini.	2413.84	-2491	-0.0004065	0.0002807	0.0035	1.45		8743.57	8743.57		3.62	Si
SLV 10	fin.	-3538.76	-5126	-0.0006473	0.0002807	0.0035	1.45		8755.45	8755.45		2.47	Si
SLD 2	ini.	2777.44	-902	-0.0004807	0.0002807	0.0035	1.45		8743.57	8743.57		3.15	Si
SLD 2	fin.	-3326.92	-3680	-0.0005991	0.0002807	0.0035	1.45		8755.45	8755.45		2.63	Si
SLD 5	ini.	2388.62	-1697	-0.0004015	0.0002807	0.0035	1.45		8743.57	8743.57		3.66	Si
SLD 5	fin.	-3209.47	-4224	-0.0005729	0.0002807	0.0035	1.45		8755.45	8755.45		2.73	Si
SLD 6	ini.	2584.7	-1685	-0.0004409	0.0002807	0.0035	1.45		8743.57	8743.57		3.38	Si
SLD 6	fin.	-3417.2	-4383	-0.0006195	0.0002807	0.0035	1.45		8755.45	8755.45		2.56	Si
SLV 1	ini.	3516.02	-893	-0.000643	0.0002807	0.0035	1.45		8743.57	8743.57		2.49	Si
SLV 1	fin.	-4129.17	-4358	-0.0007887	0.0002807	0.0035	1.45		8755.45	8755.45		2.12	Si
SLV 9	ini.	2090.72	-2509	-0.0003438	0.0002807	0.0035	1.45		8743.57	8743.57		4.18	Si
SLV 9	fin.	-3196.45	-4865	-0.00057	0.0002807	0.0035	1.45		8755.45	8755.45		2.74	Si
SLD 1	ini.	2472.93	-919	-0.0004183	0.0002807	0.0035	1.45		8743.57	8743.57		3.54	Si
SLD 1	fin.	-3004.31	-3433	-0.0005281	0.0002807	0.0035	1.45		8755.45	8755.45		2.91	Si
SLV 5	ini.	3508.3	-2183	-0.0006412	0.0002807	0.0035	1.45		8743.57	8743.57		2.49	Si
SLV 5	fin.	-4612.68	-5791	-0.0009127	0.0002807	0.0035	1.45		8755.45	8755.45		1.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	2472.93	-7440	1.45	0	4229	14273	9118	3698	12816		1.72	Si
SLD 1	fin.	-3004.31	-8630	1.45	0	4229	14273	9118	3698	12816		1.49	Si
SLV 1	ini.	3516.02	-10568	1.45	0	4229	14273	9118	3698	12816		1.21	Si
SLV 1	fin.	-4129.17	-11758	1.45	0	4229	14273	9118	3698	12816		1.09	Si
SLV 4	ini.	2652.29	-7493	1.45	0	4229	14273	9118	3698	12816		1.71	Si
SLV 4	fin.	-2878.25	-8683	1.45	0	4229	14273	9118	3698	12816		1.48	Si
SLV 6	ini.	3831.41	-12267	1.45	0	4229	14273	9118	3698	12816		1.04	Si
SLV 6	fin.	-4954.99	-13455	1.45	0	4229	14273	9118	3698	12816		0.95	No
SLD 2	ini.	2777.44	-8350	1.45	0	4229	14273	9118	3698	12816		1.53	Si
SLD 2	fin.	-3326.92	-9539	1.45	0	4229	14273	9118	3698	12816		1.34	Si
SLD 6	ini.	2584.7	-8229	1.45	0	4229	14273	9118	3698	12816		1.56	Si
SLD 6	fin.	-3417.2	-9417	1.45	0	4229	14273	9118	3698	12816		1.36	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	3508.3	-11303	1.45	0	4229	14273	9118	3698	12816		1.13	Si
SLV 5	fin.	-4612.68	-12490	1.45	0	4229	14273	9118	3698	12816		1.03	Si
SLV 2	ini.	3996.02	-12001	1.45	0	4229	14273	9118	3698	12816		1.07	Si
SLV 2	fin.	-4637.69	-13191	1.45	0	4229	14273	9118	3698	12816		0.97	No
SLD 5	ini.	2388.62	-7644	1.45	0	4229	14273	9118	3698	12816		1.68	Si
SLD 5	fin.	-3209.47	-8831	1.45	0	4229	14273	9118	3698	12816		1.45	Si
SLV 10	ini.	2413.84	-8188	1.45	0	4229	14273	9118	3698	12816		1.57	Si
SLV 10	fin.	-3538.76	-9374	1.45	0	4229	14273	9118	3698	12816		1.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.767	SLV 6	Si
V_SLV	0.952	SLV 6	No
PF_SLU	5.336	SLU 82	Si
V_SLU	1.836	SLU 82	Si

Trave di accoppiamento 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	7.9	9.9	2	-5.158	6.521	7.9	9.9	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-45.84	-739	-0.0000035	0.0001872	0.0035	2		17748.68	17748.68	No	387.17	Si
SLU 79	fin.	-372.05	-392	-0.0000289	0.0001872	0.0035	2		17748.68	17748.68	No	47.7	Si
SLU 74	ini.	-71.13	-714	-0.0000055	0.0001872	0.0035	2		17748.68	17748.68	No	249.51	Si
SLU 74	fin.	-355.84	-376	-0.0000277	0.0001872	0.0035	2		17748.68	17748.68	No	49.88	Si
SLU 78	ini.	-50.84	-746	-0.0000039	0.0001872	0.0035	2		17748.68	17748.68	No	349.11	Si
SLU 78	fin.	-374.72	-395	-0.0000291	0.0001872	0.0035	2		17748.68	17748.68	No	47.37	Si
SLU 70	ini.	-35.2	-695	-0.0000027	0.0001872	0.0035	2		17748.68	17748.68	No	504.18	Si
SLU 70	fin.	-354.25	-374	-0.0000275	0.0001872	0.0035	2		17748.68	17748.68	No	50.1	Si
SLU 77	ini.	-49.51	-747	-0.0000038	0.0001872	0.0035	2		17748.68	17748.68	No	358.49	Si
SLU 77	fin.	-375.08	-396	-0.0000292	0.0001872	0.0035	2		17748.68	17748.68	No	47.32	Si
SLU 84	ini.	-75.5	-727	-0.0000058	0.0001872	0.0035	2		17748.68	17748.68	No	235.09	Si
SLU 84	fin.	-361.23	-381	-0.0000281	0.0001872	0.0035	2		17748.68	17748.68	No	49.13	Si
SLU 80	ini.	-47.17	-738	-0.0000036	0.0001872	0.0035	2		17748.68	17748.68	No	376.25	Si
SLU 80	fin.	-371.7	-392	-0.0000289	0.0001872	0.0035	2		17748.68	17748.68	No	47.75	Si
SLU 83	ini.	-74.17	-728	-0.0000057	0.0001872	0.0035	2		17748.68	17748.68	No	239.3	Si
SLU 83	fin.	-361.59	-382	-0.0000281	0.0001872	0.0035	2		17748.68	17748.68	No	49.09	Si
SLU 69	ini.	-33.87	-696	-0.0000026	0.0001872	0.0035	2		17748.68	17748.68	No	523.99	Si
SLU 69	fin.	-354.61	-374	-0.0000276	0.0001872	0.0035	2		17748.68	17748.68	No	50.05	Si
SLU 75	ini.	-72.46	-713	-0.0000056	0.0001872	0.0035	2		17748.68	17748.68	No	244.93	Si
SLU 75	fin.	-355.48	-375	-0.0000276	0.0001872	0.0035	2		17748.68	17748.68	No	49.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-75.5	-2153	2	0	3889	7928	8384	5100	11817	No	5.49	Si
SLU 84	fin.	-361.23	-1061	2	0	3889	7928	8384	5100	11817	No	11.14	Si
SLU 83	ini.	-74.17	-2166	2	0	3889	7928	8384	5100	11817	No	5.46	Si
SLU 83	fin.	-361.59	-1063	2	0	3889	7928	8384	5100	11817	No	11.12	Si
SLU 69	ini.	-33.87	-2229	2	0	3889	7928	8384	5100	11817	No	5.3	Si
SLU 69	fin.	-354.61	-1062	2	0	3889	7928	8384	5100	11817	No	11.13	Si
SLU 72	ini.	-31.54	-2203	2	0	3889	7928	8384	5100	11817	No	5.36	Si
SLU 72	fin.	-351.23	-1054	2	0	3889	7928	8384	5100	11817	No	11.21	Si
SLU 80	ini.	-47.17	-2305	2	0	3889	7928	8384	5100	11817	No	5.13	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-371.7	-1105	2	0	3889	7928	8384	5100	11817	No	10.69	Si
SLU 71	ini.	-30.2	-2217	2	0	3889	7928	8384	5100	11817	No	5.33	Si
SLU 71	fin.	-351.59	-1056	2	0	3889	7928	8384	5100	11817	No	11.2	Si
SLU 78	ini.	-50.84	-2317	2	0	3889	7928	8384	5100	11817	No	5.1	Si
SLU 78	fin.	-374.72	-1112	2	0	3889	7928	8384	5100	11817	No	10.63	Si
SLU 70	ini.	-35.2	-2216	2	0	3889	7928	8384	5100	11817	No	5.33	Si
SLU 70	fin.	-354.25	-1060	2	0	3889	7928	8384	5100	11817	No	11.15	Si
SLU 79	ini.	-45.84	-2318	2	0	3889	7928	8384	5100	11817	No	5.1	Si
SLU 79	fin.	-372.05	-1107	2	0	3889	7928	8384	5100	11817	No	10.68	Si
SLU 77	ini.	-49.51	-2331	2	0	3889	7928	8384	5100	11817	No	5.07	Si
SLU 77	fin.	-375.08	-1114	2	0	3889	7928	8384	5100	11817	No	10.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	42.57	-597	-0.0000033	0.0002807	0.0035	2		15950.21	15950.21		374.69	Si
SLD 16	fin.	-316.95	-324	-0.0000245	0.0002807	0.0035	2		15965.77	15965.77		50.37	Si
SLV 7	ini.	68.84	-639	-0.0000053	0.0002807	0.0035	2		15950.21	15950.21		231.7	Si
SLV 7	fin.	-367.44	-345	-0.0000285	0.0002807	0.0035	2		15965.77	15965.77		43.45	Si
SLV 8	ini.	98.12	-657	-0.0000076	0.0002807	0.0035	2		15950.21	15950.21		162.55	Si
SLV 8	fin.	-380.6	-358	-0.0000295	0.0002807	0.0035	2		15965.77	15965.77		41.95	Si
SLD 11	ini.	49.03	-614	-0.0000038	0.0002807	0.0035	2		15950.21	15950.21		325.33	Si
SLD 11	fin.	-339.52	-332	-0.0000263	0.0002807	0.0035	2		15965.77	15965.77		47.02	Si
SLD 8	ini.	31.66	-578	-0.0000024	0.0002807	0.0035	2		15950.21	15950.21		503.78	Si
SLD 8	fin.	-320.1	-312	-0.0000248	0.0002807	0.0035	2		15965.77	15965.77		49.88	Si
SLV 12	ini.	153.38	-730	-0.0000118	0.0002807	0.0035	2		15950.21	15950.21		103.99	Si
SLV 12	fin.	-423.39	-401	-0.0000329	0.0002807	0.0035	2		15965.77	15965.77		37.71	Si
SLV 15	ini.	61.79	-645	-0.0000048	0.0002807	0.0035	2		15950.21	15950.21		258.13	Si
SLV 15	fin.	-346.32	-349	-0.0000268	0.0002807	0.0035	2		15965.77	15965.77		46.1	Si
SLV 11	ini.	124.1	-712	-0.0000096	0.0002807	0.0035	2		15950.21	15950.21		128.53	Si
SLV 11	fin.	-410.24	-388	-0.0000318	0.0002807	0.0035	2		15965.77	15965.77		38.92	Si
SLD 12	ini.	66.8	-625	-0.0000051	0.0002807	0.0035	2		15950.21	15950.21		238.78	Si
SLD 12	fin.	-347.5	-340	-0.0000269	0.0002807	0.0035	2		15965.77	15965.77		45.94	Si
SLV 16	ini.	105.29	-672	-0.0000081	0.0002807	0.0035	2		15950.21	15950.21		151.48	Si
SLV 16	fin.	-365.85	-369	-0.0000284	0.0002807	0.0035	2		15965.77	15965.77		43.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	105.29	-2836	2	0	5833	7928	12577	5100	13762		4.85	Si
SLV 16	fin.	-365.85	-1164	2	0	5833	7928	12577	5100	13762		11.82	Si
SLD 12	ini.	66.8	-2723	2	0	5833	7928	12577	5100	13762		5.05	Si
SLD 12	fin.	-347.5	-1072	2	0	5833	7928	12577	5100	13762		12.84	Si
SLV 8	ini.	98.12	-3211	2	0	5833	7928	12577	5100	13762		4.29	Si
SLV 8	fin.	-380.6	-1168	2	0	5833	7928	12577	5100	13762		11.78	Si
SLV 7	ini.	68.84	-3046	2	0	5833	7928	12577	5100	13762		4.52	Si
SLV 7	fin.	-367.44	-1110	2	0	5833	7928	12577	5100	13762		12.4	Si
SLD 11	ini.	49.03	-2624	2	0	5833	7928	12577	5100	13762		5.25	Si
SLD 11	fin.	-339.52	-1037	2	0	5833	7928	12577	5100	13762		13.28	Si
SLD 7	ini.	13.89	-2336	2	0	5833	7928	12577	5100	13762		5.89	Si
SLD 7	fin.	-312.12	-934	2	0	5833	7928	12577	5100	13762		14.73	Si
SLD 8	ini.	31.66	-2436	2	0	5833	7928	12577	5100	13762		5.65	Si
SLD 8	fin.	-320.1	-970	2	0	5833	7928	12577	5100	13762		14.19	Si
SLV 12	ini.	153.38	-3661	2	0	5833	7928	12577	5100	13762		3.76	Si
SLV 12	fin.	-423.39	-1328	2	0	5833	7928	12577	5100	13762		10.36	Si
SLV 11	ini.	124.1	-3496	2	0	5833	7928	12577	5100	13762		3.94	Si
SLV 11	fin.	-410.24	-1270	2	0	5833	7928	12577	5100	13762		10.84	Si
SLV 15	ini.	61.79	-2592	2	0	5833	7928	12577	5100	13762		5.31	Si
SLV 15	fin.	-346.32	-1078	2	0	5833	7928	12577	5100	13762		12.76	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	37.71	SLV 12	Si
V_SLV	3.759	SLV 12	Si
PF_SLU	47.32	SLU 77	Si
V_SLU	5.071	SLU 77	Si

Trave di accoppiamento 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	10.7	11.45	0.75	-5.158	6.521	10.7	11.45	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-285.39	-1264	-0.0001673	0.0001872	0.0035	0.75		2548.25	2548.25	No	8.93	Si
SLU 80	fin.	158.96	-453	-0.0000901	0.0001872	0.0035	0.75		2542.76	2542.76	No	16	Si
SLU 70	ini.	-275.86	-1220	-0.0001612	0.0001872	0.0035	0.75		2548.25	2548.25	No	9.24	Si
SLU 70	fin.	153.25	-436	-0.0000867	0.0001872	0.0035	0.75		2542.76	2542.76	No	16.59	Si
SLU 77	ini.	-283.75	-1257	-0.0001662	0.0001872	0.0035	0.75		2548.25	2548.25	No	8.98	Si
SLU 77	fin.	158.24	-451	-0.0000897	0.0001872	0.0035	0.75		2542.76	2542.76	No	16.07	Si
SLU 69	ini.	-274.84	-1215	-0.0001606	0.0001872	0.0035	0.75		2548.25	2548.25	No	9.27	Si
SLU 69	fin.	152.6	-435	-0.0000864	0.0001872	0.0035	0.75		2542.76	2542.76	No	16.66	Si
SLU 83	ini.	-262.25	-1165	-0.0001526	0.0001872	0.0035	0.75		2548.25	2548.25	No	9.72	Si
SLU 83	fin.	146.78	-419	-0.0000829	0.0001872	0.0035	0.75		2542.76	2542.76	No	17.32	Si
SLU 78	ini.	-284.77	-1262	-0.0001669	0.0001872	0.0035	0.75		2548.25	2548.25	No	8.95	Si
SLU 78	fin.	158.89	-453	-0.0000901	0.0001872	0.0035	0.75		2542.76	2542.76	No	16	Si
SLU 84	ini.	-263.27	-1170	-0.0001533	0.0001872	0.0035	0.75		2548.25	2548.25	No	9.68	Si
SLU 84	fin.	147.43	-421	-0.0000833	0.0001872	0.0035	0.75		2542.76	2542.76	No	17.25	Si
SLU 71	ini.	-275.47	-1217	-0.000161	0.0001872	0.0035	0.75		2548.25	2548.25	No	9.25	Si
SLU 71	fin.	152.66	-435	-0.0000864	0.0001872	0.0035	0.75		2542.76	2542.76	No	16.66	Si
SLU 79	ini.	-284.37	-1259	-0.0001666	0.0001872	0.0035	0.75		2548.25	2548.25	No	8.96	Si
SLU 79	fin.	158.31	-451	-0.0000897	0.0001872	0.0035	0.75		2542.76	2542.76	No	16.06	Si
SLU 72	ini.	-276.49	-1222	-0.0001616	0.0001872	0.0035	0.75		2548.25	2548.25	No	9.22	Si
SLU 72	fin.	153.31	-436	-0.0000868	0.0001872	0.0035	0.75		2542.76	2542.76	No	16.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-275.86	2618	0.75	0	1458	7928	3144	1913	5057	No	1.93	Si
SLU 70	fin.	153.25	836	0.75	0	1458	7928	3144	1913	5057	No	6.05	Si
SLU 80	ini.	-285.39	2713	0.75	0	1458	7928	3144	1913	5057	No	1.86	Si
SLU 80	fin.	158.96	867	0.75	0	1458	7928	3144	1913	5057	No	5.83	Si
SLU 78	ini.	-284.77	2707	0.75	0	1458	7928	3144	1913	5057	No	1.87	Si
SLU 78	fin.	158.89	866	0.75	0	1458	7928	3144	1913	5057	No	5.84	Si
SLU 84	ini.	-263.27	2503	0.75	0	1458	7928	3144	1913	5057	No	2.02	Si
SLU 84	fin.	147.43	798	0.75	0	1458	7928	3144	1913	5057	No	6.34	Si
SLU 83	ini.	-262.25	2495	0.75	0	1458	7928	3144	1913	5057	No	2.03	Si
SLU 83	fin.	146.78	793	0.75	0	1458	7928	3144	1913	5057	No	6.37	Si
SLU 72	ini.	-276.49	2623	0.75	0	1458	7928	3144	1913	5057	No	1.93	Si
SLU 72	fin.	153.31	837	0.75	0	1458	7928	3144	1913	5057	No	6.04	Si
SLU 69	ini.	-274.84	2609	0.75	0	1458	7928	3144	1913	5057	No	1.94	Si
SLU 69	fin.	152.6	831	0.75	0	1458	7928	3144	1913	5057	No	6.08	Si
SLU 79	ini.	-284.37	2704	0.75	0	1458	7928	3144	1913	5057	No	1.87	Si
SLU 79	fin.	158.31	863	0.75	0	1458	7928	3144	1913	5057	No	5.86	Si
SLU 71	ini.	-275.47	2615	0.75	0	1458	7928	3144	1913	5057	No	1.93	Si
SLU 71	fin.	152.66	833	0.75	0	1458	7928	3144	1913	5057	No	6.07	Si
SLU 77	ini.	-283.75	2699	0.75	0	1458	7928	3144	1913	5057	No	1.87	Si
SLU 77	fin.	158.24	862	0.75	0	1458	7928	3144	1913	5057	No	5.87	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-181.55	-815	-0.000102	0.0002807	0.0035	0.75		2476.06	2476.06		13.64	Si
SLD 13	fin.	102.04	-297	-0.0000567	0.0002807	0.0035	0.75		2470.23	2470.23		24.21	Si
SLD 14	ini.	-188.21	-841	-0.0001059	0.0002807	0.0035	0.75		2476.06	2476.06		13.16	Si
SLD 14	fin.	106	-308	-0.0000589	0.0002807	0.0035	0.75		2470.23	2470.23		23.3	Si
SLV 6	ini.	-187.36	-889	-0.0001054	0.0002807	0.0035	0.75		2476.06	2476.06		13.22	Si
SLV 6	fin.	105.78	-326	-0.0000588	0.0002807	0.0035	0.75		2470.23	2470.23		23.35	Si
SLD 9	ini.	-182.64	-845	-0.0001027	0.0002807	0.0035	0.75		2476.06	2476.06		13.56	Si
SLD 9	fin.	102.84	-308	-0.0000571	0.0002807	0.0035	0.75		2470.23	2470.23		24.02	Si
SLD 10	ini.	-186.93	-862	-0.0001052	0.0002807	0.0035	0.75		2476.06	2476.06		13.25	Si
SLD 10	fin.	105.38	-315	-0.0000586	0.0002807	0.0035	0.75		2470.23	2470.23		23.44	Si
SLV 13	ini.	-189.05	-853	-0.0001064	0.0002807	0.0035	0.75		2476.06	2476.06		13.1	Si
SLV 13	fin.	106.79	-313	-0.0000593	0.0002807	0.0035	0.75		2470.23	2470.23		23.13	Si
SLV 14	ini.	-199.55	-894	-0.0001125	0.0002807	0.0035	0.75		2476.06	2476.06		12.41	Si
SLV 14	fin.	113.02	-331	-0.0000629	0.0002807	0.0035	0.75		2470.23	2470.23		21.86	Si
SLV 10	ini.	-198.84	-936	-0.0001121	0.0002807	0.0035	0.75		2476.06	2476.06		12.45	Si
SLV 10	fin.	112.78	-347	-0.0000627	0.0002807	0.0035	0.75		2470.23	2470.23		21.9	Si
SLV 9	ini.	-191.77	-908	-0.000108	0.0002807	0.0035	0.75		2476.06	2476.06		12.91	Si
SLV 9	fin.	108.59	-334	-0.0000604	0.0002807	0.0035	0.75		2470.23	2470.23		22.75	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-187.22	-806	-0.0001053	0.0002807	0.0035	0.75		2476.06	2476.06		13.23	Si
SLV 16	fin.	105.35	-295	-0.0000585	0.0002807	0.0035	0.75		2470.23	2470.23		23.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-187.22	1855	0.75	0	2188	7928	4716	1913	6629		3.57	Si
SLV 16	fin.	105.35	529	0.75	0	2188	7928	4716	1913	6629		12.54	Si
SLV 10	ini.	-198.84	1804	0.75	0	2188	7928	4716	1913	6629		3.68	Si
SLV 10	fin.	112.78	636	0.75	0	2188	7928	4716	1913	6629		10.42	Si
SLV 15	ini.	-176.71	1757	0.75	0	2188	7928	4716	1913	6629		3.77	Si
SLV 15	fin.	99.12	498	0.75	0	2188	7928	4716	1913	6629		13.31	Si
SLD 16	ini.	-180.95	1766	0.75	0	2188	7928	4716	1913	6629		3.75	Si
SLD 16	fin.	101.5	521	0.75	0	2188	7928	4716	1913	6629		12.72	Si
SLD 14	ini.	-188.21	1800	0.75	0	2188	7928	4716	1913	6629		3.68	Si
SLD 14	fin.	106	560	0.75	0	2188	7928	4716	1913	6629		11.84	Si
SLV 13	ini.	-189.05	1816	0.75	0	2188	7928	4716	1913	6629		3.65	Si
SLV 13	fin.	106.79	564	0.75	0	2188	7928	4716	1913	6629		11.76	Si
SLD 10	ini.	-186.93	1725	0.75	0	2188	7928	4716	1913	6629		3.84	Si
SLD 10	fin.	105.38	583	0.75	0	2188	7928	4716	1913	6629		11.38	Si
SLV 9	ini.	-191.77	1738	0.75	0	2188	7928	4716	1913	6629		3.81	Si
SLV 9	fin.	108.59	616	0.75	0	2188	7928	4716	1913	6629		10.77	Si
SLV 14	ini.	-199.55	1913	0.75	0	2188	7928	4716	1913	6629		3.46	Si
SLV 14	fin.	113.02	594	0.75	0	2188	7928	4716	1913	6629		11.15	Si
SLD 13	ini.	-181.55	1738	0.75	0	2188	7928	4716	1913	6629		3.81	Si
SLD 13	fin.	102.04	540	0.75	0	2188	7928	4716	1913	6629		12.27	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.408	SLV 14	Si
V_SLV	3.465	SLV 14	Si
PF_SLU	8.929	SLU 80	Si
V_SLU	1.864	SLU 80	Si

Trave di accoppiamento 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	7.9	8.8	0.9	-7.403	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	252.79	-1835	-0.0001003	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.13	Si
SLU 67	fin.	-253.64	-444	-0.0001005	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.11	Si
SLU 75	ini.	248.04	-1847	-0.0000983	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.4	Si
SLU 75	fin.	-235.25	-513	-0.0000929	0.0001872	0.0035	0.9		3579.32	3579.32	No	15.21	Si
SLU 69	ini.	243.04	-1801	-0.0000963	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.7	Si
SLU 69	fin.	-230.83	-486	-0.000091	0.0001872	0.0035	0.9		3579.32	3579.32	No	15.51	Si
SLU 68	ini.	251.78	-1818	-0.0000999	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.19	Si
SLU 68	fin.	-254	-433	-0.0001006	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.09	Si
SLU 76	ini.	247.03	-1830	-0.0000979	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.46	Si
SLU 76	fin.	-235.62	-501	-0.000093	0.0001872	0.0035	0.9		3579.32	3579.32	No	15.19	Si
SLU 72	ini.	245.5	-1801	-0.0000973	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.55	Si
SLU 72	fin.	-236.68	-469	-0.0000935	0.0001872	0.0035	0.9		3579.32	3579.32	No	15.12	Si
SLU 70	ini.	253.43	-1852	-0.0001006	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.1	Si
SLU 70	fin.	-247.28	-469	-0.0000978	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.47	Si
SLU 73	ini.	246.39	-1813	-0.0000976	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.5	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	fin.	-241.97	-477	-0.0000956	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.79	Si
SLU 78	ini.	248.69	-1864	-0.0000986	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.37	Si
SLU 78	fin.	-228.9	-537	-0.0000903	0.0001872	0.0035	0.9		3579.32	3579.32	No	15.64	Si
SLU 65	ini.	251.13	-1801	-0.0000996	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.23	Si
SLU 65	fin.	-260.35	-409	-0.0001032	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	248.04	-3010	0.9	0	1750	14273	3773	2295	6068	No	2.02	Si
SLU 75	fin.	-235.25	-503	0.9	0	1750	14273	3773	2295	6068	No	12.06	Si
SLU 67	ini.	252.79	-2992	0.9	0	1750	14273	3773	2295	6068	No	2.03	Si
SLU 67	fin.	-253.64	-576	0.9	0	1750	14273	3773	2295	6068	No	10.54	Si
SLU 77	ini.	238.3	-2960	0.9	0	1750	14273	3773	2295	6068	No	2.05	Si
SLU 77	fin.	-212.45	-416	0.9	0	1750	14273	3773	2295	6068	No	14.57	Si
SLU 80	ini.	240.75	-2948	0.9	0	1750	14273	3773	2295	6068	No	2.06	Si
SLU 80	fin.	-218.3	-449	0.9	0	1750	14273	3773	2295	6068	No	13.51	Si
SLU 69	ini.	243.04	-2942	0.9	0	1750	14273	3773	2295	6068	No	2.06	Si
SLU 69	fin.	-230.83	-489	0.9	0	1750	14273	3773	2295	6068	No	12.41	Si
SLU 78	ini.	248.69	-3036	0.9	0	1750	14273	3773	2295	6068	No	2	Si
SLU 78	fin.	-228.9	-475	0.9	0	1750	14273	3773	2295	6068	No	12.78	Si
SLU 68	ini.	251.78	-2954	0.9	0	1750	14273	3773	2295	6068	No	2.05	Si
SLU 68	fin.	-254	-589	0.9	0	1750	14273	3773	2295	6068	No	10.3	Si
SLU 73	ini.	246.39	-2947	0.9	0	1750	14273	3773	2295	6068	No	2.06	Si
SLU 73	fin.	-241.97	-545	0.9	0	1750	14273	3773	2295	6068	No	11.14	Si
SLU 76	ini.	247.03	-2972	0.9	0	1750	14273	3773	2295	6068	No	2.04	Si
SLU 76	fin.	-235.62	-516	0.9	0	1750	14273	3773	2295	6068	No	11.75	Si
SLU 70	ini.	253.43	-3018	0.9	0	1750	14273	3773	2295	6068	No	2.01	Si
SLU 70	fin.	-247.28	-547	0.9	0	1750	14273	3773	2295	6068	No	11.09	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1110.08	4321	-0.000502	0.0002807	0.0035	0.9		3575.64	3575.64		3.22	Si
SLV 11	fin.	1982.34	-2983	-0.0010621	0.0002807	0.0035	0.9		3568.61	3568.61		1.8	Si
SLV 16	ini.	-766.61	2523	-0.0003246	0.0002807	0.0035	0.9		3575.64	3575.64		4.66	Si
SLV 16	fin.	1565.17	-2779	-0.0007743	0.0002807	0.0035	0.9		3568.61	3568.61		2.28	Si
SLV 2	ini.	1258.75	-5691	-0.0005873	0.0002807	0.0035	0.9		3568.61	3568.61		2.84	Si
SLV 2	fin.	-2182.15	2493	-0.0012133	0.0002807	0.0035	0.9		3575.64	3575.64		1.64	Si
SLV 15	ini.	-921.81	3152	-0.0004019	0.0002807	0.0035	0.9		3575.64	3575.64		3.88	Si
SLV 15	fin.	1863.81	-3215	-0.000976	0.0002807	0.0035	0.9		3568.61	3568.61		1.91	Si
SLV 10	ini.	1021.89	-5216	-0.0004553	0.0002807	0.0035	0.9		3568.61	3568.61		3.49	Si
SLV 10	fin.	-1469.01	1012	-0.0007119	0.0002807	0.0035	0.9		3575.64	3575.64		2.43	Si
SLV 12	ini.	-1005.61	3898	-0.0004456	0.0002807	0.0035	0.9		3575.64	3575.64		3.56	Si
SLV 12	fin.	1781.31	-2690	-0.0009182	0.0002807	0.0035	0.9		3568.61	3568.61		2	Si
SLD 6	ini.	929.9	-4593	-0.0004069	0.0002807	0.0035	0.9		3568.61	3568.61		3.84	Si
SLD 6	fin.	-1437.99	1211	-0.0006928	0.0002807	0.0035	0.9		3575.64	3575.64		2.49	Si
SLV 1	ini.	1103.55	-5063	-0.0004996	0.0002807	0.0035	0.9		3568.61	3568.61		3.23	Si
SLV 1	fin.	-1883.51	2057	-0.0009875	0.0002807	0.0035	0.9		3575.64	3575.64		1.9	Si
SLV 6	ini.	1447.03	-6860	-0.0007	0.0002807	0.0035	0.9		3568.61	3568.61		2.47	Si
SLV 6	fin.	-2300.67	2260	-0.0013109	0.0002807	0.0035	0.9		3575.64	3575.64		1.55	Si
SLV 5	ini.	1342.55	-6437	-0.0006366	0.0002807	0.0035	0.9		3568.61	3568.61		2.66	Si
SLV 5	fin.	-2099.64	1967	-0.0011482	0.0002807	0.0035	0.9		3575.64	3575.64		1.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1342.55	-9810	0.9	0	2625	14273	5660	2295	7955		0.81	No
SLV 5	fin.	-2099.64	-7246	0.9	0	2625	14273	5660	2295	7955		1.1	Si
SLD 6	ini.	929.9	-7062	0.9	0	2625	14273	5660	2295	7955		1.13	Si
SLD 6	fin.	-1437.99	-4893	0.9	0	2625	14273	5660	2295	7955		1.63	Si
SLV 2	ini.	1258.75	-8753	0.9	0	2625	14273	5660	2295	7955		0.91	No
SLV 2	fin.	-2182.15	-7670	0.9	0	2625	14273	5660	2295	7955		1.04	Si
SLV 1	ini.	1103.55	-7780	0.9	0	2625	14273	5660	2295	7955		1.02	Si
SLV 1	fin.	-1883.51	-6603	0.9	0	2625	14273	5660	2295	7955		1.2	Si
SLV 9	ini.	917.42	-7322	0.9	0	2625	14273	5660	2295	7955		1.09	Si
SLV 9	fin.	-1267.98	-4198	0.9	0	2625	14273	5660	2295	7955		1.89	Si
SLV 10	ini.	1021.89	-7977	0.9	0	2625	14273	5660	2295	7955		1	No
SLV 10	fin.	-1469.01	-4917	0.9	0	2625	14273	5660	2295	7955		1.62	Si
SLV 11	ini.	-1110.08	6315	0.9	0	2625	14273	5660	2295	7955		1.26	Si
SLV 11	fin.	1982.34	7298	0.9	0	2625	14273	5660	2295	7955		1.09	Si
SLV 15	ini.	-921.81	4603	0.9	0	2625	14273	5660	2295	7955		1.73	Si
SLV 15	fin.	1863.81	7004	0.9	0	2625	14273	5660	2295	7955		1.14	Si
SLD 5	ini.	866.5	-6664	0.9	0	2625	14273	5660	2295	7955		1.19	Si
SLD 5	fin.	-1315.99	-4457	0.9	0	2625	14273	5660	2295	7955		1.78	Si
SLV 6	ini.	1447.03	-10465	0.9	0	2625	14273	5660	2295	7955		0.76	No
SLV 6	fin.	-2300.67	-7964	0.9	0	2625	14273	5660	2295	7955		1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.554	SLV 6	Si
V_SLV	0.76	SLV 6	No
PF_SLU	13.748	SLU 65	Si
V_SLU	1.999	SLU 78	Si

Trave di accoppiamento 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	10.6	11.45	0.85	-7.403	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 66	ini.	51.57	-283	-0.0000221	0.0001872	0.0035	0.85		3266.1	3266.1	No	63.34	Si
SLU 66	fin.	-205.83	-650	-0.0000908	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.9	Si
SLU 76	ini.	48.24	-326	-0.0000207	0.0001872	0.0035	0.85		3266.1	3266.1	No	67.71	Si
SLU 76	fin.	-200.94	-643	-0.0000885	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.29	Si
SLU 78	ini.	40.62	-365	-0.0000174	0.0001872	0.0035	0.85		3266.1	3266.1	No	80.4	Si
SLU 78	fin.	-202.49	-669	-0.0000893	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.16	Si
SLU 68	ini.	61.86	-228	-0.0000266	0.0001872	0.0035	0.85		3266.1	3266.1	No	52.8	Si
SLU 68	fin.	-216.13	-652	-0.0000955	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.14	Si
SLU 72	ini.	52.24	-262	-0.0000224	0.0001872	0.0035	0.85		3266.1	3266.1	No	62.53	Si
SLU 72	fin.	-211.4	-657	-0.0000934	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.48	Si
SLU 67	ini.	58.94	-253	-0.0000253	0.0001872	0.0035	0.85		3266.1	3266.1	No	55.41	Si
SLU 67	fin.	-215.78	-664	-0.0000954	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.17	Si
SLU 70	ini.	54.24	-267	-0.0000233	0.0001872	0.0035	0.85		3266.1	3266.1	No	60.21	Si
SLU 70	fin.	-217.69	-678	-0.0000963	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.03	Si
SLU 69	ini.	46.86	-297	-0.0000201	0.0001872	0.0035	0.85		3266.1	3266.1	No	69.69	Si
SLU 69	fin.	-207.73	-664	-0.0000917	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.75	Si
SLU 71	ini.	44.86	-291	-0.0000192	0.0001872	0.0035	0.85		3266.1	3266.1	No	72.81	Si
SLU 71	fin.	-201.44	-642	-0.0000888	0.0001872	0.0035	0.85		3272.39	3272.39	No	16.24	Si
SLU 65	ini.	66.56	-214	-0.0000286	0.0001872	0.0035	0.85		3266.1	3266.1	No	49.07	Si
SLU 65	fin.	-214.23	-638	-0.0000947	0.0001872	0.0035	0.85		3272.39	3272.39	No	15.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	30.1	1708	0.85	0	1653	13480	3563	2168	5731	No	3.36	Si
SLU 83	fin.	-177.83	-1600	0.85	0	1653	13480	3563	2168	5731	No	3.58	Si
SLU 76	ini.	48.24	1523	0.85	0	1653	13480	3563	2168	5731	No	3.76	Si
SLU 76	fin.	-200.94	-1656	0.85	0	1653	13480	3563	2168	5731	No	3.46	Si
SLU 78	ini.	40.62	1608	0.85	0	1653	13480	3563	2168	5731	No	3.56	Si
SLU 78	fin.	-202.49	-1685	0.85	0	1653	13480	3563	2168	5731	No	3.4	Si
SLU 77	ini.	33.24	1646	0.85	0	1653	13480	3563	2168	5731	No	3.48	Si
SLU 77	fin.	-192.54	-1643	0.85	0	1653	13480	3563	2168	5731	No	3.49	Si
SLU 84	ini.	37.48	1669	0.85	0	1653	13480	3563	2168	5731	No	3.43	Si
SLU 84	fin.	-187.79	-1641	0.85	0	1653	13480	3563	2168	5731	No	3.49	Si
SLU 70	ini.	54.24	1325	0.85	0	1653	13480	3563	2168	5731	No	4.32	Si
SLU 70	fin.	-217.69	-1654	0.85	0	1653	13480	3563	2168	5731	No	3.46	Si
SLU 73	ini.	52.94	1496	0.85	0	1653	13480	3563	2168	5731	No	3.83	Si
SLU 73	fin.	-199.04	-1646	0.85	0	1653	13480	3563	2168	5731	No	3.48	Si
SLU 75	ini.	45.32	1582	0.85	0	1653	13480	3563	2168	5731	No	3.62	Si
SLU 75	fin.	-200.59	-1674	0.85	0	1653	13480	3563	2168	5731	No	3.42	Si
SLU 67	ini.	58.94	1299	0.85	0	1653	13480	3563	2168	5731	No	4.41	Si
SLU 67	fin.	-215.78	-1644	0.85	0	1653	13480	3563	2168	5731	No	3.49	Si
SLU 81	ini.	34.81	1681	0.85	0	1653	13480	3563	2168	5731	No	3.41	Si
SLU 81	fin.	-175.93	-1589	0.85	0	1653	13480	3563	2168	5731	No	3.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	662.1	2318	-0.0003128	0.0002807	0.0035	0.85		3181.12	3181.12		4.8	Si
SLD 6	fin.	-933.11	-1506	-0.0004659	0.0002807	0.0035	0.85		3187.76	3187.76		3.42	Si
SLV 6	ini.	1086.32	4049	-0.0005622	0.0002807	0.0035	0.85		3181.12	3181.12		2.93	Si
SLV 6	fin.	-1475.62	-2238	-0.0008278	0.0002807	0.0035	0.85		3187.76	3187.76		2.16	Si
SLV 12	ini.	-914.04	-4154	-0.0004545	0.0002807	0.0035	0.85		3187.76	3187.76		3.49	Si
SLV 12	fin.	1086.75	1211	-0.0005625	0.0002807	0.0035	0.85		3181.12	3181.12		2.93	Si
SLV 1	ini.	892.98	3059	-0.000443	0.0002807	0.0035	0.85		3181.12	3181.12		3.56	Si
SLV 1	fin.	-998.45	-1302	-0.0005057	0.0002807	0.0035	0.85		3187.76	3187.76		3.19	Si
SLV 15	ini.	-988.26	-4089	-0.0004994	0.0002807	0.0035	0.85		3187.76	3187.76		3.23	Si
SLV 15	fin.	880.3	582	-0.0004355	0.0002807	0.0035	0.85		3181.12	3181.12		3.61	Si
SLV 9	ini.	556.32	2131	-0.0002575	0.0002807	0.0035	0.85		3181.12	3181.12		5.72	Si
SLV 9	fin.	-1000.76	-1835	-0.0005071	0.0002807	0.0035	0.85		3187.76	3187.76		3.19	Si
SLV 11	ini.	-1021.69	-4526	-0.0005201	0.0002807	0.0035	0.85		3187.76	3187.76		3.12	Si
SLV 11	fin.	1195.67	1334	-0.0006336	0.0002807	0.0035	0.85		3181.12	3181.12		2.66	Si
SLV 2	ini.	1052.89	3611	-0.0005409	0.0002807	0.0035	0.85		3181.12	3181.12		3.02	Si
SLV 2	fin.	-1160.25	-1485	-0.0006086	0.0002807	0.0035	0.85		3187.76	3187.76		2.75	Si
SLV 10	ini.	663.97	2504	-0.0003138	0.0002807	0.0035	0.85		3181.12	3181.12		4.79	Si
SLV 10	fin.	-1109.68	-1958	-0.0005758	0.0002807	0.0035	0.85		3187.76	3187.76		2.87	Si
SLV 5	ini.	978.68	3677	-0.0004947	0.0002807	0.0035	0.85		3181.12	3181.12		3.25	Si
SLV 5	fin.	-1366.71	-2115	-0.0007492	0.0002807	0.0035	0.85		3187.76	3187.76		2.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	663.97	-2569	0.85	0	2479	13480	5345	2168	7513		2.92	Si
SLV 10	fin.	-1109.68	-5084	0.85	0	2479	13480	5345	2168	7513		1.48	Si
SLV 12	ini.	-914.04	6085	0.85	0	2479	13480	5345	2168	7513		1.23	Si
SLV 12	fin.	1086.75	3956	0.85	0	2479	13480	5345	2168	7513		1.9	Si
SLV 9	ini.	556.32	-2053	0.85	0	2479	13480	5345	2168	7513		3.66	Si
SLV 9	fin.	-1000.76	-4633	0.85	0	2479	13480	5345	2168	7513		1.62	Si
SLV 15	ini.	-988.26	5995	0.85	0	2479	13480	5345	2168	7513		1.25	Si
SLV 15	fin.	880.3	3219	0.85	0	2479	13480	5345	2168	7513		2.33	Si
SLV 11	ini.	-1021.69	6601	0.85	0	2479	13480	5345	2168	7513		1.14	Si
SLV 11	fin.	1195.67	4407	0.85	0	2479	13480	5345	2168	7513		1.7	Si
SLV 5	ini.	978.68	-4022	0.85	0	2479	13480	5345	2168	7513		1.87	Si
SLV 5	fin.	-1366.71	-6232	0.85	0	2479	13480	5345	2168	7513		1.21	Si
SLV 16	ini.	-828.35	5228	0.85	0	2479	13480	5345	2168	7513		1.44	Si
SLV 16	fin.	718.5	2548	0.85	0	2479	13480	5345	2168	7513		2.95	Si
SLV 1	ini.	892.98	-3165	0.85	0	2479	13480	5345	2168	7513		2.37	Si
SLV 1	fin.	-998.45	-4824	0.85	0	2479	13480	5345	2168	7513		1.56	Si
SLV 6	ini.	1086.32	-4538	0.85	0	2479	13480	5345	2168	7513		1.66	Si
SLV 6	fin.	-1475.62	-6684	0.85	0	2479	13480	5345	2168	7513		1.12	Si
SLV 2	ini.	1052.89	-3932	0.85	0	2479	13480	5345	2168	7513		1.91	Si
SLV 2	fin.	-1160.25	-5495	0.85	0	2479	13480	5345	2168	7513		1.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.16	SLV 6	Si
V_SLV	1.124	SLV 6	Si
PF_SLU	15.033	SLU 70	Si
V_SLU	3.356	SLU 83	Si

Trave di accoppiamento 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	7.9	9.9	2	-5.938	-3.169	7.9	9.9	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	308.36	-2895	-0.0000239	0.0001872	0.0035	2		17734.35	17734.35	No	57.51	Si
SLU 75	fin.	-228.94	-2343	-0.0000177	0.0001872	0.0035	2		17748.68	17748.68	No	77.52	Si
SLU 61	ini.	311.26	-2501	-0.0000242	0.0001872	0.0035	2		17734.35	17734.35	No	56.98	Si
SLU 61	fin.	-162.88	-1986	-0.0000126	0.0001872	0.0035	2		17748.68	17748.68	No	108.97	Si
SLU 83	ini.	315.58	-2828	-0.0000245	0.0001872	0.0035	2		17734.35	17734.35	No	56.2	Si
SLU 83	fin.	-185.85	-2265	-0.0000144	0.0001872	0.0035	2		17748.68	17748.68	No	95.5	Si
SLU 74	ini.	315.71	-2856	-0.0000245	0.0001872	0.0035	2		17734.35	17734.35	No	56.17	Si
SLU 74	fin.	-209.24	-2299	-0.0000162	0.0001872	0.0035	2		17748.68	17748.68	No	84.83	Si
SLU 82	ini.	330.46	-2847	-0.0000257	0.0001872	0.0035	2		17734.35	17734.35	No	53.67	Si
SLU 82	fin.	-209.19	-2277	-0.0000162	0.0001872	0.0035	2		17748.68	17748.68	No	84.85	Si
SLU 60	ini.	318.61	-2463	-0.0000247	0.0001872	0.0035	2		17734.35	17734.35	No	55.66	Si
SLU 60	fin.	-143.17	-1942	-0.0000111	0.0001872	0.0035	2		17748.68	17748.68	No	123.97	Si
SLU 65	ini.	308.93	-2721	-0.000024	0.0001872	0.0035	2		17734.35	17734.35	No	57.41	Si
SLU 65	fin.	-271.29	-2208	-0.000021	0.0001872	0.0035	2		17748.68	17748.68	No	65.42	Si
SLU 73	ini.	320.57	-2827	-0.0000249	0.0001872	0.0035	2		17734.35	17734.35	No	55.32	Si
SLU 73	fin.	-237.02	-2277	-0.0000183	0.0001872	0.0035	2		17748.68	17748.68	No	74.88	Si
SLU 64	ini.	321.19	-2657	-0.000025	0.0001872	0.0035	2		17734.35	17734.35	No	55.21	Si
SLU 64	fin.	-238.45	-2135	-0.0000185	0.0001872	0.0035	2		17748.68	17748.68	No	74.43	Si
SLU 81	ini.	337.81	-2808	-0.0000263	0.0001872	0.0035	2		17734.35	17734.35	No	52.5	Si
SLU 81	fin.	-189.48	-2233	-0.0000146	0.0001872	0.0035	2		17748.68	17748.68	No	93.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	298.34	-2269	2	0	3889	7930	8384	5100	11818	No	5.21	Si
SLU 76	fin.	-233.39	-677	2	0	3889	7930	8384	5100	11818	No	17.45	Si
SLU 74	ini.	315.71	-2298	2	0	3889	7930	8384	5100	11818	No	5.14	Si
SLU 74	fin.	-209.24	-683	2	0	3889	7930	8384	5100	11818	No	17.31	Si
SLU 82	ini.	330.46	-2350	2	0	3889	7930	8384	5100	11818	No	5.03	Si
SLU 82	fin.	-209.19	-748	2	0	3889	7930	8384	5100	11818	No	15.81	Si
SLU 73	ini.	320.57	-2338	2	0	3889	7930	8384	5100	11818	No	5.05	Si
SLU 73	fin.	-237.02	-778	2	0	3889	7930	8384	5100	11818	No	15.2	Si
SLU 65	ini.	308.93	-2283	2	0	3889	7930	8384	5100	11818	No	5.18	Si
SLU 65	fin.	-271.29	-842	2	0	3889	7930	8384	5100	11818	No	14.04	Si
SLU 67	ini.	296.72	-2260	2	0	3889	7930	8384	5100	11818	No	5.23	Si
SLU 67	fin.	-263.22	-751	2	0	3889	7930	8384	5100	11818	No	15.74	Si
SLU 75	ini.	308.36	-2315	2	0	3889	7930	8384	5100	11818	No	5.1	Si
SLU 75	fin.	-228.94	-687	2	0	3889	7930	8384	5100	11818	No	17.2	Si
SLU 81	ini.	337.81	-2333	2	0	3889	7930	8384	5100	11818	No	5.06	Si
SLU 81	fin.	-189.48	-743	2	0	3889	7930	8384	5100	11818	No	15.9	Si
SLU 84	ini.	308.23	-2281	2	0	3889	7930	8384	5100	11818	No	5.18	Si
SLU 84	fin.	-205.56	-647	2	0	3889	7930	8384	5100	11818	No	18.26	Si
SLU 83	ini.	315.58	-2264	2	0	3889	7930	8384	5100	11818	No	5.22	Si
SLU 83	fin.	-185.85	-643	2	0	3889	7930	8384	5100	11818	No	18.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	920.09	-5080	-0.0000723	0.0002807	0.0035	2		15950.21	15950.21		17.34	Si
SLV 1	fin.	-1819.45	-4351	-0.0001464	0.0002807	0.0035	2		15965.77	15965.77		8.78	Si
SLV 10	ini.	-244.23	-5282	-0.0000189	0.0002807	0.0035	2		15965.77	15965.77		65.37	Si
SLV 10	fin.	-1602.74	-5163	-0.0001282	0.0002807	0.0035	2		15965.77	15965.77		9.96	Si
SLV 2	ini.	1180.67	-5657	-0.0000935	0.0002807	0.0035	2		15950.21	15950.21		13.51	Si
SLV 2	fin.	-2115.82	-4774	-0.0001717	0.0002807	0.0035	2		15965.77	15965.77		7.55	Si
SLV 5	ini.	118.51	-6238	-0.0000091	0.0002807	0.0035	2		15950.21	15950.21		134.59	Si
SLV 5	fin.	-2175.16	-5945	-0.0001768	0.0002807	0.0035	2		15965.77	15965.77		7.34	Si
SLV 15	ini.	-688.32	1661	-0.0000538	0.0002807	0.0035	2		15965.77	15965.77		23.2	Si
SLV 15	fin.	1788.92	1577	-0.0001439	0.0002807	0.0035	2		15950.21	15950.21		8.92	Si
SLV 12	ini.	373.84	2242	-0.000029	0.0002807	0.0035	2		15950.21	15950.21		42.67	Si
SLV 12	fin.	1848.26	2749	-0.000149	0.0002807	0.0035	2		15950.21	15950.21		8.63	Si
SLV 16	ini.	-427.75	1084	-0.0000332	0.0002807	0.0035	2		15965.77	15965.77		37.33	Si
SLV 16	fin.	1492.55	1155	-0.0001191	0.0002807	0.0035	2		15950.21	15950.21		10.69	Si
SLV 6	ini.	293.92	-6627	-0.0000228	0.0002807	0.0035	2		15950.21	15950.21		54.27	Si
SLV 6	fin.	-2374.66	-6229	-0.0001942	0.0002807	0.0035	2		15965.77	15965.77		6.72	Si
SLD 6	ini.	289.68	-4749	-0.0000224	0.0002807	0.0035	2		15950.21	15950.21		55.06	Si
SLD 6	fin.	-1481.12	-4341	-0.0001181	0.0002807	0.0035	2		15965.77	15965.77		10.78	Si
SLV 11	ini.	198.43	2631	-0.0000153	0.0002807	0.0035	2		15950.21	15950.21		80.38	Si
SLV 11	fin.	2047.76	3033	-0.000166	0.0002807	0.0035	2		15950.21	15950.21		7.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	920.09	-7116	2	0	5833	7930	12577	5100	13763		1.93	Si
SLV 1	fin.	-1819.45	-6408	2	0	5833	7930	12577	5100	13763		2.15	Si
SLV 4	ini.	1366.09	-6912	2	0	5833	7930	12577	5100	13763		1.99	Si
SLV 4	fin.	-1080.52	-6760	2	0	5833	7930	12577	5100	13763		2.04	Si
SLV 2	ini.	1180.67	-8532	2	0	5833	7930	12577	5100	13763		1.61	Si
SLV 2	fin.	-2115.82	-7866	2	0	5833	7930	12577	5100	13763		1.75	Si
SLV 5	ini.	118.51	-5510	2	0	5833	7930	12577	5100	13763		2.5	Si
SLV 5	fin.	-2175.16	-3750	2	0	5833	7930	12577	5100	13763		3.67	Si
SLV 13	ini.	-873.74	3534	2	0	5833	7930	12577	5100	13763		3.89	Si
SLV 13	fin.	753.62	5555	2	0	5833	7930	12577	5100	13763		2.48	Si
SLV 6	ini.	293.92	-6463	2	0	5833	7930	12577	5100	13763		2.13	Si
SLV 6	fin.	-2374.66	-4731	2	0	5833	7930	12577	5100	13763		2.91	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	844.32	-6010	2	0	5833	7930	12577	5100	13763		2.29	Si
SLD 2	fin.	-1381.06	-5197	2	0	5833	7930	12577	5100	13763		2.65	Si
SLV 3	ini.	1105.52	-5497	2	0	5833	7930	12577	5100	13763		2.5	Si
SLV 3	fin.	-784.15	-5302	2	0	5833	7930	12577	5100	13763		2.6	Si
SLV 16	ini.	-427.75	3738	2	0	5833	7930	12577	5100	13763		3.68	Si
SLV 16	fin.	1492.55	5204	2	0	5833	7930	12577	5100	13763		2.64	Si
SLV 15	ini.	-688.32	5154	2	0	5833	7930	12577	5100	13763		2.67	Si
SLV 15	fin.	1788.92	6662	2	0	5833	7930	12577	5100	13763		2.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.723	SLV 6	Si
V_SLV	1.613	SLV 2	Si
PF_SLU	52.498	SLU 81	Si
V_SLU	5.028	SLU 82	Si

Trave di accoppiamento 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	10.7	11.45	0.75	-5.938	-3.169	10.7	11.45	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	97.51	-287	-0.0000544	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.08	Si
SLU 75	fin.	-58.92	-342	-0.0000325	0.0001872	0.0035	0.75		2548.25	2548.25	No	43.25	Si
SLU 82	ini.	96.12	-288	-0.0000536	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.45	Si
SLU 82	fin.	-63.14	-368	-0.0000349	0.0001872	0.0035	0.75		2548.25	2548.25	No	40.36	Si
SLU 73	ini.	100.86	-238	-0.0000563	0.0001872	0.0035	0.75		2542.76	2542.76	No	25.21	Si
SLU 73	fin.	-57.21	-322	-0.0000316	0.0001872	0.0035	0.75		2548.25	2548.25	No	44.55	Si
SLU 70	ini.	98.23	-224	-0.0000548	0.0001872	0.0035	0.75		2542.76	2542.76	No	25.88	Si
SLU 70	fin.	-48.51	-269	-0.0000267	0.0001872	0.0035	0.75		2548.25	2548.25	No	52.53	Si
SLU 65	ini.	105.66	-145	-0.0000591	0.0001872	0.0035	0.75		2542.76	2542.76	No	24.07	Si
SLU 65	fin.	-47.75	-249	-0.0000263	0.0001872	0.0035	0.75		2548.25	2548.25	No	53.36	Si
SLU 76	ini.	96.78	-268	-0.000054	0.0001872	0.0035	0.75		2542.76	2542.76	No	26.27	Si
SLU 76	fin.	-56.24	-322	-0.000031	0.0001872	0.0035	0.75		2548.25	2548.25	No	45.31	Si
SLU 68	ini.	101.58	-175	-0.0000568	0.0001872	0.0035	0.75		2542.76	2542.76	No	25.03	Si
SLU 68	fin.	-46.79	-249	-0.0000257	0.0001872	0.0035	0.75		2548.25	2548.25	No	54.46	Si
SLU 67	ini.	102.31	-193	-0.0000572	0.0001872	0.0035	0.75		2542.76	2542.76	No	24.85	Si
SLU 67	fin.	-49.47	-269	-0.0000272	0.0001872	0.0035	0.75		2548.25	2548.25	No	51.51	Si
SLU 64	ini.	98.97	-170	-0.0000553	0.0001872	0.0035	0.75		2542.76	2542.76	No	25.69	Si
SLU 64	fin.	-52.46	-285	-0.0000289	0.0001872	0.0035	0.75		2548.25	2548.25	No	48.58	Si
SLU 66	ini.	98.29	-209	-0.0000549	0.0001872	0.0035	0.75		2542.76	2542.76	No	25.87	Si
SLU 66	fin.	-52.29	-291	-0.0000288	0.0001872	0.0035	0.75		2548.25	2548.25	No	48.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	88.03	1365	0.75	0	1458	7930	3144	1913	5057	No	3.7	Si
SLU 83	fin.	-65	-1709	0.75	0	1458	7930	3144	1913	5057	No	2.96	Si
SLU 77	ini.	89.42	1392	0.75	0	1458	7930	3144	1913	5057	No	3.63	Si
SLU 77	fin.	-60.78	-1684	0.75	0	1458	7930	3144	1913	5057	No	3	Si
SLU 74	ini.	93.49	1340	0.75	0	1458	7930	3144	1913	5057	No	3.77	Si
SLU 74	fin.	-61.75	-1701	0.75	0	1458	7930	3144	1913	5057	No	2.97	Si
SLU 84	ini.	92.05	1370	0.75	0	1458	7930	3144	1913	5057	No	3.69	Si
SLU 84	fin.	-62.18	-1706	0.75	0	1458	7930	3144	1913	5057	No	2.96	Si
SLU 78	ini.	93.43	1396	0.75	0	1458	7930	3144	1913	5057	No	3.62	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-57.96	-1682	0.75	0	1458	7930	3144	1913	5057	No	3.01	Si
SLU 76	ini.	96.78	1301	0.75	0	1458	7930	3144	1913	5057	No	3.89	Si
SLU 76	fin.	-56.24	-1651	0.75	0	1458	7930	3144	1913	5057	No	3.06	Si
SLU 82	ini.	96.12	1318	0.75	0	1458	7930	3144	1913	5057	No	3.84	Si
SLU 82	fin.	-63.14	-1724	0.75	0	1458	7930	3144	1913	5057	No	2.93	Si
SLU 81	ini.	92.11	1314	0.75	0	1458	7930	3144	1913	5057	No	3.85	Si
SLU 81	fin.	-65.96	-1726	0.75	0	1458	7930	3144	1913	5057	No	2.93	Si
SLU 73	ini.	100.86	1249	0.75	0	1458	7930	3144	1913	5057	No	4.05	Si
SLU 73	fin.	-57.21	-1668	0.75	0	1458	7930	3144	1913	5057	No	3.03	Si
SLU 75	ini.	97.51	1345	0.75	0	1458	7930	3144	1913	5057	No	3.76	Si
SLU 75	fin.	-58.92	-1699	0.75	0	1458	7930	3144	1913	5057	No	2.98	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-446.65	-2605	-0.0002654	0.0002807	0.0035	0.75		2476.06	2476.06		5.54	Si
SLV 16	fin.	-239.86	-2296	-0.0001363	0.0002807	0.0035	0.75		2476.06	2476.06		10.32	Si
SLD 6	ini.	435.76	1403	-0.0002589	0.0002807	0.0035	0.75		2470.23	2470.23		5.67	Si
SLD 6	fin.	153.96	1490	-0.0000863	0.0002807	0.0035	0.75		2470.23	2470.23		16.04	Si
SLV 11	ini.	-540.04	-2746	-0.0003285	0.0002807	0.0035	0.75		2476.06	2476.06		4.59	Si
SLV 11	fin.	-376.8	-3162	-0.0002203	0.0002807	0.0035	0.75		2476.06	2476.06		6.57	Si
SLV 15	ini.	-553.69	-3134	-0.000338	0.0002807	0.0035	0.75		2476.06	2476.06		4.47	Si
SLV 15	fin.	-258.56	-2569	-0.0001475	0.0002807	0.0035	0.75		2476.06	2476.06		9.58	Si
SLV 6	ini.	680.9	2439	-0.0004316	0.0002807	0.0035	0.75		2470.23	2470.23		3.63	Si
SLV 6	fin.	289.82	2674	-0.0001668	0.0002807	0.0035	0.75		2470.23	2470.23		8.52	Si
SLD 2	ini.	461.86	1718	-0.0002761	0.0002807	0.0035	0.75		2470.23	2470.23		5.35	Si
SLD 2	fin.	90.02	1203	-0.0000499	0.0002807	0.0035	0.75		2470.23	2470.23		27.44	Si
SLV 1	ini.	587.51	2298	-0.0003629	0.0002807	0.0035	0.75		2470.23	2470.23		4.2	Si
SLV 1	fin.	152.87	1808	-0.0000857	0.0002807	0.0035	0.75		2470.23	2470.23		16.16	Si
SLV 5	ini.	608.84	2083	-0.0003783	0.0002807	0.0035	0.75		2470.23	2470.23		4.06	Si
SLV 5	fin.	277.22	2490	-0.0001591	0.0002807	0.0035	0.75		2470.23	2470.23		8.91	Si
SLV 12	ini.	-467.98	-2390	-0.0002795	0.0002807	0.0035	0.75		2476.06	2476.06		5.29	Si
SLV 12	fin.	-364.21	-2978	-0.0002124	0.0002807	0.0035	0.75		2476.06	2476.06		6.8	Si
SLV 2	ini.	694.55	2827	-0.0004419	0.0002807	0.0035	0.75		2470.23	2470.23		3.56	Si
SLV 2	fin.	171.58	2081	-0.0000965	0.0002807	0.0035	0.75		2470.23	2470.23		14.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-165.24	2007	0.75	0	2188	7930	4716	1913	6629		3.3	Si
SLD 13	fin.	-74.57	-577	0.75	0	2188	7930	4716	1913	6629		11.49	Si
SLV 2	ini.	694.55	-894	0.75	0	2188	7930	4716	1913	6629		7.42	Si
SLV 2	fin.	171.58	-2004	0.75	0	2188	7930	4716	1913	6629		3.31	Si
SLV 3	ini.	321.62	-594	0.75	0	2188	7930	4716	1913	6629		11.17	Si
SLV 3	fin.	-22.05	-1865	0.75	0	2188	7930	4716	1913	6629		3.55	Si
SLV 4	ini.	428.67	-1038	0.75	0	2188	7930	4716	1913	6629		6.39	Si
SLV 4	fin.	-3.35	-2153	0.75	0	2188	7930	4716	1913	6629		3.08	Si
SLV 16	ini.	-446.65	2098	0.75	0	2188	7930	4716	1913	6629		3.16	Si
SLV 16	fin.	-239.86	-647	0.75	0	2188	7930	4716	1913	6629		10.24	Si
SLD 15	ini.	-321	1922	0.75	0	2188	7930	4716	1913	6629		3.45	Si
SLD 15	fin.	-177.01	-663	0.75	0	2188	7930	4716	1913	6629		10	Si
SLV 15	ini.	-553.69	2542	0.75	0	2188	7930	4716	1913	6629		2.61	Si
SLV 15	fin.	-258.56	-359	0.75	0	2188	7930	4716	1913	6629		18.45	Si
SLV 13	ini.	-287.81	2686	0.75	0	2188	7930	4716	1913	6629		2.47	Si
SLV 13	fin.	-83.64	-211	0.75	0	2188	7930	4716	1913	6629		31.41	Si
SLV 14	ini.	-180.76	2242	0.75	0	2188	7930	4716	1913	6629		2.96	Si
SLV 14	fin.	-64.94	-499	0.75	0	2188	7930	4716	1913	6629		13.29	Si
SLD 4	ini.	306.1	-359	0.75	0	2188	7930	4716	1913	6629		18.49	Si
SLD 4	fin.	-12.41	-1787	0.75	0	2188	7930	4716	1913	6629		3.71	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.557	SLV 2	Si
V_SLV	2.468	SLV 13	Si
PF_SLU	24.066	SLU 65	Si
V_SLU	2.93	SLU 81	Si

Trave di accoppiamento 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	7.9	8.8	0.9	-3.113	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-4.24	-958	-0.0000016	0.0001872	0.0035	0.9		3579.32	3579.32	No	845.09	Si
SLU 78	fin.	322.27	-1642	-0.0001296	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.09	Si
SLU 84	ini.	-23.15	-932	-0.0000088	0.0001872	0.0035	0.9		3579.32	3579.32	No	154.64	Si
SLU 84	fin.	333.24	-1667	-0.0001343	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.72	Si
SLU 83	ini.	-36.07	-915	-0.0000138	0.0001872	0.0035	0.9		3579.32	3579.32	No	99.22	Si
SLU 83	fin.	341.75	-1691	-0.0001379	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.45	Si
SLU 80	ini.	-3.76	-941	-0.0000014	0.0001872	0.0035	0.9		3579.32	3579.32	No	950.84	Si
SLU 80	fin.	315.33	-1606	-0.0001266	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.33	Si
SLU 79	ini.	-16.69	-924	-0.0000064	0.0001872	0.0035	0.9		3579.32	3579.32	No	214.44	Si
SLU 79	fin.	323.84	-1630	-0.0001302	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.03	Si
SLU 75	ini.	-1.45	-952	-0.0000006	0.0001872	0.0035	0.9		3579.32	3579.32	No	2465.91	Si
SLU 75	fin.	316.88	-1617	-0.0001273	0.0001872	0.0035	0.9		3572.55	3572.55	No	11.27	Si
SLU 74	ini.	-14.38	-935	-0.0000055	0.0001872	0.0035	0.9		3579.32	3579.32	No	248.93	Si
SLU 74	fin.	325.39	-1640	-0.0001309	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.98	Si
SLU 81	ini.	-33.29	-908	-0.0000127	0.0001872	0.0035	0.9		3579.32	3579.32	No	107.52	Si
SLU 81	fin.	336.36	-1666	-0.0001356	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.62	Si
SLU 77	ini.	-17.16	-941	-0.0000065	0.0001872	0.0035	0.9		3579.32	3579.32	No	208.55	Si
SLU 77	fin.	330.79	-1665	-0.0001332	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.8	Si
SLU 82	ini.	-20.36	-925	-0.0000078	0.0001872	0.0035	0.9		3579.32	3579.32	No	175.78	Si
SLU 82	fin.	327.84	-1643	-0.000132	0.0001872	0.0035	0.9		3572.55	3572.55	No	10.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-4.24	24	0.9	0	1750	14273	3773	2295	6068	No	253.48	Si
SLU 78	fin.	322.27	2102	0.9	0	1750	14273	3773	2295	6068	No	2.89	Si
SLU 79	ini.	-16.69	79	0.9	0	1750	14273	3773	2295	6068	No	77.01	Si
SLU 79	fin.	323.84	2080	0.9	0	1750	14273	3773	2295	6068	No	2.92	Si
SLU 80	ini.	-3.76	29	0.9	0	1750	14273	3773	2295	6068	No	208.59	Si
SLU 80	fin.	315.33	2046	0.9	0	1750	14273	3773	2295	6068	No	2.97	Si
SLU 77	ini.	-17.16	74	0.9	0	1750	14273	3773	2295	6068	No	82.39	Si
SLU 77	fin.	330.79	2136	0.9	0	1750	14273	3773	2295	6068	No	2.84	Si
SLU 82	ini.	-20.36	100	0.9	0	1750	14273	3773	2295	6068	No	60.57	Si
SLU 82	fin.	327.84	2085	0.9	0	1750	14273	3773	2295	6068	No	2.91	Si
SLU 84	ini.	-23.15	106	0.9	0	1750	14273	3773	2295	6068	No	57.49	Si
SLU 84	fin.	333.24	2125	0.9	0	1750	14273	3773	2295	6068	No	2.86	Si
SLU 81	ini.	-33.29	150	0.9	0	1750	14273	3773	2295	6068	No	40.48	Si
SLU 81	fin.	336.36	2119	0.9	0	1750	14273	3773	2295	6068	No	2.86	Si
SLU 83	ini.	-36.07	155	0.9	0	1750	14273	3773	2295	6068	No	39.08	Si
SLU 83	fin.	341.75	2159	0.9	0	1750	14273	3773	2295	6068	No	2.81	Si
SLU 75	ini.	-1.45	19	0.9	0	1750	14273	3773	2295	6068	No	326.87	Si
SLU 75	fin.	316.88	2062	0.9	0	1750	14273	3773	2295	6068	No	2.94	Si
SLU 74	ini.	-14.38	68	0.9	0	1750	14273	3773	2295	6068	No	88.88	Si
SLU 74	fin.	325.39	2096	0.9	0	1750	14273	3773	2295	6068	No	2.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1329.56	1351	-0.0006274	0.0002807	0.0035	0.9		3575.64	3575.64		2.69	Si
SLV 11	fin.	980.74	-3157	-0.0004334	0.0002807	0.0035	0.9		3568.61	3568.61		3.64	Si
SLV 15	ini.	-1289.69	1110	-0.0006039	0.0002807	0.0035	0.9		3575.64	3575.64		2.77	Si
SLV 15	fin.	998.97	-3439	-0.0004431	0.0002807	0.0035	0.9		3568.61	3568.61		3.57	Si
SLV 16	ini.	-1003.13	729	-0.0004443	0.0002807	0.0035	0.9		3575.64	3575.64		3.56	Si
SLV 16	fin.	818.4	-2895	-0.0003506	0.0002807	0.0035	0.9		3568.61	3568.61		4.36	Si
SLD 2	ini.	846.91	-1818	-0.0003648	0.0002807	0.0035	0.9		3568.61	3568.61		4.21	Si
SLD 2	fin.	-297.15	422	-0.000117	0.0002807	0.0035	0.9		3575.64	3575.64		12.03	Si
SLV 1	ini.	1052.24	-2115	-0.0004716	0.0002807	0.0035	0.9		3568.61	3568.61		3.39	Si
SLV 1	fin.	-414.4	760	-0.0001658	0.0002807	0.0035	0.9		3575.64	3575.64		8.63	Si
SLV 12	ini.	-1136.65	1095	-0.0005167	0.0002807	0.0035	0.9		3575.64	3575.64		3.15	Si
SLV 12	fin.	859.19	-2791	-0.0003709	0.0002807	0.0035	0.9		3568.61	3568.61		4.15	Si
SLV 2	ini.	1338.8	-2496	-0.0006343	0.0002807	0.0035	0.9		3568.61	3568.61		2.67	Si
SLV 2	fin.	-594.97	1305	-0.0002446	0.0002807	0.0035	0.9		3575.64	3575.64		6.01	Si
SLV 5	ini.	1185.77	-2482	-0.0005455	0.0002807	0.0035	0.9		3568.61	3568.61		3.01	Si
SLV 5	fin.	-455.19	656	-0.0001832	0.0002807	0.0035	0.9		3575.64	3575.64		7.86	Si
SLV 6	ini.	1378.67	-2738	-0.0006583	0.0002807	0.0035	0.9		3568.61	3568.61		2.59	Si
SLV 6	fin.	-576.74	1022	-0.0002364	0.0002807	0.0035	0.9		3575.64	3575.64		6.2	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	855.37	-2054	-0.000369	0.0002807	0.0035	0.9		3568.61	3568.61		4.17	Si
SLV 10	fin.	-252.8	15	-0.0000989	0.0002807	0.0035	0.9		3575.64	3575.64		14.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1338.8	-4566	0.9	0	2625	14273	5660	2295	7955		1.74	Si
SLV 2	fin.	-594.97	-3030	0.9	0	2625	14273	5660	2295	7955		2.63	Si
SLV 16	ini.	-1003.13	3438	0.9	0	2625	14273	5660	2295	7955		2.31	Si
SLV 16	fin.	818.4	4735	0.9	0	2625	14273	5660	2295	7955		1.68	Si
SLD 15	ini.	-797.8	2742	0.9	0	2625	14273	5660	2295	7955		2.9	Si
SLD 15	fin.	701.15	4082	0.9	0	2625	14273	5660	2295	7955		1.95	Si
SLD 11	ini.	-784.6	2804	0.9	0	2625	14273	5660	2295	7955		2.84	Si
SLD 11	fin.	668	3609	0.9	0	2625	14273	5660	2295	7955		2.2	Si
SLV 5	ini.	1185.77	-4216	0.9	0	2625	14273	5660	2295	7955		1.89	Si
SLV 5	fin.	-455.19	-1788	0.9	0	2625	14273	5660	2295	7955		4.45	Si
SLV 11	ini.	-1329.56	4744	0.9	0	2625	14273	5660	2295	7955		1.68	Si
SLV 11	fin.	980.74	5118	0.9	0	2625	14273	5660	2295	7955		1.55	Si
SLV 6	ini.	1378.67	-4882	0.9	0	2625	14273	5660	2295	7955		1.63	Si
SLV 6	fin.	-576.74	-2442	0.9	0	2625	14273	5660	2295	7955		3.26	Si
SLV 15	ini.	-1289.69	4428	0.9	0	2625	14273	5660	2295	7955		1.8	Si
SLV 15	fin.	998.97	5706	0.9	0	2625	14273	5660	2295	7955		1.39	Si
SLV 13	ini.	-692.08	2265	0.9	0	2625	14273	5660	2295	7955		3.51	Si
SLV 13	fin.	665.37	4197	0.9	0	2625	14273	5660	2295	7955		1.9	Si
SLV 12	ini.	-1136.65	4078	0.9	0	2625	14273	5660	2295	7955		1.95	Si
SLV 12	fin.	859.19	4465	0.9	0	2625	14273	5660	2295	7955		1.78	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.588	SLV 6	Si
V_SLV	1.394	SLV 15	Si
PF_SLU	10.454	SLU 83	Si
V_SLU	2.811	SLU 83	Si

Trave di accoppiamento 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	10.6	11.45	0.85	-3.113	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-241.31	-1144	-0.0001072	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.56	Si
SLU 83	fin.	-111.53	-744	-0.0000483	0.0001872	0.0035	0.85		3272.39	3272.39	No	29.34	Si
SLU 74	ini.	-224.09	-1093	-0.0000992	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.6	Si
SLU 74	fin.	-128.18	-766	-0.0000557	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.53	Si
SLU 82	ini.	-227.17	-1099	-0.0001006	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.4	Si
SLU 82	fin.	-124.23	-755	-0.0000539	0.0001872	0.0035	0.85		3272.39	3272.39	No	26.34	Si
SLU 84	ini.	-231.48	-1117	-0.0001026	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.14	Si
SLU 84	fin.	-123.46	-761	-0.0000536	0.0001872	0.0035	0.85		3272.39	3272.39	No	26.51	Si
SLU 77	ini.	-228.4	-1111	-0.0001012	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.33	Si
SLU 77	fin.	-127.41	-772	-0.0000553	0.0001872	0.0035	0.85		3272.39	3272.39	No	25.68	Si
SLU 42	ini.	-220.86	-1022	-0.0000977	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.82	Si
SLU 42	fin.	-80.97	-620	-0.0000349	0.0001872	0.0035	0.85		3272.39	3272.39	No	40.42	Si
SLU 39	ini.	-226.37	-1031	-0.0001003	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.46	Si
SLU 39	fin.	-69.81	-597	-0.00003	0.0001872	0.0035	0.85		3272.39	3272.39	No	46.87	Si
SLU 81	ini.	-237	-1126	-0.0001052	0.0001872	0.0035	0.85		3272.39	3272.39	No	13.81	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-112.3	-738	-0.0000486	0.0001872	0.0035	0.85		3272.39	3272.39	No	29.14	Si
SLU 79	ini.	-222.33	-1080	-0.0000984	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.72	Si
SLU 79	fin.	-124.67	-750	-0.0000541	0.0001872	0.0035	0.85		3272.39	3272.39	No	26.25	Si
SLU 41	ini.	-230.68	-1048	-0.0001023	0.0001872	0.0035	0.85		3272.39	3272.39	No	14.19	Si
SLU 41	fin.	-69.04	-603	-0.0000297	0.0001872	0.0035	0.85		3272.39	3272.39	No	47.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-218.58	1825	0.85	0	1653	13480	3563	2168	5731	No	3.14	Si
SLU 78	fin.	-139.34	-1000	0.85	0	1653	13480	3563	2168	5731	No	5.73	Si
SLU 75	ini.	-214.27	1800	0.85	0	1653	13480	3563	2168	5731	No	3.18	Si
SLU 75	fin.	-140.11	-1001	0.85	0	1653	13480	3563	2168	5731	No	5.73	Si
SLU 84	ini.	-231.48	1902	0.85	0	1653	13480	3563	2168	5731	No	3.01	Si
SLU 84	fin.	-123.46	-952	0.85	0	1653	13480	3563	2168	5731	No	6.02	Si
SLU 74	ini.	-224.09	1842	0.85	0	1653	13480	3563	2168	5731	No	3.11	Si
SLU 74	fin.	-128.18	-953	0.85	0	1653	13480	3563	2168	5731	No	6.01	Si
SLU 81	ini.	-237	1919	0.85	0	1653	13480	3563	2168	5731	No	2.99	Si
SLU 81	fin.	-112.3	-905	0.85	0	1653	13480	3563	2168	5731	No	6.33	Si
SLU 41	ini.	-230.68	1790	0.85	0	1653	13480	3563	2168	5731	No	3.2	Si
SLU 41	fin.	-69.04	-686	0.85	0	1653	13480	3563	2168	5731	No	8.36	Si
SLU 79	ini.	-222.33	1823	0.85	0	1653	13480	3563	2168	5731	No	3.14	Si
SLU 79	fin.	-124.67	-931	0.85	0	1653	13480	3563	2168	5731	No	6.15	Si
SLU 82	ini.	-227.17	1877	0.85	0	1653	13480	3563	2168	5731	No	3.05	Si
SLU 82	fin.	-124.23	-953	0.85	0	1653	13480	3563	2168	5731	No	6.01	Si
SLU 83	ini.	-241.31	1944	0.85	0	1653	13480	3563	2168	5731	No	2.95	Si
SLU 83	fin.	-111.53	-904	0.85	0	1653	13480	3563	2168	5731	No	6.34	Si
SLU 77	ini.	-228.4	1867	0.85	0	1653	13480	3563	2168	5731	No	3.07	Si
SLU 77	fin.	-127.41	-952	0.85	0	1653	13480	3563	2168	5731	No	6.02	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-879.81	-2550	-0.0004342	0.0002807	0.0035	0.85		3187.76	3187.76		3.62	Si
SLV 12	fin.	925.31	1149	-0.0004623	0.0002807	0.0035	0.85		3181.12	3181.12		3.44	Si
SLV 11	ini.	-1010.26	-2889	-0.000513	0.0002807	0.0035	0.85		3187.76	3187.76		3.16	Si
SLV 11	fin.	1094.25	1409	-0.0005673	0.0002807	0.0035	0.85		3181.12	3181.12		2.91	Si
SLV 5	ini.	626.82	1216	-0.000294	0.0002807	0.0035	0.85		3181.12	3181.12		5.08	Si
SLV 5	fin.	-1156.08	-2258	-0.0006059	0.0002807	0.0035	0.85		3187.76	3187.76		2.76	Si
SLD 2	ini.	366.35	569	-0.0001642	0.0002807	0.0035	0.85		3181.12	3181.12		8.68	Si
SLD 2	fin.	-777.44	-1619	-0.0003753	0.0002807	0.0035	0.85		3187.76	3187.76		4.1	Si
SLV 1	ini.	471.62	817	-0.000215	0.0002807	0.0035	0.85		3181.12	3181.12		6.75	Si
SLV 1	fin.	-928.41	-1879	-0.0004631	0.0002807	0.0035	0.85		3187.76	3187.76		3.43	Si
SLV 6	ini.	757.26	1554	-0.0003648	0.0002807	0.0035	0.85		3181.12	3181.12		4.2	Si
SLV 6	fin.	-1325.02	-2518	-0.00072	0.0002807	0.0035	0.85		3187.76	3187.76		2.41	Si
SLV 2	ini.	665.4	1320	-0.0003145	0.0002807	0.0035	0.85		3181.12	3181.12		4.78	Si
SLV 2	fin.	-1179.37	-2265	-0.0006212	0.0002807	0.0035	0.85		3187.76	3187.76		2.7	Si
SLV 15	ini.	-918.4	-2654	-0.0004571	0.0002807	0.0035	0.85		3187.76	3187.76		3.47	Si
SLV 15	fin.	948.6	1156	-0.0004764	0.0002807	0.0035	0.85		3181.12	3181.12		3.35	Si
SLD 6	ini.	400.1	656	-0.0001802	0.0002807	0.0035	0.85		3181.12	3181.12		7.95	Si
SLD 6	fin.	-835.81	-1724	-0.0004086	0.0002807	0.0035	0.85		3187.76	3187.76		3.81	Si
SLV 10	ini.	460.92	816	-0.0002098	0.0002807	0.0035	0.85		3181.12	3181.12		6.9	Si
SLV 10	fin.	-928.78	-1880	-0.0004633	0.0002807	0.0035	0.85		3187.76	3187.76		3.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	757.26	-3032	0.85	0	2479	13480	5345	2168	7513		2.48	Si
SLV 6	fin.	-1325.02	-5193	0.85	0	2479	13480	5345	2168	7513		1.45	Si
SLV 11	ini.	-1010.26	5273	0.85	0	2479	13480	5345	2168	7513		1.42	Si
SLV 11	fin.	1094.25	3704	0.85	0	2479	13480	5345	2168	7513		2.03	Si
SLV 5	ini.	626.82	-2399	0.85	0	2479	13480	5345	2168	7513		3.13	Si
SLV 5	fin.	-1156.08	-4585	0.85	0	2479	13480	5345	2168	7513		1.64	Si
SLV 15	ini.	-918.4	4949	0.85	0	2479	13480	5345	2168	7513		1.52	Si
SLV 15	fin.	948.6	3057	0.85	0	2479	13480	5345	2168	7513		2.46	Si
SLV 12	ini.	-879.81	4640	0.85	0	2479	13480	5345	2168	7513		1.62	Si
SLV 12	fin.	925.31	3096	0.85	0	2479	13480	5345	2168	7513		2.43	Si
SLV 2	ini.	665.4	-2708	0.85	0	2479	13480	5345	2168	7513		2.77	Si
SLV 2	fin.	-1179.37	-4547	0.85	0	2479	13480	5345	2168	7513		1.65	Si
SLV 16	ini.	-724.62	4009	0.85	0	2479	13480	5345	2168	7513		1.87	Si
SLV 16	fin.	697.64	2155	0.85	0	2479	13480	5345	2168	7513		3.49	Si
SLV 7	ini.	-713.92	3817	0.85	0	2479	13480	5345	2168	7513		1.97	Si
SLV 7	fin.	698.01	2314	0.85	0	2479	13480	5345	2168	7513		3.25	Si
SLV 1	ini.	471.62	-1768	0.85	0	2479	13480	5345	2168	7513		4.25	Si
SLV 1	fin.	-928.41	-3644	0.85	0	2479	13480	5345	2168	7513		2.06	Si
SLV 10	ini.	460.92	-1576	0.85	0	2479	13480	5345	2168	7513		4.77	Si
SLV 10	fin.	-928.78	-3803	0.85	0	2479	13480	5345	2168	7513		1.98	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.406	SLV 6	Si
V_SLV	1.425	SLV 11	Si
PF_SLU	13.561	SLU 83	Si
V_SLU	2.948	SLU 83	Si

Trave di accoppiamento 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	7.9	8.8	0.9	-2.853	5.951	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	86.91	-737	-0.0000335	0.0001872	0.0035	0.9		3572.55	3572.55	No	41.11	Si
SLU 78	fin.	138.79	-1399	-0.000054	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.74	Si
SLU 42	ini.	46.01	-499	-0.0000176	0.0001872	0.0035	0.9		3572.55	3572.55	No	77.66	Si
SLU 42	fin.	146.3	-1253	-0.000057	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.42	Si
SLU 84	ini.	81.14	-694	-0.0000313	0.0001872	0.0035	0.9		3572.55	3572.55	No	44.03	Si
SLU 84	fin.	146.44	-1386	-0.000057	0.0001872	0.0035	0.9		3572.55	3572.55	No	24.4	Si
SLU 83	ini.	86.38	-713	-0.0000333	0.0001872	0.0035	0.9		3572.55	3572.55	No	41.36	Si
SLU 83	fin.	141.26	-1367	-0.000055	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.29	Si
SLU 40	ini.	48.72	-489	-0.0000187	0.0001872	0.0035	0.9		3572.55	3572.55	No	73.33	Si
SLU 40	fin.	140.69	-1192	-0.0000547	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.39	Si
SLU 36	ini.	51.78	-543	-0.0000198	0.0001872	0.0035	0.9		3572.55	3572.55	No	69	Si
SLU 36	fin.	138.65	-1266	-0.0000539	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.77	Si
SLU 82	ini.	83.85	-684	-0.0000323	0.0001872	0.0035	0.9		3572.55	3572.55	No	42.6	Si
SLU 82	fin.	140.83	-1325	-0.0000548	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.37	Si
SLU 80	ini.	87.54	-733	-0.0000338	0.0001872	0.0035	0.9		3572.55	3572.55	No	40.81	Si
SLU 80	fin.	136.03	-1374	-0.0000529	0.0001872	0.0035	0.9		3572.55	3572.55	No	26.26	Si
SLU 41	ini.	51.24	-518	-0.0000196	0.0001872	0.0035	0.9		3572.55	3572.55	No	69.72	Si
SLU 41	fin.	141.11	-1235	-0.0000549	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.32	Si
SLU 38	ini.	52.41	-539	-0.0000201	0.0001872	0.0035	0.9		3572.55	3572.55	No	68.17	Si
SLU 38	fin.	135.89	-1241	-0.0000528	0.0001872	0.0035	0.9		3572.55	3572.55	No	26.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	86.38	-875	0.9	0	1750	14273	3773	2295	6068	No	6.94	Si
SLU 83	fin.	141.26	2341	0.9	0	1750	14273	3773	2295	6068	No	2.59	Si
SLU 75	ini.	89.63	-931	0.9	0	1750	14273	3773	2295	6068	No	6.52	Si
SLU 75	fin.	133.19	2322	0.9	0	1750	14273	3773	2295	6068	No	2.61	Si
SLU 78	ini.	86.91	-975	0.9	0	1750	14273	3773	2295	6068	No	6.23	Si
SLU 78	fin.	138.79	2468	0.9	0	1750	14273	3773	2295	6068	No	2.46	Si
SLU 74	ini.	94.86	-967	0.9	0	1750	14273	3773	2295	6068	No	6.27	Si
SLU 74	fin.	128.01	2305	0.9	0	1750	14273	3773	2295	6068	No	2.63	Si
SLU 77	ini.	92.15	-1011	0.9	0	1750	14273	3773	2295	6068	No	6	Si
SLU 77	fin.	133.61	2451	0.9	0	1750	14273	3773	2295	6068	No	2.48	Si
SLU 76	ini.	86.76	-896	0.9	0	1750	14273	3773	2295	6068	No	6.77	Si
SLU 76	fin.	133.88	2286	0.9	0	1750	14273	3773	2295	6068	No	2.65	Si
SLU 80	ini.	87.54	-964	0.9	0	1750	14273	3773	2295	6068	No	6.29	Si
SLU 80	fin.	136.03	2420	0.9	0	1750	14273	3773	2295	6068	No	2.51	Si
SLU 79	ini.	92.78	-1001	0.9	0	1750	14273	3773	2295	6068	No	6.06	Si
SLU 79	fin.	130.85	2402	0.9	0	1750	14273	3773	2295	6068	No	2.53	Si
SLU 84	ini.	81.14	-838	0.9	0	1750	14273	3773	2295	6068	No	7.24	Si
SLU 84	fin.	146.44	2359	0.9	0	1750	14273	3773	2295	6068	No	2.57	Si
SLU 70	ini.	108.18	-1166	0.9	0	1750	14273	3773	2295	6068	No	5.2	Si
SLU 70	fin.	101.43	2270	0.9	0	1750	14273	3773	2295	6068	No	2.67	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 7	ini.	438.96	-1947	-0.0001766	0.0002807	0.0035	0.9		3568.61	3568.61		8.13	Si
SLD 7	fin.	-255.04	343	-0.0000998	0.0002807	0.0035	0.9		3575.64	3575.64		14.02	Si
SLV 4	ini.	496.62	-2103	-0.0002015	0.0002807	0.0035	0.9		3568.61	3568.61		7.19	Si
SLV 4	fin.	-270.07	556	-0.0001059	0.0002807	0.0035	0.9		3575.64	3575.64		13.24	Si
SLD 3	ini.	449.36	-1907	-0.000181	0.0002807	0.0035	0.9		3568.61	3568.61		7.94	Si
SLD 3	fin.	-226.35	370	-0.0000883	0.0002807	0.0035	0.9		3575.64	3575.64		15.8	Si
SLV 9	ini.	-382.56	1258	-0.0001524	0.0002807	0.0035	0.9		3575.64	3575.64		9.35	Si
SLV 9	fin.	514.53	-2401	-0.0002093	0.0002807	0.0035	0.9		3568.61	3568.61		6.94	Si
SLV 10	ini.	-496.7	1658	-0.0002011	0.0002807	0.0035	0.9		3575.64	3575.64		7.2	Si
SLV 10	fin.	604.42	-2754	-0.0002494	0.0002807	0.0035	0.9		3568.61	3568.61		5.9	Si
SLV 11	ini.	455.15	-2080	-0.0001835	0.0002807	0.0035	0.9		3568.61	3568.61		7.84	Si
SLV 11	fin.	-305.6	396	-0.0001204	0.0002807	0.0035	0.9		3575.64	3575.64		11.7	Si
SLV 14	ini.	-487.81	1494	-0.0001972	0.0002807	0.0035	0.9		3575.64	3575.64		7.33	Si
SLV 14	fin.	534.79	-2710	-0.0002182	0.0002807	0.0035	0.9		3568.61	3568.61		6.67	Si
SLV 3	ini.	666.19	-2696	-0.0002777	0.0002807	0.0035	0.9		3568.61	3568.61		5.36	Si
SLV 3	fin.	-403.61	1081	-0.0001612	0.0002807	0.0035	0.9		3575.64	3575.64		8.86	Si
SLV 7	ini.	675.08	-2859	-0.0002818	0.0002807	0.0035	0.9		3568.61	3568.61		5.29	Si
SLV 7	fin.	-473.25	1124	-0.0001909	0.0002807	0.0035	0.9		3575.64	3575.64		7.56	Si
SLV 8	ini.	560.94	-2460	-0.0002298	0.0002807	0.0035	0.9		3568.61	3568.61		6.36	Si
SLV 8	fin.	-383.35	771	-0.0001527	0.0002807	0.0035	0.9		3575.64	3575.64		9.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-318.24	1661	0.9	0	2625	14273	5660	2295	7955		4.79	Si
SLV 13	fin.	401.25	3155	0.9	0	2625	14273	5660	2295	7955		2.52	Si
SLV 7	ini.	675.08	-4959	0.9	0	2625	14273	5660	2295	7955		1.6	Si
SLV 7	fin.	-473.25	-421	0.9	0	2625	14273	5660	2295	7955		18.89	Si
SLV 16	ini.	-236.5	648	0.9	0	2625	14273	5660	2295	7955		12.27	Si
SLV 16	fin.	288.75	3220	0.9	0	2625	14273	5660	2295	7955		2.47	Si
SLD 7	ini.	438.96	-3277	0.9	0	2625	14273	5660	2295	7955		2.43	Si
SLD 7	fin.	-255.04	324	0.9	0	2625	14273	5660	2295	7955		24.55	Si
SLV 8	ini.	560.94	-4332	0.9	0	2625	14273	5660	2295	7955		1.84	Si
SLV 8	fin.	-383.35	70	0.9	0	2625	14273	5660	2295	7955		113.86	Si
SLV 10	ini.	-496.7	3333	0.9	0	2625	14273	5660	2295	7955		2.39	Si
SLV 10	fin.	604.42	3325	0.9	0	2625	14273	5660	2295	7955		2.39	Si
SLV 11	ini.	455.15	-3779	0.9	0	2625	14273	5660	2295	7955		2.11	Si
SLV 11	fin.	-305.6	620	0.9	0	2625	14273	5660	2295	7955		12.82	Si
SLV 4	ini.	496.62	-3288	0.9	0	2625	14273	5660	2295	7955		2.42	Si
SLV 4	fin.	-270.07	-251	0.9	0	2625	14273	5660	2295	7955		31.71	Si
SLV 3	ini.	666.19	-4220	0.9	0	2625	14273	5660	2295	7955		1.89	Si
SLV 3	fin.	-403.61	-980	0.9	0	2625	14273	5660	2295	7955		8.11	Si
SLV 14	ini.	-487.81	2593	0.9	0	2625	14273	5660	2295	7955		3.07	Si
SLV 14	fin.	534.79	3885	0.9	0	2625	14273	5660	2295	7955		2.05	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.286	SLV 7	Si
V_SLV	1.604	SLV 7	Si
PF_SLU	24.396	SLU 84	Si
V_SLU	2.458	SLU 78	Si

Trave di accoppiamento 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	10.6	11.45	0.85	-2.853	5.951	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-180.84	-1073	-0.0000794	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.1	Si
SLU 84	fin.	49.3	-568	-0.0000212	0.0001872	0.0035	0.85		3266.1	3266.1	No	66.25	Si
SLU 78	ini.	-182.52	-1083	-0.0000801	0.0001872	0.0035	0.85		3272.39	3272.39	No	17.93	Si
SLU 78	fin.	47.03	-591	-0.0000202	0.0001872	0.0035	0.85		3266.1	3266.1	No	69.45	Si
SLU 80	ini.	-178.11	-1060	-0.0000781	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.37	Si
SLU 80	fin.	45.63	-584	-0.0000196	0.0001872	0.0035	0.85		3266.1	3266.1	No	71.58	Si
SLU 35	ini.	-174.34	-1007	-0.0000764	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.77	Si
SLU 35	fin.	55.21	-464	-0.0000237	0.0001872	0.0035	0.85		3266.1	3266.1	No	59.16	Si
SLU 83	ini.	-176.14	-1054	-0.0000772	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.58	Si
SLU 83	fin.	46	-585	-0.0000197	0.0001872	0.0035	0.85		3266.1	3266.1	No	71	Si
SLU 77	ini.	-177.82	-1064	-0.000078	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.4	Si
SLU 77	fin.	43.72	-607	-0.0000187	0.0001872	0.0035	0.85		3266.1	3266.1	No	74.7	Si
SLU 42	ini.	-177.35	-1015	-0.0000778	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.45	Si
SLU 42	fin.	60.79	-425	-0.0000261	0.0001872	0.0035	0.85		3266.1	3266.1	No	53.73	Si
SLU 79	ini.	-173.42	-1042	-0.000076	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.87	Si
SLU 79	fin.	42.33	-601	-0.0000181	0.0001872	0.0035	0.85		3266.1	3266.1	No	77.16	Si
SLU 36	ini.	-179.03	-1025	-0.0000785	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.28	Si
SLU 36	fin.	58.51	-447	-0.0000251	0.0001872	0.0035	0.85		3266.1	3266.1	No	55.82	Si
SLU 38	ini.	-174.63	-1003	-0.0000766	0.0001872	0.0035	0.85		3272.39	3272.39	No	18.74	Si
SLU 38	fin.	57.11	-441	-0.0000245	0.0001872	0.0035	0.85		3266.1	3266.1	No	57.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-182.52	2441	0.85	0	1653	13480	3563	2168	5731	No	2.35	Si
SLU 78	fin.	47.03	-2106	0.85	0	1653	13480	3563	2168	5731	No	2.72	Si
SLU 82	ini.	-167.75	2288	0.85	0	1653	13480	3563	2168	5731	No	2.5	Si
SLU 82	fin.	42.44	-1976	0.85	0	1653	13480	3563	2168	5731	No	2.9	Si
SLU 76	ini.	-168.16	2285	0.85	0	1653	13480	3563	2168	5731	No	2.51	Si
SLU 76	fin.	40.97	-1996	0.85	0	1653	13480	3563	2168	5731	No	2.87	Si
SLU 77	ini.	-177.82	2415	0.85	0	1653	13480	3563	2168	5731	No	2.37	Si
SLU 77	fin.	43.72	-2134	0.85	0	1653	13480	3563	2168	5731	No	2.69	Si
SLU 83	ini.	-176.14	2393	0.85	0	1653	13480	3563	2168	5731	No	2.39	Si
SLU 83	fin.	46	-2070	0.85	0	1653	13480	3563	2168	5731	No	2.77	Si
SLU 84	ini.	-180.84	2420	0.85	0	1653	13480	3563	2168	5731	No	2.37	Si
SLU 84	fin.	49.3	-2042	0.85	0	1653	13480	3563	2168	5731	No	2.81	Si
SLU 75	ini.	-169.43	2310	0.85	0	1653	13480	3563	2168	5731	No	2.48	Si
SLU 75	fin.	40.16	-2040	0.85	0	1653	13480	3563	2168	5731	No	2.81	Si
SLU 74	ini.	-164.74	2284	0.85	0	1653	13480	3563	2168	5731	No	2.51	Si
SLU 74	fin.	36.86	-2068	0.85	0	1653	13480	3563	2168	5731	No	2.77	Si
SLU 80	ini.	-178.11	2399	0.85	0	1653	13480	3563	2168	5731	No	2.39	Si
SLU 80	fin.	45.63	-2080	0.85	0	1653	13480	3563	2168	5731	No	2.76	Si
SLU 79	ini.	-173.42	2373	0.85	0	1653	13480	3563	2168	5731	No	2.42	Si
SLU 79	fin.	42.33	-2108	0.85	0	1653	13480	3563	2168	5731	No	2.72	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-487.22	-2106	-0.0002223	0.0002807	0.0035	0.85		3187.76	3187.76		6.54	Si
SLV 9	fin.	306.68	1070	-0.0001361	0.0002807	0.0035	0.85		3181.12	3181.12		10.37	Si
SLD 10	ini.	-378.81	-1683	-0.0001697	0.0002807	0.0035	0.85		3187.76	3187.76		8.42	Si
SLD 10	fin.	232.12	681	-0.0001019	0.0002807	0.0035	0.85		3181.12	3181.12		13.7	Si
SLD 14	ini.	-346.33	-1509	-0.0001544	0.0002807	0.0035	0.85		3187.76	3187.76		9.2	Si
SLD 14	fin.	230.36	623	-0.0001011	0.0002807	0.0035	0.85		3181.12	3181.12		13.81	Si
SLV 13	ini.	-370	-1580	-0.0001655	0.0002807	0.0035	0.85		3187.76	3187.76		8.62	Si
SLV 13	fin.	249.34	704	-0.0001097	0.0002807	0.0035	0.85		3181.12	3181.12		12.76	Si
SLV 10	ini.	-579.4	-2451	-0.0002687	0.0002807	0.0035	0.85		3187.76	3187.76		5.5	Si
SLV 10	fin.	386.78	1470	-0.0001739	0.0002807	0.0035	0.85		3181.12	3181.12		8.22	Si
SLV 7	ini.	408.07	1321	-0.0001841	0.0002807	0.0035	0.85		3181.12	3181.12		7.8	Si
SLV 7	fin.	-377.57	-2418	-0.0001691	0.0002807	0.0035	0.85		3187.76	3187.76		8.44	Si
SLV 3	ini.	335.61	964	-0.0001497	0.0002807	0.0035	0.85		3181.12	3181.12		9.48	Si
SLV 3	fin.	-359.12	-2247	-0.0001604	0.0002807	0.0035	0.85		3187.76	3187.76		8.88	Si
SLV 14	ini.	-506.94	-2094	-0.0002321	0.0002807	0.0035	0.85		3187.76	3187.76		6.29	Si
SLV 14	fin.	368.33	1299	-0.0001651	0.0002807	0.0035	0.85		3181.12	3181.12		8.64	Si
SLV 5	ini.	-343.15	-1606	-0.0001529	0.0002807	0.0035	0.85		3187.76	3187.76		9.29	Si
SLV 5	fin.	173.76	442	-0.0000757	0.0002807	0.0035	0.85		3181.12	3181.12		18.31	Si
SLV 6	ini.	-435.33	-1952	-0.0001969	0.0002807	0.0035	0.85		3187.76	3187.76		7.32	Si
SLV 6	fin.	253.86	842	-0.0001118	0.0002807	0.0035	0.85		3181.12	3181.12		12.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 7	ini.	207.48	-219	0.85	0	2479	13480	5345	2168	7513		34.28	Si
SLD 7	fin.	-222.91	-3346	0.85	0	2479	13480	5345	2168	7513		2.24	Si
SLV 11	ini.	264	-398	0.85	0	2479	13480	5345	2168	7513		18.85	Si
SLV 11	fin.	-244.66	-3777	0.85	0	2479	13480	5345	2168	7513		1.99	Si
SLV 7	ini.	408.07	-1286	0.85	0	2479	13480	5345	2168	7513		5.84	Si
SLV 7	fin.	-377.57	-4650	0.85	0	2479	13480	5345	2168	7513		1.62	Si
SLV 14	ini.	-506.94	3826	0.85	0	2479	13480	5345	2168	7513		1.96	Si
SLV 14	fin.	368.33	1170	0.85	0	2479	13480	5345	2168	7513		6.42	Si
SLV 4	ini.	198.67	-276	0.85	0	2479	13480	5345	2168	7513		27.23	Si
SLV 4	fin.	-240.13	-3231	0.85	0	2479	13480	5345	2168	7513		2.32	Si
SLV 8	ini.	315.89	-713	0.85	0	2479	13480	5345	2168	7513		10.54	Si
SLV 8	fin.	-297.48	-4088	0.85	0	2479	13480	5345	2168	7513		1.84	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	335.61	-1128	0.85	0	2479	13480	5345	2168	7513		6.66	Si
SLV 3	fin.	-359.12	-4065	0.85	0	2479	13480	5345	2168	7513		1.85	Si
SLV 12	ini.	171.81	175	0.85	0	2479	13480	5345	2168	7513		42.88	Si
SLV 12	fin.	-164.56	-3215	0.85	0	2479	13480	5345	2168	7513		2.34	Si
SLV 9	ini.	-487.22	3411	0.85	0	2479	13480	5345	2168	7513		2.2	Si
SLV 9	fin.	306.68	1193	0.85	0	2479	13480	5345	2168	7513		6.3	Si
SLV 10	ini.	-579.4	3984	0.85	0	2479	13480	5345	2168	7513		1.89	Si
SLV 10	fin.	386.78	1754	0.85	0	2479	13480	5345	2168	7513		4.28	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.502	SLV 10	Si
V_SLV	1.616	SLV 7	Si
PF_SLU	17.929	SLU 78	Si
V_SLU	2.347	SLU 78	Si

Trave di accoppiamento 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	11.45	12.35	0.9	-22.778	5.951	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	58.14	-591	-0.0000288	0.0001872	0.0035	0.9		2959	2959	No	50.89	Si
SLU 83	fin.	-16.07	-156	-0.0000079	0.0001872	0.0035	0.9		2964.67	2964.67	No	184.5	Si
SLU 41	ini.	58.99	-574	-0.0000292	0.0001872	0.0035	0.9		2959	2959	No	50.16	Si
SLU 41	fin.	-27.44	-52	-0.0000135	0.0001872	0.0035	0.9		2964.67	2964.67	No	108.06	Si
SLU 84	ini.	60.59	-613	-0.00003	0.0001872	0.0035	0.9		2959	2959	No	48.83	Si
SLU 84	fin.	-19.9	-140	-0.0000098	0.0001872	0.0035	0.9		2964.67	2964.67	No	148.97	Si
SLU 42	ini.	61.44	-595	-0.0000304	0.0001872	0.0035	0.9		2959	2959	No	48.16	Si
SLU 42	fin.	-31.27	-37	-0.0000154	0.0001872	0.0035	0.9		2964.67	2964.67	No	94.81	Si
SLU 81	ini.	57.39	-567	-0.0000284	0.0001872	0.0035	0.9		2959	2959	No	51.56	Si
SLU 81	fin.	-16.56	-115	-0.0000081	0.0001872	0.0035	0.9		2964.67	2964.67	No	179.05	Si
SLU 40	ini.	60.69	-571	-0.00003	0.0001872	0.0035	0.9		2959	2959	No	48.76	Si
SLU 40	fin.	-31.76	4	-0.0000156	0.0001872	0.0035	0.9		2964.67	2964.67	No	93.35	Si
SLU 39	ini.	58.24	-549	-0.0000288	0.0001872	0.0035	0.9		2959	2959	No	50.81	Si
SLU 39	fin.	-27.92	-12	-0.0000137	0.0001872	0.0035	0.9		2964.67	2964.67	No	106.17	Si
SLU 82	ini.	59.84	-589	-0.0000296	0.0001872	0.0035	0.9		2959	2959	No	49.45	Si
SLU 82	fin.	-20.39	-100	-0.00001	0.0001872	0.0035	0.9		2964.67	2964.67	No	145.4	Si
SLU 31	ini.	54.13	-536	-0.0000268	0.0001872	0.0035	0.9		2959	2959	No	54.66	Si
SLU 31	fin.	-27.78	-33	-0.0000136	0.0001872	0.0035	0.9		2964.67	2964.67	No	106.73	Si
SLU 34	ini.	54.88	-560	-0.0000271	0.0001872	0.0035	0.9		2959	2959	No	53.91	Si
SLU 34	fin.	-27.29	-73	-0.0000134	0.0001872	0.0035	0.9		2964.67	2964.67	No	108.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 28	ini.	32.88	-713	0.9	0	1750	7137	3773	2295	6068	No	8.51	Si
SLU 28	fin.	-16.88	234	0.9	0	1750	7137	3773	2295	6068	No	25.95	Si
SLU 80	ini.	53.15	-730	0.9	0	1750	7137	3773	2295	6068	No	8.32	Si
SLU 80	fin.	-12.88	133	0.9	0	1750	7137	3773	2295	6068	No	45.66	Si
SLU 78	ini.	51.14	-805	0.9	0	1750	7137	3773	2295	6068	No	7.54	Si
SLU 78	fin.	-20.77	136	0.9	0	1750	7137	3773	2295	6068	No	44.46	Si
SLU 35	ini.	49.53	-743	0.9	0	1750	7137	3773	2295	6068	No	8.17	Si
SLU 35	fin.	-28.3	17	0.9	0	1750	7137	3773	2295	6068	No	362.47	Si
SLU 69	ini.	29.58	-725	0.9	0	1750	7137	3773	2295	6068	No	8.37	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	fin.	-1.68	403	0.9	0	1750	7137	3773	2295	6068	No	15.05	Si
SLU 77	ini.	48.69	-780	0.9	0	1750	7137	3773	2295	6068	No	7.78	Si
SLU 77	fin.	-16.93	161	0.9	0	1750	7137	3773	2295	6068	No	37.61	Si
SLU 74	ini.	47.94	-722	0.9	0	1750	7137	3773	2295	6068	No	8.4	Si
SLU 74	fin.	-17.42	94	0.9	0	1750	7137	3773	2295	6068	No	64.23	Si
SLU 36	ini.	51.99	-768	0.9	0	1750	7137	3773	2295	6068	No	7.9	Si
SLU 36	fin.	-32.13	-8	0.9	0	1750	7137	3773	2295	6068	No	748.09	Si
SLU 75	ini.	50.39	-747	0.9	0	1750	7137	3773	2295	6068	No	8.12	Si
SLU 75	fin.	-21.25	70	0.9	0	1750	7137	3773	2295	6068	No	87.16	Si
SLU 70	ini.	32.03	-750	0.9	0	1750	7137	3773	2295	6068	No	8.09	Si
SLU 70	fin.	-5.52	378	0.9	0	1750	7137	3773	2295	6068	No	16.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	269.88	-2434	-0.0001375	0.0002807	0.0035	0.9		2989.59	2989.59		11.08	Si
SLV 5	fin.	-409.15	1629	-0.0002131	0.0002807	0.0035	0.9		2995.37	2995.37		7.32	Si
SLV 7	ini.	-124.78	949	-0.000062	0.0002807	0.0035	0.9		2995.37	2995.37		24.01	Si
SLV 7	fin.	325.04	-1592	-0.0001671	0.0002807	0.0035	0.9		2989.59	2989.59		9.2	Si
SLV 12	ini.	-219.59	1817	-0.0001107	0.0002807	0.0035	0.9		2995.37	2995.37		13.64	Si
SLV 12	fin.	417.51	-2020	-0.0002182	0.0002807	0.0035	0.9		2989.59	2989.59		7.16	Si
SLV 11	ini.	-168.28	1358	-0.0000842	0.0002807	0.0035	0.9		2995.37	2995.37		17.8	Si
SLV 11	fin.	359.5	-1770	-0.0001859	0.0002807	0.0035	0.9		2989.59	2989.59		8.32	Si
SLV 10	ini.	175.07	-1565	-0.0000878	0.0002807	0.0035	0.9		2989.59	2989.59		17.08	Si
SLV 10	fin.	-316.68	1202	-0.0001623	0.0002807	0.0035	0.9		2995.37	2995.37		9.46	Si
SLV 9	ini.	226.38	-2025	-0.0001145	0.0002807	0.0035	0.9		2989.59	2989.59		13.21	Si
SLV 9	fin.	-374.69	1451	-0.0001939	0.0002807	0.0035	0.9		2995.37	2995.37		7.99	Si
SLV 6	ini.	218.57	-1975	-0.0001104	0.0002807	0.0035	0.9		2989.59	2989.59		13.68	Si
SLV 6	fin.	-351.13	1380	-0.000181	0.0002807	0.0035	0.9		2995.37	2995.37		8.53	Si
SLV 8	ini.	-176.09	1408	-0.0000882	0.0002807	0.0035	0.9		2995.37	2995.37		17.01	Si
SLV 8	fin.	383.05	-1842	-0.0001989	0.0002807	0.0035	0.9		2989.59	2989.59		7.8	Si
SLD 5	ini.	169.69	-1565	-0.0000851	0.0002807	0.0035	0.9		2989.59	2989.59		17.62	Si
SLD 5	fin.	-238.48	876	-0.0001206	0.0002807	0.0035	0.9		2995.37	2995.37		12.56	Si
SLD 12	ini.	-119.4	948	-0.0000593	0.0002807	0.0035	0.9		2995.37	2995.37		25.09	Si
SLD 12	fin.	246.84	-1267	-0.0001253	0.0002807	0.0035	0.9		2989.59	2989.59		12.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	226.38	-2434	0.9	0	2625	7137	5660	2295	7955		3.27	Si
SLV 9	fin.	-374.69	-2352	0.9	0	2625	7137	5660	2295	7955		3.38	Si
SLV 1	ini.	194.96	-2008	0.9	0	2625	7137	5660	2295	7955		3.96	Si
SLV 1	fin.	-206.46	-1453	0.9	0	2625	7137	5660	2295	7955		5.48	Si
SLV 7	ini.	-124.78	1166	0.9	0	2625	7137	5660	2295	7955		6.82	Si
SLV 7	fin.	325.04	2247	0.9	0	2625	7137	5660	2295	7955		3.54	Si
SLD 12	ini.	-119.4	1050	0.9	0	2625	7137	5660	2295	7955		7.57	Si
SLD 12	fin.	246.84	1852	0.9	0	2625	7137	5660	2295	7955		4.3	Si
SLV 10	ini.	175.07	-1943	0.9	0	2625	7137	5660	2295	7955		4.09	Si
SLV 10	fin.	-316.68	-1902	0.9	0	2625	7137	5660	2295	7955		4.18	Si
SLV 8	ini.	-176.09	1658	0.9	0	2625	7137	5660	2295	7955		4.8	Si
SLV 8	fin.	383.05	2697	0.9	0	2625	7137	5660	2295	7955		2.95	Si
SLV 5	ini.	269.88	-2828	0.9	0	2625	7137	5660	2295	7955		2.81	Si
SLV 5	fin.	-409.15	-2683	0.9	0	2625	7137	5660	2295	7955		2.96	Si
SLV 6	ini.	218.57	-2336	0.9	0	2625	7137	5660	2295	7955		3.41	Si
SLV 6	fin.	-351.13	-2233	0.9	0	2625	7137	5660	2295	7955		3.56	Si
SLV 11	ini.	-168.28	1560	0.9	0	2625	7137	5660	2295	7955		5.1	Si
SLV 11	fin.	359.5	2578	0.9	0	2625	7137	5660	2295	7955		3.09	Si
SLV 12	ini.	-219.59	2051	0.9	0	2625	7137	5660	2295	7955		3.88	Si
SLV 12	fin.	417.51	3028	0.9	0	2625	7137	5660	2295	7955		2.63	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.161	SLV 12	Si
V_SLV	2.627	SLV 12	Si
PF_SLU	48.162	SLU 42	Si
V_SLU	7.538	SLU 78	Si

Trave di accoppiamento 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	14.15	14.6	0.45	-22.778	5.951	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	5.6	116	-0.000011	0.0001872	0.0035	0.45		745.72	745.72	No	133.09	Si
SLU 36	fin.	-124.62	-118	-0.0002728	0.0001872	0.0035	0.45		748.52	748.52	No	6.01	Si
SLU 33	ini.	13.55	133	-0.0000267	0.0001872	0.0035	0.45		745.72	745.72	No	55.03	Si
SLU 33	fin.	-121.55	-119	-0.0002651	0.0001872	0.0035	0.45		748.52	748.52	No	6.16	Si
SLU 78	ini.	-7.43	109	-0.0000145	0.0001872	0.0035	0.45		748.52	748.52	No	100.72	Si
SLU 78	fin.	-124.11	-95	-0.0002715	0.0001872	0.0035	0.45		748.52	748.52	No	6.03	Si
SLU 84	ini.	12.36	129	-0.0000244	0.0001872	0.0035	0.45		745.72	745.72	No	60.33	Si
SLU 84	fin.	-123.17	-119	-0.0002692	0.0001872	0.0035	0.45		748.52	748.52	No	6.08	Si
SLU 35	ini.	2.02	110	-0.0000039	0.0001872	0.0035	0.45		745.72	745.72	No	369.86	Si
SLU 35	fin.	-120.92	-110	-0.0002636	0.0001872	0.0035	0.45		748.52	748.52	No	6.19	Si
SLU 77	ini.	-11.02	102	-0.0000216	0.0001872	0.0035	0.45		748.52	748.52	No	67.94	Si
SLU 77	fin.	-120.41	-87	-0.0002623	0.0001872	0.0035	0.45		748.52	748.52	No	6.22	Si
SLU 40	ini.	33.34	154	-0.0000668	0.0001872	0.0035	0.45		745.72	745.72	No	22.36	Si
SLU 40	fin.	-120.61	-142	-0.0002628	0.0001872	0.0035	0.45		748.52	748.52	No	6.21	Si
SLU 42	ini.	25.4	137	-0.0000505	0.0001872	0.0035	0.45		745.72	745.72	No	29.36	Si
SLU 42	fin.	-123.69	-141	-0.0002705	0.0001872	0.0035	0.45		748.52	748.52	No	6.05	Si
SLU 75	ini.	0.52	125	-0.000001	0.0001872	0.0035	0.45		745.72	745.72	No	1443.29	Si
SLU 75	fin.	-121.03	-97	-0.0002639	0.0001872	0.0035	0.45		748.52	748.52	No	6.18	Si
SLU 82	ini.	20.31	146	-0.0000403	0.0001872	0.0035	0.45		745.72	745.72	No	36.72	Si
SLU 82	fin.	-120.1	-120	-0.0002615	0.0001872	0.0035	0.45		748.52	748.52	No	6.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	8.77	177	0.45	0	799	3568	1887	1148	3034	No	17.17	Si
SLU 83	fin.	-119.47	-572	0.45	0	799	3568	1887	1148	3034	No	5.3	Si
SLU 84	ini.	12.36	165	0.45	0	799	3568	1887	1148	3034	No	18.36	Si
SLU 84	fin.	-123.17	-584	0.45	0	799	3568	1887	1148	3034	No	5.2	Si
SLU 74	ini.	-3.07	231	0.45	0	799	3568	1887	1148	3034	No	13.15	Si
SLU 74	fin.	-117.33	-583	0.45	0	799	3568	1887	1148	3034	No	5.21	Si
SLU 80	ini.	-6.69	239	0.45	0	799	3568	1887	1148	3034	No	12.7	Si
SLU 80	fin.	-114.56	-566	0.45	0	799	3568	1887	1148	3034	No	5.36	Si
SLU 77	ini.	-11.02	269	0.45	0	799	3568	1887	1148	3034	No	11.3	Si
SLU 77	fin.	-120.41	-602	0.45	0	799	3568	1887	1148	3034	No	5.04	Si
SLU 36	ini.	5.6	183	0.45	0	799	3568	1887	1148	3034	No	16.57	Si
SLU 36	fin.	-124.62	-583	0.45	0	799	3568	1887	1148	3034	No	5.2	Si
SLU 35	ini.	2.02	195	0.45	0	799	3568	1887	1148	3034	No	15.59	Si
SLU 35	fin.	-120.92	-572	0.45	0	799	3568	1887	1148	3034	No	5.31	Si
SLU 78	ini.	-7.43	257	0.45	0	799	3568	1887	1148	3034	No	11.8	Si
SLU 78	fin.	-124.11	-613	0.45	0	799	3568	1887	1148	3034	No	4.95	Si
SLU 82	ini.	20.31	127	0.45	0	799	3568	1887	1148	3034	No	23.81	Si
SLU 82	fin.	-120.1	-565	0.45	0	799	3568	1887	1148	3034	No	5.37	Si
SLU 75	ini.	0.52	219	0.45	0	799	3568	1887	1148	3034	No	13.83	Si
SLU 75	fin.	-121.03	-594	0.45	0	799	3568	1887	1148	3034	No	5.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-304.54	-552	-0.0007531	0.0002807	0.0035	0.45		754.83	754.83		2.48	Si
SLV 11	fin.	229.27	531	-0.0005325	0.0002807	0.0035	0.45		751.86	751.86		3.28	Si
SLV 6	ini.	280.72	667	-0.0006829	0.0002807	0.0035	0.45		751.86	751.86		2.68	Si
SLV 6	fin.	-347.67	-580	-0.0008928	0.0002807	0.0035	0.45		754.83	754.83		2.17	Si
SLV 5	ini.	334.1	747	-0.0008519	0.0002807	0.0035	0.45		751.86	751.86		2.25	Si
SLV 5	fin.	-406.83	-725	-0.0011007	0.0002807	0.0035	0.45		754.83	754.83		1.86	Si
SLV 9	ini.	379.95	835	-0.0010087	0.0002807	0.0035	0.45		751.86	751.86		1.98	Si
SLV 9	fin.	-452.76	-819	-0.0012777	0.0002807	0.0035	0.45		754.83	754.83		1.67	Si
SLV 10	ini.	326.58	755	-0.0008272	0.0002807	0.0035	0.45		751.86	751.86		2.3	Si
SLV 10	fin.	-393.6	-675	-0.0010525	0.0002807	0.0035	0.45		754.83	754.83		1.92	Si
SLV 13	ini.	206.83	471	-0.0004706	0.0002807	0.0035	0.45		751.86	751.86		3.64	Si
SLV 13	fin.	-282.01	-492	-0.0006837	0.0002807	0.0035	0.45		754.83	754.83		2.68	Si
SLD 9	ini.	219.15	516	-0.0005043	0.0002807	0.0035	0.45		751.86	751.86		3.43	Si
SLD 9	fin.	-291.29	-493	-0.000712	0.0002807	0.0035	0.45		754.83	754.83		2.59	Si
SLV 12	ini.	-357.92	-632	-0.0009274	0.0002807	0.0035	0.45		754.83	754.83		2.11	Si
SLV 12	fin.	288.43	676	-0.0007064	0.0002807	0.0035	0.45		751.86	751.86		2.61	Si
SLV 8	ini.	-403.78	-719	-0.0010895	0.0002807	0.0035	0.45		754.83	754.83		1.87	Si
SLV 8	fin.	334.37	770	-0.0008528	0.0002807	0.0035	0.45		751.86	751.86		2.25	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-350.4	-639	-0.000902	0.0002807	0.0035	0.45		754.83	754.83		2.15	Si
SLV 7	fin.	275.21	626	-0.0006662	0.0002807	0.0035	0.45		751.86	751.86		2.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	326.58	-881	0.45	0	1113	3568	2830	1148	3977		4.52	Si
SLV 10	fin.	-393.6	-1391	0.45	0	1113	3568	2830	1148	3977		2.86	Si
SLD 9	ini.	219.15	-549	0.45	0	1113	3568	2830	1148	3977		7.25	Si
SLD 9	fin.	-291.29	-1059	0.45	0	1113	3568	2830	1148	3977		3.75	Si
SLV 13	ini.	206.83	-514	0.45	0	1113	3568	2830	1148	3977		7.74	Si
SLV 13	fin.	-282.01	-1028	0.45	0	1113	3568	2830	1148	3977		3.87	Si
SLV 8	ini.	-403.78	1419	0.45	0	1113	3568	2830	1148	3977		2.8	Si
SLV 8	fin.	334.37	919	0.45	0	1113	3568	2830	1148	3977		4.33	Si
SLV 7	ini.	-350.4	1243	0.45	0	1113	3568	2830	1148	3977		3.2	Si
SLV 7	fin.	275.21	740	0.45	0	1113	3568	2830	1148	3977		5.37	Si
SLV 12	ini.	-357.92	1275	0.45	0	1113	3568	2830	1148	3977		3.12	Si
SLV 12	fin.	288.43	772	0.45	0	1113	3568	2830	1148	3977		5.15	Si
SLV 9	ini.	379.95	-1057	0.45	0	1113	3568	2830	1148	3977		3.76	Si
SLV 9	fin.	-452.76	-1570	0.45	0	1113	3568	2830	1148	3977		2.53	Si
SLV 6	ini.	280.72	-736	0.45	0	1113	3568	2830	1148	3977		5.4	Si
SLV 6	fin.	-347.67	-1244	0.45	0	1113	3568	2830	1148	3977		3.2	Si
SLV 5	ini.	334.1	-913	0.45	0	1113	3568	2830	1148	3977		4.36	Si
SLV 5	fin.	-406.83	-1423	0.45	0	1113	3568	2830	1148	3977		2.8	Si
SLV 11	ini.	-304.54	1099	0.45	0	1113	3568	2830	1148	3977		3.62	Si
SLV 11	fin.	229.27	593	0.45	0	1113	3568	2830	1148	3977		6.71	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.667	SLV 9	Si
V_SLV	2.533	SLV 9	Si
PF_SLU	6.006	SLU 36	Si
V_SLU	4.948	SLU 78	Si

Trave di accoppiamento 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	11.45	12.35	0.9	-22.478	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	268.16	-802	-0.0001388	0.0001872	0.0035	0.9		2959	2959	No	11.03	Si
SLU 82	fin.	-49.86	-129	-0.0000246	0.0001872	0.0035	0.9		2964.67	2964.67	No	59.46	Si
SLU 81	ini.	278.09	-809	-0.0001443	0.0001872	0.0035	0.9		2959	2959	No	10.64	Si
SLU 81	fin.	-58.72	-102	-0.000029	0.0001872	0.0035	0.9		2964.67	2964.67	No	50.49	Si
SLU 75	ini.	233.74	-797	-0.00012	0.0001872	0.0035	0.9		2959	2959	No	12.66	Si
SLU 75	fin.	-12.71	-263	-0.0000062	0.0001872	0.0035	0.9		2964.67	2964.67	No	233.27	Si
SLU 83	ini.	250.5	-799	-0.0001291	0.0001872	0.0035	0.9		2959	2959	No	11.81	Si
SLU 83	fin.	-30.92	-203	-0.0000152	0.0001872	0.0035	0.9		2964.67	2964.67	No	95.89	Si
SLU 84	ini.	240.57	-792	-0.0001237	0.0001872	0.0035	0.9		2959	2959	No	12.3	Si
SLU 84	fin.	-22.06	-229	-0.0000108	0.0001872	0.0035	0.9		2964.67	2964.67	No	134.39	Si
SLU 39	ini.	260.12	-702	-0.0001344	0.0001872	0.0035	0.9		2959	2959	No	11.38	Si
SLU 39	fin.	-69.56	-19	-0.0000344	0.0001872	0.0035	0.9		2964.67	2964.67	No	42.62	Si
SLU 41	ini.	232.54	-692	-0.0001193	0.0001872	0.0035	0.9		2959	2959	No	12.72	Si
SLU 41	fin.	-41.76	-119	-0.0000206	0.0001872	0.0035	0.9		2964.67	2964.67	No	70.99	Si
SLU 74	ini.	243.67	-804	-0.0001254	0.0001872	0.0035	0.9		2959	2959	No	12.14	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-21.57	-237	-0.0000106	0.0001872	0.0035	0.9		2964.67	2964.67	No	137.46	Si
SLU 40	ini.	250.19	-695	-0.0001289	0.0001872	0.0035	0.9		2959	2959	No	11.83	Si
SLU 40	fin.	-60.7	-45	-0.00003	0.0001872	0.0035	0.9		2964.67	2964.67	No	48.84	Si
SLU 73	ini.	237.75	-767	-0.0001222	0.0001872	0.0035	0.9		2959	2959	No	12.45	Si
SLU 73	fin.	-27.82	-194	-0.0000137	0.0001872	0.0035	0.9		2964.67	2964.67	No	106.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	268.16	-735	0.9	0	1750	7137	3773	2295	6068	No	8.25	Si
SLU 82	fin.	-49.86	-396	0.9	0	1750	7137	3773	2295	6068	No	15.34	Si
SLU 74	ini.	243.67	-685	0.9	0	1750	7137	3773	2295	6068	No	8.86	Si
SLU 74	fin.	-21.57	-180	0.9	0	1750	7137	3773	2295	6068	No	33.63	Si
SLU 75	ini.	233.74	-650	0.9	0	1750	7137	3773	2295	6068	No	9.34	Si
SLU 75	fin.	-12.71	-138	0.9	0	1750	7137	3773	2295	6068	No	43.92	Si
SLU 83	ini.	250.5	-678	0.9	0	1750	7137	3773	2295	6068	No	8.95	Si
SLU 83	fin.	-30.92	-273	0.9	0	1750	7137	3773	2295	6068	No	22.2	Si
SLU 73	ini.	237.75	-647	0.9	0	1750	7137	3773	2295	6068	No	9.38	Si
SLU 73	fin.	-27.82	-255	0.9	0	1750	7137	3773	2295	6068	No	23.78	Si
SLU 32	ini.	225.71	-641	0.9	0	1750	7137	3773	2295	6068	No	9.47	Si
SLU 32	fin.	-32.41	-251	0.9	0	1750	7137	3773	2295	6068	No	24.17	Si
SLU 40	ini.	250.19	-692	0.9	0	1750	7137	3773	2295	6068	No	8.77	Si
SLU 40	fin.	-60.7	-466	0.9	0	1750	7137	3773	2295	6068	No	13.02	Si
SLU 84	ini.	240.57	-643	0.9	0	1750	7137	3773	2295	6068	No	9.43	Si
SLU 84	fin.	-22.06	-231	0.9	0	1750	7137	3773	2295	6068	No	26.26	Si
SLU 81	ini.	278.09	-770	0.9	0	1750	7137	3773	2295	6068	No	7.88	Si
SLU 81	fin.	-58.72	-438	0.9	0	1750	7137	3773	2295	6068	No	13.86	Si
SLU 39	ini.	260.12	-727	0.9	0	1750	7137	3773	2295	6068	No	8.35	Si
SLU 39	fin.	-69.56	-508	0.9	0	1750	7137	3773	2295	6068	No	11.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	996.94	-1335	-0.0005913	0.0002807	0.0035	0.9		2989.59	2989.59		3	Si
SLV 7	fin.	-665.92	1809	-0.0003654	0.0002807	0.0035	0.9		2995.37	2995.37		4.5	Si
SLV 12	ini.	997.55	-1364	-0.0005918	0.0002807	0.0035	0.9		2989.59	2989.59		3	Si
SLV 12	fin.	-650.26	1766	-0.0003556	0.0002807	0.0035	0.9		2995.37	2995.37		4.61	Si
SLV 10	ini.	-684.17	255	-0.000377	0.0002807	0.0035	0.9		2995.37	2995.37		4.38	Si
SLV 10	fin.	647.45	-2166	-0.0003546	0.0002807	0.0035	0.9		2989.59	2989.59		4.62	Si
SLV 9	ini.	-824.7	410	-0.0004693	0.0002807	0.0035	0.9		2995.37	2995.37		3.63	Si
SLV 9	fin.	748.25	-2457	-0.0004193	0.0002807	0.0035	0.9		2989.59	2989.59		4	Si
SLV 5	ini.	-684.79	285	-0.0003774	0.0002807	0.0035	0.9		2995.37	2995.37		4.37	Si
SLV 5	fin.	631.79	-2124	-0.0003448	0.0002807	0.0035	0.9		2989.59	2989.59		4.73	Si
SLV 8	ini.	1137.46	-1490	-0.0006963	0.0002807	0.0035	0.9		2989.59	2989.59		2.63	Si
SLV 8	fin.	-766.72	2100	-0.0004305	0.0002807	0.0035	0.9		2995.37	2995.37		3.91	Si
SLV 4	ini.	746.2	-1107	-0.0004179	0.0002807	0.0035	0.9		2989.59	2989.59		4.01	Si
SLV 4	fin.	-472.86	1184	-0.0002492	0.0002807	0.0035	0.9		2995.37	2995.37		6.33	Si
SLD 7	ini.	649.16	-1005	-0.0003557	0.0002807	0.0035	0.9		2989.59	2989.59		4.61	Si
SLD 7	fin.	-394.26	987	-0.0002048	0.0002807	0.0035	0.9		2995.37	2995.37		7.6	Si
SLV 11	ini.	857.03	-1209	-0.0004924	0.0002807	0.0035	0.9		2989.59	2989.59		3.49	Si
SLV 11	fin.	-549.46	1475	-0.000294	0.0002807	0.0035	0.9		2995.37	2995.37		5.45	Si
SLD 8	ini.	734.43	-1099	-0.0004102	0.0002807	0.0035	0.9		2989.59	2989.59		4.07	Si
SLD 8	fin.	-455.43	1164	-0.0002392	0.0002807	0.0035	0.9		2995.37	2995.37		6.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1137.46	-3838	0.9	0	2625	7137	5660	2295	7955		2.07	Si
SLV 8	fin.	-766.72	-3955	0.9	0	2625	7137	5660	2295	7955		2.01	Si
SLV 9	ini.	-824.7	2976	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLV 9	fin.	748.25	3783	0.9	0	2625	7137	5660	2295	7955		2.1	Si
SLV 4	ini.	746.2	-2586	0.9	0	2625	7137	5660	2295	7955		3.08	Si
SLV 4	fin.	-472.86	-2415	0.9	0	2625	7137	5660	2295	7955		3.29	Si
SLV 7	ini.	996.94	-3346	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 7	fin.	-665.92	-3463	0.9	0	2625	7137	5660	2295	7955		2.3	Si
SLV 11	ini.	857.03	-2791	0.9	0	2625	7137	5660	2295	7955		2.85	Si
SLV 11	fin.	-549.46	-2885	0.9	0	2625	7137	5660	2295	7955		2.76	Si
SLV 5	ini.	-684.79	2421	0.9	0	2625	7137	5660	2295	7955		3.29	Si
SLV 5	fin.	631.79	3205	0.9	0	2625	7137	5660	2295	7955		2.48	Si
SLV 10	ini.	-684.17	2484	0.9	0	2625	7137	5660	2295	7955		3.2	Si
SLV 10	fin.	647.45	3291	0.9	0	2625	7137	5660	2295	7955		2.42	Si
SLV 12	ini.	997.55	-3283	0.9	0	2625	7137	5660	2295	7955		2.42	Si
SLV 12	fin.	-650.26	-3377	0.9	0	2625	7137	5660	2295	7955		2.36	Si
SLD 8	ini.	734.43	-2439	0.9	0	2625	7137	5660	2295	7955		3.26	Si
SLD 8	fin.	-455.43	-2363	0.9	0	2625	7137	5660	2295	7955		3.37	Si
SLV 6	ini.	-544.27	1929	0.9	0	2625	7137	5660	2295	7955		4.12	Si
SLV 6	fin.	530.99	2713	0.9	0	2625	7137	5660	2295	7955		2.93	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.628	SLV 8	Si
V_SLV	2.011	SLV 8	Si
PF_SLU	10.641	SLU 81	Si
V_SLU	7.877	SLU 81	Si

Trave di accoppiamento 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	14.15	14.6	0.45	-22.478	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	41.61	218	-0.0000839	0.0001872	0.0035	0.45		745.72	745.72	No	17.92	Si
SLU 81	fin.	-90.14	-614	-0.0001897	0.0001872	0.0035	0.45		748.52	748.52	No	8.3	Si
SLU 39	ini.	47.54	228	-0.0000964	0.0001872	0.0035	0.45		745.72	745.72	No	15.69	Si
SLU 39	fin.	-87.25	-589	-0.0001831	0.0001872	0.0035	0.45		748.52	748.52	No	8.58	Si
SLU 74	ini.	11.38	116	-0.0000224	0.0001872	0.0035	0.45		745.72	745.72	No	65.53	Si
SLU 74	fin.	-77.43	-534	-0.0001608	0.0001872	0.0035	0.45		748.52	748.52	No	9.67	Si
SLU 84	ini.	21.84	92	-0.0000433	0.0001872	0.0035	0.45		745.72	745.72	No	34.15	Si
SLU 84	fin.	-77.03	-538	-0.0001599	0.0001872	0.0035	0.45		748.52	748.52	No	9.72	Si
SLU 41	ini.	32.51	151	-0.0000651	0.0001872	0.0035	0.45		745.72	745.72	No	22.94	Si
SLU 41	fin.	-76.74	-520	-0.0001593	0.0001872	0.0035	0.45		748.52	748.52	No	9.75	Si
SLU 73	ini.	21.21	92	-0.0000421	0.0001872	0.0035	0.45		745.72	745.72	No	35.16	Si
SLU 73	fin.	-76.47	-542	-0.0001587	0.0001872	0.0035	0.45		748.52	748.52	No	9.79	Si
SLU 75	ini.	6.64	66	-0.000013	0.0001872	0.0035	0.45		745.72	745.72	No	112.38	Si
SLU 75	fin.	-74.82	-527	-0.000155	0.0001872	0.0035	0.45		748.52	748.52	No	10	Si
SLU 82	ini.	36.86	168	-0.0000741	0.0001872	0.0035	0.45		745.72	745.72	No	20.23	Si
SLU 82	fin.	-87.53	-607	-0.0001837	0.0001872	0.0035	0.45		748.52	748.52	No	8.55	Si
SLU 40	ini.	42.79	177	-0.0000864	0.0001872	0.0035	0.45		745.72	745.72	No	17.43	Si
SLU 40	fin.	-84.63	-582	-0.0001771	0.0001872	0.0035	0.45		748.52	748.52	No	8.84	Si
SLU 83	ini.	26.58	142	-0.000053	0.0001872	0.0035	0.45		745.72	745.72	No	28.05	Si
SLU 83	fin.	-79.64	-545	-0.0001658	0.0001872	0.0035	0.45		748.52	748.52	No	9.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	6.64	94	0.45	0	799	3568	1887	1148	3034	No	32.3	Si
SLU 75	fin.	-74.82	-896	0.45	0	799	3568	1887	1148	3034	No	3.39	Si
SLU 81	ini.	41.61	-38	0.45	0	799	3568	1887	1148	3034	No	80.46	Si
SLU 81	fin.	-90.14	-856	0.45	0	799	3568	1887	1148	3034	No	3.54	Si
SLU 33	ini.	12.56	49	0.45	0	799	3568	1887	1148	3034	No	62.23	Si
SLU 33	fin.	-71.92	-833	0.45	0	799	3568	1887	1148	3034	No	3.64	Si
SLU 84	ini.	21.84	16	0.45	0	799	3568	1887	1148	3034	No	193.15	Si
SLU 84	fin.	-77.03	-850	0.45	0	799	3568	1887	1148	3034	No	3.57	Si
SLU 78	ini.	-8.39	142	0.45	0	799	3568	1887	1148	3034	No	21.31	Si
SLU 78	fin.	-64.31	-850	0.45	0	799	3568	1887	1148	3034	No	3.57	Si
SLU 40	ini.	42.79	-78	0.45	0	799	3568	1887	1148	3034	No	38.94	Si
SLU 40	fin.	-84.63	-834	0.45	0	799	3568	1887	1148	3034	No	3.64	Si
SLU 73	ini.	21.21	20	0.45	0	799	3568	1887	1148	3034	No	151.44	Si
SLU 73	fin.	-76.47	-871	0.45	0	799	3568	1887	1148	3034	No	3.48	Si
SLU 82	ini.	36.86	-33	0.45	0	799	3568	1887	1148	3034	No	92.7	Si
SLU 82	fin.	-87.53	-896	0.45	0	799	3568	1887	1148	3034	No	3.39	Si
SLU 74	ini.	11.38	89	0.45	0	799	3568	1887	1148	3034	No	34.1	Si
SLU 74	fin.	-77.43	-856	0.45	0	799	3568	1887	1148	3034	No	3.54	Si
SLU 76	ini.	6.18	68	0.45	0	799	3568	1887	1148	3034	No	44.31	Si
SLU 76	fin.	-65.96	-825	0.45	0	799	3568	1887	1148	3034	No	3.68	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-393.69	-1751	-0.0010528	0.0002807	0.0035	0.45		754.83	754.83		1.92	Si
SLV 5	fin.	350.49	1470	-0.0009066	0.0002807	0.0035	0.45		751.86	751.86		2.15	Si
SLV 11	ini.	332.61	1641	-0.000847	0.0002807	0.0035	0.45		751.86	751.86		2.26	Si
SLV 11	fin.	-394.33	-1805	-0.0010551	0.0002807	0.0035	0.45		754.83	754.83		1.91	Si
SLV 12	ini.	405.03	1902	-0.0010996	0.0002807	0.0035	0.45		751.86	751.86		1.86	Si
SLV 12	fin.	-444.25	-2123	-0.0012437	0.0002807	0.0035	0.45		754.83	754.83		1.7	Si
SLV 6	ini.	-321.27	-1490	-0.0008062	0.0002807	0.0035	0.45		754.83	754.83		2.35	Si
SLV 6	fin.	300.56	1152	-0.0007441	0.0002807	0.0035	0.45		751.86	751.86		2.5	Si
SLV 9	ini.	-503.73	-2014	-0.0014946	0.0002807	0.0035	0.45		754.83	754.83		1.5	Si
SLV 9	fin.	363.7	1709	-0.0009518	0.0002807	0.0035	0.45		751.86	751.86		2.07	Si
SLV 7	ini.	442.66	1903	-0.0012438	0.0002807	0.0035	0.45		751.86	751.86		1.7	Si
SLV 7	fin.	-407.54	-2044	-0.0011034	0.0002807	0.0035	0.45		754.83	754.83		1.85	Si
SLV 4	ini.	368.32	1255	-0.0009678	0.0002807	0.0035	0.45		751.86	751.86		2.04	Si
SLV 4	fin.	-219.7	-1488	-0.0005036	0.0002807	0.0035	0.45		754.83	754.83		3.44	Si
SLV 13	ini.	-356.98	-1104	-0.0009242	0.0002807	0.0035	0.45		754.83	754.83		2.11	Si
SLV 13	fin.	125.93	834	-0.0002668	0.0002807	0.0035	0.45		751.86	751.86		5.97	Si
SLV 10	ini.	-431.32	-1752	-0.0011932	0.0002807	0.0035	0.45		754.83	754.83		1.75	Si
SLV 10	fin.	313.78	1391	-0.0007859	0.0002807	0.0035	0.45		751.86	751.86		2.4	Si
SLV 8	ini.	515.08	2165	-0.0015553	0.0002807	0.0035	0.45		751.86	751.86		1.46	Si
SLV 8	fin.	-457.47	-2362	-0.0012967	0.0002807	0.0035	0.45		754.83	754.83		1.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-393.69	1556	0.45	0	1113	3568	2830	1148	3977		2.56	Si
SLV 5	fin.	350.49	952	0.45	0	1113	3568	2830	1148	3977		4.18	Si
SLV 13	ini.	-356.98	1491	0.45	0	1113	3568	2830	1148	3977		2.67	Si
SLV 13	fin.	125.93	653	0.45	0	1113	3568	2830	1148	3977		6.09	Si
SLV 7	ini.	442.66	-1578	0.45	0	1113	3568	2830	1148	3977		2.52	Si
SLV 7	fin.	-407.54	-2008	0.45	0	1113	3568	2830	1148	3977		1.98	Si
SLV 9	ini.	-503.73	2001	0.45	0	1113	3568	2830	1148	3977		1.99	Si
SLV 9	fin.	363.7	1260	0.45	0	1113	3568	2830	1148	3977		3.16	Si
SLD 8	ini.	306.01	-1078	0.45	0	1113	3568	2830	1148	3977		3.69	Si
SLD 8	fin.	-292.99	-1590	0.45	0	1113	3568	2830	1148	3977		2.5	Si
SLV 10	ini.	-431.32	1721	0.45	0	1113	3568	2830	1148	3977		2.31	Si
SLV 10	fin.	313.78	971	0.45	0	1113	3568	2830	1148	3977		4.1	Si
SLV 12	ini.	405.03	-1412	0.45	0	1113	3568	2830	1148	3977		2.82	Si
SLV 12	fin.	-444.25	-1989	0.45	0	1113	3568	2830	1148	3977		2	Si
SLV 4	ini.	368.32	-1348	0.45	0	1113	3568	2830	1148	3977		2.95	Si
SLV 4	fin.	-219.7	-1691	0.45	0	1113	3568	2830	1148	3977		2.35	Si
SLV 8	ini.	515.08	-1857	0.45	0	1113	3568	2830	1148	3977		2.14	Si
SLV 8	fin.	-457.47	-2298	0.45	0	1113	3568	2830	1148	3977		1.73	Si
SLV 11	ini.	332.61	-1132	0.45	0	1113	3568	2830	1148	3977		3.51	Si
SLV 11	fin.	-394.33	-1700	0.45	0	1113	3568	2830	1148	3977		2.34	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.46	SLV 8	Si
V_SLV	1.731	SLV 8	Si
PF_SLU	8.304	SLU 81	Si
V_SLU	3.386	SLU 82	Si

Trave di accoppiamento 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	11.45	13.45	2	-19.293	-3.169	11.45	13.45	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 47	ini.	-108.72	-837	-0.0000084	0.0001872	0.0035	2		17748.68	17748.68	No	163.25	Si
SLU 47	fin.	57.63	-1219	-0.0000044	0.0001872	0.0035	2		17734.35	17734.35	No	307.72	Si
SLU 71	ini.	-109.94	-962	-0.0000085	0.0001872	0.0035	2		17748.68	17748.68	No	161.43	Si
SLU 71	fin.	70.91	-1388	-0.0000055	0.0001872	0.0035	2		17734.35	17734.35	No	250.11	Si
SLU 70	ini.	-110.68	-1038	-0.0000085	0.0001872	0.0035	2		17748.68	17748.68	No	160.37	Si
SLU 70	fin.	81.84	-1490	-0.0000063	0.0001872	0.0035	2		17734.35	17734.35	No	216.69	Si
SLU 72	ini.	-119.72	-965	-0.0000092	0.0001872	0.0035	2		17748.68	17748.68	No	148.25	Si
SLU 72	fin.	72.81	-1395	-0.0000056	0.0001872	0.0035	2		17734.35	17734.35	No	243.58	Si
SLU 51	ini.	-109.17	-853	-0.0000084	0.0001872	0.0035	2		17748.68	17748.68	No	162.58	Si
SLU 51	fin.	57.56	-1232	-0.0000044	0.0001872	0.0035	2		17734.35	17734.35	No	308.11	Si
SLU 65	ini.	-112.3	-930	-0.0000087	0.0001872	0.0035	2		17748.68	17748.68	No	158.04	Si
SLU 65	fin.	71.69	-1364	-0.0000055	0.0001872	0.0035	2		17734.35	17734.35	No	247.39	Si
SLU 26	ini.	-102.33	-790	-0.0000079	0.0001872	0.0035	2		17748.68	17748.68	No	173.45	Si
SLU 26	fin.	64.61	-1150	-0.000005	0.0001872	0.0035	2		17734.35	17734.35	No	274.48	Si
SLU 30	ini.	-102.78	-806	-0.0000079	0.0001872	0.0035	2		17748.68	17748.68	No	172.69	Si
SLU 30	fin.	64.54	-1163	-0.000005	0.0001872	0.0035	2		17734.35	17734.35	No	274.8	Si
SLU 68	ini.	-119.27	-948	-0.0000092	0.0001872	0.0035	2		17748.68	17748.68	No	148.81	Si
SLU 68	fin.	72.88	-1382	-0.0000056	0.0001872	0.0035	2		17734.35	17734.35	No	243.33	Si
SLU 67	ini.	-103.71	-1020	-0.000008	0.0001872	0.0035	2		17748.68	17748.68	No	171.14	Si
SLU 67	fin.	80.65	-1472	-0.0000062	0.0001872	0.0035	2		17734.35	17734.35	No	219.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	-119.27	808	2	0	3889	7930	8384	5100	11818	No	14.63	Si
SLU 68	fin.	72.88	1796	2	0	3889	7930	8384	5100	11818	No	6.58	Si
SLU 75	ini.	-66.54	794	2	0	3889	7930	8384	5100	11818	No	14.89	Si
SLU 75	fin.	74.12	1802	2	0	3889	7930	8384	5100	11818	No	6.56	Si
SLU 77	ini.	-63.73	762	2	0	3889	7930	8384	5100	11818	No	15.51	Si
SLU 77	fin.	73.41	1805	2	0	3889	7930	8384	5100	11818	No	6.55	Si
SLU 69	ini.	-100.9	759	2	0	3889	7930	8384	5100	11818	No	15.57	Si
SLU 69	fin.	79.94	1873	2	0	3889	7930	8384	5100	11818	No	6.31	Si
SLU 72	ini.	-119.72	786	2	0	3889	7930	8384	5100	11818	No	15.04	Si
SLU 72	fin.	72.81	1810	2	0	3889	7930	8384	5100	11818	No	6.53	Si
SLU 67	ini.	-103.71	791	2	0	3889	7930	8384	5100	11818	No	14.95	Si
SLU 67	fin.	80.65	1869	2	0	3889	7930	8384	5100	11818	No	6.32	Si
SLU 70	ini.	-110.68	787	2	0	3889	7930	8384	5100	11818	No	15.02	Si
SLU 70	fin.	81.84	1906	2	0	3889	7930	8384	5100	11818	No	6.2	Si
SLU 71	ini.	-109.94	758	2	0	3889	7930	8384	5100	11818	No	15.6	Si
SLU 71	fin.	70.91	1776	2	0	3889	7930	8384	5100	11818	No	6.65	Si
SLU 78	ini.	-73.5	790	2	0	3889	7930	8384	5100	11818	No	14.96	Si
SLU 78	fin.	75.31	1839	2	0	3889	7930	8384	5100	11818	No	6.43	Si
SLU 66	ini.	-93.94	763	2	0	3889	7930	8384	5100	11818	No	15.5	Si
SLU 66	fin.	78.75	1835	2	0	3889	7930	8384	5100	11818	No	6.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1065.28	1232	-0.0000841	0.0002807	0.0035	2		15950.21	15950.21		14.97	Si
SLV 8	fin.	-309.12	1126	-0.0000239	0.0002807	0.0035	2		15965.77	15965.77		51.65	Si
SLV 10	ini.	-1027.33	-2309	-0.0000809	0.0002807	0.0035	2		15965.77	15965.77		15.54	Si
SLV 10	fin.	306.7	-2732	-0.0000238	0.0002807	0.0035	2		15950.21	15950.21		52.01	Si
SLV 4	ini.	833.78	972	-0.0000654	0.0002807	0.0035	2		15950.21	15950.21		19.13	Si
SLV 4	fin.	-231.48	820	-0.0000179	0.0002807	0.0035	2		15965.77	15965.77		68.97	Si
SLV 9	ini.	-1187.12	-2542	-0.0000939	0.0002807	0.0035	2		15965.77	15965.77		13.45	Si
SLV 9	fin.	404.1	-3087	-0.0000314	0.0002807	0.0035	2		15950.21	15950.21		39.47	Si
SLV 5	ini.	-882.42	-1933	-0.0000693	0.0002807	0.0035	2		15965.77	15965.77		18.09	Si
SLV 5	fin.	328.77	-2455	-0.0000255	0.0002807	0.0035	2		15950.21	15950.21		48.51	Si
SLV 13	ini.	-955.62	-2281	-0.0000751	0.0002807	0.0035	2		15965.77	15965.77		16.71	Si
SLV 13	fin.	326.46	-2781	-0.0000253	0.0002807	0.0035	2		15950.21	15950.21		48.86	Si
SLD 9	ini.	-729.06	-1777	-0.000057	0.0002807	0.0035	2		15965.77	15965.77		21.9	Si
SLD 9	fin.	258.65	-2231	-0.00002	0.0002807	0.0035	2		15950.21	15950.21		61.67	Si
SLV 12	ini.	760.59	624	-0.0000596	0.0002807	0.0035	2		15950.21	15950.21		20.97	Si
SLV 12	fin.	-233.79	494	-0.0000181	0.0002807	0.0035	2		15965.77	15965.77		68.29	Si
SLV 6	ini.	-722.63	-1701	-0.0000565	0.0002807	0.0035	2		15965.77	15965.77		22.09	Si
SLV 6	fin.	231.37	-2100	-0.0000179	0.0002807	0.0035	2		15950.21	15950.21		68.94	Si
SLV 7	ini.	905.49	1000	-0.0000712	0.0002807	0.0035	2		15950.21	15950.21		17.62	Si
SLV 7	fin.	-211.72	770	-0.0000163	0.0002807	0.0035	2		15965.77	15965.77		75.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-614.66	2534	2	0	5833	7930	12577	5100	13763		5.43	Si
SLD 13	fin.	217.85	2740	2	0	5833	7930	12577	5100	13763		5.02	Si
SLD 5	ini.	-536.17	1888	2	0	5833	7930	12577	5100	13763		7.29	Si
SLD 5	fin.	212.51	2839	2	0	5833	7930	12577	5100	13763		4.85	Si
SLV 13	ini.	-955.62	3732	2	0	5833	7930	12577	5100	13763		3.69	Si
SLV 13	fin.	326.46	3673	2	0	5833	7930	12577	5100	13763		3.75	Si
SLD 10	ini.	-632.09	2109	2	0	5833	7930	12577	5100	13763		6.52	Si
SLD 10	fin.	199.54	2822	2	0	5833	7930	12577	5100	13763		4.88	Si
SLV 6	ini.	-722.63	2067	2	0	5833	7930	12577	5100	13763		6.66	Si
SLV 6	fin.	231.37	3271	2	0	5833	7930	12577	5100	13763		4.21	Si
SLV 8	ini.	1065.28	-2846	2	0	5833	7930	12577	5100	13763		4.84	Si
SLV 8	fin.	-309.12	-2128	2	0	5833	7930	12577	5100	13763		6.47	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-882.42	2858	2	0	5833	7930	12577	5100	13763		4.81	Si
SLV 5	fin.	328.77	3975	2	0	5833	7930	12577	5100	13763		3.46	Si
SLV 9	ini.	-1187.12	3966	2	0	5833	7930	12577	5100	13763		3.47	Si
SLV 9	fin.	404.1	4629	2	0	5833	7930	12577	5100	13763		2.97	Si
SLV 10	ini.	-1027.33	3175	2	0	5833	7930	12577	5100	13763		4.33	Si
SLV 10	fin.	306.7	3925	2	0	5833	7930	12577	5100	13763		3.51	Si
SLD 9	ini.	-729.06	2590	2	0	5833	7930	12577	5100	13763		5.31	Si
SLD 9	fin.	258.65	3249	2	0	5833	7930	12577	5100	13763		4.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	13.449	SLV 9	Si
V_SLV	2.973	SLV 9	Si
PF_SLU	148.253	SLU 72	Si
V_SLU	6.199	SLU 70	Si

Trave di accoppiamento 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	14.25	14.6	0.35	-19.293	-3.169	14.25	14.6	0.35	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 52	ini.	-77.94	-37	-0.0002137	0.0001872	0.0035	0.35		556.58	556.58	No	7.14	Si
SLU 52	fin.	80.2	-37	-0.0002219	0.0001872	0.0035	0.35		554.01	554.01	No	6.91	Si
SLU 26	ini.	-73.2	-19	-0.0001993	0.0001872	0.0035	0.35		556.58	556.58	No	7.6	Si
SLU 26	fin.	78.7	-19	-0.0002172	0.0001872	0.0035	0.35		554.01	554.01	No	7.04	Si
SLU 55	ini.	-78.29	-38	-0.0002148	0.0001872	0.0035	0.35		556.58	556.58	No	7.11	Si
SLU 55	fin.	80.38	-38	-0.0002224	0.0001872	0.0035	0.35		554.01	554.01	No	6.89	Si
SLU 68	ini.	-80.09	-27	-0.0002204	0.0001872	0.0035	0.35		556.58	556.58	No	6.95	Si
SLU 68	fin.	85.51	-27	-0.0002386	0.0001872	0.0035	0.35		554.01	554.01	No	6.48	Si
SLU 73	ini.	-80.91	-40	-0.0002229	0.0001872	0.0035	0.35		556.58	556.58	No	6.88	Si
SLU 73	fin.	84.76	-40	-0.0002362	0.0001872	0.0035	0.35		554.01	554.01	No	6.54	Si
SLU 76	ini.	-81.27	-42	-0.000224	0.0001872	0.0035	0.35		556.58	556.58	No	6.85	Si
SLU 76	fin.	84.94	-42	-0.0002368	0.0001872	0.0035	0.35		554.01	554.01	No	6.52	Si
SLU 23	ini.	-72.84	-18	-0.0001982	0.0001872	0.0035	0.35		556.58	556.58	No	7.64	Si
SLU 23	fin.	78.52	-18	-0.0002167	0.0001872	0.0035	0.35		554.01	554.01	No	7.06	Si
SLU 47	ini.	-77.12	-24	-0.0002112	0.0001872	0.0035	0.35		556.58	556.58	No	7.22	Si
SLU 47	fin.	80.95	-24	-0.0002242	0.0001872	0.0035	0.35		554.01	554.01	No	6.84	Si
SLU 65	ini.	-79.73	-26	-0.0002193	0.0001872	0.0035	0.35		556.58	556.58	No	6.98	Si
SLU 65	fin.	85.33	-26	-0.000238	0.0001872	0.0035	0.35		554.01	554.01	No	6.49	Si
SLU 44	ini.	-76.76	-22	-0.0002101	0.0001872	0.0035	0.35		556.58	556.58	No	7.25	Si
SLU 44	fin.	80.77	-22	-0.0002237	0.0001872	0.0035	0.35		554.01	554.01	No	6.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 44	ini.	-76.76	372	0.35	0	681	5551	1467	893	2360	No	6.34	Si
SLU 44	fin.	80.77	258	0.35	0	681	5551	1467	893	2360	No	9.16	Si
SLU 65	ini.	-79.73	387	0.35	0	681	5551	1467	893	2360	No	6.09	Si
SLU 65	fin.	85.33	273	0.35	0	681	5551	1467	893	2360	No	8.65	Si
SLU 55	ini.	-78.29	375	0.35	0	681	5551	1467	893	2360	No	6.3	Si
SLU 55	fin.	80.38	260	0.35	0	681	5551	1467	893	2360	No	9.08	Si
SLU 47	ini.	-77.12	373	0.35	0	681	5551	1467	893	2360	No	6.32	Si
SLU 47	fin.	80.95	259	0.35	0	681	5551	1467	893	2360	No	9.12	Si
SLU 52	ini.	-77.94	374	0.35	0	681	5551	1467	893	2360	No	6.32	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 52	fin.	80.2	259	0.35	0	681	5551	1467	893	2360	No	9.11	Si
SLU 68	ini.	-80.09	389	0.35	0	681	5551	1467	893	2360	No	6.07	Si
SLU 68	fin.	85.51	274	0.35	0	681	5551	1467	893	2360	No	8.62	Si
SLU 31	ini.	-74.02	348	0.35	0	681	5551	1467	893	2360	No	6.78	Si
SLU 31	fin.	77.95	260	0.35	0	681	5551	1467	893	2360	No	9.08	Si
SLU 34	ini.	-74.37	349	0.35	0	681	5551	1467	893	2360	No	6.76	Si
SLU 34	fin.	78.13	261	0.35	0	681	5551	1467	893	2360	No	9.04	Si
SLU 73	ini.	-80.91	389	0.35	0	681	5551	1467	893	2360	No	6.07	Si
SLU 73	fin.	84.76	274	0.35	0	681	5551	1467	893	2360	No	8.61	Si
SLU 76	ini.	-81.27	390	0.35	0	681	5551	1467	893	2360	No	6.05	Si
SLU 76	fin.	84.94	275	0.35	0	681	5551	1467	893	2360	No	8.58	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	322.65	-533	-0.001169	0.0002807	0.0035	0.35		533.13	533.13		1.65	Si
SLV 12	fin.	-389.72	-512	-0.001542	0.0002807	0.0035	0.35		536.01	536.01		1.38	Si
SLV 8	ini.	281.38	-763	-0.0009669	0.0002807	0.0035	0.35		533.13	533.13		1.89	Si
SLV 8	fin.	-371.39	-741	-0.0014294	0.0002807	0.0035	0.35		536.01	536.01		1.44	Si
SLV 6	ini.	-353.64	362	-0.0013271	0.0002807	0.0035	0.35		536.01	536.01		1.52	Si
SLV 6	fin.	411.71	341	-0.0017024	0.0002807	0.0035	0.35		533.13	533.13		1.29	Si
SLV 7	ini.	257.25	-664	-0.0008577	0.0002807	0.0035	0.35		533.13	533.13		2.07	Si
SLV 7	fin.	-335.24	-642	-0.0012268	0.0002807	0.0035	0.35		536.01	536.01		1.6	Si
SLV 5	ini.	-377.78	462	-0.0014677	0.0002807	0.0035	0.35		536.01	536.01		1.42	Si
SLV 5	fin.	447.87	441	-0.0019862	0.0002807	0.0035	0.35		533.13	533.13		1.19	Si
SLD 5	ini.	-235.68	252	-0.0007602	0.0002807	0.0035	0.35		536.01	536.01		2.27	Si
SLD 5	fin.	277.05	238	-0.0009468	0.0002807	0.0035	0.35		533.13	533.13		1.92	Si
SLV 10	ini.	-312.38	593	-0.0011094	0.0002807	0.0035	0.35		536.01	536.01		1.72	Si
SLV 10	fin.	393.38	571	-0.0015774	0.0002807	0.0035	0.35		533.13	533.13		1.36	Si
SLD 9	ini.	-208.84	397	-0.0006515	0.0002807	0.0035	0.35		536.01	536.01		2.57	Si
SLD 9	fin.	264.95	382	-0.0008919	0.0002807	0.0035	0.35		533.13	533.13		2.01	Si
SLV 9	ini.	-336.51	692	-0.0012336	0.0002807	0.0035	0.35		536.01	536.01		1.59	Si
SLV 9	fin.	429.54	670	-0.0018352	0.0002807	0.0035	0.35		533.13	533.13		1.24	Si
SLV 11	ini.	298.52	-434	-0.0010483	0.0002807	0.0035	0.35		533.13	533.13		1.79	Si
SLV 11	fin.	-353.57	-412	-0.0013267	0.0002807	0.0035	0.35		536.01	536.01		1.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 5	ini.	-235.68	1023	0.35	0	1021	5551	2201	893	3093		3.02	Si
SLD 5	fin.	277.05	945	0.35	0	1021	5551	2201	893	3093		3.27	Si
SLV 11	ini.	298.52	-1188	0.35	0	1021	5551	2201	893	3093		2.6	Si
SLV 11	fin.	-353.57	-1294	0.35	0	1021	5551	2201	893	3093		2.39	Si
SLV 6	ini.	-353.64	1503	0.35	0	1021	5551	2201	893	3093		2.06	Si
SLV 6	fin.	411.71	1432	0.35	0	1021	5551	2201	893	3093		2.16	Si
SLV 10	ini.	-312.38	1487	0.35	0	1021	5551	2201	893	3093		2.08	Si
SLV 10	fin.	393.38	1371	0.35	0	1021	5551	2201	893	3093		2.26	Si
SLV 5	ini.	-377.78	1624	0.35	0	1021	5551	2201	893	3093		1.91	Si
SLV 5	fin.	447.87	1552	0.35	0	1021	5551	2201	893	3093		1.99	Si
SLV 9	ini.	-336.51	1608	0.35	0	1021	5551	2201	893	3093		1.92	Si
SLV 9	fin.	429.54	1492	0.35	0	1021	5551	2201	893	3093		2.07	Si
SLV 7	ini.	257.25	-1172	0.35	0	1021	5551	2201	893	3093		2.64	Si
SLV 7	fin.	-335.24	-1233	0.35	0	1021	5551	2201	893	3093		2.51	Si
SLV 8	ini.	281.38	-1293	0.35	0	1021	5551	2201	893	3093		2.39	Si
SLV 8	fin.	-371.39	-1353	0.35	0	1021	5551	2201	893	3093		2.29	Si
SLV 12	ini.	322.65	-1309	0.35	0	1021	5551	2201	893	3093		2.36	Si
SLV 12	fin.	-389.72	-1414	0.35	0	1021	5551	2201	893	3093		2.19	Si
SLD 9	ini.	-208.84	1010	0.35	0	1021	5551	2201	893	3093		3.06	Si
SLD 9	fin.	264.95	905	0.35	0	1021	5551	2201	893	3093		3.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.19	SLV 5	Si
V_SLV	1.905	SLV 5	Si
PF_SLU	6.479	SLU 68	Si
V_SLU	6.055	SLU 76	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	11.45	12.35	0.9	-18.213	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-192.93	-31	-0.0000756	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.55	Si
SLU 71	fin.	132.33	-804	-0.0000514	0.0001872	0.0035	0.9		3572.55	3572.55	No	27	Si
SLU 69	ini.	-195.18	-51	-0.0000765	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.34	Si
SLU 69	fin.	137.56	-848	-0.0000535	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.97	Si
SLU 65	ini.	-203.19	1	-0.0000797	0.0001872	0.0035	0.9		3579.32	3579.32	No	17.62	Si
SLU 65	fin.	131.98	-787	-0.0000513	0.0001872	0.0035	0.9		3572.55	3572.55	No	27.07	Si
SLU 72	ini.	-198	-23	-0.0000776	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.08	Si
SLU 72	fin.	133.79	-816	-0.000052	0.0001872	0.0035	0.9		3572.55	3572.55	No	26.7	Si
SLU 64	ini.	-194.73	-13	-0.0000763	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.38	Si
SLU 64	fin.	129.55	-767	-0.0000503	0.0001872	0.0035	0.9		3572.55	3572.55	No	27.58	Si
SLU 70	ini.	-200.26	-43	-0.0000786	0.0001872	0.0035	0.9		3579.32	3579.32	No	17.87	Si
SLU 70	fin.	139.02	-860	-0.0000541	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.7	Si
SLU 73	ini.	-187.89	15	-0.0000735	0.0001872	0.0035	0.9		3579.32	3579.32	No	19.05	Si
SLU 73	fin.	112.34	-663	-0.0000435	0.0001872	0.0035	0.9		3572.55	3572.55	No	31.8	Si
SLU 67	ini.	-201.16	-34	-0.0000789	0.0001872	0.0035	0.9		3579.32	3579.32	No	17.79	Si
SLU 67	fin.	137.63	-842	-0.0000535	0.0001872	0.0035	0.9		3572.55	3572.55	No	25.96	Si
SLU 68	ini.	-202.29	-8	-0.0000794	0.0001872	0.0035	0.9		3579.32	3579.32	No	17.69	Si
SLU 68	fin.	133.37	-805	-0.0000518	0.0001872	0.0035	0.9		3572.55	3572.55	No	26.79	Si
SLU 66	ini.	-196.09	-42	-0.0000769	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.25	Si
SLU 66	fin.	136.17	-830	-0.0000529	0.0001872	0.0035	0.9		3572.55	3572.55	No	26.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-201.16	701	0.9	0	1750	14273	3773	2295	6068	No	8.65	Si
SLU 67	fin.	137.63	1227	0.9	0	1750	14273	3773	2295	6068	No	4.94	Si
SLU 65	ini.	-203.19	732	0.9	0	1750	14273	3773	2295	6068	No	8.29	Si
SLU 65	fin.	131.98	1142	0.9	0	1750	14273	3773	2295	6068	No	5.31	Si
SLU 69	ini.	-195.18	678	0.9	0	1750	14273	3773	2295	6068	No	8.96	Si
SLU 69	fin.	137.56	1237	0.9	0	1750	14273	3773	2295	6068	No	4.9	Si
SLU 72	ini.	-198	704	0.9	0	1750	14273	3773	2295	6068	No	8.62	Si
SLU 72	fin.	133.79	1190	0.9	0	1750	14273	3773	2295	6068	No	5.1	Si
SLU 70	ini.	-200.26	692	0.9	0	1750	14273	3773	2295	6068	No	8.77	Si
SLU 70	fin.	139.02	1259	0.9	0	1750	14273	3773	2295	6068	No	4.82	Si
SLU 66	ini.	-196.09	687	0.9	0	1750	14273	3773	2295	6068	No	8.84	Si
SLU 66	fin.	136.17	1206	0.9	0	1750	14273	3773	2295	6068	No	5.03	Si
SLU 68	ini.	-202.29	723	0.9	0	1750	14273	3773	2295	6068	No	8.39	Si
SLU 68	fin.	133.37	1173	0.9	0	1750	14273	3773	2295	6068	No	5.17	Si
SLU 71	ini.	-192.93	689	0.9	0	1750	14273	3773	2295	6068	No	8.8	Si
SLU 71	fin.	132.33	1168	0.9	0	1750	14273	3773	2295	6068	No	5.19	Si
SLU 49	ini.	-154.52	495	0.9	0	1750	14273	3773	2295	6068	No	12.26	Si
SLU 49	fin.	114.02	1137	0.9	0	1750	14273	3773	2295	6068	No	5.34	Si
SLU 48	ini.	-149.45	480	0.9	0	1750	14273	3773	2295	6068	No	12.63	Si
SLU 48	fin.	112.56	1115	0.9	0	1750	14273	3773	2295	6068	No	5.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-946.8	1095	-0.0004148	0.0002807	0.0035	0.9		3575.64	3575.64		3.78	Si
SLV 10	fin.	604.96	-2812	-0.0002496	0.0002807	0.0035	0.9		3568.61	3568.61		5.9	Si
SLV 5	ini.	-732.28	767	-0.0003081	0.0002807	0.0035	0.9		3575.64	3575.64		4.88	Si
SLV 5	fin.	473.32	-2319	-0.0001913	0.0002807	0.0035	0.9		3568.61	3568.61		7.54	Si
SLV 4	ini.	808.84	-1452	-0.0003459	0.0002807	0.0035	0.9		3568.61	3568.61		4.41	Si
SLV 4	fin.	-484.04	1756	-0.0001956	0.0002807	0.0035	0.9		3575.64	3575.64		7.39	Si
SLV 8	ini.	831.87	-1382	-0.0003573	0.0002807	0.0035	0.9		3568.61	3568.61		4.29	Si
SLV 8	fin.	-518.35	2100	-0.0002106	0.0002807	0.0035	0.9		3575.64	3575.64		6.9	Si
SLV 14	ini.	-848.11	1043	-0.0003646	0.0002807	0.0035	0.9		3575.64	3575.64		4.22	Si
SLV 14	fin.	526.72	-2294	-0.0002147	0.0002807	0.0035	0.9		3568.61	3568.61		6.78	Si
SLV 9	ini.	-1102.61	1344	-0.0004979	0.0002807	0.0035	0.9		3575.64	3575.64		3.24	Si
SLV 9	fin.	695.44	-3168	-0.0002913	0.0002807	0.0035	0.9		3568.61	3568.61		5.13	Si
SLD 13	ini.	-725.35	878	-0.0003048	0.0002807	0.0035	0.9		3575.64	3575.64		4.93	Si
SLD 13	fin.	446.23	-1960	-0.0001797	0.0002807	0.0035	0.9		3568.61	3568.61		8	Si
SLV 7	ini.	676.06	-1132	-0.0002823	0.0002807	0.0035	0.9		3568.61	3568.61		5.28	Si
SLV 7	fin.	-427.87	1744	-0.0001715	0.0002807	0.0035	0.9		3575.64	3575.64		8.36	Si
SLV 13	ini.	-1079.58	1415	-0.0004853	0.0002807	0.0035	0.9		3575.64	3575.64		3.31	Si
SLV 13	fin.	661.13	-2824	-0.0002753	0.0002807	0.0035	0.9		3568.61	3568.61		5.4	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-712.73	797	-0.0002989	0.0002807	0.0035	0.9		3575.64	3575.64		5.02	Si
SLD 9	fin.	450.55	-2102	-0.0001815	0.0002807	0.0035	0.9		3568.61	3568.61		7.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-732.28	2634	0.9	0	2625	14273	5660	2295	7955		3.02	Si
SLV 5	fin.	473.32	3442	0.9	0	2625	14273	5660	2295	7955		2.31	Si
SLD 13	ini.	-725.35	2859	0.9	0	2625	14273	5660	2295	7955		2.78	Si
SLD 13	fin.	446.23	2754	0.9	0	2625	14273	5660	2295	7955		2.89	Si
SLV 9	ini.	-1102.61	4159	0.9	0	2625	14273	5660	2295	7955		1.91	Si
SLV 9	fin.	695.44	4590	0.9	0	2625	14273	5660	2295	7955		1.73	Si
SLV 8	ini.	831.87	-3168	0.9	0	2625	14273	5660	2295	7955		2.51	Si
SLV 8	fin.	-518.35	-3049	0.9	0	2625	14273	5660	2295	7955		2.61	Si
SLV 14	ini.	-848.11	3363	0.9	0	2625	14273	5660	2295	7955		2.37	Si
SLV 14	fin.	526.72	3193	0.9	0	2625	14273	5660	2295	7955		2.49	Si
SLV 6	ini.	-576.47	2023	0.9	0	2625	14273	5660	2295	7955		3.93	Si
SLV 6	fin.	382.84	2924	0.9	0	2625	14273	5660	2295	7955		2.72	Si
SLV 4	ini.	808.84	-3279	0.9	0	2625	14273	5660	2295	7955		2.43	Si
SLV 4	fin.	-484.04	-2423	0.9	0	2625	14273	5660	2295	7955		3.28	Si
SLD 9	ini.	-712.73	2686	0.9	0	2625	14273	5660	2295	7955		2.96	Si
SLD 9	fin.	450.55	3040	0.9	0	2625	14273	5660	2295	7955		2.62	Si
SLV 10	ini.	-946.8	3549	0.9	0	2625	14273	5660	2295	7955		2.24	Si
SLV 10	fin.	604.96	4071	0.9	0	2625	14273	5660	2295	7955		1.95	Si
SLV 13	ini.	-1079.58	4270	0.9	0	2625	14273	5660	2295	7955		1.86	Si
SLV 13	fin.	661.13	3964	0.9	0	2625	14273	5660	2295	7955		2.01	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.243	SLV 9	Si
V_SLV	1.733	SLV 9	Si
PF_SLU	17.616	SLU 65	Si
V_SLU	4.821	SLU 70	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	14.15	14.6	0.45	-18.213	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 25	ini.	-34.87	78	-0.0000539	0.0001872	0.0035	0.45		918.62	918.62	No	26.34	Si
SLU 25	fin.	26.41	-33	-0.0000407	0.0001872	0.0035	0.45		915.31	915.31	No	34.66	Si
SLU 69	ini.	-39.27	76	-0.0000609	0.0001872	0.0035	0.45		918.62	918.62	No	23.39	Si
SLU 69	fin.	29.75	-58	-0.000046	0.0001872	0.0035	0.45		915.31	915.31	No	30.76	Si
SLU 66	ini.	-37.91	84	-0.0000587	0.0001872	0.0035	0.45		918.62	918.62	No	24.23	Si
SLU 66	fin.	29.76	-56	-0.000046	0.0001872	0.0035	0.45		915.31	915.31	No	30.75	Si
SLU 28	ini.	-36.23	70	-0.0000561	0.0001872	0.0035	0.45		918.62	918.62	No	25.35	Si
SLU 28	fin.	26.4	-34	-0.0000407	0.0001872	0.0035	0.45		915.31	915.31	No	34.67	Si
SLU 72	ini.	-33.92	85	-0.0000524	0.0001872	0.0035	0.45		918.62	918.62	No	27.08	Si
SLU 72	fin.	30.36	-7	-0.000047	0.0001872	0.0035	0.45		915.31	915.31	No	30.15	Si
SLU 24	ini.	-35.68	64	-0.0000552	0.0001872	0.0035	0.45		918.62	918.62	No	25.75	Si
SLU 24	fin.	27.13	-43	-0.0000419	0.0001872	0.0035	0.45		915.31	915.31	No	33.73	Si
SLU 27	ini.	-37.04	56	-0.0000573	0.0001872	0.0035	0.45		918.62	918.62	No	24.8	Si
SLU 27	fin.	27.12	-45	-0.0000419	0.0001872	0.0035	0.45		915.31	915.31	No	33.75	Si
SLU 67	ini.	-37.1	98	-0.0000574	0.0001872	0.0035	0.45		918.62	918.62	No	24.76	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	fin.	29.04	-46	-0.0000449	0.0001872	0.0035	0.45		915.31	915.31	No	31.52	Si
SLU 71	ini.	-34.73	71	-0.0000537	0.0001872	0.0035	0.45		918.62	918.62	No	26.45	Si
SLU 71	fin.	31.09	-17	-0.0000481	0.0001872	0.0035	0.45		915.31	915.31	No	29.44	Si
SLU 70	ini.	-38.46	90	-0.0000596	0.0001872	0.0035	0.45		918.62	918.62	No	23.88	Si
SLU 70	fin.	29.03	-47	-0.0000449	0.0001872	0.0035	0.45		915.31	915.31	No	31.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-23.48	342	0.45	0	799	7137	1887	1148	3034	No	8.86	Si
SLU 35	fin.	22.02	-560	0.45	0	799	7137	1887	1148	3034	No	5.42	Si
SLU 75	ini.	-23.54	391	0.45	0	799	7137	1887	1148	3034	No	7.77	Si
SLU 75	fin.	23.94	-613	0.45	0	799	7137	1887	1148	3034	No	4.95	Si
SLU 32	ini.	-22.12	338	0.45	0	799	7137	1887	1148	3034	No	8.96	Si
SLU 32	fin.	22.03	-565	0.45	0	799	7137	1887	1148	3034	No	5.37	Si
SLU 66	ini.	-37.91	435	0.45	0	799	7137	1887	1148	3034	No	6.97	Si
SLU 66	fin.	29.76	-580	0.45	0	799	7137	1887	1148	3034	No	5.23	Si
SLU 77	ini.	-25.71	389	0.45	0	799	7137	1887	1148	3034	No	7.8	Si
SLU 77	fin.	24.65	-625	0.45	0	799	7137	1887	1148	3034	No	4.85	Si
SLU 78	ini.	-24.9	395	0.45	0	799	7137	1887	1148	3034	No	7.69	Si
SLU 78	fin.	23.93	-609	0.45	0	799	7137	1887	1148	3034	No	4.98	Si
SLU 70	ini.	-38.46	445	0.45	0	799	7137	1887	1148	3034	No	6.81	Si
SLU 70	fin.	29.03	-560	0.45	0	799	7137	1887	1148	3034	No	5.42	Si
SLU 67	ini.	-37.1	441	0.45	0	799	7137	1887	1148	3034	No	6.88	Si
SLU 67	fin.	29.04	-564	0.45	0	799	7137	1887	1148	3034	No	5.38	Si
SLU 69	ini.	-39.27	439	0.45	0	799	7137	1887	1148	3034	No	6.91	Si
SLU 69	fin.	29.75	-575	0.45	0	799	7137	1887	1148	3034	No	5.27	Si
SLU 74	ini.	-24.34	385	0.45	0	799	7137	1887	1148	3034	No	7.88	Si
SLU 74	fin.	24.66	-629	0.45	0	799	7137	1887	1148	3034	No	4.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-194.2	-582	-0.0003278	0.0002807	0.0035	0.45		885.81	885.81		4.56	Si
SLD 9	fin.	171.5	1100	-0.0002861	0.0002807	0.0035	0.45		882.16	882.16		5.14	Si
SLV 13	ini.	-261.39	-828	-0.0004645	0.0002807	0.0035	0.45		885.81	885.81		3.39	Si
SLV 13	fin.	259.12	1618	-0.0004616	0.0002807	0.0035	0.45		882.16	882.16		3.4	Si
SLV 4	ini.	224.49	1002	-0.0003893	0.0002807	0.0035	0.45		882.16	882.16		3.93	Si
SLV 4	fin.	-218.22	-1673	-0.000375	0.0002807	0.0035	0.45		885.81	885.81		4.06	Si
SLV 12	ini.	193.84	910	-0.0003285	0.0002807	0.0035	0.45		882.16	882.16		4.55	Si
SLV 12	fin.	-145.03	-1324	-0.0002368	0.0002807	0.0035	0.45		885.81	885.81		6.11	Si
SLV 8	ini.	276.92	1212	-0.0005002	0.0002807	0.0035	0.45		882.16	882.16		3.19	Si
SLV 8	fin.	-233.94	-1920	-0.0004069	0.0002807	0.0035	0.45		885.81	885.81		3.79	Si
SLV 9	ini.	-313.82	-1038	-0.0005807	0.0002807	0.0035	0.45		885.81	885.81		2.82	Si
SLV 9	fin.	274.84	1866	-0.0004957	0.0002807	0.0035	0.45		882.16	882.16		3.21	Si
SLV 7	ini.	229.15	1012	-0.0003988	0.0002807	0.0035	0.45		882.16	882.16		3.85	Si
SLV 7	fin.	-187.54	-1630	-0.0003151	0.0002807	0.0035	0.45		885.81	885.81		4.72	Si
SLV 10	ini.	-266.05	-838	-0.0004744	0.0002807	0.0035	0.45		885.81	885.81		3.33	Si
SLV 10	fin.	228.44	1575	-0.0003974	0.0002807	0.0035	0.45		882.16	882.16		3.86	Si
SLV 5	ini.	-230.74	-735	-0.0004004	0.0002807	0.0035	0.45		885.81	885.81		3.84	Si
SLV 5	fin.	185.93	1269	-0.0003133	0.0002807	0.0035	0.45		882.16	882.16		4.74	Si
SLV 14	ini.	-190.43	-530	-0.0003206	0.0002807	0.0035	0.45		885.81	885.81		4.65	Si
SLV 14	fin.	190.2	1186	-0.0003215	0.0002807	0.0035	0.45		882.16	882.16		4.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	153.53	-561	0.45	0	1113	7137	2830	1148	3977		7.09	Si
SLV 3	fin.	-149.3	-1299	0.45	0	1113	7137	2830	1148	3977		3.06	Si
SLV 9	ini.	-313.82	1620	0.45	0	1113	7137	2830	1148	3977		2.45	Si
SLV 9	fin.	274.84	1285	0.45	0	1113	7137	2830	1148	3977		3.09	Si
SLV 10	ini.	-266.05	1408	0.45	0	1113	7137	2830	1148	3977		2.83	Si
SLV 10	fin.	228.44	1045	0.45	0	1113	7137	2830	1148	3977		3.81	Si
SLV 8	ini.	276.92	-1091	0.45	0	1113	7137	2830	1148	3977		3.64	Si
SLV 8	fin.	-233.94	-2011	0.45	0	1113	7137	2830	1148	3977		1.98	Si
SLV 7	ini.	229.15	-879	0.45	0	1113	7137	2830	1148	3977		4.53	Si
SLV 7	fin.	-187.54	-1770	0.45	0	1113	7137	2830	1148	3977		2.25	Si
SLV 11	ini.	146.06	-478	0.45	0	1113	7137	2830	1148	3977		8.32	Si
SLV 11	fin.	-98.63	-1338	0.45	0	1113	7137	2830	1148	3977		2.97	Si
SLD 8	ini.	157.3	-541	0.45	0	1113	7137	2830	1148	3977		7.35	Si
SLD 8	fin.	-130.6	-1342	0.45	0	1113	7137	2830	1148	3977		2.96	Si
SLV 13	ini.	-261.39	1405	0.45	0	1113	7137	2830	1148	3977		2.83	Si
SLV 13	fin.	259.12	930	0.45	0	1113	7137	2830	1148	3977		4.28	Si
SLV 4	ini.	224.49	-876	0.45	0	1113	7137	2830	1148	3977		4.54	Si
SLV 4	fin.	-218.22	-1656	0.45	0	1113	7137	2830	1148	3977		2.4	Si
SLV 12	ini.	193.84	-691	0.45	0	1113	7137	2830	1148	3977		5.76	Si
SLV 12	fin.	-145.03	-1578	0.45	0	1113	7137	2830	1148	3977		2.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.823	SLV 9	Si
V_SLV	1.978	SLV 8	Si
PF_SLU	23.393	SLU 69	Si
V_SLU	4.82	SLU 74	Si

Trave di accoppiamento 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	13.55	14.6	1.05	-18.498	0.841	13.55	14.6	1.05	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-223.63	-646	-0.0000215	0.0001872	0.0035	1.05		10169.42	10169.42	No	45.47	Si
SLU 35	fin.	-20.35	-237	-0.0000019	0.0001872	0.0035	1.05		10169.42	10169.42	No	499.65	Si
SLU 37	ini.	-209.78	-606	-0.0000201	0.0001872	0.0035	1.05		10169.42	10169.42	No	48.48	Si
SLU 37	fin.	-17.67	-226	-0.0000017	0.0001872	0.0035	1.05		10169.42	10169.42	No	575.56	Si
SLU 27	ini.	-198.23	-593	-0.000019	0.0001872	0.0035	1.05		10169.42	10169.42	No	51.3	Si
SLU 27	fin.	-23.65	-237	-0.0000022	0.0001872	0.0035	1.05		10169.42	10169.42	No	430.04	Si
SLU 80	ini.	-192.52	-579	-0.0000185	0.0001872	0.0035	1.05		10169.42	10169.42	No	52.82	Si
SLU 80	fin.	-16.51	-242	-0.0000016	0.0001872	0.0035	1.05		10169.42	10169.42	No	615.99	Si
SLU 38	ini.	-219.06	-626	-0.0000211	0.0001872	0.0035	1.05		10169.42	10169.42	No	46.42	Si
SLU 38	fin.	-17.39	-227	-0.0000016	0.0001872	0.0035	1.05		10169.42	10169.42	No	584.83	Si
SLU 30	ini.	-193.66	-574	-0.0000186	0.0001872	0.0035	1.05		10169.42	10169.42	No	52.51	Si
SLU 30	fin.	-20.68	-228	-0.000002	0.0001872	0.0035	1.05		10169.42	10169.42	No	491.67	Si
SLU 36	ini.	-232.91	-666	-0.0000224	0.0001872	0.0035	1.05		10169.42	10169.42	No	43.66	Si
SLU 36	fin.	-20.07	-238	-0.0000019	0.0001872	0.0035	1.05		10169.42	10169.42	No	506.62	Si
SLU 28	ini.	-207.51	-613	-0.0000199	0.0001872	0.0035	1.05		10169.42	10169.42	No	49.01	Si
SLU 28	fin.	-23.37	-239	-0.0000022	0.0001872	0.0035	1.05		10169.42	10169.42	No	435.2	Si
SLU 78	ini.	-206.37	-618	-0.0000198	0.0001872	0.0035	1.05		10169.42	10169.42	No	49.28	Si
SLU 78	fin.	-19.19	-253	-0.0000018	0.0001872	0.0035	1.05		10169.42	10169.42	No	529.84	Si
SLU 77	ini.	-197.1	-598	-0.0000189	0.0001872	0.0035	1.05		10169.42	10169.42	No	51.6	Si
SLU 77	fin.	-19.47	-251	-0.0000018	0.0001872	0.0035	1.05		10169.42	10169.42	No	522.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 27	ini.	-198.23	587	1.05	571	1021	36250	2201	5355	7556	No	12.87	Si
SLU 27	fin.	-23.65	341	1.05	69	1021	36250	2201	5355	7556	No	22.17	Si
SLU 28	ini.	-207.51	611	1.05	597	1021	36250	2201	5355	7556	No	12.36	Si
SLU 28	fin.	-23.37	365	1.05	68	1021	36250	2201	5355	7556	No	20.69	Si
SLU 35	ini.	-223.63	657	1.05	643	1021	36250	2201	5355	7556	No	11.5	Si
SLU 35	fin.	-20.35	411	1.05	59	1021	36250	2201	5355	7556	No	18.37	Si
SLU 77	ini.	-197.1	620	1.05	567	1021	36250	2201	5355	7556	No	12.19	Si
SLU 77	fin.	-19.47	312	1.05	57	1021	36250	2201	5355	7556	No	24.19	Si
SLU 36	ini.	-232.91	682	1.05	669	1021	36250	2201	5355	7556	No	11.08	Si
SLU 36	fin.	-20.07	436	1.05	58	1021	36250	2201	5355	7556	No	17.34	Si
SLU 38	ini.	-219.06	649	1.05	630	1021	36250	2201	5355	7556	No	11.64	Si
SLU 38	fin.	-17.39	403	1.05	50	1021	36250	2201	5355	7556	No	18.74	Si
SLU 80	ini.	-192.52	611	1.05	554	1021	36250	2201	5355	7556	No	12.36	Si
SLU 80	fin.	-16.51	304	1.05	48	1021	36250	2201	5355	7556	No	24.84	Si
SLU 79	ini.	-183.24	587	1.05	528	1021	36250	2201	5355	7556	No	12.87	Si
SLU 79	fin.	-16.79	280	1.05	49	1021	36250	2201	5355	7556	No	27.01	Si
SLU 78	ini.	-206.37	644	1.05	594	1021	36250	2201	5355	7556	No	11.73	Si
SLU 78	fin.	-19.19	337	1.05	56	1021	36250	2201	5355	7556	No	22.44	Si
SLU 37	ini.	-209.78	625	1.05	604	1021	36250	2201	5355	7556	No	12.09	Si
SLU 37	fin.	-17.67	379	1.05	51	1021	36250	2201	5355	7556	No	19.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1022.71	-2414	-0.0001032	0.0002807	0.0035	1.05		11023.02	11023.02		10.78	Si
SLV 9	fin.	-521.7	-309	-0.0000508	0.0002807	0.0035	1.05		11023.02	11023.02		21.13	Si
SLD 11	ini.	642.74	1396	-0.0000632	0.0002807	0.0035	1.05		11005.88	11005.88		17.12	Si
SLD 11	fin.	297.48	-9	-0.0000286	0.0002807	0.0035	1.05		11005.88	11005.88		37	Si
SLV 8	ini.	1002	2238	-0.0001011	0.0002807	0.0035	1.05		11005.88	11005.88		10.98	Si
SLV 8	fin.	520.87	111	-0.0000508	0.0002807	0.0035	1.05		11005.88	11005.88		21.13	Si
SLV 11	ini.	1098.58	2437	-0.0001116	0.0002807	0.0035	1.05		11005.88	11005.88		10.02	Si
SLV 11	fin.	492.6	29	-0.0000479	0.0002807	0.0035	1.05		11005.88	11005.88		22.34	Si
SLV 7	ini.	1034.69	2315	-0.0001046	0.0002807	0.0035	1.05		11005.88	11005.88		10.64	Si
SLV 7	fin.	523.18	121	-0.000051	0.0002807	0.0035	1.05		11005.88	11005.88		21.04	Si
SLV 6	ini.	-1119.29	-2612	-0.0001137	0.0002807	0.0035	1.05		11023.02	11023.02		9.85	Si
SLV 6	fin.	-493.44	-228	-0.0000479	0.0002807	0.0035	1.05		11023.02	11023.02		22.34	Si
SLD 6	ini.	-663.45	-1571	-0.0000652	0.0002807	0.0035	1.05		11023.02	11023.02		16.61	Si
SLD 6	fin.	-298.31	-190	-0.0000286	0.0002807	0.0035	1.05		11023.02	11023.02		36.95	Si
SLV 5	ini.	-1086.6	-2536	-0.0001101	0.0002807	0.0035	1.05		11023.02	11023.02		10.14	Si
SLV 5	fin.	-491.13	-218	-0.0000477	0.0002807	0.0035	1.05		11023.02	11023.02		22.44	Si
SLV 10	ini.	-1055.4	-2490	-0.0001067	0.0002807	0.0035	1.05		11023.02	11023.02		10.44	Si
SLV 10	fin.	-524.01	-319	-0.000051	0.0002807	0.0035	1.05		11023.02	11023.02		21.04	Si
SLV 12	ini.	1065.89	2361	-0.000108	0.0002807	0.0035	1.05		11005.88	11005.88		10.33	Si
SLV 12	fin.	490.29	19	-0.0000477	0.0002807	0.0035	1.05		11005.88	11005.88		22.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	1065.89	-2462	1.05	4485	1531	36250	3301	5355	8656		3.52	Si
SLV 12	fin.	490.29	-2859	1.05	2106	1531	36250	3301	5355	8656		3.03	Si
SLD 11	ini.	642.74	-1437	1.05	2747	1531	36250	3301	5355	8656		6.02	Si
SLD 11	fin.	297.48	-1779	1.05	1286	1531	36250	3301	5355	8656		4.87	Si
SLD 12	ini.	622.91	-1387	1.05	2664	1531	36250	3301	5355	8656		6.24	Si
SLD 12	fin.	296.07	-1729	1.05	1280	1531	36250	3301	5355	8656		5.01	Si
SLV 8	ini.	1002	-2304	1.05	4226	1531	36250	3301	5355	8656		3.76	Si
SLV 8	fin.	520.87	-2667	1.05	2236	1531	36250	3301	5355	8656		3.25	Si
SLV 9	ini.	-1022.71	2571	1.05	4304	1531	36250	3301	5355	8656		3.37	Si
SLV 9	fin.	-521.7	2470	1.05	2236	1531	36250	3301	5355	8656		3.5	Si
SLV 6	ini.	-1119.29	2812	1.05	4693	1531	36250	3301	5355	8656		3.08	Si
SLV 6	fin.	-493.44	2745	1.05	2117	1531	36250	3301	5355	8656		3.15	Si
SLV 11	ini.	1098.58	-2544	1.05	4617	1531	36250	3301	5355	8656		3.4	Si
SLV 11	fin.	492.6	-2941	1.05	2116	1531	36250	3301	5355	8656		2.94	Si
SLV 10	ini.	-1055.4	2653	1.05	4436	1531	36250	3301	5355	8656		3.26	Si
SLV 10	fin.	-524.01	2552	1.05	2245	1531	36250	3301	5355	8656		3.39	Si
SLV 5	ini.	-1086.6	2730	1.05	4562	1531	36250	3301	5355	8656		3.17	Si
SLV 5	fin.	-491.13	2663	1.05	2107	1531	36250	3301	5355	8656		3.25	Si
SLV 7	ini.	1034.69	-2385	1.05	4359	1531	36250	3301	5355	8656		3.63	Si
SLV 7	fin.	523.18	-2749	1.05	2245	1531	36250	3301	5355	8656		3.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	9.848	SLV 6	Si
V_SLV	2.943	SLV 11	Si
PF_SLU	43.663	SLU 36	Si
V_SLU	11.084	SLU 36	Si

Trave di accoppiamento 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.293	-3.169	13.55	14.6	1.05	-16.193	-3.169	13.55	14.6	1.05	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-441.19	-1764	-0.0001301	0.0001872	0.0035	1.05		4894.43	4894.43	No	11.09	Si
SLU 81	fin.	318.84	846	-0.0000926	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.33	Si
SLU 82	ini.	-445.98	-1778	-0.0001316	0.0001872	0.0035	1.05		4894.43	4894.43	No	10.97	Si
SLU 82	fin.	321.47	853	-0.0000934	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.2	Si
SLU 83	ini.	-438.14	-1753	-0.0001291	0.0001872	0.0035	1.05		4894.43	4894.43	No	11.17	Si
SLU 83	fin.	313.55	831	-0.000091	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.59	Si
SLU 77	ini.	-441.76	-1795	-0.0001302	0.0001872	0.0035	1.05		4894.43	4894.43	No	11.08	Si
SLU 77	fin.	311.83	766	-0.0000904	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.67	Si
SLU 75	ini.	-449.59	-1820	-0.0001327	0.0001872	0.0035	1.05		4894.43	4894.43	No	10.89	Si
SLU 75	fin.	319.75	788	-0.0000928	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.28	Si
SLU 76	ini.	-436.44	-1728	-0.0001286	0.0001872	0.0035	1.05		4894.43	4894.43	No	11.21	Si
SLU 76	fin.	311.72	806	-0.0000904	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.68	Si
SLU 84	ini.	-442.93	-1767	-0.0001306	0.0001872	0.0035	1.05		4894.43	4894.43	No	11.05	Si
SLU 84	fin.	316.17	837	-0.0000918	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.46	Si
SLU 78	ini.	-446.55	-1809	-0.0001318	0.0001872	0.0035	1.05		4894.43	4894.43	No	10.96	Si
SLU 78	fin.	314.45	773	-0.0000912	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.54	Si
SLU 73	ini.	-439.48	-1738	-0.0001295	0.0001872	0.0035	1.05		4894.43	4894.43	No	11.14	Si
SLU 73	fin.	317.02	821	-0.000092	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.41	Si
SLU 74	ini.	-444.8	-1806	-0.0001312	0.0001872	0.0035	1.05		4894.43	4894.43	No	11	Si
SLU 74	fin.	317.12	782	-0.000092	0.0001872	0.0035	1.05		4886.65	4886.65	No	15.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-439.48	3014	1.05	0	2042	14273	4402	2678	7079	No	2.35	Si
SLU 73	fin.	317.02	1486	1.05	0	2042	14273	4402	2678	7079	No	4.76	Si
SLU 84	ini.	-442.93	3041	1.05	0	2042	14273	4402	2678	7079	No	2.33	Si
SLU 84	fin.	316.17	1510	1.05	0	2042	14273	4402	2678	7079	No	4.69	Si
SLU 78	ini.	-446.55	3120	1.05	0	2042	14273	4402	2678	7079	No	2.27	Si
SLU 78	fin.	314.45	1385	1.05	0	2042	14273	4402	2678	7079	No	5.11	Si
SLU 81	ini.	-441.19	3046	1.05	0	2042	14273	4402	2678	7079	No	2.32	Si
SLU 81	fin.	318.84	1513	1.05	0	2042	14273	4402	2678	7079	No	4.68	Si
SLU 77	ini.	-441.76	3100	1.05	0	2042	14273	4402	2678	7079	No	2.28	Si
SLU 77	fin.	311.83	1363	1.05	0	2042	14273	4402	2678	7079	No	5.19	Si
SLU 67	ini.	-426.98	2992	1.05	0	2042	14273	4402	2678	7079	No	2.37	Si
SLU 67	fin.	305.28	1261	1.05	0	2042	14273	4402	2678	7079	No	5.61	Si
SLU 74	ini.	-444.8	3125	1.05	0	2042	14273	4402	2678	7079	No	2.27	Si
SLU 74	fin.	317.12	1389	1.05	0	2042	14273	4402	2678	7079	No	5.1	Si
SLU 75	ini.	-449.59	3145	1.05	0	2042	14273	4402	2678	7079	No	2.25	Si
SLU 75	fin.	319.75	1411	1.05	0	2042	14273	4402	2678	7079	No	5.02	Si
SLU 83	ini.	-438.14	3021	1.05	0	2042	14273	4402	2678	7079	No	2.34	Si
SLU 83	fin.	313.55	1488	1.05	0	2042	14273	4402	2678	7079	No	4.76	Si
SLU 82	ini.	-445.98	3066	1.05	0	2042	14273	4402	2678	7079	No	2.31	Si
SLU 82	fin.	321.47	1536	1.05	0	2042	14273	4402	2678	7079	No	4.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-566.42	-2279	-0.0001665	0.0002807	0.0035	1.05		4818.47	4818.47		8.51	Si
SLD 9	fin.	573.44	1172	-0.0001689	0.0002807	0.0035	1.05		4809.73	4809.73		8.39	Si
SLD 13	ini.	-617.03	-2196	-0.0001823	0.0002807	0.0035	1.05		4818.47	4818.47		7.81	Si
SLD 13	fin.	652.78	1445	-0.0001939	0.0002807	0.0035	1.05		4809.73	4809.73		7.37	Si
SLD 14	ini.	-529.8	-1914	-0.0001551	0.0002807	0.0035	1.05		4818.47	4818.47		9.09	Si
SLD 14	fin.	547.02	1216	-0.0001607	0.0002807	0.0035	1.05		4809.73	4809.73		8.79	Si
SLV 15	ini.	-629.03	-1971	-0.0001861	0.0002807	0.0035	1.05		4818.47	4818.47		7.66	Si
SLV 15	fin.	677.36	1616	-0.0002018	0.0002807	0.0035	1.05		4809.73	4809.73		7.1	Si
SLV 13	ini.	-803.5	-2802	-0.0002424	0.0002807	0.0035	1.05		4818.47	4818.47		6	Si
SLV 13	fin.	908.9	1967	-0.0002782	0.0002807	0.0035	1.05		4809.73	4809.73		5.29	Si
SLV 14	ini.	-665.99	-2358	-0.0001978	0.0002807	0.0035	1.05		4818.47	4818.47		7.24	Si
SLV 14	fin.	742.19	1606	-0.0002227	0.0002807	0.0035	1.05		4809.73	4809.73		6.48	Si
SLV 10	ini.	-650.6	-2717	-0.0001929	0.0002807	0.0035	1.05		4818.47	4818.47		7.41	Si
SLV 10	fin.	695.95	1332	-0.0002077	0.0002807	0.0035	1.05		4809.73	4809.73		6.91	Si
SLD 15	ini.	-515.18	-1707	-0.0001506	0.0002807	0.0035	1.05		4818.47	4818.47		9.35	Si
SLD 15	fin.	516.83	1239	-0.0001514	0.0002807	0.0035	1.05		4809.73	4809.73		9.31	Si
SLV 9	ini.	-743.16	-3017	-0.0002226	0.0002807	0.0035	1.05		4818.47	4818.47		6.48	Si
SLV 9	fin.	808.17	1575	-0.0002444	0.0002807	0.0035	1.05		4809.73	4809.73		5.95	Si
SLV 5	ini.	-536.23	-2431	-0.0001571	0.0002807	0.0035	1.05		4818.47	4818.47		8.99	Si
SLV 5	fin.	513.65	940	-0.0001504	0.0002807	0.0035	1.05		4809.73	4809.73		9.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-743.16	4904	1.05	0	3063	14273	6603	2678	9280		1.89	Si
SLV 9	fin.	808.17	3063	1.05	0	3063	14273	6603	2678	9280		3.03	Si
SLV 13	ini.	-803.5	5060	1.05	0	3063	14273	6603	2678	9280		1.83	Si
SLV 13	fin.	908.9	3735	1.05	0	3063	14273	6603	2678	9280		2.48	Si
SLV 10	ini.	-650.6	4369	1.05	0	3063	14273	6603	2678	9280		2.12	Si
SLV 10	fin.	695.95	2523	1.05	0	3063	14273	6603	2678	9280		3.68	Si
SLV 15	ini.	-629.03	3892	1.05	0	3063	14273	6603	2678	9280		2.38	Si
SLV 15	fin.	677.36	3003	1.05	0	3063	14273	6603	2678	9280		3.09	Si
SLD 9	ini.	-566.42	3778	1.05	0	3063	14273	6603	2678	9280		2.46	Si
SLD 9	fin.	573.44	2222	1.05	0	3063	14273	6603	2678	9280		4.18	Si
SLV 14	ini.	-665.99	4265	1.05	0	3063	14273	6603	2678	9280		2.18	Si
SLV 14	fin.	742.19	2932	1.05	0	3063	14273	6603	2678	9280		3.16	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-529.8	3451	1.05	0	3063	14273	6603	2678	9280		2.69	Si
SLD 14	fin.	547.02	2202	1.05	0	3063	14273	6603	2678	9280		4.21	Si
SLV 5	ini.	-536.23	3713	1.05	0	3063	14273	6603	2678	9280		2.5	Si
SLV 5	fin.	513.65	1868	1.05	0	3063	14273	6603	2678	9280		4.97	Si
SLD 10	ini.	-510.25	3453	1.05	0	3063	14273	6603	2678	9280		2.69	Si
SLD 10	fin.	505.34	1894	1.05	0	3063	14273	6603	2678	9280		4.9	Si
SLD 13	ini.	-617.03	3955	1.05	0	3063	14273	6603	2678	9280		2.35	Si
SLD 13	fin.	652.78	2711	1.05	0	3063	14273	6603	2678	9280		3.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.292	SLV 13	Si
V_SLV	1.834	SLV 13	Si
PF_SLU	10.886	SLU 75	Si
V_SLU	2.251	SLU 75	Si

Trave di accoppiamento 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	13.55	14.6	1.05	-15.058	2.206	13.55	14.6	1.05	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-26.77	-593	-0.0000025	0.0001872	0.0035	1.05		10169.42	10169.42	No	379.88	Si
SLU 83	fin.	-1127.65	-2764	-0.0001201	0.0001872	0.0035	1.05		10169.42	10169.42	No	9.02	Si
SLU 78	ini.	-33.41	-644	-0.0000032	0.0001872	0.0035	1.05		10169.42	10169.42	No	304.42	Si
SLU 78	fin.	-1166.03	-2883	-0.0001249	0.0001872	0.0035	1.05		10169.42	10169.42	No	8.72	Si
SLU 35	ini.	-31.64	-579	-0.000003	0.0001872	0.0035	1.05		10169.42	10169.42	No	321.38	Si
SLU 35	fin.	-1070.79	-2641	-0.0001132	0.0001872	0.0035	1.05		10169.42	10169.42	No	9.5	Si
SLU 79	ini.	-31.37	-632	-0.000003	0.0001872	0.0035	1.05		10169.42	10169.42	No	324.23	Si
SLU 79	fin.	-1153.44	-2846	-0.0001233	0.0001872	0.0035	1.05		10169.42	10169.42	No	8.82	Si
SLU 77	ini.	-33.92	-650	-0.0000032	0.0001872	0.0035	1.05		10169.42	10169.42	No	299.8	Si
SLU 77	fin.	-1183.4	-2924	-0.0001271	0.0001872	0.0035	1.05		10169.42	10169.42	No	8.59	Si
SLU 69	ini.	-33.24	-612	-0.0000031	0.0001872	0.0035	1.05		10169.42	10169.42	No	305.91	Si
SLU 69	fin.	-1058.07	-2636	-0.0001117	0.0001872	0.0035	1.05		10169.42	10169.42	No	9.61	Si
SLU 74	ini.	-29.04	-596	-0.0000027	0.0001872	0.0035	1.05		10169.42	10169.42	No	350.24	Si
SLU 74	fin.	-1103.9	-2718	-0.0001172	0.0001872	0.0035	1.05		10169.42	10169.42	No	9.21	Si
SLU 80	ini.	-30.85	-625	-0.0000029	0.0001872	0.0035	1.05		10169.42	10169.42	No	329.64	Si
SLU 80	fin.	-1136.06	-2806	-0.0001212	0.0001872	0.0035	1.05		10169.42	10169.42	No	8.95	Si
SLU 84	ini.	-26.26	-587	-0.0000025	0.0001872	0.0035	1.05		10169.42	10169.42	No	387.33	Si
SLU 84	fin.	-1110.27	-2723	-0.000118	0.0001872	0.0035	1.05		10169.42	10169.42	No	9.16	Si
SLU 75	ini.	-28.52	-589	-0.0000027	0.0001872	0.0035	1.05		10169.42	10169.42	No	356.57	Si
SLU 75	fin.	-1086.52	-2678	-0.0001151	0.0001872	0.0035	1.05		10169.42	10169.42	No	9.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-29.04	-2602	1.05	84	1021	36250	2201	5355	7556	No	2.9	Si
SLU 74	fin.	-1103.9	-2903	1.05	3019	1021	36250	2201	5355	7556	No	2.6	Si
SLU 35	ini.	-31.64	-2544	1.05	92	1021	36250	2201	5355	7556	No	2.97	Si
SLU 35	fin.	-1070.79	-2783	1.05	2935	1021	36250	2201	5355	7556	No	2.71	Si
SLU 79	ini.	-31.37	-2722	1.05	91	1021	36250	2201	5355	7556	No	2.78	Si
SLU 79	fin.	-1153.44	-3022	1.05	3144	1021	36250	2201	5355	7556	No	2.5	Si
SLU 84	ini.	-26.26	-2623	1.05	76	1021	36250	2201	5355	7556	No	2.88	Si
SLU 84	fin.	-1110.27	-2923	1.05	3036	1021	36250	2201	5355	7556	No	2.58	Si
SLU 78	ini.	-33.41	-2751	1.05	97	1021	36250	2201	5355	7556	No	2.75	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-1166.03	-3052	1.05	3176	1021	36250	2201	5355	7556	No	2.48	Si
SLU 83	ini.	-26.77	-2666	1.05	78	1021	36250	2201	5355	7556	No	2.83	Si
SLU 83	fin.	-1127.65	-2967	1.05	3080	1021	36250	2201	5355	7556	No	2.55	Si
SLU 77	ini.	-33.92	-2795	1.05	98	1021	36250	2201	5355	7556	No	2.7	Si
SLU 77	fin.	-1183.4	-3095	1.05	3219	1021	36250	2201	5355	7556	No	2.44	Si
SLU 69	ini.	-33.24	-2475	1.05	96	1021	36250	2201	5355	7556	No	3.05	Si
SLU 69	fin.	-1058.07	-2776	1.05	2903	1021	36250	2201	5355	7556	No	2.72	Si
SLU 80	ini.	-30.85	-2678	1.05	90	1021	36250	2201	5355	7556	No	2.82	Si
SLU 80	fin.	-1136.06	-2979	1.05	3101	1021	36250	2201	5355	7556	No	2.54	Si
SLU 75	ini.	-28.52	-2559	1.05	83	1021	36250	2201	5355	7556	No	2.95	Si
SLU 75	fin.	-1086.52	-2859	1.05	2975	1021	36250	2201	5355	7556	No	2.64	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-400.37	-1241	-0.0000387	0.0002807	0.0035	1.05		11023.02	11023.02		27.53	Si
SLV 12	fin.	-2374.37	-5767	-0.0002739	0.0002807	0.0035	1.05		11023.02	11023.02		4.64	Si
SLD 8	ini.	-265.9	-888	-0.0000255	0.0002807	0.0035	1.05		11023.02	11023.02		41.46	Si
SLD 8	fin.	-1593.45	-3891	-0.0001686	0.0002807	0.0035	1.05		11023.02	11023.02		6.92	Si
SLV 8	ini.	-430.4	-1236	-0.0000416	0.0002807	0.0035	1.05		11023.02	11023.02		25.61	Si
SLV 8	fin.	-2253.89	-5497	-0.0002559	0.0002807	0.0035	1.05		11023.02	11023.02		4.89	Si
SLV 15	ini.	-85.29	-635	-0.0000081	0.0002807	0.0035	1.05		11023.02	11023.02		129.24	Si
SLV 15	fin.	-1357.6	-3280	-0.0001407	0.0002807	0.0035	1.05		11023.02	11023.02		8.12	Si
SLV 7	ini.	-430.54	-1235	-0.0000417	0.0002807	0.0035	1.05		11023.02	11023.02		25.6	Si
SLV 7	fin.	-2250.4	-5489	-0.0002554	0.0002807	0.0035	1.05		11023.02	11023.02		4.9	Si
SLD 7	ini.	-265.99	-888	-0.0000255	0.0002807	0.0035	1.05		11023.02	11023.02		41.44	Si
SLD 7	fin.	-1591.34	-3886	-0.0001683	0.0002807	0.0035	1.05		11023.02	11023.02		6.93	Si
SLV 16	ini.	-85.08	-637	-0.0000081	0.0002807	0.0035	1.05		11023.02	11023.02		129.56	Si
SLV 16	fin.	-1362.79	-3292	-0.0001413	0.0002807	0.0035	1.05		11023.02	11023.02		8.09	Si
SLD 11	ini.	-246.7	-891	-0.0000236	0.0002807	0.0035	1.05		11023.02	11023.02		44.68	Si
SLD 11	fin.	-1668.26	-4059	-0.0001777	0.0002807	0.0035	1.05		11023.02	11023.02		6.61	Si
SLD 12	ini.	-246.61	-892	-0.0000236	0.0002807	0.0035	1.05		11023.02	11023.02		44.7	Si
SLD 12	fin.	-1670.37	-4064	-0.000178	0.0002807	0.0035	1.05		11023.02	11023.02		6.6	Si
SLV 11	ini.	-400.51	-1240	-0.0000387	0.0002807	0.0035	1.05		11023.02	11023.02		27.52	Si
SLV 11	fin.	-2370.88	-5759	-0.0002733	0.0002807	0.0035	1.05		11023.02	11023.02		4.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-246.61	-3884	1.05	1066	1531	36250	3301	5355	8656		2.23	Si
SLD 12	fin.	-1670.37	-4098	1.05	6842	1531	36250	3301	5355	8656		2.11	Si
SLV 8	ini.	-430.4	-5220	1.05	1850	1531	36250	3301	5355	8656		1.66	Si
SLV 8	fin.	-2253.89	-5440	1.05	8961	1531	36250	3301	5355	8656		1.59	Si
SLD 7	ini.	-265.99	-3688	1.05	1150	1531	36250	3301	5355	8656		2.35	Si
SLD 7	fin.	-1591.34	-3910	1.05	6542	1531	36250	3301	5355	8656		2.21	Si
SLD 8	ini.	-265.9	-3693	1.05	1149	1531	36250	3301	5355	8656		2.34	Si
SLD 8	fin.	-1593.45	-3915	1.05	6550	1531	36250	3301	5355	8656		2.21	Si
SLV 7	ini.	-430.54	-5211	1.05	1851	1531	36250	3301	5355	8656		1.66	Si
SLV 7	fin.	-2250.4	-5430	1.05	8949	1531	36250	3301	5355	8656		1.59	Si
SLV 12	ini.	-400.37	-5519	1.05	1723	1531	36250	3301	5355	8656		1.57	Si
SLV 12	fin.	-2374.37	-5726	1.05	9374	1531	36250	3301	5355	8656		1.51	Si
SLV 11	ini.	-400.51	-5510	1.05	1723	1531	36250	3301	5355	8656		1.57	Si
SLV 11	fin.	-2370.88	-5716	1.05	9362	1531	36250	3301	5355	8656		1.51	Si
SLV 15	ini.	-85.29	-3185	1.05	371	1531	36250	3301	5355	8656		2.72	Si
SLV 15	fin.	-1357.6	-3386	1.05	5637	1531	36250	3301	5355	8656		2.56	Si
SLV 16	ini.	-85.08	-3198	1.05	370	1531	36250	3301	5355	8656		2.71	Si
SLV 16	fin.	-1362.79	-3399	1.05	5658	1531	36250	3301	5355	8656		2.55	Si
SLD 11	ini.	-246.7	-3879	1.05	1067	1531	36250	3301	5355	8656		2.23	Si
SLD 11	fin.	-1668.26	-4092	1.05	6834	1531	36250	3301	5355	8656		2.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.643	SLV 12	Si
V_SLV	1.512	SLV 12	Si
PF_SLU	8.593	SLU 77	Si
V_SLU	2.441	SLU 77	Si

Trave di accoppiamento 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-13.753	0.051	13.55	14.6	1.05	-13.753	0.951	13.55	14.6	1.05	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-1181.2	-3327	-0.0002886	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.67	Si
SLU 77	fin.	116.91	-874	-0.0000254	0.0001872	0.0035	1.05		6686.15	6686.15	No	57.19	Si
SLU 28	ini.	-1109.95	-3126	-0.0002686	0.0001872	0.0035	1.05		6696.67	6696.67	No	6.03	Si
SLU 28	fin.	101.38	-822	-0.000022	0.0001872	0.0035	1.05		6686.15	6686.15	No	65.95	Si
SLU 80	ini.	-1154.96	-3246	-0.0002812	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.8	Si
SLU 80	fin.	114.89	-844	-0.000025	0.0001872	0.0035	1.05		6686.15	6686.15	No	58.2	Si
SLU 78	ini.	-1212.65	-3412	-0.0002976	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.52	Si
SLU 78	fin.	118.61	-892	-0.0000258	0.0001872	0.0035	1.05		6686.15	6686.15	No	56.37	Si
SLU 36	ini.	-1170.23	-3284	-0.0002855	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.72	Si
SLU 36	fin.	107.23	-845	-0.0000233	0.0001872	0.0035	1.05		6686.15	6686.15	No	62.35	Si
SLU 69	ini.	-1120.93	-3169	-0.0002717	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.97	Si
SLU 69	fin.	111.06	-851	-0.0000241	0.0001872	0.0035	1.05		6686.15	6686.15	No	60.2	Si
SLU 70	ini.	-1152.38	-3254	-0.0002805	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.81	Si
SLU 70	fin.	112.77	-869	-0.0000245	0.0001872	0.0035	1.05		6686.15	6686.15	No	59.29	Si
SLU 35	ini.	-1138.77	-3199	-0.0002767	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.88	Si
SLU 35	fin.	105.52	-827	-0.0000229	0.0001872	0.0035	1.05		6686.15	6686.15	No	63.36	Si
SLU 79	ini.	-1123.51	-3161	-0.0002724	0.0001872	0.0035	1.05		6696.67	6696.67	No	5.96	Si
SLU 79	fin.	113.18	-827	-0.0000246	0.0001872	0.0035	1.05		6686.15	6686.15	No	59.08	Si
SLU 38	ini.	-1112.54	-3118	-0.0002694	0.0001872	0.0035	1.05		6696.67	6696.67	No	6.02	Si
SLU 38	fin.	103.5	-798	-0.0000225	0.0001872	0.0035	1.05		6686.15	6686.15	No	64.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-1152.38	3101	1.05	0	2042	14273	4402	4016	8418	No	2.71	Si
SLU 70	fin.	112.77	2330	1.05	0	2042	14273	4402	4016	8418	No	3.61	Si
SLU 69	ini.	-1120.93	3025	1.05	0	2042	14273	4402	4016	8418	No	2.78	Si
SLU 69	fin.	111.06	2254	1.05	0	2042	14273	4402	4016	8418	No	3.74	Si
SLU 36	ini.	-1170.23	3081	1.05	0	2042	14273	4402	4016	8418	No	2.73	Si
SLU 36	fin.	107.23	2478	1.05	0	2042	14273	4402	4016	8418	No	3.4	Si
SLU 77	ini.	-1181.2	3177	1.05	0	2042	14273	4402	4016	8418	No	2.65	Si
SLU 77	fin.	116.91	2406	1.05	0	2042	14273	4402	4016	8418	No	3.5	Si
SLU 35	ini.	-1138.77	3005	1.05	0	2042	14273	4402	4016	8418	No	2.8	Si
SLU 35	fin.	105.52	2402	1.05	0	2042	14273	4402	4016	8418	No	3.5	Si
SLU 75	ini.	-1095.67	2973	1.05	0	2042	14273	4402	4016	8418	No	2.83	Si
SLU 75	fin.	111.31	2202	1.05	0	2042	14273	4402	4016	8418	No	3.82	Si
SLU 80	ini.	-1154.96	3116	1.05	0	2042	14273	4402	4016	8418	No	2.7	Si
SLU 80	fin.	114.89	2345	1.05	0	2042	14273	4402	4016	8418	No	3.59	Si
SLU 72	ini.	-1094.69	2963	1.05	0	2042	14273	4402	4016	8418	No	2.84	Si
SLU 72	fin.	109.04	2192	1.05	0	2042	14273	4402	4016	8418	No	3.84	Si
SLU 79	ini.	-1123.51	3040	1.05	0	2042	14273	4402	4016	8418	No	2.77	Si
SLU 79	fin.	113.18	2269	1.05	0	2042	14273	4402	4016	8418	No	3.71	Si
SLU 78	ini.	-1212.65	3253	1.05	0	2042	14273	4402	4016	8418	No	2.59	Si
SLU 78	fin.	118.61	2482	1.05	0	2042	14273	4402	4016	8418	No	3.39	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	2487.59	6778	-0.0006678	0.0002807	0.0035	1.05		6885.91	6885.91		2.77	Si
SLV 12	fin.	205.31	1214	-0.0000447	0.0002807	0.0035	1.05		6885.91	6885.91		33.54	Si
SLV 8	ini.	2656.51	7187	-0.0007255	0.0002807	0.0035	1.05		6885.91	6885.91		2.59	Si
SLV 8	fin.	177.6	1259	-0.0000386	0.0002807	0.0035	1.05		6885.91	6885.91		38.77	Si
SLV 9	ini.	-3834.36	-10501	-0.0011783	0.0002807	0.0035	1.05		6896.89	6896.89		1.8	Si
SLV 9	fin.	-40.5	-2138	-0.0000087	0.0002807	0.0035	1.05		6896.89	6896.89		170.29	Si
SLV 5	ini.	-3665.45	-10091	-0.0011067	0.0002807	0.0035	1.05		6896.89	6896.89		1.88	Si
SLV 5	fin.	-68.21	-2094	-0.0000147	0.0002807	0.0035	1.05		6896.89	6896.89		101.11	Si
SLV 7	ini.	2687.75	7273	-0.0007364	0.0002807	0.0035	1.05		6885.91	6885.91		2.56	Si
SLV 7	fin.	176.25	1277	-0.0000383	0.0002807	0.0035	1.05		6885.91	6885.91		39.07	Si
SLV 11	ini.	2518.84	6863	-0.0006783	0.0002807	0.0035	1.05		6885.91	6885.91		2.73	Si
SLV 11	fin.	203.96	1233	-0.0000444	0.0002807	0.0035	1.05		6885.91	6885.91		33.76	Si
SLD 10	ini.	-2512.57	-6896	-0.0006749	0.0002807	0.0035	1.05		6896.89	6896.89		2.74	Si
SLD 10	fin.	8.17	-1446	-0.0000018	0.0002807	0.0035	1.05		6885.91	6885.91		842.78	Si
SLV 6	ini.	-3696.69	-10177	-0.0011197	0.0002807	0.0035	1.05		6896.89	6896.89		1.87	Si
SLV 6	fin.	-66.86	-2112	-0.0000144	0.0002807	0.0035	1.05		6896.89	6896.89		103.16	Si
SLD 9	ini.	-2493.61	-6844	-0.0006685	0.0002807	0.0035	1.05		6896.89	6896.89		2.77	Si
SLD 9	fin.	7.35	-1434	-0.0000016	0.0002807	0.0035	1.05		6885.91	6885.91		936.89	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-3865.61	-10586	-0.0011919	0.0002807	0.0035	1.05		6896.89	6896.89		1.78	Si
SLV 10	fin.	-39.15	-2157	-0.0000084	0.0002807	0.0035	1.05		6896.89	6896.89		176.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	2687.75	-5921	1.05	0	3063	14273	6603	4016	10619		1.79	Si
SLV 7	fin.	176.25	-6509	1.05	0	3063	14273	6603	4016	10619		1.63	Si
SLV 6	ini.	-3696.69	8851	1.05	0	3063	14273	6603	4016	10619		1.2	Si
SLV 6	fin.	-66.86	8302	1.05	0	3063	14273	6603	4016	10619		1.28	Si
SLV 5	ini.	-3665.45	8775	1.05	0	3063	14273	6603	4016	10619		1.21	Si
SLV 5	fin.	-68.21	8227	1.05	0	3063	14273	6603	4016	10619		1.29	Si
SLV 12	ini.	2487.59	-5432	1.05	0	3063	14273	6603	4016	10619		1.95	Si
SLV 12	fin.	205.31	-6061	1.05	0	3063	14273	6603	4016	10619		1.75	Si
SLV 8	ini.	2656.51	-5845	1.05	0	3063	14273	6603	4016	10619		1.82	Si
SLV 8	fin.	177.6	-6434	1.05	0	3063	14273	6603	4016	10619		1.65	Si
SLV 11	ini.	2518.84	-5507	1.05	0	3063	14273	6603	4016	10619		1.93	Si
SLV 11	fin.	203.96	-6136	1.05	0	3063	14273	6603	4016	10619		1.73	Si
SLD 10	ini.	-2512.57	6128	1.05	0	3063	14273	6603	4016	10619		1.73	Si
SLD 10	fin.	8.17	5541	1.05	0	3063	14273	6603	4016	10619		1.92	Si
SLD 9	ini.	-2493.61	6082	1.05	0	3063	14273	6603	4016	10619		1.75	Si
SLD 9	fin.	7.35	5495	1.05	0	3063	14273	6603	4016	10619		1.93	Si
SLV 10	ini.	-3865.61	9264	1.05	0	3063	14273	6603	4016	10619		1.15	Si
SLV 10	fin.	-39.15	8675	1.05	0	3063	14273	6603	4016	10619		1.22	Si
SLV 9	ini.	-3834.36	9189	1.05	0	3063	14273	6603	4016	10619		1.16	Si
SLV 9	fin.	-40.5	8600	1.05	0	3063	14273	6603	4016	10619		1.23	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.784	SLV 10	Si
V_SLV	1.146	SLV 10	Si
PF_SLU	5.522	SLU 78	Si
V_SLU	2.588	SLU 78	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	11.45	12.35	0.9	-16.843	6.661	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-266.99	-6	-0.000106	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.41	Si
SLU 83	fin.	201.69	-1009	-0.0000793	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.71	Si
SLU 38	ini.	-266.31	19	-0.0001057	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.44	Si
SLU 38	fin.	201.03	-984	-0.000079	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.77	Si
SLU 77	ini.	-277.58	-44	-0.0001104	0.0001872	0.0035	0.9		3579.32	3579.32	No	12.89	Si
SLU 77	fin.	223.37	-1142	-0.0000882	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.99	Si
SLU 78	ini.	-285.16	-30	-0.0001136	0.0001872	0.0035	0.9		3579.32	3579.32	No	12.55	Si
SLU 78	fin.	225.91	-1148	-0.0000892	0.0001872	0.0035	0.9		3572.55	3572.55	No	15.81	Si
SLU 76	ini.	-261.68	-12	-0.0001038	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.68	Si
SLU 76	fin.	199.52	-1006	-0.0000784	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.91	Si
SLU 36	ini.	-269.61	11	-0.0001071	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.28	Si
SLU 36	fin.	206.16	-1020	-0.0000811	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.33	Si
SLU 84	ini.	-274.58	7	-0.0001092	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.04	Si
SLU 84	fin.	204.23	-1015	-0.0000803	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.49	Si
SLU 35	ini.	-262.03	-3	-0.0001039	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.66	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	fin.	203.62	-1014	-0.0000801	0.0001872	0.0035	0.9		3572.55	3572.55	No	17.55	Si
SLU 79	ini.	-274.28	-35	-0.0001091	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.05	Si
SLU 79	fin.	218.24	-1107	-0.000086	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.37	Si
SLU 80	ini.	-281.86	-22	-0.0001122	0.0001872	0.0035	0.9		3579.32	3579.32	No	12.7	Si
SLU 80	fin.	220.78	-1113	-0.0000871	0.0001872	0.0035	0.9		3572.55	3572.55	No	16.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-269.61	838	0.9	0	1750	14273	3773	2295	6068	No	7.24	Si
SLU 36	fin.	206.16	1777	0.9	0	1750	14273	3773	2295	6068	No	3.42	Si
SLU 72	ini.	-239.98	751	0.9	0	1750	14273	3773	2295	6068	No	8.08	Si
SLU 72	fin.	205.85	1876	0.9	0	1750	14273	3773	2295	6068	No	3.23	Si
SLU 69	ini.	-235.69	724	0.9	0	1750	14273	3773	2295	6068	No	8.38	Si
SLU 69	fin.	208.44	1931	0.9	0	1750	14273	3773	2295	6068	No	3.14	Si
SLU 80	ini.	-281.86	906	0.9	0	1750	14273	3773	2295	6068	No	6.7	Si
SLU 80	fin.	220.78	1915	0.9	0	1750	14273	3773	2295	6068	No	3.17	Si
SLU 79	ini.	-274.28	883	0.9	0	1750	14273	3773	2295	6068	No	6.87	Si
SLU 79	fin.	218.24	1897	0.9	0	1750	14273	3773	2295	6068	No	3.2	Si
SLU 71	ini.	-232.39	728	0.9	0	1750	14273	3773	2295	6068	No	8.34	Si
SLU 71	fin.	203.3	1859	0.9	0	1750	14273	3773	2295	6068	No	3.26	Si
SLU 78	ini.	-285.16	902	0.9	0	1750	14273	3773	2295	6068	No	6.73	Si
SLU 78	fin.	225.91	1987	0.9	0	1750	14273	3773	2295	6068	No	3.05	Si
SLU 70	ini.	-243.27	746	0.9	0	1750	14273	3773	2295	6068	No	8.13	Si
SLU 70	fin.	210.98	1949	0.9	0	1750	14273	3773	2295	6068	No	3.11	Si
SLU 75	ini.	-259.92	848	0.9	0	1750	14273	3773	2295	6068	No	7.15	Si
SLU 75	fin.	202.96	1774	0.9	0	1750	14273	3773	2295	6068	No	3.42	Si
SLU 77	ini.	-277.58	879	0.9	0	1750	14273	3773	2295	6068	No	6.9	Si
SLU 77	fin.	223.37	1969	0.9	0	1750	14273	3773	2295	6068	No	3.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	737.46	-1410	-0.0003112	0.0002807	0.0035	0.9		3568.61	3568.61		4.84	Si
SLV 15	fin.	-230.25	370	-0.0000899	0.0002807	0.0035	0.9		3575.64	3575.64		15.53	Si
SLV 2	ini.	-1017.78	1277	-0.0004521	0.0002807	0.0035	0.9		3575.64	3575.64		3.51	Si
SLV 2	fin.	466.2	-1643	-0.0001883	0.0002807	0.0035	0.9		3568.61	3568.61		7.65	Si
SLD 5	ini.	-772.99	991	-0.0003277	0.0002807	0.0035	0.9		3575.64	3575.64		4.63	Si
SLD 5	fin.	346.6	-1225	-0.0001376	0.0002807	0.0035	0.9		3568.61	3568.61		10.3	Si
SLV 12	ini.	915.86	-1837	-0.0003997	0.0002807	0.0035	0.9		3568.61	3568.61		3.9	Si
SLV 12	fin.	-261.7	335	-0.0001025	0.0002807	0.0035	0.9		3575.64	3575.64		13.66	Si
SLV 16	ini.	1008.23	-1785	-0.000448	0.0002807	0.0035	0.9		3568.61	3568.61		3.54	Si
SLV 16	fin.	-356.19	753	-0.0001413	0.0002807	0.0035	0.9		3575.64	3575.64		10.04	Si
SLV 6	ini.	-1013.91	1452	-0.00045	0.0002807	0.0035	0.9		3575.64	3575.64		3.53	Si
SLV 6	fin.	412.88	-1351	-0.0001655	0.0002807	0.0035	0.9		3568.61	3568.61		8.64	Si
SLV 3	ini.	-852.74	872	-0.0003669	0.0002807	0.0035	0.9		3575.64	3575.64		4.19	Si
SLV 3	fin.	451.1	-1708	-0.0001818	0.0002807	0.0035	0.9		3568.61	3568.61		7.91	Si
SLV 5	ini.	-1196.18	1704	-0.0005501	0.0002807	0.0035	0.9		3575.64	3575.64		2.99	Si
SLV 5	fin.	497.66	-1609	-0.0002019	0.0002807	0.0035	0.9		3568.61	3568.61		7.17	Si
SLD 1	ini.	-859.47	1008	-0.0003703	0.0002807	0.0035	0.9		3575.64	3575.64		4.16	Si
SLD 1	fin.	415.65	-1511	-0.0001666	0.0002807	0.0035	0.9		3568.61	3568.61		8.59	Si
SLV 1	ini.	-1288.55	1653	-0.0006033	0.0002807	0.0035	0.9		3575.64	3575.64		2.77	Si
SLV 1	fin.	592.15	-2027	-0.0002438	0.0002807	0.0035	0.9		3568.61	3568.61		6.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	-687.69	2138	0.9	0	2625	14273	5660	2295	7955		3.72	Si
SLD 2	fin.	335.75	2592	0.9	0	2625	14273	5660	2295	7955		3.07	Si
SLV 1	ini.	-1288.55	3951	0.9	0	2625	14273	5660	2295	7955		2.01	Si
SLV 1	fin.	592.15	4339	0.9	0	2625	14273	5660	2295	7955		1.83	Si
SLV 3	ini.	-852.74	2638	0.9	0	2625	14273	5660	2295	7955		3.01	Si
SLV 3	fin.	451.1	3339	0.9	0	2625	14273	5660	2295	7955		2.38	Si
SLV 12	ini.	915.86	-2695	0.9	0	2625	14273	5660	2295	7955		2.95	Si
SLV 12	fin.	-261.7	-1595	0.9	0	2625	14273	5660	2295	7955		4.99	Si
SLD 5	ini.	-772.99	2394	0.9	0	2625	14273	5660	2295	7955		3.32	Si
SLD 5	fin.	346.6	2656	0.9	0	2625	14273	5660	2295	7955		2.99	Si
SLV 2	ini.	-1017.78	3134	0.9	0	2625	14273	5660	2295	7955		2.54	Si
SLV 2	fin.	466.2	3510	0.9	0	2625	14273	5660	2295	7955		2.27	Si
SLD 1	ini.	-859.47	2656	0.9	0	2625	14273	5660	2295	7955		2.99	Si
SLD 1	fin.	415.65	3117	0.9	0	2625	14273	5660	2295	7955		2.55	Si
SLV 16	ini.	1008.23	-2977	0.9	0	2625	14273	5660	2295	7955		2.67	Si
SLV 16	fin.	-356.19	-2221	0.9	0	2625	14273	5660	2295	7955		3.58	Si
SLV 6	ini.	-1013.91	3119	0.9	0	2625	14273	5660	2295	7955		2.55	Si
SLV 6	fin.	412.88	3155	0.9	0	2625	14273	5660	2295	7955		2.52	Si
SLV 5	ini.	-1196.18	3669	0.9	0	2625	14273	5660	2295	7955		2.17	Si
SLV 5	fin.	497.66	3713	0.9	0	2625	14273	5660	2295	7955		2.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.775	SLV 1	Si
V_SLV	1.833	SLV 1	Si
PF_SLU	12.552	SLU 78	Si
V_SLU	3.054	SLU 78	Si

Trave di accoppiamento 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	14.15	14.6	0.45	-16.843	6.661	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-160.39	-65	-0.0002755	0.0001872	0.0035	0.45		918.62	918.62	No	5.73	Si
SLU 35	fin.	-15.55	342	-0.0000237	0.0001872	0.0035	0.45		918.62	918.62	No	59.07	Si
SLU 78	ini.	-172.6	-52	-0.0003001	0.0001872	0.0035	0.45		918.62	918.62	No	5.32	Si
SLU 78	fin.	-20.4	373	-0.0000312	0.0001872	0.0035	0.45		918.62	918.62	No	45.04	Si
SLU 72	ini.	-158.35	-44	-0.0002715	0.0001872	0.0035	0.45		918.62	918.62	No	5.8	Si
SLU 72	fin.	-25.2	325	-0.0000387	0.0001872	0.0035	0.45		918.62	918.62	No	36.45	Si
SLU 70	ini.	-162.06	-34	-0.0002789	0.0001872	0.0035	0.45		918.62	918.62	No	5.67	Si
SLU 70	fin.	-33.53	322	-0.0000518	0.0001872	0.0035	0.45		918.62	918.62	No	27.4	Si
SLU 77	ini.	-170.87	-49	-0.0002966	0.0001872	0.0035	0.45		918.62	918.62	No	5.38	Si
SLU 77	fin.	-22.6	364	-0.0000347	0.0001872	0.0035	0.45		918.62	918.62	No	40.64	Si
SLU 36	ini.	-162.13	-68	-0.000279	0.0001872	0.0035	0.45		918.62	918.62	No	5.67	Si
SLU 36	fin.	-13.34	351	-0.0000203	0.0001872	0.0035	0.45		918.62	918.62	No	68.84	Si
SLU 69	ini.	-160.33	-31	-0.0002754	0.0001872	0.0035	0.45		918.62	918.62	No	5.73	Si
SLU 69	fin.	-35.73	314	-0.0000553	0.0001872	0.0035	0.45		918.62	918.62	No	25.71	Si
SLU 79	ini.	-167.15	-59	-0.0002891	0.0001872	0.0035	0.45		918.62	918.62	No	5.5	Si
SLU 79	fin.	-14.28	367	-0.0000218	0.0001872	0.0035	0.45		918.62	918.62	No	64.32	Si
SLU 38	ini.	-158.41	-78	-0.0002716	0.0001872	0.0035	0.45		918.62	918.62	No	5.8	Si
SLU 38	fin.	-5.02	354	-0.0000076	0.0001872	0.0035	0.45		918.62	918.62	No	182.93	Si
SLU 80	ini.	-168.89	-62	-0.0002926	0.0001872	0.0035	0.45		918.62	918.62	No	5.44	Si
SLU 80	fin.	-12.08	376	-0.0000184	0.0001872	0.0035	0.45		918.62	918.62	No	76.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-172.6	883	0.45	0	799	7137	1887	1148	3034	No	3.44	Si
SLU 78	fin.	-20.4	-355	0.45	0	799	7137	1887	1148	3034	No	8.54	Si
SLU 35	ini.	-160.39	805	0.45	0	799	7137	1887	1148	3034	No	3.77	Si
SLU 35	fin.	-15.55	-301	0.45	0	799	7137	1887	1148	3034	No	10.07	Si
SLU 70	ini.	-162.06	841	0.45	0	799	7137	1887	1148	3034	No	3.61	Si
SLU 70	fin.	-33.53	-398	0.45	0	799	7137	1887	1148	3034	No	7.63	Si
SLU 71	ini.	-156.62	809	0.45	0	799	7137	1887	1148	3034	No	3.75	Si
SLU 71	fin.	-27.41	-364	0.45	0	799	7137	1887	1148	3034	No	8.33	Si
SLU 77	ini.	-170.87	876	0.45	0	799	7137	1887	1148	3034	No	3.46	Si
SLU 77	fin.	-22.6	-362	0.45	0	799	7137	1887	1148	3034	No	8.37	Si
SLU 79	ini.	-167.15	851	0.45	0	799	7137	1887	1148	3034	No	3.56	Si
SLU 79	fin.	-14.28	-322	0.45	0	799	7137	1887	1148	3034	No	9.43	Si
SLU 36	ini.	-162.13	812	0.45	0	799	7137	1887	1148	3034	No	3.74	Si
SLU 36	fin.	-13.34	-294	0.45	0	799	7137	1887	1148	3034	No	10.32	Si
SLU 80	ini.	-168.89	858	0.45	0	799	7137	1887	1148	3034	No	3.54	Si
SLU 80	fin.	-12.08	-315	0.45	0	799	7137	1887	1148	3034	No	9.64	Si
SLU 72	ini.	-158.35	816	0.45	0	799	7137	1887	1148	3034	No	3.72	Si
SLU 72	fin.	-25.2	-357	0.45	0	799	7137	1887	1148	3034	No	8.5	Si
SLU 69	ini.	-160.33	834	0.45	0	799	7137	1887	1148	3034	No	3.64	Si
SLU 69	fin.	-35.73	-405	0.45	0	799	7137	1887	1148	3034	No	7.5	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-257.14	-358	-0.0004554	0.0002807	0.0035	0.45		885.81	885.81		3.44	Si
SLD 1	fin.	193.97	952	-0.0003288	0.0002807	0.0035	0.45		882.16	882.16		4.55	Si
SLV 3	ini.	-262.03	-413	-0.0004658	0.0002807	0.0035	0.45		885.81	885.81		3.38	Si
SLV 3	fin.	191.68	915	-0.0003243	0.0002807	0.0035	0.45		882.16	882.16		4.6	Si
SLV 6	ini.	-276.67	-318	-0.0004975	0.0002807	0.0035	0.45		885.81	885.81		3.2	Si
SLV 6	fin.	232.13	1149	-0.000405	0.0002807	0.0035	0.45		882.16	882.16		3.8	Si
SLV 5	ini.	-335.27	-456	-0.0006307	0.0002807	0.0035	0.45		885.81	885.81		2.64	Si
SLV 5	fin.	297.67	1372	-0.0005465	0.0002807	0.0035	0.45		882.16	882.16		2.96	Si
SLV 16	ini.	207.92	608	-0.0003561	0.0002807	0.0035	0.45		882.16	882.16		4.24	Si
SLV 16	fin.	-355.14	-1056	-0.0006783	0.0002807	0.0035	0.45		885.81	885.81		2.49	Si
SLV 1	ini.	-364.25	-580	-0.0007005	0.0002807	0.0035	0.45		885.81	885.81		2.43	Si
SLV 1	fin.	320.55	1416	-0.000599	0.0002807	0.0035	0.45		882.16	882.16		2.75	Si
SLV 15	ini.	120.87	403	-0.0001952	0.0002807	0.0035	0.45		882.16	882.16		7.3	Si
SLV 15	fin.	-257.78	-725	-0.0004567	0.0002807	0.0035	0.45		885.81	885.81		3.44	Si
SLV 11	ini.	120.34	346	-0.0001943	0.0002807	0.0035	0.45		882.16	882.16		7.33	Si
SLV 11	fin.	-266.72	-790	-0.0004759	0.0002807	0.0035	0.45		885.81	885.81		3.32	Si
SLV 12	ini.	178.94	484	-0.0003	0.0002807	0.0035	0.45		882.16	882.16		4.93	Si
SLV 12	fin.	-332.26	-1012	-0.0006236	0.0002807	0.0035	0.45		885.81	885.81		2.67	Si
SLV 2	ini.	-277.2	-375	-0.0004986	0.0002807	0.0035	0.45		885.81	885.81		3.2	Si
SLV 2	fin.	223.19	1085	-0.0003867	0.0002807	0.0035	0.45		882.16	882.16		3.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-277.2	1202	0.45	0	1113	7137	2830	1148	3977		3.31	Si
SLV 2	fin.	223.19	560	0.45	0	1113	7137	2830	1148	3977		7.11	Si
SLD 1	ini.	-257.14	1118	0.45	0	1113	7137	2830	1148	3977		3.56	Si
SLD 1	fin.	193.97	473	0.45	0	1113	7137	2830	1148	3977		8.41	Si
SLV 12	ini.	178.94	-575	0.45	0	1113	7137	2830	1148	3977		6.92	Si
SLV 12	fin.	-332.26	-1248	0.45	0	1113	7137	2830	1148	3977		3.19	Si
SLV 6	ini.	-276.67	1218	0.45	0	1113	7137	2830	1148	3977		3.26	Si
SLV 6	fin.	232.13	576	0.45	0	1113	7137	2830	1148	3977		6.9	Si
SLV 1	ini.	-364.25	1529	0.45	0	1113	7137	2830	1148	3977		2.6	Si
SLV 1	fin.	320.55	890	0.45	0	1113	7137	2830	1148	3977		4.47	Si
SLV 16	ini.	207.92	-666	0.45	0	1113	7137	2830	1148	3977		5.97	Si
SLV 16	fin.	-355.14	-1340	0.45	0	1113	7137	2830	1148	3977		2.97	Si
SLV 3	ini.	-262.03	1123	0.45	0	1113	7137	2830	1148	3977		3.54	Si
SLV 3	fin.	191.68	477	0.45	0	1113	7137	2830	1148	3977		8.34	Si
SLV 11	ini.	120.34	-355	0.45	0	1113	7137	2830	1148	3977		11.2	Si
SLV 11	fin.	-266.72	-1026	0.45	0	1113	7137	2830	1148	3977		3.88	Si
SLV 5	ini.	-335.27	1438	0.45	0	1113	7137	2830	1148	3977		2.77	Si
SLV 5	fin.	297.67	799	0.45	0	1113	7137	2830	1148	3977		4.98	Si
SLD 5	ini.	-232.39	1035	0.45	0	1113	7137	2830	1148	3977		3.84	Si
SLD 5	fin.	171.4	389	0.45	0	1113	7137	2830	1148	3977		10.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.432	SLV 1	Si
V_SLV	2.601	SLV 1	Si
PF_SLU	5.322	SLU 78	Si
V_SLU	3.437	SLU 78	Si

Trave di accoppiamento 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	11.45	12.35	0.9	-11.918	6.661	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	81.72	-794	-0.0000315	0.0001872	0.0035	0.9		3572.55	3572.55	No	43.72	Si
SLU 79	fin.	258.16	-1172	-0.0001025	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.84	Si
SLU 75	ini.	70.7	-751	-0.0000272	0.0001872	0.0035	0.9		3572.55	3572.55	No	50.53	Si
SLU 75	fin.	258.39	-1155	-0.0001026	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.83	Si
SLU 80	ini.	82.82	-796	-0.0000319	0.0001872	0.0035	0.9		3572.55	3572.55	No	43.14	Si
SLU 80	fin.	256.79	-1169	-0.000102	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.91	Si
SLU 69	ini.	94.33	-844	-0.0000364	0.0001872	0.0035	0.9		3572.55	3572.55	No	37.87	Si
SLU 69	fin.	263.9	-1209	-0.0001049	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.54	Si
SLU 70	ini.	95.43	-846	-0.0000368	0.0001872	0.0035	0.9		3572.55	3572.55	No	37.44	Si
SLU 70	fin.	262.53	-1207	-0.0001044	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.61	Si
SLU 74	ini.	69.6	-749	-0.0000268	0.0001872	0.0035	0.9		3572.55	3572.55	No	51.33	Si
SLU 74	fin.	259.76	-1157	-0.0001032	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.75	Si
SLU 66	ini.	74.95	-756	-0.0000288	0.0001872	0.0035	0.9		3572.55	3572.55	No	47.67	Si
SLU 66	fin.	255.84	-1146	-0.0001016	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.96	Si
SLU 77	ini.	88.98	-836	-0.0000343	0.0001872	0.0035	0.9		3572.55	3572.55	No	40.15	Si
SLU 77	fin.	267.83	-1221	-0.0001066	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.34	Si
SLU 67	ini.	76.04	-758	-0.0000293	0.0001872	0.0035	0.9		3572.55	3572.55	No	46.98	Si
SLU 67	fin.	254.47	-1143	-0.000101	0.0001872	0.0035	0.9		3572.55	3572.55	No	14.04	Si
SLU 78	ini.	90.08	-838	-0.0000347	0.0001872	0.0035	0.9		3572.55	3572.55	No	39.66	Si
SLU 78	fin.	266.46	-1218	-0.000106	0.0001872	0.0035	0.9		3572.55	3572.55	No	13.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	94.33	-438	0.9	0	1750	14273	3773	2295	6068	No	13.85	Si
SLU 69	fin.	263.9	1083	0.9	0	1750	14273	3773	2295	6068	No	5.6	Si
SLU 74	ini.	69.6	-272	0.9	0	1750	14273	3773	2295	6068	No	22.34	Si
SLU 74	fin.	259.76	1017	0.9	0	1750	14273	3773	2295	6068	No	5.96	Si
SLU 79	ini.	81.72	-331	0.9	0	1750	14273	3773	2295	6068	No	18.31	Si
SLU 79	fin.	258.16	1013	0.9	0	1750	14273	3773	2295	6068	No	5.99	Si
SLU 67	ini.	76.04	-339	0.9	0	1750	14273	3773	2295	6068	No	17.91	Si
SLU 67	fin.	254.47	1029	0.9	0	1750	14273	3773	2295	6068	No	5.9	Si
SLU 72	ini.	88.16	-399	0.9	0	1750	14273	3773	2295	6068	No	15.22	Si
SLU 72	fin.	252.86	1024	0.9	0	1750	14273	3773	2295	6068	No	5.92	Si
SLU 70	ini.	95.43	-442	0.9	0	1750	14273	3773	2295	6068	No	13.73	Si
SLU 70	fin.	262.53	1076	0.9	0	1750	14273	3773	2295	6068	No	5.64	Si
SLU 71	ini.	87.06	-395	0.9	0	1750	14273	3773	2295	6068	No	15.37	Si
SLU 71	fin.	254.23	1031	0.9	0	1750	14273	3773	2295	6068	No	5.89	Si
SLU 77	ini.	88.98	-375	0.9	0	1750	14273	3773	2295	6068	No	16.19	Si
SLU 77	fin.	267.83	1065	0.9	0	1750	14273	3773	2295	6068	No	5.7	Si
SLU 78	ini.	90.08	-379	0.9	0	1750	14273	3773	2295	6068	No	16.03	Si
SLU 78	fin.	266.46	1058	0.9	0	1750	14273	3773	2295	6068	No	5.73	Si
SLU 66	ini.	74.95	-335	0.9	0	1750	14273	3773	2295	6068	No	18.12	Si
SLU 66	fin.	255.84	1035	0.9	0	1750	14273	3773	2295	6068	No	5.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	852.62	-2171	-0.0003676	0.0002807	0.0035	0.9		3568.61	3568.61		4.19	Si
SLV 14	fin.	-700.27	843	-0.000293	0.0002807	0.0035	0.9		3575.64	3575.64		5.11	Si
SLD 1	ini.	-464.31	582	-0.0001871	0.0002807	0.0035	0.9		3575.64	3575.64		7.7	Si
SLD 1	fin.	702.67	-1721	-0.0002947	0.0002807	0.0035	0.9		3568.61	3568.61		5.08	Si
SLD 3	ini.	-486.18	625	-0.0001965	0.0002807	0.0035	0.9		3575.64	3575.64		7.35	Si
SLD 3	fin.	735.5	-1793	-0.0003103	0.0002807	0.0035	0.9		3568.61	3568.61		4.85	Si
SLV 1	ini.	-747.51	1177	-0.0003154	0.0002807	0.0035	0.9		3575.64	3575.64		4.78	Si
SLV 1	fin.	1000.28	-2259	-0.0004438	0.0002807	0.0035	0.9		3568.61	3568.61		3.57	Si
SLV 3	ini.	-784.85	1248	-0.0003334	0.0002807	0.0035	0.9		3575.64	3575.64		4.56	Si
SLV 3	fin.	1056.3	-2383	-0.0004738	0.0002807	0.0035	0.9		3568.61	3568.61		3.38	Si
SLV 16	ini.	815.27	-2100	-0.000349	0.0002807	0.0035	0.9		3568.61	3568.61		4.38	Si
SLV 16	fin.	-644.24	720	-0.000267	0.0002807	0.0035	0.9		3575.64	3575.64		5.55	Si
SLV 4	ini.	-577.61	812	-0.0002368	0.0002807	0.0035	0.9		3575.64	3575.64		6.19	Si
SLV 4	fin.	838.18	-1984	-0.0003604	0.0002807	0.0035	0.9		3568.61	3568.61		4.26	Si
SLV 13	ini.	645.38	-1735	-0.0002681	0.0002807	0.0035	0.9		3568.61	3568.61		5.53	Si
SLV 13	fin.	-482.15	445	-0.0001948	0.0002807	0.0035	0.9		3575.64	3575.64		7.42	Si
SLV 15	ini.	608.03	-1663	-0.000251	0.0002807	0.0035	0.9		3568.61	3568.61		5.87	Si
SLV 15	fin.	-426.12	322	-0.0001708	0.0002807	0.0035	0.9		3575.64	3575.64		8.39	Si
SLV 2	ini.	-540.26	740	-0.0002202	0.0002807	0.0035	0.9		3575.64	3575.64		6.62	Si
SLV 2	fin.	782.15	-1861	-0.0003328	0.0002807	0.0035	0.9		3568.61	3568.61		4.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-464.31	2114	0.9	0	2625	14273	5660	2295	7955		3.76	Si
SLD 1	fin.	702.67	2773	0.9	0	2625	14273	5660	2295	7955		2.87	Si
SLV 14	ini.	852.62	-3709	0.9	0	2625	14273	5660	2295	7955		2.14	Si
SLV 14	fin.	-700.27	-2842	0.9	0	2625	14273	5660	2295	7955		2.8	Si
SLV 16	ini.	815.27	-3632	0.9	0	2625	14273	5660	2295	7955		2.19	Si
SLV 16	fin.	-644.24	-2571	0.9	0	2625	14273	5660	2295	7955		3.09	Si
SLD 3	ini.	-486.18	2157	0.9	0	2625	14273	5660	2295	7955		3.69	Si
SLD 3	fin.	735.5	2932	0.9	0	2625	14273	5660	2295	7955		2.71	Si
SLV 4	ini.	-577.61	2552	0.9	0	2625	14273	5660	2295	7955		3.12	Si
SLV 4	fin.	838.18	3353	0.9	0	2625	14273	5660	2295	7955		2.37	Si
SLV 2	ini.	-540.26	2475	0.9	0	2625	14273	5660	2295	7955		3.21	Si
SLV 2	fin.	782.15	3082	0.9	0	2625	14273	5660	2295	7955		2.58	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	645.38	-2796	0.9	0	2625	14273	5660	2295	7955		2.84	Si
SLV 13	fin.	-482.15	-1971	0.9	0	2625	14273	5660	2295	7955		4.03	Si
SLV 1	ini.	-747.51	3388	0.9	0	2625	14273	5660	2295	7955		2.35	Si
SLV 1	fin.	1000.28	3953	0.9	0	2625	14273	5660	2295	7955		2.01	Si
SLV 3	ini.	-784.85	3464	0.9	0	2625	14273	5660	2295	7955		2.3	Si
SLV 3	fin.	1056.3	4224	0.9	0	2625	14273	5660	2295	7955		1.88	Si
SLV 15	ini.	608.03	-2720	0.9	0	2625	14273	5660	2295	7955		2.92	Si
SLV 15	fin.	-426.12	-1700	0.9	0	2625	14273	5660	2295	7955		4.68	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.378	SLV 3	Si
V_SLV	1.883	SLV 3	Si
PF_SLU	13.339	SLU 77	Si
V_SLU	5.605	SLU 69	Si

Trave di accoppiamento 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	14.15	14.6	0.45	-11.918	6.661	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-172.22	-302	-0.0002994	0.0001872	0.0035	0.45		918.62	918.62	No	5.33	Si
SLU 70	fin.	-48.81	57	-0.0000762	0.0001872	0.0035	0.45		918.62	918.62	No	18.82	Si
SLU 71	ini.	-165.05	-294	-0.0002848	0.0001872	0.0035	0.45		918.62	918.62	No	5.57	Si
SLU 71	fin.	-41.36	66	-0.0000642	0.0001872	0.0035	0.45		918.62	918.62	No	22.21	Si
SLU 78	ini.	-175.4	-312	-0.0003058	0.0001872	0.0035	0.45		918.62	918.62	No	5.24	Si
SLU 78	fin.	-45.91	64	-0.0000715	0.0001872	0.0035	0.45		918.62	918.62	No	20.01	Si
SLU 75	ini.	-163.87	-301	-0.0002825	0.0001872	0.0035	0.45		918.62	918.62	No	5.61	Si
SLU 75	fin.	-32.52	80	-0.0000502	0.0001872	0.0035	0.45		918.62	918.62	No	28.25	Si
SLU 74	ini.	-164.53	-303	-0.0002838	0.0001872	0.0035	0.45		918.62	918.62	No	5.58	Si
SLU 74	fin.	-31.84	82	-0.0000491	0.0001872	0.0035	0.45		918.62	918.62	No	28.85	Si
SLU 72	ini.	-164.38	-292	-0.0002835	0.0001872	0.0035	0.45		918.62	918.62	No	5.59	Si
SLU 72	fin.	-42.04	64	-0.0000653	0.0001872	0.0035	0.45		918.62	918.62	No	21.85	Si
SLU 79	ini.	-168.22	-304	-0.0002913	0.0001872	0.0035	0.45		918.62	918.62	No	5.46	Si
SLU 79	fin.	-38.46	73	-0.0000596	0.0001872	0.0035	0.45		918.62	918.62	No	23.88	Si
SLU 80	ini.	-167.56	-302	-0.0002899	0.0001872	0.0035	0.45		918.62	918.62	No	5.48	Si
SLU 80	fin.	-39.14	71	-0.0000607	0.0001872	0.0035	0.45		918.62	918.62	No	23.47	Si
SLU 69	ini.	-172.88	-303	-0.0003007	0.0001872	0.0035	0.45		918.62	918.62	No	5.31	Si
SLU 69	fin.	-48.13	59	-0.0000751	0.0001872	0.0035	0.45		918.62	918.62	No	19.09	Si
SLU 77	ini.	-176.06	-314	-0.0003072	0.0001872	0.0035	0.45		918.62	918.62	No	5.22	Si
SLU 77	fin.	-45.23	66	-0.0000704	0.0001872	0.0035	0.45		918.62	918.62	No	20.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-163.87	759	0.45	0	799	7137	1887	1148	3034	No	4	Si
SLU 75	fin.	-32.52	-291	0.45	0	799	7137	1887	1148	3034	No	10.43	Si
SLU 74	ini.	-164.53	762	0.45	0	799	7137	1887	1148	3034	No	3.98	Si
SLU 74	fin.	-31.84	-288	0.45	0	799	7137	1887	1148	3034	No	10.52	Si
SLU 77	ini.	-176.06	818	0.45	0	799	7137	1887	1148	3034	No	3.71	Si
SLU 77	fin.	-45.23	-351	0.45	0	799	7137	1887	1148	3034	No	8.64	Si
SLU 70	ini.	-172.22	804	0.45	0	799	7137	1887	1148	3034	No	3.77	Si
SLU 70	fin.	-48.81	-364	0.45	0	799	7137	1887	1148	3034	No	8.33	Si
SLU 79	ini.	-168.22	781	0.45	0	799	7137	1887	1148	3034	No	3.88	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-38.46	-318	0.45	0	799	7137	1887	1148	3034	No	9.53	Si
SLU 71	ini.	-165.05	770	0.45	0	799	7137	1887	1148	3034	No	3.94	Si
SLU 71	fin.	-41.36	-329	0.45	0	799	7137	1887	1148	3034	No	9.22	Si
SLU 69	ini.	-172.88	807	0.45	0	799	7137	1887	1148	3034	No	3.76	Si
SLU 69	fin.	-48.13	-362	0.45	0	799	7137	1887	1148	3034	No	8.39	Si
SLU 80	ini.	-167.56	779	0.45	0	799	7137	1887	1148	3034	No	3.9	Si
SLU 80	fin.	-39.14	-321	0.45	0	799	7137	1887	1148	3034	No	9.46	Si
SLU 78	ini.	-175.4	815	0.45	0	799	7137	1887	1148	3034	No	3.72	Si
SLU 78	fin.	-45.91	-354	0.45	0	799	7137	1887	1148	3034	No	8.58	Si
SLU 72	ini.	-164.38	768	0.45	0	799	7137	1887	1148	3034	No	3.95	Si
SLU 72	fin.	-42.04	-331	0.45	0	799	7137	1887	1148	3034	No	9.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	199.93	692	-0.0003403	0.0002807	0.0035	0.45		882.16	882.16		4.41	Si
SLV 13	fin.	-314.47	-825	-0.0005822	0.0002807	0.0035	0.45		885.81	885.81		2.82	Si
SLV 1	ini.	-503.6	-1373	-0.0010766	0.0002807	0.0035	0.45		885.81	885.81		1.76	Si
SLV 1	fin.	390.45	1248	-0.0007695	0.0002807	0.0035	0.45		882.16	882.16		2.26	Si
SLV 3	ini.	-529.9	-1448	-0.0011564	0.0002807	0.0035	0.45		885.81	885.81		1.67	Si
SLV 3	fin.	417.48	1328	-0.0008398	0.0002807	0.0035	0.45		882.16	882.16		2.11	Si
SLD 1	ini.	-359.06	-949	-0.0006878	0.0002807	0.0035	0.45		885.81	885.81		2.47	Si
SLD 1	fin.	245.77	823	-0.0004333	0.0002807	0.0035	0.45		882.16	882.16		3.59	Si
SLV 14	ini.	319.78	1041	-0.0005972	0.0002807	0.0035	0.45		882.16	882.16		2.76	Si
SLV 14	fin.	-434.53	-1175	-0.0008812	0.0002807	0.0035	0.45		885.81	885.81		2.04	Si
SLV 2	ini.	-383.74	-1025	-0.000749	0.0002807	0.0035	0.45		885.81	885.81		2.31	Si
SLV 2	fin.	270.39	898	-0.000486	0.0002807	0.0035	0.45		882.16	882.16		3.26	Si
SLV 16	ini.	293.48	966	-0.000537	0.0002807	0.0035	0.45		882.16	882.16		3.01	Si
SLV 16	fin.	-407.5	-1094	-0.0008097	0.0002807	0.0035	0.45		885.81	885.81		2.17	Si
SLD 3	ini.	-374.5	-993	-0.0007258	0.0002807	0.0035	0.45		885.81	885.81		2.37	Si
SLD 3	fin.	261.63	870	-0.000467	0.0002807	0.0035	0.45		882.16	882.16		3.37	Si
SLV 4	ini.	-410.05	-1100	-0.0008163	0.0002807	0.0035	0.45		885.81	885.81		2.16	Si
SLV 4	fin.	297.42	979	-0.0005459	0.0002807	0.0035	0.45		882.16	882.16		2.97	Si
SLD 4	ini.	-298.46	-772	-0.0005458	0.0002807	0.0035	0.45		885.81	885.81		2.97	Si
SLD 4	fin.	185.47	649	-0.0003124	0.0002807	0.0035	0.45		882.16	882.16		4.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-383.74	1478	0.45	0	1113	7137	2830	1148	3977		2.69	Si
SLV 2	fin.	270.39	849	0.45	0	1113	7137	2830	1148	3977		4.68	Si
SLV 3	ini.	-529.9	2000	0.45	0	1113	7137	2830	1148	3977		1.99	Si
SLV 3	fin.	417.48	1373	0.45	0	1113	7137	2830	1148	3977		2.9	Si
SLV 14	ini.	319.78	-1026	0.45	0	1113	7137	2830	1148	3977		3.88	Si
SLV 14	fin.	-434.53	-1659	0.45	0	1113	7137	2830	1148	3977		2.4	Si
SLV 13	ini.	199.93	-598	0.45	0	1113	7137	2830	1148	3977		6.65	Si
SLV 13	fin.	-314.47	-1231	0.45	0	1113	7137	2830	1148	3977		3.23	Si
SLV 16	ini.	293.48	-931	0.45	0	1113	7137	2830	1148	3977		4.27	Si
SLV 16	fin.	-407.5	-1563	0.45	0	1113	7137	2830	1148	3977		2.54	Si
SLV 1	ini.	-503.6	1906	0.45	0	1113	7137	2830	1148	3977		2.09	Si
SLV 1	fin.	390.45	1277	0.45	0	1113	7137	2830	1148	3977		3.11	Si
SLD 1	ini.	-359.06	1391	0.45	0	1113	7137	2830	1148	3977		2.86	Si
SLD 1	fin.	245.77	762	0.45	0	1113	7137	2830	1148	3977		5.22	Si
SLD 3	ini.	-374.5	1447	0.45	0	1113	7137	2830	1148	3977		2.75	Si
SLD 3	fin.	261.63	819	0.45	0	1113	7137	2830	1148	3977		4.86	Si
SLV 4	ini.	-410.05	1573	0.45	0	1113	7137	2830	1148	3977		2.53	Si
SLV 4	fin.	297.42	945	0.45	0	1113	7137	2830	1148	3977		4.21	Si
SLD 4	ini.	-298.46	1176	0.45	0	1113	7137	2830	1148	3977		3.38	Si
SLD 4	fin.	185.47	547	0.45	0	1113	7137	2830	1148	3977		7.27	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.672	SLV 3	Si
V_SLV	1.988	SLV 3	Si
PF_SLU	5.218	SLU 77	Si
V_SLU	3.711	SLU 77	Si

Trave di accoppiamento 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	11.45	12.35	0.9	-7.013	6.661	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	88.23	-582	-0.000034	0.0001872	0.0035	0.9		3572.55	3572.55	No	40.49	Si
SLU 77	fin.	-188.86	35	-0.0000739	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.95	Si
SLU 36	ini.	86.29	-525	-0.0000333	0.0001872	0.0035	0.9		3572.55	3572.55	No	41.4	Si
SLU 36	fin.	-193.01	87	-0.0000756	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.54	Si
SLU 72	ini.	79.16	-545	-0.0000305	0.0001872	0.0035	0.9		3572.55	3572.55	No	45.13	Si
SLU 72	fin.	-181.29	48	-0.0000709	0.0001872	0.0035	0.9		3579.32	3579.32	No	19.74	Si
SLU 78	ini.	89.81	-587	-0.0000346	0.0001872	0.0035	0.9		3572.55	3572.55	No	39.78	Si
SLU 78	fin.	-193.27	42	-0.0000757	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.52	Si
SLU 38	ini.	80.81	-483	-0.0000311	0.0001872	0.0035	0.9		3572.55	3572.55	No	44.21	Si
SLU 38	fin.	-198.65	123	-0.0000779	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.02	Si
SLU 37	ini.	79.23	-479	-0.0000305	0.0001872	0.0035	0.9		3572.55	3572.55	No	45.09	Si
SLU 37	fin.	-194.25	116	-0.0000761	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.43	Si
SLU 79	ini.	82.75	-541	-0.0000319	0.0001872	0.0035	0.9		3572.55	3572.55	No	43.17	Si
SLU 79	fin.	-194.5	71	-0.0000762	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.4	Si
SLU 35	ini.	84.71	-520	-0.0000326	0.0001872	0.0035	0.9		3572.55	3572.55	No	42.17	Si
SLU 35	fin.	-188.61	80	-0.0000738	0.0001872	0.0035	0.9		3579.32	3579.32	No	18.98	Si
SLU 80	ini.	84.33	-546	-0.0000325	0.0001872	0.0035	0.9		3572.55	3572.55	No	42.37	Si
SLU 80	fin.	-198.91	79	-0.000078	0.0001872	0.0035	0.9		3579.32	3579.32	No	17.99	Si
SLU 30	ini.	75.64	-482	-0.0000291	0.0001872	0.0035	0.9		3572.55	3572.55	No	47.23	Si
SLU 30	fin.	-181.04	93	-0.0000708	0.0001872	0.0035	0.9		3579.32	3579.32	No	19.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 49	ini.	69.74	-1182	0.9	0	1750	14273	3773	2295	6068	No	5.13	Si
SLU 49	fin.	-148.88	-335	0.9	0	1750	14273	3773	2295	6068	No	18.12	Si
SLU 78	ini.	89.81	-1275	0.9	0	1750	14273	3773	2295	6068	No	4.76	Si
SLU 78	fin.	-193.27	-494	0.9	0	1750	14273	3773	2295	6068	No	12.29	Si
SLU 70	ini.	84.64	-1307	0.9	0	1750	14273	3773	2295	6068	No	4.64	Si
SLU 70	fin.	-175.65	-411	0.9	0	1750	14273	3773	2295	6068	No	14.75	Si
SLU 72	ini.	79.16	-1239	0.9	0	1750	14273	3773	2295	6068	No	4.9	Si
SLU 72	fin.	-181.29	-442	0.9	0	1750	14273	3773	2295	6068	No	13.73	Si
SLU 28	ini.	81.12	-1179	0.9	0	1750	14273	3773	2295	6068	No	5.15	Si
SLU 28	fin.	-175.4	-419	0.9	0	1750	14273	3773	2295	6068	No	14.47	Si
SLU 77	ini.	88.23	-1264	0.9	0	1750	14273	3773	2295	6068	No	4.8	Si
SLU 77	fin.	-188.86	-480	0.9	0	1750	14273	3773	2295	6068	No	12.63	Si
SLU 71	ini.	77.58	-1228	0.9	0	1750	14273	3773	2295	6068	No	4.94	Si
SLU 71	fin.	-176.89	-429	0.9	0	1750	14273	3773	2295	6068	No	14.16	Si
SLU 79	ini.	82.75	-1196	0.9	0	1750	14273	3773	2295	6068	No	5.07	Si
SLU 79	fin.	-194.5	-511	0.9	0	1750	14273	3773	2295	6068	No	11.88	Si
SLU 69	ini.	83.06	-1296	0.9	0	1750	14273	3773	2295	6068	No	4.68	Si
SLU 69	fin.	-171.25	-398	0.9	0	1750	14273	3773	2295	6068	No	15.24	Si
SLU 80	ini.	84.33	-1208	0.9	0	1750	14273	3773	2295	6068	No	5.03	Si
SLU 80	fin.	-198.91	-524	0.9	0	1750	14273	3773	2295	6068	No	11.58	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	256.52	-1050	-0.0001006	0.0002807	0.0035	0.9		3568.61	3568.61		13.91	Si
SLD 14	fin.	-604.88	666	-0.0002491	0.0002807	0.0035	0.9		3575.64	3575.64		5.91	Si
SLV 1	ini.	-242.29	658	-0.0000947	0.0002807	0.0035	0.9		3575.64	3575.64		14.76	Si
SLV 1	fin.	600.3	-942	-0.0002475	0.0002807	0.0035	0.9		3568.61	3568.61		5.94	Si
SLV 16	ini.	311.26	-1278	-0.000123	0.0002807	0.0035	0.9		3568.61	3568.61		11.47	Si
SLV 16	fin.	-688.56	697	-0.0002875	0.0002807	0.0035	0.9		3575.64	3575.64		5.19	Si
SLV 10	ini.	273.42	-1036	-0.0001075	0.0002807	0.0035	0.9		3568.61	3568.61		13.05	Si
SLV 10	fin.	-724.86	964	-0.0003046	0.0002807	0.0035	0.9		3575.64	3575.64		4.93	Si
SLV 13	ini.	293.29	-1164	-0.0001156	0.0002807	0.0035	0.9		3568.61	3568.61		12.17	Si
SLV 13	fin.	-728.67	867	-0.0003064	0.0002807	0.0035	0.9		3575.64	3575.64		4.91	Si
SLV 9	ini.	210.06	-820	-0.0000819	0.0002807	0.0035	0.9		3568.61	3568.61		16.99	Si
SLV 9	fin.	-585.56	785	-0.0002404	0.0002807	0.0035	0.9		3575.64	3575.64		6.11	Si
SLV 14	ini.	387.41	-1485	-0.0001547	0.0002807	0.0035	0.9		3568.61	3568.61		9.21	Si
SLV 14	fin.	-935.6	1132	-0.000409	0.0002807	0.0035	0.9		3575.64	3575.64		3.82	Si
SLV 4	ini.	-224.32	543	-0.0000875	0.0002807	0.0035	0.9		3575.64	3575.64		15.94	Si
SLV 4	fin.	640.42	-1111	-0.0002658	0.0002807	0.0035	0.9		3568.61	3568.61		5.57	Si
SLV 3	ini.	-318.44	864	-0.0001257	0.0002807	0.0035	0.9		3575.64	3575.64		11.23	Si
SLV 3	fin.	847.35	-1377	-0.000365	0.0002807	0.0035	0.9		3568.61	3568.61		4.21	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-204.45	415	-0.0000795	0.0002807	0.0035	0.9		3575.64	3575.64		17.49	Si
SLV 7	fin.	636.61	-1208	-0.000264	0.0002807	0.0035	0.9		3568.61	3568.61		5.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-224.32	1319	0.9	0	2625	14273	5660	2295	7955		6.03	Si
SLV 4	fin.	640.42	1942	0.9	0	2625	14273	5660	2295	7955		4.1	Si
SLV 7	ini.	-204.45	1189	0.9	0	2625	14273	5660	2295	7955		6.69	Si
SLV 7	fin.	636.61	1920	0.9	0	2625	14273	5660	2295	7955		4.14	Si
SLV 15	ini.	217.14	-1922	0.9	0	2625	14273	5660	2295	7955		4.14	Si
SLV 15	fin.	-481.63	-1424	0.9	0	2625	14273	5660	2295	7955		5.59	Si
SLV 16	ini.	311.26	-2562	0.9	0	2625	14273	5660	2295	7955		3.11	Si
SLV 16	fin.	-688.56	-2048	0.9	0	2625	14273	5660	2295	7955		3.88	Si
SLV 14	ini.	387.41	-3156	0.9	0	2625	14273	5660	2295	7955		2.52	Si
SLV 14	fin.	-935.6	-2779	0.9	0	2625	14273	5660	2295	7955		2.86	Si
SLV 3	ini.	-318.44	1959	0.9	0	2625	14273	5660	2295	7955		4.06	Si
SLV 3	fin.	847.35	2566	0.9	0	2625	14273	5660	2295	7955		3.1	Si
SLV 10	ini.	273.42	-2386	0.9	0	2625	14273	5660	2295	7955		3.33	Si
SLV 10	fin.	-724.86	-2133	0.9	0	2625	14273	5660	2295	7955		3.73	Si
SLV 9	ini.	210.06	-1955	0.9	0	2625	14273	5660	2295	7955		4.07	Si
SLV 9	fin.	-585.56	-1712	0.9	0	2625	14273	5660	2295	7955		4.65	Si
SLD 14	ini.	256.52	-2207	0.9	0	2625	14273	5660	2295	7955		3.6	Si
SLD 14	fin.	-604.88	-1788	0.9	0	2625	14273	5660	2295	7955		4.45	Si
SLV 13	ini.	293.29	-2516	0.9	0	2625	14273	5660	2295	7955		3.16	Si
SLV 13	fin.	-728.67	-2155	0.9	0	2625	14273	5660	2295	7955		3.69	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.822	SLV 14	Si
V_SLV	2.521	SLV 14	Si
PF_SLU	17.995	SLU 80	Si
V_SLU	4.642	SLU 70	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	14.15	14.6	0.45	-7.013	6.661	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-96.35	-89	-0.0001559	0.0001872	0.0035	0.45		918.62	918.62	No	9.53	Si
SLU 67	fin.	1.49	359	-0.0000023	0.0001872	0.0035	0.45		915.31	915.31	No	613.89	Si
SLU 64	ini.	-89.48	-121	-0.000144	0.0001872	0.0035	0.45		918.62	918.62	No	10.27	Si
SLU 64	fin.	10.79	339	-0.0000165	0.0001872	0.0035	0.45		915.31	915.31	No	84.86	Si
SLU 71	ini.	-88.91	-37	-0.000143	0.0001872	0.0035	0.45		918.62	918.62	No	10.33	Si
SLU 71	fin.	5.98	398	-0.0000091	0.0001872	0.0035	0.45		915.31	915.31	No	153.07	Si
SLU 75	ini.	-92.24	-63	-0.0001487	0.0001872	0.0035	0.45		918.62	918.62	No	9.96	Si
SLU 75	fin.	-0.86	356	-0.0000013	0.0001872	0.0035	0.45		918.62	918.62	No	1073.6	Si
SLU 77	ini.	-93.16	-28	-0.0001503	0.0001872	0.0035	0.45		918.62	918.62	No	9.86	Si
SLU 77	fin.	-2.32	388	-0.0000035	0.0001872	0.0035	0.45		918.62	918.62	No	396.4	Si
SLU 66	ini.	-97.56	-96	-0.000158	0.0001872	0.0035	0.45		918.62	918.62	No	9.42	Si
SLU 66	fin.	2.43	363	-0.0000037	0.0001872	0.0035	0.45		915.31	915.31	No	376.31	Si
SLU 70	ini.	-96.07	-47	-0.0001554	0.0001872	0.0035	0.45		918.62	918.62	No	9.56	Si
SLU 70	fin.	-0.91	389	-0.0000014	0.0001872	0.0035	0.45		918.62	918.62	No	1007.16	Si
SLU 74	ini.	-93.45	-70	-0.0001508	0.0001872	0.0035	0.45		918.62	918.62	No	9.83	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	0.09	359	-0.0000001	0.0001872	0.0035	0.45		915.31	915.31	No	10685.67	Si
SLU 78	ini.	-91.96	-21	-0.0001483	0.0001872	0.0035	0.45		918.62	918.62	No	9.99	Si
SLU 78	fin.	-3.26	385	-0.0000049	0.0001872	0.0035	0.45		918.62	918.62	No	281.9	Si
SLU 69	ini.	-97.27	-54	-0.0001575	0.0001872	0.0035	0.45		918.62	918.62	No	9.44	Si
SLU 69	fin.	0.03	392	0	0.0001872	0.0035	0.45		915.31	915.31	No	31335.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-93.16	744	0.45	0	799	7137	1887	1148	3034	No	4.08	Si
SLU 77	fin.	-2.32	-336	0.45	0	799	7137	1887	1148	3034	No	9.03	Si
SLU 71	ini.	-88.91	702	0.45	0	799	7137	1887	1148	3034	No	4.32	Si
SLU 71	fin.	5.98	-276	0.45	0	799	7137	1887	1148	3034	No	11	Si
SLU 66	ini.	-97.56	733	0.45	0	799	7137	1887	1148	3034	No	4.14	Si
SLU 66	fin.	2.43	-284	0.45	0	799	7137	1887	1148	3034	No	10.7	Si
SLU 67	ini.	-96.35	728	0.45	0	799	7137	1887	1148	3034	No	4.17	Si
SLU 67	fin.	1.49	-288	0.45	0	799	7137	1887	1148	3034	No	10.52	Si
SLU 70	ini.	-96.07	754	0.45	0	799	7137	1887	1148	3034	No	4.03	Si
SLU 70	fin.	-0.91	-326	0.45	0	799	7137	1887	1148	3034	No	9.29	Si
SLU 75	ini.	-92.24	713	0.45	0	799	7137	1887	1148	3034	No	4.26	Si
SLU 75	fin.	-0.86	-303	0.45	0	799	7137	1887	1148	3034	No	10.02	Si
SLU 74	ini.	-93.45	718	0.45	0	799	7137	1887	1148	3034	No	4.23	Si
SLU 74	fin.	0.09	-298	0.45	0	799	7137	1887	1148	3034	No	10.18	Si
SLU 72	ini.	-87.7	697	0.45	0	799	7137	1887	1148	3034	No	4.35	Si
SLU 72	fin.	5.04	-281	0.45	0	799	7137	1887	1148	3034	No	10.81	Si
SLU 69	ini.	-97.27	759	0.45	0	799	7137	1887	1148	3034	No	4	Si
SLU 69	fin.	0.03	-322	0.45	0	799	7137	1887	1148	3034	No	9.43	Si
SLU 78	ini.	-91.96	739	0.45	0	799	7137	1887	1148	3034	No	4.11	Si
SLU 78	fin.	-3.26	-341	0.45	0	799	7137	1887	1148	3034	No	8.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-192.12	-807	-0.0003238	0.0002807	0.0035	0.45		885.81	885.81		4.61	Si
SLV 8	fin.	101.18	541	-0.0001615	0.0002807	0.0035	0.45		882.16	882.16		8.72	Si
SLD 3	ini.	-195.82	-787	-0.000331	0.0002807	0.0035	0.45		885.81	885.81		4.52	Si
SLD 3	fin.	115.08	648	-0.0001852	0.0002807	0.0035	0.45		882.16	882.16		7.67	Si
SLV 14	ini.	142.63	1030	-0.0002334	0.0002807	0.0035	0.45		882.16	882.16		6.19	Si
SLV 14	fin.	-159.52	-369	-0.0002629	0.0002807	0.0035	0.45		885.81	885.81		5.55	Si
SLV 4	ini.	-212.32	-895	-0.0003633	0.0002807	0.0035	0.45		885.81	885.81		4.17	Si
SLV 4	fin.	124.48	663	-0.0002015	0.0002807	0.0035	0.45		882.16	882.16		7.09	Si
SLV 1	ini.	-211.41	-850	-0.0003615	0.0002807	0.0035	0.45		885.81	885.81		4.19	Si
SLV 1	fin.	133.76	747	-0.0002177	0.0002807	0.0035	0.45		882.16	882.16		6.59	Si
SLD 4	ini.	-157.06	-591	-0.0002584	0.0002807	0.0035	0.45		885.81	885.81		5.64	Si
SLD 4	fin.	81.03	510	-0.0001279	0.0002807	0.0035	0.45		882.16	882.16		10.89	Si
SLV 3	ini.	-273.42	-1203	-0.0004904	0.0002807	0.0035	0.45		885.81	885.81		3.24	Si
SLV 3	fin.	178.15	881	-0.0002985	0.0002807	0.0035	0.45		882.16	882.16		4.95	Si
SLD 1	ini.	-159.52	-580	-0.0002629	0.0002807	0.0035	0.45		885.81	885.81		5.55	Si
SLD 1	fin.	89.1	570	-0.0001413	0.0002807	0.0035	0.45		882.16	882.16		9.9	Si
SLD 7	ini.	-166.25	-644	-0.0002752	0.0002807	0.0035	0.45		885.81	885.81		5.33	Si
SLD 7	fin.	86.31	516	-0.0001367	0.0002807	0.0035	0.45		882.16	882.16		10.22	Si
SLV 7	ini.	-233.25	-1014	-0.0004055	0.0002807	0.0035	0.45		885.81	885.81		3.8	Si
SLV 7	fin.	137.3	688	-0.000224	0.0002807	0.0035	0.45		882.16	882.16		6.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-273.42	1338	0.45	0	1113	7137	2830	1148	3977		2.97	Si
SLV 3	fin.	178.15	701	0.45	0	1113	7137	2830	1148	3977		5.67	Si
SLD 4	ini.	-157.06	850	0.45	0	1113	7137	2830	1148	3977		4.68	Si
SLD 4	fin.	81.03	223	0.45	0	1113	7137	2830	1148	3977		17.87	Si
SLV 1	ini.	-211.41	1092	0.45	0	1113	7137	2830	1148	3977		3.64	Si
SLV 1	fin.	133.76	463	0.45	0	1113	7137	2830	1148	3977		8.59	Si
SLV 7	ini.	-233.25	1157	0.45	0	1113	7137	2830	1148	3977		3.44	Si
SLV 7	fin.	137.3	521	0.45	0	1113	7137	2830	1148	3977		7.63	Si
SLD 1	ini.	-159.52	873	0.45	0	1113	7137	2830	1148	3977		4.56	Si
SLD 1	fin.	89.1	247	0.45	0	1113	7137	2830	1148	3977		16.08	Si
SLV 4	ini.	-212.32	1075	0.45	0	1113	7137	2830	1148	3977		3.7	Si
SLV 4	fin.	124.48	442	0.45	0	1113	7137	2830	1148	3977		8.99	Si
SLV 8	ini.	-192.12	980	0.45	0	1113	7137	2830	1148	3977		4.06	Si
SLV 8	fin.	101.18	347	0.45	0	1113	7137	2830	1148	3977		11.46	Si
SLD 3	ini.	-195.82	1017	0.45	0	1113	7137	2830	1148	3977		3.91	Si
SLD 3	fin.	115.08	387	0.45	0	1113	7137	2830	1148	3977		10.28	Si
SLD 7	ini.	-166.25	886	0.45	0	1113	7137	2830	1148	3977		4.49	Si
SLD 7	fin.	86.31	257	0.45	0	1113	7137	2830	1148	3977		15.48	Si
SLV 14	ini.	142.63	-383	0.45	0	1113	7137	2830	1148	3977		10.39	Si
SLV 14	fin.	-159.52	-984	0.45	0	1113	7137	2830	1148	3977		4.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.24	SLV 3	Si
V_SLV	2.973	SLV 3	Si
PF_SLU	9.416	SLU 66	Si
V_SLU	4	SLU 69	Si

Trave di accoppiamento 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	13.95	14.6	0.65	-12.263	1.141	13.95	14.6	0.65	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-199.57	-647	-0.0000359	0.0001872	0.0035	0.65		4569.51	4569.51	No	22.9	Si
SLU 72	fin.	-222.94	-720	-0.0000403	0.0001872	0.0035	0.65		4569.51	4569.51	No	20.5	Si
SLU 50	ini.	-171.56	-551	-0.0000307	0.0001872	0.0035	0.65		4569.51	4569.51	No	26.63	Si
SLU 50	fin.	-209.08	-683	-0.0000377	0.0001872	0.0035	0.65		4569.51	4569.51	No	21.85	Si
SLU 70	ini.	-208.9	-678	-0.0000377	0.0001872	0.0035	0.65		4569.51	4569.51	No	21.87	Si
SLU 70	fin.	-229.24	-738	-0.0000415	0.0001872	0.0035	0.65		4569.51	4569.51	No	19.93	Si
SLU 77	ini.	-214.28	-663	-0.0000387	0.0001872	0.0035	0.65		4569.51	4569.51	No	21.32	Si
SLU 77	fin.	-199.45	-612	-0.0000359	0.0001872	0.0035	0.65		4569.51	4569.51	No	22.91	Si
SLU 49	ini.	-180.04	-583	-0.0000323	0.0001872	0.0035	0.65		4569.51	4569.51	No	25.38	Si
SLU 49	fin.	-218.68	-715	-0.0000395	0.0001872	0.0035	0.65		4569.51	4569.51	No	20.9	Si
SLU 69	ini.	-209.75	-676	-0.0000378	0.0001872	0.0035	0.65		4569.51	4569.51	No	21.79	Si
SLU 69	fin.	-225.94	-724	-0.0000409	0.0001872	0.0035	0.65		4569.51	4569.51	No	20.22	Si
SLU 78	ini.	-213.43	-664	-0.0000385	0.0001872	0.0035	0.65		4569.51	4569.51	No	21.41	Si
SLU 78	fin.	-202.74	-626	-0.0000365	0.0001872	0.0035	0.65		4569.51	4569.51	No	22.54	Si
SLU 51	ini.	-170.71	-552	-0.0000306	0.0001872	0.0035	0.65		4569.51	4569.51	No	26.77	Si
SLU 51	fin.	-212.38	-697	-0.0000383	0.0001872	0.0035	0.65		4569.51	4569.51	No	21.52	Si
SLU 71	ini.	-200.42	-646	-0.0000361	0.0001872	0.0035	0.65		4569.51	4569.51	No	22.8	Si
SLU 71	fin.	-219.65	-706	-0.0000397	0.0001872	0.0035	0.65		4569.51	4569.51	No	20.8	Si
SLU 48	ini.	-180.89	-581	-0.0000324	0.0001872	0.0035	0.65		4569.51	4569.51	No	25.26	Si
SLU 48	fin.	-215.38	-701	-0.0000389	0.0001872	0.0035	0.65		4569.51	4569.51	No	21.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-199.27	1974	0.65	1187	1264	29453	2725	3315	6040	No	3.06	Si
SLU 75	fin.	-174.94	-1717	0.65	1045	1264	29453	2725	3315	6040	No	3.52	Si
SLU 80	ini.	-204.1	2056	0.65	1215	1264	29453	2725	3315	6040	No	2.94	Si
SLU 80	fin.	-196.45	-1864	0.65	1170	1264	29453	2725	3315	6040	No	3.24	Si
SLU 69	ini.	-209.75	2121	0.65	1248	1264	29453	2725	3315	6040	No	2.85	Si
SLU 69	fin.	-225.94	-2027	0.65	1341	1264	29453	2725	3315	6040	No	2.98	Si
SLU 70	ini.	-208.9	2116	0.65	1243	1264	29453	2725	3315	6040	No	2.85	Si
SLU 70	fin.	-229.24	-2041	0.65	1361	1264	29453	2725	3315	6040	No	2.96	Si
SLU 79	ini.	-204.95	2061	0.65	1220	1264	29453	2725	3315	6040	No	2.93	Si
SLU 79	fin.	-193.15	-1850	0.65	1151	1264	29453	2725	3315	6040	No	3.27	Si
SLU 74	ini.	-200.12	1979	0.65	1192	1264	29453	2725	3315	6040	No	3.05	Si
SLU 74	fin.	-171.65	-1703	0.65	1026	1264	29453	2725	3315	6040	No	3.55	Si
SLU 77	ini.	-214.28	2150	0.65	1274	1264	29453	2725	3315	6040	No	2.81	Si
SLU 77	fin.	-199.45	-1919	0.65	1188	1264	29453	2725	3315	6040	No	3.15	Si
SLU 71	ini.	-200.42	2032	0.65	1194	1264	29453	2725	3315	6040	No	2.97	Si
SLU 71	fin.	-219.65	-1958	0.65	1305	1264	29453	2725	3315	6040	No	3.09	Si
SLU 72	ini.	-199.57	2027	0.65	1189	1264	29453	2725	3315	6040	No	2.98	Si
SLU 72	fin.	-222.94	-1972	0.65	1324	1264	29453	2725	3315	6040	No	3.06	Si
SLU 78	ini.	-213.43	2145	0.65	1269	1264	29453	2725	3315	6040	No	2.82	Si
SLU 78	fin.	-202.74	-1933	0.65	1207	1264	29453	2725	3315	6040	No	3.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	89.28	-354	-0.0000157	0.0002807	0.0035	0.65		5160.65	5160.65		57.8	Si
SLV 4	fin.	-790.94	-3187	-0.0001535	0.0002807	0.0035	0.65		5173.74	5173.74		6.54	Si
SLV 16	ini.	-378.1	-328	-0.0000688	0.0002807	0.0035	0.65		5173.74	5173.74		13.68	Si
SLV 16	fin.	724.77	3176	-0.0001394	0.0002807	0.0035	0.65		5160.65	5160.65		7.12	Si
SLV 1	ini.	123.41	-473	-0.0000218	0.0002807	0.0035	0.65		5160.65	5160.65		41.82	Si
SLV 1	fin.	-957.36	-3899	-0.0001917	0.0002807	0.0035	0.65		5173.74	5173.74		5.4	Si
SLV 3	ini.	82.43	-373	-0.0000145	0.0002807	0.0035	0.65		5160.65	5160.65		62.6	Si
SLV 3	fin.	-777.88	-3135	-0.0001506	0.0002807	0.0035	0.65		5173.74	5173.74		6.65	Si
SLV 2	ini.	130.26	-454	-0.000023	0.0002807	0.0035	0.65		5160.65	5160.65		39.62	Si
SLV 2	fin.	-970.42	-3951	-0.0001949	0.0002807	0.0035	0.65		5173.74	5173.74		5.33	Si
SLV 5	ini.	8.75	-577	-0.0000015	0.0002807	0.0035	0.65		5160.65	5160.65		589.56	Si
SLV 5	fin.	-638.4	-2573	-0.0001207	0.0002807	0.0035	0.65		5173.74	5173.74		8.1	Si
SLD 1	ini.	32.1	-443	-0.0000056	0.0002807	0.0035	0.65		5160.65	5160.65		160.75	Si
SLD 1	fin.	-649.28	-2603	-0.000123	0.0002807	0.0035	0.65		5173.74	5173.74		7.97	Si
SLV 15	ini.	-384.94	-347	-0.0000701	0.0002807	0.0035	0.65		5173.74	5173.74		13.44	Si
SLV 15	fin.	737.83	3228	-0.0001423	0.0002807	0.0035	0.65		5160.65	5160.65		6.99	Si
SLD 2	ini.	36.45	-432	-0.0000064	0.0002807	0.0035	0.65		5160.65	5160.65		141.59	Si
SLD 2	fin.	-657.57	-2636	-0.0001247	0.0002807	0.0035	0.65		5173.74	5173.74		7.87	Si
SLV 6	ini.	13.36	-564	-0.0000023	0.0002807	0.0035	0.65		5160.65	5160.65		386.2	Si
SLV 6	fin.	-647.19	-2608	-0.0001226	0.0002807	0.0035	0.65		5173.74	5173.74		7.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	32.1	386	0.65	293	1520	29453	4087	3315	7402		19.18	Si
SLD 1	fin.	-649.28	-3239	0.65	5631	1520	29453	4087	3315	7402		2.29	Si
SLD 3	ini.	8.05	521	0.65	74	1520	29453	4087	3315	7402		14.22	Si
SLD 3	fin.	-544.04	-2793	0.65	4763	1520	29453	4087	3315	7402		2.65	Si
SLV 5	ini.	8.75	501	0.65	80	1520	29453	4087	3315	7402		14.77	Si
SLV 5	fin.	-638.4	-3260	0.65	5542	1520	29453	4087	3315	7402		2.27	Si
SLV 6	ini.	13.36	476	0.65	122	1520	29453	4087	3315	7402		15.56	Si
SLV 6	fin.	-647.19	-3298	0.65	5614	1520	29453	4087	3315	7402		2.24	Si
SLV 2	ini.	130.26	-149	0.65	1181	1520	29453	4087	3315	7402		49.77	Si
SLV 2	fin.	-970.42	-4529	0.65	8145	1520	29453	4087	3315	7402		1.63	Si
SLV 3	ini.	82.43	119	0.65	750	1520	29453	4087	3315	7402		62.34	Si
SLV 3	fin.	-777.88	-3712	0.65	6664	1520	29453	4087	3315	7402		1.99	Si
SLD 4	ini.	12.4	497	0.65	113	1520	29453	4087	3315	7402		14.9	Si
SLD 4	fin.	-552.33	-2829	0.65	4832	1520	29453	4087	3315	7402		2.62	Si
SLD 2	ini.	36.45	362	0.65	333	1520	29453	4087	3315	7402		20.44	Si
SLD 2	fin.	-657.57	-3275	0.65	5698	1520	29453	4087	3315	7402		2.26	Si
SLV 4	ini.	89.28	81	0.65	812	1520	29453	4087	3315	7402		91.25	Si
SLV 4	fin.	-790.94	-3768	0.65	6767	1520	29453	4087	3315	7402		1.96	Si
SLV 1	ini.	123.41	-111	0.65	1120	1520	29453	4087	3315	7402		66.62	Si
SLV 1	fin.	-957.36	-4473	0.65	8048	1520	29453	4087	3315	7402		1.66	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.331	SLV 2	Si
V_SLV	1.634	SLV 2	Si
PF_SLU	19.933	SLU 70	Si
V_SLU	2.81	SLU 77	Si

Trave di accoppiamento 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	13.95	14.6	0.65	-10.466	1.141	13.95	14.6	0.65	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-113.85	-1515	-0.0000202	0.0001872	0.0035	0.65		4569.51	4569.51	No	40.14	Si
SLU 70	fin.	51.11	-975	-0.000009	0.0001872	0.0035	0.65		4557.97	4557.97	No	89.19	Si
SLU 58	ini.	-113.63	-1397	-0.0000201	0.0001872	0.0035	0.65		4569.51	4569.51	No	40.21	Si
SLU 58	fin.	74.22	-806	-0.0000131	0.0001872	0.0035	0.65		4557.97	4557.97	No	61.41	Si
SLU 51	ini.	-113.01	-1319	-0.00002	0.0001872	0.0035	0.65		4569.51	4569.51	No	40.43	Si
SLU 51	fin.	39.07	-802	-0.0000068	0.0001872	0.0035	0.65		4557.97	4557.97	No	116.66	Si
SLU 57	ini.	-116.72	-1436	-0.0000207	0.0001872	0.0035	0.65		4569.51	4569.51	No	39.15	Si
SLU 57	fin.	69.69	-848	-0.0000123	0.0001872	0.0035	0.65		4557.97	4557.97	No	65.4	Si
SLU 77	ini.	-114.47	-1593	-0.0000203	0.0001872	0.0035	0.65		4569.51	4569.51	No	39.92	Si
SLU 77	fin.	86.25	-979	-0.0000152	0.0001872	0.0035	0.65		4557.97	4557.97	No	52.84	Si
SLU 69	ini.	-115.71	-1532	-0.0000205	0.0001872	0.0035	0.65		4569.51	4569.51	No	39.49	Si
SLU 69	fin.	54.59	-979	-0.0000096	0.0001872	0.0035	0.65		4557.97	4557.97	No	83.49	Si
SLU 49	ini.	-117.96	-1376	-0.0000209	0.0001872	0.0035	0.65		4569.51	4569.51	No	38.74	Si
SLU 49	fin.	38.03	-848	-0.0000067	0.0001872	0.0035	0.65		4557.97	4557.97	No	119.85	Si
SLU 50	ini.	-114.87	-1336	-0.0000203	0.0001872	0.0035	0.65		4569.51	4569.51	No	39.78	Si
SLU 50	fin.	42.56	-806	-0.0000075	0.0001872	0.0035	0.65		4557.97	4557.97	No	107.11	Si
SLU 48	ini.	-119.81	-1393	-0.0000212	0.0001872	0.0035	0.65		4569.51	4569.51	No	38.14	Si
SLU 48	fin.	41.51	-853	-0.0000073	0.0001872	0.0035	0.65		4557.97	4557.97	No	109.8	Si
SLU 56	ini.	-118.58	-1453	-0.000021	0.0001872	0.0035	0.65		4569.51	4569.51	No	38.54	Si
SLU 56	fin.	73.18	-852	-0.0000129	0.0001872	0.0035	0.65		4557.97	4557.97	No	62.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-114.47	-1431	0.65	688	1264	29453	2725	3315	6040	No	4.22	Si
SLU 77	fin.	86.25	-25	0.65	522	1264	29453	2725	3315	6040	No	241.77	Si
SLU 83	ini.	-94.78	-1430	0.65	571	1264	29453	2725	3315	6040	No	4.22	Si
SLU 83	fin.	91.17	29	0.65	551	1264	29453	2725	3315	6040	No	206.65	Si
SLU 78	ini.	-112.61	-1424	0.65	677	1264	29453	2725	3315	6040	No	4.24	Si
SLU 78	fin.	82.77	-38	0.65	501	1264	29453	2725	3315	6040	No	157.08	Si
SLU 75	ini.	-98.4	-1378	0.65	593	1264	29453	2725	3315	6040	No	4.38	Si
SLU 75	fin.	73.08	-38	0.65	442	1264	29453	2725	3315	6040	No	158.8	Si
SLU 80	ini.	-107.67	-1390	0.65	648	1264	29453	2725	3315	6040	No	4.35	Si
SLU 80	fin.	83.81	-34	0.65	507	1264	29453	2725	3315	6040	No	176.42	Si
SLU 81	ini.	-80.57	-1384	0.65	486	1264	29453	2725	3315	6040	No	4.36	Si
SLU 81	fin.	81.48	30	0.65	493	1264	29453	2725	3315	6040	No	203.75	Si
SLU 82	ini.	-78.71	-1377	0.65	475	1264	29453	2725	3315	6040	No	4.39	Si
SLU 82	fin.	77.99	16	0.65	472	1264	29453	2725	3315	6040	No	373.4	Si
SLU 74	ini.	-100.26	-1385	0.65	604	1264	29453	2725	3315	6040	No	4.36	Si
SLU 74	fin.	76.56	-25	0.65	463	1264	29453	2725	3315	6040	No	245.85	Si
SLU 79	ini.	-109.52	-1397	0.65	659	1264	29453	2725	3315	6040	No	4.32	Si
SLU 79	fin.	87.3	-21	0.65	528	1264	29453	2725	3315	6040	No	290.82	Si
SLU 84	ini.	-92.92	-1423	0.65	560	1264	29453	2725	3315	6040	No	4.25	Si
SLU 84	fin.	87.69	16	0.65	530	1264	29453	2725	3315	6040	No	383.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-492.36	-2870	-0.0000911	0.0002807	0.0035	0.65		5173.74	5173.74		10.51	Si
SLD 16	fin.	307.26	-632	-0.0000555	0.0002807	0.0035	0.65		5160.65	5160.65		16.8	Si
SLV 16	ini.	-737.83	-4022	-0.0001419	0.0002807	0.0035	0.65		5173.74	5173.74		7.01	Si
SLV 16	fin.	469.07	-670	-0.0000867	0.0002807	0.0035	0.65		5160.65	5160.65		11	Si
SLV 15	ini.	-741.35	-4070	-0.0001426	0.0002807	0.0035	0.65		5173.74	5173.74		6.98	Si
SLV 15	fin.	475.63	-697	-0.000088	0.0002807	0.0035	0.65		5160.65	5160.65		10.85	Si
SLV 4	ini.	528.5	1403	-0.0000985	0.0002807	0.0035	0.65		5160.65	5160.65		9.76	Si
SLV 4	fin.	-220.33	-745	-0.0000393	0.0002807	0.0035	0.65		5173.74	5173.74		23.48	Si
SLV 2	ini.	613.58	2285	-0.0001159	0.0002807	0.0035	0.65		5160.65	5160.65		8.41	Si
SLV 2	fin.	-407.52	-471	-0.0000745	0.0002807	0.0035	0.65		5173.74	5173.74		12.7	Si
SLV 14	ini.	-652.75	-3141	-0.0001237	0.0002807	0.0035	0.65		5173.74	5173.74		7.93	Si
SLV 14	fin.	281.87	-396	-0.0000508	0.0002807	0.0035	0.65		5160.65	5160.65		18.31	Si
SLV 1	ini.	610.06	2237	-0.0001152	0.0002807	0.0035	0.65		5160.65	5160.65		8.46	Si
SLV 1	fin.	-400.96	-498	-0.0000732	0.0002807	0.0035	0.65		5173.74	5173.74		12.9	Si
SLV 13	ini.	-656.27	-3189	-0.0001245	0.0002807	0.0035	0.65		5173.74	5173.74		7.88	Si
SLV 13	fin.	288.43	-423	-0.000052	0.0002807	0.0035	0.65		5160.65	5160.65		17.89	Si
SLD 15	ini.	-494.59	-2900	-0.0000915	0.0002807	0.0035	0.65		5173.74	5173.74		10.46	Si
SLD 15	fin.	311.42	-649	-0.0000563	0.0002807	0.0035	0.65		5160.65	5160.65		16.57	Si
SLV 3	ini.	524.98	1356	-0.0000978	0.0002807	0.0035	0.65		5160.65	5160.65		9.83	Si
SLV 3	fin.	-213.77	-772	-0.0000381	0.0002807	0.0035	0.65		5173.74	5173.74		24.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	528.5	-3382	0.65	4644	1576	29453	4087	3315	7402		2.19	Si
SLV 4	fin.	-220.33	-1013	0.65	1980	1576	29453	4087	3315	7402		7.31	Si
SLD 4	ini.	317.03	-2453	0.65	2835	1576	29453	4087	3315	7402		3.02	Si
SLD 4	fin.	-133.66	-696	0.65	1209	1576	29453	4087	3315	7402		10.64	Si
SLV 3	ini.	524.98	-3420	0.65	4615	1576	29453	4087	3315	7402		2.16	Si
SLV 3	fin.	-213.77	-983	0.65	1922	1576	29453	4087	3315	7402		7.53	Si
SLD 2	ini.	366.82	-2161	0.65	3267	1576	29453	4087	3315	7402		3.43	Si
SLD 2	fin.	-243.32	-1137	0.65	2183	1576	29453	4087	3315	7402		6.51	Si
SLD 1	ini.	364.59	-2185	0.65	3248	1576	29453	4087	3315	7402		3.39	Si
SLD 1	fin.	-239.16	-1119	0.65	2146	1576	29453	4087	3315	7402		6.62	Si
SLV 1	ini.	610.06	-2920	0.65	5322	1576	29453	4087	3315	7402		2.53	Si
SLV 1	fin.	-400.96	-1737	0.65	3553	1576	29453	4087	3315	7402		4.26	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-16.91	-2383	0.65	154	1576	29453	4087	3315	7402		3.11	Si
SLV 7	fin.	244.84	799	0.65	2202	1576	29453	4087	3315	7402		9.27	Si
SLD 3	ini.	314.79	-2477	0.65	2815	1576	29453	4087	3315	7402		2.99	Si
SLD 3	fin.	-129.5	-677	0.65	1171	1576	29453	4087	3315	7402		10.93	Si
SLV 2	ini.	613.58	-2882	0.65	5351	1576	29453	4087	3315	7402		2.57	Si
SLV 2	fin.	-407.52	-1766	0.65	3609	1576	29453	4087	3315	7402		4.19	Si
SLV 8	ini.	-14.54	-2357	0.65	133	1576	29453	4087	3315	7402		3.14	Si
SLV 8	fin.	240.43	779	0.65	2163	1576	29453	4087	3315	7402		9.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.979	SLV 15	Si
V_SLV	2.164	SLV 3	Si
PF_SLU	38.138	SLU 48	Si
V_SLU	4.222	SLU 77	Si

Trave di accoppiamento 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	13.55	14.6	1.05	-7.443	1.141	13.55	14.6	1.05	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-183.05	-1076	-0.0000123	0.0001872	0.0035	1.05		11921.14	11921.14	No	65.12	Si
SLU 35	fin.	-27.45	-865	-0.0000018	0.0001872	0.0035	1.05		11921.14	11921.14	No	434.34	Si
SLU 78	ini.	-192.11	-1186	-0.0000129	0.0001872	0.0035	1.05		11921.14	11921.14	No	62.05	Si
SLU 78	fin.	-53.8	-1052	-0.0000036	0.0001872	0.0035	1.05		11921.14	11921.14	No	221.6	Si
SLU 36	ini.	-184.25	-1077	-0.0000124	0.0001872	0.0035	1.05		11921.14	11921.14	No	64.7	Si
SLU 36	fin.	-24.25	-853	-0.0000016	0.0001872	0.0035	1.05		11921.14	11921.14	No	491.59	Si
SLU 80	ini.	-172.66	-1092	-0.0000116	0.0001872	0.0035	1.05		11921.14	11921.14	No	69.04	Si
SLU 80	fin.	-54.88	-1013	-0.0000037	0.0001872	0.0035	1.05		11921.14	11921.14	No	217.21	Si
SLU 33	ini.	-169.5	-985	-0.0000114	0.0001872	0.0035	1.05		11921.14	11921.14	No	70.33	Si
SLU 33	fin.	-30.25	-782	-0.000002	0.0001872	0.0035	1.05		11921.14	11921.14	No	394.04	Si
SLU 75	ini.	-177.36	-1094	-0.0000119	0.0001872	0.0035	1.05		11921.14	11921.14	No	67.21	Si
SLU 75	fin.	-59.8	-982	-0.000004	0.0001872	0.0035	1.05		11921.14	11921.14	No	199.35	Si
SLU 79	ini.	-171.47	-1090	-0.0000115	0.0001872	0.0035	1.05		11921.14	11921.14	No	69.52	Si
SLU 79	fin.	-58.08	-1026	-0.0000039	0.0001872	0.0035	1.05		11921.14	11921.14	No	205.26	Si
SLU 84	ini.	-170.13	-1027	-0.0000115	0.0001872	0.0035	1.05		11921.14	11921.14	No	70.07	Si
SLU 84	fin.	-48.26	-907	-0.0000032	0.0001872	0.0035	1.05		11921.14	11921.14	No	247	Si
SLU 77	ini.	-190.91	-1185	-0.0000129	0.0001872	0.0035	1.05		11921.14	11921.14	No	62.44	Si
SLU 77	fin.	-56.99	-1064	-0.0000038	0.0001872	0.0035	1.05		11921.14	11921.14	No	209.17	Si
SLU 74	ini.	-176.17	-1093	-0.0000119	0.0001872	0.0035	1.05		11921.14	11921.14	No	67.67	Si
SLU 74	fin.	-63	-994	-0.0000042	0.0001872	0.0035	1.05		11921.14	11921.14	No	189.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	ini.	-125.35	2409	1.05	291	2042	45312	4402	5355	9757	No	4.05	Si
SLU 48	fin.	-99.74	-2791	1.05	232	2042	45312	4402	5355	9757	No	3.5	Si
SLU 79	ini.	-171.47	2787	1.05	397	2042	45312	4402	5355	9757	No	3.5	Si
SLU 79	fin.	-58.08	-2728	1.05	135	2042	45312	4402	5355	9757	No	3.58	Si
SLU 80	ini.	-172.66	2800	1.05	400	2042	45312	4402	5355	9757	No	3.48	Si
SLU 80	fin.	-54.88	-2715	1.05	128	2042	45312	4402	5355	9757	No	3.59	Si
SLU 69	ini.	-162.41	2815	1.05	376	2042	45312	4402	5355	9757	No	3.47	Si
SLU 69	fin.	-86.44	-2967	1.05	201	2042	45312	4402	5355	9757	No	3.29	Si
SLU 70	ini.	-163.61	2829	1.05	379	2042	45312	4402	5355	9757	No	3.45	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	fin.	-83.25	-2954	1.05	194	2042	45312	4402	5355	9757	No	3.3	Si
SLU 72	ini.	-144.17	2666	1.05	334	2042	45312	4402	5355	9757	No	3.66	Si
SLU 72	fin.	-84.33	-2881	1.05	196	2042	45312	4402	5355	9757	No	3.39	Si
SLU 77	ini.	-190.91	2949	1.05	442	2042	45312	4402	5355	9757	No	3.31	Si
SLU 77	fin.	-56.99	-2801	1.05	133	2042	45312	4402	5355	9757	No	3.48	Si
SLU 71	ini.	-142.97	2653	1.05	332	2042	45312	4402	5355	9757	No	3.68	Si
SLU 71	fin.	-87.53	-2894	1.05	203	2042	45312	4402	5355	9757	No	3.37	Si
SLU 49	ini.	-126.55	2422	1.05	294	2042	45312	4402	5355	9757	No	4.03	Si
SLU 49	fin.	-96.55	-2778	1.05	224	2042	45312	4402	5355	9757	No	3.51	Si
SLU 78	ini.	-192.11	2962	1.05	445	2042	45312	4402	5355	9757	No	3.29	Si
SLU 78	fin.	-53.8	-2788	1.05	125	2042	45312	4402	5355	9757	No	3.5	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	617.86	1155	-0.0000424	0.0002807	0.0035	1.05		13476.26	13476.26		21.81	Si
SLV 1	fin.	-589.74	-1509	-0.0000403	0.0002807	0.0035	1.05		13497.41	13497.41		22.89	Si
SLV 14	ini.	-878.77	-2542	-0.000061	0.0002807	0.0035	1.05		13497.41	13497.41		15.36	Si
SLV 14	fin.	634.14	747	-0.0000435	0.0002807	0.0035	1.05		13476.26	13476.26		21.25	Si
SLV 15	ini.	-785.59	-2404	-0.0000542	0.0002807	0.0035	1.05		13497.41	13497.41		17.18	Si
SLV 15	fin.	433.34	38	-0.0000295	0.0002807	0.0035	1.05		13476.26	13476.26		31.1	Si
SLV 3	ini.	704.2	1285	-0.0000485	0.0002807	0.0035	1.05		13476.26	13476.26		19.14	Si
SLV 3	fin.	-776.29	-2167	-0.0000536	0.0002807	0.0035	1.05		13497.41	13497.41		17.39	Si
SLV 13	ini.	-871.92	-2535	-0.0000605	0.0002807	0.0035	1.05		13497.41	13497.41		15.48	Si
SLV 13	fin.	619.89	696	-0.0000425	0.0002807	0.0035	1.05		13476.26	13476.26		21.74	Si
SLV 2	ini.	611.01	1148	-0.0000419	0.0002807	0.0035	1.05		13476.26	13476.26		22.06	Si
SLV 2	fin.	-575.49	-1457	-0.0000393	0.0002807	0.0035	1.05		13497.41	13497.41		23.45	Si
SLD 14	ini.	-590.7	-1849	-0.0000404	0.0002807	0.0035	1.05		13497.41	13497.41		22.85	Si
SLD 14	fin.	373.57	200	-0.0000253	0.0002807	0.0035	1.05		13476.26	13476.26		36.07	Si
SLV 16	ini.	-792.43	-2411	-0.0000547	0.0002807	0.0035	1.05		13497.41	13497.41		17.03	Si
SLV 16	fin.	447.59	89	-0.0000304	0.0002807	0.0035	1.05		13476.26	13476.26		30.11	Si
SLV 4	ini.	697.35	1279	-0.000048	0.0002807	0.0035	1.05		13476.26	13476.26		19.32	Si
SLV 4	fin.	-762.04	-2115	-0.0000525	0.0002807	0.0035	1.05		13497.41	13497.41		17.71	Si
SLD 13	ini.	-586.35	-1845	-0.0000401	0.0002807	0.0035	1.05		13497.41	13497.41		23.02	Si
SLD 13	fin.	364.53	168	-0.0000247	0.0002807	0.0035	1.05		13476.26	13476.26		36.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-878.77	5179	1.05	3000	3063	45312	6603	5355	11958		2.31	Si
SLV 14	fin.	634.14	1370	1.05	2184	3063	45312	6603	5355	11958		8.73	Si
SLV 4	ini.	697.35	-2108	1.05	2397	3063	45312	6603	5355	11958		5.67	Si
SLV 4	fin.	-762.04	-4819	1.05	2610	3063	45312	6603	5355	11958		2.48	Si
SLV 16	ini.	-792.43	4360	1.05	2712	3063	45312	6603	5355	11958		2.74	Si
SLV 16	fin.	447.59	647	1.05	1550	3063	45312	6603	5355	11958		18.48	Si
SLV 1	ini.	617.86	-1329	1.05	2129	3063	45312	6603	5355	11958		9	Si
SLV 1	fin.	-589.74	-4166	1.05	2030	3063	45312	6603	5355	11958		2.87	Si
SLV 2	ini.	611.01	-1290	1.05	2106	3063	45312	6603	5355	11958		9.27	Si
SLV 2	fin.	-575.49	-4095	1.05	1982	3063	45312	6603	5355	11958		2.92	Si
SLV 3	ini.	704.2	-2147	1.05	2420	3063	45312	6603	5355	11958		5.57	Si
SLV 3	fin.	-776.29	-4889	1.05	2658	3063	45312	6603	5355	11958		2.45	Si
SLV 9	ini.	-452.35	3837	1.05	1563	3063	45312	6603	5355	11958		3.12	Si
SLV 9	fin.	416.5	242	1.05	1443	3063	45312	6603	5355	11958		49.35	Si
SLV 15	ini.	-785.59	4321	1.05	2689	3063	45312	6603	5355	11958		2.77	Si
SLV 15	fin.	433.34	577	1.05	1501	3063	45312	6603	5355	11958		20.74	Si
SLV 10	ini.	-456.95	3863	1.05	1579	3063	45312	6603	5355	11958		3.1	Si
SLV 10	fin.	426.09	290	1.05	1476	3063	45312	6603	5355	11958		41.27	Si
SLV 13	ini.	-871.92	5139	1.05	2977	3063	45312	6603	5355	11958		2.33	Si
SLV 13	fin.	619.89	1300	1.05	2136	3063	45312	6603	5355	11958		9.2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	15.359	SLV 14	Si
V_SLV	2.309	SLV 14	Si
PF_SLU	62.054	SLU 78	Si
V_SLU	3.288	SLU 69	Si

Trave di accoppiamento 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	13.55	14.6	1.05	-4.893	1.141	13.55	14.6	1.05	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 38	ini.	-342.05	-1691	-0.0000233	0.0001872	0.0035	1.05		11921.14	11921.14	No	34.85	Si
SLU 38	fin.	206.52	-604	-0.000014	0.0001872	0.0035	1.05		11902.48	11902.48	No	57.63	Si
SLU 79	ini.	-375.04	-1867	-0.0000256	0.0001872	0.0035	1.05		11921.14	11921.14	No	31.79	Si
SLU 79	fin.	215.67	-687	-0.0000146	0.0001872	0.0035	1.05		11902.48	11902.48	No	55.19	Si
SLU 72	ini.	-361.3	-1815	-0.0000246	0.0001872	0.0035	1.05		11921.14	11921.14	No	33	Si
SLU 72	fin.	205.99	-672	-0.0000139	0.0001872	0.0035	1.05		11902.48	11902.48	No	57.78	Si
SLU 80	ini.	-375.72	-1870	-0.0000257	0.0001872	0.0035	1.05		11921.14	11921.14	No	31.73	Si
SLU 80	fin.	214.47	-692	-0.0000145	0.0001872	0.0035	1.05		11902.48	11902.48	No	55.5	Si
SLU 71	ini.	-360.61	-1812	-0.0000246	0.0001872	0.0035	1.05		11921.14	11921.14	No	33.06	Si
SLU 71	fin.	207.18	-668	-0.000014	0.0001872	0.0035	1.05		11902.48	11902.48	No	57.45	Si
SLU 69	ini.	-354.61	-1847	-0.0000242	0.0001872	0.0035	1.05		11921.14	11921.14	No	33.62	Si
SLU 69	fin.	175.8	-772	-0.0000119	0.0001872	0.0035	1.05		11902.48	11902.48	No	67.7	Si
SLU 70	ini.	-355.3	-1850	-0.0000242	0.0001872	0.0035	1.05		11921.14	11921.14	No	33.55	Si
SLU 70	fin.	174.61	-776	-0.0000118	0.0001872	0.0035	1.05		11902.48	11902.48	No	68.17	Si
SLU 78	ini.	-369.72	-1905	-0.0000252	0.0001872	0.0035	1.05		11921.14	11921.14	No	32.24	Si
SLU 78	fin.	183.09	-796	-0.0000124	0.0001872	0.0035	1.05		11902.48	11902.48	No	65.01	Si
SLU 59	ini.	-342.06	-1654	-0.0000233	0.0001872	0.0035	1.05		11921.14	11921.14	No	34.85	Si
SLU 59	fin.	205.87	-565	-0.0000139	0.0001872	0.0035	1.05		11902.48	11902.48	No	57.82	Si
SLU 77	ini.	-369.04	-1902	-0.0000252	0.0001872	0.0035	1.05		11921.14	11921.14	No	32.3	Si
SLU 77	fin.	184.29	-792	-0.0000124	0.0001872	0.0035	1.05		11902.48	11902.48	No	64.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-335.36	2633	1.05	772	2042	36250	4402	5355	9757	No	3.71	Si
SLU 35	fin.	176.33	-84	1.05	409	2042	36250	4402	5355	9757	No	115.76	Si
SLU 72	ini.	-361.3	2807	1.05	831	2042	36250	4402	5355	9757	No	3.48	Si
SLU 72	fin.	205.99	-79	1.05	477	2042	36250	4402	5355	9757	No	123.86	Si
SLU 70	ini.	-355.3	2852	1.05	817	2042	36250	4402	5355	9757	No	3.42	Si
SLU 70	fin.	174.61	-226	1.05	405	2042	36250	4402	5355	9757	No	43.2	Si
SLU 79	ini.	-375.04	2856	1.05	862	2042	36250	4402	5355	9757	No	3.42	Si
SLU 79	fin.	215.67	-18	1.05	500	2042	36250	4402	5355	9757	No	554.02	Si
SLU 36	ini.	-336.05	2631	1.05	773	2042	36250	4402	5355	9757	No	3.71	Si
SLU 36	fin.	175.14	-87	1.05	406	2042	36250	4402	5355	9757	No	112.73	Si
SLU 77	ini.	-369.04	2901	1.05	848	2042	36250	4402	5355	9757	No	3.36	Si
SLU 77	fin.	184.29	-165	1.05	427	2042	36250	4402	5355	9757	No	59.23	Si
SLU 78	ini.	-369.72	2900	1.05	850	2042	36250	4402	5355	9757	No	3.36	Si
SLU 78	fin.	183.09	-167	1.05	425	2042	36250	4402	5355	9757	No	58.43	Si
SLU 69	ini.	-354.61	2853	1.05	815	2042	36250	4402	5355	9757	No	3.42	Si
SLU 69	fin.	175.8	-224	1.05	408	2042	36250	4402	5355	9757	No	43.63	Si
SLU 71	ini.	-360.61	2808	1.05	829	2042	36250	4402	5355	9757	No	3.47	Si
SLU 71	fin.	207.18	-77	1.05	480	2042	36250	4402	5355	9757	No	127.54	Si
SLU 80	ini.	-375.72	2855	1.05	863	2042	36250	4402	5355	9757	No	3.42	Si
SLU 80	fin.	214.47	-20	1.05	497	2042	36250	4402	5355	9757	No	490.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-570.76	-2209	-0.000039	0.0002807	0.0035	1.05		13497.41	13497.41		23.65	Si
SLD 14	fin.	190	-1057	-0.0000128	0.0002807	0.0035	1.05		13476.26	13476.26		70.93	Si
SLD 13	ini.	-561.55	-2177	-0.0000383	0.0002807	0.0035	1.05		13497.41	13497.41		24.04	Si
SLD 13	fin.	178.65	-1062	-0.000012	0.0002807	0.0035	1.05		13476.26	13476.26		75.43	Si
SLV 4	ini.	463.78	1076	-0.0000316	0.0002807	0.0035	1.05		13476.26	13476.26		29.06	Si
SLV 4	fin.	-178.19	445	-0.000012	0.0002807	0.0035	1.05		13497.41	13497.41		75.75	Si
SLV 16	ini.	-759.5	-2773	-0.0000524	0.0002807	0.0035	1.05		13497.41	13497.41		17.77	Si
SLV 16	fin.	354.31	-1127	-0.000024	0.0002807	0.0035	1.05		13476.26	13476.26		38.03	Si
SLV 13	ini.	-792.7	-2913	-0.0000547	0.0002807	0.0035	1.05		13497.41	13497.41		17.03	Si
SLV 13	fin.	260.66	-1401	-0.0000176	0.0002807	0.0035	1.05		13476.26	13476.26		51.7	Si
SLV 15	ini.	-744.98	-2724	-0.0000513	0.0002807	0.0035	1.05		13497.41	13497.41		18.12	Si
SLV 15	fin.	336.43	-1135	-0.0000228	0.0002807	0.0035	1.05		13476.26	13476.26		40.06	Si
SLD 16	ini.	-542.89	-2097	-0.000037	0.0002807	0.0035	1.05		13497.41	13497.41		24.86	Si
SLD 16	fin.	234.76	-902	-0.0000158	0.0002807	0.0035	1.05		13476.26	13476.26		57.41	Si
SLV 3	ini.	478.3	1125	-0.0000326	0.0002807	0.0035	1.05		13476.26	13476.26		28.18	Si
SLV 3	fin.	-196.07	437	-0.0000132	0.0002807	0.0035	1.05		13497.41	13497.41		68.84	Si
SLD 15	ini.	-533.68	-2066	-0.0000364	0.0002807	0.0035	1.05		13497.41	13497.41		25.29	Si
SLD 15	fin.	223.41	-907	-0.000015	0.0002807	0.0035	1.05		13476.26	13476.26		60.32	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-807.21	-2963	-0.0000558	0.0002807	0.0035	1.05		13497.41	13497.41		16.72	Si
SLV 14	fin.	278.54	-1393	-0.0000188	0.0002807	0.0035	1.05		13476.26	13476.26		48.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-807.21	3178	1.05	2761	3063	36250	6603	5355	11958		3.76	Si
SLV 14	fin.	278.54	1258	1.05	969	3063	36250	6603	5355	11958		9.51	Si
SLV 16	ini.	-759.5	3272	1.05	2602	3063	36250	6603	5355	11958		3.65	Si
SLV 16	fin.	354.31	1361	1.05	1230	3063	36250	6603	5355	11958		8.79	Si
SLD 14	ini.	-570.76	2515	1.05	1966	3063	36250	6603	5355	11958		4.75	Si
SLD 14	fin.	190	673	1.05	663	3063	36250	6603	5355	11958		17.77	Si
SLV 15	ini.	-744.98	3186	1.05	2553	3063	36250	6603	5355	11958		3.75	Si
SLV 15	fin.	336.43	1299	1.05	1168	3063	36250	6603	5355	11958		9.21	Si
SLD 15	ini.	-533.68	2517	1.05	1840	3063	36250	6603	5355	11958		4.75	Si
SLD 15	fin.	223.41	695	1.05	778	3063	36250	6603	5355	11958		17.21	Si
SLV 13	ini.	-792.7	3091	1.05	2713	3063	36250	6603	5355	11958		3.87	Si
SLV 13	fin.	260.66	1196	1.05	907	3063	36250	6603	5355	11958		10	Si
SLD 13	ini.	-561.55	2461	1.05	1935	3063	36250	6603	5355	11958		4.86	Si
SLD 13	fin.	178.65	634	1.05	623	3063	36250	6603	5355	11958		18.87	Si
SLV 11	ini.	-263.54	2056	1.05	916	3063	36250	6603	5355	11958		5.81	Si
SLV 11	fin.	241.38	302	1.05	840	3063	36250	6603	5355	11958		39.6	Si
SLD 16	ini.	-542.89	2572	1.05	1872	3063	36250	6603	5355	11958		4.65	Si
SLD 16	fin.	234.76	734	1.05	818	3063	36250	6603	5355	11958		16.29	Si
SLV 12	ini.	-273.31	2115	1.05	949	3063	36250	6603	5355	11958		5.65	Si
SLV 12	fin.	253.41	344	1.05	882	3063	36250	6603	5355	11958		34.78	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	16.721	SLV 14	Si
V_SLV	3.654	SLV 16	Si
PF_SLU	31.729	SLU 80	Si
V_SLU	3.363	SLU 77	Si

Trave di accoppiamento 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	13.55	14.6	1.05	-9.443	-3.169	13.55	14.6	1.05	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	384.24	674	-0.0001126	0.0001872	0.0035	1.05		4886.65	4886.65	No	12.72	Si
SLU 75	fin.	-503.76	-1953	-0.0001499	0.0001872	0.0035	1.05		4894.43	4894.43	No	9.72	Si
SLU 82	ini.	390.35	737	-0.0001144	0.0001872	0.0035	1.05		4886.65	4886.65	No	12.52	Si
SLU 82	fin.	-498.18	-1908	-0.0001481	0.0001872	0.0035	1.05		4894.43	4894.43	No	9.82	Si
SLU 84	ini.	380.23	713	-0.0001113	0.0001872	0.0035	1.05		4886.65	4886.65	No	12.85	Si
SLU 84	fin.	-493.35	-1895	-0.0001466	0.0001872	0.0035	1.05		4894.43	4894.43	No	9.92	Si
SLU 74	ini.	374.64	656	-0.0001096	0.0001872	0.0035	1.05		4886.65	4886.65	No	13.04	Si
SLU 74	fin.	-492.35	-1919	-0.0001463	0.0001872	0.0035	1.05		4894.43	4894.43	No	9.94	Si
SLU 76	ini.	375.11	692	-0.0001097	0.0001872	0.0035	1.05		4886.65	4886.65	No	13.03	Si
SLU 76	fin.	-489.15	-1859	-0.0001452	0.0001872	0.0035	1.05		4894.43	4894.43	No	10.01	Si
SLU 73	ini.	385.23	716	-0.0001129	0.0001872	0.0035	1.05		4886.65	4886.65	No	12.69	Si
SLU 73	fin.	-493.97	-1872	-0.0001468	0.0001872	0.0035	1.05		4894.43	4894.43	No	9.91	Si
SLU 83	ini.	370.64	695	-0.0001084	0.0001872	0.0035	1.05		4886.65	4886.65	No	13.18	Si
SLU 83	fin.	-481.94	-1861	-0.0001429	0.0001872	0.0035	1.05		4894.43	4894.43	No	10.16	Si
SLU 77	ini.	364.52	632	-0.0001065	0.0001872	0.0035	1.05		4886.65	4886.65	No	13.41	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-487.53	-1906	-0.0001447	0.0001872	0.0035	1.05		4894.43	4894.43	No	10.04	Si
SLU 81	ini.	380.76	719	-0.0001115	0.0001872	0.0035	1.05		4886.65	4886.65	No	12.83	Si
SLU 81	fin.	-486.77	-1874	-0.0001445	0.0001872	0.0035	1.05		4894.43	4894.43	No	10.05	Si
SLU 78	ini.	374.11	650	-0.0001094	0.0001872	0.0035	1.05		4886.65	4886.65	No	13.06	Si
SLU 78	fin.	-498.94	-1940	-0.0001484	0.0001872	0.0035	1.05		4894.43	4894.43	No	9.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	374.64	-1525	1.05	0	2042	14273	4402	2678	7079	No	4.64	Si
SLU 74	fin.	-492.35	-3153	1.05	0	2042	14273	4402	2678	7079	No	2.25	Si
SLU 77	ini.	364.52	-1486	1.05	0	2042	14273	4402	2678	7079	No	4.76	Si
SLU 77	fin.	-487.53	-3114	1.05	0	2042	14273	4402	2678	7079	No	2.27	Si
SLU 76	ini.	375.11	-1626	1.05	0	2042	14273	4402	2678	7079	No	4.35	Si
SLU 76	fin.	-489.15	-3058	1.05	0	2042	14273	4402	2678	7079	No	2.32	Si
SLU 83	ini.	370.64	-1610	1.05	0	2042	14273	4402	2678	7079	No	4.4	Si
SLU 83	fin.	-481.94	-3047	1.05	0	2042	14273	4402	2678	7079	No	2.32	Si
SLU 75	ini.	384.24	-1581	1.05	0	2042	14273	4402	2678	7079	No	4.48	Si
SLU 75	fin.	-503.76	-3206	1.05	0	2042	14273	4402	2678	7079	No	2.21	Si
SLU 73	ini.	385.23	-1665	1.05	0	2042	14273	4402	2678	7079	No	4.25	Si
SLU 73	fin.	-493.97	-3096	1.05	0	2042	14273	4402	2678	7079	No	2.29	Si
SLU 78	ini.	374.11	-1542	1.05	0	2042	14273	4402	2678	7079	No	4.59	Si
SLU 78	fin.	-498.94	-3167	1.05	0	2042	14273	4402	2678	7079	No	2.24	Si
SLU 84	ini.	380.23	-1667	1.05	0	2042	14273	4402	2678	7079	No	4.25	Si
SLU 84	fin.	-493.35	-3100	1.05	0	2042	14273	4402	2678	7079	No	2.28	Si
SLU 82	ini.	390.35	-1706	1.05	0	2042	14273	4402	2678	7079	No	4.15	Si
SLU 82	fin.	-498.18	-3139	1.05	0	2042	14273	4402	2678	7079	No	2.26	Si
SLU 81	ini.	380.76	-1649	1.05	0	2042	14273	4402	2678	7079	No	4.29	Si
SLU 81	fin.	-486.77	-3086	1.05	0	2042	14273	4402	2678	7079	No	2.29	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 5	ini.	937.55	1490	-0.000288	0.0002807	0.0035	1.05		4809.73	4809.73		5.13	Si
SLD 5	fin.	-865.24	-3165	-0.000263	0.0002807	0.0035	1.05		4818.47	4818.47		5.57	Si
SLV 11	ini.	-1021.19	-1504	-0.0003166	0.0002807	0.0035	1.05		4818.47	4818.47		4.72	Si
SLV 11	fin.	670.43	2293	-0.0001996	0.0002807	0.0035	1.05		4809.73	4809.73		7.17	Si
SLV 2	ini.	1418.87	2439	-0.0004659	0.0002807	0.0035	1.05		4809.73	4809.73		3.39	Si
SLV 2	fin.	-1169.95	-3900	-0.0003701	0.0002807	0.0035	1.05		4818.47	4818.47		4.12	Si
SLV 1	ini.	1238.94	2099	-0.0003965	0.0002807	0.0035	1.05		4809.73	4809.73		3.88	Si
SLV 1	fin.	-1029	-3475	-0.0003193	0.0002807	0.0035	1.05		4818.47	4818.47		4.68	Si
SLD 2	ini.	981.51	1700	-0.0003032	0.0002807	0.0035	1.05		4809.73	4809.73		4.9	Si
SLD 2	fin.	-852.86	-2892	-0.0002588	0.0002807	0.0035	1.05		4818.47	4818.47		5.65	Si
SLV 6	ini.	1522.1	2415	-0.0005073	0.0002807	0.0035	1.05		4809.73	4809.73		3.16	Si
SLV 6	fin.	-1327.8	-4772	-0.0004296	0.0002807	0.0035	1.05		4818.47	4818.47		3.63	Si
SLV 10	ini.	1050.58	1584	-0.0003276	0.0002807	0.0035	1.05		4809.73	4809.73		4.58	Si
SLV 10	fin.	-1007.82	-3829	-0.0003119	0.0002807	0.0035	1.05		4818.47	4818.47		4.78	Si
SLV 9	ini.	929.47	1355	-0.0002852	0.0002807	0.0035	1.05		4809.73	4809.73		5.17	Si
SLV 9	fin.	-912.94	-3543	-0.0002791	0.0002807	0.0035	1.05		4818.47	4818.47		5.28	Si
SLD 6	ini.	1011.05	1629	-0.0003136	0.0002807	0.0035	1.05		4809.73	4809.73		4.76	Si
SLD 6	fin.	-922.82	-3338	-0.0002825	0.0002807	0.0035	1.05		4818.47	4818.47		5.22	Si
SLV 5	ini.	1400.98	2185	-0.0004589	0.0002807	0.0035	1.05		4809.73	4809.73		3.43	Si
SLV 5	fin.	-1232.91	-4487	-0.0003935	0.0002807	0.0035	1.05		4818.47	4818.47		3.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	981.51	-3865	1.05	0	3063	14273	6603	2678	9280		2.4	Si
SLD 2	fin.	-852.86	-5023	1.05	0	3063	14273	6603	2678	9280		1.85	Si
SLV 6	ini.	1522.1	-6244	1.05	0	3063	14273	6603	2678	9280		1.49	Si
SLV 6	fin.	-1327.8	-7753	1.05	0	3063	14273	6603	2678	9280		1.2	Si
SLV 10	ini.	1050.58	-4493	1.05	0	3063	14273	6603	2678	9280		2.07	Si
SLV 10	fin.	-1007.82	-5973	1.05	0	3063	14273	6603	2678	9280		1.55	Si
SLD 5	ini.	937.55	-3823	1.05	0	3063	14273	6603	2678	9280		2.43	Si
SLD 5	fin.	-865.24	-5138	1.05	0	3063	14273	6603	2678	9280		1.81	Si
SLV 1	ini.	1238.94	-4774	1.05	0	3063	14273	6603	2678	9280		1.94	Si
SLV 1	fin.	-1029	-6012	1.05	0	3063	14273	6603	2678	9280		1.54	Si
SLV 5	ini.	1400.98	-5710	1.05	0	3063	14273	6603	2678	9280		1.63	Si
SLV 5	fin.	-1232.91	-7224	1.05	0	3063	14273	6603	2678	9280		1.28	Si
SLD 1	ini.	867.36	-3362	1.05	0	3063	14273	6603	2678	9280		2.76	Si
SLD 1	fin.	-763.44	-4524	1.05	0	3063	14273	6603	2678	9280		2.05	Si
SLV 2	ini.	1418.87	-5567	1.05	0	3063	14273	6603	2678	9280		1.67	Si
SLV 2	fin.	-1169.95	-6798	1.05	0	3063	14273	6603	2678	9280		1.37	Si
SLD 6	ini.	1011.05	-4147	1.05	0	3063	14273	6603	2678	9280		2.24	Si
SLD 6	fin.	-922.82	-5459	1.05	0	3063	14273	6603	2678	9280		1.7	Si
SLV 9	ini.	929.47	-3960	1.05	0	3063	14273	6603	2678	9280		2.34	Si
SLV 9	fin.	-912.94	-5443	1.05	0	3063	14273	6603	2678	9280		1.7	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.16	SLV 6	Si
V_SLV	1.197	SLV 6	Si
PF_SLU	9.716	SLU 75	Si
V_SLU	2.208	SLU 75	Si

Trave di accoppiamento 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	11.45	13.45	2	-5.158	6.521	11.45	13.45	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	222.72	-311	-0.0000172	0.0001872	0.0035	2		17734.35	17734.35	No	79.63	Si
SLU 79	fin.	-208.84	-220	-0.0000162	0.0001872	0.0035	2		17748.68	17748.68	No	84.99	Si
SLU 70	ini.	207.73	-303	-0.0000161	0.0001872	0.0035	2		17734.35	17734.35	No	85.37	Si
SLU 70	fin.	-201.95	-212	-0.0000156	0.0001872	0.0035	2		17748.68	17748.68	No	87.89	Si
SLU 78	ini.	218.43	-317	-0.0000169	0.0001872	0.0035	2		17734.35	17734.35	No	81.19	Si
SLU 78	fin.	-211.37	-222	-0.0000163	0.0001872	0.0035	2		17748.68	17748.68	No	83.97	Si
SLU 72	ini.	213.04	-299	-0.0000165	0.0001872	0.0035	2		17734.35	17734.35	No	83.24	Si
SLU 72	fin.	-200.69	-211	-0.0000155	0.0001872	0.0035	2		17748.68	17748.68	No	88.44	Si
SLU 77	ini.	217.41	-315	-0.0000168	0.0001872	0.0035	2		17734.35	17734.35	No	81.57	Si
SLU 77	fin.	-210.09	-221	-0.0000162	0.0001872	0.0035	2		17748.68	17748.68	No	84.48	Si
SLU 80	ini.	223.73	-313	-0.0000173	0.0001872	0.0035	2		17734.35	17734.35	No	79.27	Si
SLU 80	fin.	-210.12	-221	-0.0000163	0.0001872	0.0035	2		17748.68	17748.68	No	84.47	Si
SLU 38	ini.	206.56	-274	-0.000016	0.0001872	0.0035	2		17734.35	17734.35	No	85.86	Si
SLU 38	fin.	-182.93	-192	-0.0000141	0.0001872	0.0035	2		17748.68	17748.68	No	97.03	Si
SLU 71	ini.	212.03	-297	-0.0000164	0.0001872	0.0035	2		17734.35	17734.35	No	83.64	Si
SLU 71	fin.	-199.41	-210	-0.0000154	0.0001872	0.0035	2		17748.68	17748.68	No	89.01	Si
SLU 69	ini.	206.72	-301	-0.000016	0.0001872	0.0035	2		17734.35	17734.35	No	85.79	Si
SLU 69	fin.	-200.66	-211	-0.0000155	0.0001872	0.0035	2		17748.68	17748.68	No	88.45	Si
SLU 37	ini.	205.54	-273	-0.0000159	0.0001872	0.0035	2		17734.35	17734.35	No	86.28	Si
SLU 37	fin.	-181.64	-191	-0.000014	0.0001872	0.0035	2		17748.68	17748.68	No	97.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	222.72	-1970	2	0	3889	7928	8384	5100	11817	No	6	Si
SLU 79	fin.	-208.84	-848	2	0	3889	7928	8384	5100	11817	No	13.94	Si
SLU 69	ini.	206.72	-1875	2	0	3889	7928	8384	5100	11817	No	6.3	Si
SLU 69	fin.	-200.66	-816	2	0	3889	7928	8384	5100	11817	No	14.48	Si
SLU 70	ini.	207.73	-1884	2	0	3889	7928	8384	5100	11817	No	6.27	Si
SLU 70	fin.	-201.95	-820	2	0	3889	7928	8384	5100	11817	No	14.41	Si
SLU 80	ini.	223.73	-1979	2	0	3889	7928	8384	5100	11817	No	5.97	Si
SLU 80	fin.	-210.12	-852	2	0	3889	7928	8384	5100	11817	No	13.87	Si
SLU 71	ini.	212.03	-1881	2	0	3889	7928	8384	5100	11817	No	6.28	Si
SLU 71	fin.	-199.41	-817	2	0	3889	7928	8384	5100	11817	No	14.46	Si
SLU 38	ini.	206.56	-1768	2	0	3889	7928	8384	5100	11817	No	6.68	Si
SLU 38	fin.	-182.93	-739	2	0	3889	7928	8384	5100	11817	No	15.99	Si
SLU 84	ini.	183.55	-1769	2	0	3889	7928	8384	5100	11817	No	6.68	Si
SLU 84	fin.	-197.49	-782	2	0	3889	7928	8384	5100	11817	No	15.1	Si
SLU 77	ini.	217.41	-1965	2	0	3889	7928	8384	5100	11817	No	6.01	Si
SLU 77	fin.	-210.09	-847	2	0	3889	7928	8384	5100	11817	No	13.96	Si
SLU 72	ini.	213.04	-1889	2	0	3889	7928	8384	5100	11817	No	6.25	Si
SLU 72	fin.	-200.69	-822	2	0	3889	7928	8384	5100	11817	No	14.38	Si
SLU 78	ini.	218.43	-1973	2	0	3889	7928	8384	5100	11817	No	5.99	Si
SLU 78	fin.	-211.37	-851	2	0	3889	7928	8384	5100	11817	No	13.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	171.98	-239	-0.0000133	0.0002807	0.0035	2		15950.21	15950.21		92.74	Si
SLD 6	fin.	-133.77	-179	-0.0000103	0.0002807	0.0035	2		15965.77	15965.77		119.35	Si
SLV 6	ini.	229.02	-274	-0.0000177	0.0002807	0.0035	2		15950.21	15950.21		69.64	Si
SLV 6	fin.	-139.83	-212	-0.0000108	0.0002807	0.0035	2		15965.77	15965.77		114.18	Si
SLV 9	ini.	252.99	-262	-0.0000196	0.0002807	0.0035	2		15950.21	15950.21		63.05	Si
SLV 9	fin.	-141.07	-214	-0.0000109	0.0002807	0.0035	2		15965.77	15965.77		113.18	Si
SLV 5	ini.	225.68	-259	-0.0000174	0.0002807	0.0035	2		15950.21	15950.21		70.68	Si
SLV 5	fin.	-132.49	-205	-0.0000102	0.0002807	0.0035	2		15965.77	15965.77		120.51	Si
SLD 9	ini.	187.47	-232	-0.0000145	0.0002807	0.0035	2		15950.21	15950.21		85.08	Si
SLD 9	fin.	-134.77	-180	-0.0000104	0.0002807	0.0035	2		15965.77	15965.77		118.46	Si
SLD 10	ini.	189.5	-241	-0.0000146	0.0002807	0.0035	2		15950.21	15950.21		84.17	Si
SLD 10	fin.	-139.23	-185	-0.0000107	0.0002807	0.0035	2		15965.77	15965.77		114.67	Si
SLV 10	ini.	256.34	-276	-0.0000198	0.0002807	0.0035	2		15950.21	15950.21		62.22	Si
SLV 10	fin.	-148.41	-221	-0.0000114	0.0002807	0.0035	2		15965.77	15965.77		107.58	Si
SLV 13	ini.	179.98	-206	-0.0000139	0.0002807	0.0035	2		15950.21	15950.21		88.62	Si
SLV 13	fin.	-138.82	-166	-0.0000107	0.0002807	0.0035	2		15965.77	15965.77		115.01	Si
SLV 14	ini.	184.95	-227	-0.0000143	0.0002807	0.0035	2		15950.21	15950.21		86.24	Si
SLV 14	fin.	-149.74	-177	-0.0000115	0.0002807	0.0035	2		15965.77	15965.77		106.63	Si
SLD 5	ini.	169.95	-231	-0.0000131	0.0002807	0.0035	2		15950.21	15950.21		93.85	Si
SLD 5	fin.	-129.32	-174	-0.00001	0.0002807	0.0035	2		15965.77	15965.77		123.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	149.34	-1247	2	0	5833	7928	12577	5100	13762		11.04	Si
SLD 14	fin.	-140.69	-550	2	0	5833	7928	12577	5100	13762		25.04	Si
SLV 9	ini.	252.99	-1218	2	0	5833	7928	12577	5100	13762		11.3	Si
SLV 9	fin.	-141.07	-605	2	0	5833	7928	12577	5100	13762		22.76	Si
SLV 15	ini.	90.79	-1185	2	0	5833	7928	12577	5100	13762		11.61	Si
SLV 15	fin.	-129.85	-492	2	0	5833	7928	12577	5100	13762		27.97	Si
SLD 16	ini.	96.91	-1198	2	0	5833	7928	12577	5100	13762		11.48	Si
SLD 16	fin.	-135.42	-511	2	0	5833	7928	12577	5100	13762		26.95	Si
SLD 10	ini.	189.5	-1189	2	0	5833	7928	12577	5100	13762		11.58	Si
SLD 10	fin.	-139.23	-573	2	0	5833	7928	12577	5100	13762		24.03	Si
SLD 13	ini.	146.18	-1185	2	0	5833	7928	12577	5100	13762		11.61	Si
SLD 13	fin.	-133.76	-530	2	0	5833	7928	12577	5100	13762		25.96	Si
SLV 14	ini.	184.95	-1366	2	0	5833	7928	12577	5100	13762		10.08	Si
SLV 14	fin.	-149.74	-587	2	0	5833	7928	12577	5100	13762		23.43	Si
SLV 16	ini.	95.76	-1283	2	0	5833	7928	12577	5100	13762		10.73	Si
SLV 16	fin.	-140.76	-523	2	0	5833	7928	12577	5100	13762		26.33	Si
SLV 10	ini.	256.34	-1283	2	0	5833	7928	12577	5100	13762		10.72	Si
SLV 10	fin.	-148.41	-625	2	0	5833	7928	12577	5100	13762		22.01	Si
SLV 13	ini.	179.98	-1268	2	0	5833	7928	12577	5100	13762		10.85	Si
SLV 13	fin.	-138.82	-557	2	0	5833	7928	12577	5100	13762		24.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	62.224	SLV 10	Si
V_SLV	10.078	SLV 14	Si
PF_SLU	79.265	SLU 80	Si
V_SLU	5.972	SLU 80	Si

Trave di accoppiamento 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	14.25	14.6	0.35	-5.158	6.521	14.25	14.6	0.35	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 6	ini.	100.93	1593	-0.0002889	0.0001872	0.0035	0.35		554.01	554.01	No	5.49	Si
SLU 6	fin.	-159.87	2465	-0.0004987	0.0001872	0.0035	0.35		556.58	556.58	No	3.48	Si
SLU 40	ini.	-165.52	-750	-0.0005205	0.0001872	0.0035	0.35		556.58	556.58	No	3.36	Si
SLU 40	fin.	95.59	320	-0.0002712	0.0001872	0.0035	0.35		554.01	554.01	No	5.8	Si
SLU 71	ini.	92.02	1731	-0.0002595	0.0001872	0.0035	0.35		554.01	554.01	No	6.02	Si
SLU 71	fin.	-170.04	2905	-0.0005382	0.0001872	0.0035	0.35		556.58	556.58	No	3.27	Si
SLU 48	ini.	111	1791	-0.000323	0.0001872	0.0035	0.35		554.01	554.01	No	4.99	Si
SLU 48	fin.	-179.19	2779	-0.0005745	0.0001872	0.0035	0.35		556.58	556.58	No	3.11	Si
SLU 49	ini.	104.4	1738	-0.0003005	0.0001872	0.0035	0.35		554.01	554.01	No	5.31	Si
SLU 49	fin.	-174.11	2747	-0.0005542	0.0001872	0.0035	0.35		556.58	556.58	No	3.2	Si
SLU 50	ini.	136.82	2014	-0.0004147	0.0001872	0.0035	0.35		554.01	554.01	No	4.05	Si
SLU 50	fin.	-203.46	2991	-0.0006742	0.0001872	0.0035	0.35		556.58	556.58	No	2.74	Si
SLU 8	ini.	126.75	1817	-0.0003782	0.0001872	0.0035	0.35		554.01	554.01	No	4.37	Si
SLU 8	fin.	-184.13	2677	-0.0005944	0.0001872	0.0035	0.35		556.58	556.58	No	3.02	Si
SLU 9	ini.	120.14	1764	-0.0003548	0.0001872	0.0035	0.35		554.01	554.01	No	4.61	Si
SLU 9	fin.	-179.04	2645	-0.0005739	0.0001872	0.0035	0.35		556.58	556.58	No	3.11	Si
SLU 51	ini.	130.22	1962	-0.0003907	0.0001872	0.0035	0.35		554.01	554.01	No	4.25	Si
SLU 51	fin.	-198.37	2959	-0.0006529	0.0001872	0.0035	0.35		556.58	556.58	No	2.81	Si
SLU 72	ini.	85.42	1678	-0.0002383	0.0001872	0.0035	0.35		554.01	554.01	No	6.49	Si
SLU 72	fin.	-164.95	2873	-0.0005183	0.0001872	0.0035	0.35		556.58	556.58	No	3.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-1.35	2104	0.35	0	681	5551	1467	893	2360	No	1.12	Si
SLU 77	fin.	-87.45	327	0.35	0	681	5551	1467	893	2360	No	7.21	Si
SLU 82	ini.	-155.45	2160	0.35	0	681	5551	1467	893	2360	No	1.09	Si
SLU 82	fin.	76.26	790	0.35	0	681	5551	1467	893	2360	No	2.99	Si
SLU 76	ini.	-58.72	2054	0.35	0	681	5551	1467	893	2360	No	1.15	Si
SLU 76	fin.	-24.29	491	0.35	0	681	5551	1467	893	2360	No	4.81	Si
SLU 81	ini.	-148.85	2126	0.35	0	681	5551	1467	893	2360	No	1.11	Si
SLU 81	fin.	71.17	764	0.35	0	681	5551	1467	893	2360	No	3.09	Si
SLU 75	ini.	-80.14	2108	0.35	0	681	5551	1467	893	2360	No	1.12	Si
SLU 75	fin.	-3.42	557	0.35	0	681	5551	1467	893	2360	No	4.24	Si
SLU 83	ini.	-76.66	2156	0.35	0	681	5551	1467	893	2360	No	1.09	Si
SLU 83	fin.	-7.77	561	0.35	0	681	5551	1467	893	2360	No	4.2	Si
SLU 74	ini.	-73.53	2074	0.35	0	681	5551	1467	893	2360	No	1.14	Si
SLU 74	fin.	-8.5	530	0.35	0	681	5551	1467	893	2360	No	4.46	Si
SLU 84	ini.	-83.26	2191	0.35	0	681	5551	1467	893	2360	No	1.08	Si
SLU 84	fin.	-2.69	588	0.35	0	681	5551	1467	893	2360	No	4.01	Si
SLU 80	ini.	17.87	2061	0.35	0	681	5551	1467	893	2360	No	1.15	Si
SLU 80	fin.	-106.63	271	0.35	0	681	5551	1467	893	2360	No	8.72	Si
SLU 78	ini.	-7.95	2138	0.35	0	681	5551	1467	893	2360	No	1.1	Si
SLU 78	fin.	-82.37	354	0.35	0	681	5551	1467	893	2360	No	6.66	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-838.51	-6358	-0.0063232	0.0002807	0.0035	0.35		536.01	536.01		0.64	No
SLV 14	fin.	717.47	-3629	-0.005168	0.0002807	0.0035	0.35		533.13	533.13		0.74	No
SLV 7	ini.	771.54	6847	-0.0057118	0.0002807	0.0035	0.35		533.13	533.13		0.69	No
SLV 7	fin.	-696.09	5223	-0.0049119	0.0002807	0.0035	0.35		536.01	536.01		0.77	No
SLV 10	ini.	-870.99	-6639	-0.0066299	0.0002807	0.0035	0.35		536.01	536.01		0.62	No
SLV 10	fin.	696.04	-3579	-0.0049455	0.0002807	0.0035	0.35		533.13	533.13		0.77	No
SLV 13	ini.	-681.73	-5068	-0.0047604	0.0002807	0.0035	0.35		536.01	536.01		0.79	No
SLV 13	fin.	568.43	-2708	-0.003454	0.0002807	0.0035	0.35		533.13	533.13		0.94	No
SLV 8	ini.	666.01	5978	-0.0046251	0.0002807	0.0035	0.35		533.13	533.13		0.8	No
SLV 8	fin.	-595.77	4603	-0.0037777	0.0002807	0.0035	0.35		536.01	536.01		0.9	No
SLV 9	ini.	-765.45	-5770	-0.0056161	0.0002807	0.0035	0.35		536.01	536.01		0.7	No
SLV 9	fin.	595.72	-2959	-0.0038119	0.0002807	0.0035	0.35		533.13	533.13		0.89	No
SLV 6	ini.	-554.6	-4051	-0.0032203	0.0002807	0.0035	0.35		536.01	536.01		0.97	No
SLV 6	fin.	399.86	-1757	-0.0016204	0.0002807	0.0035	0.35		533.13	533.13		1.33	Si
SLV 4	ini.	582.29	5276	-0.0036404	0.0002807	0.0035	0.35		533.13	533.13		0.92	No
SLV 4	fin.	-568.48	4352	-0.0034179	0.0002807	0.0035	0.35		536.01	536.01		0.94	No
SLD 14	ini.	-544.15	-3940	-0.0030681	0.0002807	0.0035	0.35		536.01	536.01		0.99	No
SLD 14	fin.	450.19	-1966	-0.0020065	0.0002807	0.0035	0.35		533.13	533.13		1.18	Si
SLV 3	ini.	739.07	6566	-0.0053879	0.0002807	0.0035	0.35		533.13	533.13		0.72	No
SLV 3	fin.	-717.52	5273	-0.0051338	0.0002807	0.0035	0.35		536.01	536.01		0.75	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-472.33	3378	0.35	0	1021	5551	2201	893	3093		0.92	No
SLV 16	fin.	418.78	2216	0.35	0	1021	5551	2201	893	3093		1.4	Si
SLV 14	ini.	-838.51	5390	0.35	0	1021	5551	2201	893	3093		0.57	No
SLV 14	fin.	717.47	3750	0.35	0	1021	5551	2201	893	3093		0.82	No
SLV 10	ini.	-870.99	5676	0.35	0	1021	5551	2201	893	3093		0.55	No
SLV 10	fin.	696.04	3809	0.35	0	1021	5551	2201	893	3093		0.81	No
SLD 14	ini.	-544.15	3834	0.35	0	1021	5551	2201	893	3093		0.81	No
SLD 14	fin.	450.19	2470	0.35	0	1021	5551	2201	893	3093		1.25	Si
SLD 9	ini.	-475.33	3593	0.35	0	1021	5551	2201	893	3093		0.86	No
SLD 9	fin.	355.42	2118	0.35	0	1021	5551	2201	893	3093		1.46	Si
SLV 9	ini.	-765.45	5188	0.35	0	1021	5551	2201	893	3093		0.6	No
SLV 9	fin.	595.72	3333	0.35	0	1021	5551	2201	893	3093		0.93	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-681.73	4665	0.35	0	1021	5551	2201	893	3093		0.66	No
SLV 13	fin.	568.43	3042	0.35	0	1021	5551	2201	893	3093		1.02	Si
SLV 6	ini.	-554.6	4011	0.35	0	1021	5551	2201	893	3093		0.77	No
SLV 6	fin.	399.86	2426	0.35	0	1021	5551	2201	893	3093		1.27	Si
SLV 5	ini.	-449.07	3523	0.35	0	1021	5551	2201	893	3093		0.88	No
SLV 5	fin.	299.54	1950	0.35	0	1021	5551	2201	893	3093		1.59	Si
SLD 10	ini.	-539.38	3889	0.35	0	1021	5551	2201	893	3093		0.8	No
SLD 10	fin.	416.3	2407	0.35	0	1021	5551	2201	893	3093		1.28	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.615	SLV 10	No
V_SLV	0.545	SLV 10	No
PF_SLU	2.736	SLU 50	Si
V_SLU	1.077	SLU 84	Si

Trave di accoppiamento 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	11.45	12.35	0.9	-7.403	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	162.33	-965	-0.0000634	0.0001872	0.0035	0.9		3572.55	3572.55	No	22.01	Si
SLU 84	fin.	-244.75	124	-0.0000968	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.62	Si
SLU 67	ini.	180.19	-1109	-0.0000706	0.0001872	0.0035	0.9		3572.55	3572.55	No	19.83	Si
SLU 67	fin.	-250.38	93	-0.0000991	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.3	Si
SLU 73	ini.	171.02	-1007	-0.0000669	0.0001872	0.0035	0.9		3572.55	3572.55	No	20.89	Si
SLU 73	fin.	-259.88	149	-0.0001031	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.77	Si
SLU 78	ini.	172.29	-1054	-0.0000674	0.0001872	0.0035	0.9		3572.55	3572.55	No	20.74	Si
SLU 78	fin.	-244.99	93	-0.0000969	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.61	Si
SLU 75	ini.	173.03	-1047	-0.0000677	0.0001872	0.0035	0.9		3572.55	3572.55	No	20.65	Si
SLU 75	fin.	-251.38	111	-0.0000995	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.24	Si
SLU 68	ini.	177.46	-1077	-0.0000695	0.0001872	0.0035	0.9		3572.55	3572.55	No	20.13	Si
SLU 68	fin.	-252.48	114	-0.0001	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.18	Si
SLU 65	ini.	178.19	-1070	-0.0000698	0.0001872	0.0035	0.9		3572.55	3572.55	No	20.05	Si
SLU 65	fin.	-258.87	131	-0.0001026	0.0001872	0.0035	0.9		3579.32	3579.32	No	13.83	Si
SLU 82	ini.	163.06	-957	-0.0000637	0.0001872	0.0035	0.9		3572.55	3572.55	No	21.91	Si
SLU 82	fin.	-251.14	142	-0.0000994	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.25	Si
SLU 70	ini.	179.46	-1117	-0.0000703	0.0001872	0.0035	0.9		3572.55	3572.55	No	19.91	Si
SLU 70	fin.	-243.99	75	-0.0000965	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.67	Si
SLU 76	ini.	170.29	-1014	-0.0000666	0.0001872	0.0035	0.9		3572.55	3572.55	No	20.98	Si
SLU 76	fin.	-253.49	131	-0.0001004	0.0001872	0.0035	0.9		3579.32	3579.32	No	14.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	164.5	-1573	0.9	0	1750	14273	3773	2295	6068	No	3.86	Si
SLU 71	fin.	-223.17	-874	0.9	0	1750	14273	3773	2295	6068	No	6.94	Si
SLU 72	ini.	171.84	-1626	0.9	0	1750	14273	3773	2295	6068	No	3.73	Si
SLU 72	fin.	-236.92	-924	0.9	0	1750	14273	3773	2295	6068	No	6.57	Si
SLU 69	ini.	172.13	-1664	0.9	0	1750	14273	3773	2295	6068	No	3.65	Si
SLU 69	fin.	-230.23	-886	0.9	0	1750	14273	3773	2295	6068	No	6.85	Si
SLU 75	ini.	173.03	-1601	0.9	0	1750	14273	3773	2295	6068	No	3.79	Si
SLU 75	fin.	-251.38	-990	0.9	0	1750	14273	3773	2295	6068	No	6.13	Si
SLU 66	ini.	172.86	-1654	0.9	0	1750	14273	3773	2295	6068	No	3.67	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	fin.	-236.62	-913	0.9	0	1750	14273	3773	2295	6068	No	6.65	Si
SLU 67	ini.	180.19	-1708	0.9	0	1750	14273	3773	2295	6068	No	3.55	Si
SLU 67	fin.	-250.38	-963	0.9	0	1750	14273	3773	2295	6068	No	6.3	Si
SLU 68	ini.	177.46	-1652	0.9	0	1750	14273	3773	2295	6068	No	3.67	Si
SLU 68	fin.	-252.48	-984	0.9	0	1750	14273	3773	2295	6068	No	6.16	Si
SLU 65	ini.	178.19	-1642	0.9	0	1750	14273	3773	2295	6068	No	3.7	Si
SLU 65	fin.	-258.87	-1011	0.9	0	1750	14273	3773	2295	6068	No	6	Si
SLU 78	ini.	172.29	-1611	0.9	0	1750	14273	3773	2295	6068	No	3.77	Si
SLU 78	fin.	-244.99	-963	0.9	0	1750	14273	3773	2295	6068	No	6.3	Si
SLU 70	ini.	179.46	-1718	0.9	0	1750	14273	3773	2295	6068	No	3.53	Si
SLU 70	fin.	-243.99	-936	0.9	0	1750	14273	3773	2295	6068	No	6.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1134.39	-4993	-0.0005166	0.0002807	0.0035	0.9		3568.61	3568.61		3.15	Si
SLV 5	fin.	-1742.76	2343	-0.0008896	0.0002807	0.0035	0.9		3575.64	3575.64		2.05	Si
SLV 10	ini.	913.56	-4148	-0.0003985	0.0002807	0.0035	0.9		3568.61	3568.61		3.91	Si
SLV 10	fin.	-1377.13	1774	-0.0006558	0.0002807	0.0035	0.9		3575.64	3575.64		2.6	Si
SLV 12	ini.	-902.41	3552	-0.000392	0.0002807	0.0035	0.9		3575.64	3575.64		3.96	Si
SLV 12	fin.	1412.15	-2233	-0.0006786	0.0002807	0.0035	0.9		3568.61	3568.61		2.53	Si
SLV 11	ini.	-989.59	3899	-0.0004371	0.0002807	0.0035	0.9		3575.64	3575.64		3.61	Si
SLV 11	fin.	1565.47	-2482	-0.0007745	0.0002807	0.0035	0.9		3568.61	3568.61		2.28	Si
SLV 9	ini.	826.38	-3801	-0.0003545	0.0002807	0.0035	0.9		3568.61	3568.61		4.32	Si
SLV 9	fin.	-1223.81	1525	-0.0005658	0.0002807	0.0035	0.9		3575.64	3575.64		2.92	Si
SLD 6	ini.	772.72	-3461	-0.0003282	0.0002807	0.0035	0.9		3568.61	3568.61		4.62	Si
SLD 6	fin.	-1194.46	1566	-0.0005491	0.0002807	0.0035	0.9		3575.64	3575.64		2.99	Si
SLV 15	ini.	-734.51	2678	-0.0003092	0.0002807	0.0035	0.9		3575.64	3575.64		4.87	Si
SLV 15	fin.	1231.89	-2095	-0.0005718	0.0002807	0.0035	0.9		3568.61	3568.61		2.9	Si
SLV 1	ini.	836.99	-3604	-0.0003598	0.0002807	0.0035	0.9		3568.61	3568.61		4.26	Si
SLV 1	fin.	-1334.73	1836	-0.0006305	0.0002807	0.0035	0.9		3575.64	3575.64		2.68	Si
SLV 6	ini.	1221.57	-5340	-0.0005659	0.0002807	0.0035	0.9		3568.61	3568.61		2.92	Si
SLV 6	fin.	-1896.08	2592	-0.0009965	0.0002807	0.0035	0.9		3575.64	3575.64		1.89	Si
SLV 2	ini.	966.49	-4119	-0.000426	0.0002807	0.0035	0.9		3568.61	3568.61		3.69	Si
SLV 2	fin.	-1562.5	2206	-0.0007708	0.0002807	0.0035	0.9		3575.64	3575.64		2.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1221.57	-7811	0.9	0	2625	14273	5660	2295	7955		1.02	Si
SLV 6	fin.	-1896.08	-7368	0.9	0	2625	14273	5660	2295	7955		1.08	Si
SLD 6	ini.	772.72	-5084	0.9	0	2625	14273	5660	2295	7955		1.56	Si
SLD 6	fin.	-1194.46	-4648	0.9	0	2625	14273	5660	2295	7955		1.71	Si
SLV 15	ini.	-734.51	3802	0.9	0	2625	14273	5660	2295	7955		2.09	Si
SLV 15	fin.	1231.89	4849	0.9	0	2625	14273	5660	2295	7955		1.64	Si
SLV 12	ini.	-902.41	5074	0.9	0	2625	14273	5660	2295	7955		1.57	Si
SLV 12	fin.	1412.15	5470	0.9	0	2625	14273	5660	2295	7955		1.45	Si
SLV 5	ini.	1134.39	-7287	0.9	0	2625	14273	5660	2295	7955		1.09	Si
SLV 5	fin.	-1742.76	-6780	0.9	0	2625	14273	5660	2295	7955		1.17	Si
SLV 11	ini.	-989.59	5598	0.9	0	2625	14273	5660	2295	7955		1.42	Si
SLV 11	fin.	1565.47	6058	0.9	0	2625	14273	5660	2295	7955		1.31	Si
SLV 9	ini.	826.38	-5581	0.9	0	2625	14273	5660	2295	7955		1.43	Si
SLV 9	fin.	-1223.81	-4708	0.9	0	2625	14273	5660	2295	7955		1.69	Si
SLV 1	ini.	836.99	-5238	0.9	0	2625	14273	5660	2295	7955		1.52	Si
SLV 1	fin.	-1334.73	-5285	0.9	0	2625	14273	5660	2295	7955		1.51	Si
SLV 2	ini.	966.49	-6015	0.9	0	2625	14273	5660	2295	7955		1.32	Si
SLV 2	fin.	-1562.5	-6159	0.9	0	2625	14273	5660	2295	7955		1.29	Si
SLV 10	ini.	913.56	-6105	0.9	0	2625	14273	5660	2295	7955		1.3	Si
SLV 10	fin.	-1377.13	-5297	0.9	0	2625	14273	5660	2295	7955		1.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.886	SLV 6	Si
V_SLV	1.018	SLV 6	Si
PF_SLU	13.773	SLU 73	Si
V_SLU	3.533	SLU 70	Si

Trave di accoppiamento 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	14.15	14.6	0.45	-7.403	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	36.38	112	-0.0000565	0.0001872	0.0035	0.45		915.31	915.31	No	25.16	Si
SLU 69	fin.	-60.59	-82	-0.0000953	0.0001872	0.0035	0.45		918.62	918.62	No	15.16	Si
SLU 68	ini.	42.91	194	-0.0000669	0.0001872	0.0035	0.45		915.31	915.31	No	21.33	Si
SLU 68	fin.	-58.14	-75	-0.0000913	0.0001872	0.0035	0.45		918.62	918.62	No	15.8	Si
SLU 28	ini.	36.4	150	-0.0000565	0.0001872	0.0035	0.45		915.31	915.31	No	25.15	Si
SLU 28	fin.	-59	-88	-0.0000927	0.0001872	0.0035	0.45		918.62	918.62	No	15.57	Si
SLU 24	ini.	36.41	128	-0.0000565	0.0001872	0.0035	0.45		915.31	915.31	No	25.14	Si
SLU 24	fin.	-57.69	-91	-0.0000906	0.0001872	0.0035	0.45		918.62	918.62	No	15.92	Si
SLU 70	ini.	38.42	141	-0.0000597	0.0001872	0.0035	0.45		915.31	915.31	No	23.83	Si
SLU 70	fin.	-62.32	-80	-0.0000982	0.0001872	0.0035	0.45		918.62	918.62	No	14.74	Si
SLU 25	ini.	38.45	157	-0.0000598	0.0001872	0.0035	0.45		915.31	915.31	No	23.81	Si
SLU 25	fin.	-59.42	-90	-0.0000934	0.0001872	0.0035	0.45		918.62	918.62	No	15.46	Si
SLU 27	ini.	34.36	121	-0.0000533	0.0001872	0.0035	0.45		915.31	915.31	No	26.64	Si
SLU 27	fin.	-57.27	-89	-0.0000899	0.0001872	0.0035	0.45		918.62	918.62	No	16.04	Si
SLU 67	ini.	40.46	148	-0.000063	0.0001872	0.0035	0.45		915.31	915.31	No	22.62	Si
SLU 67	fin.	-62.74	-82	-0.0000989	0.0001872	0.0035	0.45		918.62	918.62	No	14.64	Si
SLU 66	ini.	38.42	119	-0.0000598	0.0001872	0.0035	0.45		915.31	915.31	No	23.82	Si
SLU 66	fin.	-61.01	-83	-0.000096	0.0001872	0.0035	0.45		918.62	918.62	No	15.06	Si
SLU 65	ini.	44.96	201	-0.0000702	0.0001872	0.0035	0.45		915.31	915.31	No	20.36	Si
SLU 65	fin.	-58.56	-77	-0.000092	0.0001872	0.0035	0.45		918.62	918.62	No	15.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	ini.	38.42	437	0.45	0	799	7137	1887	1148	3034	No	6.95	Si
SLU 66	fin.	-61.01	-643	0.45	0	799	7137	1887	1148	3034	No	4.72	Si
SLU 67	ini.	40.46	408	0.45	0	799	7137	1887	1148	3034	No	7.43	Si
SLU 67	fin.	-62.74	-664	0.45	0	799	7137	1887	1148	3034	No	4.57	Si
SLU 77	ini.	35.48	463	0.45	0	799	7137	1887	1148	3034	No	6.55	Si
SLU 77	fin.	-54.37	-621	0.45	0	799	7137	1887	1148	3034	No	4.88	Si
SLU 78	ini.	37.52	435	0.45	0	799	7137	1887	1148	3034	No	6.98	Si
SLU 78	fin.	-56.1	-642	0.45	0	799	7137	1887	1148	3034	No	4.72	Si
SLU 75	ini.	39.57	430	0.45	0	799	7137	1887	1148	3034	No	7.06	Si
SLU 75	fin.	-56.52	-645	0.45	0	799	7137	1887	1148	3034	No	4.71	Si
SLU 74	ini.	37.53	458	0.45	0	799	7137	1887	1148	3034	No	6.62	Si
SLU 74	fin.	-54.8	-624	0.45	0	799	7137	1887	1148	3034	No	4.86	Si
SLU 65	ini.	44.96	291	0.45	0	799	7137	1887	1148	3034	No	10.42	Si
SLU 65	fin.	-58.56	-620	0.45	0	799	7137	1887	1148	3034	No	4.9	Si
SLU 69	ini.	36.38	441	0.45	0	799	7137	1887	1148	3034	No	6.87	Si
SLU 69	fin.	-60.59	-640	0.45	0	799	7137	1887	1148	3034	No	4.74	Si
SLU 68	ini.	42.91	296	0.45	0	799	7137	1887	1148	3034	No	10.25	Si
SLU 68	fin.	-58.14	-617	0.45	0	799	7137	1887	1148	3034	No	4.92	Si
SLU 70	ini.	38.42	413	0.45	0	799	7137	1887	1148	3034	No	7.35	Si
SLU 70	fin.	-62.32	-661	0.45	0	799	7137	1887	1148	3034	No	4.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-439.03	-3365	-0.0008934	0.0002807	0.0035	0.45		885.81	885.81		2.02	Si
SLV 11	fin.	459.43	2311	-0.0009541	0.0002807	0.0035	0.45		882.16	882.16		1.92	Si
SLV 2	ini.	398.48	2620	-0.0007902	0.0002807	0.0035	0.45		882.16	882.16		2.21	Si
SLV 2	fin.	-389.74	-1749	-0.0007641	0.0002807	0.0035	0.45		885.81	885.81		2.27	Si
SLV 10	ini.	361.72	2689	-0.0006976	0.0002807	0.0035	0.45		882.16	882.16		2.44	Si
SLV 10	fin.	-415.22	-1807	-0.0008299	0.0002807	0.0035	0.45		885.81	885.81		2.13	Si
SLV 15	ini.	-341.79	-2426	-0.0006462	0.0002807	0.0035	0.45		885.81	885.81		2.59	Si
SLV 15	fin.	316.1	1675	-0.0005886	0.0002807	0.0035	0.45		882.16	882.16		2.79	Si
SLV 6	ini.	495.72	3559	-0.0010586	0.0002807	0.0035	0.45		882.16	882.16		1.78	Si
SLV 6	fin.	-533.06	-2384	-0.0011662	0.0002807	0.0035	0.45		885.81	885.81		1.66	Si
SLV 9	ini.	316.7	2411	-0.00059	0.0002807	0.0035	0.45		882.16	882.16		2.79	Si
SLV 9	fin.	-372.5	-1585	-0.0007209	0.0002807	0.0035	0.45		885.81	885.81		2.38	Si
SLV 7	ini.	-305.03	-2495	-0.0005606	0.0002807	0.0035	0.45		885.81	885.81		2.9	Si
SLV 7	fin.	341.59	1733	-0.0006487	0.0002807	0.0035	0.45		882.16	882.16		2.58	Si
SLV 12	ini.	-394.01	-3087	-0.000775	0.0002807	0.0035	0.45		885.81	885.81		2.25	Si
SLV 12	fin.	416.71	2089	-0.0008378	0.0002807	0.0035	0.45		882.16	882.16		2.12	Si
SLV 5	ini.	450.71	3281	-0.0009298	0.0002807	0.0035	0.45		882.16	882.16		1.96	Si
SLV 5	fin.	-490.34	-2162	-0.0010375	0.0002807	0.0035	0.45		885.81	885.81		1.81	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	331.61	2207	-0.0006249	0.0002807	0.0035	0.45		882.16	882.16		2.66	Si
SLV 1	fin.	-326.28	-1419	-0.0006096	0.0002807	0.0035	0.45		885.81	885.81		2.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-439.03	3033	0.45	0	1113	7137	2830	1148	3977		1.31	Si
SLV 11	fin.	459.43	2140	0.45	0	1113	7137	2830	1148	3977		1.86	Si
SLV 6	ini.	495.72	-2518	0.45	0	1113	7137	2830	1148	3977		1.58	Si
SLV 6	fin.	-533.06	-2964	0.45	0	1113	7137	2830	1148	3977		1.34	Si
SLV 8	ini.	-260.01	2164	0.45	0	1113	7137	2830	1148	3977		1.84	Si
SLV 8	fin.	298.87	1266	0.45	0	1113	7137	2830	1148	3977		3.14	Si
SLV 2	ini.	398.48	-1679	0.45	0	1113	7137	2830	1148	3977		2.37	Si
SLV 2	fin.	-389.74	-2310	0.45	0	1113	7137	2830	1148	3977		1.72	Si
SLV 9	ini.	316.7	-1648	0.45	0	1113	7137	2830	1148	3977		2.41	Si
SLV 9	fin.	-372.5	-2090	0.45	0	1113	7137	2830	1148	3977		1.9	Si
SLV 7	ini.	-305.03	2396	0.45	0	1113	7137	2830	1148	3977		1.66	Si
SLV 7	fin.	341.59	1475	0.45	0	1113	7137	2830	1148	3977		2.7	Si
SLV 15	ini.	-341.79	2195	0.45	0	1113	7137	2830	1148	3977		1.81	Si
SLV 15	fin.	316.1	1486	0.45	0	1113	7137	2830	1148	3977		2.68	Si
SLV 10	ini.	361.72	-1881	0.45	0	1113	7137	2830	1148	3977		2.11	Si
SLV 10	fin.	-415.22	-2299	0.45	0	1113	7137	2830	1148	3977		1.73	Si
SLV 5	ini.	450.71	-2286	0.45	0	1113	7137	2830	1148	3977		1.74	Si
SLV 5	fin.	-490.34	-2755	0.45	0	1113	7137	2830	1148	3977		1.44	Si
SLV 12	ini.	-394.01	2801	0.45	0	1113	7137	2830	1148	3977		1.42	Si
SLV 12	fin.	416.71	1931	0.45	0	1113	7137	2830	1148	3977		2.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.662	SLV 6	Si
V_SLV	1.311	SLV 11	Si
PF_SLU	14.641	SLU 67	Si
V_SLU	4.571	SLU 67	Si

Trave di accoppiamento 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	11.45	13.45	2	-5.938	-3.169	11.45	13.45	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	ini.	53.95	-1512	-0.0000042	0.0001872	0.0035	2		17734.35	17734.35	No	328.7	Si
SLU 64	fin.	-172.53	-1161	-0.0000133	0.0001872	0.0035	2		17748.68	17748.68	No	102.87	Si
SLU 23	ini.	42.63	-1302	-0.0000033	0.0001872	0.0035	2		17734.35	17734.35	No	415.96	Si
SLU 23	fin.	-181.47	-1028	-0.000014	0.0001872	0.0035	2		17748.68	17748.68	No	97.8	Si
SLU 68	ini.	36.45	-1531	-0.0000028	0.0001872	0.0035	2		17734.35	17734.35	No	486.51	Si
SLU 68	fin.	-201.85	-1218	-0.0000156	0.0001872	0.0035	2		17748.68	17748.68	No	87.93	Si
SLU 65	ini.	52.19	-1546	-0.000004	0.0001872	0.0035	2		17734.35	17734.35	No	339.81	Si
SLU 65	fin.	-203.46	-1199	-0.0000157	0.0001872	0.0035	2		17748.68	17748.68	No	87.23	Si
SLU 26	ini.	26.9	-1287	-0.0000021	0.0001872	0.0035	2		17734.35	17734.35	No	659.32	Si
SLU 26	fin.	-179.86	-1047	-0.0000139	0.0001872	0.0035	2		17748.68	17748.68	No	98.68	Si
SLU 70	ini.	30.74	-1607	-0.0000024	0.0001872	0.0035	2		17734.35	17734.35	No	576.86	Si
SLU 70	fin.	-184.32	-1303	-0.0000142	0.0001872	0.0035	2		17748.68	17748.68	No	96.29	Si
SLU 76	ini.	27.03	-1482	-0.0000021	0.0001872	0.0035	2		17734.35	17734.35	No	656.17	Si
SLU 76	fin.	-180.41	-1161	-0.0000139	0.0001872	0.0035	2		17748.68	17748.68	No	98.38	Si
SLU 73	ini.	42.76	-1497	-0.0000033	0.0001872	0.0035	2		17734.35	17734.35	No	414.7	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	fin.	-182.02	-1143	-0.0000141	0.0001872	0.0035	2		17748.68	17748.68	No	97.51	Si
SLU 72	ini.	21.42	-1503	-0.0000016	0.0001872	0.0035	2		17734.35	17734.35	No	827.91	Si
SLU 72	fin.	-187.87	-1221	-0.0000145	0.0001872	0.0035	2		17748.68	17748.68	No	94.47	Si
SLU 67	ini.	46.48	-1622	-0.0000036	0.0001872	0.0035	2		17734.35	17734.35	No	381.55	Si
SLU 67	fin.	-185.93	-1284	-0.0000144	0.0001872	0.0035	2		17748.68	17748.68	No	95.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	36.45	-1694	2	0	3889	7930	8384	5100	11818	No	6.97	Si
SLU 68	fin.	-201.85	-652	2	0	3889	7930	8384	5100	11818	No	18.12	Si
SLU 65	ini.	52.19	-1777	2	0	3889	7930	8384	5100	11818	No	6.65	Si
SLU 65	fin.	-203.46	-769	2	0	3889	7930	8384	5100	11818	No	15.36	Si
SLU 69	ini.	31.8	-1670	2	0	3889	7930	8384	5100	11818	No	7.08	Si
SLU 69	fin.	-165.76	-501	2	0	3889	7930	8384	5100	11818	No	23.61	Si
SLU 67	ini.	46.48	-1783	2	0	3889	7930	8384	5100	11818	No	6.63	Si
SLU 67	fin.	-185.93	-646	2	0	3889	7930	8384	5100	11818	No	18.29	Si
SLU 75	ini.	37.05	-1700	2	0	3889	7930	8384	5100	11818	No	6.95	Si
SLU 75	fin.	-164.48	-627	2	0	3889	7930	8384	5100	11818	No	18.85	Si
SLU 73	ini.	42.76	-1693	2	0	3889	7930	8384	5100	11818	No	6.98	Si
SLU 73	fin.	-182.02	-750	2	0	3889	7930	8384	5100	11818	No	15.76	Si
SLU 66	ini.	47.54	-1752	2	0	3889	7930	8384	5100	11818	No	6.74	Si
SLU 66	fin.	-167.37	-618	2	0	3889	7930	8384	5100	11818	No	19.14	Si
SLU 64	ini.	53.95	-1725	2	0	3889	7930	8384	5100	11818	No	6.85	Si
SLU 64	fin.	-172.53	-721	2	0	3889	7930	8384	5100	11818	No	16.39	Si
SLU 70	ini.	30.74	-1701	2	0	3889	7930	8384	5100	11818	No	6.95	Si
SLU 70	fin.	-184.32	-529	2	0	3889	7930	8384	5100	11818	No	22.33	Si
SLU 74	ini.	38.11	-1669	2	0	3889	7930	8384	5100	11818	No	7.08	Si
SLU 74	fin.	-145.93	-598	2	0	3889	7930	8384	5100	11818	No	19.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	193.23	-4128	-0.0000149	0.0002807	0.0035	2		15950.21	15950.21		82.54	Si
SLV 5	fin.	-1794.35	-4311	-0.0001443	0.0002807	0.0035	2		15965.77	15965.77		8.9	Si
SLV 10	ini.	201.1	-3508	-0.0000155	0.0002807	0.0035	2		15950.21	15950.21		79.31	Si
SLV 10	fin.	-1510.53	-3679	-0.0001205	0.0002807	0.0035	2		15965.77	15965.77		10.57	Si
SLV 12	ini.	-118.19	1923	-0.0000091	0.0002807	0.0035	2		15965.77	15965.77		135.09	Si
SLV 12	fin.	1557.02	2643	-0.0001245	0.0002807	0.0035	2		15950.21	15950.21		10.24	Si
SLV 7	ini.	-126.06	1303	-0.0000097	0.0002807	0.0035	2		15965.77	15965.77		126.65	Si
SLV 7	fin.	1273.2	2011	-0.000101	0.0002807	0.0035	2		15950.21	15950.21		12.53	Si
SLV 11	ini.	-214.01	2278	-0.0000165	0.0002807	0.0035	2		15965.77	15965.77		74.6	Si
SLV 11	fin.	1709.56	2875	-0.0001372	0.0002807	0.0035	2		15950.21	15950.21		9.33	Si
SLD 6	ini.	188.5	-3110	-0.0000146	0.0002807	0.0035	2		15950.21	15950.21		84.62	Si
SLD 6	fin.	-1201.88	-3031	-0.0000951	0.0002807	0.0035	2		15965.77	15965.77		13.28	Si
SLV 9	ini.	105.28	-3153	-0.0000081	0.0002807	0.0035	2		15950.21	15950.21		151.5	Si
SLV 9	fin.	-1357.99	-3446	-0.0001079	0.0002807	0.0035	2		15965.77	15965.77		11.76	Si
SLV 2	ini.	303.18	-3806	-0.0000235	0.0002807	0.0035	2		15950.21	15950.21		52.61	Si
SLV 2	fin.	-1419.37	-3396	-0.000113	0.0002807	0.0035	2		15965.77	15965.77		11.25	Si
SLV 6	ini.	289.05	-4483	-0.0000224	0.0002807	0.0035	2		15950.21	15950.21		55.18	Si
SLV 6	fin.	-1946.89	-4543	-0.0001572	0.0002807	0.0035	2		15965.77	15965.77		8.2	Si
SLV 1	ini.	160.83	-3279	-0.0000124	0.0002807	0.0035	2		15950.21	15950.21		99.18	Si
SLV 1	fin.	-1192.77	-3051	-0.0000944	0.0002807	0.0035	2		15965.77	15965.77		13.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	188.5	-3306	2	0	5833	7930	12577	5100	13763		4.16	Si
SLD 6	fin.	-1201.88	-2748	2	0	5833	7930	12577	5100	13763		5.01	Si
SLV 11	ini.	-214.01	2141	2	0	5833	7930	12577	5100	13763		6.43	Si
SLV 11	fin.	1709.56	3171	2	0	5833	7930	12577	5100	13763		4.34	Si
SLD 2	ini.	204.29	-3252	2	0	5833	7930	12577	5100	13763		4.23	Si
SLD 2	fin.	-922.99	-3125	2	0	5833	7930	12577	5100	13763		4.4	Si
SLV 4	ini.	207.39	-2958	2	0	5833	7930	12577	5100	13763		4.65	Si
SLV 4	fin.	-499.1	-3193	2	0	5833	7930	12577	5100	13763		4.31	Si
SLV 2	ini.	303.18	-4453	2	0	5833	7930	12577	5100	13763		3.09	Si
SLV 2	fin.	-1419.37	-4669	2	0	5833	7930	12577	5100	13763		2.95	Si
SLV 10	ini.	201.1	-3528	2	0	5833	7930	12577	5100	13763		3.9	Si
SLV 10	fin.	-1510.53	-2536	2	0	5833	7930	12577	5100	13763		5.43	Si
SLV 5	ini.	193.23	-3997	2	0	5833	7930	12577	5100	13763		3.44	Si
SLV 5	fin.	-1794.35	-3440	2	0	5833	7930	12577	5100	13763		4	Si
SLV 15	ini.	-228.13	1911	2	0	5833	7930	12577	5100	13763		7.2	Si
SLV 15	fin.	1182.04	3613	2	0	5833	7930	12577	5100	13763		3.81	Si
SLV 1	ini.	160.83	-3433	2	0	5833	7930	12577	5100	13763		4.01	Si
SLV 1	fin.	-1192.77	-3501	2	0	5833	7930	12577	5100	13763		3.93	Si
SLV 6	ini.	289.05	-4683	2	0	5833	7930	12577	5100	13763		2.94	Si
SLV 6	fin.	-1946.89	-4227	2	0	5833	7930	12577	5100	13763		3.26	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.201	SLV 6	Si
V_SLV	2.939	SLV 6	Si
PF_SLU	87.234	SLU 65	Si
V_SLU	6.627	SLU 67	Si

Trave di accoppiamento 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	14.25	14.6	0.35	-5.938	-3.169	14.25	14.6	0.35	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 68	ini.	72.9	42	-0.0001994	0.0001872	0.0035	0.35		554.01	554.01	No	7.6	Si
SLU 68	fin.	-58.99	42	-0.0001573	0.0001872	0.0035	0.35		556.58	556.58	No	9.43	Si
SLU 65	ini.	78.91	46	-0.0002179	0.0001872	0.0035	0.35		554.01	554.01	No	7.02	Si
SLU 65	fin.	-64.54	46	-0.0001735	0.0001872	0.0035	0.35		556.58	556.58	No	8.62	Si
SLU 76	ini.	69.15	38	-0.0001881	0.0001872	0.0035	0.35		554.01	554.01	No	8.01	Si
SLU 76	fin.	-55.78	38	-0.0001481	0.0001872	0.0035	0.35		556.58	556.58	No	9.98	Si
SLU 73	ini.	75.17	42	-0.0002063	0.0001872	0.0035	0.35		554.01	554.01	No	7.37	Si
SLU 73	fin.	-61.33	42	-0.0001641	0.0001872	0.0035	0.35		556.58	556.58	No	9.08	Si
SLU 55	ini.	69.78	20	-0.00019	0.0001872	0.0035	0.35		554.01	554.01	No	7.94	Si
SLU 55	fin.	-60.61	20	-0.000162	0.0001872	0.0035	0.35		556.58	556.58	No	9.18	Si
SLU 2	ini.	72.07	34	-0.0001969	0.0001872	0.0035	0.35		554.01	554.01	No	7.69	Si
SLU 2	fin.	-62.03	34	-0.0001661	0.0001872	0.0035	0.35		556.58	556.58	No	8.97	Si
SLU 47	ini.	73.52	24	-0.0002013	0.0001872	0.0035	0.35		554.01	554.01	No	7.54	Si
SLU 47	fin.	-63.83	24	-0.0001714	0.0001872	0.0035	0.35		556.58	556.58	No	8.72	Si
SLU 44	ini.	79.54	28	-0.0002198	0.0001872	0.0035	0.35		554.01	554.01	No	6.97	Si
SLU 44	fin.	-69.37	28	-0.0001878	0.0001872	0.0035	0.35		556.58	556.58	No	8.02	Si
SLU 52	ini.	75.79	24	-0.0002082	0.0001872	0.0035	0.35		554.01	554.01	No	7.31	Si
SLU 52	fin.	-66.16	24	-0.0001782	0.0001872	0.0035	0.35		556.58	556.58	No	8.41	Si
SLU 23	ini.	71.45	52	-0.000195	0.0001872	0.0035	0.35		554.01	554.01	No	7.75	Si
SLU 23	fin.	-57.2	52	-0.0001522	0.0001872	0.0035	0.35		556.58	556.58	No	9.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 52	ini.	75.79	-227	0.35	0	681	5551	1467	893	2360	No	10.41	Si
SLU 52	fin.	-66.16	-341	0.35	0	681	5551	1467	893	2360	No	6.92	Si
SLU 65	ini.	78.91	-230	0.35	0	681	5551	1467	893	2360	No	10.28	Si
SLU 65	fin.	-64.54	-344	0.35	0	681	5551	1467	893	2360	No	6.86	Si
SLU 76	ini.	69.15	-193	0.35	0	681	5551	1467	893	2360	No	12.26	Si
SLU 76	fin.	-55.78	-307	0.35	0	681	5551	1467	893	2360	No	7.68	Si
SLU 73	ini.	75.17	-216	0.35	0	681	5551	1467	893	2360	No	10.94	Si
SLU 73	fin.	-61.33	-330	0.35	0	681	5551	1467	893	2360	No	7.14	Si
SLU 68	ini.	72.9	-206	0.35	0	681	5551	1467	893	2360	No	11.43	Si
SLU 68	fin.	-58.99	-321	0.35	0	681	5551	1467	893	2360	No	7.35	Si
SLU 47	ini.	73.52	-217	0.35	0	681	5551	1467	893	2360	No	10.86	Si
SLU 47	fin.	-63.83	-332	0.35	0	681	5551	1467	893	2360	No	7.11	Si
SLU 23	ini.	71.45	-213	0.35	0	681	5551	1467	893	2360	No	11.07	Si
SLU 23	fin.	-57.2	-301	0.35	0	681	5551	1467	893	2360	No	7.83	Si
SLU 2	ini.	72.07	-224	0.35	0	681	5551	1467	893	2360	No	10.53	Si
SLU 2	fin.	-62.03	-312	0.35	0	681	5551	1467	893	2360	No	7.56	Si
SLU 55	ini.	69.78	-203	0.35	0	681	5551	1467	893	2360	No	11.6	Si
SLU 55	fin.	-60.61	-318	0.35	0	681	5551	1467	893	2360	No	7.42	Si
SLU 44	ini.	79.54	-240	0.35	0	681	5551	1467	893	2360	No	9.81	Si
SLU 44	fin.	-69.37	-355	0.35	0	681	5551	1467	893	2360	No	6.64	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	243.42	803	-0.0007977	0.0002807	0.0035	0.35		533.13	533.13		2.19	Si
SLD 6	fin.	-138.57	803	-0.0003953	0.0002807	0.0035	0.35		536.01	536.01		3.87	Si
SLV 6	ini.	395.6	1353	-0.001592	0.0002807	0.0035	0.35		533.13	533.13		1.35	Si
SLV 6	fin.	-223.3	1353	-0.0007093	0.0002807	0.0035	0.35		536.01	536.01		2.4	Si
SLV 7	ini.	-341.81	-1006	-0.001262	0.0002807	0.0035	0.35		536.01	536.01		1.57	Si
SLV 7	fin.	219.58	-1008	-0.0006984	0.0002807	0.0035	0.35		533.13	533.13		2.43	Si
SLV 11	ini.	-349.78	-1343	-0.0013056	0.0002807	0.0035	0.35		536.01	536.01		1.53	Si
SLV 11	fin.	190	-1343	-0.0005821	0.0002807	0.0035	0.35		533.13	533.13		2.81	Si
SLD 10	ini.	238.5	590	-0.0007767	0.0002807	0.0035	0.35		533.13	533.13		2.24	Si
SLD 10	fin.	-157.68	590	-0.0004609	0.0002807	0.0035	0.35		536.01	536.01		3.4	Si
SLV 5	ini.	358.2	1246	-0.0013623	0.0002807	0.0035	0.35		533.13	533.13		1.49	Si
SLV 5	fin.	-198.81	1246	-0.0006124	0.0002807	0.0035	0.35		536.01	536.01		2.7	Si
SLV 10	ini.	387.63	1016	-0.0015403	0.0002807	0.0035	0.35		533.13	533.13		1.38	Si
SLV 10	fin.	-252.88	1018	-0.0008333	0.0002807	0.0035	0.35		536.01	536.01		2.12	Si
SLV 8	ini.	-304.41	-899	-0.0010701	0.0002807	0.0035	0.35		536.01	536.01		1.76	Si
SLV 8	fin.	195.08	-901	-0.0006016	0.0002807	0.0035	0.35		533.13	533.13		2.73	Si
SLV 9	ini.	350.23	909	-0.0013172	0.0002807	0.0035	0.35		533.13	533.13		1.52	Si
SLV 9	fin.	-228.39	911	-0.0007301	0.0002807	0.0035	0.35		536.01	536.01		2.35	Si
SLV 12	ini.	-312.37	-1236	-0.0011094	0.0002807	0.0035	0.35		536.01	536.01		1.72	Si
SLV 12	fin.	165.51	-1235	-0.0004915	0.0002807	0.0035	0.35		533.13	533.13		3.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	387.63	-1241	0.35	0	1021	5551	2201	893	3093		2.49	Si
SLV 10	fin.	-252.88	-1318	0.35	0	1021	5551	2201	893	3093		2.35	Si
SLD 6	ini.	243.42	-735	0.35	0	1021	5551	2201	893	3093		4.21	Si
SLD 6	fin.	-138.57	-849	0.35	0	1021	5551	2201	893	3093		3.64	Si
SLV 12	ini.	-312.37	1024	0.35	0	1021	5551	2201	893	3093		3.02	Si
SLV 12	fin.	165.51	977	0.35	0	1021	5551	2201	893	3093		3.17	Si
SLV 6	ini.	395.6	-1218	0.35	0	1021	5551	2201	893	3093		2.54	Si
SLV 6	fin.	-223.3	-1347	0.35	0	1021	5551	2201	893	3093		2.3	Si
SLV 5	ini.	358.2	-1094	0.35	0	1021	5551	2201	893	3093		2.83	Si
SLV 5	fin.	-198.81	-1223	0.35	0	1021	5551	2201	893	3093		2.53	Si
SLV 9	ini.	350.23	-1117	0.35	0	1021	5551	2201	893	3093		2.77	Si
SLV 9	fin.	-228.39	-1194	0.35	0	1021	5551	2201	893	3093		2.59	Si
SLD 10	ini.	238.5	-750	0.35	0	1021	5551	2201	893	3093		4.13	Si
SLD 10	fin.	-157.68	-832	0.35	0	1021	5551	2201	893	3093		3.72	Si
SLV 11	ini.	-349.78	1148	0.35	0	1021	5551	2201	893	3093		2.69	Si
SLV 11	fin.	190	1100	0.35	0	1021	5551	2201	893	3093		2.81	Si
SLV 8	ini.	-304.41	1047	0.35	0	1021	5551	2201	893	3093		2.95	Si
SLV 8	fin.	195.08	948	0.35	0	1021	5551	2201	893	3093		3.26	Si
SLV 7	ini.	-341.81	1171	0.35	0	1021	5551	2201	893	3093		2.64	Si
SLV 7	fin.	219.58	1071	0.35	0	1021	5551	2201	893	3093		2.89	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.348	SLV 6	Si
V_SLV	2.297	SLV 6	Si
PF_SLU	6.966	SLU 44	Si
V_SLU	6.644	SLU 44	Si

Trave di accoppiamento 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	11.45	12.35	0.9	-3.113	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-19	-285	-0.0000093	0.0001872	0.0035	0.9		2964.67	2964.67	No	156	Si
SLU 78	fin.	219.03	-801	-0.0001121	0.0001872	0.0035	0.9		2959	2959	No	13.51	Si
SLU 77	ini.	-28.78	-260	-0.0000141	0.0001872	0.0035	0.9		2964.67	2964.67	No	103.01	Si
SLU 77	fin.	227.66	-808	-0.0001167	0.0001872	0.0035	0.9		2959	2959	No	13	Si
SLU 81	ini.	-44.46	-205	-0.0000219	0.0001872	0.0035	0.9		2964.67	2964.67	No	66.68	Si
SLU 81	fin.	232.45	-790	-0.0001193	0.0001872	0.0035	0.9		2959	2959	No	12.73	Si
SLU 39	ini.	-63.62	-105	-0.0000314	0.0001872	0.0035	0.9		2964.67	2964.67	No	46.6	Si
SLU 39	fin.	224.41	-700	-0.0001149	0.0001872	0.0035	0.9		2959	2959	No	13.19	Si
SLU 84	ini.	-34.65	-235	-0.000017	0.0001872	0.0035	0.9		2964.67	2964.67	No	85.56	Si
SLU 84	fin.	226.68	-792	-0.0001162	0.0001872	0.0035	0.9		2959	2959	No	13.05	Si
SLU 41	ini.	-63.59	-110	-0.0000314	0.0001872	0.0035	0.9		2964.67	2964.67	No	46.62	Si
SLU 41	fin.	227.27	-709	-0.0001165	0.0001872	0.0035	0.9		2959	2959	No	13.02	Si
SLU 35	ini.	-47.94	-160	-0.0000236	0.0001872	0.0035	0.9		2964.67	2964.67	No	61.84	Si
SLU 35	fin.	219.62	-718	-0.0001124	0.0001872	0.0035	0.9		2959	2959	No	13.47	Si
SLU 83	ini.	-44.43	-209	-0.0000219	0.0001872	0.0035	0.9		2964.67	2964.67	No	66.73	Si
SLU 83	fin.	235.31	-799	-0.0001208	0.0001872	0.0035	0.9		2959	2959	No	12.57	Si
SLU 82	ini.	-34.68	-230	-0.000017	0.0001872	0.0035	0.9		2964.67	2964.67	No	85.48	Si
SLU 82	fin.	223.82	-783	-0.0001146	0.0001872	0.0035	0.9		2959	2959	No	13.22	Si
SLU 74	ini.	-28.82	-255	-0.0000141	0.0001872	0.0035	0.9		2964.67	2964.67	No	102.88	Si
SLU 74	fin.	224.8	-799	-0.0001152	0.0001872	0.0035	0.9		2959	2959	No	13.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-19	167	0.9	0	1750	7137	3773	2295	6068	No	36.3	Si
SLU 78	fin.	219.03	660	0.9	0	1750	7137	3773	2295	6068	No	9.2	Si
SLU 74	ini.	-28.82	216	0.9	0	1750	7137	3773	2295	6068	No	28.15	Si
SLU 74	fin.	224.8	678	0.9	0	1750	7137	3773	2295	6068	No	8.95	Si
SLU 84	ini.	-34.65	285	0.9	0	1750	7137	3773	2295	6068	No	21.26	Si
SLU 84	fin.	226.68	650	0.9	0	1750	7137	3773	2295	6068	No	9.34	Si
SLU 41	ini.	-63.59	420	0.9	0	1750	7137	3773	2295	6068	No	14.45	Si
SLU 41	fin.	227.27	671	0.9	0	1750	7137	3773	2295	6068	No	9.04	Si
SLU 39	ini.	-63.62	428	0.9	0	1750	7137	3773	2295	6068	No	14.16	Si
SLU 39	fin.	224.41	656	0.9	0	1750	7137	3773	2295	6068	No	9.26	Si
SLU 35	ini.	-47.94	302	0.9	0	1750	7137	3773	2295	6068	No	20.11	Si
SLU 35	fin.	219.62	681	0.9	0	1750	7137	3773	2295	6068	No	8.91	Si
SLU 83	ini.	-44.43	325	0.9	0	1750	7137	3773	2295	6068	No	18.65	Si
SLU 83	fin.	235.31	684	0.9	0	1750	7137	3773	2295	6068	No	8.88	Si
SLU 77	ini.	-28.78	207	0.9	0	1750	7137	3773	2295	6068	No	29.3	Si
SLU 77	fin.	227.66	693	0.9	0	1750	7137	3773	2295	6068	No	8.75	Si
SLU 32	ini.	-47.98	310	0.9	0	1750	7137	3773	2295	6068	No	19.57	Si
SLU 32	fin.	216.76	665	0.9	0	1750	7137	3773	2295	6068	No	9.12	Si
SLU 81	ini.	-44.46	334	0.9	0	1750	7137	3773	2295	6068	No	18.18	Si
SLU 81	fin.	232.45	668	0.9	0	1750	7137	3773	2295	6068	No	9.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-756.56	1715	-0.0004238	0.0002807	0.0035	0.9		2995.37	2995.37		3.96	Si
SLV 12	fin.	897.76	-1360	-0.0005206	0.0002807	0.0035	0.9		2989.59	2989.59		3.33	Si
SLV 8	ini.	-557.95	1200	-0.0002991	0.0002807	0.0035	0.9		2995.37	2995.37		5.37	Si
SLV 8	fin.	691.09	-1128	-0.0003822	0.0002807	0.0035	0.9		2989.59	2989.59		4.33	Si
SLD 11	ini.	-514.16	1079	-0.0002732	0.0002807	0.0035	0.9		2995.37	2995.37		5.83	Si
SLD 11	fin.	662.83	-1125	-0.0003643	0.0002807	0.0035	0.9		2989.59	2989.59		4.51	Si
SLV 5	ini.	770.31	-2200	-0.0004338	0.0002807	0.0035	0.9		2989.59	2989.59		3.88	Si
SLV 5	fin.	-650.1	339	-0.0003555	0.0002807	0.0035	0.9		2995.37	2995.37		4.61	Si
SLV 7	ini.	-674.11	1474	-0.0003706	0.0002807	0.0035	0.9		2995.37	2995.37		4.44	Si
SLV 7	fin.	826.51	-1315	-0.0004715	0.0002807	0.0035	0.9		2989.59	2989.59		3.62	Si
SLV 10	ini.	687.86	-1959	-0.0003802	0.0002807	0.0035	0.9		2989.59	2989.59		4.35	Si
SLV 10	fin.	-578.84	294	-0.0003117	0.0002807	0.0035	0.9		2995.37	2995.37		5.17	Si
SLV 6	ini.	886.47	-2474	-0.0005127	0.0002807	0.0035	0.9		2989.59	2989.59		3.37	Si
SLV 6	fin.	-785.51	526	-0.000443	0.0002807	0.0035	0.9		2995.37	2995.37		3.81	Si
SLV 2	ini.	640.83	-1855	-0.0003505	0.0002807	0.0035	0.9		2989.59	2989.59		4.67	Si
SLV 2	fin.	-542.68	263	-0.00029	0.0002807	0.0035	0.9		2995.37	2995.37		5.52	Si
SLV 15	ini.	-627.08	1370	-0.0003412	0.0002807	0.0035	0.9		2995.37	2995.37		4.78	Si
SLV 15	fin.	790.35	-1284	-0.0004472	0.0002807	0.0035	0.9		2989.59	2989.59		3.78	Si
SLV 11	ini.	-872.72	1989	-0.0005021	0.0002807	0.0035	0.9		2995.37	2995.37		3.43	Si
SLV 11	fin.	1033.17	-1547	-0.0006178	0.0002807	0.0035	0.9		2989.59	2989.59		2.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	886.47	-3772	0.9	0	2625	7137	5660	2295	7955		2.11	Si
SLV 6	fin.	-785.51	-3131	0.9	0	2625	7137	5660	2295	7955		2.54	Si
SLV 11	ini.	-872.72	3807	0.9	0	2625	7137	5660	2295	7955		2.09	Si
SLV 11	fin.	1033.17	3831	0.9	0	2625	7137	5660	2295	7955		2.08	Si
SLV 8	ini.	-557.95	2520	0.9	0	2625	7137	5660	2295	7955		3.16	Si
SLV 8	fin.	691.09	2455	0.9	0	2625	7137	5660	2295	7955		3.24	Si
SLV 5	ini.	770.31	-3279	0.9	0	2625	7137	5660	2295	7955		2.43	Si
SLV 5	fin.	-650.1	-2612	0.9	0	2625	7137	5660	2295	7955		3.04	Si
SLV 9	ini.	571.71	-2485	0.9	0	2625	7137	5660	2295	7955		3.2	Si
SLV 9	fin.	-443.43	-1755	0.9	0	2625	7137	5660	2295	7955		4.53	Si
SLV 12	ini.	-756.56	3315	0.9	0	2625	7137	5660	2295	7955		2.4	Si
SLV 12	fin.	897.76	3313	0.9	0	2625	7137	5660	2295	7955		2.4	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-627.08	2652	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 15	fin.	790.35	3003	0.9	0	2625	7137	5660	2295	7955		2.65	Si
SLV 7	ini.	-674.11	3013	0.9	0	2625	7137	5660	2295	7955		2.64	Si
SLV 7	fin.	826.51	2973	0.9	0	2625	7137	5660	2295	7955		2.68	Si
SLV 2	ini.	640.83	-2616	0.9	0	2625	7137	5660	2295	7955		3.04	Si
SLV 2	fin.	-542.68	-2302	0.9	0	2625	7137	5660	2295	7955		3.46	Si
SLV 10	ini.	687.86	-2977	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLV 10	fin.	-578.84	-2273	0.9	0	2625	7137	5660	2295	7955		3.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.894	SLV 11	Si
V_SLV	2.076	SLV 11	Si
PF_SLU	12.575	SLU 83	Si
V_SLU	8.751	SLU 77	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	14.15	14.6	0.45	-3.113	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-124.63	-260	-0.0002728	0.0001872	0.0035	0.45		748.52	748.52	No	6.01	Si
SLU 36	fin.	9.41	-18	-0.0000185	0.0001872	0.0035	0.45		745.72	745.72	No	79.23	Si
SLU 78	ini.	-125.68	-243	-0.0002755	0.0001872	0.0035	0.45		748.52	748.52	No	5.96	Si
SLU 78	fin.	2.69	-70	-0.0000053	0.0001872	0.0035	0.45		745.72	745.72	No	277.28	Si
SLU 82	ini.	-124.2	-272	-0.0002718	0.0001872	0.0035	0.45		748.52	748.52	No	6.03	Si
SLU 82	fin.	14.58	3	-0.0000288	0.0001872	0.0035	0.45		745.72	745.72	No	51.15	Si
SLU 40	ini.	-123.16	-289	-0.0002692	0.0001872	0.0035	0.45		748.52	748.52	No	6.08	Si
SLU 40	fin.	21.3	55	-0.0000423	0.0001872	0.0035	0.45		745.72	745.72	No	35.01	Si
SLU 83	ini.	-120.76	-272	-0.0002632	0.0001872	0.0035	0.45		748.52	748.52	No	6.2	Si
SLU 83	fin.	20.74	60	-0.0000411	0.0001872	0.0035	0.45		745.72	745.72	No	35.95	Si
SLU 33	ini.	-123.23	-257	-0.0002693	0.0001872	0.0035	0.45		748.52	748.52	No	6.07	Si
SLU 33	fin.	9.36	-20	-0.0000184	0.0001872	0.0035	0.45		745.72	745.72	No	79.65	Si
SLU 75	ini.	-124.28	-240	-0.000272	0.0001872	0.0035	0.45		748.52	748.52	No	6.02	Si
SLU 75	fin.	2.64	-72	-0.0000052	0.0001872	0.0035	0.45		745.72	745.72	No	282.61	Si
SLU 42	ini.	-124.56	-292	-0.0002727	0.0001872	0.0035	0.45		748.52	748.52	No	6.01	Si
SLU 42	fin.	21.35	56	-0.0000424	0.0001872	0.0035	0.45		745.72	745.72	No	34.92	Si
SLU 84	ini.	-125.6	-275	-0.0002753	0.0001872	0.0035	0.45		748.52	748.52	No	5.96	Si
SLU 84	fin.	14.63	4	-0.0000289	0.0001872	0.0035	0.45		745.72	745.72	No	50.97	Si
SLU 77	ini.	-120.83	-240	-0.0002634	0.0001872	0.0035	0.45		748.52	748.52	No	6.19	Si
SLU 77	fin.	8.8	-15	-0.0000173	0.0001872	0.0035	0.45		745.72	745.72	No	84.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-124.2	654	0.45	0	799	3568	1887	1148	3034	No	4.64	Si
SLU 82	fin.	14.58	-270	0.45	0	799	3568	1887	1148	3034	No	11.24	Si
SLU 84	ini.	-125.6	659	0.45	0	799	3568	1887	1148	3034	No	4.6	Si
SLU 84	fin.	14.63	-265	0.45	0	799	3568	1887	1148	3034	No	11.43	Si
SLU 83	ini.	-120.76	639	0.45	0	799	3568	1887	1148	3034	No	4.75	Si
SLU 83	fin.	20.74	-242	0.45	0	799	3568	1887	1148	3034	No	12.55	Si
SLU 75	ini.	-124.28	667	0.45	0	799	3568	1887	1148	3034	No	4.55	Si
SLU 75	fin.	2.64	-396	0.45	0	799	3568	1887	1148	3034	No	7.67	Si
SLU 77	ini.	-120.83	652	0.45	0	799	3568	1887	1148	3034	No	4.65	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	8.8	-368	0.45	0	799	3568	1887	1148	3034	No	8.25	Si
SLU 78	ini.	-125.68	672	0.45	0	799	3568	1887	1148	3034	No	4.52	Si
SLU 78	fin.	2.69	-391	0.45	0	799	3568	1887	1148	3034	No	7.76	Si
SLU 33	ini.	-123.23	627	0.45	0	799	3568	1887	1148	3034	No	4.84	Si
SLU 33	fin.	9.36	-312	0.45	0	799	3568	1887	1148	3034	No	9.71	Si
SLU 74	ini.	-119.43	647	0.45	0	799	3568	1887	1148	3034	No	4.69	Si
SLU 74	fin.	8.75	-372	0.45	0	799	3568	1887	1148	3034	No	8.16	Si
SLU 81	ini.	-119.36	634	0.45	0	799	3568	1887	1148	3034	No	4.78	Si
SLU 81	fin.	20.69	-246	0.45	0	799	3568	1887	1148	3034	No	12.32	Si
SLU 36	ini.	-124.63	632	0.45	0	799	3568	1887	1148	3034	No	4.8	Si
SLU 36	fin.	9.41	-308	0.45	0	799	3568	1887	1148	3034	No	9.85	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-415.45	-1110	-0.0011328	0.0002807	0.0035	0.45		754.83	754.83		1.82	Si
SLV 15	fin.	148.39	1604	-0.0003203	0.0002807	0.0035	0.45		751.86	751.86		5.07	Si
SLV 7	ini.	-308.87	-1319	-0.0007667	0.0002807	0.0035	0.45		754.83	754.83		2.44	Si
SLV 7	fin.	422.61	2222	-0.0011657	0.0002807	0.0035	0.45		751.86	751.86		1.78	Si
SLV 10	ini.	186.57	1111	-0.0004167	0.0002807	0.0035	0.45		751.86	751.86		4.03	Si
SLV 10	fin.	-428.25	-2354	-0.0011814	0.0002807	0.0035	0.45		754.83	754.83		1.76	Si
SLV 12	ini.	-369.8	-1356	-0.0009683	0.0002807	0.0035	0.45		754.83	754.83		2.04	Si
SLV 12	fin.	363.6	2316	-0.0009515	0.0002807	0.0035	0.45		751.86	751.86		2.07	Si
SLV 5	ini.	247.49	1149	-0.0005844	0.0002807	0.0035	0.45		751.86	751.86		3.04	Si
SLV 5	fin.	-369.25	-2449	-0.0009663	0.0002807	0.0035	0.45		754.83	754.83		2.04	Si
SLV 8	ini.	-238.61	-1081	-0.0005564	0.0002807	0.0035	0.45		754.83	754.83		3.16	Si
SLV 8	fin.	368.33	1885	-0.0009679	0.0002807	0.0035	0.45		751.86	751.86		2.04	Si
SLV 6	ini.	317.76	1387	-0.0007987	0.0002807	0.0035	0.45		751.86	751.86		2.37	Si
SLV 6	fin.	-423.52	-2786	-0.0011633	0.0002807	0.0035	0.45		754.83	754.83		1.78	Si
SLV 11	ini.	-440.06	-1594	-0.0012272	0.0002807	0.0035	0.45		754.83	754.83		1.72	Si
SLV 11	fin.	417.88	2653	-0.0011477	0.0002807	0.0035	0.45		751.86	751.86		1.8	Si
SLV 9	ini.	116.3	873	-0.0002446	0.0002807	0.0035	0.45		751.86	751.86		6.46	Si
SLV 9	fin.	-373.98	-2017	-0.0009828	0.0002807	0.0035	0.45		754.83	754.83		2.02	Si
SLV 16	ini.	-311.07	-756	-0.0007737	0.0002807	0.0035	0.45		754.83	754.83		2.43	Si
SLV 16	fin.	67.76	1103	-0.0001377	0.0002807	0.0035	0.45		751.86	751.86		11.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-369.8	1715	0.45	0	1113	3568	2830	1148	3977		2.32	Si
SLV 12	fin.	363.6	1635	0.45	0	1113	3568	2830	1148	3977		2.43	Si
SLV 15	ini.	-415.45	1908	0.45	0	1113	3568	2830	1148	3977		2.08	Si
SLV 15	fin.	148.39	1323	0.45	0	1113	3568	2830	1148	3977		3.01	Si
SLD 6	ini.	162.38	-597	0.45	0	1113	3568	2830	1148	3977		6.66	Si
SLD 6	fin.	-252.95	-1586	0.45	0	1113	3568	2830	1148	3977		2.51	Si
SLV 16	ini.	-311.07	1504	0.45	0	1113	3568	2830	1148	3977		2.64	Si
SLV 16	fin.	67.76	896	0.45	0	1113	3568	2830	1148	3977		4.44	Si
SLV 11	ini.	-440.06	1987	0.45	0	1113	3568	2830	1148	3977		2	Si
SLV 11	fin.	417.88	1923	0.45	0	1113	3568	2830	1148	3977		2.07	Si
SLV 6	ini.	317.76	-1249	0.45	0	1113	3568	2830	1148	3977		3.19	Si
SLV 6	fin.	-423.52	-2475	0.45	0	1113	3568	2830	1148	3977		1.61	Si
SLV 9	ini.	116.3	-388	0.45	0	1113	3568	2830	1148	3977		10.25	Si
SLV 9	fin.	-373.98	-1681	0.45	0	1113	3568	2830	1148	3977		2.37	Si
SLV 10	ini.	186.57	-660	0.45	0	1113	3568	2830	1148	3977		6.03	Si
SLV 10	fin.	-428.25	-1968	0.45	0	1113	3568	2830	1148	3977		2.02	Si
SLV 5	ini.	247.49	-977	0.45	0	1113	3568	2830	1148	3977		4.07	Si
SLV 5	fin.	-369.25	-2188	0.45	0	1113	3568	2830	1148	3977		1.82	Si
SLV 2	ini.	293.14	-1170	0.45	0	1113	3568	2830	1148	3977		3.4	Si
SLV 2	fin.	-154.03	-1875	0.45	0	1113	3568	2830	1148	3977		2.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.715	SLV 11	Si
V_SLV	1.607	SLV 6	Si
PF_SLU	5.956	SLU 78	Si
V_SLU	4.516	SLU 78	Si

Trave di accoppiamento 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	11.45	12.35	0.9	-2.853	5.951	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-69.03	26	-0.0000342	0.0001872	0.0035	0.9		2964.67	2964.67	No	42.95	Si
SLU 79	fin.	183.75	-1130	-0.0000933	0.0001872	0.0035	0.9		2959	2959	No	16.1	Si
SLU 83	ini.	-71.66	59	-0.0000355	0.0001872	0.0035	0.9		2964.67	2964.67	No	41.37	Si
SLU 83	fin.	183.58	-1065	-0.0000932	0.0001872	0.0035	0.9		2959	2959	No	16.12	Si
SLU 35	ini.	-85.2	119	-0.0000423	0.0001872	0.0035	0.9		2964.67	2964.67	No	34.8	Si
SLU 35	fin.	180.33	-1063	-0.0000915	0.0001872	0.0035	0.9		2959	2959	No	16.41	Si
SLU 84	ini.	-75.38	71	-0.0000373	0.0001872	0.0035	0.9		2964.67	2964.67	No	39.33	Si
SLU 84	fin.	187.43	-1082	-0.0000952	0.0001872	0.0035	0.9		2959	2959	No	15.79	Si
SLU 80	ini.	-72.75	38	-0.000036	0.0001872	0.0035	0.9		2964.67	2964.67	No	40.75	Si
SLU 80	fin.	187.59	-1146	-0.0000953	0.0001872	0.0035	0.9		2959	2959	No	15.77	Si
SLU 42	ini.	-86.42	147	-0.0000429	0.0001872	0.0035	0.9		2964.67	2964.67	No	34.3	Si
SLU 42	fin.	182.92	-1001	-0.0000928	0.0001872	0.0035	0.9		2959	2959	No	16.18	Si
SLU 38	ini.	-83.79	114	-0.0000416	0.0001872	0.0035	0.9		2964.67	2964.67	No	35.38	Si
SLU 38	fin.	183.08	-1066	-0.0000929	0.0001872	0.0035	0.9		2959	2959	No	16.16	Si
SLU 77	ini.	-74.16	43	-0.0000367	0.0001872	0.0035	0.9		2964.67	2964.67	No	39.98	Si
SLU 77	fin.	184.84	-1144	-0.0000938	0.0001872	0.0035	0.9		2959	2959	No	16.01	Si
SLU 36	ini.	-88.92	131	-0.0000442	0.0001872	0.0035	0.9		2964.67	2964.67	No	33.34	Si
SLU 36	fin.	184.17	-1080	-0.0000935	0.0001872	0.0035	0.9		2959	2959	No	16.07	Si
SLU 78	ini.	-77.88	55	-0.0000386	0.0001872	0.0035	0.9		2964.67	2964.67	No	38.07	Si
SLU 78	fin.	188.68	-1160	-0.0000959	0.0001872	0.0035	0.9		2959	2959	No	15.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-77.88	394	0.9	0	1750	7137	3773	2295	6068	No	15.39	Si
SLU 78	fin.	188.68	1785	0.9	0	1750	7137	3773	2295	6068	No	3.4	Si
SLU 80	ini.	-72.75	400	0.9	0	1750	7137	3773	2295	6068	No	15.16	Si
SLU 80	fin.	187.59	1723	0.9	0	1750	7137	3773	2295	6068	No	3.52	Si
SLU 35	ini.	-85.2	475	0.9	0	1750	7137	3773	2295	6068	No	12.77	Si
SLU 35	fin.	180.33	1615	0.9	0	1750	7137	3773	2295	6068	No	3.76	Si
SLU 77	ini.	-74.16	373	0.9	0	1750	7137	3773	2295	6068	No	16.28	Si
SLU 77	fin.	184.84	1765	0.9	0	1750	7137	3773	2295	6068	No	3.44	Si
SLU 71	ini.	-40.82	95	0.9	0	1750	7137	3773	2295	6068	No	63.89	Si
SLU 71	fin.	145.9	1620	0.9	0	1750	7137	3773	2295	6068	No	3.74	Si
SLU 36	ini.	-88.92	497	0.9	0	1750	7137	3773	2295	6068	No	12.21	Si
SLU 36	fin.	184.17	1636	0.9	0	1750	7137	3773	2295	6068	No	3.71	Si
SLU 69	ini.	-45.95	89	0.9	0	1750	7137	3773	2295	6068	No	68.14	Si
SLU 69	fin.	146.99	1683	0.9	0	1750	7137	3773	2295	6068	No	3.61	Si
SLU 72	ini.	-44.54	117	0.9	0	1750	7137	3773	2295	6068	No	52.02	Si
SLU 72	fin.	149.74	1641	0.9	0	1750	7137	3773	2295	6068	No	3.7	Si
SLU 70	ini.	-49.67	111	0.9	0	1750	7137	3773	2295	6068	No	54.81	Si
SLU 70	fin.	150.83	1703	0.9	0	1750	7137	3773	2295	6068	No	3.56	Si
SLU 79	ini.	-69.03	379	0.9	0	1750	7137	3773	2295	6068	No	16.03	Si
SLU 79	fin.	183.75	1703	0.9	0	1750	7137	3773	2295	6068	No	3.56	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	395.75	-1493	-0.000206	0.0002807	0.0035	0.9		2989.59	2989.59		7.55	Si
SLV 7	fin.	-297.71	996	-0.0001521	0.0002807	0.0035	0.9		2995.37	2995.37		10.06	Si
SLV 8	ini.	331.27	-1297	-0.0001705	0.0002807	0.0035	0.9		2989.59	2989.59		9.02	Si
SLV 8	fin.	-217.04	621	-0.0001094	0.0002807	0.0035	0.9		2995.37	2995.37		13.8	Si
SLV 9	ini.	-366.8	1149	-0.0001896	0.0002807	0.0035	0.9		2995.37	2995.37		8.17	Si
SLV 9	fin.	393.5	-1788	-0.0002047	0.0002807	0.0035	0.9		2989.59	2989.59		7.6	Si
SLV 12	ini.	273.16	-1099	-0.0001392	0.0002807	0.0035	0.9		2989.59	2989.59		10.94	Si
SLV 12	fin.	-134.39	176	-0.0000669	0.0002807	0.0035	0.9		2995.37	2995.37		22.29	Si
SLV 6	ini.	-373.18	1147	-0.0001931	0.0002807	0.0035	0.9		2995.37	2995.37		8.03	Si
SLV 6	fin.	391.52	-1717	-0.0002036	0.0002807	0.0035	0.9		2989.59	2989.59		7.64	Si
SLV 11	ini.	337.64	-1295	-0.000174	0.0002807	0.0035	0.9		2989.59	2989.59		8.85	Si
SLV 11	fin.	-215.06	550	-0.0001084	0.0002807	0.0035	0.9		2995.37	2995.37		13.93	Si
SLV 10	ini.	-431.28	1345	-0.0002255	0.0002807	0.0035	0.9		2995.37	2995.37		6.95	Si
SLV 10	fin.	474.17	-2162	-0.0002505	0.0002807	0.0035	0.9		2989.59	2989.59		6.3	Si
SLV 14	ini.	-268.17	768	-0.0001363	0.0002807	0.0035	0.9		2995.37	2995.37		11.17	Si
SLV 14	fin.	377.18	-1954	-0.0001957	0.0002807	0.0035	0.9		2989.59	2989.59		7.93	Si
SLV 5	ini.	-308.69	951	-0.000158	0.0002807	0.0035	0.9		2995.37	2995.37		9.7	Si
SLV 5	fin.	310.85	-1343	-0.0001594	0.0002807	0.0035	0.9		2989.59	2989.59		9.62	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-260.91	760	-0.0001325	0.0002807	0.0035	0.9		2995.37	2995.37		11.48	Si
SLD 10	fin.	316.38	-1520	-0.0001624	0.0002807	0.0035	0.9		2989.59	2989.59		9.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-260.91	1581	0.9	0	2625	7137	5660	2295	7955		5.03	Si
SLD 10	fin.	316.38	2061	0.9	0	2625	7137	5660	2295	7955		3.86	Si
SLV 7	ini.	395.75	-2470	0.9	0	2625	7137	5660	2295	7955		3.22	Si
SLV 7	fin.	-297.71	-1095	0.9	0	2625	7137	5660	2295	7955		7.27	Si
SLV 6	ini.	-373.18	2170	0.9	0	2625	7137	5660	2295	7955		3.67	Si
SLV 6	fin.	391.52	2395	0.9	0	2625	7137	5660	2295	7955		3.32	Si
SLV 9	ini.	-366.8	2212	0.9	0	2625	7137	5660	2295	7955		3.6	Si
SLV 9	fin.	393.5	2442	0.9	0	2625	7137	5660	2295	7955		3.26	Si
SLD 14	ini.	-168.48	1115	0.9	0	2625	7137	5660	2295	7955		7.13	Si
SLD 14	fin.	264.89	1848	0.9	0	2625	7137	5660	2295	7955		4.3	Si
SLV 10	ini.	-431.28	2629	0.9	0	2625	7137	5660	2295	7955		3.03	Si
SLV 10	fin.	474.17	2871	0.9	0	2625	7137	5660	2295	7955		2.77	Si
SLV 11	ini.	337.64	-2011	0.9	0	2625	7137	5660	2295	7955		3.96	Si
SLV 11	fin.	-215.06	-619	0.9	0	2625	7137	5660	2295	7955		12.85	Si
SLV 5	ini.	-308.69	1753	0.9	0	2625	7137	5660	2295	7955		4.54	Si
SLV 5	fin.	310.85	1966	0.9	0	2625	7137	5660	2295	7955		4.05	Si
SLV 14	ini.	-268.17	1788	0.9	0	2625	7137	5660	2295	7955		4.45	Si
SLV 14	fin.	377.18	2459	0.9	0	2625	7137	5660	2295	7955		3.23	Si
SLV 8	ini.	331.27	-2053	0.9	0	2625	7137	5660	2295	7955		3.87	Si
SLV 8	fin.	-217.04	-666	0.9	0	2625	7137	5660	2295	7955		11.95	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.305	SLV 10	Si
V_SLV	2.771	SLV 10	Si
PF_SLU	15.682	SLU 78	Si
V_SLU	3.399	SLU 78	Si

Trave di accoppiamento 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	14.15	14.6	0.45	-2.853	5.951	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-191.06	-295	-0.0004509	0.0001872	0.0035	0.45		748.52	748.52	No	3.92	Si
SLU 35	fin.	27.22	336	-0.0000542	0.0001872	0.0035	0.45		745.72	745.72	No	27.4	Si
SLU 36	ini.	-194.12	-305	-0.0004596	0.0001872	0.0035	0.45		748.52	748.52	No	3.86	Si
SLU 36	fin.	30.16	344	-0.0000603	0.0001872	0.0035	0.45		745.72	745.72	No	24.73	Si
SLU 78	ini.	-200.32	-290	-0.0004774	0.0001872	0.0035	0.45		748.52	748.52	No	3.74	Si
SLU 78	fin.	20.03	347	-0.0000397	0.0001872	0.0035	0.45		745.72	745.72	No	37.23	Si
SLU 83	ini.	-183.72	-299	-0.0004302	0.0001872	0.0035	0.45		748.52	748.52	No	4.07	Si
SLU 83	fin.	33.9	332	-0.0000679	0.0001872	0.0035	0.45		745.72	745.72	No	22	Si
SLU 38	ini.	-185.37	-303	-0.0004348	0.0001872	0.0035	0.45		748.52	748.52	No	4.04	Si
SLU 38	fin.	31.33	323	-0.0000626	0.0001872	0.0035	0.45		745.72	745.72	No	23.81	Si
SLU 80	ini.	-191.57	-289	-0.0004524	0.0001872	0.0035	0.45		748.52	748.52	No	3.91	Si
SLU 80	fin.	21.2	326	-0.000042	0.0001872	0.0035	0.45		745.72	745.72	No	35.18	Si
SLU 75	ini.	-182.79	-269	-0.0004276	0.0001872	0.0035	0.45		748.52	748.52	No	4.09	Si
SLU 75	fin.	23.77	329	-0.0000473	0.0001872	0.0035	0.45		745.72	745.72	No	31.37	Si
SLU 77	ini.	-197.26	-281	-0.0004686	0.0001872	0.0035	0.45		748.52	748.52	No	3.79	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	17.09	339	-0.0000338	0.0001872	0.0035	0.45		745.72	745.72	No	43.64	Si
SLU 84	ini.	-186.78	-308	-0.0004388	0.0001872	0.0035	0.45		748.52	748.52	No	4.01	Si
SLU 84	fin.	36.84	340	-0.000074	0.0001872	0.0035	0.45		745.72	745.72	No	20.24	Si
SLU 79	ini.	-188.51	-279	-0.0004437	0.0001872	0.0035	0.45		748.52	748.52	No	3.97	Si
SLU 79	fin.	18.25	318	-0.0000361	0.0001872	0.0035	0.45		745.72	745.72	No	40.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-186.78	853	0.45	0	799	3568	1887	1148	3034	No	3.56	Si
SLU 84	fin.	36.84	-57	0.45	0	799	3568	1887	1148	3034	No	53.44	Si
SLU 78	ini.	-200.32	931	0.45	0	799	3568	1887	1148	3034	No	3.26	Si
SLU 78	fin.	20.03	-147	0.45	0	799	3568	1887	1148	3034	No	20.65	Si
SLU 80	ini.	-191.57	888	0.45	0	799	3568	1887	1148	3034	No	3.42	Si
SLU 80	fin.	21.2	-131	0.45	0	799	3568	1887	1148	3034	No	23.14	Si
SLU 77	ini.	-197.26	920	0.45	0	799	3568	1887	1148	3034	No	3.3	Si
SLU 77	fin.	17.09	-158	0.45	0	799	3568	1887	1148	3034	No	19.25	Si
SLU 36	ini.	-194.12	878	0.45	0	799	3568	1887	1148	3034	No	3.45	Si
SLU 36	fin.	30.16	-80	0.45	0	799	3568	1887	1148	3034	No	37.81	Si
SLU 75	ini.	-182.79	852	0.45	0	799	3568	1887	1148	3034	No	3.56	Si
SLU 75	fin.	23.77	-116	0.45	0	799	3568	1887	1148	3034	No	26.09	Si
SLU 35	ini.	-191.06	868	0.45	0	799	3568	1887	1148	3034	No	3.5	Si
SLU 35	fin.	27.22	-91	0.45	0	799	3568	1887	1148	3034	No	33.36	Si
SLU 79	ini.	-188.51	877	0.45	0	799	3568	1887	1148	3034	No	3.46	Si
SLU 79	fin.	18.25	-142	0.45	0	799	3568	1887	1148	3034	No	21.39	Si
SLU 83	ini.	-183.72	842	0.45	0	799	3568	1887	1148	3034	No	3.6	Si
SLU 83	fin.	33.9	-67	0.45	0	799	3568	1887	1148	3034	No	44.96	Si
SLU 74	ini.	-179.73	841	0.45	0	799	3568	1887	1148	3034	No	3.61	Si
SLU 74	fin.	20.83	-127	0.45	0	799	3568	1887	1148	3034	No	23.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	196.75	743	-0.0004435	0.0002807	0.0035	0.45		751.86	751.86		3.82	Si
SLV 7	fin.	-292.91	-642	-0.000717	0.0002807	0.0035	0.45		754.83	754.83		2.58	Si
SLV 6	ini.	-418.17	-1070	-0.0011431	0.0002807	0.0035	0.45		754.83	754.83		1.81	Si
SLV 6	fin.	318.19	1114	-0.0008001	0.0002807	0.0035	0.45		751.86	751.86		2.36	Si
SLV 2	ini.	-272.73	-653	-0.0006557	0.0002807	0.0035	0.45		754.83	754.83		2.77	Si
SLV 2	fin.	155.81	735	-0.0003385	0.0002807	0.0035	0.45		751.86	751.86		4.83	Si
SLD 6	ini.	-284.65	-677	-0.0006917	0.0002807	0.0035	0.45		754.83	754.83		2.65	Si
SLD 6	fin.	187.9	723	-0.0004202	0.0002807	0.0035	0.45		751.86	751.86		4	Si
SLV 10	ini.	-384.24	-973	-0.0010189	0.0002807	0.0035	0.45		754.83	754.83		1.96	Si
SLV 10	fin.	297.06	966	-0.0007332	0.0002807	0.0035	0.45		751.86	751.86		2.53	Si
SLV 11	ini.	230.68	839	-0.0005364	0.0002807	0.0035	0.45		751.86	751.86		3.26	Si
SLV 11	fin.	-314.04	-790	-0.0007831	0.0002807	0.0035	0.45		754.83	754.83		2.4	Si
SLD 10	ini.	-263.81	-619	-0.0006293	0.0002807	0.0035	0.45		754.83	754.83		2.86	Si
SLD 10	fin.	174.82	631	-0.0003863	0.0002807	0.0035	0.45		751.86	751.86		4.3	Si
SLV 12	ini.	179.75	665	-0.000399	0.0002807	0.0035	0.45		751.86	751.86		4.18	Si
SLV 12	fin.	-268.73	-684	-0.0006438	0.0002807	0.0035	0.45		754.83	754.83		2.81	Si
SLV 5	ini.	-367.24	-896	-0.0009594	0.0002807	0.0035	0.45		754.83	754.83		2.06	Si
SLV 5	fin.	272.88	1009	-0.0006592	0.0002807	0.0035	0.45		751.86	751.86		2.76	Si
SLV 9	ini.	-333.3	-799	-0.0008453	0.0002807	0.0035	0.45		754.83	754.83		2.26	Si
SLV 9	fin.	251.75	860	-0.0005967	0.0002807	0.0035	0.45		751.86	751.86		2.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-284.65	1142	0.45	0	1113	3568	2830	1148	3977		3.48	Si
SLD 6	fin.	187.9	557	0.45	0	1113	3568	2830	1148	3977		7.14	Si
SLV 2	ini.	-272.73	1096	0.45	0	1113	3568	2830	1148	3977		3.63	Si
SLV 2	fin.	155.81	508	0.45	0	1113	3568	2830	1148	3977		7.83	Si
SLV 10	ini.	-384.24	1496	0.45	0	1113	3568	2830	1148	3977		2.66	Si
SLV 10	fin.	297.06	912	0.45	0	1113	3568	2830	1148	3977		4.36	Si
SLV 5	ini.	-367.24	1445	0.45	0	1113	3568	2830	1148	3977		2.75	Si
SLV 5	fin.	272.88	861	0.45	0	1113	3568	2830	1148	3977		4.62	Si
SLV 12	ini.	179.75	-517	0.45	0	1113	3568	2830	1148	3977		7.69	Si
SLV 12	fin.	-268.73	-1106	0.45	0	1113	3568	2830	1148	3977		3.6	Si
SLV 6	ini.	-418.17	1617	0.45	0	1113	3568	2830	1148	3977		2.46	Si
SLV 6	fin.	318.19	1032	0.45	0	1113	3568	2830	1148	3977		3.85	Si
SLV 7	ini.	196.75	-569	0.45	0	1113	3568	2830	1148	3977		6.99	Si
SLV 7	fin.	-292.91	-1157	0.45	0	1113	3568	2830	1148	3977		3.44	Si
SLD 10	ini.	-263.81	1068	0.45	0	1113	3568	2830	1148	3977		3.72	Si
SLD 10	fin.	174.82	483	0.45	0	1113	3568	2830	1148	3977		8.23	Si
SLV 11	ini.	230.68	-690	0.45	0	1113	3568	2830	1148	3977		5.76	Si
SLV 11	fin.	-314.04	-1277	0.45	0	1113	3568	2830	1148	3977		3.11	Si
SLV 9	ini.	-333.3	1324	0.45	0	1113	3568	2830	1148	3977		3	Si
SLV 9	fin.	251.75	741	0.45	0	1113	3568	2830	1148	3977		5.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.805	SLV 6	Si
V_SLV	2.459	SLV 6	Si
PF_SLU	3.737	SLU 78	Si
V_SLU	3.26	SLU 78	Si

Trave di accoppiamento 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	2.71	3.66	0.95	-11.868	-4.685	2.71	3.66	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1102.7	-4720	-0.0003369	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.98	Si
SLU 79	fin.	-390.48	-1294	-0.0001069	0.0001872	0.0035	0.95		5495.42	5495.42	No	14.07	Si
SLU 78	ini.	1115.58	-4778	-0.0003415	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.92	Si
SLU 78	fin.	-396.16	-1307	-0.0001085	0.0001872	0.0035	0.95		5495.42	5495.42	No	13.87	Si
SLU 76	ini.	1095.56	-4698	-0.0003343	0.0001872	0.0035	0.95		5485.98	5485.98	No	5.01	Si
SLU 76	fin.	-384.59	-1307	-0.0001052	0.0001872	0.0035	0.95		5495.42	5495.42	No	14.29	Si
SLU 80	ini.	1108.29	-4749	-0.0003389	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.95	Si
SLU 80	fin.	-391.81	-1307	-0.0001073	0.0001872	0.0035	0.95		5495.42	5495.42	No	14.03	Si
SLU 77	ini.	1109.99	-4749	-0.0003395	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.94	Si
SLU 77	fin.	-394.83	-1294	-0.0001082	0.0001872	0.0035	0.95		5495.42	5495.42	No	13.92	Si
SLU 84	ini.	1148.46	-4904	-0.0003535	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.78	Si
SLU 84	fin.	-415.05	-1319	-0.000114	0.0001872	0.0035	0.95		5495.42	5495.42	No	13.24	Si
SLU 83	ini.	1142.87	-4875	-0.0003514	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.8	Si
SLU 83	fin.	-413.72	-1306	-0.0001136	0.0001872	0.0035	0.95		5495.42	5495.42	No	13.28	Si
SLU 82	ini.	1132	-4834	-0.0003475	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.85	Si
SLU 82	fin.	-406.94	-1311	-0.0001116	0.0001872	0.0035	0.95		5495.42	5495.42	No	13.5	Si
SLU 75	ini.	1099.12	-4708	-0.0003356	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.99	Si
SLU 75	fin.	-388.05	-1299	-0.0001062	0.0001872	0.0035	0.95		5495.42	5495.42	No	14.16	Si
SLU 81	ini.	1126.41	-4806	-0.0003455	0.0001872	0.0035	0.95		5485.98	5485.98	No	4.87	Si
SLU 81	fin.	-405.61	-1298	-0.0001113	0.0001872	0.0035	0.95		5495.42	5495.42	No	13.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	1126.41	-3674	0.95	0	1979	15066	4267	3634	7901	No	2.15	Si
SLU 81	fin.	-405.61	-2661	0.95	0	1979	15066	4267	3634	7901	No	2.97	Si
SLU 76	ini.	1095.56	-3614	0.95	0	1979	15066	4267	3634	7901	No	2.19	Si
SLU 76	fin.	-384.59	-2534	0.95	0	1979	15066	4267	3634	7901	No	3.12	Si
SLU 80	ini.	1108.29	-3663	0.95	0	1979	15066	4267	3634	7901	No	2.16	Si
SLU 80	fin.	-391.81	-2568	0.95	0	1979	15066	4267	3634	7901	No	3.08	Si
SLU 84	ini.	1148.46	-3761	0.95	0	1979	15066	4267	3634	7901	No	2.1	Si
SLU 84	fin.	-415.05	-2708	0.95	0	1979	15066	4267	3634	7901	No	2.92	Si
SLU 79	ini.	1102.7	-3640	0.95	0	1979	15066	4267	3634	7901	No	2.17	Si
SLU 79	fin.	-390.48	-2561	0.95	0	1979	15066	4267	3634	7901	No	3.09	Si
SLU 78	ini.	1115.58	-3695	0.95	0	1979	15066	4267	3634	7901	No	2.14	Si
SLU 78	fin.	-396.16	-2586	0.95	0	1979	15066	4267	3634	7901	No	3.06	Si
SLU 82	ini.	1132	-3697	0.95	0	1979	15066	4267	3634	7901	No	2.14	Si
SLU 82	fin.	-406.94	-2669	0.95	0	1979	15066	4267	3634	7901	No	2.96	Si
SLU 77	ini.	1109.99	-3672	0.95	0	1979	15066	4267	3634	7901	No	2.15	Si
SLU 77	fin.	-394.83	-2579	0.95	0	1979	15066	4267	3634	7901	No	3.06	Si
SLU 83	ini.	1142.87	-3738	0.95	0	1979	15066	4267	3634	7901	No	2.11	Si
SLU 83	fin.	-413.72	-2701	0.95	0	1979	15066	4267	3634	7901	No	2.93	Si
SLU 75	ini.	1099.12	-3631	0.95	0	1979	15066	4267	3634	7901	No	2.18	Si
SLU 75	fin.	-388.05	-2547	0.95	0	1979	15066	4267	3634	7901	No	3.1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	2196	-8310	-0.0007339	0.0002807	0.0035	0.95		5645.97	5645.97		2.57	Si
SLV 14	fin.	-2234.09	3293	-0.0007485	0.0002807	0.0035	0.95		5655.85	5655.85		2.53	Si
SLD 13	ini.	1832.52	-7013	-0.0005853	0.0002807	0.0035	0.95		5645.97	5645.97		3.08	Si
SLD 13	fin.	-1764.21	2352	-0.0005574	0.0002807	0.0035	0.95		5655.85	5655.85		3.21	Si
SLV 3	ini.	-735.6	2015	-0.0002054	0.0002807	0.0035	0.95		5655.85	5655.85		7.69	Si
SLV 3	fin.	1758	-5180	-0.0005562	0.0002807	0.0035	0.95		5645.97	5645.97		3.21	Si
SLV 9	ini.	1768.22	-7146	-0.0005602	0.0002807	0.0035	0.95		5645.97	5645.97		3.19	Si
SLV 9	fin.	-1312.41	520	-0.0003915	0.0002807	0.0035	0.95		5655.85	5655.85		4.31	Si
SLD 14	ini.	1661.74	-6423	-0.0005193	0.0002807	0.0035	0.95		5645.97	5645.97		3.4	Si
SLD 14	fin.	-1513.95	1779	-0.0004633	0.0002807	0.0035	0.95		5655.85	5655.85		3.74	Si
SLV 4	ini.	-1004.8	2945	-0.0002888	0.0002807	0.0035	0.95		5655.85	5655.85		5.63	Si
SLV 4	fin.	2152.48	-6083	-0.0007155	0.0002807	0.0035	0.95		5645.97	5645.97		2.62	Si
SLV 2	ini.	-696.7	1628	-0.0001938	0.0002807	0.0035	0.95		5655.85	5655.85		8.12	Si
SLV 2	fin.	1965.48	-6246	-0.0006383	0.0002807	0.0035	0.95		5645.97	5645.97		2.87	Si
SLV 13	ini.	2465.2	-9241	-0.0008517	0.0002807	0.0035	0.95		5645.97	5645.97		2.29	Si
SLV 13	fin.	-2628.56	4196	-0.0009245	0.0002807	0.0035	0.95		5655.85	5655.85		2.15	Si
SLV 16	ini.	1887.9	-6993	-0.0006072	0.0002807	0.0035	0.95		5645.97	5645.97		2.99	Si
SLV 16	fin.	-2047.09	3455	-0.0006701	0.0002807	0.0035	0.95		5655.85	5655.85		2.76	Si
SLV 15	ini.	2157.1	-7924	-0.0007175	0.0002807	0.0035	0.95		5645.97	5645.97		2.62	Si
SLV 15	fin.	-2441.56	4358	-0.0008392	0.0002807	0.0035	0.95		5655.85	5655.85		2.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	1652.01	-7100	0.95	0	2790	15066	6401	3634	10034		1.41	Si
SLD 15	fin.	-1653.66	-6566	0.95	0	2790	15066	6401	3634	10034		1.53	Si
SLV 9	ini.	1768.22	-7527	0.95	0	2790	15066	6401	3634	10034		1.33	Si
SLV 9	fin.	-1312.41	-5256	0.95	0	2790	15066	6401	3634	10034		1.91	Si
SLD 14	ini.	1661.74	-7097	0.95	0	2790	15066	6401	3634	10034		1.41	Si
SLD 14	fin.	-1513.95	-6041	0.95	0	2790	15066	6401	3634	10034		1.66	Si
SLV 10	ini.	1587	-6605	0.95	0	2790	15066	6401	3634	10034		1.52	Si
SLV 10	fin.	-1046.87	-4336	0.95	0	2790	15066	6401	3634	10034		2.31	Si
SLD 13	ini.	1832.52	-7966	0.95	0	2790	15066	6401	3634	10034		1.26	Si
SLD 13	fin.	-1764.21	-6909	0.95	0	2790	15066	6401	3634	10034		1.45	Si
SLV 16	ini.	1887.9	-8306	0.95	0	2790	15066	6401	3634	10034		1.21	Si
SLV 16	fin.	-2047.09	-7951	0.95	0	2790	15066	6401	3634	10034		1.26	Si
SLV 4	ini.	-1004.8	6335	0.95	0	2790	15066	6401	3634	10034		1.58	Si
SLV 4	fin.	2152.48	6629	0.95	0	2790	15066	6401	3634	10034		1.51	Si
SLV 13	ini.	2465.2	-11152	0.95	0	2790	15066	6401	3634	10034		0.9	No
SLV 13	fin.	-2628.56	-9902	0.95	0	2790	15066	6401	3634	10034		1.01	Si
SLV 14	ini.	2196	-9783	0.95	0	2790	15066	6401	3634	10034		1.03	Si
SLV 14	fin.	-2234.09	-8535	0.95	0	2790	15066	6401	3634	10034		1.18	Si
SLV 15	ini.	2157.1	-9675	0.95	0	2790	15066	6401	3634	10034		1.04	Si
SLV 15	fin.	-2441.56	-9318	0.95	0	2790	15066	6401	3634	10034		1.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.152	SLV 13	Si
V_SLV	0.9	SLV 13	No
PF_SLU	4.777	SLU 84	Si
V_SLU	2.101	SLU 84	Si

Trave di accoppiamento 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	5.66	6.11	0.45	-11.868	-4.685	5.66	6.11	0.45	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-59.52	77	-0.0000713	0.0001872	0.0035	0.45		1239.4	1239.4	No	20.82	Si
SLU 76	fin.	-487.71	-1767	-0.0007686	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.54	Si
SLU 82	ini.	-57.7	97	-0.0000691	0.0001872	0.0035	0.45		1239.4	1239.4	No	21.48	Si
SLU 82	fin.	-503.97	-1824	-0.0008016	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.46	Si
SLU 75	ini.	-59.28	80	-0.000071	0.0001872	0.0035	0.45		1239.4	1239.4	No	20.91	Si
SLU 75	fin.	-489.83	-1774	-0.0007729	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.53	Si
SLU 80	ini.	-58.13	89	-0.0000696	0.0001872	0.0035	0.45		1239.4	1239.4	No	21.32	Si
SLU 80	fin.	-495.06	-1792	-0.0007834	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.5	Si
SLU 78	ini.	-58.05	90	-0.0000695	0.0001872	0.0035	0.45		1239.4	1239.4	No	21.35	Si
SLU 78	fin.	-498.89	-1808	-0.0007912	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.48	Si
SLU 83	ini.	-56.23	110	-0.0000673	0.0001872	0.0035	0.45		1239.4	1239.4	No	22.04	Si
SLU 83	fin.	-510.46	-1846	-0.0008149	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.43	Si
SLU 81	ini.	-57.47	100	-0.0000688	0.0001872	0.0035	0.45		1239.4	1239.4	No	21.57	Si
SLU 81	fin.	-501.39	-1811	-0.0007963	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.47	Si
SLU 77	ini.	-57.81	93	-0.0000692	0.0001872	0.0035	0.45		1239.4	1239.4	No	21.44	Si
SLU 77	fin.	-496.31	-1795	-0.000786	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.5	Si
SLU 79	ini.	-57.89	92	-0.0000693	0.0001872	0.0035	0.45		1239.4	1239.4	No	21.41	Si
SLU 79	fin.	-492.48	-1779	-0.0007782	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.52	Si
SLU 84	ini.	-56.47	108	-0.0000676	0.0001872	0.0035	0.45		1239.4	1239.4	No	21.95	Si
SLU 84	fin.	-513.04	-1858	-0.0008203	0.0001872	0.0035	0.45		1239.4	1239.4	No	2.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-58.05	648	0.45	0	770	7137	2021	1721	3743	No	5.78	Si
SLU 78	fin.	-498.89	-2550	0.45	0	770	7137	2021	1721	3742	No	1.47	Si
SLU 81	ini.	-57.47	650	0.45	0	770	7137	2021	1721	3743	No	5.76	Si
SLU 81	fin.	-501.39	-2566	0.45	0	770	7137	2021	1721	3742	No	1.46	Si
SLU 82	ini.	-57.7	650	0.45	0	770	7137	2021	1721	3743	No	5.75	Si
SLU 82	fin.	-503.97	-2577	0.45	0	770	7137	2021	1721	3742	No	1.45	Si
SLU 84	ini.	-56.47	650	0.45	0	770	7137	2021	1721	3743	No	5.76	Si
SLU 84	fin.	-513.04	-2621	0.45	0	770	7137	2021	1721	3742	No	1.43	Si
SLU 77	ini.	-57.81	647	0.45	0	770	7137	2021	1721	3743	No	5.78	Si
SLU 77	fin.	-496.31	-2540	0.45	0	770	7137	2021	1721	3742	No	1.47	Si
SLU 79	ini.	-57.89	646	0.45	0	770	7137	2021	1721	3743	No	5.8	Si
SLU 79	fin.	-492.48	-2522	0.45	0	770	7137	2021	1721	3742	No	1.48	Si
SLU 80	ini.	-58.13	647	0.45	0	770	7137	2021	1721	3743	No	5.79	Si
SLU 80	fin.	-495.06	-2532	0.45	0	770	7137	2021	1721	3742	No	1.48	Si
SLU 76	ini.	-59.52	647	0.45	0	770	7137	2021	1721	3743	No	5.78	Si
SLU 76	fin.	-487.71	-2496	0.45	0	770	7137	2021	1721	3742	No	1.5	Si
SLU 83	ini.	-56.23	649	0.45	0	770	7137	2021	1721	3743	No	5.76	Si
SLU 83	fin.	-510.46	-2610	0.45	0	770	7137	2021	1721	3742	No	1.43	Si
SLU 75	ini.	-59.28	648	0.45	0	770	7137	2021	1721	3743	No	5.77	Si
SLU 75	fin.	-489.83	-2507	0.45	0	770	7137	2021	1721	3742	No	1.49	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	601.73	2660	-0.00095	0.0002807	0.0035	0.45		1273.03	1273.03		2.12	Si
SLV 14	fin.	-1127.26	-4802	-0.0026342	0.0002807	0.0035	0.45		1277.7	1277.7		1.13	Si
SLV 4	ini.	-839.49	-3188	-0.0015166	0.0002807	0.0035	0.45		1277.7	1277.7		1.52	Si
SLV 4	fin.	634.49	3177	-0.00102	0.0002807	0.0035	0.45		1273.03	1273.03		2.01	Si
SLD 13	ini.	454.92	2068	-0.0006625	0.0002807	0.0035	0.45		1273.03	1273.03		2.8	Si
SLD 13	fin.	-929.56	-3906	-0.0017921	0.0002807	0.0035	0.45		1277.7	1277.7		1.37	Si
SLV 15	ini.	751.1	3310	-0.0012909	0.0002807	0.0035	0.45		1273.03	1273.03		1.69	Si
SLV 15	fin.	-1133.64	-4824	-0.0026685	0.0002807	0.0035	0.45		1277.7	1277.7		1.13	Si
SLV 2	ini.	-851.96	-3280	-0.0015521	0.0002807	0.0035	0.45		1277.7	1277.7		1.5	Si
SLV 2	fin.	490.74	2521	-0.000729	0.0002807	0.0035	0.45		1273.03	1273.03		2.59	Si
SLV 9	ini.	192.91	941	-0.0002433	0.0002807	0.0035	0.45		1273.03	1273.03		6.6	Si
SLV 9	fin.	-854.26	-3573	-0.0015587	0.0002807	0.0035	0.45		1277.7	1277.7		1.5	Si
SLV 13	ini.	738.63	3218	-0.0012601	0.0002807	0.0035	0.45		1273.03	1273.03		1.72	Si
SLV 13	fin.	-1277.38	-5481	-0.003528	0.0002807	0.0035	0.45		1277.7	1277.7		1	Si
SLD 14	ini.	368.07	1713	-0.0005105	0.0002807	0.0035	0.45		1273.03	1273.03		3.46	Si
SLD 14	fin.	-834.32	-3475	-0.0015022	0.0002807	0.0035	0.45		1277.7	1277.7		1.53	Si
SLV 16	ini.	614.2	2751	-0.0009764	0.0002807	0.0035	0.45		1273.03	1273.03		2.07	Si
SLV 16	fin.	-983.51	-4145	-0.0019844	0.0002807	0.0035	0.45		1277.7	1277.7		1.3	Si
SLD 15	ini.	462.48	2123	-0.0006764	0.0002807	0.0035	0.45		1273.03	1273.03		2.75	Si
SLD 15	fin.	-845.33	-3521	-0.0015331	0.0002807	0.0035	0.45		1277.7	1277.7		1.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	462.48	-1791	0.45	0	1040	7137	3032	1721	4753		2.65	Si
SLD 15	fin.	-845.33	-3851	0.45	0	1040	7137	3032	1721	4753		1.23	Si
SLV 16	ini.	614.2	-2468	0.45	0	1040	7137	3032	1721	4753		1.93	Si
SLV 16	fin.	-983.51	-4424	0.45	0	1040	7137	3032	1721	4753		1.07	Si
SLD 13	ini.	454.92	-1750	0.45	0	1040	7137	3032	1721	4753		2.72	Si
SLD 13	fin.	-929.56	-4229	0.45	0	1040	7137	3032	1721	4753		1.12	Si
SLD 14	ini.	368.07	-1364	0.45	0	1040	7137	3032	1721	4753		3.49	Si
SLD 14	fin.	-834.32	-3829	0.45	0	1040	7137	3032	1721	4753		1.24	Si
SLV 9	ini.	192.91	-564	0.45	0	1040	7137	3032	1721	4753		8.43	Si
SLV 9	fin.	-854.26	-3969	0.45	0	1040	7137	3032	1721	4753		1.2	Si
SLV 13	ini.	738.63	-3005	0.45	0	1040	7137	3032	1721	4753		1.58	Si
SLV 13	fin.	-1277.38	-5699	0.45	0	1040	7137	3032	1721	4753		0.83	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-839.49	3985	0.45	0	1040	7137	3032	1721	4753		1.19	Si
SLV 4	fin.	634.49	2378	0.45	0	1040	7137	3032	1721	4753		2	Si
SLV 15	ini.	751.1	-3076	0.45	0	1040	7137	3032	1721	4753		1.55	Si
SLV 15	fin.	-1133.64	-5054	0.45	0	1040	7137	3032	1721	4753		0.94	No
SLV 14	ini.	601.73	-2397	0.45	0	1040	7137	3032	1721	4753		1.98	Si
SLV 14	fin.	-1127.26	-5070	0.45	0	1040	7137	3032	1721	4753		0.94	No
SLV 2	ini.	-851.96	4057	0.45	0	1040	7137	3032	1721	4753		1.17	Si
SLV 2	fin.	490.74	1733	0.45	0	1040	7137	3032	1721	4753		2.74	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1	SLV 13	Si
V_SLV	0.834	SLV 13	No
PF_SLU	2.416	SLU 84	Si
V_SLU	1.428	SLU 84	Si

Trave di accoppiamento 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	6.11	7.06	0.95	-11.868	-4.685	6.11	7.06	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	867.08	-2704	-0.0002549	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.33	Si
SLU 81	fin.	-456.65	-1039	-0.0001261	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.03	Si
SLU 75	ini.	850.08	-2664	-0.0002492	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.45	Si
SLU 75	fin.	-440.69	-1040	-0.0001214	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.47	Si
SLU 80	ini.	865.22	-2714	-0.0002543	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.34	Si
SLU 80	fin.	-443.87	-1067	-0.0001223	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.38	Si
SLU 84	ini.	892.12	-2769	-0.0002633	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.15	Si
SLU 84	fin.	-470.2	-1055	-0.00013	0.0001872	0.0035	0.95		5495.42	5495.42	No	11.69	Si
SLU 79	ini.	861.84	-2712	-0.0002531	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.37	Si
SLU 79	fin.	-439.45	-1074	-0.0001211	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.51	Si
SLU 82	ini.	870.46	-2706	-0.000256	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.3	Si
SLU 82	fin.	-461.07	-1031	-0.0001274	0.0001872	0.0035	0.95		5495.42	5495.42	No	11.92	Si
SLU 83	ini.	888.74	-2766	-0.0002622	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.17	Si
SLU 83	fin.	-465.78	-1062	-0.0001288	0.0001872	0.0035	0.95		5495.42	5495.42	No	11.8	Si
SLU 74	ini.	846.7	-2662	-0.0002481	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.48	Si
SLU 74	fin.	-436.27	-1048	-0.0001201	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.6	Si
SLU 78	ini.	871.75	-2726	-0.0002564	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.29	Si
SLU 78	fin.	-449.82	-1064	-0.0001241	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.22	Si
SLU 77	ini.	868.37	-2724	-0.0002553	0.0001872	0.0035	0.95		5485.98	5485.98	No	6.32	Si
SLU 77	fin.	-445.4	-1071	-0.0001228	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	850.08	-2902	0.95	0	1979	15066	4267	3634	7901	No	2.72	Si
SLU 75	fin.	-440.69	-1082	0.95	0	1979	15066	4267	3634	7901	No	7.3	Si
SLU 82	ini.	870.46	-2958	0.95	0	1979	15066	4267	3634	7901	No	2.67	Si
SLU 82	fin.	-461.07	-1151	0.95	0	1979	15066	4267	3634	7901	No	6.87	Si
SLU 79	ini.	861.84	-2925	0.95	0	1979	15066	4267	3634	7901	No	2.7	Si
SLU 79	fin.	-439.45	-1093	0.95	0	1979	15066	4267	3634	7901	No	7.23	Si
SLU 76	ini.	845.81	-2885	0.95	0	1979	15066	4267	3634	7901	No	2.74	Si
SLU 76	fin.	-437.7	-1077	0.95	0	1979	15066	4267	3634	7901	No	7.34	Si
SLU 77	ini.	868.37	-2954	0.95	0	1979	15066	4267	3634	7901	No	2.67	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-445.4	-1102	0.95	0	1979	15066	4267	3634	7901	No	7.17	Si
SLU 83	ini.	888.74	-3010	0.95	0	1979	15066	4267	3634	7901	No	2.62	Si
SLU 83	fin.	-465.78	-1170	0.95	0	1979	15066	4267	3634	7901	No	6.75	Si
SLU 78	ini.	871.75	-2972	0.95	0	1979	15066	4267	3634	7901	No	2.66	Si
SLU 78	fin.	-449.82	-1108	0.95	0	1979	15066	4267	3634	7901	No	7.13	Si
SLU 84	ini.	892.12	-3028	0.95	0	1979	15066	4267	3634	7901	No	2.61	Si
SLU 84	fin.	-470.2	-1177	0.95	0	1979	15066	4267	3634	7901	No	6.71	Si
SLU 81	ini.	867.08	-2940	0.95	0	1979	15066	4267	3634	7901	No	2.69	Si
SLU 81	fin.	-456.65	-1145	0.95	0	1979	15066	4267	3634	7901	No	6.9	Si
SLU 80	ini.	865.22	-2943	0.95	0	1979	15066	4267	3634	7901	No	2.68	Si
SLU 80	fin.	-443.87	-1099	0.95	0	1979	15066	4267	3634	7901	No	7.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	2802.98	-4297	-0.0010097	0.0002807	0.0035	0.95		5645.97	5645.97		2.01	Si
SLV 13	fin.	-2693.33	2731	-0.0009548	0.0002807	0.0035	0.95		5655.85	5655.85		2.1	Si
SLD 13	ini.	1986.83	-3392	-0.000647	0.0002807	0.0035	0.95		5645.97	5645.97		2.84	Si
SLD 13	fin.	-1813.81	1462	-0.0005767	0.0002807	0.0035	0.95		5655.85	5655.85		3.12	Si
SLD 15	ini.	1876.24	-3298	-0.0006025	0.0002807	0.0035	0.95		5645.97	5645.97		3.01	Si
SLD 15	fin.	-1668.45	1235	-0.0005208	0.0002807	0.0035	0.95		5655.85	5655.85		3.39	Si
SLV 2	ini.	-1516.19	549	-0.0004641	0.0002807	0.0035	0.95		5655.85	5655.85		3.73	Si
SLV 2	fin.	1910.04	-3880	-0.000616	0.0002807	0.0035	0.95		5645.97	5645.97		2.96	Si
SLV 15	ini.	2614.35	-4136	-0.00092	0.0002807	0.0035	0.95		5645.97	5645.97		2.16	Si
SLV 15	fin.	-2445.61	2346	-0.000841	0.0002807	0.0035	0.95		5655.85	5655.85		2.31	Si
SLV 16	ini.	2241.64	-3715	-0.0007534	0.0002807	0.0035	0.95		5645.97	5645.97		2.52	Si
SLV 16	fin.	-2047.74	1768	-0.0006704	0.0002807	0.0035	0.95		5655.85	5655.85		2.76	Si
SLV 14	ini.	2430.28	-3876	-0.000836	0.0002807	0.0035	0.95		5645.97	5645.97		2.32	Si
SLV 14	fin.	-2295.47	2154	-0.0007749	0.0002807	0.0035	0.95		5655.85	5655.85		2.46	Si
SLV 4	ini.	-1704.82	710	-0.0005346	0.0002807	0.0035	0.95		5655.85	5655.85		3.32	Si
SLV 4	fin.	2157.76	-4266	-0.0007177	0.0002807	0.0035	0.95		5645.97	5645.97		2.62	Si
SLD 14	ini.	1750.39	-3125	-0.0005532	0.0002807	0.0035	0.95		5645.97	5645.97		3.23	Si
SLD 14	fin.	-1561.4	1096	-0.0004808	0.0002807	0.0035	0.95		5655.85	5655.85		3.62	Si
SLV 3	ini.	-1332.12	289	-0.0003984	0.0002807	0.0035	0.95		5655.85	5655.85		4.25	Si
SLV 3	fin.	1759.89	-3689	-0.0005569	0.0002807	0.0035	0.95		5645.97	5645.97		3.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	2614.35	-8365	0.95	0	2790	15066	6401	3634	10034		1.2	Si
SLV 15	fin.	-2445.61	-7317	0.95	0	2790	15066	6401	3634	10034		1.37	Si
SLV 16	ini.	2241.64	-7163	0.95	0	2790	15066	6401	3634	10034		1.4	Si
SLV 16	fin.	-2047.74	-6137	0.95	0	2790	15066	6401	3634	10034		1.64	Si
SLD 13	ini.	1986.83	-6651	0.95	0	2790	15066	6401	3634	10034		1.51	Si
SLD 13	fin.	-1813.81	-5095	0.95	0	2790	15066	6401	3634	10034		1.97	Si
SLV 13	ini.	2802.98	-9377	0.95	0	2790	15066	6401	3634	10034		1.07	Si
SLV 13	fin.	-2693.33	-7610	0.95	0	2790	15066	6401	3634	10034		1.32	Si
SLV 9	ini.	1580.88	-5886	0.95	0	2790	15066	6401	3634	10034		1.7	Si
SLV 9	fin.	-1445.4	-3399	0.95	0	2790	15066	6401	3634	10034		2.95	Si
SLV 2	ini.	-1516.19	4609	0.95	0	2790	15066	6401	3634	10034		2.18	Si
SLV 2	fin.	1910.04	6026	0.95	0	2790	15066	6401	3634	10034		1.67	Si
SLD 15	ini.	1876.24	-6059	0.95	0	2790	15066	6401	3634	10034		1.66	Si
SLD 15	fin.	-1668.45	-4924	0.95	0	2790	15066	6401	3634	10034		2.04	Si
SLD 14	ini.	1750.39	-5888	0.95	0	2790	15066	6401	3634	10034		1.7	Si
SLD 14	fin.	-1561.4	-4346	0.95	0	2790	15066	6401	3634	10034		2.31	Si
SLV 14	ini.	2430.28	-8175	0.95	0	2790	15066	6401	3634	10034		1.23	Si
SLV 14	fin.	-2295.47	-6429	0.95	0	2790	15066	6401	3634	10034		1.56	Si
SLV 4	ini.	-1704.82	5621	0.95	0	2790	15066	6401	3634	10034		1.79	Si
SLV 4	fin.	2157.76	6319	0.95	0	2790	15066	6401	3634	10034		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.014	SLV 13	Si
V_SLV	1.07	SLV 13	Si
PF_SLU	6.149	SLU 84	Si
V_SLU	2.609	SLU 84	Si

Trave di accoppiamento 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	9.06	9.59	0.53	-11.868	-4.685	9.06	9.59	0.53	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	76.85	535	-0.0000665	0.0001872	0.0035	0.53		1712.29	1712.29	No	22.28	Si
SLU 84	fin.	-501.79	-1634	-0.0005292	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.42	Si
SLU 81	ini.	73.48	517	-0.0000635	0.0001872	0.0035	0.53		1712.29	1712.29	No	23.3	Si
SLU 81	fin.	-486.7	-1582	-0.0005098	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.53	Si
SLU 74	ini.	66.88	487	-0.0000577	0.0001872	0.0035	0.53		1712.29	1712.29	No	25.6	Si
SLU 74	fin.	-477.75	-1554	-0.0004983	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.6	Si
SLU 80	ini.	68.72	499	-0.0000593	0.0001872	0.0035	0.53		1712.29	1712.29	No	24.92	Si
SLU 80	fin.	-487.92	-1587	-0.0005113	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.52	Si
SLU 78	ini.	70.24	505	-0.0000606	0.0001872	0.0035	0.53		1712.29	1712.29	No	24.38	Si
SLU 78	fin.	-492.83	-1605	-0.0005176	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.49	Si
SLU 79	ini.	67.76	498	-0.0000584	0.0001872	0.0035	0.53		1712.29	1712.29	No	25.27	Si
SLU 79	fin.	-485.38	-1575	-0.0005081	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.54	Si
SLU 82	ini.	74.44	519	-0.0000644	0.0001872	0.0035	0.53		1712.29	1712.29	No	23	Si
SLU 82	fin.	-489.24	-1594	-0.000513	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.51	Si
SLU 75	ini.	67.84	489	-0.0000585	0.0001872	0.0035	0.53		1712.29	1712.29	No	25.24	Si
SLU 75	fin.	-480.29	-1566	-0.0005016	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.58	Si
SLU 83	ini.	75.88	533	-0.0000656	0.0001872	0.0035	0.53		1712.29	1712.29	No	22.56	Si
SLU 83	fin.	-499.25	-1622	-0.0005259	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.44	Si
SLU 77	ini.	69.28	503	-0.0000598	0.0001872	0.0035	0.53		1712.29	1712.29	No	24.71	Si
SLU 77	fin.	-490.29	-1594	-0.0005144	0.0001872	0.0035	0.53		1717.53	1717.53	No	3.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	66.88	111	0.53	0	1053	8405	2381	2027	4408	No	39.83	Si
SLU 74	fin.	-477.75	-2411	0.53	0	1053	8405	2381	2027	4408	No	1.83	Si
SLU 80	ini.	68.72	110	0.53	0	1053	8405	2381	2027	4408	No	40.1	Si
SLU 80	fin.	-487.92	-2461	0.53	0	1053	8405	2381	2027	4408	No	1.79	Si
SLU 77	ini.	69.28	110	0.53	0	1053	8405	2381	2027	4408	No	40.1	Si
SLU 77	fin.	-490.29	-2473	0.53	0	1053	8405	2381	2027	4408	No	1.78	Si
SLU 84	ini.	76.85	81	0.53	0	1053	8405	2381	2027	4408	No	54.36	Si
SLU 84	fin.	-501.79	-2525	0.53	0	1053	8405	2381	2027	4408	No	1.75	Si
SLU 78	ini.	70.24	105	0.53	0	1053	8405	2381	2027	4408	No	41.95	Si
SLU 78	fin.	-492.83	-2483	0.53	0	1053	8405	2381	2027	4408	No	1.78	Si
SLU 75	ini.	67.84	106	0.53	0	1053	8405	2381	2027	4408	No	41.65	Si
SLU 75	fin.	-480.29	-2421	0.53	0	1053	8405	2381	2027	4408	No	1.82	Si
SLU 79	ini.	67.76	115	0.53	0	1053	8405	2381	2027	4408	No	38.41	Si
SLU 79	fin.	-485.38	-2451	0.53	0	1053	8405	2381	2027	4408	No	1.8	Si
SLU 81	ini.	73.48	87	0.53	0	1053	8405	2381	2027	4408	No	50.85	Si
SLU 81	fin.	-486.7	-2453	0.53	0	1053	8405	2381	2027	4408	No	1.8	Si
SLU 82	ini.	74.44	82	0.53	0	1053	8405	2381	2027	4408	No	53.86	Si
SLU 82	fin.	-489.24	-2463	0.53	0	1053	8405	2381	2027	4408	No	1.79	Si
SLU 83	ini.	75.88	86	0.53	0	1053	8405	2381	2027	4408	No	51.29	Si
SLU 83	fin.	-499.25	-2515	0.53	0	1053	8405	2381	2027	4408	No	1.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	558.41	2310	-0.0005694	0.0002807	0.0035	0.53		1764.49	1764.49		3.16	Si
SLD 15	fin.	-854.74	-3017	-0.0009767	0.0002807	0.0035	0.53		1769.99	1769.99		2.07	Si
SLV 4	ini.	-850.82	-3074	-0.0009707	0.0002807	0.0035	0.53		1769.99	1769.99		2.08	Si
SLV 4	fin.	683.64	2729	-0.000733	0.0002807	0.0035	0.53		1764.49	1764.49		2.58	Si
SLD 14	ini.	499.51	2055	-0.0004972	0.0002807	0.0035	0.53		1764.49	1764.49		3.53	Si
SLD 14	fin.	-840.51	-2998	-0.000955	0.0002807	0.0035	0.53		1769.99	1769.99		2.11	Si
SLV 16	ini.	703.48	2878	-0.0007603	0.0002807	0.0035	0.53		1764.49	1764.49		2.51	Si
SLV 16	fin.	-996.17	-3536	-0.0012054	0.0002807	0.0035	0.53		1769.99	1769.99		1.78	Si
SLV 9	ini.	416.96	1665	-0.0004013	0.0002807	0.0035	0.53		1764.49	1764.49		4.23	Si
SLV 9	fin.	-863.03	-3155	-0.0009894	0.0002807	0.0035	0.53		1769.99	1769.99		2.05	Si
SLV 15	ini.	852.94	3449	-0.000978	0.0002807	0.0035	0.53		1764.49	1764.49		2.07	Si
SLV 15	fin.	-1155.43	-4126	-0.0014999	0.0002807	0.0035	0.53		1769.99	1769.99		1.53	Si
SLV 2	ini.	-789.69	-2893	-0.0008794	0.0002807	0.0035	0.53		1769.99	1769.99		2.24	Si
SLV 2	fin.	535.22	2121	-0.0005406	0.0002807	0.0035	0.53		1764.49	1764.49		3.3	Si
SLV 13	ini.	914.07	3630	-0.0010741	0.0002807	0.0035	0.53		1764.49	1764.49		1.93	Si
SLV 13	fin.	-1303.84	-4734	-0.0018294	0.0002807	0.0035	0.53		1769.99	1769.99		1.36	Si
SLV 14	ini.	764.61	3059	-0.0008465	0.0002807	0.0035	0.53		1764.49	1764.49		2.31	Si
SLV 14	fin.	-1144.58	-4144	-0.0014782	0.0002807	0.0035	0.53		1769.99	1769.99		1.55	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	594.33	2417	-0.0006149	0.0002807	0.0035	0.53		1764.49	1764.49		2.97	Si
SLD 13	fin.	-941.55	-3373	-0.001114	0.0002807	0.0035	0.53		1769.99	1769.99		1.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	558.41	-2076	0.53	0	1320	8405	3571	2027	5598		2.7	Si
SLD 15	fin.	-854.74	-3906	0.53	0	1320	8405	3571	2027	5598		1.43	Si
SLV 9	ini.	416.96	-1485	0.53	0	1320	8405	3571	2027	5598		3.77	Si
SLV 9	fin.	-863.03	-3938	0.53	0	1320	8405	3571	2027	5598		1.42	Si
SLV 2	ini.	-789.69	3587	0.53	0	1320	8405	3571	2027	5598		1.56	Si
SLV 2	fin.	535.22	2030	0.53	0	1320	8405	3571	2027	5598		2.76	Si
SLV 13	ini.	914.07	-3572	0.53	0	1320	8405	3571	2027	5598		1.57	Si
SLV 13	fin.	-1303.84	-5822	0.53	0	1320	8405	3571	2027	5598		0.96	No
SLD 13	ini.	594.33	-2228	0.53	0	1320	8405	3571	2027	5598		2.51	Si
SLD 13	fin.	-941.55	-4276	0.53	0	1320	8405	3571	2027	5598		1.31	Si
SLV 15	ini.	852.94	-3314	0.53	0	1320	8405	3571	2027	5598		1.69	Si
SLV 15	fin.	-1155.43	-5190	0.53	0	1320	8405	3571	2027	5598		1.08	Si
SLV 4	ini.	-850.82	3845	0.53	0	1320	8405	3571	2027	5598		1.46	Si
SLV 4	fin.	683.64	2662	0.53	0	1320	8405	3571	2027	5598		2.1	Si
SLD 14	ini.	499.51	-1830	0.53	0	1320	8405	3571	2027	5598		3.06	Si
SLD 14	fin.	-840.51	-3844	0.53	0	1320	8405	3571	2027	5598		1.46	Si
SLV 16	ini.	703.48	-2685	0.53	0	1320	8405	3571	2027	5598		2.08	Si
SLV 16	fin.	-996.17	-4510	0.53	0	1320	8405	3571	2027	5598		1.24	Si
SLV 14	ini.	764.61	-2943	0.53	0	1320	8405	3571	2027	5598		1.9	Si
SLV 14	fin.	-1144.58	-5142	0.53	0	1320	8405	3571	2027	5598		1.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.358	SLV 13	Si
V_SLV	0.962	SLV 13	No
PF_SLU	3.423	SLU 84	Si
V_SLU	1.746	SLU 84	Si

Trave di accoppiamento 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	9.59	10.54	0.95	-11.868	-4.685	9.59	10.54	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	732.45	-2144	-0.0002107	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.49	Si
SLU 74	fin.	-424.59	-541	-0.0001167	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.94	Si
SLU 82	ini.	747.46	-2143	-0.0002155	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.34	Si
SLU 82	fin.	-453.09	-484	-0.000125	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.13	Si
SLU 79	ini.	752.91	-2221	-0.0002173	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.29	Si
SLU 79	fin.	-424.06	-590	-0.0001166	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.96	Si
SLU 75	ini.	735.58	-2146	-0.0002117	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.46	Si
SLU 75	fin.	-429.12	-533	-0.0001181	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.81	Si
SLU 83	ini.	770.47	-2227	-0.000223	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.12	Si
SLU 83	fin.	-454.96	-532	-0.0001256	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.08	Si
SLU 77	ini.	758.58	-2229	-0.0002191	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.23	Si
SLU 77	fin.	-430.99	-581	-0.0001186	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.75	Si
SLU 80	ini.	756.04	-2223	-0.0002183	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.26	Si
SLU 80	fin.	-428.59	-582	-0.0001179	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.82	Si
SLU 81	ini.	744.33	-2141	-0.0002145	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.37	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-448.56	-492	-0.0001237	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.25	Si
SLU 78	ini.	761.71	-2231	-0.0002201	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.2	Si
SLU 78	fin.	-435.52	-573	-0.0001199	0.0001872	0.0035	0.95		5495.42	5495.42	No	12.62	Si
SLU 84	ini.	773.6	-2229	-0.000224	0.0001872	0.0035	0.95		5485.98	5485.98	No	7.09	Si
SLU 84	fin.	-459.49	-524	-0.0001269	0.0001872	0.0035	0.95		5495.42	5495.42	No	11.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	747.46	-2472	0.95	0	1979	15066	4267	3634	7901	No	3.2	Si
SLU 82	fin.	-453.09	-1500	0.95	0	1979	15066	4267	3634	7901	No	5.27	Si
SLU 81	ini.	744.33	-2458	0.95	0	1979	15066	4267	3634	7901	No	3.21	Si
SLU 81	fin.	-448.56	-1490	0.95	0	1979	15066	4267	3634	7901	No	5.3	Si
SLU 79	ini.	752.91	-2490	0.95	0	1979	15066	4267	3634	7901	No	3.17	Si
SLU 79	fin.	-424.06	-1411	0.95	0	1979	15066	4267	3634	7901	No	5.6	Si
SLU 75	ini.	735.58	-2450	0.95	0	1979	15066	4267	3634	7901	No	3.22	Si
SLU 75	fin.	-429.12	-1410	0.95	0	1979	15066	4267	3634	7901	No	5.6	Si
SLU 77	ini.	758.58	-2519	0.95	0	1979	15066	4267	3634	7901	No	3.14	Si
SLU 77	fin.	-430.99	-1422	0.95	0	1979	15066	4267	3634	7901	No	5.55	Si
SLU 74	ini.	732.45	-2435	0.95	0	1979	15066	4267	3634	7901	No	3.24	Si
SLU 74	fin.	-424.59	-1401	0.95	0	1979	15066	4267	3634	7901	No	5.64	Si
SLU 84	ini.	773.6	-2556	0.95	0	1979	15066	4267	3634	7901	No	3.09	Si
SLU 84	fin.	-459.49	-1522	0.95	0	1979	15066	4267	3634	7901	No	5.19	Si
SLU 78	ini.	761.71	-2533	0.95	0	1979	15066	4267	3634	7901	No	3.12	Si
SLU 78	fin.	-435.52	-1432	0.95	0	1979	15066	4267	3634	7901	No	5.52	Si
SLU 83	ini.	770.47	-2541	0.95	0	1979	15066	4267	3634	7901	No	3.11	Si
SLU 83	fin.	-454.96	-1512	0.95	0	1979	15066	4267	3634	7901	No	5.23	Si
SLU 80	ini.	756.04	-2504	0.95	0	1979	15066	4267	3634	7901	No	3.15	Si
SLU 80	fin.	-428.59	-1420	0.95	0	1979	15066	4267	3634	7901	No	5.56	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1320.52	914	-0.0003943	0.0002807	0.0035	0.95		5655.85	5655.85		4.28	Si
SLV 4	fin.	1664.97	-3079	-0.0005205	0.0002807	0.0035	0.95		5645.97	5645.97		3.39	Si
SLV 3	ini.	-1016.94	500	-0.0002927	0.0002807	0.0035	0.95		5655.85	5655.85		5.56	Si
SLV 3	fin.	1345.54	-2639	-0.0004039	0.0002807	0.0035	0.95		5645.97	5645.97		4.2	Si
SLV 16	ini.	1784.32	-3226	-0.0005664	0.0002807	0.0035	0.95		5645.97	5645.97		3.16	Si
SLV 16	fin.	-1613.43	1350	-0.0005001	0.0002807	0.0035	0.95		5655.85	5655.85		3.51	Si
SLD 13	ini.	1603.98	-2905	-0.0004976	0.0002807	0.0035	0.95		5645.97	5645.97		3.52	Si
SLD 13	fin.	-1480.55	1281	-0.0004512	0.0002807	0.0035	0.95		5655.85	5655.85		3.82	Si
SLV 14	ini.	1949.18	-3335	-0.0006317	0.0002807	0.0035	0.95		5645.97	5645.97		2.9	Si
SLV 14	fin.	-1861.2	1816	-0.0005953	0.0002807	0.0035	0.95		5655.85	5655.85		3.04	Si
SLV 13	ini.	2252.76	-3749	-0.0007582	0.0002807	0.0035	0.95		5645.97	5645.97		2.51	Si
SLV 13	fin.	-2180.63	2255	-0.0007258	0.0002807	0.0035	0.95		5655.85	5655.85		2.59	Si
SLD 15	ini.	1507.45	-2841	-0.0004619	0.0002807	0.0035	0.95		5645.97	5645.97		3.75	Si
SLD 15	fin.	-1335.4	1007	-0.0003995	0.0002807	0.0035	0.95		5655.85	5655.85		4.24	Si
SLV 15	ini.	2087.9	-3640	-0.0006885	0.0002807	0.0035	0.95		5645.97	5645.97		2.7	Si
SLV 15	fin.	-1932.86	1789	-0.0006238	0.0002807	0.0035	0.95		5655.85	5655.85		2.93	Si
SLD 14	ini.	1411.39	-2643	-0.0004272	0.0002807	0.0035	0.95		5645.97	5645.97		4	Si
SLD 14	fin.	-1277.9	1003	-0.0003795	0.0002807	0.0035	0.95		5655.85	5655.85		4.43	Si
SLV 2	ini.	-1155.66	804	-0.0003381	0.0002807	0.0035	0.95		5655.85	5655.85		4.89	Si
SLV 2	fin.	1417.2	-2612	-0.0004293	0.0002807	0.0035	0.95		5645.97	5645.97		3.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1784.32	-5847	0.95	0	2790	15066	6401	3634	10034		1.72	Si
SLV 16	fin.	-1613.43	-5080	0.95	0	2790	15066	6401	3634	10034		1.98	Si
SLV 13	ini.	2252.76	-7722	0.95	0	2790	15066	6401	3634	10034		1.3	Si
SLV 13	fin.	-2180.63	-6497	0.95	0	2790	15066	6401	3634	10034		1.54	Si
SLV 15	ini.	2087.9	-6863	0.95	0	2790	15066	6401	3634	10034		1.46	Si
SLV 15	fin.	-1932.86	-6045	0.95	0	2790	15066	6401	3634	10034		1.66	Si
SLV 14	ini.	1949.18	-6706	0.95	0	2790	15066	6401	3634	10034		1.5	Si
SLV 14	fin.	-1861.2	-5532	0.95	0	2790	15066	6401	3634	10034		1.81	Si
SLD 14	ini.	1411.39	-4829	0.95	0	2790	15066	6401	3634	10034		2.08	Si
SLD 14	fin.	-1277.9	-3843	0.95	0	2790	15066	6401	3634	10034		2.61	Si
SLD 16	ini.	1314.85	-4327	0.95	0	2790	15066	6401	3634	10034		2.32	Si
SLD 16	fin.	-1132.75	-3579	0.95	0	2790	15066	6401	3634	10034		2.8	Si
SLV 4	ini.	-1320.52	4619	0.95	0	2790	15066	6401	3634	10034		2.17	Si
SLV 4	fin.	1664.97	4757	0.95	0	2790	15066	6401	3634	10034		2.11	Si
SLV 9	ini.	1308.79	-4894	0.95	0	2790	15066	6401	3634	10034		2.05	Si
SLV 9	fin.	-1270.04	-3423	0.95	0	2790	15066	6401	3634	10034		2.93	Si
SLD 15	ini.	1507.45	-4971	0.95	0	2790	15066	6401	3634	10034		2.02	Si
SLD 15	fin.	-1335.4	-4191	0.95	0	2790	15066	6401	3634	10034		2.39	Si
SLD 13	ini.	1603.98	-5473	0.95	0	2790	15066	6401	3634	10034		1.83	Si
SLD 13	fin.	-1480.55	-4455	0.95	0	2790	15066	6401	3634	10034		2.25	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.506	SLV 13	Si
V_SLV	1.299	SLV 13	Si
PF_SLU	7.092	SLU 84	Si
V_SLU	3.092	SLU 84	Si

Trave di accoppiamento 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	12.54	13.966	1.426	-11.868	-4.685	12.54	13.966	1.426	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	2	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.03	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	63.25	-170	-0.0000074	0.0001872	0.0035	1.4264		12365.71	12365.71	No	195.51	Si
SLU 69	fin.	-879.94	-1195	-0.0001069	0.0001872	0.0035	1.4256		12377.35	12377.35	No	14.07	Si
SLU 83	ini.	221.44	58	-0.000026	0.0001872	0.0035	1.4264		12365.71	12365.71	No	55.84	Si
SLU 83	fin.	-921.22	-1188	-0.0001122	0.0001872	0.0035	1.4256		12377.35	12377.35	No	13.44	Si
SLU 76	ini.	195.02	8	-0.0000229	0.0001872	0.0035	1.4264		12365.71	12365.71	No	63.41	Si
SLU 76	fin.	-887.12	-1172	-0.0001079	0.0001872	0.0035	1.4256		12377.35	12377.35	No	13.95	Si
SLU 84	ini.	229.77	59	-0.000027	0.0001872	0.0035	1.4264		12365.71	12365.71	No	53.82	Si
SLU 84	fin.	-920.61	-1196	-0.0001121	0.0001872	0.0035	1.4256		12377.35	12377.35	No	13.44	Si
SLU 77	ini.	157.26	-50	-0.0000184	0.0001872	0.0035	1.4264		12365.71	12365.71	No	78.63	Si
SLU 77	fin.	-957.15	-1262	-0.0001168	0.0001872	0.0035	1.4256		12377.35	12377.35	No	12.93	Si
SLU 80	ini.	154.01	-77	-0.0000181	0.0001872	0.0035	1.4264		12365.71	12365.71	No	80.29	Si
SLU 80	fin.	-954.83	-1283	-0.0001165	0.0001872	0.0035	1.4256		12377.35	12377.35	No	12.96	Si
SLU 74	ini.	192.73	35	-0.0000226	0.0001872	0.0035	1.4264		12365.71	12365.71	No	64.16	Si
SLU 74	fin.	-889.84	-1146	-0.0001082	0.0001872	0.0035	1.4256		12377.35	12377.35	No	13.91	Si
SLU 75	ini.	201.05	36	-0.0000236	0.0001872	0.0035	1.4264		12365.71	12365.71	No	61.5	Si
SLU 75	fin.	-889.23	-1154	-0.0001081	0.0001872	0.0035	1.4256		12377.35	12377.35	No	13.92	Si
SLU 79	ini.	145.68	-78	-0.0000171	0.0001872	0.0035	1.4264		12365.71	12365.71	No	84.88	Si
SLU 79	fin.	-955.44	-1275	-0.0001166	0.0001872	0.0035	1.4256		12377.35	12377.35	No	12.95	Si
SLU 78	ini.	165.59	-49	-0.0000194	0.0001872	0.0035	1.4264		12365.71	12365.71	No	74.68	Si
SLU 78	fin.	-956.54	-1270	-0.0001168	0.0001872	0.0035	1.4256		12377.35	12377.35	No	12.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	192.73	-945	1.4264	0	2972	15859	6407	5456	11863	No	12.56	Si
SLU 74	fin.	-889.84	-2782	1.4256	0	2970	15859	6403	5453	11856	No	4.26	Si
SLU 83	ini.	221.44	-1022	1.4264	0	2972	15859	6407	5456	11863	No	11.61	Si
SLU 83	fin.	-921.22	-2911	1.4256	0	2970	15859	6403	5453	11856	No	4.07	Si
SLU 84	ini.	229.77	-1035	1.4264	0	2972	15859	6407	5456	11863	No	11.46	Si
SLU 84	fin.	-920.61	-2925	1.4256	0	2970	15859	6403	5453	11856	No	4.05	Si
SLU 77	ini.	157.26	-841	1.4264	0	2972	15859	6407	5456	11863	No	14.11	Si
SLU 77	fin.	-957.15	-2986	1.4256	0	2970	15859	6403	5453	11856	No	3.97	Si
SLU 75	ini.	201.05	-958	1.4264	0	2972	15859	6407	5456	11863	No	12.39	Si
SLU 75	fin.	-889.23	-2796	1.4256	0	2970	15859	6403	5453	11856	No	4.24	Si
SLU 82	ini.	265.23	-1139	1.4264	0	2972	15859	6407	5456	11863	No	10.42	Si
SLU 82	fin.	-853.3	-2722	1.4256	0	2970	15859	6403	5453	11856	No	4.36	Si
SLU 78	ini.	165.59	-854	1.4264	0	2972	15859	6407	5456	11863	No	13.89	Si
SLU 78	fin.	-956.54	-3000	1.4256	0	2970	15859	6403	5453	11856	No	3.95	Si
SLU 79	ini.	145.68	-791	1.4264	0	2972	15859	6407	5456	11863	No	14.99	Si
SLU 79	fin.	-955.44	-2987	1.4256	0	2970	15859	6403	5453	11856	No	3.97	Si
SLU 80	ini.	154.01	-804	1.4264	0	2972	15859	6407	5456	11863	No	14.75	Si
SLU 80	fin.	-954.83	-3001	1.4256	0	2970	15859	6403	5453	11856	No	3.95	Si
SLU 76	ini.	195.02	-917	1.4264	0	2972	15859	6407	5456	11863	No	12.94	Si
SLU 76	fin.	-887.12	-2807	1.4256	0	2970	15859	6403	5453	11856	No	4.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1494.15	-1827	-0.0001838	0.0002807	0.0035	1.4264		12738.76	12738.76		8.53	Si
SLV 3	fin.	928.85	752	-0.0001119	0.0002807	0.0035	1.4256		12725.42	12725.42		13.7	Si
SLD 14	ini.	1121.24	1148	-0.000136	0.0002807	0.0035	1.4264		12724.04	12724.04		11.35	Si
SLD 14	fin.	-1524.41	-1698	-0.0001879	0.0002807	0.0035	1.4256		12740.14	12740.14		8.36	Si
SLV 16	ini.	1368.88	1424	-0.0001677	0.0002807	0.0035	1.4264		12724.04	12724.04		9.3	Si
SLV 16	fin.	-1957.39	-2122	-0.000246	0.0002807	0.0035	1.4256		12740.14	12740.14		6.51	Si
SLV 4	ini.	-1728.34	-2086	-0.0002148	0.0002807	0.0035	1.4264		12738.76	12738.76		7.37	Si
SLV 4	fin.	1167.2	977	-0.0001419	0.0002807	0.0035	1.4256		12725.42	12725.42		10.9	Si
SLV 15	ini.	1603.08	1683	-0.0001984	0.0002807	0.0035	1.4264		12724.04	12724.04		7.94	Si
SLV 15	fin.	-2195.73	-2347	-0.0002792	0.0002807	0.0035	1.4256		12740.14	12740.14		5.8	Si
SLD 13	ini.	1269.82	1313	-0.0001549	0.0002807	0.0035	1.4264		12724.04	12724.04		10.02	Si
SLD 13	fin.	-1675.62	-1840	-0.0002079	0.0002807	0.0035	1.4256		12740.14	12740.14		7.6	Si
SLV 14	ini.	1707.96	1816	-0.0002123	0.0002807	0.0035	1.4264		12724.04	12724.04		7.45	Si
SLV 14	fin.	-2067.94	-2241	-0.0002613	0.0002807	0.0035	1.4256		12740.14	12740.14		6.16	Si
SLV 13	ini.	1942.15	2075	-0.0002441	0.0002807	0.0035	1.4264		12724.04	12724.04		6.55	Si
SLV 13	fin.	-2306.28	-2466	-0.0002948	0.0002807	0.0035	1.4256		12740.14	12740.14		5.52	Si
SLD 15	ini.	1071.46	1084	-0.0001297	0.0002807	0.0035	1.4264		12724.04	12724.04		11.88	Si
SLD 15	fin.	-1610.95	-1771	-0.0001993	0.0002807	0.0035	1.4256		12740.14	12740.14		7.91	Si
SLD 16	ini.	922.88	919	-0.0001111	0.0002807	0.0035	1.4264		12724.04	12724.04		13.79	Si
SLD 16	fin.	-1459.74	-1628	-0.0001794	0.0002807	0.0035	1.4256		12740.14	12740.14		8.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1942.15	-6572	1.4264	0	4457	15859	9610	5456	15066		2.29	Si
SLV 13	fin.	-2306.28	-7769	1.4256	0	4455	15859	9605	5453	15057		1.94	Si
SLV 14	ini.	1707.96	-5772	1.4264	0	4457	15859	9610	5456	15066		2.61	Si
SLV 14	fin.	-2067.94	-6970	1.4256	0	4455	15859	9605	5453	15057		2.16	Si
SLD 15	ini.	1071.46	-3919	1.4264	0	4457	15859	9610	5456	15066		3.84	Si
SLD 15	fin.	-1610.95	-5105	1.4256	0	4455	15859	9605	5453	15057		2.95	Si
SLV 9	ini.	1215.44	-3720	1.4264	0	4457	15859	9610	5456	15066		4.05	Si
SLV 9	fin.	-1302.7	-4931	1.4256	0	4455	15859	9605	5453	15057		3.05	Si
SLV 15	ini.	1603.08	-5780	1.4264	0	4457	15859	9610	5456	15066		2.61	Si
SLV 15	fin.	-2195.73	-6965	1.4256	0	4455	15859	9605	5453	15057		2.16	Si
SLD 13	ini.	1269.82	-4382	1.4264	0	4457	15859	9610	5456	15066		3.44	Si
SLD 13	fin.	-1675.62	-5576	1.4256	0	4455	15859	9605	5453	15057		2.7	Si
SLV 16	ini.	1368.88	-4981	1.4264	0	4457	15859	9610	5456	15066		3.02	Si
SLV 16	fin.	-1957.39	-6166	1.4256	0	4455	15859	9605	5453	15057		2.44	Si
SLD 14	ini.	1121.24	-3875	1.4264	0	4457	15859	9610	5456	15066		3.89	Si
SLD 14	fin.	-1524.41	-5069	1.4256	0	4455	15859	9605	5453	15057		2.97	Si
SLV 4	ini.	-1728.34	5431	1.4264	0	4457	15859	9610	5456	15066		2.77	Si
SLV 4	fin.	1167.2	4250	1.4256	0	4455	15859	9605	5453	15057		3.54	Si
SLV 2	ini.	-1389.27	4639	1.4264	0	4457	15859	9610	5456	15066		3.25	Si
SLV 2	fin.	1056.65	3446	1.4256	0	4455	15859	9605	5453	15057		4.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.524	SLV 13	Si
V_SLV	1.938	SLV 13	Si
PF_SLU	12.931	SLU 77	Si
V_SLU	3.95	SLU 80	Si